

# Troubleshooting Manual

# 25 kV AC THREE PHASE PROPULSION & Other Equipment For Train Set

# TYPE MAE675UV2 - TRAIN SET



MEDHA SERVO DRIVES PVT. LTD

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# **Chapter 1**

# INTRODUCTION

Conventional EMUs use DC traction motors which are directly connected to the rectifier. The current trend for last decade is to move from DC traction motors to AC traction motors, which offer better control, better reliability and are less prone to breakdown and repair.

In this regard, RDSO has released specification no. RDSO /PE /SPEC /EMU /0196-2019 (REV.0) for producing 3-phase drive propulsion equipment for TrainSet. ICF proposed to design Trainset with 50% motoring with all power components underslung. This trainset has coach with sitting arrangement. Coach in configuration is of different type such as driving AC chair car, AC chair car and executive AC chair car.

### 1.1 List of Abbreviations used

Acronym	Description
AC	Alternating Current
ACU	Auxiliary Converter Unit
ADC	Analog to Digital Converter
AIP	Analog Input
ATC	Auxiliary Traction Converter
BC	Brake Cylinder
BCP	Brake Cylinder Pressure
BE	Braking Effort
CAN	Controlled Area Network
CCU	Coach Control Unit
DC	Direct Current
DCS	Driver Control Switch
DE	Driving End
DIP	Digital Input
DOP	Digital Output
DPRAM	Dual Port Random Access Memory
DSP	Digital Signal Processor
DTC	Driving Trailer Coach
EBCU	Electronic Brake Control Unit
EBL	Emergency Brake Loop
ECN	Ethernet Consist Network
ED	Electro Dynamic
EEPROM	Electrically Erasable and Programmable Read Only Memory

Table 1.1

Acronym	Description	
EMU	Electrical Multiple Unit	
EOL	Emergency Off Loop	
EP	Electro Pneumatic	
FDP	Fault Data Pack	
HWTL	Hard Wired Train Line	
ICF	Integral Coach Factory, Chennai	
LED	Light Emitting Diode	
MC	Motor Coach	
MSDPL	Medha Servo Drives Pvt. Ltd.	
PA PIS	Passenger Announcement and Passenger Information System	
PWM	Pulse Width Modulation	
RDSO	Research Development and Standards Organization	
ТС	Trailer Coach	
TCMS	Train Control and Management System	
TE	Tractive Effort	
ТМ	Traction Motor	
TSA	Traction System Austria	
AWS	Auxiliary Warning System	
LTC	Line and Traction Converter	
LTCU	Line and Traction Converter Computer	
MCU	Main Control Unit	
NDE	Non Driving End	
NDTC	Non Driving Trailer Coach	
PCC	Passenger Comfort Computer	
PS	Power Supply	
RDM	Rescue Drive Mode	
TCN	Train Communication Network	
TIC	Traction Inverter Computer	
USB	Universal Serial Bus	
VCB	Vacuum Circuit Breaker	
CCMS	Coach Control Monitoring System	
TCAS	Train Collision Avoidance System	

Table 1.2

### **1.2 SYSTEM OVERVIEW**

One basic unit of 4-car unit is the building block for Trainset rake formation. Each basic unit consists of one Driver Trailer Coach (DTC) at the end, two Motor Coaches (MC) and one Trailer Coach (TC). Each middle basic unit consists of Non driving Trailer Car (NDTC), two motor car (MC) and one Trailer Car (TC). Four such basic units are coupled together to form one rake of 16 cars:

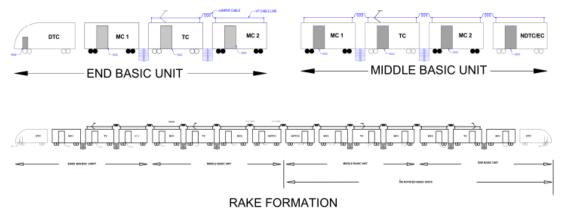


Fig. 1.1

### 1.2.1 Driving Trailer Coach (DTC)

DTC is a non-powered vehicle with a driver cab at one end. The driver cab is furnished with a pre-fabricated driver desk. All driving operations are possible from this driver desk. Feedback from the system in all the coaches/basic units is available for viewing by motor man on the driver desk. In this regard, CCU aggregates the Information from all the coaches and a 10.4 " TFT driver display screen provides information to motor man. Further an illuminated indication panel is provided for important driving related information for quick viewing by motor man. Various gauges are also provided for viewing MR, BP, BC pressure. Motor man can also control the passenger information system from the driver desk DTC. Apart from the driver cab is called as passenger saloon area. Passenger saloon area is similar to trailer coach, except the space occupied by driver cab.

DTC also consists of battery box, battery charger and compressor which are mounted under-slung. Rest of the DTC apart from the driver cab is passenger saloon area which consists of pantry, RMPU control unit, mono block pump controller, CRW panel and various end wall panels. It is an air-conditioned coach. All passenger comfort related load are controlled by driver from driver cab.

### 1.2.2 Motor Coach (MC)

MC is a powered vehicle with one traction motor driving each axle. The motor coach consists Line and Traction Converter Unit (LTC) for each Bogie mounted under-slung. Also Brake chopper resister is mounted under-slung. Transformer secondary cable for both LTC unit from power transformer come from Trailer Coach through under-slung mounted IV Coupler. It also consists of passenger saloon area, pantry, RMPU, mono block pump controller, electrical cabinet and various end wall panels. It is air-conditioned coach. The passenger saloon area is similar to trailer coach.

### 1.2.3 Trailer Coach (TC)

TC is a non-powered vehicle with only a passenger saloon area. The passenger saloon area includes lights, fans, emergency lights, air handling unit (for ventilation), and passenger information system consisting of LED displays and speakers (for announcements). TC consists of a photograph, vacuum circuit breaker and HV isolator on roof. it also consists of auxiliary converter unit and power transformer mounted under-slung. Power to LTC units of both motor coaches is distributed from same power transformer.

### 1.2.4 Non Driving Trailer Coach (NDTC)

NDTC consists of passenger saloon area, pantry, RMPU, mono block pump controller, electrical cabinet and various End wall panels. It is a air- conditioned coach. Non Driving Trailer Coach (NDTC) is similar to DTC except driver related interface. It also consists of battery box, battery charger and compressor mounted under-slung. It also consists of passenger saloon area which consists of pantry, RMPU control unit, mono block pump controller, and various end wall panels. It is a air-conditioned coach.

viewing by motor man. Various gauges are also provided for viewing MR, BP, BC pressure. Motor man can also control the passenger information system from the driver desk DTC. Apart from the driver cab is called as passenger saloon area.

Passenger saloon area is similar to trailer coach, except the space occupied by driver cab.

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# Chapter 2 TCMS FAULTS

### 2.1 Compressor Air Drain Tower 1 Faulty

4096	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
Location: DTC/NDTC UNDER FRAME	for DTC, ED 1351 & 1352 for NDTC1&2 Functional group- 7 Sub Functional group-1

### Check:

- 1. Check the Air Dryer Functionality(Air Dryer Shall Purge for 2.5Sec in every 2 Min) during compressor in running condition.
- 2. If purging is not normal then inform Maintenance staff to replace Air Dryer.
- 3. Check the Inputs on Corresponding Control Unit while Purging.
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.2 Compressor Air Drain Tower 2 Faulty

Fault Code:	Schematic:
4097	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1351 & 1352 for NDTC1&2
Location:	Functional group- 7
DTC/NDTC UNDER FRAME	Sub Functional group-1

- 1. Check the Air Dryer Functionality(Air Dryer Shall Purge for 2.5Sec in every 2 Min) during compressor in running condition.
- 2. If purging is not normal then inform Maintenance staff to replace Air Dryer.
- 3. Check the Inputs on Corresponding Control Unit while Purging.
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.3 EBL 1 Triggered

Schematic:
SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
for DTC, ED 1349 for MC1, ED 1350 for TC, ED1353
for MC2, ED 1351 & 1352 for NDTC1 &2
Functional group- 9
Sub Functional group-2

Check:

Check Whether EBL1 is triggered in all Coaches. Then ensure the below points. And If this problem exists only in Particular coach then check only Points from 7 to 12.

- 1. Ensure that master controller handle is not in emergency brake position in occupied driver cab.
- 2. Ensure that all emergency brake switches is in released condition in both driver cab
- 3. Ensure that TPWS ISO Sw is in ISO Condition (if TPWS is not installed) in occupied cab
- Ensure that TPWS ISO Sw is in ISO Condition (if TPWS is not installed) in non occupied cab 4.
- 5. Ensure that emergency brake is not applied by TPWS (If TPWS installed) in occupied cab
- 6. Ensure that VCD is in inactive condition during zero speed (can be ensured through holding brake application). Ensure that none of the IV coupler is in open condition through out the train (can be ensured through RDM test). 7.
- 8. Ensure that local EB1 coil is in energized condition, if it is not energized even after satisfying the above point, then check the coil supply if supply available then replace the coil with any other working relay coil and corresponding DIP shall be verified in both driver cabs.
- 9. If supply itself is not available then check the local EB1 relay coil supply wiring.
- 10. If EBL1 relay coil is not energized even after satisfying the above points then check coil supply if supply available replace the coil with any other working relay coil and corresponding DIP shall be verified. 11. If supply it self is not available then check EBL1 relay coil supply wiring.
- 12. If problem still persists, check then check DIP wiring. If wiring is ok replace the DIP card with working one.

# 2.4 EBL 2 Triggered

Fault Code:	Schematic:
4 , 4100	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC, ED1353
Location:	for MC2, ED 1351 & 1352 for NDTC1 &2
DTC -CRW, ECC-MC1/MC2/NDTC/TC	Functional group- 9
	Sub Functional group-2

#### Check:

Check Whether EBL2 is triggered in all coaches. Then ensure the below points. And If this problem exists only in particular coach then check only points from 7 to 12.

- 1. Ensure that master controller handle is not in emergency brake position in occupied driver cab.
- Ensure that all emergency brake switches is in released condition in both driver cab.
   Ensure that TPWS ISO Sw is in ISO condition (if TPWS is not installed) in occupied cab.
- Ensure that TPWS ISO Swis in ISO condition (if TPWS is not installed) in occupied cab.
   Ensure that mergency brake is not applied by TPWS (if TPWS installed) in cocupied cab.
- 6. Ensure that VCD is in Inactive condition during zero speed (can be ensured through holding brake application).
- 7. Ensure that none of the IV coupler is in open condition through out the train (can be ensured through RDM Test).
- 8. Ensure that local EB2 coil is in energized condition, if it is not energized even after satisfying the above point, then check the coil supply if supply available then replace the coil with any other working relay coil and corresponding DIP shall be verified in both driver cabs
- 9. If supply itself is not available then check the local EB2 relay coil supply wiring.
   10. If EBL2 relay coil is not energized even after satisfying the above points then check coil supply if supply available replace the coil with any other working relay coil and corresponding DIP shall be verified.
- If supply it self is not available then check EBL2 Relay coil supply wiring.
   If problem still persist check then check DIP wiring. If wiring is ok replace the DIP card with working one.

### 2.5 EBL 3 Triggered

Fault Code:	Schematic:
5 , 4101	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC, ED1353
Location:	for MC2, ED 1351 & 1352 for NDTC1 &2
DTC -CRW, ECC-MC1/MC2/	Functional group- 9
NDTC/TC	Sub Functional group-2
Check:	
Procedure 1:	
1.Conduct Auto Relay Test and If fail to pick up fault displayed, then check the output wiring	
Procedure 2: 1. Check all the sources of Emergency Brake application. 2. Ensure DOP driving status as High, If not driven by system, drive by using DOP test. 3. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized. 4. If relay/ contactor is not energized, check by replacing with any other working one. It should be energized.	

- If supply itself is not available, then check the wiring from DOP TB to coil.
   If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
- If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.
   If not, check by replacing with any other healthy DIP card and status should be high.
   If still problem persists, check the DIP wiring.

### 2.6 Normal Direction Setup Fault

Schematic:
SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
for DTC, ED 1349 for MC1, ED 1350 for TC, ED1353
for MC2, ED 1351 & 1352 for NDTC1 &2
Functional group- 2
Sub Functional group-2

- 1. Compare the forward and reverse TL digital inputs to MCC (Corresponding basic unit) with CCU both shall be same.
- 2. If not, check the wiring of TL inputs to MCC.
- 3. If still problem persists, check by replacing with any other healthy DIP card.

### 2.7 Direction Setup Fault - RDM Mode

Fault Code:	Schematic:
7	SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC,ED1353
Location:	for MC2, ED 1351 & 1352 for NDTC1 &
	Functional group- 2
DTC -CRW, ECC-MC1/MC2/ NDTC/TC	Sub Functional group-2

Check:

- 1. Compare the forward and reverse TL digital inputs to MCC (Corresponding basic unit) with CCU both shall be same.
- 2. If not, check the wiring of TL inputs to MCC.
- 3. If still problem persists, check by replacing with any other healthy DIP card.

### 2.8 MCH Inputs Faulty - RDM Mode

Fault Code:	Schematic:
8	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 2
DRIVER DESK	Sub Functional group-2

- 1. Verify the TL inputs of drive, brake and coast from driver cab and compare the MCH inputs with TL inputs at CCU both should match.
- 2. If not check the wiring of TL inputs.
- 3. If still problem persists, check by replacing with any other healthy DIP card.

### 2.9 EOL123 Triggered

Fault Code:	Schematic:
9	SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350
	FOR TC
Location:	Functional group- 9
ECC- TC	Sub Functional group-1
Check:	
<ul> <li>Check Whether EOL1,2,3 Relays are healthy in all TC Coaches.</li> <li>1. Ensure that none of the IV Coupler is in Open Condition through out the train (Ensure through RDM test Mode).</li> <li>2. Ensure that all Emergency Off Switches is in released condition in both driver Cab</li> <li>3. If EOL123 Relay Coil is not energized even after satisfying the above point check the wiring from supply to relay coil.</li> <li>4. If still problem persists, then replace the coil with any other working relay coil and Corresponding DIP Shall be verified.</li> <li>5. If still problem persists, then check the input wiring of corresponding DIP.</li> <li>6. If still problem persists, replace the DIP card with any other healthy card in both control units one after one.</li> <li>7. If problem resolves, replace the changed relay with old Relay and check DIP status.</li> </ul>	

### 2.10 Illegal Direction Change in Speed

Fault Code:	Schematic:
10	SCHEMATIC DIAGRAM FOR MAE675UV2
	ED 1349 & 1353 FOR MC1 & MC2
Location:	Functional group- 2
ECC-MC	Sub Functional group-2

- 1. Ensure that the train speed should be zero to change the direction.
- 2. Check the all the FWD & REV inputs to MCC(corresponing Basic unit)
- 3. If inputs are illegal then check for wiring.
- 4.if wiring is ok , replace the DIP card with any other healthy card.

### 2.11 EOL 1 Triggered

Fault Code: 11	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 FOR TC
Location: ECC- TC	Functional group- 9 Sub Functional group-1
<ul> <li>Check:</li> <li>Check whether EOL1,2,3 relays are healthy in all TC coaches.</li> <li>1. Ensure that none of the IV coupler is in open condition through out the train (Ensure through RDM test Mode).</li> <li>2. Ensure that all emergency off switches are in released condition in both driver cabs.</li> <li>3. If EOL1 relay coil is not energized even after satisfying the above point check the wiring from supply to relay coil.</li> <li>4. If still problem persists, then replace the coil with any other working relay coil and corresponding DIP shall be verified.</li> <li>5. If still problem persists, then check the input wiring of corresponding DIP.</li> <li>6. If still problem persists, replace the DIP card with any other healthy card in both control units one after one.</li> <li>7. If problem resolves, replace the changed relay with old relay and check DIP status.</li> </ul>	

### 2.12 EOL 2 Triggered

Fault Code:	Schematic:
12	SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350
	FOR TC
Location:	Functional group- 9
ECC- TC	Sub Functional group-1

Check:

Check Whether EOL1,2,3 Relays are healthy in all TC Coaches.

- 1. Ensure that none of the IV Coupler is in Open Condition through out the train (Ensure through RDM test Mode).
- 2. Ensure that all emergency off switches are in released condition in both driver cabs.
- 3. If EOL2 Relay Coil is not energized even after satisfying the above point check the wiring from supply to relay coil.
- 4. If still problem persists, then replace the coil with any other working relay coil and corresponding DIP shall be verified.
- 5. If still problem persists, then check the input wiring of corresponding DIP.
- 6. If still problem persists, replace the DIP card with any other healthy card in both control units one after one.
- 7.If problem resolves, replace the changed relay with old relay and check DIP status.

### 2.13 EOL 3 Triggered

Fault Code:	Schematic:
13	SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350
	FOR TC
Location:	Functional group- 9
ECC- TC	Sub Functional group-1

Check:

- 1. Check all the sources of emergency off application means all emergency off switches is in released condition in both driver cabs.
- 2. Ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 3. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 4. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 5. If supply itself is not available, then check the wiring from DOP TB to coil.
- 6. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 7. If still problem persists check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- 8. If not, check by replacing with any other healthy DIP card and status should be high.
- 9. If still problem persists, check the DIP wiring.

### 2.14 EP Struck Brake Detected in RDM

Fault Code:	Schematic:
14	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC, ED1353
Location:	for MC2, ED 1351 & 1352 for NDTC1 &2
	Functional group- 7
	Sub Functional group-3

- 1. Check the BC pressures on DDU, they shall be zero.
- 2. Chech for any cock isolation in particular coach.
- 3. Check the wiring of the brake valves.
- 4. Check the EP brake applied DIP status (should be low when pressure is zero) in all coaches on DDU.
- 5. If still problem persists, check the wiring between BECU unit and control unit of particular coach.

### 2.15 Parking Brake Applied in RDM, Traction prohibited

Fault Code:	Schematic:
15	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC, ED1353
Location: ECC- TC/NDTC/MC	for MC2, ED 1351 & 1352 for NDTC1 &2 Functional group- 7 Sub Functional group-2

Check:

- 1. Check the pressure Sw input on control unit (Inputs Should be High).
- 2. Check the PB applied relay input on control unit (Inputs Should be Low).
- 3. Check DOP Status on control unit for PB apply valve.
- 4. If DOP is low then check the wiring of PB apply valve.
- 5. If PB apply valve is stuck due to any of the above reason then release PB manually.
- 6. Inform to maintenace staff.

### 2.16 BP Drop Detected in RDM

Fault Code:	Schematic:
16	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 7
ECC-NDTC CRW - DTC	Sub Functional group-1

- 1. Check all MAC status whether ON/ OFF.
- 2. Ensure that there is no MR leakage through out the rake.
- 3. Ensure that there is no BP leakage through out the rake.
- 4. Check Isolation cock handle after cab occupation.
- 5. check the pressure sensor mal-function
- 6. Still if problem persists check the wiring of BP pressure sensor.

# 2.17 EBL123 Triggered

Fault Code:	Schematic:
17 , 4113	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC, ED 1353
Location:	for MC2, ED 1351&1352 for NDTC1 & NDTC2 Functional group- 9
DTC-CRW ,	Sub Functional group-2
ECC- TC/NDTC/MC	
<ul> <li>Check:</li> <li>Check Whether EBL 1,2,3 Relays are healthy in all DMC/NDMC Coaches.</li> <li>1. Ensure that none of the IV Coupler is in Open Condition through out the train (Ensure through RDM test Mode).</li> <li>2. Ensure that master controller handle is not in emergency brake position in occupied driver cab.</li> <li>3. Ensure that all emergency brake switches is in released condition in both driver cab.</li> <li>4. Ensure that TPWS ISO Sw is in ISO Condition (if TPWS is not installed) in occupied cab</li> <li>5. Ensure that TPWS ISO Sw is in ISO Condition (if TPWS is not installed) in on occupied cab</li> <li>6. Ensure that emergency brake is not applied by TPWS (If TPWS installed) in occupied cab</li> <li>7. Ensure that VCD is in inactive condition during zero speed (can be ensured through holding brake application).</li> <li>8. Ensure that local EB1/EB2 coil is in energised condition, if it is not energised even after satisfying the above point, then check the coil supply if supply available then replace the coil with any other working relay coil and corresponding DIP shall be verified in both driver cabs.</li> <li>9. If supply itself is not available then check the local EB1/EB2 relay coil supply wiring.</li> <li>10. If EBL1/2/3 relay coil is not energised even after satisfying the above points then check coil supply if supply available replace the coil with any other working relay coil supply if supply available replace the coil with any other working relay coil supply if supply available replace the coil with any other working relay coil and corresponding DIP shall be verified.</li> <li>11. If supply it self is not available then check EBL1/2/3 relay coil supply wiring.</li> </ul>	

# 2.18 Primary Over Current

Fault Code:	Schematic:
18	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 3
ECC- TC	Sub Functional group-1

Check:

Fault log due to high inrush current. Try to close VCB again, if still problem persists inform to maintenance staff.

### 2.19 CT Current Out Range (Primary current difference detected)

Fault Code: 19	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC	
Location:	Functional group- 3	
ECC- TC	Sub Functional group-1	
Check: 1. Check the AFIP card corresponding channel. 2. If channel is OK, interchange the CT and verify once. 3. If problem still persisits change the CT.		

### 2.20 DEMAND ZERO DPR OPEN IN RDM

Fault Code:	<b>Schematic:</b>
20	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC,ED 1353
Location:	for MC2, ED 1351&1352 for NDTC1 & NDTC2
DTC -CRW, ECC-MC1/MC2/	Functional group- 5
NDTC/TC	Sub Functional group-1

- 1. Visually ensure that all the door are properly closed when door close command is activated.
- 2. Check all LDSLR, LDSRR relay input status in corresponding control units.
- 3. If any relay not picked up, check the relay in corresponding ECC panel.
- 4. If all are OK, check the door proving loop TL wiring.
- 5. If wiring is ok check DPR status input on control units shall be high.
- 6. If still problem persists check DIP wiring.
- 7. If wiring is ok, then replace the DIP card.

### 2.21 DEMAND ZERO MR DROP IN RDM

Fault Code: 21	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location: NDTC -UNDER FRAME	Functional group- 7 Sub Functional group-1
Check: 1. Check whether all MAC's are norma 2. Ensure that there is no MR leakage 3. Check the pressure switch DIP on co 4. If still problem persists check the wir	through out the rake. prresponding control units.

# 2.22 Roof ELD Detected in ELD Test, BU is isolated

Fault Code: 22	Schematic: NA
Location:	
Check: Informative message only.	

# 2.23 Battery voltage less than 95V, There might be a possible isolation of BN Bus. Verify The BN voltage

Fault Code: 23	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC - UNDERFRAME & P1 & P2 PANELS	Functional group- 3 Sub Functional group-1.
	re working or not. e fault reset command from driver desk ponding coach then check BN Train Line.

### 2.24 Battery voltage less than 87V, Load Might be on Battery. Release the Brakes using BIC Cock in all Coaches of the BU to avoid Brake Binding. Switch OFF PIS to avoid Further Battery Draining.

Fault Code:	Schematic:
24	SCHEMATIC DIAGRAM FOR MAE675UV2, - ED
	1350 for TC
Location:	Functional group- 3
TC - UNDER FRAME	Sub Functional group-1

Check:

Informative message. The fault logged because of battery voltage is <87V

- 1. Check whether all AUX converters are working or not.
- 2. If ACU is is not working condition, Check any faults logged in ACU side resolve and provide fault reset command from driver desk.
- 3. Check the battery voltage. if it is less than 87V.
- 4. If still problem persists check the corresponding coach BN train line.
- 5. Relaease the brakes using BIC cock in all coaches.
- 6. Switch OFF PIS to avoid battery draining.

### 2.25 MR Drop detected in END Basic unit

Fault Code:	Schematic:
4121	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 7
DTC -CRW, NDTC -ECC	Sub Functional group-1
Check:	
1. Check MAC health status and MR pressure switch status.	
2. Check any MR cock isolation position.	
3. Check isolation handle after cab occupation.	

- 4. Check any MR leakage through the rake and pressure switch status on corrsponding DIP card.
- 5. If no leakage, check the pressure switch any mal-functiong check by replacing a new one.
- 6. If still problem persists check the wiring.

### 2.26 Panto down due to Switch position in Variable

26	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 1
DRIVER DESK	Sub Functional group-1

Check:

1. Check the panto SW connection are OK.

2.if ok, check the corrsponding LED status of DIP card.

3.if not, check the input status by replacing a new DIP card.

4.If still problem persists check the wiring.

# 2.27 VCB Trip Due To Transformer Side Earth Leakage

Fault Code: 27	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, - ED 1350 for TC	
Location:	Functional group- 3	
тс	Sub Functional group-1	
Check: 1.Check the any earth fault occured in transformer side. 2.Check the Transformer side wiring.		

### 2.28 Roof ELD Detected

Fault Code: 28	Schematic: NA
Location: NA	
Check: Informative message Ffault is logged in ELD test.ELD detect	ed.

### 2.29 Power coupler open DE

Fault Code:	Schematic:
29	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1353
	for MC2, ED 1350 for TC
Location:	Functional group- 15
underslung	Sub Functional group-1
č	
Check:	

- 1. Check the POWER coupler Intactness & physical damages.
- 2. check the POWER COUPLER STATUS SW function.
- 3. Check the Inputs on Corresponding Control Unit.
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card.
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.30 Fire-1 Detected

30 , 4126	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2,
Location: DTC-CRW, MC-ECC ,TC-ECC	ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 9 Sub Functional group-6
NDTC-ECC	Sub Functional group-6

- 1. Check the fire/smoke condition in corresponding coach .
- 2. If Smoke/fire not occurred, Still fault is exist, replace sensor with healthy one.
- 3. Check the Inputs on Corresponding Control Unit
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.31 Fire-2 Detected

	Schematic:
31 , 4127	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2,
Location: DTC-CRW, MC-ECC, TC-ECC, NDTC-ECC	ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
	NDTC2
	Functional group- 9
	Sub Functional group-6

Check:

- 1. Check the fire/smoke condition in corresponding coach .
- 2. If Smoke/fire not occurred, Still fault is exist, replace sensor with healthy one.
- 3. Check the Inputs on Corresponding Control Unit
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.32 Smoke Detected in Toilet

Fault Code: 32 , 4128	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2,
Location: DTC-CRW, MC-ECC, TC-ECC NDTC-ECC	ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 9 Sub Functional group-6

- 1. Check the fire/smoke condition in corresponding coach .
- 2. If Smoke/fire not occurred , Still fault is exist , replace sensor with healthy one.
- 3. Check the Inputs on Corresponding Control Unit
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.33 Smoke Detected in Panel-1

Fault Code: 33 , 4129	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location: DTC-CRW, MC-ECC, TC-ECC NDTC-ECC	NDTC2 Functional group- 9 Sub Functional group-6

Check:

- 1. Check the fire/smoke condition in corresponding coach.
- 2. If Smoke/fire not occurred, Still fault is exist, replace sensor with healthy one.
- 3. Check the Inputs on Corresponding Control Unit.
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card.
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.34 Smoke Detected in Panel-2

<b>Fault Code:</b> 34 , 4130	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2,
Location: DTC-CRW, MC-ECC, TC-ECC NDTC-ECC	ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 9 Sub Functional group-6

- 1. Check the fire/smoke condition in corresponding coach .
- 2. If Smoke/fire not occurred, Still fault is exist, replace sensor with healthy one.
- 3. Check the Inputs on Corresponding Control Unit
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.35 Smoke Detected Passenger/Pantry

Fault Code: 35 , 4131	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
Location: DTC-CRW, MC-ECC, TC-ECC NDTC-ECC	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 9 Sub Functional group-6

Check:

- 1. Check the fire/smoke condition in corresponding coach .
- 2. If Smoke/fire not occurred, Still fault is exist, replace sensor with healthy one.
- 3. Check the Inputs on Corresponding Control Unit
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.36 Power coupler open NDE

Fault Code: 36 , 4132	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1353
	for MC2, ED 1350 for TC
Location:	Functional group- 15
underslung	Sub Functional group-1

- 1. Check the POWER coupler Intactness& physical damages
- 2. check the POWER COUPLER STATUS SW function
- 3. Check the Inputs on Corresponding Control Unit
- 4. If the inputs are abnormal then replace DIP Card with Healthy DIP Card
- 5. If still problem persists, check the corresponding DIP wiring.

### 2.37 BD Lights Contactor Fail to Dropout

	Schematic:
512 , 4608	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2,
Location: DTC-CRW, MC-ECC, TC-ECC NDTC-ECC	ED1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 10 Sub Functional group-1

Check:

- 1. Ensure Lights OFF command given, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low & ensure relay/ contactor is de-energized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

# 2.38 BD Lights Fail to pickup/BD Lights CB trip

	Schematic:
513 , 4609	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2,
	ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
DTC-CRW, MC-ECC, TC-ECC,	Functional group- 10
NDTC-ECC	Sub Functional group-1

- 1. Ensure Lights OFF command given, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low & ensure relay/ contactor is de-energized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

### 2.39 Lights LINE2 Contactor Fail to Dropout

Fault Code: 514 , 4610	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2.
DTC-CRW, MC-ECC, TC-ECC	Functional group- 10
NDTC-ECC	Sub Functional group-1

Check:

- 1. Ensure (BN LTS) DLL CONTROL SW in Auto mode & DLL2 supply MCB is ON condition
- 2. Ensure Lights OFF command given, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 3. Check the voltage across contactor coil, it shall be low & ensure relay/ contactor is de-energized.
- 4. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 5. If supply itself is available, then check the wiring from DOP TB to coil.
- 6. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 7. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 8. If not, check by replacing with any other healthy DIP card and status shall be low.
- 9. Still if problem persists, check the DIP wiring.

### 2.40 LIGHTS LINE2 Fail to pickup/Lights line2 CB trip

Fault Code:	Schematic:
515 , 4611	SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2.
DTC-CRW, MC-ECC, TC-ECC	Functional group- 10
NDTC-ECC	Sub Functional group-1

- 1. Ensure (BN LTS) DLL CONTROL SW in Auto mode & DLL2 supply MCB is ON condition
- 2. Ensure Lights 100% ON command given, ensure DOP driving status as high, if not driven by system, drive by using DOP test.
- 3. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 4. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 5. If supply itself is not available, then check the wiring from DOP TB to coil.
- 6. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 7. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- 8. If not, check by replacing with any other healthy DIP card and status shall be high.
- 9. Still if problem persists, check the DIP wiring.

### 2.41 BAL Relay Fail to Pick Up

Fault Code: 516 , 4612	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 9
NDTC-ECC	Sub Functional group-3

Check:

- 1. Ensure TC & MCC SUPPLY MCB in ON condition. Ensure DOP driving status as high, if not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still problem persists, check the DIP wiring.

### 2.42 BAL Relay Fail to Dropout

517 , 4613	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 9
NDTC-ECC	Sub Functional group-3

- 1. Ensure TC & MCC SUPPLY MCB in ON condition.ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still problem persists, check the DIP wiring.

### 2.43 EBL3 Relay Fail to Pick Up

Fault Code:	Schematic:
518,4614	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 9
NDTC-ECC	Sub Functional group-2

Check:

- 1. Ensure Coach(DTC/MC/TC) SUPPLY MCB and EMY Brake MCB are in ON state, ensure DOP driving status is high, if not driven by system, drive by using DOP test.
- Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status should be high.
- 8. Still problem persists, check the DIP wiring.

### 2.44 EBL3 Relay Fail to Dropout

Fault Code: 519 , 4615	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 9
NDTC-ECC	Sub Functional group-2

- 1. Ensure Coach(DTC/MC/TC) SUPPLY MCB and EMY Brake MCB are in ON state, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still problem persists, check the DIP wiring.

### 2.45 BP pressure Switch Faulty

Fault Code: 520 , 4616	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 2 Sub Functional group-3
<ul> <li>Check:</li> <li>1. Check the BP pressure within the range.</li> <li>2. if it is OK,check the corrosponding input status in DIP card it is high Or if BP pressure is&lt;3.2 bar DIP card status is LOW.</li> <li>3. if BP pressure is within range DIP status as low check the pressure by replacing a new one.</li> </ul>	

4. if still problem presists check the pressure switch wiring (or) check the BP pressure by replacing a new pressure switch.

# 2.46 EOL3 Relay Fail to Pick Up

Fault Code: 521 , 4617	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1350 for TC
Location: DTC-CRW TC-ECC	Functional group- 9 Sub Functional group-1

- 1. Ensure TC SUPPLY, MCC Main & Redundant Supply MCB in ON condition, ensure DOP driving status as high, if not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still problem persists, check the DIP wiring.

# 2.47 EOL3 Relay Fail to Dropout

Fault Code: 522 , 4618	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1350 for TC	
Location: DTC-CRW TC-ECC	Functional group- 9 Sub Functional group-1	
<ol> <li>Check:         <ol> <li>Ensure TC SUPPLY, MCC Main &amp; Redundant Supply MCB in ON condition, ensure DOP driving status as low, if driven by system, drop by using DOP test.</li> <li>Check the voltage across contactor coil, it shall be low and ensure relay/contactor is deenergized.</li> <li>If relay/contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.</li> <li>If supply itself is available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.</li> <li>If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be low.</li> <li>If not, check by replacing with any other healthy DIP card and status shall be low.</li> <li>Still if problem persists, check the DIP wiring.</li> </ol> </li> </ol>		

# 2.48 OHE Below Minimum

Fault Code: 526	Schematic: NA
Location: NA	
Check: Informative message only.	

### 2.49 OHE Above Maximum

Fault Code: 527	Schematic: NA
Location: NA	
Check: Informative message only.	<u>.</u>

### 2.50 BN Lights Contactor Fail to Dropout

Fault Code: 528 , 4624	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC,
Location:	ED 1351&1352 for NDTC1 & NDTC2.
DTC-CRW, MC-ECC, TC-ECC	Functional group- 10
NDTC-ECC	Sub Functional group-1

Check:

1. Ensure (BN LTS) DLL CONTROL SW in Auto mode & DLL2 supply MCB is ON condition

- 2. Ensure Lights OFF command given, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 3. Check the voltage across contactor coil, it shall be low & ensure relay/ contactor is de-energized.
- 4. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 5. If supply itself is available, then check the wiring from DOP TB to coil.
- 6. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 7. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 8. If not, check by replacing with any other healthy DIP card and status shall be low.
- 9. Still if problem persists, check the DIP wiring.

### 2.51 BN Lights Contactor Fail to Pick Up

Fault Code: 529 , 4625	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC,
Location:	ED 1351&1352 for NDTC1 & NDTC2.
DTC-CRW, MC-ECC, TC-ECC	Functional group- 10
NDTC-ECC	Sub Functional group-1

Check:

- 1. Ensure (BN LTS) DLL CONTROL SW in Auto mode & DLL2 supply MCB is ON condition
- 2. Ensure Lights 100% ON command given, ensure DOP driving status as high, if not driven by system, drive by using DOP test.
- 3. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 4. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 5. If supply itself is not available, then check the wiring from DOP TB to coil.
- 6. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 7. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- 8. If not, check by replacing with any other healthy DIP card and status shall be high.
- 9. Still if problem persists, check the DIP wiring.

### 2.52 415V Change Over Contactor1 Fail to Dropout

Fault Code: 530 , 4626	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1353 for MC2, ED 1351&1352 for NDTC1 &
Location:	NDTC2
MC-ECC	Functional group- 3
NDTC-ECC	Sub Functional group-2

- 1. Ensure control unit (MCC/PCC) supply MCB is in ON state, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is deenergized.
- If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
  5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low. 8. Still if problem persists, check the DIP wiring.

# 2.53 415V Change Over Contactor1 Fail to Pick Up

Fault Code: 531 , 4627	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1353 for MC2, ED 1351&1352 for NDTC1 &
Location:	NDTC2
MC-ECC	Functional group- 3
NDTC-ECC	Sub Functional group-2

#### Check:

1. Ensure control unit (MCC/PCC) supply MCB is in ON state, ensure DOP driving status as high , if not drive by using DOP test.

- 2. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP to coil.
- 5. If still problem persists, check DOP LED status by replacing with any other healthy DOP card. It shall be in ON condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

# 2.54 415V Change Over Contactor2 Fail to Dropout

Fault Code: 532 , 4628	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1353 for MC2, ED 1351&1352 for NDTC1&
Location:	NDTC2
MC-ECC	Functional group- 3
NDTC-ECC	Sub Functional group-2

- 1.Ensure control unit (MCC/PCC) supply MCB shall be in ON state, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

### 2.55 415V Change Over Contactor2 Fail to Pick Up

	Schematic:
533 , 4629	SCHEMATIC DIAGRAM FOR MAE675UV2,
	ED 1353 for MC2, ED 1351&1352 for NDTC1 &
Location:	NDTC2
MC-ECC	Functional group- 3
NDTC-ECC	Sub Functional group-2
Check:	
<ol> <li>Ensure control unit (MCC/PCC) supply MCB shall be in ON state, ensure DOP driving status as high, if not drive by using DOP test.</li> </ol>	
2. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is	
energized. 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall	

- be energized.
- If supply itself is not available, then check the wiring from DOP to coil.
   If still problem persists, check DOP LED status by replacing with any other healthy DOP card. It shall be ON condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- If not, check by replacing with any other healthy DIP card and status shall be high.
   Still if problem persists, check the DIP wiring.

### 2.56 MAC On Stuck High

Fault Code: 534 , 4630	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC & ED 1351&1352 for NDTC1 &
Location:	NDTC2
DTC-CRW	Functional group- 7
NDTC-ECC	Sub Functional group-1

- 1. Ensure MAC switch is in auto mode, MAC MCB & MPCB is in ON condition, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still problem persists, check the DIP wiring.

### 2.57 MAC On Stuck Low

Fault Code: 4631	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC & ED 1351&1352 for NDTC1&
Location:	NDTC2
DTC-CRW	Functional group- 7
NDTC-ECC	Sub Functional group-1

#### Check:

1. Ensure MAC switch is in auto mode, MAC MCB & MPCB is in ON condition, ensure DOP driving status as high, if not driven by system, drive by using DOP test.

2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.

3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.

4. If supply itself is not available, then check the wiring from DOP TB to coil.

5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.

- 6. If still problem persists check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.

8. Still if problem persists, check the DIP wiring.

9. Ensure to verify above points in MAC manual mode also.

### 2.58 PB Release Failed

Fault Code: 543 , 4639	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC,
Location:	ED 1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 7
NDTC-ECC	Sub Functional group-2

- 1. Ensure PB MCB should be in ON condition in the respective coaches.
- 2. Ensure PB TL supply, PB supply MCB are ON, any one of the cab shall be in occupied mode and PB Release switch operate for 1 sec.
- 3. Ensure MR shall be available (minimum of 5 bar)
- 4. If fault is logged in all coaches, then check PB release switch wiring to CCC unit.
- 5. If fault is logged in any particular coach, then in corresponding coach if DOP is low, replace the DOP card. If not, check the wiring of PB release valve.
- 6. If PB release valve is stuck due to any of the reason then inform to maintenance staff.
- 7. If PB release valve is OK, check PB Pressure SW feedbacks, If feedbacks are not OK, replace the pressure switch.
- 8. If pressure switch is OK, verify the inputs, PB applied HRFB input shall be low and PB PR OK PRSW input shall be high. If not then check the wiring up to DIP card.
- 9. If wiring is OK, replace the DIP card

# 2.59 PB Apply Failed

	Schematic:	
544 , 4640	SCHEMATIC DIAGRAM FOR MAE675UV2,	
	ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC,	
Location:	ED 1351&1352 for NDTC1 & NDTC2	
DTC-CRW, MC-ECC, TC-ECC	Functional group- 7	
NDTC-ECC	Sub Functional group-2	
Check:		
<ol> <li>Ensure PB MCB should be in ON condition in the respective coaches.</li> <li>Ensure PB TL supply, PB supply MCB ON, any one of the cab should be in occupied mode &amp; PB Apply switch operate for 1 sec.</li> <li>Ensure MR should available (minimum of 5 bar)</li> <li>If fault is logged in all coaches, then check PB apply switch wiring to CCC unit.</li> <li>In corresponding coach If DOP is Low, replace the DOP card. If not, check the wiring of PB apply webba</li> </ol>		

- valve. 6. If PB apply valve is stuck due to any of the reason, then inform to maintenance staff.
- 7. If PB apply valve is OK, check PB Pressure SW feedback. If pressure is not OK, replace the switch.
- 8. If pressure switch is OK, verify the inputs, PB applied HRFB input should be high & PB PR OK PRSW input shall be low. if not then check the wiring up to DIP card.
- 9. If wiring is OK, replace the DIP card

# 2.60 Bellow 1 Suspension Sensor Faulty

	Schematic:
547 , 4643	SCHEMATIC DIAGRAM FOR MAE675UV2,
	ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC,
Location:	ED 1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check AIP of corresponding load sensor by replacing AFIP with any other healthy card.
- 2. If fault not recovered then check the wiring between AIP module to corresponding load sensor.
- 3. Still if problem persists, replace load sensor with ok one.

## 2.61 Bellow 2 Suspension Sensor Faulty

SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
for DTC ED 1340 for MC ED 1350 for TC ED
IUI DTC, ED 1348 IUI WC, ED 1330 IUI TC, ED
1351&1352 for NDTC1 & NDTC2
Functional group- 2
Sub Functional group-3
1 F

Check:

- 1. Check AIP of corresponding load sensor by replacing AFIP with any other healthy card.
- 2. If fault not recovered then check the wiring between AIP module to corresponding load sensor.
- 3. Still if problem persists, replace load sensor with ok one.

### 2.62 Bellow 3 Suspension Sensor Faulty

Fault Code: 549 , 4645	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check AIP of corresponding load sensor by replacing AFIP with any other healthy card.
- 2. If fault not recovered then check the wiring between AIP module to corresponding load sensor.
- 3. Still if problem persists, replace load sensor with ok one.

### 2.63 Bellow 4 Suspension Sensor Faulty

Fault Code: 550 , 4646	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

Check:

- 1. Check AIP of corresponding load sensor by replacing AFIP with any other healthy card.
- 2. If fault not recovered then check the wiring between AIP module to corresponding load sensor.
- 3. Still if problem persists, replace load sensor with healthy one.

### 2.64 Suspension Overload in Bellow 1

551 , 4647	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

#### 2.65 Suspension Overload in Bellow 2

Fault Code:	Schematic:
552 , 4648	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3
Chock	

Check:

- 1. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

## 2.66 Suspension Overload in Bellow 3

Fault Code: 553 , 4649	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

#### 2.67 Suspension Overload in Bellow 4

Fault Code: 554 , 4650	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW, MC-ECC, TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-3
Chack	

Check:

- 1. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

### 2.68 PB MCB Tripped

Fault Code: 556 , 4652	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 7
NDTC-ECC	Sub Functional group-2

- 1. Ensure that CB is ON. If MCB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

## 2.69 PAS MCB Tripped

Fault Code: 557 , 4653	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 9
NDTC-ECC	Sub Functional group-5

Check:

- 1. Ensure that CB is ON. If MCB is in ON condition the DIP status shall be high.
- 2. If still problem persist, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

### 2.70 Emergency Lights Line2 Contactor Fail to Dropout

	Schematic:
558 , 4654	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW MC-ECC TC-ECC	Functional group- 10
NDTC-ECC	Sub Functional group-1

- 1. Ensure (BD LTS) IDLL CONTROL SW in Auto mode & (BD LTS) IDLL2 supply MCB is ON condition 2. Ensure Lights OFF command given, ensure DOP driving status as low, if driven by system, drop by
- using DOP test.
- 3. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.
- 4. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 5. If supply itself is available, then check the wiring from DOP TB to coil.
- 6. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 7. If still problem persists, check the relay/ contactor feedback Input on corresponding DIP card. It shall be low.
- 8. If not, check by replacing with any other healthy DIP card and status shall be low.
- 9. Still if problem persists, check the DIP wiring.

# 2.71 Emergency Lights Line2 Contactor Fail to Pick Up

	Schematic:
559 , 4655	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 10
NDTC-ECC	Sub Functional group-1

#### Check:

1. Ensure (BD LTS) IDLL CONTROL SW in auto mode & (BD LTS) IDLL2 supply MCB is ON condition

- 2. Ensure Lights 100% ON command given, ensure DOP driving status as high, if not driven by system, drive by using DOP test.
- 3. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 4. If relay/ contactor is not energized, check by replacing with any other working one. It should be energized.
- 5. If supply itself is not available, then check the wiring from DOP TB to coil.
- 6. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 7. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- 8. If not, check by replacing with any other healthy DIP card and status shall be high.
- 9. Still if problem persists, check the DIP wiring.

### 2.72 Broken Suspension in Bellow 1

560 , 4656	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC,TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the bellow physically. If it is punctured, inform to maintanance staff.
- 2. If bellow is not punctured then verify the isolating valves of air suspension.
- 3. If valve is OK, replace card with healthy card.
- 4. Still if problem persists, replace load sensor with healthy sensor.

### 2.73 Broken Suspension in Bellow 2

Fault Code: 561 , 4657	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

Check:

- 1. Check the bellow physically. If it is punctured, inform to maintanance staff.
- 2. If bellow is not Punctured then verify the isolating valves of air suspension.
- 3. If valve is OK, replace card with healthy card.
- 4. Still if problem persists, replace load sensor with healthy sensor.

### 2.74 Broken Suspension in Bellow 3

Fault Code: 562 , 4658	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the bellow physically. If it is punctured, inform to maintanance staff.
- 2. If bellow is not Punctured then verify the isolating valves of air suspension.
- 3. If valve is OK, replace card with healthy card.
- 4. Still if problem persists, replace load sensor with healthy sensor.

#### 2.75 Broken Suspension in Bellow 4

	Schematic:
563 , 4659	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

Check:

- 1. Check the bellow physically. If it is punctured, inform to maintanance staff.
- 2. If bellow is not punctured, then verify the isolating valves of air suspension.
- 3. If valve is OK, replace card with healthy card.
- 4. Still if problem persists, replace load sensor with healthy sensor.

#### 2.76 Suspension Pressure Low in Bellow 1

Fault Code: 564 , 4660	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the corresponding isolation cocks are in normal position. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

# 2.77 Suspension Pressure Low in Bellow 2

Schematic:
SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
for DTC, ED 1349 for MC, ED 1350 for TC, ED
1351&1352 for NDTC1 & NDTC2
Functional group- 2
Sub Functional group-3

#### Check:

- 1. Check the corresponding isolation cocks are in normal position. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

### 2.78 Suspension Pressure Low in Bellow 3

566 , 4662	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the corresponding isolation cocks are in normal position. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

### 2.79 Suspension Pressure Low in Bellow 4

Schematic:
SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
for DTC, ED 1349 for MC, ED 1350 for TC, ED
1351&1352 for NDTC1 & NDTC2
Functional group- 2
Sub Functional group-3

Check:

- 1. Check the corresponding isolation cocks are in normal position. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

### 2.80 Suspension Pressure Out of Range in Bellow1

Fault Code: 568 , 4664	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC,TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, check the wiring of load sensor, if wiring is ok replace load sensor with healthy one.

# 2.81 Suspension Pressure Out of Range in Bellow2

Fault Code: 569 , 4665	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
Location: DTC-CRW, MC-ECC, TC-ECC NDTC-ECC	for DTC, ED 1349 for MC, ED 1350 for TC, ED 1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-3

Check:

- 1. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, check the wiring of load sensor, if wiring is ok replace load sensor with healthy one.

### 2.82 Suspension Pressure Out of Range in Bellow3

Fault Code: 570 , 4666	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, check the wiring of load sensor, if wiring is ok replace load sensor with healthy one.

## 2.83 Suspension Pressure Out of Range in Bellow4

Fault Code:	Schematic:
571 , 4667	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3
Check	

Check:

- 1. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, check the wiring of load sensor, if wiring is ok replace load sensor with healthy one.

### 2.84 Broken Suspension in Bellow 1 (differential Mode)

Fault Code: 572 , 4668	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

- 1. Check the corresponding isolation cocks are in normal position. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

## 2.85 Broken Suspension in Bellow 2 (differential Mode)

Fault Code: 573 , 4669	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

Check:

- 1. Check the corresponding isolation cocks are in normal position. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

### 2.86 Broken Suspension in Bellow 3 (differential Mode)

574 , 4670	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
DTC-CRW, MC-ECC, TC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-3

Check:

Check the corresponding isolation cocks are in normal position. Check the bellow setting.
 If setting is OK, replace card with healthy card.
 Still if problem persists, replace load sensor with healthy one.

### 2.87 Broken Suspension in Bellow 4 (differential Mode)

Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
for DTC, ED 1349 for MC, ED 1350 for TC, ED
1351&1352 for NDTC1 & NDTC2
Functional group- 2
Sub Functional group-3

Check:

- 1. Check the corresponding isolation cocks are in normal position. Check the bellow setting.
- 2. If setting is OK, replace card with healthy card.
- 3. Still if problem persists, replace load sensor with healthy one.

### 2.88 Suspension Pressure Difference Too High B/W Bogies

Fault Code: 576 , 4672	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 2
NDTC-ECC	Sub Functional group-3

Check:

1. Check the corresponding isolation cocks are in normal position. Check the bellow setting.

2. If setting is OK, replace card with healthy card.

3. Still if problem persists, replace load sensor with healthy one.

# 2.89 Suspension Sensor Isolated in Bellow1

	Schematic:
577 , 4673	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
UNDER FRAME-DTC,MC,TC,MC2	Functional group- 7
	Sub Functional group-3

Check:

It is a informative message the causes for isolation is, Following are the reasons for sensor supervision isolation by TCMS :

1. Sensor Faulty OR

2. Sensor value out of range.

If any of fault logged 3 times in 30min,, then sensor supervision will be isolated by system. Check : Sensor connections, bellow settings to be verified.

### 2.90 Suspension Sensor Isolated in Bellow2

Fault Code: 578 , 4674	Schematic:
570,4074	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2,
UNDER FRAME-	Functional group- 7
DTC,MC,TC,MC2,NDTC	Sub Functional group-3

Check:

It is a informative message the causes for isolation is,

Following are the reasons for sensor supervision isolation by TCMS :

1. Sensor Faulty OR

2. Sensor value out of range.

If any of fault logged 3 times in 30min,, then sensor supervision will be isolated by system. Check : Sensor connections, bellow settings to be verified.

### 2.91 Suspension Sensor Isolated in Bellow3

Fault Code:	Schematic:
579 , 4675	SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2,
UNDER FRAME-	Functional group- 7
DTC,MC,TC,MC2,NDTC	Sub Functional group-3
Check: It is a informative message the causes Following are the reasons for sensor s 1. Sensor Faulty OR 2. Sensor value out of range. If any of fault logged 3 times in 30min, Check : Sensor connections, bellow se	upervision isolation by TCMS : then sensor supervision will be isolated by system.

### 2.92 Suspension Sensor Isolated in Bellow4

580 , 4676	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
	1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2, Functional group- 7 Sub Functional group-3

Check:

It is a informative message the causes for isolation is,

Following are the reasons for sensor supervision isolation by TCMS :

1. Sensor Faulty OR

2. Sensor value out of range.

If any of fault logged 3 times in 30min,, then sensor supervision will be isolated by system.

Check : Sensor connections, bellow settings to be verified.

### 2.93 BP Sensor Faulty

Fault Code: 593 , 4689, 12800	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DRIVER DESK	Functional group- 2 Sub Functional group-3
Should be with in specified limits	I by replacing with any other healthy AFIP card. ack in DDU by replacing with any other Sensor. Should ing.

### 2.94 PB Applied Relay Failed to Pick Up

Fault Code: 595 , 4691	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC,
Location:	Functional group- 7
DTC CRW	Sub Functional group-2

- 1. Ensure Supply MCB is in ON condition & condition.Ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

# 2.95 PB Applied Relay Failed to Drop Out

Fault Code: 596 , 4692	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC,
Location: DTC CRW	Functional group- 7 Sub Functional group-2
<ul> <li>Check:</li> <li>1. Ensure DOP driving status as low, if driven by system, drop by using DOP test.</li> <li>2. Check the voltage across contactor coil, It should be Low &amp; ensure relay/contactor is de-energized.</li> <li>3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.</li> <li>4. If supply itself is available, then check the wiring from DOP TB to coil.</li> <li>5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.</li> <li>6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be low.</li> <li>7. If not, check by replacing with any other healthy DIP card and status shall be low.</li> </ul>	

### 2.96 EP stuck Brake Detected in Coach

Fault Code: 597 , 4693	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location: UNDERSIUNG	NDTC2 Functional group- 7 Sub Functional group-2

- 1. Check the EP UNIT Functionality through master controller (braking , EB mode) & Auto brake handle .
- 2. If Functionality is not normal then inform Maintenance staff for EP UNIT calibration
- 3. Check the outputs on Corresponding Control Unit.
- 4. If the outputs are abnormal then replace DOP Card with Healthy DOP Card
- 5. If still problem persists, check the corresponding DOP wiring.

## 2.97 VCB Driving Relay Failed to Pick Up

Fault Code: 598 , 4694	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 1 Sub Functional group-1
Ohaalu	
<ol> <li>Check:</li> <li>1. Ensure PANTO&amp;VCB Supply MCB is in ON condition &amp; EOL123 RELAY coil must be in pick up condition.Ensure DOP driving status as High, If not driven by system, drive by using DOP test.</li> <li>2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.</li> <li>3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.</li> <li>4. If supply itself is not available, then check the wiring from DOP TB to coil.</li> <li>5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON</li> </ol>	

- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

condition.

### 2.98 TF Blower 1 Low speed Cont failed to pickup

Fault Code: 599 , 4695	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. TXFR BLW1 LOW SPEED MPCB & TC supply MCB should be in ON state.Ensure TXFR BLW1 HIGH SPEED CONT must be in OFF condition, ensure DOP driving status as high, if not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

### 2.99 TF Blower 2 Low speed Cont failed to pickup

Fault Code: 600	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC	
Location:	Functional group- 3	
TC-ECC	Sub Functional group-1	
Check:		
<ol> <li>TXFR BLW2 LOW SPEED MPCB &amp; TC supply MCB should be in ON state.Ensure TXFR BLW2 HIGH SPEED CONT must be in OFF condition, ensure DOP driving status as High, If not driven by system, drive by using DOP test.</li> <li>Check the voltage across contactor coil, it shall be high &amp; ensure relay/contactor is energized.</li> </ol>		
3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.		
<ol> <li>If supply itself is not available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.</li> </ol>		
condition.		
6. If still problem persists, check the	relay/contactor feed back Input on corresponding DIP card. It shall be high. y other healthy DIP card and status shall be high.	

### 2.100 TF Blower 1 Low speed Cont failed to Dropout

601	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Ensure TXFR BLW1 HIGH SPEED CONT must be in OFF condition.ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

#### 2.101 TF Blower 2 Low speed Cont failed to Dropout

	Schematic:
602	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
Check:	
<ol> <li>Ensure TXFR BLW2 HIGH SPEED CONT must be in OFF condition.ensure DOP driving status as low, if driven by system, drop by using DOP test.</li> <li>Check the voltage across contactor coil, it shall be low &amp; ensure relay/contactor is deenergized.</li> <li>If relay/contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.</li> <li>If supply itself is available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.</li> <li>If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.</li> <li>If not, check by replacing with any other healthy DIP card and status shall be low.</li> </ol>	

### 2.102 TXFR Oil Pump Driving Contactor Fail to Pick Up

603	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Ensure TXFR OIL PUMP MPCB is in ON condition. ensure DOP driving status as high, if not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

# 2.103 TXFR Oil Pump Driving Contactor Fail to Drop Out

Fault Code: 604	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
<ol> <li>If relay/contactor is not de-energized, ch energized.</li> <li>If supply itself is available, then check th</li> <li>If still problem persists, check DOP card shall be in OFF condition.</li> </ol>	it shall be low and ensure relay/contactor is de-energized. eck by replacing with any other working one. It shall be de- e wiring from DOP TB to coil. LEDs status by replacing with any other healthy card. It contactor feedback input on corresponding DIP card. It shall healthy DIP card and status shall be low.

# 2.104 ACU 415V Contactor1 Feedback Not Plausible

605	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC/ACU	Sub Functional group-2

- 1. Ensure All MCB are in condition.
- 2. Ensure there is no 415V Contactor1 fail to pickup and fail to drop out faults present.
- 3. Check PH3 CONT1 FB input on both MCC DIP cards when ACU 3PH Contactor1 is in pick up condition input shall be high.
- 4. Check PH3 CONT1 FB input on both MCC DIP cards when ACU 3PH Contactor1 is in Drop condition input shall be low.
- 5. If not matching check point no 3 & 4 by replacing the DIP card.
- 6. If still problem persists, check DIP wiring.

# 2.105 ACU 415V Contactor2 Feedback Not Plausible

Fault Code: 606 ,	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 3
TC-ECC/ACU	Sub Functional group-2
Check:	
<ol> <li>Ensure All MCB are in condition.</li> <li>Ensure there is no 415V Contactor2 fail to pickup and fail to drop out faults present.</li> <li>Check PH3 CONT2 FB input on both MCC DIP cards when ACU 3PH Contactor2 is in pick up condition Input should be High.</li> <li>Check PH3 CONT2 FB input on both MCC DIP cards when ACU 3PH Contactor2 is in Drop condition input shall be low.</li> <li>If not matching check point no 3 &amp; 4 by replacing the DIP card.</li> <li>If still problem persists, check DIP wiring.</li> </ol>	

### 2.106 VCB Driving Relay Failed to Drop Out

607	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 1 Sub Functional group-1

- 1. Ensure PANTO&VCB Supply MCB is in ON condition & EOL123 RELAY coil must be in picked up condition, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- Check the voltage across contactor coil, it shall be low and ensure relay/contactor is de-energized.
   If relay/contactor is not de-energized, check by replacing with any other working one. It shall be de-
- energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

#### 2.107 415V Load Contactor1 Fail to Pick Up, Change Over Initiated

Fault Code: 608	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC	
Location: TC-ACU	Functional group- 3 Sub Functional group-2	
Check:		
<ol> <li>Ensure corresponding MCB should be in ON state, ensure ACU DOP driving status as high.</li> <li>Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.</li> <li>If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.</li> <li>If supply itself is not available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.</li> </ol>		

- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

# 2.108 TF Blower 1 High speed Cont failed to pickup

609	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Ensure TXFR BLW1 HIGH SPEED MPCB & TC supply MCB should be in ON state. Ensure TXFR BLW1 LOW SPEED CONT must be in OFF condition, ensure DOP driving status as high, if not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

### 2.109 TF Blower 1 High speed Cont failed to Dropout

Fault Code: 610	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
Check:	
<ol> <li>Ensure TXFR BLW1 LOW SPEED CONT must be in OFF condition ensure DOP driving status as low, if driven by system, drop by using DOP test.</li> <li>Check the voltage across contactor coil, it shall be low and ensure relay/contactor is de-energized.</li> <li>If relay/contactor is not de-energized, check by replacing with any other working one. It shall be de- energized.</li> <li>If supply itself is available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.</li> <li>If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be low.</li> <li>If not, check by replacing with any other healthy DIP card and status shall be low.</li> <li>Still if problem persists, check the DIP wiring.</li> </ol>	

### 2.110 AAC On Relay Failed to Pick Up

611	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-4

- 1. Ensure AAC supply MCB should be in ON state.ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

# 2.111 AAC On Relay Failed to Drop Out

Fault Code: 612	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-4
Check:	
<ol> <li>If relay/contactor is not de-energized, check b</li> <li>If supply itself is available, then check the wiri</li> <li>If still problem persists, check DOP card LEDs condition.</li> </ol>	all be low and ensure relay/contactor is de-energized. y replacing with any other working one. It shall be de-energized. ng from DOP TB to coil. s status by replacing with any other healthy card. It shall be in OFF tor feed back Input on corresponding DIP card. It shall be low.

### 2.112 ACU BN Contactor Feedback Not Plausible

613	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 10
TC -ECC	Sub Functional group-1

- 1.Ensure All MCB are in condition.
- 2. Check BN contactor FB input on DIP card when BN Contactor is in pick up condition Input should be High.
- 3. Check BN contactor FB input on DIP card when BN Contactor is in Drop condition Input should be Low.
- 4. If not matching check point no 2 & 3 by replacing the DIP card.
- 5. if still problem persist check DIP wiring.

#### 2.113 415V Load Contactor2 Fail to Pick Up, Change Over Initiated

Fault Code:	Schematic:
614	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 3
TC-ACU	Sub Functional group-2
Check:	
1 Ensure corresponding MCB should be in ON	state, ensure ACU DOP driving status as High.
2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.	
3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.	
4. If supply itself is not available, then check the wiring from DOP TB to coil.	
5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON	
condition.	

- 6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status should be high.
- 8. Still if problem persists, check the DIP wiring.

### 2.114 EOL 1 Relay Failed to Pick Up

Fault Code: 615	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1350 for TC
Location:	Functional group- 9
DTC-CRW TC-ECC	Sub Functional group-1

- 1. Ensure EOL Supply MCB & EOL Bypass switch is in ON condition. EMER OFF & SINGLE UNIT operation switch shall be in OFF state.
- 2. Ensure that none of the IV Coupler is in Open Condition through out the train.
- 3. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 4. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.
- 5. If supply itself is not available, then check the wiring of EOL1 TL to coil.
- 6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

# 2.115 EOL 2 Relay Failed to Pick Up

Fault Code: 616	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1350 for TC
Location: DTC-CRW TC-ECC	Functional group- 9 Sub Functional group-1
operation switch should be in OFF state. 2. Ensure that none of the IV Coupler is in ope 3. Check the voltage across contactor coil, it s 4. If relay/contactor is not energized, check by 5. If supply itself is not available, then check the	shall be high & ensure relay/contactor is energized. replacing with any other working one. It shall be energized. ne wiring of EOL1 TL to coil. actor feed back Input on corresponding DIP card. It shall be

### 2.116 415V Load Contactor1 Fail to Drop Out

Fault Code: 617	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-2

- 1. Ensure ACU supply MCB shall be in ON state, ensure ACU DOP driving status as low.
- 2. Check the voltage across contactor coil, it shall be low & ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

# 2.117 415V Load Contactor2 Fail to Drop Out

Fault Code: 618	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-2
<ol> <li>Check the voltage across contactor coil,</li> <li>If relay/contactor is not de-energized, ch</li></ol>	LEDs status by replacing with any other healthy card. It
energized. <li>If supply itself is available, then check th</li> <li>If still problem persists, check DOP card</li>	contactor feedback input on corresponding DIP card. It shall
shall be in OFF condition.	healthy DIP card and status shall be low.

### 2.118 EOL 1 Relay Failed to Drop Out

	Schematic:
619	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1350 for TC
Location:	Functional group- 9
DTC-CRW	Sub Functional group-1
TC-ECC	

- 1. Ensure EMER OFF switch in ON condition & EOL Bypass is in OFF condition.
- 2. Check the voltage across contactor coil, It should be LOW & ensure relay/contactor is deenergized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It should be de-energized.
- 4. If supply itself is available, then check the wiring of EOL1 TL to coil.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status shall be low.
- 7. Still if problem persists, check the DIP wiring.

# 2.119 EOL 2 Relay Failed to Drop Out

Fault Code: 620	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC, ED 1350 for TC
Location: DTC-CRW TC-ECC	Functional group- 9 Sub Functional group-1
<ul><li>3. If relay/contactor is not de-energized, check energized.</li><li>4. If supply itself is available, then check the v</li></ul>	shall be LOW and ensure relay/contactor is de-energized. k by replacing with any other working one. It shall be de- viring of EOL2 TL to coil. factor feed back Input on corresponding DIP card. It shall be althy DIP card and status shall be low.

# 2.120 Unexpected Neutral Section

Fault Code: 621	Schematic: NA
Location: NA	
Check: 1.Informative message	

# 2.121 ADD Detected - Panto down triggered

	Schematic:
623	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1
Check:	
<ol> <li>Ensure panto is UP, if not check AAC &amp; MR pressure.</li> <li>If pressures are OK, and panto is up, check for leakages.</li> <li>If no leakages are there, then check the presure switch and wiring upto DIP card.</li> <li>If all are OK, check the Panto carbon plate.</li> </ol>	

### 2.122 Panto Pressure Low Detected

Fault Code: 624	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1

- 1. Ensure panto is UP, if not check AAC & MR pressure.
- 2. If pressures are OK, and panto is up, check for leakages.
- 3. If no leakages are there, then check the AAC presure switch and wiring upto DIP card.

# 2.123 TF Oil Temperature Sensor 1 Faulty

Fault Code: 625	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
	sts check the trasformer oil temperature analog input acing with any other healthy card. It shall be in valid

### 2.124 TF Oil Temperature Sensor 2 Faulty

626	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1 Check the wiring from sensor to AIP card.
- 2. If wiring is ok and still problem persists, check the trasformer oil temperature analog input on corresponding AFIP card by replacing with any other healthy card. It shall be in valid range of temperatures.
- 3. If still problem persists, verify AIP feedback by replacing with OK sensor.

## 2.125 EBCU Communication Failed with Main CC

Fault Code: 630 , 4726	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC, ED 1353 for MC2
Location: DTC-CRW MC-ECC	Functional group- 7 Sub Functional group-3
Check: 1.Check the EBCU1 unit & Main CC c 2.if yes, check whether both communic 3.Still problem persist check comminic	cation ports are connected properly or not.

#### 2.126 RMPU Communication Faulty with Main CC

Fault Code: 631 , 4727	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW	Functional group- 11
MC-ECC	Sub Functional group-1

- 1. Check whether RMPU unit & Main CC card are powered ON /not
- 2. If yes, check whether both communication ports are connected properly or not.
- 3. Still if problem persists, check communication cable.

## 2.127 ORD Detected - Panto down triggered

Fault Code: 632 , 4728	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 1 Sub Functional group-1
Check:	

Stop train immediately.

- 1. Visually ensure that all the pantographs are down.
- 2. Visually inspect overhead line.
- 3. If overhead line and other pantographs are OK, then give fault reset from driver desk and raise pantographs again.
- 4. The pantograph on which the over reach detection input has tripped will not be raised again.
- 5. Check the ORD Pressure Sw in panto control box and panto pneumatics or concern pantograph representative for further inspection

#### 2.128 MR Pressure Switch Faulty

4729	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location: DTC-CRW NDTC-ECC	Functional group- 7 Sub Functional group-1 / 3

- 1. Check MR PRSW calibration(cutin-7.5 bar and cutoff-10 bar)
- 2. Check the MR Sensor reading on DDU, if it is greater than 10 Bar, check the MR PRES SW DIP LED status. It shall be ON.
- Or If MR sensor reading is less than 7.5 bar, check the DIP LED status, it shall be low.
- 3. If not, check point no 2 by replacing DIP card with healthy DIP card.
- 4. If still problem persists check the MR pressure sw feedback wiring.

### 2.129 MR Sensor Faulty

Fault Code: 4730 , 12801	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location: DTC-CRW NDTC-ECC	Functional group- 2 Sub Functional group-3
	by replacing AFIP with any other healthy card. wiring beteween AIP module to corresponding sor with ok one.

#### 2.130 FDS Communication Faulty with Main CC

Fault Code:	Schematic:
635 , 4731	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353FOR MC2, ED
	- 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
DTC-CRW	Functional group- 9
MC-ECC	Sub Functional group-6
DTC-CRW	<ul> <li>1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR</li> <li>NDTC2</li> <li>Functional group- 9</li> </ul>

- 1.Ensure the FDS unit & Main CC cards should be powered ON.
- 2.Ensure the both side communication ports are connected properly.
- 3.Still problem persist check communication cable.

#### 2.131 VCB Opened due to 3 Phase 415V side external fault

Fault Code: 636	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC
Location: TC -ECC	
Check: 1.Switch OFF all the AC Loads, enable indication at which load event is logg 2.Check whether any extra load conner 3.Check the power cables.	

## 2.132 BC Sensor Faulty

637	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW MC-ECC	Functional group- 2 Sub Functional group-3

- 1. Check BC sensor Feed back in DDU by replacing with any other healthy AFIP card. Should be with in specified limits
- 2. If not OK, Check BC sensor Feed back in DDU by replacing with any other Sensor. Should be with in specified limits.
- 3. Still if problem persists, check the wiring

#### 2.133 AAC Manual ON

Fault Code: 638	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-4
Check: 1. Ensure that AAC Sw is in Manual Me 2. If it is not in ON Mode then check th replacing with any other healthy care 3. Still if problem persists, check wiring	e feedback input on corresponding DIP card by d. It shall be low.

## 2.134 BAL Control Faulty

Fault Code: 639 , 4735	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 5
NDTC-ECC	Sub Functional group-1

- 1. Check that, this fault is logged in all the coaches. If yes, check TL supply in occupied DTC.
- 2. If this fault logged in any one coach, check the BAL relay. It shall be in ON condition. (if bc pressure > 0.4 bar)
- 3. If relay is picked up check the TL status. It shall be high.
- 4. If TL is high, check the wiring from TL to DIO card wiring.
- 5. If wiring is OK, replace DIP card.

## 2.135 DCU1 Communication Faulty with Main CC

Fault Code:	Schematic:
640 , 4736	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 5
NDTC-ECC	Sub Functional group-1
Check:	

- 1. Check whether DCU unit & Main CC card are powered ON / Not
- 2. If yes, check whether both communication ports are connected properly or not.
- 3. Still if problem persists, check communication cable.

## 2.136 DCU2 Communication Faulty with Main CC

Fault Code: 641 , 4737	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 5 Sub Functional group-1

- 1. Check whether DCU unit & Main CC card are powered ON /not
- 2. If yes, check whether both communication ports are connected properly or not.
- 3. Still if problem persists, check communication cable.

## 2.137 DCU3 Communication Faulty with Main CC

Fault Code: 642 , 4738	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 5 Sub Functional group-1
Check: 1. Check whether DCU unit & Main CC 2. If yes, check whether both communi 3. Still if problem persists, check comm	cation ports are connected properly or not.

## 2.138 DCU4 Communication Faulty with Main CC

643 , 4739	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 5 Sub Functional group-1

- Check whether DCU unit & Main CC card are powered ON /not
   If yes, check whether both communication ports are connected properly or not.
   Still if problem persists, check communication cable.

## 2.139 EBCU2 Communication Faulty with Main CC

Fault Code: 644	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC, ED 1353 for MC2
Location:	Functional group- 7
TCMS CONTROL UNIT	Sub Functional group-3
Check: 1.Check the EBCU2 unit & Main CC c 2.if yes, check whether both communic 3.Still problem persist check comminic	cation ports are connected properly or not.

#### 2.140 Demand Deration MC1 LC1 Hs Temp

Fault Code: 649	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section & cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit.
- 4. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.141 Demand Zero MC1 LC1 Hs Temp

Fault Code: 650 ,	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
3. If still problem persists, check the te	the inlet section and cyclonic filter section.

#### 2.142 Demand Deration MC1 LC1 Hs Temp

651 4747	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section and cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit.
- 4. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.143 Demand Zero MC1 LC1 Hs Temp

Fault Code: 652	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
3. If still problem persists, check the te	the inlet section and cyclonic filter section.

#### 2.144 Demand Deration MC1 LC2 Hs Temp

Fault Code: 653	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section and cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit.
- 4. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.145 Demand Zero MC1 LC2 Hs Temp

Fault Code: 654	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
3. If still problem persists, check the te	the inlet section and cyclonic filter section.

#### 2.146 Demand Deration MC1 LC2 Hs Temp

655	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section and cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit
- 4. If still problem persists, replace the AIP Card with healthy AIP card in LTC unit.

## 2.147 Demand Zero MC1 LC2 Hs Temp

Fault Code: 656	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
3. If still problem persists, check the te	the inlet section and cyclonic filter section.

## 2.148 Ep Unit Faulty Lockout

Fault Code:	Schematic:
657	SCHEMATIC DIAGRAM FOR MAE675UV2ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
UNDERSlung	Functional group- 7
	Sub Functional group-2

- 1. Ensure that EP/BP ISO Cocks are in normal position, BP is in valid healthy range.
- 2. Check the Wiring of EP Valves
- 3. Check the Corresponding DO Channel at CC
- 4. If still problem persists replace DO Card

## 2.149 Demand Deration Tf Temp

Fault Code: 658	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: TC-ECC, TXFR	Functional group-3 Sub Functional group-1
Check:	

- 1. Check the transformer blower running (low, high speed) status.
- 2. Check/ Clean the cooling blower inlet section.
- 3. If still problem persists, check the temp sensor wiring MCC control unit.
- 4. If still problem persists, replace the AIP card with healthy AIP card in MCC unit.

## 2.150 Demand Zero Tf Temp

Fault Code: 659	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-3
TC-ECC, TXFR	Sub Functional group-1

- 1. Check the transformer blower running (low, high speed) status.
- 2. Check/ Clean the cooling blower inlet section.
- 3. If still problem persists, check the temp sensor wiring MCC control unit
- 4. If still problem persists, replace the AIP card with healthy AIP card in MCC unit.

## 2.151 MC1 INV1 Trq Deration Igbt Hs Temp

Fault Code: 660	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
3. If still problem persists, check the ter	the inlet section and cyclonic filter section.

#### 2.152 MC1 INV1 Trq Zero Igbt Hs Temp

Fault Code: 661	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
Chock	

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section and cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit
- 4. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.153 MC1 INV1 Trq Deration Igbt Hs Temp

Fault Code: 662	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
3. If still problem persists, check the te	the inlet section and cyclonic filter section.

#### 2.154 MC1 INV1 Trq Zero Igbt Hs Temp

663	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section and cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit.
- 4. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.155 MC1 INV1 Trq Deration Igbt Hs Temp

Fault Code: 664	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group- 3
MC-LTC	
3. If still problem persists, check the t	n the inlet section and cyclonic filter section.

#### 2.156 MC1 INV1 Trq Zero Igbt Hs Temp

665	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section and cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit.
- 4. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.157 MC1 INV1 Trq Deration Tm1 Stator Temp

	Schematic:
666	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349
	for MC
Location:	Functional group-2
MC-LTC, TM	Sub Functional group-3
Check:	
	orresponding TM. mp sensor wiring between TM to LTC control unit. AIP card with healthy AIP card in LTC unit.

#### 2.158 MC1 INV1 Trq Zero Tm1 Stator Temp

Fault Code: 667	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-2
MC-LTC, TM	Sub Functional group-3

- 1. Check/ clean the air inlet section of Corresponding TM.
- 2. If still problem persists, check the temp sensor wiring between TM to LTC control unit.
- 3. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.159 MC1 INV1 Trq Deration Tm2 Stator Temp

Fault Code: 668	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-2
MC-LTC, TM	Sub Functional group-3
Check:	
<ol> <li>Check/ clean the air inlet section of corresponding TM.</li> <li>If still problem persists, check the temp sensor wiring between TM to LTC control unit.</li> <li>If still problem persists, replace the AIP card with healthy AIP card in LTC unit.</li> </ol>	

#### 2.160 MC1 INV1 Trq Zero Tm2 Stator Temp

669	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-2
MC-LTC, TM	Sub Functional group-3

- 1. Check/ clean the air inlet section of corresponding TM.
- 2. If still problem persists, check the temp sensor wiring between TM to LTC control unit.
- 3. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.161 MC1 INV2 Trq Deration Igbt Hs Temp

Fault Code: 670	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
3. If still problem persists, check the te	the inlet section and cyclonic filter section.

#### 2.162 MC1 INV2 Trq Zero Igbt Hs Temp

671	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC unit blower running status.
- 2. If it is running OK, then check/ clean the inlet section and cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit.
- 4. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.163 MC1 INV2 Trq Deration Igbt Hs Temp

Fault Code: 672	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
3. If still problem persists, check the te	the inlet section and cyclonic filter section.

#### 2.164 MC1 INV2 Trq Zero Igbt Hs Temp

673	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section and cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring LTC control unit.
- 4. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

#### 2.165 TF Blower 2 High speed Cont failed to pickup

Fault Code:	Schematic:	
674	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350	
	for TC	
Location:	Functional group- 3	
TC-ECC	Sub Functional group-1	
Check:		
<ol> <li>TXFR BLW2 HIGH SPEED MPCB &amp; TC supply MCB shall be in ON state. Ensure TXFR BLW2 LOW SPEED CONT must be in OFF condition, ensure DOP driving status as high, if not driven by system, drive by using DOP test.</li> </ol>		
e e e e e e e e e e e e e e e e e e e	ontactor coil, it shall be high & ensure relay/ contactor is energized.	
3. If relay/ contactor is not ene	ontactor coil, it shall be high & ensure relay/ contactor is energized. rgized, check by replacing with any other working one. It shall be energized. le, then check the wiring from DOP TB to coil.	
<ol> <li>If relay/ contactor is not ene</li> <li>If supply itself is not available</li> </ol>	rgized, check by replacing with any other working one. It shall be energized.	
<ol> <li>If relay/ contactor is not ene</li> <li>If supply itself is not available</li> <li>If still problem persists, check</li> <li>condition.</li> <li>If still problem persists, check</li> </ol>	rgized, check by replacing with any other working one. It shall be energized. le, then check the wiring from DOP TB to coil. ck DOP card LEDs status by replacing with any other healthy card. It shall be in ON ck the relay/ contactor feedback Input on corresponding DIP card. It shall be high.	
<ol> <li>If relay/ contactor is not ene</li> <li>If supply itself is not available</li> <li>If still problem persists, check</li> <li>condition.</li> <li>If still problem persists, check</li> </ol>	rgized, check by replacing with any other working one. It shall be energized. le, then check the wiring from DOP TB to coil. ck DOP card LEDs status by replacing with any other healthy card. It shall be in ON ck the relay/ contactor feedback Input on corresponding DIP card. It shall be high. th any other healthy DIP card and status shall be high.	

#### 2.166 TF Blower 2 High speed Cont failed to Dropout

675	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Ensure TXFR BLW2 LOW SPEED CONT must be in OFF condition, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-
- energized. 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be
- in OFF condition.6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

## 2.167 MC1 INV2 Trq Deration Tm3 Stator Temp

Fault Code: 676	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC, TM	Functional group-2 Sub Functional group-3
• • •	orresponding TM. mp sensor wiring between TM to LTC control unit AIP card with healthy AIP card in LTC unit.

#### 2.168 MC1 INV2 Trq Zero Tm3 Stator Temp

Fault Code: 677	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-2
MC-LTC, TM	Sub Functional group-3

- 1. Check/ clean the air inlet section of corresponding TM.
- 2. If still problem persists, check the temp sensor wiring between TM to LTC control unit
- 3. If still problem persists, replace the AIP card with Healthy AIP card in LTC unit.

### 2.169 MC1 INV2 Trq Deration Tm4 Stator Temp

Fault Code: 678	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-2
MC-LTC, TM	Sub Functional group-3
Check:	
<ol> <li>Check/ clean the air inlet section of corresponding TM.</li> <li>If still problem persists, check the temp sensor wiring between TM to LTC control unit</li> <li>If still problem persists, replace the AIP card with healthy AIP card in LTC unit.</li> </ol>	

#### 2.170 MC1 INV2 Trq Zero Tm4 Stator Temp

679	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-2
MC-LTC, TM	Sub Functional group-3

- 1. Check/ clean the air inlet section of Corresponding TM.
- 2. If still problem persists, check the temp sensor wiring between TM to LTC control unit.
- 3. If still problem persists, replace the AIP card with healthy AIP card in LTC unit.

## 2.171 MCC1 Tic1 Main CAN Comm Faulty

Fault Code: 680	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-3, 4
MC-ECC, LTC	Sub Functional group-2, 1
units.	d properly at LTC & MCC unit. AN communication cable wiring betwwen MCC & LTC nunication by replacing healthy CC card of

#### 2.172 MCC1 Tic2 Main CAN Comm Faulty

681 , 4777	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-3, 4
MC-ECC, LTC	Sub Functional group-2, 1

- 1. Verify that all the Modules are placed properly at LTC & MCC Unit.
- 2. If still problem persists, check the CAN communication cable wiring betwwen MCC & LTC units.
- 3. If still problem persists, check communication by replacing healthy CC card of corresponding computer.

## 2.173 MCC1 Lic1 Main CAN Comm Faulty

Fault Code: 682 , 4778	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-ECC, LTC	Functional group-3, 4 Sub Functional group-2, 1
units.	d properly at LTC & MCC Unit. AN Communication Cable wiring betwwen MCC & LTC nunication by replacing healthy CC card of

## 2.174 MCC1 Lic2 Main CAN Comm Faulty

683 , 4779	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-3, 4
MC-ECC, LTC	Sub Functional group-2, 1

- 1. Verify that all the Modules are placed properly at LTC & MCC Unit.
- 2. If still problem persists, check the CAN communication cable wiring betwwen MCC & LTC units.
- 3. If still problem persists, check communication by replacing healthy CC card of corresponding computer.

## 2.175 MCC1 Tic1 Rednt CAN Comm Faulty

Fault Code: 684 , 4780	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-3, 4
MC-ECC, LTC	Sub Functional group-2, 1
units.	d properly at LTC & MCC Unit. AN communication cable wiring betwwen MCC & LTC nunication by replacing healthy CC card of

#### 2.176 MCC1 Tic2 Rednt CAN Comm Faulty

685 , 4781	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-3, 4
MC-ECC, LTC	Sub Functional group-2, 1

- 1. Verify that all the Modules are placed properly at LTC & MCC Unit.
- 2. If still problem persists, check the CAN communication cable wiring betwwen MCC & LTC units.
- 3. If still problem persists, check communication by replacing healthy CC card of corresponding computer.

## 2.177 MCC1 Lic1 Rednt CAN Comm Faulty

Fault Code: 686 , 4782	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-ECC, LTC	Functional group-3, 4 Sub Functional group-2, 1
Units.	d properly at LTC & MCC Unit. AN Communication Cable wiring betwwen MCC & LTC unication by replacing healthy CC card of

#### 2.178 MCC1 Lic2 Rednt CAN Comm Faulty

687 , 4783	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group-3, 4
MC-ECC, LTC	Sub Functional group-2, 1

- 1. Verify that all the Modules are placed properly at LTC & MCC Unit.
- 2. If still problem persists, check the CAN communication cable wiring betwwen MCC & LTC units.
- 3. If still problem persists, check communication by replacing healthy CC card of corresponding computer.

## 2.179 Demand Deration Lc1 Dclcap Top Temp

Fault Code: 689 , 4785	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3
<ol> <li>If still problem persists, check the te control unit.</li> </ol>	us. the inlet section and cyclonic filter section. mp sensor wiring between LC1 DCL Cap to LTC AIP card with healthy AIP card in LTC unit.

#### 2.180 Demand Zero Lc1 Dclcap Top Temp

Fault Code: 690 , 4786	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location: MC-LTC	Functional group- 3

- 1. Check LTC Unit Blower running status.
- 2. If it is running OK, then check/ clean the inlet section & cyclonic filter section.
- 3. If still problem persists, check the temp sensor wiring between LC1 DCL Cap to LTC control unit
- 4. If still problem persists, replace the AIP card with healthy AIP Card in LTC Unit.

## 2.181 Demand Zero Train Speed Exceeds Max Limit

Fault Code: 691 , 4787	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC
Location:	Functinal group- 4
Driver Desk	Sub Functional group- 1
Check: Its a informative message. 1. Check the train speed should be bel mode and 160 kmph for Normal mod 2. Bring MCH to coast and maintain tra	

#### 2.182 CCC ECN Index Failed

693 , 4789	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC
Location:	Functinal group- 4
DTC-CRW	Sub Functional group- 1

Check:

1. Check the main and redundant M12 connectors at CCC and ECN units

2.If it is OK, check the main and redundant M12 connectors at EPCC and ECN units 3.If still problem persist check the wiring.

## 2.183 Ep Live Cont Failed 2 Pickup

694 , 4790	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2ED 1348 FOR DTC, ED 1349 for MC1,ED 1353FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2 Functional group- 7 Sub Functional group-2

Check:

- 1. Ensure that EP/BP Iso cocks are in normal position, BP is in valid healthy range.
- 2. Check the Wiring of EP Valves
- 3. Check the Corresponding DO Channel at CC
- 4. If still problem persists replace DO Card.

#### 2.184 Ep Unit Faulty Lockout

Fault Code:	Schematic:
695 , 4791	SCHEMATIC DIAGRAM FOR MAE675UV2ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
UNDERSlung	Functional group- 7
_	Sub Functional group-2

- 1. Ensure that EP/BP Iso cocks are in normal position, BP is in valid healthy range.
- 2. Check the Wiring of EP Valves.
- 3. Check the Corresponding DO Channel at CC.
- 4. If still problem persists replace DO Card.

# 2.185 MAC Dryer Faulty

Fault Code: 698 , 4794	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC,ED 1351&1352 for NDTC1 & NDTC2
Location: DTC- CRW NDTC-ECC	Functional group- 7 Sub Functional group-1
Check: 1. Ensure MAC is in ON condition. 2. Verify Air dryer funtionality, if problen 3. Still if problem persists, replace the I	

#### 2.186 Roof VCB Relay Stuck High

Fault Code: 801	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC.
Location:	Functional group- 7
TC -ECC	Sub Functional group- 4
<ol> <li>Check:         <ol> <li>Ensure PANTO&amp;VCB Supply MCB is in ON condition &amp; EOL123 RELAY coil must be in pick up condition, ensure DOP driving status as Low, If driven by system, drop by using DOP test.</li> <li>Check the voltage across contactor coil, It should be Low &amp; ensure relay/contactor is de-energized.</li> <li>If relay/contactor is not de-energized, check by replacing with any other working one. It should be de-energized.</li> <li>If supply itself is available, then check the wiring from DOP TB to coil</li> <li>If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in OFF</li> </ol> </li> </ol>	
<ol> <li>If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be Low.</li> <li>If not, check by replacing with any other healthy DIP card and status should be Low.</li> <li>Still problem persists check the DIP wiring.</li> </ol>	

#### 2.187 Roof VCB Relay Stuck Low

	Schematic:
802	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350
	for TC.
Location:	Functional group- 7
TC -ECC	Sub Functional group- 4
	Functional group- 7

- 1. Ensure PANTO&VCB Supply MCB is in ON condition & EOL123 RELAY coil must be in pick up condition, ensure DOP driving status as Low, If driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It should be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in OFF condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be Low.
- 7. If not, check by replacing with any other healthy DIP card and status should be Low.
- 8. Still problem persists check the DIP wiring.

## 2.188 Roof VCB Stuck High

Fault Code: 805	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC.
Location:	Functional group- 7
TC -ECC	Sub Functional group- 4
<ul> <li>condition &amp; AAC Pressure is in healthy r</li> <li>2. Give VCB ON command and check DOF It should be in ON condition.</li> <li>3. If not OK, check the wiring from TB to re</li> <li>4. If Relay coil OK, Check the VCB FB NO DIP card (in VCB close condition VCB F units).</li> <li>5. If not OK, check the wiring.</li> <li>6. If wiring is ok, Check the VCB Feed back</li> </ul>	P card LEDs status by replacing with any other healthy card.

#### 2.189 Roof VCB Stuck Low

Fault Code: 806	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC.
Location:	Functional group- 7
TC -ECC	Sub Functional group- 4

- Ensure PANTO&VCB Supply MCB is in ON condition, EOL123 RELAY coil must be in pick up condition & AAC Pressure is in healthy range (above 5.3 bar).
   Give VCB ON command and check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
   If not OK, check the wiring from TB to relay coil.
   If Relay coil OK, Check the VCB FB NO & VCB FB NC Input on corresponding Main & redundant DIP card (in VCB close condition VCB FB NO input should High, VCB FB NC should be Low in both units)
   If not OK, check the wiring
- 5. If not OK, check the wiring.6. If wiring is ok, Check the VCB Feed back Inputs on corresponding Main & redundant DIP card by replacing with any other healthy card. Note : For lockout fault recovery, DDU

## 2.190 Roof VCB Inconsist

Fault Code: 807	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC.
Location:	Functional group- 7
TC -ECC	Sub Functional group- 4
<ol> <li>Check:         <ol> <li>Ensure PANTO&amp;VCB Supply MCB is in ON condition, EOL123 RELAY coil must be in pick up condition &amp; AAC Pressure is in healthy range (above 5.3 bar).</li> <li>Give VCB ON command and check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.</li> <li>If not OK, check the wiring from TB to relay coil.</li> <li>If Relay coil OK, Check the VCB FB NO &amp; VCB FB NC Input on corresponding Main &amp; redundant DIP card (in VCB close condition VCB FB NO input should High, VCB FB NC</li> </ol> </li> </ol>	
<ul> <li>should be Low in both units)</li> <li>5. If not OK, check the wiring.</li> <li>6. If wiring is ok, Check the VCB Feed back Inputs on corresponding Main &amp; redundant DIP card by replacing with any other healthy card. Note : For lockout fault recovery, DDU critical Reset command is required to recover</li> </ul>	

## 2.191 AC1 3ph load test started

Fault Code: 808	Schematic: NA
Location: NA	
Check: Informative message only. 3 phase load test started	

## 2.192 AC1 3ph load test timeout

Fault Code: 809	Schematic: NA
Location: NA	
Check: Informative message only. 3 phase loade test time out	

## 2.193 AC1 3ph load test end

Fault Code: 810	Schematic: NA
Location:	
NA	
Check:	
Informative message only. 3 phase loade test ended	

## 2.194 Uncontrolled load pantry or CAB AC ELD

Fault Code: 811	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC
Location:	Functional group- 11
DTC-CRW	Sub Functional group- 2
Check:	
1.Check any over current drawn by CAB AC or Pantry load 2.Check the CAB AC and Pantry Load wiring.	

#### 2.195 External Short Circut - TF Blower low speed

Fault Code: 812	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350
	for TC
Location:	Functional group- 3
TC- UNDER FRAME	Sub Functional group- 1

- 1. Check the TXFR Low Speed Blowers wiring.
- 2. If still problem persist, then conduct the IR test for TXFR Blowers by removing the all connections.

### 2.196 External Short Circut - TF Blower HI speed

Fault Code: 813	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC
Location: TC-UNDER FRAME	Functional group- 3 Sub Functional group- 1
Check: 1. Check the TXFR HIGH Speed Blowe 2. If still problem persist, then conduct connections.	ers wiring. the IR test for TXFR Blowers by removing the all

# 2.197 External Short Circut - TF Blower high speed

Fault Code: 814	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC
Location:	Functional group- 3
TC- UNDER FRAME	Sub Functional group- 1

- 1. Check the TXFR HIGH Speed Blowers wiring.
- 2. If still problem persist, then conduct the IR test for TXFR Blowers by removing the all connections.

### 2.198 External Short Circut - TF oil pump

Fault Code: 815	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC
Location:	Functional group- 3
тс	Sub Functional group- 1
Check: 1.Check Transformer oil pump load sid 2.Check the wiring connection if over o	

### 2.199 External load MC2 LTC blower faulty

Fault Code: 816	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group- 3
MC-ECC	Sub Functional group-2

- 1. Check the blower wiring.
- 2. If still problem persists, Then conduct the IR test for Blowers by removing the all connections.
- 3. If any abnormality found replace the blower

### 2.200 External Short Circut - MAC

Fault Code: 817	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC
Location:	Functional group- 7
ртс	Sub Functional group- 1
Check:	
1.Check MAC side any paritial short circuit happened. 2.Check the wiring connection if over current drawn.	

# 2.201 External Short Circut - NDMC RMPU

Fault Code:	Schematic:
818	SCHEMATIC DIAGRAM FOR MAE675UV2 ED
	1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 11
NDTC	Sub Functional group- 2
Check:	
1.Check RMPU 1 side any paritial short circuit happened.	

2. Check the wiring connection if over current drawn.

### 2.202 External Short Circut - MC1 RMPU

Fault Code: 819	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1349 for MC1
Location:	Functional group- 11
MC1	Sub Functional group- 2
Check:	
1.Check RMPU 1 side any paritial short circuit happened. 2.Check the wiring connection if over current drawn.	

### 2.203 External Short Circut - TC RMPU

820	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC
Location:	Functional group- 11 Sub Functional group- 2

Check:

Check RMPU 1 side any paritial short circuit happened.
 Check the wiring connection if over current drawn.

# 2.204 External Short Circut - MC2 RMPU

Fault Code: 821	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1353 for MC2
Location:	Functional group- 11
MC2	Sub Functional group- 2
Check:	
1.Check RMPU 1 side any paritial short circuit happened. 2.Check the wiring connection if over current drawn.	

# 2.205 AC2 3ph load test started

Fault Code: 822	Schematic: NA
Location:	
NA	
Check:	
Informative message only.	

# 2.206 AC2 3ph load test timeout

Fault Code: 823	Schematic: NA
Location: NA	
Check: Informative message only.	

# 2.207 AC2 3ph load test end

Fault Code: 824	Schematic: NA
Location: NA	
Check: Informative message only.	

### 2.208 Uncontrolled load pantry ELD

Fault Code: 825	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC, MC, TC, NDTC, MC2	1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2, Functional group- 3 Sub Functional group-2
Check: 1.Check the pantry connected over loa 2.check the pantry wiring if over currer	

# 2.209 External load MC1 LC1 blower faulty

826	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1349 for MC1
Location: MC1 UNDER FRAME	Functional group- 3 Sub Functional group- 2

- 1. Check the MC1 (LC1) Blowers wiring.
- 2. If still problem persist, Then conduct the IR test for MC1 (LC1) Blowers by removing the all connections.

### 2.210 External load MC1 LC2 blower faulty

Fault Code: 827	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1349 for MC1
Location: MC1 UNDER FRAME	Functional group- 3 Sub Functional group- 2
Check: 1. Check the MC2 ( LC2 ) Blowers wiri 2. If still problem persistss, Then condu the all connections.	ng. ict the IR test for MC2 ( LC2 ) Blowers by removing

### 2.211 External load MC2 LC1 blower faulty

828	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1353 for MC2
Location:	Functional group- 3
MC2	Sub Functional group- 2
UNDER FRAME	

- 1. Check the MC2 (LC1) Blowers wiring.
- 2. If still problem persists, Then conduct the IR test for MC1 (LC1) Blowers by removing the all connections.

## 2.212 External load MC2 LC2 blower faulty

Fault Code: 829	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1353 for MC2
Location:	Functional group- 3
MC2	Sub Functional group- 2
Check: 1. Check the MC2 ( LC2 ) Blowers wirin 2. If still problem persists, Then conduct all connections.	ng. It the IR test for MC2 ( LC2 ) Blowers by removing the

### 2.213 External Short Circut - NDMC RMPU2

Fault Code:	Schematic:
830	SCHEMATIC DIAGRAM FOR MAE675UV2 ED
	1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 11
NDTC	Sub Functional group- 2

Check:

Check RMPU 2 side any paritial short circuit happened.
 Check the wiring connection if over current drawn.

### 2.214 External Short Circut - MC1 RMPU2

Fault Code: 831	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1349 for MC1
Location:	Functional group- 11
MC1	Sub Functional group- 2
Check:	
1.Check RMPU 2 side any paritial short circuit happened. 2.Check the wiring connection if over current drawn.	

### 2.215 External Short Circut - TC RMPU2

832	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC
Location:	Functional group- 11
TC	Sub Functional group- 2

Check:

Check RMPU 2 side any paritial short circuit happened.
 Check the wiring connection if over current drawn.

# 2.216 External Short Circut - MC2 RMPU2

Fault Code:	Schematic:
833	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1353
	for MC2
Location:	Functional group- 11
MC2	Sub Functional group- 2
Check:	
1.Check RMPU 2 side any paritial short circuit happened. 2.Check the wiring connection if over current drawn.	

## 2.217 LDSLR fail to Pick up

Fault Code: 876 , 4972	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2,
DTC- CRW ,	Functional group- 5
ECC for MC,TC,NDTC,MC2	Sub Functional group-1

- 1. Ensure that DCU Left CB is ON and all the Left doors are closed
- 2. Check the voltage across contactor coil, It should be High & ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring of 110V supply to coil.
- 5. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It should be high.
- 6. If not, check by replacing with any other healthy DIP card and status should be high.
- 7. Still if problem persists, check the DIP wiring.

### 2.218 LDSLR fail to Drop out

Fault Code: 877 , 4973	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2,
DTC- CRW ,	Functional group- 5
ECC for MC,TC,NDTC,MC2	Sub Functional group-1

Check:

- 1. Ensure that DCU left CB is on and at least one left door is open
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/ contactor is DEenergized.
- 3. If relay/ contactor is not DE-energized., check by replacing with any other working one. It should be DE-energized.
- 4. If supply itself is available, then check the wiring of 110 V supply to coil.
- 5. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It should be Low.
- 6. If not, check by replacing with any other healthy DIP card and status should be low.
- 7. Still if problem persists, check the DIP wiring.

### 2.219 LDSRR fail to Pick up

Schematic:
SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
for DTC, ED 1349 for MC, ED 1350 for TC, ED
1351&1352 for NDTC1 & NDTC2,
Functional group- 5
Sub Functional group-1

- 1. Ensure that DCU Right CB is ON and all the Right doors are closed
- Check the voltage across contactor coil, It should be High & ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring of 110V supply to coil.
- 5. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It should be high.
- 6. If not, check by replacing with any other healthy DIP card and status should be high.
- 7. Still if problem persists, check the DIP wiring.

### 2.220 LDSRR fail to Drop out

879 , 4975	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
DTC- CRW ,	1351&1352 for NDTC1 & NDTC2, Functional group- 5 Sub Functional group-1

Check:

- 1. Ensure that DCU Right CB is on and at least one Right door is open
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/ contactor is DEenergized.
- 3. If relay/ contactor is not DE-energized., check by replacing with any other working one. It should be DE-energized.
- 4. If supply itself is available, then check the wiring of 110 V supply to coil.
- 5. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It should be Low.
- 6. If not, check by replacing with any other healthy DIP card and status should be low.
- 7. Still if problem persists, check the DIP wiring.

### 2.221 PB Pressure Switch Faulty

Schematic:
SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
for DTC, ED 1349 for MC, ED 1350 for TC, ED
1351&1352 for NDTC1 & NDTC2
Functional group- 7
Sub Functional group-2

- 1. Check the PB MCB Status , It should be in ON Condition.
- 2. Check the PB Applied Relay Status. It shall be in high condition at PB Apply condition and low at PB release condition.
- 3. Check the PB pressure switch feedback, it shall be in low condition at PB apply condition and high at PB release condition.
- 4. If still problem persists, then replace the pressure switch.
- 5. If still problem persists, then check the wiring.
- 6. If still problem persists, then replace the DIP card with healthy DIP card.

### 2.222 PB Applied Relay Faulty

Fault Code: 917 , 5013	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 7
NDTC-ECC	Sub Functional group-2

Check:

- Check the PB MCB status, it shall be in ON Condition.
   Check the PB pressure switch feedback, it shall be in low condition at PB Apply condition and high at PB release condition.
   Check the PB applied relay status. It shall be in high condition at PB apply condition and low at PB release condition.
   In PB applied condition if feedback is low then check the voltage across the coil, it shall be high and ensure relay/ contactor is energized.
   If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized
- be energized.
- 6. If supply itself is not available, then check the wiring from Pressure sw to coil.
   7. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
   8. If not, check by replacing with any other healthy DIP card and status shall be high.

### 2.223 External load faulty - TF low speed blower 2

Fault Code: 880	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check the TXFR Low Speed Blowers wiring.
- 2. If still problem persists, Then conduct the IR test for TXFR Blowes by removing the all connections.

# 2.224 External load faulty - TF High speed blower 2

Fault Code:	Schematic:
881	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
Check:	
<ol> <li>Check the TXFR high Speed Blowers wiring.</li> <li>If still problem persists, Then conduct the IR test for TXFR Blowes by remoing the all connections.</li> </ol>	

# 2.225 External load faulty - MC1 LC1 pump

Fault Code: 882	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check the oil Pump wiring.
- 2. If still problem persists, replace it.

# 2.226 External load faulty - MC1 LC2 pump

Fault Code: 883	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
Check: 1. Check the TXFR Oil Pump wiring. 2	. If still problem persists, replace it.

# 2.227 External load faulty - MC2 LC1 pump

884	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check the TXFR Oil Pump wiring.
- 2. If still problem persists, replace it.

# 2.228 External load faulty - MC2 LC2 pump

Fault Code: 885	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
Check:	
<ol> <li>Check the TXFR Oil Pump wiring.</li> <li>If still problem persists, replace it.</li> </ol>	

# 2.229 PB Over Ride Request From DDU

Fault Code: 1024 , 5120	Schematic: NA
Location:	
DRIVER DESK	
Check:	
Informative message only. Parking over ride from display	

### 2.230 Bogie1 BC Cock Isolation

Fault Code: 1025 , 5121	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 7
NDTC-ECC	Sub Functional group-3

#### Check:

- 1. Check the Isolation cock should be in Open Position.
- 2. If not check the DIP wiring from Isolation Cock to DIP Card, DIP shall be low.
- 3. If still problem persists, replace the DIP card with healthy card.

#### 2.231 Bogie2 BC Cock Isolation

Fault Code: 1026 , 5122	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 7
NDTC-ECC	Sub Functional group-3

- 1. Ensure the Isolation cock is in open position.
- 2. If not check, the DIP wiring from Isolation Cock to DIP card, DIP shall be low.
- 3. If still problem persists, replace the DIP card with healthy card.

# 2.232 EBCU CB OFF

Fault Code: 1027 , 5123	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

Check:

- 1. Ensure that CB shall be ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

### 2.233 EBCU2 CB OFF

1028 , 5124	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC- CRW NDTC- ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

Check:

1. Ensure that CB should be ON. If CB should be ON condition the DIP status should be high.

2.if still problem persists, check the wiring.

- 3.if wiring is OK,check the LEDs of corresponding channel on DIP card. If not matching, change DIP card .
- 4.If still problem persits, then repalce the AUX Block of corrosponding MCB

# 2.234 PAS Alarm Triggered

Fault Code: 1029 , 5125	Schematic: NA
Location: NA	
Check: Informative message.	

### 2.235 TF Oil flow sensor self check success

Fault Code: 1031	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.236 TF Oil flow sensor self check fail

Fault Code: 1032 Location: NA	Schematic: NA
Check: Informative message.	

# 2.237 Entered into ELD test

Fault Code: 1033	Schematic: NA
Location: NA	
Check: Informative message.	

### 2.238 BU1 And BU2 415V Co1 Connected

Fault Code: 5130	Schematic: NA
Location: NA	
Check: Informative message.	

### 2.239 BU2 And BU5 415V Co1 Connected

Fault Code: 5131	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.240 Roof VCB Isolated from DDU

Fault Code: 1037	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.241 BU1 And BU2 415V Co2 Connected

Fault Code: 5134 Location: NA	Schematic: NA
Check: Informative message.	

### 2.242 BU2 And BU5 415V Co2 Connected

Fault Code: 5135 Location: NA	Schematic: NA
Check: Informative message.	

### 2.243 BU5 And BU6 415V Co2 Connected

Fault Code: 5136	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.244 Main CC Master

Fault Code: 1041	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.245 Main CC Slave

Fault Code: 1042	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

### 2.246 BP Low Pressure

Fault Code: 1043 , 5139	Schematic:
1043, 3133	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2,
DTC,MC,TC,	Functional group- 7
NDTC,MC2	Sub Functional group-3
Check:	
1.Check that all MACs are	in running condititon.
2.Check the MR pressure is greter than 5.8 bar and there is no MR leakage through the rake.	
3.Check Isolation Cock Position after cab occupation	
4.check that there is no BP leakage throught the rake.	
5.Check the BP sensor feed back by replacing a new working one. 6.if OK, check the pressure by replacing a new healthy one.	
7 If still problem peersists check the wiring	

7.If still problem peersists check the wiring.

# 2.247 PB Apply Command Received from CCC

Fault Code: 1044 , 5140 Location: NA	Schematic: NA
Check: Informative message. When pressed the PB apply switch it s CCC sends the PB APPLY command t	

### 2.248 PB Release Command Received from CCC

Fault Code: 1045 , 5141 Location:	Schematic: NA
NA	
Check: Informative message. When pressed the PB relrse switch it s CCC sends the PB RELESE command	

### 2.249 MAC Forced ON From DDU

Fault Code: 5142	Schematic: NA
Location: DRIVER DESK	
Check: Informative message only.	

# 2.250 MAC Forced OFF From DDU

Fault Code: 1047 , 5143	Schematic: NA
Location: DRIVER DESK	
Check: Informative message only.	

# 2.251 FDS Action Detected

Fault Code: 1048 , 5144	Schematic:
Location:	
NA	
Check:	
Informative message.	

# 2.252 FDS Fault Detected

Fault Code: 1049 , 5145	Schematic:
Location:	
NA	
Check:	
Informative message.	

### 2.253 RDM Mode Activated

Fault Code: 1050 , 5146	Schematic: NA
Location:	
NA	
Check:	
Informative message only.	

# 2.254 BC Pressure Switch Right

Fault Code: 1055	Schematic: NA
Location: NA	
Check: Informative message Brake Pressure is detected in Right sic	le cylinder.

### 2.255 TF Oil flow sensor self check started

Fault Code: 1056 , 5152	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

### 2.256 Air Suspension Pressure Switch Left

1057 , 5153	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3
Check:	

- 1. Check the isolation cock, it shall be in open position.
- 2. If not check the DIP wiring from isolation cock to DIP card, DIP shall be low.
- 3. If still problem persists, replace the DIP card with healthy card.

### 2.257 Air Suspension Pressure Switch Right

Fault Code: 1058 , 5154	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

- 1. Check the isolation cock, it shall be in open position.
- 2. If not check the DIP wiring from isolation cock to DIP card, DIP shall be low.
- 3. If still problem persists, replace the DIP card with healthy card.

#### 2.258 BC Pressure Switch Left

Fault Code: 1059 , 5155	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: UNDER FRAME	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3
Check: Informative message Brake Pressure is detected in Left side	cylinder.

### 2.259 Air Suspension Isolation Cock Left Opened

1060 , 5156	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

- 1. Check the isolation cock, it shall be in open position.
- 2. If not check the DIP wiring from isolation cock to DIP card, DIP shall be low.
- 3. If still problem persists, replace the DIP card with healthy card.

### 2.260 Air Suspension Isolation Cock - Right Opened

Fault Code: 1061 , 5157	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3
Check: 1. Check the isolation cock, it shall be	in open position.

- 2. If not check the DIP wiring from isolation cock to DIP card, DIP shall be low.
- 3. If still problem persists, replace the DIP card with healthy card.

## 2.261 (Ep Bp)PB Pressure Isolation Cock Right Opened

Fault Code: 1062	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

- 1. Check the isolation cock, it shall be in open position.
- 2. If not check the DIP wiring from isolation cock to DIP card, DIP shall be low.
- 3. If still problem persists, replace the DIP card with healthy card.

### 2.262 (Ep)PB Pressure Isolation Cock Left Opened

Fault Code:	Schematic:
1063	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW MC-ECC	Functional group- 7
TC-ECC NDTC-ECC	Sub Functional group-3
Check:	

- 1. Check the isolation cock, it shall be in open position.
- 2. If not check the DIP wiring from isolation cock to DIP card, DIP shall be low.
- 3. If still problem persists, replace the DIP card with healthy card.

### 2.263 Ep Isolated From DDU

1064 , 5160	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.264 Bogie1 EP Isolated from DDU

Fault Code: 1065 , 5161	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.265 Bogie2 EP Isolated from DDU

Fault Code: 1066 , 5162 Location: NA	Schematic: NA
Check: Informative message.	

### 2.266 VCB Closed

Fault Code: 1067	Schematic: NA
Location: NA	
Check: Informative message only.	

# 2.267 Fault Reset Command Requested from Driver Desk

Fault Code: 1069 Location: NA	Schematic: NA
Check: Informative message only.	

#### 2.268 AAC Pressure Low

Fault Code: 1071	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC.
Location: TC -ECC UNDER FRAME	Functional group- 7 Sub Functional group- 4
<ul> <li>UNDER FRAME</li> <li>Check: <ol> <li>Check the AAC in running condition and pressure is &gt;6.3 bar</li> <li>If not, check for any leakage in AAC pressure.</li> <li>If no leakage found check the pressure switch stuck status and pressure switch input on EPCC Module.</li> <li>If still problem persists, then check the wiring or replace the Pressure SW.</li> <li>In case of vcb close condition,3 phase supply available case check valve b/w MR and AAC pressure pipe. MR should feed AAC in normal running condition through this valve.</li> </ol> </li> </ul>	

#### 2.269 AAC Running Too Long

Fault Code:	Schematic:
1072	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350
	for TC.
Location:	Functional group- 7
TC -	Sub Functional group- 4
UNDER FRAME	

- 1.Check the AACin running condition and pressure is >5.3 bar
- 2. If No leakage found, then check the pressure s/w input and AAC ON SRFB on EPCC module and also relay for stuck at High. AAC pressure switch input should be high when AAC pressure is > 6.3 bar.
- 3. If not, check the pressure switch settings.
- 4. If settings are OK, still problem means pressure switch defective.
- 5. Chnage the pressure switch and check the status.
- 6. In VCB close condition, 3 phase supply available case check valve b/w MR and AAC pressure pipe. MR should feed AAC in normal running condition through this valve.

### 2.270 Slip/Slide in MC Coach, Demand Derated

Fault Code: 1074	Schematic: NA
Location: NA	
Check: Informative message only. If it logs continuously, check physical c	ondition of wheel surface.

#### 2.271 AAC Pressure Switch Stuck Low, AAC Operation Stopped

1075	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-4

- 1. Ensure AAC supply MCB is in ON state.
- 2. Check for any leakage in AAC pressure.
- 3. If no leakage found, then check the AAC pressure sw input shall be high if AAC pressure > 6.3 bar
- 4. If AAC pressure > 6.3 bar and input is low, check the pressure switch mal-function
- 5. If pressure switch is ok, check feedback input on corresponding DIP card by replacing with any other healthy card. It shall be high.
- 6. If still problem persists, check the DIP feedback wiring .

# 2.272 AAC Stopped After 10 Cy in No OHE, Fault Reset to Restart

Fault Code: 1076	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC.
Location: TC - 3 UNDER FRAME	Functional group- 7 Sub Functional group- 4
by AAC only since no 3 phase suppl	mes then system logs this fault and down the I given by user.

### 2.273 Redundant MCC Power ON

Fault Code: 1077 , 5173	Schematic: NA
Location:	
NA	
Check:	
Informative message only.	

### 2.274 TF Oil flow sensor self check aborted

Fault Code: 1081 Location: NA	Schematic: NA
Check: Informative message only.	

### 2.275 Earth Switch ON

1082	Schematic: NA
Location:	
NA	
Check:	
Informative message only.	

#### 2.276 AAC Pr Sw Stuck High, AAC Stopped After 10 Cy, Reset to Restart

Fault Code: 1083	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 7 Sub Functional group-4
pressure Sw feedback it shall be low 3. If AAC pressure < 5.3 bar and input	set command AAC should start, if not verify AAC when pressure < 5.3 bar. is high, check the pressure switch mal-function. back input on corresponding DIP card by replacing with w.

# 2.277 Panto Forced Down Request from DDU

Fault Code: 1085	Schematic: NA
Location: NA	
Check: Informative message only.	

# 2.278 VCB Forced Open Request from DDU

Fault Code: 1086 Location: NA	Schematic: NA
Check: Informative message only.	

# 2.279 Bogie1 Isolated from DDU

Fault Code: 1087 Location:	Schematic: NA
NA	
Check: Informative message only.	

# 2.280 Bogie2 Isolated from DDU

Fault Code: 1088	Schematic: NA
Location: NA	
Check: Informative message only.	

## 2.281 Basic Unit Isolated from DDU

Fault Code: 1089	Schematic: NA
Location: NA	
Check: Informative message only.	

### 2.282 MCC CB Trip

Fault Code: 1090	Schematic: NA	
Location:		
NA		
Check:		
<ol> <li>Ensure that CB is ON. If CB is in ON condition the DIP status shall be high in redundant control unit.</li> </ol>		
2. If still problem persists, check the wi	ring. sponding channel on DIP card. If not matching,	
change DIP card.	sponding channel on DIP card. If not matching,	
4. If still problem persists, then replace	the aux. block of corresponding MCB.	

#### 2.283 MCCR CB Trip

Fault Code: 1091	Schematic: NA
Location: NA	
Check:	

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high in Main control unit.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

### 2.284 DCU Left/Right CB Trip

Fault Code: 1092	Schematic: NA	
Location:		
NA		
Check:		
<ol> <li>Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.</li> <li>If still problem persists, check the wiring.</li> </ol>		
· · · · · · · · · · · · · · · · · · ·	sponding channel on DIP card. If not matching,	
4. If still problem persists, then replace	the aux. block of corresponding MCB.	

### 2.285 Roof VCB CB Trip

Fault Code: 1093	Schematic: NA
Location: NA	
2. If still problem persists, check the v	N condition the DIP status shall be high. /iring. esponding channel on DIP card. If not matching,

4. If still problem persists, then replace the aux. block of corresponding MCB.

#### 2.286 WDIA Calibration Started

Fault Code: 1094 Location:	Schematic: NA
NA	
Check: Informative message only.	

#### 2.287 EOL-EBL MCB Trip

1095	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 9
DTC-CRW	Sub Functional group-1& 2

- Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
   If still problem persists, check the wiring.
   If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
   If still problem persists, then replace the aux. block of corresponding MCB.

### 2.288 Transformer Blower 1 MCB Trip

Fault Code: 1096	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 3 Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching, the aux. block of corresponding MCB.

#### 2.289 Transformer Blower 2 MCB Trip

1097	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring .
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.
- 5. If still problem persists, then replace the blower .

#### 2.290 TCC Blower 1 MCB Trip

Fault Code: 1098	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 3 Sub Functional group-1
<ol> <li>Check:</li> <li>1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.</li> <li>2. If still problem persists, check the wiring .</li> <li>3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change IP card.</li> <li>4. If still problem persists, then replace the aux. block of corresponding MCB.</li> <li>5. If still problem persists, then replace the blower .</li> </ol>	

#### 2.291 TCC Blower 2 MCB Trip

1099	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring .
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.
- 5. If still problem persists, then replace the blower.

#### 2.292 Panto-VCB MCB Trip

Fault Code: 1100	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC,ED 1350 for TC
Location: DTC_CRW TC-ECC	Functional group- 1 Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching,

# 2.293 Line Isolator CB Trip

Fault Code: 1101	Schematic: NA
Location: NA	
<ol> <li>If still problem persists, check the wi</li> <li>If wiring is OK, check LEDs of corres change DIP card.</li> </ol>	l condition the DIP status shall be high. ring. sponding channel on DIP card. If not matching,

4. If still problem persists, then replace the aux. block of corresponding MCB.

### 2.294 Battery Control MCB Trip

Fault Code: 1102 , 5198	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED1351-for NDTC
Location: DTC-CRW NDTC-ECC	Functional group- 8 Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching,

#### 2.295 BCU Control CB Off

Fault Code: 1103 , 5199	Schematic: NA
Location:	
Check:	
1. Ensure that CB is ON. I	CB is in ON condition the DIP status shall be high.

- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

### 2.296 Coach Main MCB Trip

Fault Code: 1104 , 5200	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC
Location:	Functional group- 6
MC-ECC	Sub Functional group-2
<ul> <li>Check:</li> <li>1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.</li> <li>2. If still problem persists, check the wiring.</li> <li>3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.</li> <li>4. If still problem persists, then replace the aux. block of corresponding MCB.</li> </ul>	

### 2.297 ACU1 MCB off

Fault Code: 1105	Schematic: NA
Location: NA	
Check:	
<ol> <li>Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.</li> <li>If still problem persists, check the wiring.</li> <li>If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.</li> <li>If still problem persists, then replace the aux. block of corresponding MCB.</li> </ol>	

### 2.298 PIS MCB off

Fault Code: 1106 , 5202	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 12 Sub Functional group-1

Check:

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

#### 2.299 Transformer Oil Pump CB Trip

1107	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

#### 2.300 TF Oil Pressure High

Fault Code: 1108	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC	
Location:	Functional group- 3	
TC-ECC	Sub Functional group-1	
Check:		
<ol> <li>Check the state of pressure switch on transformer,</li> <li>If still problem persists, check wiring from pressure switch to DIP card,</li> <li>If wiring is OK, replace the DIP card with working one</li> </ol>		

### 2.301 Transformer Oil Level Too Low

1109	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check the state of oil level in transformer oil gauge, If oil level is low then inform to maintenace staff
- 2. If not check wiring from transformer oil level switch to DIP card,
- $\ensuremath{\mathsf{3.}}$  If wiring is OK replace the DIP card with working one

### 2.302 TF Oil Flow off

Fault Code: 1110	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
Check:	
<ol> <li>Ensure Panto should up position, V</li> <li>Ensure oil pump is running,ensure o</li> <li>Ensure there is no abnormality in oil</li> <li>Still if problem persists, check the w</li> </ol>	il flow by observing the flow gauge. pump, if found inform to maintenance staff.

# 2.303 Speed Restriction Override Activated in MC1

Fault Code: 1111 , 5207	Schematic: NA
Location:	
DRIVER DESK	
Check:	
Informative message only.	
Restriction to be done only when bellow is OK but suspension fault logging happened due to bellow sensor / setting issue	

# 2.304 Speed Restriction Override Activated in DTC/NDTC

Fault Code: 1112 , 5208	Schematic: NA
Location: DRIVER DESK	
Check: Informative message only. Restriction to be done only when be to bellow sensor / setting issue	llow is OK but suspension fault logging happened due

# 2.305 Speed Restriction Override Activated in MC2

Fault Code: 1113 , 5209	Schematic: NA
Location: DRIVER DESK	
Check: Informative message only. Restriction to be done only when bel to bellow sensor / setting issue	low is OK but suspension fault logging happened due

### 2.306 Speed Restriction Override Activated in TC

Fault Code: 1114 , 5210	Schematic: NA
Location: DRIVER DESK	
Check: Informative message only. Restriction to be done only when be to bellow sensor / setting issue	llow is OK but suspension fault logging happened due

#### 2.307 Transformer Oil Level Low - Warning

1115 , 5211	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check the state of oil level in transformer oil gauge, If oil level is low then inform to maintenance staff.
- 2. If not check wiring from transformer oil level switch to DIP card.
- 3. If wiring is OK, replace the DIP card with working one.

#### 2.308 Water in Transformer secondary Terminal

Fault Code: 1116 , 5212	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
Check:	
<ol> <li>Check the state of Water in Transformer secondary Terminal . If Water found then inform to maintenance staff.</li> <li>If still problem persists, check the wiring to DIP card.</li> <li>If wiring is OK, replace the DIP card with working one.</li> </ol>	

### 2.309 Water in Transformer Marshaling Box

1117 , 5213	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
	Functional group- 3 Sub Functional group-1
TC-ECC	

- 1. Check the state of Water in Transformer Marshaling Box . If Water found then inform to maintenance staff.
- If still problem persists, check the wiring to DIP card.
   If wiring is OK, replace the DIP card with working one.

### 2.310 BP Isolated from DDU

Fault Code: 1118 , 5214	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.311 Redundant CC Master

Fault Code: 1119 , 5215	Schematic: NA
Location: NA	
Check: Informative message.	

### 2.312 Redundant CC Slave

Fault Code: 1120 , 5216	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.313 Main CC CB OFF

Fault Code: 1121 , 5217	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC-CRW	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

### 2.314 Redundant CC CB OFF

Fault Code: 1123 , 5219	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC	
Location:	Functional group- 6 Sub Functional group-1	
DTC-CRW	oub r unclional group-r	
<ol> <li>Check:</li> <li>1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.</li> <li>2. If still problem persists, check the wiring.</li> <li>3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.</li> <li>4. If still problem persists, then replace the aux. block of corresponding MCB.</li> </ol>		

### 2.315 Battery Selector CB OFF

1124 , 5220	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED1224-for NDTC
Location: DTC-CRW NDTC-ECC	Functional group- 8 Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

### 2.316 DIP1 (BD LTS\_SRFB) inconsistent with other CC

Fault Code: 1134	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 10
NDTC-ECC	Sub Functional group-1

Check:

- 1. Ensure (BD LTS) IDLL1 MCB is in ON condition.
- 2. Check DIP1 LED status on both control units by keeping (BD LTS) IDLL control SW in ON position, both shall be ON.
- 3. Check DIP1 LED status on both control units by keeping (BD LTS) IDLL control SW in OFF position, both shall be OFF.
- 4. If not, check point no: 2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

### 2.317 DIP3 (BN LTS\_SRFB) inconsistent with other CC

Fault Code: 1136	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 10 Sub Functional group-1

- 1. Ensure (BN LTS) DLL1 MCB is in ON condition.
- 2. Check DIP3 LED status on both control units by keeping (BN LTS) DLL control SW in ON position, both shall be ON.
- 3. Check DIP3 LED status on both control units by keeping (BN LTS) DLL control SW in OFF position, both shall be OFF.
- 4. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

## 2.318 DIP5 (ENS\_TL) inconsistent with other CC

Fault Code: 1138	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 2
TC-ECC	Sub Functional group-1
<ol> <li>Check:</li> <li>1. Occupy cab, press ENS sw.</li> <li>2. Check DIP5 LED status on both con</li> <li>3. If not, check point no:2 by replacing other in both control units.</li> <li>4. If still problem persists, check the DI</li> </ol>	DIP card with any other healthy DIP card one after the

### 2.319 DIP6 (PAS\_MCB) inconsistent with other CC

1139	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW	Functional group- 9
MC-ECC	Sub Functional group-5

- 1. Ensure PAS Alarm MCB is in ON condition.
- 2. Check DIP6 LED status on both control Units both should be ON.
- 3. If not, check point no:2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists check the DIP wiring.

### 2.320 DIP7 (RDM\_TL) inconsistent with other CC

Fault Code: 1140	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2

Check:

- 1. Ensure all MCBs are in ON condition.
- 2. Check DIP7 LED status on both control Units by keeping MCH key in RDM position it shall be ON.
- 3. Check DIP7 LED status on both control Units by keeping MCH key in OFF position it shall be OFF.
- 4. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

### 2.321 DIP8 (FWD\_TL) inconsistent with other CC

1141	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2

- 1. Ensure all MCBs are in ON condition. Cab is occupied
- 2. Check DIP8 LED status on both control units by keeping Direction SW in FWD position it shall be ON.
- 3. Check DIP8 LED status on both control units by keeping Direction SW in IDLE position it shall be OFF.
- 4. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

## 2.322 DIP9 (REV\_TL) inconsistent with other CC

Fault Code:	Schematic:
1142	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC	1351&1352 for NDTC1 & NDTC2
	Functional group- 2
TC-ECC NDTC-ECC	Sub Functional group-2
Check:	

- 1. Ensure all MCBs are in ON condition. Cab is occupied
- 2. Check DIP9 LED status on both control units by keeping Direction SW in REV position it shall be ON.
- 3. Check DIP9 LED status on both control Units by keeping Direction SW in IDLE position it shall be OFF.
- 4. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

# 2.323 DIP10 (DRIVE\_TL) inconsistent with other CC

Fault Code: 1143	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2

- 1. Ensure all MCBs are in ON condition. Cab is occupied and keep Direction Sw in FWD/ REV position.
- 2. Check DIP10 LED status on both control units by keeping MCH handle in DRIVE position it shall be ON.
- 3. Check DIP10 LED status on both control units by keeping Direction SW in otherthan DRIVE position it shall be OFF.
- 4. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

# 2.324 DIP11 (L\_BRAKE\_TL) inconsistent with other CC

Fault Code: 1144	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2
Check:	

- 1. Ensure all MCBs are in ON condition. Cab is occupied and keep Direction Sw in FWD/ REV position.
- 2. Check DIP11 LED status on both control units by keeping MCH handle in BRAKE position it shall be ON.
- 3. Check DIP11 LED status on both control units by keeping Direction SW in otherthan BRAKE position it shall be OFF.
- 4. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

### 2.325 DIP12 (COAST\_TL) inconsistent with other CC

Fault Code: 1145	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2

- 1. Ensure all MCBs are in ON condition. Cab is occupied and keep Direction Sw in FWD/ REV position.
- 2. Check DIP12 LED status on both control units by keeping MCH handle in COAST position it should be ON.
- 3. Check DIP12 LED status on both control units by keeping Direction SW in otherthan COAST position it shall be OFF.
- 4. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after one in both control units.
- 5. If still problem persists, check the DIP wiring.

### 2.326 DIP13 (EBL1\_HRFB) inconsistent with other CC

Fault Code: 1146	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 9 Sub Functional group-2

Check:

- 1. Ensure all MCBs are in ON condition.
- 2. Check DIP13 LED status on DIP card in both control units when EBL1 relay in energized condition, it shall be ON.
- 3. Check DIP13 LED status on DIP card in both control units when EBL1 relay in deenergized condition, it shall be OFF.
- 4. If not, check point no:2&3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

### 2.327 DIP14 (EBL2\_HRFB) inconsistent with other CC

Fault Code: 1147	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 9 Sub Functional group-2

- 1. Ensure all MCBs are in ON condition.
- 2. Check DIP14 LED status on DIP card in both control units when EBL2 relay in energized condition, it shall be ON.
- 3. Check DIP14 LED status on DIP card in both control units when EBL2 relay in deenergized condition, it shall be OFF.
- 4. If not, check point no:2&3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

### 2.328 DIP15 (EBL3\_HRFB) inconsistent with other CC

Fault Code: 1148	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 9
NDTC-ECC	Sub Functional group-2

Check:

- 1. Ensure all MCBs are in ON condition.
- 2. Check DIP15 LED status on DIP card in both control units when relay in energized condition, it shall be ON.
- 3. Check DIP15 LED status on DIP card in both control units when relay in de-energized condition, it shall be OFF.
- 4. If not, check point no:2&3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

### 2.329 DIP16 (EBL\_BYPASS\_HRFB) inconsistent with other CC

Fault Code: 1149	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 9 Sub Functional group-2

- 1. Ensure EBL Bypass MCB is in ON condition. Occupy the cab in RDM.
- 2. Check DIP16 LED status on DIP card on both control units by keeping EMER BRAKE BYPASS SW at AUTO position, it should be OFF.
- 3. Check DIP16 LED status on DIP card on both control units by keeping EMER BRAKE BYPASS SW at ON position, it should be ON.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the wiring.

### 2.330 DIP17 (BRK\_APPLD\_BECU) inconsistent with other CC

Fault Code: 1150	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 9 Sub Functional group-3

Check:

- 1. Ensure All MCB should be in ON condition.
- 2. Check DIP17 LED status on DIP card in both control units when BAL relay in energized condition, it shall be ON.
- 3. Check DIP17 LED status on DIP card in both control units when BAL relay in de-energized condition, it shall be OFF.
- 4. If not, check point no:2&3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

#### 2.331 DIP18 (BAL\_TL) inconsistent with other CC

1151	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 9 Sub Functional group-3

- 1. Ensure all MCBs are in ON condition, cab shall be occupied
- 2. Check DIP18 LED status on DIP card in both control units when BAL relay in energized condition, it shall be ON.
- 3. Check DIP18 LED status on DIP card in both control units when BAL relay in de-energized condition, it shall be OFF.
- 4. If not, check point no:2&3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

## 2.332 DIP19 (FIRE1) inconsistent with other CC

Fault Code:	Schematic:
1152	SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW MC-ECC	Functional group- 7
TC-ECC NDTC-ECC	Sub Functional group-3
Check:	
<ol> <li>Ensure all MCBs are in ON condition, cab shall be occupied</li> <li>Check DIP19 LED status on DIP card in both control units.</li> </ol>	

- 3. If not, check point no:1&2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

### 2.333 DIP20 (FIRE2) inconsistent with other CC

Fault Code: 1153	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

- 1. Ensure all MCBs are in ON condition, cab shall be occupied
- 2. Check DIP20 LED status on DIP card in both control units.
- 3. If not, check point no:1&2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

### 2.334 DIP21 (ACTION) inconsistent with other CC

Fault Code:	Schematic:
1154	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW MC-ECC	Functional group- 7
TC-ECC NDTC-ECC	Sub Functional group-3
Check:	
Check.	

- 1. Ensure all MCBs are in ON condition, cab shall be occupied
- 2. Check DIP21 LED status on DIP card in both control units.
- 3. If not, check point no:1&2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

### 2.335 DIP22 (FAULT) inconsistent with other CC

Fault Code: 1155	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

- 1. Ensure all MCBs are in ON condition, cab shall be occupied
- 2. Check DIP22 LED status on DIP card in both control units.
- 3. If not, check point no:1&2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

### 2.336 DIP23 (PAS HRFB) inconsistent with other CC

Fault Code:	Schematic:
1156	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW MC-ECC	Functional group- 7
TC-ECC	Sub Functional group-3

- 1. Ensure all MCBs are in ON condition, cab shall be occupied
- 2. Check DIP23 LED status on DIP card in both control units.
- 3. If not, check point no:1&2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

### 2.337 DIP24 (MR PRESS\_IN) inconsistent with other CC

1157	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-3

- 1. Ensure all MCBs are in ON condition
- 2. Check DIP24 LED status on both control Units when MR PR < 6.5 bar it shall be OFF.
- 3. Check DIP24 LED status on both control Units when MR PR > 7.5 bar it shall be ON.
- 4. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

### 2.338 DIP25 (BP PRESS\_IN) inconsistent with other CC

Fault Code: 1158	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-3
3. Check DIP25 LED status on both co	ontrol Units when BP PR < 3.5 bar it should be OFF. Ontrol Units when BP PR > 4.5 bar it should be ON. Cing DIP card with any other healthy DIP card one

### 2.339 DIP26 (MAJOR EVENT) inconsistent with other CC

1159	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1351&1352 for NDTC1
Location: DTC-CRW MC-ECC NDTC-ECC	& NDTC2 Functional group- 7 Sub Functional group-3

- 1. Check DIP26 in both control units, normally it shall be in OFF condition.
- 2. Check DIP26 in both control units when any major fault present in BECU it shall be ON
- 3. If not ok check point no 1 & 2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

## 2.340 DIP27 (CAB\_OCY1\_TL) inconsistent with other CC

Location: DTC-CRW MC-ECC NDTC-FCC Sub Eunctional group- 2 Sub Eunctional group 1	1160	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1351&1352 for NDTC1
	DTC-CRW	

Check:

- 1. Check DIP27 in both control units when CAB1 is occupied it shall be ON.
- 2. Check DIP27 in both control units when CAB1 is deoccupied it shall be in OFF.
- 3. If not ok check point no 1&2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

## 2.341 DIP28 (CAB\_OCY2\_TL) inconsistent with other CC

1161	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-1

- 1. Check DIP28 in both control units when CAB2 is occupied it should be ON.
- 2. Check DIP28 in both control units when CAB2 is Deoccupied it should be in OFF.
- 3. If not ok check point no 1&2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

#### 2.342 DIP29 (PANTO MODE TL1) inconsistent with other CC

Fault Code: 1162	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DRIVER DESK, DTC -CRW	Functional group- 1 Sub Functional group-1
<ol> <li>Check:</li> <li>1. Ensure that all the MCBs should be ON.</li> <li>2. Check DIP29 LED status on DIP card in both control units by keeping PANTO MODE SW in 1&amp;4 position, it shall be ON.</li> <li>3. Check DIP29 LED status on DIP card in both control units by keeping PANTO MODE SW in 2&amp;3 position, it shall be OFF.</li> <li>4. If not, check point 2&amp;3, by replacing DIP card with any other healthy DIP card in both control units one after the other.</li> </ol>	

5. If still problem persists, check the DIP wiring.

#### 2.343 DIP30 (PANTO MODE TL2) inconsistent with other CC

Fault Code: 1163	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 1
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP30 LED status on DIP card in both control units by keeping PANTO MODE SW in 2&3 position, it shall be ON.
- 3. Check DIP30 LED status on DIP card in both control units by keeping PANTO MODE SW in 1&4 position, it shall be OFF.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.344 DIP31 (BN LTS\_CTRL\_SW1) inconsistent with other CC

	Schematic:
1164	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW MC-ECC	Functional group- 10
TC-ECC NDTC-ECC	Sub Functional group-1
Check:	
<ol> <li>Ensure MCB is in ON condition.</li> <li>Check DIP31 LED status on both control units</li> <li>If not, check point no: 1&amp; 2 by replacing DIP card with any other healthy DIP card one after the other in both control units.</li> <li>If still problem persists, check the DIP wiring.</li> </ol>	

## 2.345 DIP32 (BN LTS\_CTRL\_SW2) inconsistent with other CC

Fault Code: 1165	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location	1351&1352 for NDTC1 & NDTC2
DTC-CRW	Functional group- 10
MC-ECC	Sub Functional group-1

- 1. Ensure MCB is in ON condition.
- 2. Check DIP32 LED status on both control units
- 3. If not, check point no: 1& 2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

#### 2.346 DIP33 (BD LTS\_CTRL\_SW1) inconsistent with other CC

Schematic:
SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
for DTC, ED 1349 for MC, ED 1350 for TC, ED
1351&1352 for NDTC1 & NDTC2
Functional group- 10
Sub Functional group-1

- 1. Ensure BD LTS MCB is in ON condition.
- 2. Check DIP33 LED status on both control units by keeping BD LTS control SW in ON position, both shall be ON.
- 3. Check DIP33 LED status on both control units by keeping BD LTS control SW in OFF position, both shall be OFF.
- 4. If not, check point no: 2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

## 2.347 DIP34 (BD LTS\_CTRL\_SW2) inconsistent with other CC

Fault Code: 1167	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 10 Sub Functional group-1

- 1. Ensure BD LTS MCB is in ON condition.
- 2. Check DIP34 LED status on both control units by keeping BD LTS control SW in ON position, both shall be ON.
- Check DIP34 LED status on both control units by keeping BD LTS control SW in OFF position, both shall be OFF.
- 4. If not, check point no: 2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

#### 2.348 DIP35 (SM\_TL) inconsistent with other CC

Fault Code: 1168	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1351&1352 for NDTC1
Location: DTC-CRW MC-ECC NDTC-ECC	& NDTC2 Functional group- 9/2 Sub Functional group-2

Check:

- 1. Check DIP35 in both control units when cab occupied from shunting panel it shall be ON.
- 2. Check DIP35 in both control units when cab Deoccupied from shunting pane it shall be OFF.
- 3. If not ok, check point no 1& 2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

## 2.349 DIP36 (DPR\_HRFB) inconsistent with other CC

Fault Code: 1169	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 5 Sub Functional group-1

- 1. Ensure all MCBs are in ON condition. Cab shall be occupied.
- 2. Check DIP36 LED status on DIP card in both control units when all doors are close in train, it shall be ON.
- 3. Check DIP36 LED status on DIP card in both control units when at least one door open in train, it shall be OFF.
- 4. If not, check point no:2&3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

#### 2.350 DIP37 (LDSRR\_HRFB) inconsistent with other CC

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- 1. Ensure all MCBs are in ON condition.
- 2. Check DIP37 LED status on DIP card in both control units when all right doors are close in coach, it shall be ON.
- 3. Check DIP37 LED status on DIP card in both control units when atlease one Right door open in coach, it shall be OFF.
- 4. If not, check point no:2&3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

## 2.351 DIP38 (LDSRL\_HRFB) inconsistent with other CC

Fault Code: 1171	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 5 Sub Functional group-1

- 1. Ensure All MCB should be in ON condition.
- 2. Check DIP38 LED status on DIP card in both control units when all left doors are close in coach, it should be ON.
- Check DIP38 LED status on DIP card in both control units when at least one left door open in coach, it should be OFF.
- 4. If not, check point no:2&3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 5. If still problem persists, check the DIP wiring.

#### 2.352 DIP39 (BG1 ASR IC) inconsistent with other CC

Fault Code: 1172	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
Location: TC-ECC	for TC Functional group- 7 Sub Functional group-3
it shall be ON. 2. Check DIP39 in both control units w position it shall be OFF.	en BG1 air suspension isolation cock in open position hen BG1 air suspension isolation cock in close acing DIP card with any other healthy DIP card one P wiring.

## 2.353 DIP40 (BG2 ASR IC) inconsistent with other CC

Fault Code: 1173	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-3

- 1.Check DIP40 in both control units when BG1 air suspension isolation cock in open position it shall be ON.
- 2. Check DIP40 in both control units when BG1 air suspension isolation cock in close position it shall be OFF.
- 3. If not ok check point no 1& 2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

## 2.354 DIP41 (BG1 T PRESS) inconsistent with other CC

Fault Code: 1174	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-3
shall be OFF.	ontrol Units when BG1 Air suspension PR < 1.7 bar it
3. Check DIP41 LED status on both co	ontrol Units when BG1 Air suspension PR > 2 bar it
shall be ON.	cing DIP card with any other healthy DIP card one

## 2.355 DIP42 (BG2 T PRESS) inconsistent with other CC

Fault Code: 1175	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-3

- 1. Ensure all MCBs are in ON condition
- 2. Check DIP42 LED status on both control Units when BG2 Air suspension PR < 1.7 bar it shall be OFF.
- 3. Check DIP42 LED status on both control Units when BG2 Air suspension PR > 2 bar it shall be ON.
- 3. If not, check point no:2 & 3 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

#### 2.356 DIP43 (PB\_REL\_SW\_TL) inconsistent with other CC

Fault Code: 1176	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location: DTC -CRW	Functional group- 7 Sub Functional group-2
be ON.	oth control units by pressing PB RELEASE SW, it shall DIP Card with any other healthy DIP Card on both

## 2.357 DIP44 (PB\_APPLY\_SW\_TL) inconsistent with other CC

1177	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 7
DTC -CRW	Sub Functional group-2

- 1. Ensure PB APPLY SW on CRW panel is working properly.
- 2. Check DIP44 LED on Dip Card in both control units by pressing PB APPLY SW, it should be ON.
- 3. If not, check point No 2 by replacing DIP Card with any other healthy DIP Card on both control units one after the other.
- 4. If still problem persists check the DIP wiring.

#### 2.358 DIP45 (PB\_PR\_OK\_PRSW) inconsistent with other CC

Fault Code: 1178	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 7
DTC -CRW	Sub Functional group-2
be ON.	oth control units by pressing PB APPLY SW, it should DIP Card with any other healthy DIP Card on both P wiring.

## 2.359 DIP46 (PB\_APPLIED\_HRFB) inconsistent with other CC

1179	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 7
DTC -CRW	Sub Functional group-2

- 1. Ensure PB APPLIED condition
- 2. Check DIP46 LED on Dip Card in both control units by pressing PB APPLY SW, it should be ON.
- 3. If not, check point No 2 by replacing DIP Card with any other healthy DIP Card on both control units one after the other.
- 4. If still problem persists check the DIP wiring.

#### 2.360 DIP47 (PB IC) inconsistent with other CC

Fault Code: 1180	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1351&1352 for NDTC1
Location: DTC-CRW MC-ECC NDTC-ECC	& NDTC2 Functional group-7 Sub Functional group-3

Check:

- 1. Check DIP47 in both control units when PB isolation cock in open position it shall be ON.
- 2. Check DIP47 in both control units when PB isolation cock in close position it shall be OFF.
- 3. If not ok, check point no 1& 2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

#### 2.361 DIP48 (PB MCB) inconsistent with other CC

Fault Code: 1181	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-2

- 1. Ensure PB MCB is in ON condition.
- 2. Check DIP48 LED status on both control Units it shall be ON.
- 3. If not, check point no:2 by replacing DIP card with any other healthy DIP card one after the other in both control units.
- 4. If still problem persists, check the DIP wiring.

## 2.362 DIP49 (PAN\_UP\_TL) inconsistent with other CC

1182	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 1
DRIVER DESK, DTC -CRW	Sub Functional group-1

Check:

- 1. Check DIP49 LED on DIP card in both control units by giving PANTO\_SW UP pulse, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after one. Both shall be same either high or low. (while giving pulse should be high)
- 3. If still problem persists, check the DIP wiring.

## 2.363 DIP50 (PAN\_DOWN\_TL) inconsistent with other CC

1183	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 1
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Check DIP50 LED on DIP card in both control units by giving PANTO\_SW Down pulse, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low. (while giving pulse, it should be high)
- 3. If still problem persist,s check the DIP wiring.

## 2.364 DIP51 (VCB\_ON\_TL) inconsistent with other CC

Fault Code: 1184	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DRIVER DESK, DTC -CRW	Functional group- 1 Sub Functional group-1
Check:	

- 1. Check DIP51 LED on DIP Card in both control units by giving VCB\_SW ON pulse, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low. (while giving pulse should be high)
- 3. If still problem persists, check the DIP wiring

## 2.365 DIP52 (VCB\_OFF\_TL) inconsistent with other CC

1185	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 1
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Check DIP52 LED on DIP card in both control units by giving VCB\_SW OFF pulse, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low. (while giving pulse should be high).
- 3. If still problem persists, check the DIP wiring

#### 2.366 DIP53 (TFBLW1\_LS\_SRFB) inconsistent with other CC

Fault Code: 1186	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
ON.	•

## 2.367 DIP54 (TFBLW2\_LS\_SRFB) inconsistent with other CC

1187	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check DIP54 LED on DIP card in both control units by driving TFBLW2\_LS , both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring

## 2.368 DIP55 (TF\_BLW1HS\_SRFB) inconsistent with other CC

Fault Code: 1188	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 3 Sub Functional group-1
be ON.	•

## 2.369 DIP56 (TF\_BLW2HS\_SRFB) inconsistent with other CC

1189	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check DIP56 LED on DIP card in both control units by driving TFBLW2\_HS , both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring

#### 2.370 DIP57 (TFOIL\_PUMP\_SRFB) inconsistent with other CC

Fault Code: 1190	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 3 Sub Functional group-1
be ON.	<b>e</b>

## 2.371 DIP58 (TRAN\_OIL\_FLOW) inconsistent with other CC

1191	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check DIP58 LED on DIP card in both control units by driving TFOIL\_PUMP , both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring

#### 2.372 DIP59 (TRAN\_OIL\_LEVEL) inconsistent with other CC

Fault Code: 1192	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
Location: TC-ECC	for TC Functional group- 3 Sub Functional group-1
be ON.	•

## 2.373 DIP60 (TRAN\_OIL\_PRES) inconsistent with other CC

Fault Code: 1193	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check DIP60 LED on DIP card in both control units by driving TFOIL\_PUMP , both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring

## 2.374 DIP61 (TF\_OIL\_LVL\_WRN) inconsistent with other CC

Fault Code: 1194	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 3 Sub Functional group-1
Check: 1. Check DIP61 LED on DIP card in bo 2. If not, repeat the point no 1 by repla- one after the other. Both shall be sa 3. If still problem persists, check the DI	cing with any other healthy DIP card in both the units me either high or low.

## 2.375 DIP62 (TFOIL\_PUMP\_MPCB) inconsistent with other CC

1195	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- 1. Check DIP62 LED on DIP card in both control units , both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring.

## 2.376 DIP63 (RMPU CONTROLLER OK) inconsistent with other CC

Fault Code: 1196	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 11 Sub Functional group-1
Check: 1. Check DIP63 LED on DIP card in bot 2. If not, repeat the point no 1 by replac one after the other. Both shall be sar 3. If still problem persists, check the DIF	ing with any other healthy DIP card in both the units me either high or low.

## 2.377 DIP64 (EOL3 SRFB) inconsistent with other CC

	C, ED 1350 for TC, ED 1351&1352 for NDTC1
NDTC-ECC	<sup>r</sup> C2 onal group- 9 unctional group -1

- Check DIP64 LED on DIP card in both control units, both shall be ON.
   If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
   If still problem persists, check the DIP wiring

#### 2.378 DIP65 (EOL2\_OK\_HRFB) inconsistent with other CC

Fault Code: 1198	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location: DTC-CRW NDTC-ECC TC-ECC	& NDTC2 Functional group- 9 Sub Functional group -1
Check: 1. Check DIP65 LED on DIP card in bo 2. If not, repeat the point no 1 by replay one after the other. Both shall be sa 3. If still problem persists, check the DI	cing with any other healthy DIP card in both the units me either high or low.

## 2.379 DIP66 (EOL1\_OK\_HRFB) inconsistent with other CC

1199	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location: DTC-CRW NDTC-ECC TC-ECC	& NDTC2 Functional group- 9 Sub Functional group -1

- 1. Check DIP66 LED on DIP card in both control units, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring

#### 2.380 DIP67 (EOL123OK\_HRFB) inconsistent with other CC

Fault Code: 1200	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location: DTC-CRW NDTC-ECC TC-ECC	& NDTC2 Functional group- 9 Sub Functional group -1
Check: 1. Check DIP67 LED on DIP card in bot 2. If not, repeat the point no 1 by replaci one after the other. Both shall be sa 3. If still problem persists, check the DIF	ng with any other healthy DIP card in both the units me either high or low.

## 2.381 DIP68 (AAC PR OK PRSW) inconsistent with other CC

Fault Code: 1201	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 7 Sub Functional group-4
Check:	·

- Check DIP68 LED on DIP card in both control units, both shall be ON.
   If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring

#### 2.382 DIP69 (AAC\_SRFB) inconsistent with other CC

Fault Code: 1202	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 For TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-4
Check: 1. Check DIP69 LED on DIP card in bo 2. If not, repeat the point no 1 by replay one after the other. Both shall be say 3. If still problem persists, check the DI	cing with any other healthy DIP card in both the units me either high or low.

## 2.383 DIP70 (AAC\_MAN\_ON\_SW) inconsistent with other CC

Fault Code: 1203	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 For TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-4

- 1. Check DIP70 LED on DIP card in both control units, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring

#### 2.384 DIP71 (PAN\_ADD\_PRSW) inconsistent with other CC

Fault Code: 1204	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 for TC
Location: TC-ECC	Functional group- 7 Sub Functional group-4
Check: 1. Check DIP71 LED on DIP card in bot 2. If not, repeat the point no 1 by replac one after the other. Both shall be sar 3. If still problem persists, check the DIF	ing with any other healthy DIP card in both the units ne either high or low.

#### 2.385 DIP72 (PAN ORD PRSW) inconsistent with other CC

Fault Code: 1205	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-4

- Check DIP72 LED on DIP card in both control units, both shall be ON.
   If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
   If still problem persists, check the DIP wiring

## 2.386 DIP74 (VCB\_FB\_NO) inconsistent with other CC

Fault Code: 1207	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 For TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1
Check: 1. Check DIP74 LED on DIP card in b 2. If not, repeat the point no 1 by repla one after the other. Both shall be sa 3. If still problem persists, check the D	ncing with any other healthy DIP card in both the units me either high or low.

## 2.387 DIP75 (VCB\_FB\_NC) inconsistent with other CC

Fault Code: 1208	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1

- 1. Check DIP75 LED on DIP card in both control units, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low.
- 3. If still problem persists, check the DIP wiring

## 2.388 DIP76 (VCB\_ON\_SRFB) inconsistent with other CC

Fault Code: 1209	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1
Check: 1. Check DIP76 LED on DIP card in bot 2. If not, repeat the point no 1 by replaci one after the other. Both shall be sa 3. If still problem persists, check the DIF	ng with any other healthy DIP card in both the units me either high or low.

## 2.389 DIP77 (VCB TRIP 1) inconsistent with other CC

Fault Code: 1210	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1
2. Check DIP77 in both control units whe	en VCB trip requested from MC1 coach it shall be ON en no VCB trip reuest from MC1 coach it shall be OFF. acing DIP card with any other healthy DIP card one 9 wiring.

#### 2.390 DIP78 (VCB TRIP 2) inconsistent with other CC

Fault Code: 1211	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1
	hen VCB trip requested from MC2 coach it shall be
ON 2. Check DIP78 in both control units when no VCB trip reuest from MC2 coach it shall be OFF.	
<ol> <li>If not ok, check point no 1&amp; 2 by reparter the other in both control units.</li> <li>If still problem persists, check the D</li> </ol>	blacing DIP card with any other healthy DIP card one

## 2.391 DIP79 (ROOF VCB\_FB\_NO) inconsistent with other CC

Fault Code: 1212	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring

#### 2.392 DIP80 (ROOF VCB\_FB\_NC) inconsistent with other CC

Fault Code: 1213	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring

#### 2.393 DIP81 (ROOF VCB ON SRFB) inconsistent with other CC

Fault Code: 1214	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 1 Sub Functional group-1
Check:	

- Check corresponding DIP in both control units it should be same for both control units.
   If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
   If still problem persists check the wiring

## 2.394 DIP82 (ACU2\_MCB) inconsistent with other CC

Fault Code: 1215	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 3 Sub Functional group-2
	n control units it should be same for both control units. card with any other healthy DIP card one after one in wiring

## 2.395 DIP83 (PH\_3\_CONT1\_FB) inconsistent with other CC

1216	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring

## 2.396 DIP84 (PH\_3\_CONT2\_FB) inconsistent with other CC

Fault Code: 1217	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 3 Sub Functional group-2
Check: 1. Check corresponding DIP in both 2. If not ok check by replacing DIP both control units. 3. If still problem persists check the	h control units it should be same for both control units. card with any other healthy DIP card one after one in wiring

## 2.397 DIP85 (EXT FLT AC1) inconsistent with other CC

Fault Code: 1218	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 3 Sub Functional group-2
	n control units it should be same for both control units. card with any other healthy DIP card one after one in

3. If still problem persists check the wiring

## 2.398 DIP86 (EXT FLT AC2) inconsistent with other CC

Fault Code: 1219	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-2
Check: 1. Check corresponding DIP in both 2. If not ok check by replacing DIP of both control units. 3. If still problem persists check the	control units it should be same for both control units. card with any other healthy DIP card one after one in wiring

## 2.399 DIP87 (MCU\_MCB) inconsistent with other CC

Fault Code:	Schematic:
1220	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-2
Check:	
	ling DIP in both control units it should be same for both control units. replacing DIP card with any other healthy DIP card one after one in

- If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring

## 2.400 DIP88 (TC\_COMN\_MCB) inconsistent with other CC

Fault Code: 1221	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-2
<ol> <li>Check:</li> <li>Check corresponding DIP in both</li> <li>If not ok check by replacing DIP of both control units.</li> <li>If still problem persists check the</li> </ol>	control units it should be same for both control units. card with any other healthy DIP card one after one in wiring

## 2.401 DIP89 (EMY BRK MCB) inconsistent with other CC

1222	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1351&1352 for NDTC1
Location: DTC-CRW MC-ECC NDTC-ECC	& NDTC2 Functional group- 7 Sub Functional group-3

- Check corresponding DIP in both control units it should be same for both control units.
   If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
   If still problem persists check the wiring

## 2.402 DIP90 (ROOF VCB\_CB) inconsistent with other CC

Fault Code: 1223	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1350 for TC.
Location:	Functional group- 7
TC -ECC	Sub Functional group- 4
<ol> <li>Check:</li> <li>1. Check corresponding DIP in both</li> <li>2. If not ok check by replacing DIP both control units.</li> <li>3. If still problem persists check the</li> </ol>	h control units it should be same for both control units. card with any other healthy DIP card one after one in wiring

#### 2.403 DIP93(POWER COUPLER OPEN DE) inconsistent with other CC

Fault Code: 1226	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1353
	for MC2, ED 1350 for TC
Location:	Functional group- 15
underslung	Sub Functional group-1

- Check corresponding DIP in both control units it should be same for both control units.
   If not ok check by replacing DIP card with any other healthy DIP card one after one in
- both control units.
- 3. If still problem persists check the wiring

# 2.404 DIP94 (POWER COUPLER OPEN NDE) inconsistent with other CC

Fault Code: 1227	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1353 for MC2, ED 1350 for TC
Location:	Functional group- 15
underslung	Sub Functional group-1
Check: 1. Check corresponding DIP in both 2. If not ok check by replacing DIP of both control units. 3. If still problem persists check the	control units it should be same for both control units. card with any other healthy DIP card one after one in wiring

#### 2.405 DIP95 (MIN1 PB TL) inconsistent with other CC

Fault Code: 1228	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-2

- Check corresponding DIP in both control units it should be same for both control units.
   If not ok check by replacing DIP card with any other healthy DIP card one after one in
- both control units.
   If still problem persists check the wiring

#### 2.406 ACU2 CB Trip

Fault Code:	Schematic:
1522	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
TC-ECC	Functional group- 9
	Sub Functional group-2
Cheelu	

Check:

- Ensure that CB should be ON. If CB is in ON condition the DIP status shall be high.
   If still problem persists, check the wiring.
   If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persist, then replace the aux. block of corresponding MCB.

#### 2.407 Ethernet CB Trip

1523	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
	1351&1352 for NDTC1 & NDTC2 Functional group- 9 Sub Functional group-2

- Ensure that CB should be ON. If CB is in ON condition the DIP status shall be high.
   If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persist, then replace the aux. block of corresponding MCB.

#### 2.408 EMY BRAKE MCB TRIP

Fault Code: 1524 , 5620	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 9 Sub Functional group-2

Check:

- Ensure that CB should be ON. If CB is in ON condition the DIP status shall be high.
   If still problem persists, check the wiring.
   If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persist, then replace the aux. block of corresponding MCB.

#### 2.409 EMY Stop Switch operated

1525 , 5621	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1351&1352 for NDTC1 & NDTC2
	Functional group- 9 Sub Functional group-2

Check:

Informative message only. The switch is operated to stop the train and apply brakes immediately.

#### 2.410 EMY Stop Switch Bypass

Fault Code: 1526 , 5622	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location: DTC- CRW NDTC -ECC	Functional group- 9 Sub Functional group-2
Check: Informative message only.	

#### 2.411 EP Bg1 Dirrect Cock Iso

Fault Code: 1527 , 5623	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

- Check the isolation cock, it shall be in open position.
   If not, check the DIP wiring from isolation cock to DIP card, DIP shall be low.
   If still problem persists, replace the DIP card with healthy card.

## 2.412 EP Bg2 Dirrect Cock Iso

Fault Code: 1528 , 5624	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3
Chook	

Check:

- Check the isolation cock, it shall be in open position.
   If not, check the DIP wiring from isolation cock to DIP card, DIP shall be low.
   If still problem persists, replace the DIP card with healthy card.

## 2.413 EP Car Dirrect Cock Iso

Fault Code: 1529 , 5625	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

- Check the isolation cock, it shall be in open position.
   If not, check the DIP wiring from isolation cock to DIP card, DIP shall be low.
   If still problem persists, replace the DIP card with healthy card.

## 2.414 EP Bg1 BIC Iso

Fault Code:	Schematic:
1530 , 5626	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW MC-ECC	Functional group- 7
TC-ECC NDTC-ECC	Sub Functional group-3
Check:	
<ol> <li>Check the isolation cock, it shall be in open position.</li> <li>If not, check the DIP wiring from isolation cock to DIP card, DIP shall be low.</li> <li>If still problem persists, replace the DIP card with healthy card.</li> </ol>	

## 2.415 EP Bg2 BIC Iso

1531 , 5627	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
DTC-CRW MC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-3

- Check the isolation cock, it shall be in open position.
   If not, check the DIP wiring from isolation cock to DIP card, DIP shall be low.
   If still problem persists, replace the DIP card with healthy card.

## 2.416 Local Aux Change over closed

Fault Code: 1534 , 5630	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1353 for MC2
Location:	Functional group- 3
MC2	Sub Functional group-2
Check: Informative message. In a basic unit any one AUX failure closing change over contactors.	case another AUX suppply given to the loads by

#### 2.417 Panto Up Command Not Plausible With HWTL

Fault Code:	Schematic:
1536	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1350 for TC
Location:	Functional group- 1
DTC- CRW TC-ECC	Sub Functional group-1

- Ensure Cab Occupation is properly done.
   Ensure none of the IV coupler in open condition through out the Train. (can be ensured through RDM Test.)
   Check the corresponding DIP LED status on CCC & CCUR. It should be same. If not replace the DIP card with any other healthy card and check the status.
   If still problem persists check the wiring.

## 2.418 Panto Down Command Not Plausible With HWTL

Fault Code: 1537	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1350 for TC
Location: DTC- CRW TC-ECC	Functional group- 1 Sub Functional group-1
through RDM Test.)	en condition through out the Train. (can be ensured status on CCC & CCUR. It should be same. If not healthy card and check the status.

#### 2.419 VCB On Command Not Plausible With HWTL

Fault Code: 1538	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1350 for TC
Location:	Functional group- 1
DTC- CRW TC-ECC	Sub Functional group-1

- Ensure Cab Occupation is properly done.
   Ensure none of the IV coupler in open condition through out the Train. (can be ensured
- through RDM Test.)
   Check the corresponding DIP LED status on CCC & CCUR. It should be same. If not replace the DIP card with any other healthy card and check the status.
   If still problem persists check the wiring.

## 2.420 VCB Off Command Not Plausible With HWTL

Fault Code: 1539	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1350 for TC
Location: DTC- CRW TC-ECC	Functional group- 1 Sub Functional group-1
through RDM Test.)	en condition through out the Train. (can be ensured status on CCC & CCUR. It should be same. If not healthy card and check the status.

## 2.421 Panto Up Position Faulty

1540	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC -ECC	Sub Functional group-1

- 1. Ensure AAC pressure is in healthy range (more than 5.3 bar), and there is no leakage in
- panto pipe line. 2. OHE is less than 16 KV and Panto is raised. In such cases, lower the panto and wait for sufficient OHE.
- If OHE is available, then check the status by replacing with other healthy DOP card (Panto Up DOP driving status should be High).
   If still problem persists, check the wiring.

## 2.422 Panto Down Position Faulty

Fault Code: 1541	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 for TC
Location:	Functional group- 1
TC -ECC	Sub Functional group-1
Check: 1. Check the status by replacing with a status should be High). 2. If still problem persists, check the w	other healthy DOP card (Panto Down DOP driving riring.

#### 2.423 VCB On Faulty, Fault Reset to Recover.

1544	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1

- 1. Ensure PANTO&VCB Supply MCB is in ON condition, EOL123 RELAY coil must be in pick up condition & AAC pressure is Ok.
- 2. Ensure VCB ON command given and check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- If not OK, check the wiring from TB to relay coil.
   If relay coil is OK, check the VCB FB NO & VCB FB NC Input on corresponding DIP card (in VCB close condition VCB FB NO input should high, VCB FB NC shall be Low)
- If not OK, check the wiring.
   If wiring is ok, check the VCB feedback inputs on corresponding main and redundant DIP card by replacing with any other healthy card.

## 2.424 VCB off Faulty

Fault Code: 1545	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 1 Sub Functional group-1
<ul> <li>up condition.</li> <li>2. Ensure VCB OFF command given a other healthy card. It shall be in OFF</li> <li>3. If not OK, check the wiring from TB</li> <li>4. If relay coil OK, Check the VCB FB I VCB open condition VCB FB NO ing</li> <li>5. If not OK, check the wiring.</li> </ul>	to relay coil. NO & VCB FB NC input on corresponding DIP card (in out should Low, VCB FB NC should be High) ack inputs on corresponding main and redundant DIP

#### 2.425 VCB Feedback Inputs Are Not Plausible

Fault Code: 1546	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 for TC
Location:	Functional group- 1
TC-ECC	Sub Functional group-1

- 1. Ensure PANTO&VCB supply MCB is in ON condition & EOL123 RELAY coil must be in
- 2. Check the VCB FB NO & VCB FB NC Input on corresponding (inputs should be reverse i.e in VCB close condition VCB FB NO input should High, VCB FB NC should be low and shall be in vice versa for VCB open condition.)If not OK, check the wiring.If wiring is ok, check the VCB feedback inputs on corresponding DIP card by replacing with
- any other healthy card.

#### 2.426 AAC Stopped Due to Long Running, Fault Reset to Restart

Fault Code: 1547	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 7
TC-ECC	Sub Functional group-4
<ol> <li>Check:</li> <li>Check the status of AAC pressure s &gt;6.3 bar.</li> <li>If pressure switch is OK,check the</li> <li>If wiring is OK, check the LED on c</li> <li>If it is OK, check the wiring.</li> </ol>	witch should be OFF position when AAC pressure wiring. orrsponding DIP status.

#### 2.427 VCB ON faulty lockout ,VCB Operation Not possible for 1 Hour

Fault Code: 1568	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 for TC
Location:	Functional group- 1
TC -ECC	Sub Functional group-1

#### Check:

- 1. Ensure PANTO&VCB Supply MCB is in ON condition, EOL123 RELAY coil must be in pick up condition & AAC Pressure is in healthy range (above 5.3 bar).
- 2. Give VCB ON command and check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
- 3. If not OK, check the wiring from TB to relay coil.
- 4. If Relay coil OK, Check the VCB FB NO & VCB FB NC Input on corresponding Main & redundant DIP card (in VCB close condition VCB FB NO input should High, VCB FB NC should be Low in both units)
- 5. If not OK, check the wiring.
- 6. If wiring is ok, Check the VCB Feed back Inputs on corresponding Main & redundant DIP card by replacing with any other healthy card.

Note : For lockout fault recovery, DDU critical Reset command is required to recover.

The fault will lockout when the fault logges more than three times in a hour.

## 2.428 AAC On Faulty

Fault Code: 1569	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC-ECC	Functional group- 7 Sub Functional group-4
<ol> <li>Check AAC Pressure OK DIP High replacing with any healthy DIP card</li> <li>If still problem persists, check AAC</li> <li>Ensure that if pressure is low then</li> </ol>	pressure OK DIP wiring. AAC conatctor shall turn ON & if pressure is high then then check contactor by replacing with new one.

#### 2.429 Forward Not Plausible With HWTL

Fault Code: 1571	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2

- Ensure cab occupation is properly done.
   Ensure none of the IV coupler in open condition throughout the train. (can be ensured through RDM Test.)
   Check the corresponding DIP LED status on corresponding control unit and occupied cab CCUR. It shall be same. If not, replace the DIP card with any other healthy card and about the status. check the status.
- 4. If still problem persists, check the wiring.

## 2.430 Reverse Not Plausible With HWTL

Fault Code: 1572 , 5668	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC Check:	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2
<ol> <li>Ensure cab occupation is properly of 2. Ensure none of the IV coupler in op through RDM Test.)</li> <li>Check the corresponding DIP LED</li> </ol>	en condition throughout the train. (can be ensured status on corresponding control unit and occupied cab ace the DIP card with any other healthy card and

#### 2.431 Drive Not Plausible with HWTL

Fault Code: 1573 , 5669	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2

- Ensure cab occupation is properly done.
   Ensure none of the IV coupler in open condition throughout the train. (can be ensured through RDM Test.)
   Check the corresponding DIP LED status on corresponding control unit & occupied cab CCUR. It should be same. If not replace the DIP card with any other healthy card and about the status. check the status.
- 4. If still problem persists check the wiring.

## 2.432 Brake Not Plausible with HWTL

Fault Code: 1574 , 5670	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2
through RDM Test.) 3. Check the corresponding DIP LED st	n condition throughout the train. (can be ensured tatus on corresponding control unit and occupied cab ice the DIP card with any other healthy card and check

#### 2.433 Coast Not Plausible with HWTL

1575 , 5671	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2

- Ensure Cab Occupation is properly done.
   Ensure none of the IV coupler in open condition throughout the train. (can be ensured
- through RDM Test.)
   Check the corresponding DIP LED status on corresponding control unit and occupied cab CCUR. It shall be same. If not, replace the DIP card with any other healthy card and check the status.
- 4. If still problem persists, check the wiring.

#### 2.434 RDM Mode Not Plausible with HWTL

Fault Code: 1576 , 5672	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-2
through RDM Test.) 3. Check the corresponding DIP LED	en condition throughout the train. (can be ensured status on corresponding control unit and occupied cab ace the DIP card with any other healthy card and

#### 2.435 PB Apply TL Not Plausible with HWTL

1577 , 5673	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-2

- Ensure cab oswccupation is properly done.
   Ensure none of the IV coupler in open condition throughout the train. (can be ensured through RDM Test.)
- 3. Check the corresponding DIP LED status on Corresponding control unit & occupied cab CCUR. It shall be same. If not replace the DIP card with any other healthy card and check the status.
- 4. If still problem persists, check the wiring.

## 2.436 PB Release TL Not Plausible with HWTL

Fault Code: 1578 , 5674	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 7 Sub Functional group-2
through RDM Test.) 3. Check the corresponding DIP LED	en condition throughout the train. (can be ensured status on corresponding control unit and occupied cab ace the DIP card with any other healthy card and

## 2.437 VCB Open Command Given By ACU1

Fault Code: 1974	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC	Sub Functional group-2

- Ensure that 3ph supply is available.
   Check that there is no external fault logged by ACU1.
   Checkt that there is no ELD test.
   If OK, check the wiring

## 2.438 VCB Open Command Given By ACU2

Fault Code: 1975	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1350 for TC
Location:	Functional group- 3
тс	Sub Functional group-2
Check: 1. Ensure that 3ph supply is available. 2. Check that there is no external fault 3. Checkt that there is no ELD test. 4. If OK, check the wiring	logged by ACU2.

#### 2.439 PANTO POSITION 1 SELECTED

Fault Code: 1977	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.440 PANTO POSITION 2 SELECTED

Fault Code: 1978 , 14272	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.441 PANTO POSITION 3 SELECTED

Fault Code: 1979 , 14273	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.442 ETHERNET MCB FAULT

Fault Code: 4744	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC
Location:	Functional group- 4
TCMS CONTROL UNIT for TC and MC1	Sub Functional group- 1
<ol> <li>If still problem persists, check the w</li> <li>If wiring is OK, check LEDs of corre change DIP card.</li> </ol>	s in ON condition the DIP status shall be high. iring. isponding channel on DIP card. If not matching, e the aux. block of corresponding MCB.

# 2.443 Communication Failed between Main MCC In MC1 coach and TC MCC

Fault Code: 4797 , 4930	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC
Location: TCMS CONTROL UNIT for TC and MC1	Functional group- 4 Sub Functional group- 1

- Ensure that supply should be ON in Main MCC in MC1 coach and MCC\_R in TC coach
   Check that M12 connectors should be connected properly from Main MCC to ECN cards
   Check that M12 connectors should be connected properly from MCC\_R to ECN cards

#### 2.444 Communication Failed between Main MCC In MC2 coach and TC MCC

Fault Code: 4798 , 4931	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC
Location:	Functional group- 4
TCMS CONTROL UNIT for TC and MC1	Sub Functional group- 1
Check:	
<ol> <li>Ensure that supply should be ON in Main MCC in MC2 coach and MCC_R in TC coach</li> <li>Check that M12 connectors should be connected properly from Main MCC to ECN cards</li> <li>Check that M12 connectors should be connected properly from MCC_R to ECN cards</li> </ol>	

## 2.445 Roof VCB On Cont Stuck High

Fault Code: 4897	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC - ABOVE ROOF	Functional group- 1 Sub Functional group-1
<ol> <li>Give Roof VCB OFF command and condition.</li> <li>If not OK, check the wiring from TB OK, Check the Roof VCB FB NO &amp; redundant DIP card (in VCB Open of VCB FB NC should be High in both</li> <li>If not OK, check the wiring.</li> </ol>	VCB FB NC Input on corresponding Main & condition Roof VCB FB NO input should Low , Roof units) 6. If wiring is ok, outs on corresponding Main & redundant DIP card by

## 2.446 Roof VCB On Cont Stuck Low

Fault Code: 4898	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location: TC - ABOVE ROOF	Functional group- 1 Sub Functional group-1
<ol> <li>Give VCB ON command and check healthy card. It should be in ON cor</li> <li>If not OK, check the wiring from TB</li> <li>If Relay coil OK, Check the Roof VC corresponding Main &amp; redundant D NO input should High, Roof VCB FB</li> <li>If not OK, check the wiring.</li> </ol>	to relay coil. CB FB NO & Roof VCB FB NC Input on IP card (in Roof VCB close condition Roof VCB FB 3 NC should be Low in both units) Feed back Inputs on corresponding Main & redundant

#### 2.447 Traction enable Relay 1 failed to pickup

4976	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC1, ED 1350 for TC, ED 1351
DTC-CRW ECC for- MC,TC,	for NDTC1, ED 1353 for MC2, ED 1352 for NDTC2 Functional group- 9 Sub Functional group-7

- 1. Ensure that cab is occupied, Drive Traction enable Relay 1 from DOP test
- 2. Check the voltage across contactor coil, It should be high & ensure relay/contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be high
- 5. If not, check by replacing with any other healthy DIP card and status shall be high.
- 6. If still problem persists, check the DIP wiring.

## 2.448 Traction enable Relay 1 failed to Dropout

Fault Code: 4977	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC1,ED 1350 for TC,ED 1351
Location: DTC-CRW ECC for- MC,TC, NDTC,MC2	for NDTC1, ED 1353 for MC2, ED 1352 for NDTC2 Functional group- 9 Sub Functional group-7
Check:	

- 1. Ensure that cab is occupied, ensure that MCH handle in emergency brake position and ensure that local EB1 input shall be low.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is Deenergized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring to coil.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status shall be low
- 7. If still problem persists, check the DIP wiring.

#### 2.449 Traction enable Relay 1R failed to pickup

Fault Code: 4978	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC1, ED 1350 for TC,ED 1351
Location: DTC-CRW ECC for- MC,TC, NDTC,MC2	for NDTC1, ED 1353 for MC2, ED 1352 for NDTC2 Functional group- 9 Sub Functional group-7

- 1. Ensure that cab is occupied, Drive Traction enable Relay 1R from DOP test
- 2. Check the voltage across contactor coil, It should be high & ensure relay/contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If still problem persists check the relay/contactor feed back Input on corresponding DIP b card. It shall be high
- 5. If not, check by replacing with any other healthy DIP card and status shall be high.
- 6. If still problem persists, check the DIP wiring.

## 2.450 Traction enable Relay 1R failed to Dropout

Fault Code: 4979	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC1, ED 1350 for TC,ED 1351
Location: DTC-CRW ECC for- MC,TC, NDTC,MC2	for NDTC1, ED 1353 for MC2, ED 1352 for NDTC2 Functional group- 9 Sub Functional group-7
Check:	

- 1. Ensure that cab is occupied, ensure that MCH handle in emergency brake position and ensure that local EB1 input shall be low.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is Deenergized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring to coil.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status shall be high.
- 7. If still problem persists, check the DIP wiring.

#### 2.451 Traction enable Relay 2 failed to pickup

4980	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC1, ED 1350 for TC, ED 1351
DTC-CRW	for NDTC1, ED 1353 for MC2, ED 1352 for NDTC2 Functional group- 9 Sub Functional group-7

- 1. Ensure that cab is occupied, Drive Traction enable Relay 2 from DOP test
- 2. Check the voltage across contactor coil, It should be high & ensure relay/contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be high
- 5. If not, check by replacing with any other healthy DIP card and status shall be high.
- 6. If still problem persists, check the DIP wiring.

## 2.452 Traction enable Relay 2 failed to Dropout

Fault Code:	Schematic:
4981	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC,ED 1351
Location: DTC-CRW ECC for- MC,TC, NDTC,MC2	for NDTC1, ED 1353 for MC2, ED 1352 for NDTC2 Functional group- 9 Sub Functional group-7
Check:	
<ol> <li>Ensure that cab is occupied, ensure that MCH handle in emergency brake position and ensure that local EB1 input shall be low.</li> </ol>	

- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is Deenergized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring to coil.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status shall be high.

#### 2.453 Traction enable Relay 2R failed to pickup

Fault Code: 4982	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC1, ED 1350 for TC, ED1351
Location: DTC-CRW ECC for- MC,TC, NDTC,MC2	for NDTC1, ED 1353 for MC2, ED 1352 for NDTC2 Functional group- 9 Sub Functional group-7

- 1. Ensure that cab is occupied, Drive Traction enable Relay 2R from DOP test
- 2. Check the voltage across contactor coil, It should be high & ensure relay/contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be high
- 5. If not, check by replacing with any other healthy DIP card and status shall be high.
- 6. If still problem persists, check the DIP wiring.

#### 2.454 Traction enable Relay 2R failed to Dropout

Fault Code: 4983	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC1, ED 1350 for TC, ED1351
Location: DTC-CRW ECC for- MC,TC, NDTC,MC2	for NDTC1, ED 1353 for MC2, ED 1352 for NDTC2 Functional group- 9 Sub Functional group-7
Check:	

- 1. Ensure that cab is occupied, ensure that MCH handle in emergency brake position and ensure that local EB1 input shall be low.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is Deenergized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring to coil.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status shall be high.
- 7. If still problem persists, check the DIP wiring.

#### 2.455 Bus1 SYNC CONT Stuck Low

	Schematic:
4984	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location:	& NDTC2
ACU	Functional group- 3

- 1. Ensure Coach supply MCB should be in ON state, ensure DOP driving status as high, If dropped by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be high & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.
- 7. If not, check by replacing with any other healthy DIP card and status should be High
- 8. Still problem persists check the DIP wiring.

## 2.456 Bus1 SYNC CONT Stuck High

Fault Code: 4985	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location:	& NDTC2
ACU	Functional group- 3
Check:	
	N state, ensure DOP driving status as Low, If driven by system,
drop by using DOP test. 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is de-energized.	
<ol> <li>If relay/contactor is not de-energized, check by replacing with any other working one. It should be de- energized.</li> </ol>	
4. If supply itself is available, then check the wiring from DOP TB to coil.	
<ol><li>If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in OFF condition.</li></ol>	
<ol> <li>If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be Low.</li> </ol>	
7. If not, check by replacing with any other healthy DIP card and status should be Low.	

8. Still problem persists check the DIP wiring.

#### 2.457 Bus2 SYNC CONT Stuck Low

Fault Code:	Schematic:
4986	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location:	& NDTC2
ACU	Functional group- 3

- 1. Ensure Coach supply MCB should be in ON state, ensure DOP driving status as high, If dropped by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be high & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.
- 7. If not, check by replacing with any other healthy DIP card and status should be High
- 8. Still problem persists check the DIP wiring.

#### 2.458 Bus2 SYNC CONT Stuck High

4987	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location: ACU	& NDTC2 Functional group- 3
<ol> <li>Check:</li> <li>Ensure Coach supply MCB should be in ON state, ensure DOP driving status as Low, If driven by system, drop by using DOP test.</li> <li>Check the voltage across contactor coil, It should be Low &amp; ensure relay/contactor is de-energized.</li> <li>If relay/contactor is not de-energized, check by replacing with any other working one. It should be de-energized.</li> <li>If supply itself is available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists check DOP card LEDs status by replacing with any other healthy card. It s hould be in OFF condition.</li> <li>If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be Low.</li> </ol>	

8. Still problem persists check the DIP wiring.

#### 2.459 Local EB1 Stuck Low

Fault Code: 4988	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Ensure EMY BRK MCB supply MCB should be in ON state, Ensure DOP driving status as High, If not driven by
  - system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.
- 7. If not, check by replacing with any other healthy DIP card and status should be high.
- 8. Still problem persists check the DIP wiring.

## 2.460 Local EB1 Stuck High

Fault Code: 4989	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2
Check:	
<ol> <li>Ensure EMY BRK MCB supply MCB should be in ON state, Ensure DOP driving status as Low, If not dropped by system, drop by using DOP test.</li> </ol>	
<ol> <li>Check the voltage across contactor coil, It should be low &amp; ensure relay/contactor is de-energized.</li> <li>If relay/contactor is not de-energized, check by replacing with any other working one. It should be de- energized.</li> </ol>	
<ol> <li>If supply itself is not available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should</li> </ol>	
be in OFF condition. 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be low	

- 7. If not, check by replacing with any other healthy DIP card and status should be low
- 8. Still problem persists check the DIP wiring.

#### 2.461 Local EB2 Stuck Low

Fault Code: 4990	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Ensure EMY BRK MCB supply MCB should be in ON state, Ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.
- 7. If not, check by replacing with any other healthy DIP card and status should be high.
- 8. Still problem persists check the DIP wiring.

#### 2.462 Local EB2 Stuck High

Fault Code: 4991	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2
Check:	
<ol> <li>Ensure EMY BRK MCB supply MCB should be in ON state, Ensure DOP driving status as Low, If not dropped by system, drop by using DOP test.</li> <li>Check the voltage across contactor coil, It should be low &amp; ensure relay/contactor is de-energized.</li> <li>If relay/contactor is not de-energized, check by replacing with any other working one. It should be de-energized</li> <li>If supply itself is not available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in OFF condition</li> <li>If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be low</li> <li>If not, check by replacing with any other healthy DIP card and status should be low</li> <li>Still problem persists check the DIP wiring.</li> </ol>	

# 2.463 Ep Bp Pressure Isolation Cock Right Opened

Fault Code: 5158	Schematic: NA
Location: UNDER FRAME	
Check: 1. Check the isolation cock, it shall be ir 2. If not, check the DIP wiring from isola 3. If still problem persists, replace the D	tion cock to DIP card, DIP shall be low.

#### 2.464 MR Isolation Cock Opened

Fault Code: 5159	Schematic: NA
Location: UNDER FRAME	
Check: 1. Check the isolation cock, it shall be 2. If not, check the DIP wiring from iso 3. If still problem persists, replace the	lation cock to DIP card, DIP shall be low.

#### 2.465 TIC1 CB Off

Fault Code: 5186	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- Ensure that CB shall be ON. If CB is in ON condition the DIP status shall be high.
   If still problem persists, check the wiring.
   If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
   If still problem persists, then replace the aux. block of corresponding MCB.

## 2.466 TIC2 CB Off

Fault Code: 5187	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1
Check: 1. Ensure that CB is ON. If CB is in ON 2. If still problem persists, check the wiri 3. If wiring is OK, check LEDs of corres DIP card. 4. If still problem persists, then replace t	oonding channel on DIP card. If not matching, change

## 2.467 LIC1 CB Off

Fault Code: 5188	Schematic:
5100	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
	for TC
Location:	Functional group- 3
TC-ECC	Sub Functional group-1

- Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
   If still problem persists, check the wiring.
   If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
   If still problem persists, then replace the aux. block of corresponding MCB.

## 2.468 LIC2 CB Off

Fault Code: 5189	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350
Location: TC-ECC	for TC Functional group- 3 Sub Functional group-1
<ol><li>If still problem persists, check the wi</li></ol>	sponding channel on DIP card. If not matching,

## 2.469 DIP9 (EBCU1/2 MCB) inconsistent with other CC

5238	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1349 for MC, ED 1353 for MC2
Location: DTC-CRW MC-ECC TC-ECC NDTC-ECC	Functional group- 7 Sub Functional group-3

- Check corresponding DIP in both control units it should be same for both control units.
   If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring

## 2.470 RMPU Smoke in Return Air Outlet

Fault Code:	Schematic:
5618	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 11
NDTC-ECC	Sub Functional group-1
Check:	

- Check for any smoke source in RMPU Return air outlet, If found any smoke inform to maintenance staff
   Otherwise check the wiring from RMPU Control unit to DIP card
   If found OK replace DIP Card with working one

#### 2.471 RMPU2 Smoke in Return Air Outlet

Fault Code: 5619	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2
DTC-CRW, MC-ECC, TC-ECC	Functional group- 11
NDTC-ECC	Sub Functional group-1

Check:

1. Check for any smoke source in RMPU Return air outlet, If found any smoke inform to

a. Otherwise check the wiring from RMPU Control unit to DIP card
3. If found OK replace DIP Card with working one

## 2.472 EMY off Loop Triggered - All Panto - VCB Opened

Fault Code: 12288	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-1
<b>Check:</b> 1. Check the emergency OFF switch in 2. Check the EOL MCB in both the cabs 3. Compare EOL1, EOL2, EOL3, EOL12 4. Ensure that none of the IV coupler is 5. Check the TL wiring.	s shall be in ON conditions. 23 inputs relay feedback on DDU.

#### 2.473 EP Struck Brake Detected in Rake

Fault Code: 12289	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location:	Functional group- 7
DTC -CRW	Sub Functional group-3

- 1. Check the BC Pressures on DDU shall be zero
- 2. Check the EP Brake Applied DIP status (should be low when pressure is zero) in all coaches on DDU.
- 3. If still problem persists check the wiring between BECU and TCMS on particular coach.

## 2.474 Emergency Active Without Command

Fault Code: 12292	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC	
Location:	Functional group- 9	
DRIVER DESK	Sub Functional group-2	
Check:		
<ol> <li>Check the auto brake is in release condition.</li> <li>Check the master controller is in coast.</li> <li>If still problem persist then check the wiring of Emy brake valve.</li> </ol>		

#### 2.475 Emergency Brake Not Applied In atleast 1 Coach

12293	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Looution.	Functional group- 9 Sub Functional group-2

- Check the BC pressures on DDU shall be 3.6bar in MC and 3.4 bar in NDTC/TC.
   Check for any cock isolation in particular coach.
   If still problem persists, check the wiring of Emy brake valve in particular coach.

## 2.476 Local Eb1 Relay Failed to Pick Up

Fault Code: 12299	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location: DTC -CRW	Functional group- 9 Sub Functional group-2
<ol> <li>Check:         <ol> <li>Ensure that cab is occupied, ensure that MCH handle shall not be in emergency brake position, and ensure local EB1 Input shall be high.</li> <li>Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.</li> <li>If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.</li> <li>If supply itself is not available, then check the wiring to coil.</li> <li>If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be high.</li> <li>If not, check by replacing with any other healthy DIP card and status shall be high.</li> <li>If still problem persists, check the DIP wiring.</li> </ol> </li> </ol>	

#### 2.477 Local Eb1 Relay Failed to Drop Out

12300	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
	Functional group- 9 Sub Functional group-2
DTC -CRW	

- 1. Ensure that cab is occupied, ensure that MCH handle in emergency brake position and ensure that local EB1 input shall be low.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is Deenergized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring to coil.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status shall be high.
- 7. If still problem persists, check the DIP wiring.

## 2.478 Local Eb2 Relay Failed to Pick Up

Fault Code: 12301	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location: DTC -CRW	Functional group- 9 Sub Functional group-2
<ol> <li>Check:         <ol> <li>Ensure that cab is occupied, ensure that MCH handle shall not be in emergency brake position, and ensure that Local EB2 input shall be high.</li> <li>Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.</li> <li>If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.</li> <li>If supply itself is not available, then check the wiring to coil.</li> <li>If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.</li> <li>If not, check by replacing with any other healthy DIP card and status should be high.</li> <li>If still problem persists, check the DIP wiring.</li> </ol> </li> </ol>	

#### 2.479 Local Eb2 Relay Failed to Drop Out

Fault Code: 12302	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Ensure that cab is occupied, ensure that MCH handle in emergency brake position, and ensure that local EB2 input shall be low.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is deenergized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.
- 4. If supply itself is available, then check the wiring to coil.
- 5. If still problem persists check the relay/ contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status should be high.
- 7. If still problem persists, check the DIP wiring.

## 2.480 EBL1 Relay Failed to Pick Up

Fault Code: 12303	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC	
Location:	Functional group- 9	
DTC -CRW	Sub Functional group-2	
<ol> <li>Check:         <ol> <li>Ensure that MCH handle should not be in Emergency Brake position.</li> <li>Ensure that TCMS Emergency Brake is Low.</li> <li>Ensure that Cab Occupy, Key On &amp; RDM Inputs are low.</li> <li>Ensure that Local EB1 Input shall be High</li> <li>Ensure that TPWS ISO SW input shall be high</li> <li>Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.</li> <li>If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.</li> <li>If supply itself is not available, then check the wiring of EBL1 TL to coil.</li> <li>If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be high.</li> </ol> </li> </ol>		
10. If not, check by replacing with any other healthy DIP card and status should be high.		
11. If still problem persists, check the DIP wiring.		

#### 2.481 EBL1 Relay Failed to Dropout

Fault Code:	Schematic:
12304	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Ensure that MCH handle in emergency brake position.
- 2. Ensure that TCMS emergency brake is high.
- 3. Ensure that cab occupy, key ON & RDM inputs are high.
- 4. Ensure that local EB1 input shall be low.
- 5. Ensure that TPWS ISO SW input shall be high.
- 6. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.
- 7. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be energized.
- 8. If supply itself is available, then check the wiring of EBL1 TL to coil.
- 9. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 10. If not, check by replacing with any other healthy DIP card and status shall be low.
- 11. If still problem persists, check the DIP wiring.

#### 2.482 EBL2 Relay Failed to Pick Up

Fault Code: 12305	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2
Check:  1. Ensure that MCH handle should not be in Emergency Brake position. 2. Ensure that TCMS Emergency Brake is Low. 3. Ensure that Cab Occupy, Key On & RDM Inputs are low. 4. Ensure that Local EB2 Input shall be High 5. Ensure that TPWS ISO SW input shall be high 6 Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized. 7. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized. 8. If supply itself is not available, then check the wiring of EBL2 TL to coil. 9. If still problem persists check the relay/contactor feedback input on corresponding DIP card. It shall be high. 10. If not, check by replacing with any other healthy DIP card and status shall be high. 11. If still problem persists, check the DIP wiring.	

#### 2.483 EBL2 Relay Failed to Dropout

Fault Code: 12306	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Ensure that MCH handle should not be in emergency brake position.
- 2. Ensure that TCMS emergency brake is high.
- 3. Ensure that cab occupy, key ON and RDM inputs are high.
- 4. Ensure that Local EB2 Input shall be low.
- 5. Ensure that TPWS ISO SW input shall be high
- 6. Check the voltage across contactor coil, It shall be low and ensure relay/ contactor is de-energized.
- 7. If relay/contactor is not De-energized, check by replacing with any other working one. It should be energized.
- 8. If supply itself is available, then check the wiring of EBL1 TL to coil.
- 9. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be Low.
- 10. If not, check by replacing with any other healthy DIP card and status shall be low.
- 11. If still problem persists, check the DIP wiring.

## 2.484 Traction Prohibited in Rake

Fault Code: 12307	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.485 Train Over Speed Detected In Rake

Fault Code: 12308	Schematic: NA
Location:	
NA	
Check: Informative message only. 1.Check the train speed witin the range 2.If not, Bring the MCH to coast and ma	

## 2.486 Emergency Brake Applied in Cab-1 By TPWS

Fault Code: 12309	Schematic: NA
Location: DTC	
Check: 1. Check the Brake valve CB should 2. Check the supply at TPWS 3. Check the Wiring. 4. If wiring is OK then Check TPWS	

## 2.487 Emergency Brake Applied in Cab-2 By TPWS

Fault Code: 12310	Schematic: NA
Location: DTC	
Check: 1. Check the Brake valve CB should be 2. Check the supply at TPWS 3. Check the Wiring. 4. If wiring is OK then Check TPWS Sys	

## 2.488 Train Crossed Air Suspension Failed Speed Limit

Fault Code: 12311,	Schematic: NA
Location: NA	
Check: 1. Air suspension shall be broken. 2. Check the Train Speed (It shall be	e below configurable value)

## 2.489 Full Service Brake Applied in Cab-1 By TPWS

Fault Code: 12312	Schematic: NA
Location: DTC	
Check: 1. Check the Brake valve CB should 2. Check the supply at TPWS 3. Check the Wiring. 4. If wiring is OK then Check TPWS	

## 2.490 Full Service Brake Applied in Cab-2 By TPWS

Fault Code: 12313,	Schematic: NA
Location: DTC	
Check: 1. Check the Brake valve CB should 2. Check the supply at TPWS 3. Check the Wiring. 4. If wiring is OK then Check TPWS	

## 2.491 Reverse Motoring - Train Over speed Condition Detected

10011	Schematic:
12314,	SEREMATIC DIAGRAM FOR MAE675UV2 ED 1348
Location:	
DRIVER DESK	
Check:	
1. Check the train speed, it shall be	below 15 kmph.
2. Bring MCH to coast and maintain	train speed below 15 Kmph.

# 2.492 Reverse Driving Selected. Acknowledgement Required for Power.

12319	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location: DRIVER DESK & CRW	Functional group- 2 Sub Functional group-2
Check: 1. Ensure that reverse handle on master controller is in neutral position. 2. If the reverser handle is in neutral position then check the reverse input on the DIP card of CCC's(CCC1 should HIGH & CCC2 should LOW). 3. If inputs are not correct, then check the wiring.	

- 4. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching change DIP card.
- 5. If still problem persists, replace the master controller.

## 2.493 Illegal Direction Change Detected

Fault Code: 12321	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location:	Functional group- 2
DTC -CRW	Sub Functional group-2

- 1. Ensure that the train speed shall be zero to change the direction.
- 2. Check all the FWD & REV inputs on DDU or CCU.
- 3. If inputs are illegal then check for wiring.

## 2.494 BP Too Low For Operation, Traction Prohibited

Fault Code: 12323	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC
Location: DRIVER DESK	Functional group- 2 Sub Functional group-3
Check: 1. Ensure that there is no BP leakage th 2. Check isolation cock handle after cab 3. Check all the coaches BP pressure sw 4. If input is high then check the pressur 5. Still if problem persists, check the wiri	occupation. vitch inputs at DDU. e sw malfunction.

## 2.495 ETB Network Failed, Select RDM Mode For Train Operation

12324	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC1, ED 1350 for TC,ED 1353
Location:	for MC2, ED 1351&1352 for NDTC1 & NDTC2
DTC -CRW, ECC-MC1/MC2/	Functional group- 4
NDTC/TC	Sub Functional group-1

- 1. Check ETB network with all control units in network screen of DDU.
- 2. If the network is not established check ETB connectors are properly connected on control units
- 3. If still problem persists then check the wiring.

## 2.496 CCCM - TPWS service brake command inconsistent in Cab - 1

Fault Code: 12326	Schematic: NA
Location: DTC	
2. If problem still persist check the w	both the CCC's should be same either high or low. /iring . responding channel on DIP card. If not matching

# 2.497 CCCM TPWS service brake command inconsistent in Cab - 2

Fault Code: 12327	Schematic: NA
Location: DTC	
Check: 1. Check the corresponding DIP on both the CCC's should be same either high or low. 2. If problem still persist check the wiring . 3. If wiring is OK, shock I EDs of corresponding chapped on DIP cord. If not metabling	

3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching change DIP card.

#### 2.498 CCCM - TPWS emergency brake command inconsistent in Cab - 1

Fault Code: 12328	Schematic: NA
Location:	
DTC	
2. If problem still persist check the w	both the CCC's should be same either high or low. iring . responding channel on DIP card. If not matching

#### 2.499 CCCM - TPWS emergency brake command inconsistent in Cab - 2

Fault Code:	Schematic:
12329	NA
Location: DTC	

- 1. Check the corresponding DIP on both the CCC's should be same either high or low.
- 2. If problem still persist check the wiring .
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching change DIP card.

## 2.500 More Than One Cab Occupied - Deactivate One Cab

Fault Code: 12330	Schematic: \$CHEMATIC DIAGRAM FOR MAE675UV2, ED for DTC
Location: DTC -CRW, Driver Desk	Functional group- 2 Sub Functional group-2
Check: 1. Ensure that only one cab is occupied through out the rake. 2. Check the cab occupy input in occupied DTC coach it shall be high and in Unoccupied	

- DTC coach it should be low. 3. Check the another cab occupy input in the occupied DTC coach It should be low & in
- unoccupied DTC coach it should be high.4. If the inputs are high (in both DTC's) then check the cab occupy and another cab occupy wiring.
- 5. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching change the DIP card.

## 2.501 Single Unit Mode Detected in at least One MC Coach

	Schematic:
12331	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 2
DTC -CRW, Driver Desk	Sub Functional group-2

- 1. Ensure that all the single unit operation sw should be in all Motor coaches (if available).
- 2. If all the switches are in off condition, then check the corresponding input on MCC should be OFF.
- 3. If MCC input is On then check the wiring.
- 4. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching change DIP card

## 2.502 Cab Occupy Regular Circuit Failed

12332	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DTC -CRW	Sub Functional group-1

Check:

- 1. Check the feed back of Key ON which shll be High
- 2. Check the feedback of Cab Selector Switch which should be Low.
- Check the feed back of Cab occupy1 Loop iso relay feed back should be Low & Cab Occupy regular loop (CO\_LPT) relay it shall be high.
- 4. If still probelm persists then check the voltage across all 4 of cab occupy relay(M) Coils. It shall be high and ensure relays are energized.
- 5. If any relay is not energized, check by replacing with any other working one. It shall be energized.
- 6. If supply itself is not available, then check the wiring of cab occupy(M) relays.
- 7. If still problem persists check the cab occupy relays feed back Input on corresponding DIP card. It shall be high.
- 8. If not, check by replacing with any other healthy DIP card and status should be high.
- 9. If still problem persists, check the DIP wiring.

## 2.503 Cab Occupy High Priority Circuit Failed

12333	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DTC -CRW	Sub Functional group-1

- 1. Check the feedback of key ON which shall be high.
- 2. Check the feedback of cab selector switch which shall be high.
- 3. Check the feed back of cab occupy2 loop iso relay feed back shall be low and cab occupy high priority loop (CO\_HPT) relay it shall be high.
- 4. If still probe m persists then check the voltage across all 4 of cab occupy relay(R) coils. It shall be high and ensure relays are energized.
- 5. If any relay is not energized, check by replacing with any other working one. It should be energized.
- 6. If supply itself is not available, then check the wiring of cab occupy (R) relays.
- 7. If still problem persists check the cab occupy relays feedback input on corresponding DIP card. It shall be high.
- 8. If not, check by replacing with any other healthy DIP card and status should be high.
- 9. If still problem persists, check the DIP wiring.

## 2.504 ORD Detected in Trailer coach - Panto down triggered

Fault Code: 12334	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1350 for TC
Location:	Functional group- 1
TC - ABOVE ROOF	Sub Functional group-1

Check:

Stop train immediately

- 1. Visually ensure that all the pantographs are down.
- 2. Visually inspect overhead line.
- 3. If overhead line and other pantographs are OK, then give fault reset from driver desk and raise pantographs again.
- 4. The pantograph on which the over reach detection input has tripped will not be raised again.
- 5. Check the ORD pressure sw in panto control box and panto pneumatics or concern pantograph repreasentative for further inspection.

## 2.505 Key Removed in Running

	Schematic:
12335	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 2
DRIVER DESK	Sub Functional group-1

- 1. Ensure the cab occupy DIP should be high, during train speed is >0Kmph.
- 2. If cab occupy DIP is low, then check the key ON and RDM DIP.
- 3. If still problem persists, then check the wiring.

## 2.506 MR Too Low For Operation, Traction Prohibited

Fault Code: 12336	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 7
DTC -CRW, NDTC -ECC	Sub Functional group-1
Check: 1. Check all MAC's are normally working on DDU and MR Press should be >7.5Kg for normal opearation.	
<ol> <li>If MR is &lt;7.5Kg even after 10mins, then ensure that there is no MR leakage through out the rake.</li> <li>Check the MR pressure switch DIP on corresponding control units on DDU. All the pressure Sw DIP shall be same either high or low.</li> </ol>	
<ol> <li>If any DIP is inconsistant compare to all other control units, then check the wiring of that corresponding MR pressure switch.</li> </ol>	
<ol><li>Check MR sensor feedback in DDU by replacing with any other healthy AFIP card. Shall be with in specified limits.</li></ol>	
<ol> <li>If not OK, check BP sensor Feed back in DDU by replacing with any other Sensor. Shall be with in specified limits.</li> </ol>	

7. Still if problem persists, check the wiring.

# 2.507 Atleast one parking brake applied in rake,traction prohibited

Fault Code:	Schematic:
12338	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC1, ED 1350 for TC, ED 1353
	for MC2, ED 1351&1352 for NDTC1 & NDTC2
	Functional group- 7
	Sub Functional group-2

- 1. Check the pressure sw input on control unit (Inputs Should be High).
- 2. Check the PB applied relay input on control unit (Inputs Should be Low).
- 3. Check DOP status on control unit for PB apply valve.
- 4. If DOP is low then check the wiring of PB apply valve.
- 5. If PB apply valve is stuck due to any of the above reason then release PB manually

# 2.508 Train Rollback Detected, Emergency Brake Triggered in Train

Fault Code: 12339	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.509 No DDU Authentication Traction Prohibited

Fault Code: 12340	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.510 Train Over speed detected in Maintenance Login

Fault Code: 12341	Schematic: NA
Location: NA	
Check: 1. Check the train speed shall be below 2. Bring MCH to coast and maintain trai	

## 2.511 MAC Running too long

	Schematic:
12342	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 7
DTC- CRW	Sub Functional group-1
NDTC _ECC	

- Check MAC PR SW DIP on corresponding control unit through DDU.
   If MAC PR SW DIP is Low in any corresponding BU , then ensure that there is no leakage in the rake.
- If there is no leakage then check the corresponding MR Press Sw wiring.
   If still problem persists change the pressure switch.

#### 2.512 CCCR - TPWS service brake command inconsistent in Cab - 1

Fault Code: 12344	Schematic: NA
Location: DTC	
2. If problem still persist check the w	both the CCC's should be same either high or low. /iring . responding channel on DIP card. If not matching

## 2.513 CCCR - TPWS service brake command inconsistent in Cab - 2

Fault Code: 12345	Schematic: NA
Location: DTC	
<ol><li>If problem still persist check the w</li></ol>	both the CCC's should be same either high or low. iring . responding channel on DIP card. If not matching

#### 2.514 CCCR - TPWS emergency brake command inconsistent in Cab - 1

Fault Code: 12346	Schematic: NA
Location: DTC	
2. If problem still persist check the w	both the CCC's should be same either high or low. /iring . responding channel on DIP card. If not matching

## 2.515 CCCR - TPWS emergency brake command inconsistent in Cab - 2

Fault Code: 12347	Schematic: NA
Location:	
DTC	
Check:	
<ol> <li>Check the corresponding DIP on I</li> <li>If problem still persist check the w</li> </ol>	both the CCC's should be same either high or low. iring . responding channel on DIP card. If not matching

## 2.516 BP Difference Between Two Cabs Too High

Fault Code:	Schematic:
12348,	SCH투MATIC DIAGRAM FOR MAE675UV2, ED 1348
Location:	Functional group- 7
DRIVER DESK	Sub Functional group-1
Check: 1. Check the BP sensor values of both 2. Ensure that, difference shall not be 3. If difference is observed >0.2bar, the 4. If BP setting is OK on brake controll	>0.2bar en check pressure setting of BP on brake controller.

## 2.517 EBL3 Triggered

12349	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location.	Functional group- 9 Sub Functional group-2

- 1. Check all the sources of Emergency brake application.
- 2. Ensure DOP driving status as High. If not driven by system, drive by using DOP test.
- 3. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 4. If relay/ contactor is not energized, check by replacing with any other working one. It should be energized.
- 5. If supply itself is not available, then check the wiring from DOP TB to coil.
- 6. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 7. If still problem persists check the relay/ contactor feed back Input on corresponding DIP card. It shall be high.
- 8. If not, check by replacing with any other healthy DIP card and status should be high.
- 9. If still problem persists, check the DIP wiring.

## 2.518 All Door Not Closed

Fault Code: 12350	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC,MC,TC, NDTC,MC2,	1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2, Functional group- 5 Sub Functional group-1
Check:	

- 1. Physically verify all doors are closed or not.
- 2. If all the doors are in closed condition, check all LDSLR, LDSRR relay input status in corresponding control units on DDU, Inputs should be high.
- 3. If any relay input is low, in particular panel check the voltage across contactor coil, It should be high and ensure relay/ contactor is energized. 4. If relay/contactor is not energized, check by replacing with any other working one. It
- 5. If supply itself is not available, then check the doors wiring.
  6. If all LDSLR, LDSRR wiring are ok, check ADCR status in DTC, input should be high

- 7. If relay input is low, check the relay energisation status.
- 8. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.

#### 2.519 EP Stuck Brake Detected in rake through BC presser switch

Fault Code: 12352	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2,
DTC,MC,TC,	Functional group- 7
NDTC,MC2	Sub Functional group-3

- 1. Check the BC pressure in DDU.
- 2. Check that any cock in isolation condition.
- 3. BC pressure in all coaches is Zero, if not check the corrosponding coach BC pressure switch.
- 4. Check the LED status of corrosponding DIP card (it should be LOW when pressure is Zero).
- 5. If still problem persists check the wiring.

## 2.520 False stuck brake detection through BC presser switch

12353	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED 1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2,
Location: DTC,MC,TC, NDTC,MC2	Functional group- 7 Sub Functional group-3
switch. 4. If BC pressure swich faulty check by	f not check the corrosponding coach BC pressure relacing a new working one. ing DIP card (it should be LOW when pressure is

## 2.521 VCD Bypass switch operated

Fault Code: 12354	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- Ensure VCD BYPASS SW in CRW panel shall be in OFF position.
   Check VCB BYPASS SW feedback DIP(shall be OFF) in corresponding control unit with any other healthy card.
- 3. If still problem persists, check the swtich wiring.

## 2.522 Driver Emy Brake Switch Operated

Fault Code: 12355	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DRIVER DESK	Functional group- 9 Sub Functional group-2
	used in guard side panel of the driver desk. Forresponding control card with any other healthy card. Fing.

## 2.523 Guard Emy Brake Switch Operated

Fault Code: 12356	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.524 Emergency Brake Valve Operated

Fault Code: 12357	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.525 Short circuit detected in BU combination 1

Fault Code: 12358 Location: NA	Schematic: NA
Check: Informative message only.	

## 2.526 Short circuit detected in BU combination 2

Fault Code: 12359	Schematic: NA
Location:	
NA	
Check:	
Informative message only.	

## 2.527 CAB Occupy Redundant CKT Failed

	Schematic:
12368	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED 1351&
Location:	1352 for NDTC1 & NDTC2
DTC-CRW	Functional group- 11
MC-ECC	Sub Functional group-1

- 1. Check the feed back of Key ON/RDM It should be High.
- 2. Check the feedback of Cab Selector Switch it should be Low.
- 3. Check the feed back of Cab Occupy regular loop(LPT) relay it should be High.
- 4. If still problem persists then check the wiring and coils of cab occupy relay.
- 5. If wiring and coils of cab occupy relay are ok then check LEDs of corresponding channel on DIP card. If not matching change the DIP card.

## 2.528 CAB Occupy Shunting CKT Failed

	Schematic:
12369	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC-CRW, MC-ECC TC-ECC, NDTC-ECC	1351&1352 for NDTC1 & NDTC2
	Functional group- 11
	Sub Functional group-1

Check:

- 1. Check the feed back of Key ON/RDM It should be High
- 2. Check the feedback of Cab Selector Switch it should be Low.
- 3. Check the feed back of Cab Occupy regular loop (LPT) relay it should be High.
- 4. If still problem persists then check the wiring and coils of cab occupy relay.
- 5. If wiring and coils of cab occupy relay are ok then check LEDs of corresponding channel on DIP card. If not matching change the DIP card.

## 2.529 TCAS Emergency Brake Active

Fault Code: 12372	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.530 TCAS Service Brake Active

Fault Code: 12373 Location: NA	Schematic: NA
Check: Informative message.	

## 2.531 TCAS Isolation Active

Fault Code: 12374	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.532 TCAS ATO Active

Fault Code: 12375	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.533 DCU Software Feedback detected open. To continue the traction, Acknowledge this fault and ensure that all Doors are closed.

Fault Code: 12802	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location:	1351&1352 for NDTC1 & NDTC2, ED 1353 for MC2,
DTC-CRW, ECC for- MC, TC,	Functional group- 5
NDTC, MC2	Sub Functional group-1

- 1. Ensure that all doors are in closed condition.
- 2. Check the ADCR relay energized condition.
- 3. Check the Door closing status on Display it should be closed ,If not check the communication from door to TCMS units.
- 4. If still problem persist check the communication cable wiring.

#### 2.534 ADCR Feedback detected open. To continue the traction Acknowledge this fault,Operate ADCR bypass switch and ensure that all Doors are closed.

	Schematic:
12803	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC, ED 1349 for MC, ED 1350 for TC, ED 1351&
Location:	1352 for NDTC1 & NDTC2, ED 1353 for MC2,
DTC-CRW, ECC for- MC,TC,	Functional group- 5
NDTC,MC2	Sub Functional group-1

Check:

1. Physically verify all doors are closed or not.

2. If all the doors are in closed condition, Check all LDSLR, LDSRR relay input status in corresponding control units on DDU, Inputs should be high.

3. If any relay input is low, in particular panel Check the voltage across contactor coil, It should be High & ensure relay/ contactor is energized.

4. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.

5. If supply itself is not available, then check the doors wiring.

6. If all LDSLR, LDSRR wiring are OK, Check DPR Left and DPR right Status in DMC, Inputs should be high

7. If any relay input is low, check the relay energisation status.

8. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.

9. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.

10. If supply itself is not available, then check the door proving loop status wiring.

11. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.

12. If not, check by replacing with any other healthy DIP card and status should be high.

13. If Still problem persists check the DIP wiring.

## 2.535 CCCM - DIP Card 1 Missed in CCU MB

12808	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

Check:

- 1. Check whether DIP card is there in the specified slot or not.
- 2. If yes, check whether DIP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem(All the dips are responding properly).

## 2.536 CCCM - DIP Card 2 Missed in CCU MB

Fault Code: 12809	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 6 Sub Functional group-1
Check: 1. Check whether DIP card is there in the specified slot or not. 2. If yes, check whether DIP card is properly inserted or not. 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.	

Note : This is not a severe problem, if there is no functional problem (All the dips are responding properly).

## 2.537 CCCM - DIP Card 3 Missed in CCU MB

12810	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 6 Sub Functional group-1

Check:

- 1. Check whether DIP card is there in the specified slot or not.
- 2. If yes, check whether DIP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem(All the dips are responding properly).

## 2.538 CCCM - DIP Card 4 Missed in CCU MB

Fault Code: 12811	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 6 Sub Functional group-1
Check:	and is there in the specified slot or not

- 1. Check whether DIP card is there in the specified slot or not.
- 2. If yes, check whether DIP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem(All the dips are responding properly).

## 2.539 CCCM - DOP Card 1 Missed in CCU MB

12812	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 6 Sub Functional group-1

Check:

- 1. Check whether DOP card is there in the specified slot or not.
- 2. If yes, check whether DOP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem(All the digital outputs are driving properly).

## 2.540 CCCM - DOP Card 2 Missed in CCU MB

Fault Code:	Schematic:	
12813	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348	
	for DTC	
Location:	Functional group- 6	
DTC -CRW	Sub Functional group-1	
Check:		
1. Check whether DOP card is there in the specified slot or not.		
<ol> <li>If yes, check whether DOP card is properly inserted or not.</li> <li>If yes, replace the card another healthy card and check the fault is disabled or not. If yes</li> </ol>		

3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem(All the digital outputs are driving properly).

## 2.541 CCCM - DOP Card 3 Missed in CCU MB

12814	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 6 Sub Functional group-1

Check:

- 1. Check whether DOP card is there in the specified slot or not.
- 2. If yes, check whether DOP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem(All the digital outputs are driving properly).

## 2.542 CCCM - Speed Recorder Communication faulty

Fault Code: 12816	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 4,13 Sub Functional group-1,4
Check: 1. Check the COMM connector at species 2. Check the COMM connector at CCC 3. Check the cable continuity for correct 4. verify the communication once by rewith new one.	M is properly inserted or not.

## 2.543 CCCM - MCH FGU Frequency Failed

12818	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK	Sub Functional group-2

- 1. Check the FGU unit through DDU RDM test mode (Freq shall 284hz in coast position).
- 2. Check all the connectors on FGU and CCU are properly inserted or not.
- 3. Check the frequency in DDU by replacing with healthy AFIP card.
- 4. If still problem persists, check the Current input & Cab Oppucy Input to FGU.
- 5. If still problem persists, check the FGU O/P Wiring to CCCM.

## 2.544 Min 1 Brake Applied Relay Failed to DropOut

12827	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC
	Functional group- 9 Sub Functional group -3

Check:

- 1. Ensure BAL MCB & BAL Bypass switch is in ON condition. Cab is occupied and all coaches brakes are in released condition, Ensure that none of the IV Coupler is in Open Condition through out the train.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is DE-energized.
- 3. If relay/contactor is not DE-energized., check by replacing with any other working one. It should be DEenergized.
- 4. If supply itself is available, then check the wiring of BAL TL to coil.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be Low.
- 6. If not, check by replacing with any other healthy DIP card and status should be Low.
- 7. Still problem persists check the DIP wiring.

## 2.545 Min 1 Brake Applied Relay Failed to Pickup

	Schematic:
12828	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	for DTC
Location:	Functional group- 9
DTC-CRW	Sub Functional group -3
	Functional group- 9

- 1. Ensure BAL MCB & BAL Bypass switch is in ON condition. Cab is occupied and brakes are in applied condition, Ensure that none of the IV Coupler is in Open Condition through out the train.
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring of BAL TL to coil.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.
- 6. If not, check by replacing with any other healthy DIP card and status should be high.
- 7. Still problem persists check the DIP wiring.

## 2.546 CCCM - MAIPFIP Card Missed in CCU MB

Fault Code:	Schematic:
12829	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1
Check:	
1. Check whether AFIP	card is there in the specified slot or not.

- 2. If yes, check whether AFIP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

## 2.547 EOL3 Failed to Drop Out

12830	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
	& NDTC2 Functional group- 9 Sub Functional group -1

- 1. Ensure RIO SUPPLY MCB should be in ON state, ensure DOP driving status as Low, If driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is DE-energized.
- 3. If relay/contactor is not DE-energized., check by replacing with any other working one. It should be DE-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in OFF condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be Low.
- 7. If not, check by replacing with any other healthy DIP card and status should be Low.
- 8. Still problem persists check the DIP wiring. change the DIP card.

## 2.548 EOL3 Failed to Pick Up

12831	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location:	& NDTC2 Functional group- 9 Sub Functional group -1

Check:

- 1. Ensure RIO SUPPLY MCB should be in ON state, ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card.

## 2.549 VCD Local EB1 Relay Failed To Drop Out

ault Code:	Schematic:
12832	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
ocation:	Functional group- 9
DTC -CRW	Sub Functional group-2
	for DTC Functional group- 9

- 1. Ensure DTC supply MCB is in ON state, ensure DOP (CCU DOP27) driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/ contactor feedback input (CCU DIP23) on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be Low.

## 2.550 VCD Local EB1 Relay Failed To Pick Up

Fault Code:	Schematic:
12833	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

#### Check:

- 1. Ensure DTC supply MCB is in ON state, ensure DOP (CCU DOP27) driving status as high, if not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/ contactor feed back input (CCU DIP23) on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. If still problem persists, check the DIP wiring.

## 2.551 EBL3 Relay Failed To Drop Out

Fault Code:	Schematic:
12834	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
Location:	& NDTC2
DTC- CRW NDTC ECC	Functional group- 9
TC-ECC	Sub Functional group -1

- 1. Ensure DMC SUPPLY MCB should be in ON state, ensure DOP driving status as Low, If driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is DE-energized.
- 3. If relay/contactor is not DE-energized., check by replacing with any other working one. It should be DE-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in OFF condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be Low.
- 7. If not, check by replacing with any other healthy DIP card and status should be Low.
- 8. Still problem persists check the DIP wiring.

## 2.552 EBL3 Relay Failed To Pick Up

12835	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1350 for TC, ED 1351&1352 for NDTC1
	& NDTC2 Functional group- 9 Sub Functional group -1

Check:

- 1. Ensure DMC SUPPLY MCB should be in ON state, ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.
- 7. If not, check by replacing with any other healthy DIP card and status should be high.
- 8. Still problem persists check the DIP wiring.

## 2.553 Cab Occ Loop1 ISO Relay Fail to Pick Up

Fault Code:	Schematic:
12836	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 2
DTC -CRW	Sub Functional group-1

- 1. Ensure CAB OCCUPY1 supply MCB is in ON state, ensure DOP(CCU DOP21) driving status as high, if not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
- 6. If still problem persists, check the relay/contactor feed back Input(CCU DIP54) on corresponding DIP card. It should be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

## 2.554 Cab Occ Loop1 ISO Relay Fail to Drop Out

12837	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 2 Sub Functional group-1

#### Check:

- 1. Ensure CAB OCCUPY1 supply MCB is be in ON state, ensure DOP (CCU DOP21) driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It should be de-energized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It should be in OFF condition.
- 6. If still problem persists, check the relay/contactor feedback input(CCU DIP54) on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

## 2.555 Cab Occ Loop2 ISO Relay Fail to Pick Up

12838	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location.	Functional group- 2 Sub Functional group-1

- 1. Ensure CAB OCCUPY2 supply MCB shall be in ON state, ensure DOP(CCU DOP22) driving status as high, if not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/ contactor feedback input (CCU DIP55) on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

#### 2.556 Cab Occ Loop2 ISO Relay Fail to Drop Out

12839	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 2 Sub Functional group-1

Check:

- 1. Ensure CAB OCCUPY1 supply MCB shall be in ON state, ensure DOP(CCU DOP22) driving status as low, if not driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/ contactor feedback input (CCU DIP55) on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. If still problem persists, check the DIP wiring.

#### 2.557 Maintenance ID Entered

Fault Code: 12848	Schematic: NA
Location: NA	
Check: Informative message.	

#### 2.558 Under Voltage Message Acknowledged

Fault Code: 12849	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.559 DIP1 (PAN\_UP\_CAB\_SW) inconsistent with other CCC

13042	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 1 Sub Functional group-1

- 1. Check DIP1 LED on DIP card in both control units by giving PANTO\_SW UP pulse, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after one. Both shall be same either high or low. (while giving pulse should be high).
- 3. If still problem persists, check the DIP wiring.

# 2.560 DIP2 (PAN\_DN\_CAB\_SW) inconsistent with other CCC

Fault Code: 13043	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DRIVER DESK, DTC -CRW	Functional group- 1 Sub Functional group-1
Check:	

- 1. Check DIP2 LED on DIP card in both control units by giving PANTO\_SW Down pulse, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low. (while giving pulse, it should be high)
- 3. If still problem persist, s check the DIP wiring.

# 2.561 DIP3 (VCB\_ON\_CAB\_SW) inconsistent with other CCC

13044	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location.	Functional group- 1 Sub Functional group-1

- 1. Check DIP3 LED on DIP Card in both control units by giving VCB\_SW ON pulse, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low. (while giving pulse should be high)
- 3. If still problem persists, check the DIP wiring.

#### 2.562 DIP4 (VCB\_OFF\_CAB\_SW) inconsistent with other CCC

Fault Code: 13045	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 1
DRIVER DESK, DTC -CRW	Sub Functional group-1

Check:

- 1. Check DIP4 LED on DIP card in both control units by giving VCB\_SW OFF pulse, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low. (while giving pulse should be high).
- 3. If still problem persists, check the DIP wiring.

#### 2.563 DIP5 (ENS\_SW) inconsistent with other CCC

13046	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Check DIP5 LED on DIP card in both control units by pressing ENS SW once, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low. (while giving pulse should be high).
- 3. If still problem persists, check the DIP wiring.

# 2.564 DIP6 (CSC\_SW) inconsistent with other CCC

Fault Code: 13047	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 2 Sub Functional group-1

Check:

- 1. Check DIP6 LED on DIP card in both control units by pressing Cruise control SW once, both shall be ON.
- 2. If not, repeat the point no 1 by replacing with any other healthy DIP card in both the units one after the other. Both shall be same either high or low. (while giving pulse should be high)
- 3. If still problem persists, check the DIP wiring.

# 2.565 DIP7 (L\_EMY\_OFF\_SW) inconsistent with other CCC

Fault Code: 13048	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED for DTC
Location:	Functional group- 9
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Check DIP7 LED on DIP card in both control units, it shall be ON.
- 2. Check DIP7 LED on DIP card in both control units by pressing EMY OFF SW, both shall be OFF.
- 3. If not, repeat points 1&2 by replacing DIP cards with any other healthy card in both the units one after one. Both shall be same either high or low.
- 4. If still problem persists, check the wiring.

# 2.566 DIP8 (KEY\_ON) inconsistent with other CCC

13049	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 2 Sub Functional group-2

Check:

- 1. Ensure Master controller handle in coast position (In middle)
- 2. Check DIP8 LED on DIP card in both control Units, it should be ON in CCC & OFF in CCC(R)
- 3. Check DIP8 LED on DIP card in both control Units by keeping KEY in ON position, it shall be OFF in CCC & ON in CCC(R).
- 4. If not, repeat points 2&3 by replacing DIP cards with any other healthy card in both the units one after the other. Both shall be same either high or low.
- 5. If still problem persists, check the wiring.

#### 2.567 DIP9 (RDM) inconsistent with other CCC

13050	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2 Sub Functional group-2

- 1. Ensure master controller handle in coast position (In middle).
- 2. Check DIP9 LED on DIP card in both control Units, it should be ON in CCC & OFF in CCC(R)
- 3. Check DIP9 LED on DIP card in both control Units by keeping KEY in RDM position, it shall be OFF in CCC & ON in CCC(R).
- 4. If not, repeat points 2&3 by replacing DIP cards with any other healthy card in both the units one after one. Both should be same either high or low.
- 5. If still problem persists, check the wiring.

# 2.568 DIP10 (FWD) inconsistent with other CCC

13051	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 2 Sub Functional group-2

Check:

- 1. Ensure that all the MCBs shall be ON, ensure KEY shall be in ON position or in RDM position.
- 2. Check DIP10 LED on DIP card in both control units by keeping Direction switch in IDLE position, it shall be ON in CCC & OFF in CCC(R).
- 3. Check DIP10 LED on DIP card in both control units by keeping direction switch in FWD position, it shall be OFF in CCC & ON in CCC(R).
- 4. Check point no 2&3 by replacing DIP card with any other healthy card in both control units one after the other.
- 5. If still problem persists, check the wiring.

#### 2.569 DIP11 (REV) inconsistent with other CCC

13052	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 2 Sub Functional group-2

- 1. Ensure that all the MCBs shall be ON, ensure KEY shall be in ON position or in RDM position.
- 2. Check DIP11 LED on DIP card in both control units by keeping Direction switch in IDLE position, it shall be ON in CCC and OFF in CCC(R).
- 3. Check DIP11 LED on DIP card in both control units by keeping Direction switch in REV position, it should be OFF in CCC & ON in CCC(R).
- 4. Check point no 2&3 by replacing DIP card with any other healthy card in both control units one after the other.
- 5. If still problem persists, check the wiring.

# 2.570 DIP12 (DRIVE) inconsistent with other CCC

Fault Code: 13053	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-2

Check:

- 1. Ensure that all the MCBs shall be ON, ensure KEY shall be in ON position or in RDM position. Ensure Master Controller Direction switch in either FWD or REV position.
- 2. Check DIP12 LED on DIP card in both control units by keeping MCH handle in IDLE position, it shall be ON in CCC & OFF in CCC(R).
- 3. Check DIP12 LED on DIP card in both control units by keeping MCH handle in brake position, it shall be OFF in CCC & ON in CCC(R).
- 4. Check Point No 3&4 by replacing DIP card with any other healthy card in both control units one after the other.
- 5. If still problem persists, check the wiring.

#### 2.571 DIP13 (BRAKE) inconsistent with other CCC

13054	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-2

- 1. Ensure that all the MCBs should be ON, ensure KEY shall be in ON position or in RDM position. Ensure Master Controller Direction switch in either FWD or REV position.
- 2. Check DIP13 LED on DIP card in both control units by keeping MCH handle in IDLE position, it shall be OFF in CCC & ON in CCC(R).
- 3. Check DIP13 LED on DIP card in both control units by keeping MCH handle in brake position, it shall be ON in CCC & OFF in CCC(R).
- 4. Check point No 3&4 by replacing DIP card with any other healthy card in both control units one after the other.
- 5. If still problem persists, check the wiring.

# 2.572 DIP14 (COAST) inconsistent with other CCC

10055	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	Functional group- 2 Sub Functional group-2
Check: 1. Ensure that all the MCBs shall be ON, ensure KEY shall be in ON position or in RDM position ensure Master Controller Direction switch in either FWD or REV position. 2. Check DIP14 LED on DIP card in both control units by keeping MCH handle in COAST	

- position, it shall be OFF in CCC & ON in CCC(R).
  3. Check DIP14 LED on DIP card in both control units by keeping MCH handle in Brake/ Drive position, it shall be ON in CCC & OFF in CCC(R).
- 4. Check point no 3&4 by replacing DIP card with any other healthy card in both control units one after the other.
- 5. If still problem persists, check the wiring.

#### 2.573 DIP15 (EMY\_BRK) inconsistent with other CCC

	Schematic:
13056	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-2

- 1. Ensure that all the MCBs should be ON, ensure KEY shall be in ON position or in RDM position ensure Master Controller Direction Switch in either FWD or REV position.
- 2. Check DIP15 LED on DIP card in both control units by keeping MCH handle in IDLE/ Drive/Brake position, it shall be OFF in CCC & ON in CCC(R).
- 3. Check DIP15 LED on DIP card in both control units by keeping MCH handle in EMY brake position, it shall be ON in CCC & OFF in CCC(R).
- 4. Check point No 3&4 by replacing DIP card with any other healthy card in both control units one after the other.
- 5. If still problem persists, check the wiring.

# 2.574 DIP16 (VCD1\_SRFB) inconsistent with other CCC

Fault Code: 13057	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1348 for DTC
Location:	Functional group- 2
DTC -CRW	Sub Functional group-2

Check:

- 1. Ensure VCD relay is working properly.
- 2. Check DO09 status while doing below tests.
- 3. Check DIP16 LED Status on DIP Card in both control units, should be ON when DO09 LED is ON, and OFF when DO09 is OFF.
- 4. If not, check point no 2 by replacing DIP cards with any other healthy DIP card one after one in both control units.
- 5. If still problem persists, check the DIP wiring.

# 2.575 DIP17 (VCD\_ACK) inconsistent with other CCC

Fault Code: 13058	Schematic:
13030	SCHEMATIC DIAGRAM FOR MAE675U ED 1348
	for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-2

- 1. Ensure VCD\_ACK SW on driver side and Asst Driver side are working properly.
- 2. Ensure VCD Foot Operated Switch is working properly.
- 3. Check DIP17 LED on DIP Card in both control units by pressing VCD\_ACK SW on driver side, it shall be ON. Or
- 4. Check DIP17 LED on DIP Card on both control units by pressing VCD\_ACK SW on Asst.Driver Side, it shall be ON. Or
- 5. Check DIP17 LED on DIP Card on both control units by pressing VCD\_Foot Operated SW, it shall be ON.
- 6. If not, check points 3,4, & 5 by replacing DIP card with any other healthy card in both control units one after the other.

# 2.576 DIP18 (VCD RESET) inconsistent with other CCC

Fault Code: 13059	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-2

Check:

- 1. Ensure VCD RESET SW is functioning properly.
- 2. Check DIP18 LED on DIP card in both control units by pressing VCD Reset SW. It shall be HIGH.
- 3. If not, check point No 2 by replacing DIP card with any other healthy DIP card one after one in both control units.
- 4. If still problem persists, check the DIP wiring.

#### 2.577 DIP19 (VCD BYPASS SW) inconsistent with other CCC

u <b>lt Code:</b> 3060	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348
	for DTC
cation:	Functional group - 9
TC -CRW	Sub Functional group - 2

- 1. Ensure that all the MCBS are ON.
- 2. Ensure VCD BYPASS relay is working OK.
- 3. Check DIP19 LED status on DIP card in both control units by keeping VCD BYPASS SW in ON position, it shall be ON.
- 4. Check DIP19 LED status on DIP card in both control units by keeping VCD BYPASS SW in OFF position, it shall be OFF.
- 5. If not check points 3 & 4 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 6. If still problem persists, check the DIP wiring.

#### 2.578 DIP20 (PB\_RELEASE\_SW) inconsistent with other CCC

Fault Code: 13061	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 7
DTC -CRW	Sub Functional group-2

Check:

- 1. Ensure PB RELEASE SW on CRW panel is working properly.
- 2. Check DIP20 LED on Dip Card in both control units by pressing PB RELEASE SW, it shall be ON.
- 3. If not, check point No 2 by replacing DIP Card with any other healthy DIP Card on both control units one after the other.
- 4. If still problem persists, check the DIP wiring.

# 2.579 DIP21 (PB\_APPLY\_SW) inconsistent with other CCC

Fault Code:	Schematic:
13062	SCHEMATIC DIAGRAM FOR MAE675U ED 1348
	for DTC
Location:	Functional group- 7
DTC -CRW	Sub Functional group-2

- 1. Ensure PB APPLY SW on CRW panel is working properly.
- 2. Check DIP21 LED on Dip Card in both control units by pressing PB APPLY SW, it should be ON.
- 3. If not, check point No 2 by replacing DIP Card with any other healthy DIP Card on both control units one after the other.
- 4. If still problem persists check the DIP wiring.

# 2.580 DIP22 (EBL3 TL SRFB) inconsistent with other CCC

Fault Code: 13063	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

# 2.581 DIP23 (VCD2/LOCAL EB1 SRFB) inconsistent with other CCC

Fault Code:	Schematic:
13064	SCHEMATIC DIAGRAM FOR MAE675U ED 1348
	for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring

#### 2.582 DIP24 (LMP\_TST\_D\_SW) inconsistent with other CCC

Fault Code: 13065	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-2

Check:

- 1. Check DIP24 LED on DIP card in both control units by pressing LAMP TEST SW, it shall be ON.
- 2. If not, check DIP24 LED by replacing DIP card with any other healthy DIP card on both control units one after the other, it shall be ON.
- 3. If still problem persists, check the DIP wiring.

# 2.583 DIP25 (FLT\_RST\_SW) inconsistent with other CCC

Fault Code: 13066	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Ensure Fault Reset SW is functioning properly.
- 2. Check DIP25 LED status on both control units by pressing Fault Reset SW, both shall be ON.
- 3. If not, check point no:2 by replacing DIP card with any other healthy DIP card one after one in both control units.
- 4. If still problem persists, check the DIP wiring.

#### 2.584 DIP26 (HDLT\_SW) inconsistent with other CCC

Fault Code: 13067	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location: DRIVER DESK, DTC -CRW	Functional group- 10 Sub Functional group-3
Check:	

- 1. Ensure HL Main SW is functioning properly.
- 2. Check DIP26 LED on DIP card in both control units by keeping HL MAIN SW in BR position, it shall be ON.
- 3. Check DIP26 LED on DIP card on both control units by keeping HL MAIN SW in DIM position, it shall be ON.
- 4. Check DIP26 LED on DIP card on both control units by keeping HL MAIN SW in OFF position, it shall be OFF.
- 5. If not, check points 2,3 & 4 by replacing DIP card with any other healthy DIP card one after one in both control units.
- 6. If still problem persists, check the DIP wiring.

#### 2.585 DIP27 (HORN SW) inconsistent with other CCC

13068	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 2
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Ensure HORN High Tone & HORN Low Tone switches are functioning properly.
- 2. Check DIP27 LED Status on DIP card in both control units by pressing HORN High Tone SW on driver side panel of DD, it shall be ON.
- 3. Check DIP27 LED status on DIP card in both control units by pressing HORN LOW Tone SW on driver side panel of DD, it shall be ON.
- 4. Check DIP27 LED status on DIP card in both control units by pressing HORN High Tone SW on Asst Driver Side panel of DD, it shall be ON.
- 5. Check DIP27 LED status on DIP card in both control units by pressing HORN LOW Tone SW on Asst Driver Side panel of DD, it shall be ON.
- 6. If not, check points 2 to 5 by replacing DIP card in with any other healthy DIP card in both control units.
- 7. If still problem persists, check the DIP wiring.

#### 2.586 DIP28 (LIGHT\_100%\_SW) inconsistent with other CCC

Fault Code: 13069	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 10
DRIVER DESK, DTC -CRW	Sub Functional group-1

Check:

- 1. Ensure Passenger Lights control SW is functioning properly.
- 2. Check DIP28 LED Status on DIP Card in both Control units by moving Passenger Lights Control SW to 100% Lights ON Side, it shall be ON.
- 3. If not, check point No:2 by replacing DIP card with any other healthy card in both control units one after one.
- 4. If still problem persists, check the DIP wiring.

# 2.587 DIP29 (LIGHT\_50%\_SW) inconsistent with other CCC

Fault Code: 13070	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 10
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Ensure Passenger Lights control SW is functioning properly.
- 2. Check DIP29 LED Status on DIP Card in both Control units by moving Passenger Lights Control SW to 50% Lights ON Side, it should be ON.
- 3. If not, check point No:2 by replacing DIP card with any other healthy card in both control units one after one.
- 4. If still problem persists, check the DIP wiring.

#### 2.588 DIP30 (ZVAR\_FB) inconsistent with other CCC

Fault Code: 13071	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 5 Sub Functional group-1
DTC -CRW	Sub Functional group-1
<ol> <li>Check:</li> <li>Ensure DCU TL supply is ON.</li> <li>Ensure DO24 is ON.</li> <li>Check DIP30 LED status on DIP ca</li> <li>If not, check the DIP30 LED status both control units one after the othe</li> <li>If still problem persists, check the D</li> </ol>	by replacing DIP card with any other healthy card in r.

# 2.589 DIP31 (V>5KMPH FB) inconsistent with other CCC

13072	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 5 Sub Functional group-1

- 1. Ensure that all the MCBs are ON.
- 2. Ensure DO25 is ON.
- 3. Check DIP31 LED status on DIP card in both control units shall be ON.
- 4. If not, check the DIP31 LED status by replacing DIP card with any other healthy card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.590 DIP32 (CAB\_OCC\_SEL\_SW) inconsistent with other CCC

Fault Code: 13073	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DTC -CRW	Sub Functional group-1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP32 LED status on DIP card on both control units by keeping CAB Selector SW at LPT position, it shall be OFF.
- 3. Check DIP32 LED status on DIP card on both control units by keeping CAB Selector SW at HPT position, it should be ON.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

# 2.591 DIP33 (BAL\_ISO\_SW) inconsistent with other CCC

Fault Code: 13074	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348
	for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-3

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP33 LED status on DIP card on both control units by keeping BAL ISO SW at AUTO position, it shall be OFF.
- 3. Check DIP33 LED status on DIP card on both control units by keeping BAL ISO SW at ON position, it shall be ON.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

# 2.592 DIP34 (EBL\_ISO\_SW) inconsistent with other CCC

Fault Code: 13075	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2
BYPASS SW at AUTO position, it sh 3. Check DIP34 LED status on DIP Ca BYPASS SW at ON position, it shou	rd on both control units by keeping EMER BRAKE ld be ON. DIP card with any other healthy DIP card in both

# 2.593 DIP35 (EOL\_ISO\_SW) inconsistent with other CCC

Fault Code: 13076	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-1

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP35 LED status on DIP card on both control units by keeping EMER OFF BYPASS SW at AUTO position, it shall be OFF.
- 3. Check DIP35 LED status on DIP Card on both control units by keeping EMER OFF BYPASS SW at ON position, it shall be ON.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.594 DIP36 (AUTH\_ACTIVE\_SW) inconsistent with other CCC

Fault Code: 13077	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DTC -CRW	Sub Functional group-1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP36 LED status on DIP card on both control units by keeping DRIVER AUTHENTICATION SW at AUTO position, it shall be OFF.
- 3. Check DIP36 LED status on DIP card on both control units by keeping DRIVER AUTHENTICATION SW at ON position, it shall be ON.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

# 2.595 DIP37 (SINGLE\_UNIT\_SW) inconsistent with other CCC

13078	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-1

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP37 LED status on DIP card on both control units by keeping SINGLE UNIT OPERATION SW at AUTO position, it shall be OFF.
- 3. Check DIP37 LED status on DIP card on both control units by keeping SINGLE UNIT OPERATION SW at ON position, it shall be ON.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.596 DIP38 (UV\_BYP\_SW) inconsistent with other CCC

Fault Code: 13079	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 8
DTC -CRW	Sub Functional group-1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP38 LED status on DIP card on both control units by keeping UV ISO SW at AUTO position, it shall be OFF.
- 3. Check DIP38 LED status on DIP Card on both control units by keeping UV ISO SW at ON position, it shall be ON.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.597 DIP39 (MIN\_1\_BRK\_TL) inconsistent with other CCC

Fault Code: 13080	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-3

- 1. Check DIP39 LED status on DIP card on both control units when MIN1\_BRAKE\_APPLIED relay is in energised condition, it shall be ON
- 2. Check DIP39 LED status on DIP card on both control units when MIN1\_BRAKE\_APPLIED relay is in de-energised condition, it shall be OFF.
- 3. If not, check point 1&2, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 4. If still problem persists, check the DIP wiring.

# 2.598 DIP40 (MIN\_1\_PB\_TL) inconsistent with other CCC

Fault Code: 13081	Schematic: SCHEMATIC DIAGRAM FOR MAE675U, ED 1348 for DTC
Location:	Functional group- 7
DTC -CRW	Sub Functional group-2

Check:

- 1. Check DIP40 LED status on DIP card on both control units when PB APPLIED RELAY is in energised condition (in any Coach), it shall be ON.
- 2. Check DIP40 LED status on DIP card on both control units when PB APPLIED RELAY is in de-energised condition (in all coaches), it shall be OFF.
- 3. If not, check point 1&2, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 4. If still problem persists, check the DIP wiring.

#### 2.599 DIP41 (EMY BRK SW D) inconsistent with other CCC

Fault Code: 13082	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

#### 2.600 DIP42 (EMY BRK SW G) inconsistent with other CCC

Fault Code: 13083	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location: DTC -CRW	Functional group- 9 Sub Functional group-2
<ul> <li>Check:</li> <li>1. Check corresponding DIP in both control units it should be same for both control units.</li> <li>2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.</li> <li>3. If still problem persists check the wiring.</li> </ul>	

# 2.601 DIP43 (EMER VALVE G) inconsistent with other CCC

Fault Code: 13084	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

#### 2.602 DIP44 (LOC\_EB1\_HRFB) inconsistent with other CCC

Fault Code: 13085	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP44 LED status on DIP card in both control units, When Local EB1 Realy in energised condition, it shall be ON.
- 3. Check DIP44 LED status on DIP card in both control units, When Local EB1 Realy in deenergised condition, it shall be OFF.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.603 DIP45 (LOC\_EB2\_HRFB) inconsistent with other CCC

13086	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP45 LED status on DIP card in both control units, when Local EB2 realy in energised condition, it shall be ON.
- 3. Check DIP45 LED status on DIP card in both control units, When Local EB2 Realy in deenergised condition, it should be OFF
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.604 DIP46 (PANTO MODE TL1) inconsistent with other CCC

Fault Code: 13087	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED1348 for DTC
Location:	Functional group- 1
DRIVER DESK, DTC -CRW	Sub Functional group-1

Check:

- 1. Ensure that all the MCBs should be ON.
- 2. Check DIP46 LED status on DIP card in both control units by keeping PANTO MODE SW in 1&4 position, it shall be ON.
- 3. Check DIP46 LED status on DIP card in both control units by keeping PANTO MODE SW in 2&3 position, it shall be OFF.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.605 DIP47 (PANTO MODE TL2) inconsistent with other CCC

Fault Code:	Schematic:
13088	SCHEMATIC DIAGRAM FOR MAE675UV2, ED1348
	for DTC
Location:	Functional group- 1
DRIVER DESK, DTC -CRW	Sub Functional group-1

- 1. Ensure that all the MCBs are ON.
- 2. Check DIP47 LED status on DIP card in both control units by keeping PANTO MODE SW in 2&3 position, it shall be ON.
- 3. Check DIP47 LED status on DIP card in both control units by keeping PANTO MODE SW in 1&4 position, it shall be OFF.
- 4. If not, check point 2&3, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.606 DIP48 (START ALL MAC) inconsistent with other CCC

Fault Code: 13089	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 7
DTC -CRW	Sub Functional group-1

Check:

- 1. Ensure that all the MCBs shall be ON.
- 2. Check DIP48 LED status on DIP card in both control units by pressing START ALL MAC SW, it shall be ON.
- 3. If not, check the DIP 48 LED status by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 4. If still problem persists, check the DIP wiring.

#### 2.607 DIP49 (D02\_IN) inconsistent with other CCC

Fault Code: 13090	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group - 7
DRIVER DESK, DTC -CRW	Sub Functional group - 3

- 1. Ensure that all the MCBS are ON.
- 2. Check DIP49 LED status on DIP card in both control units when D02 valve in closed condition, it shall be ON.
- 3. Check DIP49 LED status on DIP card of both control units when D02 valve in open condition, it shall be OFF.
- 4. If not check points 2 & 3 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

# 2.608 DIP50 (CO\_LPT\_HRFB) inconsistent with other CCC

Fault Code: 13091	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group - 2
DTC -CRW	Sub Functional group - 1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Ensure all CAB OCCUPY(M) relays are working OK.
- 3. Check the DIP50 LED status on DIP card in both control units when all CAB OCCUPY(M) relays are energized condition, it should be ON.
- 4. Check the DIP50 LED status on DIP card in both control units when all CAB OCCUPY(M) relays are de-energized condition, it should be OFF.
- 5. If not, check point 3&4, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 6. If still problem persists, check the DIP wiring.

# 2.609 DIP51 (CO\_HPT\_HRFB) inconsistent with other CCC

13092	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group - 2 Sub Functional group - 1

- 1. Ensure that all the MCBs are ON.
- 2. Ensure all CAB OCCUPY(R) relays are working OK.
- 3. Check the DIP51 LED status on DIP card in both control units when all CAB OCCUPY(R) relays are energized condition, it shall be ON.
- 4. Check the DIP51 LED status on DIP card in both control units when all CAB OCCUPY(R) relays are de-energized condition, it shall be OFF.
- 5. If not, check point 3&4, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 6. If still problem persists, check the DIP wiring.

# 2.610 DIP52 (ACO\_LPT\_HRFB) inconsistent with other CCC

Fault Code: 13093	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2,ED 1348 for DTC
Location:	Functional group - 2
DTC -CRW	Sub Functional group - 1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Ensure ANOTHER CAB OCCUPY relay is working OK.
- 3. Check the DIP52 LED status on DIP card in both control units when ANOTHER CAB OCCUPY relay is in energized condition, it should be ON.
- 4. Check the DIP52 LED status on DIP card in both control units when ANOTHER CAB OCCUPY relay is in de-energized condition, it should be OFF.
- 5. If not, check point 3&4, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 6. If still problem persists, check the DIP wiring.

# 2.611 DIP53 (ACO\_HPT\_HRFB) inconsistent with other CCC

Fault Code:	Schematic:
13094	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group - 2
DTC -CRW	Sub Functional group - 1

- 1. Ensure that all the MCBs are ON.
- 2. Ensure ANOTHER CAB OCCUPY(R) relay is working OK.
- 3. Check the DIP53 LED status on DIP card in both control units when ANOTHER CAB OCCUPY(R) relay is in energized condition, it shall be ON.
- 4. Check the DIP53 LED status on DIP card in both control units when ANOTHER CAB OCCUPY(R) relay is in de-energized condition, it shall be OFF.
- 5. If not, check point 3&4, by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 6. If still problem persists, check the DIP wiring.

# 2.612 DIP54 (COLPT\_ISO\_SRFB) inconsistent with other CCC

Fault Code: 13095	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group - 2
DTC -CRW	Sub Functional group - 1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Ensure CAB OCCUPY1 LOOP ISO relay is working OK.
- 3. Check DIP54 LED status on DIP card in both control units when DO21 is ON, it should be ON
- 4. Check DIP54 LED status on DIP card in both control units when DO21 is OFF, it should be OFF
- 5. If not check points 3&4 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 6. If still problem persists, check the DIP wiring.

# 2.613 DIP55 (COHPT\_ISO\_SRFB) inconsistent with other CCC

13096	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group - 2 Sub Functional group - 1

- 1. Ensure that all the MCBs are ON.
- 2. Ensure CAB OCCUPY2 LOOP ISO relay is working OK.
- 3. Check DIP55 LED status on DIP card in both control units when DO22 is ON, it shall be ON.
- 4. Check DIP55 LED status on DIP card in both control units when DO22 is OFF, it shall be OFF.
- 5. If not check points 3&4 by replacing DIP card with any other healthy DIP card in both control unit one after the other.
- 6. If still problem persists, check the DIP wiring.

# 2.614 DIP56 (UV\_RLY\_SRFB) inconsistent with other CCC

Fault Code: 13097	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group - 8
DTC -CRW	Sub Functional group - 1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Ensure UV RELAY is working OK.
- 3. Check DIP56 LED status on DIP card in both control units when DO13 is ON, it should be ON
- 4. Check DIP56 LED status on DIP card in both control units when DO13 is OFF, it should be OFF
- 5. If not check points 3&4 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 6. If still problem persists, check the DIP wiring.

# 2.615 DIP57 (DOOR\_OPEN\_L\_HRFB) inconsistent with other CCC

	Schematic:
13098	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group - 5
DRIVER DESK, DTC -CRW	Sub Functional group - 1

- 1. Ensure that all the MCBs are ON.
- 2. Ensure Door Open Left switches and relay are working OK.
- 3. Check DIP57 LED status on DIP card in both control units when both DOOR OPEN LEFT switches are pressed, it shall be ON.
- 4. If not check point 3 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

# 2.616 DIP58 (DOOR\_OPEN\_R\_HRFB) inconsistent with other CCC

13099	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group - 5 Sub Functional group - 1

Check:

- 1. Ensure that all the MCBs shall be ON.
- 2. Ensure Door Open Right switches & relay are working OK.
- 3. Check DIP58 LED status on DIP card in both control units when both DOOR OPEN Right switches are pressed, it shall be ON.
- 4. If not check point 3 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.617 DIP59 (DCL\_HRFB) inconsistent with other CCC

13100	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 5 Sub Functional group-1

- 1. Ensure DCL TL MCB shall be in ON condition
- 2. Ensure DCLR relay functioning properly.
- 3. Check DIP59 LED on DIP card in both control units by pressing DOOR CLOSE SW, it shall be ON.
- 4. If not, check the DIP59 LED on DIP card in both control units by replacing DIP card with any other healthy card one after one, it shall ON.
- 5. If still problem persists, check the DIP wiring.

# 2.618 DIP60 (DWB\_HRFB) inconsistent with other CCC

Fault Code: 13101	Schematic: SCHEMATIC DIAGRAM FOR MAE675U, ED 1348 for DTC
Location:	Functional group- 5
DTC -CRW	Sub Functional group-1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Ensure Door Warning BELL Relay is funcitoning properly.
- 3. Check DIP60 LED status on DIP card in both control units by pressing DOOR Enable SW, it shall be ON.
- 4. If not, check point 3 by replacing DIP card with any other healthy DIP card in both control units one afer one.
- 5. If still problem persists, check the DIP wiring.

#### 2.619 DIP61 (ADCR BYPASS SW) inconsistent with other CCC

13102	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group - 5
DRIVER DESK, DTC -CRW	Sub Functional group - 1

- 1. Ensure that all the MCBs ON.
- 2. Ensure Emergency Valve Asst Driver side is working properly.
- 3. Check DIP61 LED status on DIP card on both control units by keeping ADCR Bypass SW in Bypass position, it shall be ON.
- 4. If not, check point 3 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

# 2.620 DIP62 (ALL\_DR\_CLSED\_HRFB) inconsistent with other CCC

Fault Code:	Schematic:
13103	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group - 5
DRIVER DESK, DTC -CRW	Sub Functional group - 1

Check:

- 1. Ensure that all the MCBs are ON.
- 2. Ensure ADCR relay is working OK.
- 3. Check DIP62 LED status on DIP card in both control units when ADCR relay in energized condition, it shall be ON.
- 4. Check DIP62 LED status on DIP card in both control units when ADCR relay in de-energized condition, it shall be OFF.
- 5. If not check points 3 & 4 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 6. If still problem persists, check the DIP wiring.

#### 2.621 DIP63 (APC NORMAL) inconsistent with other CCC

Fault Code: 13104	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring

# 2.622 DIP64 (APC OPERATE) inconsistent with other CCC

Fault Code: 13105	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 6 Sub Functional group-1
Check:	

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring

# 2.623 DIP65 (RMPU ON\_SW) inconsistent with other CCC

13106	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Looution.	Functional group - 11 Sub Functional group - 1

- 1. Ensure that all MCBs are ON.
- 2. Ensure RMPU Control SW is working OK.
- 3. Check DIP65 LED status on DIP Card on both control units by moving RMPU CONTROL switch to ON position, it shall be ON.
- 4. If not check point 3 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

#### 2.624 DIP66 (RMPU OFF\_SW) inconsistent with other CCC

Fault Code: 13107	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DRIVER DESK, DTC -CRW	Functional group – 11 Sub Functional group – 1
Check: 1. Ensure that all MCBs are ON. 2. Ensure RMPU Control SW is workir	ng OK.

- 3. Check DIP66 LED status on DIP Card on both control units by moving RMPU CONTROL Switch to OFF position, it shall be ON
- 4. If not check point 3 by replacing DIP card with any other healthy DIP card in both control units one after the other.
- 5. If still problem persists, check the DIP wiring.

# 2.625 DIP67 (FLASHER\_SRFB) inconsistent with other CCC

Fault Code: 13108	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 10
DTC -CRW	Sub Functional group-3

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring .

# 2.626 DIP68 (FLASHER SW) inconsistent with other CCC

Fault Code: 13109	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location: DTC -CRW	Functional group- 10 Sub Functional group-3
Check: 1. Ensure proper functionality of Flasher SW in driver side and Asst Driver side Panels on driver desk.	

- 2. Ensure functionality of Flasher Relay in CRW panel.
- 3. Check DIP68 LED on Dip Card in both control units by pressing Flasher SW in Driver side or Asst Driver Side, it should be ON.
- 4. Check DIP68 LED on DIP Card on both control Units when DO24 LED is ON on DOP Card, it should be ON.
- 5. If not, check point no 2 by replacing DIP Card with any other healthy DIP card one after one in both control Units.
- 6. If still problem persists, check the DIP wiring.

# 2.627 DIP69 (VCD2/LOCAL EB2 SRFB) inconsistent with other CCC

Fault Code:	Schematic:
13110	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

## 2.628 DIP70 (EB BYPASS SW) inconsistent with other CCC

	Schematic:
13111	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1
<ul> <li>Check:</li> <li>1. Check corresponding DIP in both control units it should be same for both control units.</li> <li>2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.</li> </ul>	
3. If still problem persists check the wiring.	

# 2.629 DIP71 (PB APPLY ENABLE) inconsistent with other CCC

13112	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 7
DTC -CRW	Sub Functional group – 2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

## 2.630 DIP72 (MR PRESS\_IN) inconsistent with other CCC

Fault Code:	Schematic:
13113	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
Location:	for DTC, ED 1351&1352 for NDTC1 & NDTC2
DTC ,NDTC	Functional group- 7
Under frame	Sub Functional group-1

#### 2.631 DIP74 (DBC MCB) inconsistent with other CCC

13115	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2 Sub Functional group-2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

## 2.632 DIP75 (DTC MCB) inconsistent with other CCC

EMATIC DIAGRAM FOR MAE675UV2, ED 1348 ITC	
ctional group- 6 Functional group-1	
<ol> <li>Check:</li> <li>Check corresponding DIP in both control units it should be same for both control units.</li> <li>If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.</li> <li>If still problem persists check the wiring.</li> </ol>	

#### 2.633 DIP76 (PB TL MCB) inconsistent with other CCC

Fault Code: 13117	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 7
DTC -CRW	Sub Functional group – 2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

# 2.634 DIP77 (CABOCC1/2\_EOL\_EBL\_MCB) inconsistent with other CCC

Fault Code:	Schematic:
13118	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 9
DTC -CRW	Sub Functional group-2
	control units it should be same for both control units. card with any other healthy DIP card one after one in wiring.

#### 2.635 DIP78 (BATCONT\_RMPU\_REC\_PANTO\_MCB) inconsistent with other CCC

ault Code:	Schematic:
13119	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
ocation:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

## 2.636 DIP79 (EXT LIGHTS MCB (FLASHER, HEAD LGT, MARKER)) inconsistent with other CCC

Fault Code: 13120	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 10
DTC -CRW	Sub Functional group-3
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

## 2.637 DIP80 (TCAS EB2 FB) inconsistent with other CCC

Fault Code: 13121	Schematic: NA
Location: NA	
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

# 2.638 DIP81 (TCAS SB FB) inconsistent with other CCC

Fault Code: 13122	Schematic: NA
Location: NA	
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

# 2.639 DIP82 (TCAS ISO SW) inconsistent with other CCC

Fault Code: 13123	Schematic: NA
Location: NA	
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

## 2.640 DIP83 (ATO SW) inconsistent with other CCC

Fault Code: 13124	Schematic: NA
Location:	
NA	
	n control units it should be same for both control units. card with any other healthy DIP card one after one in wiring.

# 2.641 DIP85 (EBL1\_HRFB) inconsistent with other CCC

Fault Code: 13126	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

## 2.642 DIP86 (EBL2\_HRFB) inconsistent with other CCC

	Schematic:
13127	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2
<ul> <li>Check:</li> <li>1. Check corresponding DIP in both control units it should be same for both control units.</li> <li>2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.</li> <li>3. If still problem persists check the wiring.</li> </ul>	

## 2.643 DIP87 (EBL3\_HRFB) inconsistent with other CCC

Fault Code: 13128	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

#### 2.644 DIP88 (TRACTION LOOP1 SRFB) inconsistent with other CCC

Fault Code: 13129	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 9 Sub Functional group – 2
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

#### 2.645 DIP89 (TRACTION LOOP2 SRFB) inconsistent with other CCC

Fault Code:	Schematic:
13130	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

# 2.646 DIP90 (TRACTION LOOP SEL SW) inconsistent with other CCC

Fault Code: 13131	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

#### 2.647 DIP91 (MODE SEL SW) inconsistent with other CCC

Fault Code: 13132	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 9 Sub Functional group – 2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

## 2.648 DIP92 (TE/BE 33%) inconsistent with other CCC

Fault Code: 13133	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

#### 2.649 DIP93 (TE/BE 66%) inconsistent with other CCC

13134	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

## 2.650 DIP94 (TE/BE 100%) inconsistent with other CCC

	Schematic:
13135	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

#### 2.651 DIP95 (15KMPH LIMIT) inconsistent with other CCC

13136	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2

- 1. Check corresponding DIP in both control units it should be same for both control units.
- 2. If not ok check by replacing DIP card with any other healthy DIP card one after one in both control units.
- 3. If still problem persists check the wiring.

#### 2.652 DIP96 (LAST CAB OCCUPY) inconsistent with other CCC

	Schematic:
13137	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DTC -CRW	Sub Functional group – 2
Check:	
	control units it should be same for both control units. ard with any other healthy DIP card one after one in wiring.

#### 2.653 CCCR - MCH FGU Frequency Failed

Fault Code: 13154	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 2
DRIVER DESK	Sub Functional group – 2

- 1. Check the FGU unit through DDU frquency test mode.
- 2. Check all the connectors on FGU and CCUR are properly inserted or not.
- 3. Check the frequency in DDU by replacing with healthy AFIP card.
- 4. If still problem persists, check the wiring.

## 2.654 CCCR - DIP Card 1 Missed in CCU MB

13155	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 6
Check: 1. Check whether DIP card is there in t 2. If yes, check whether DIP card is pro 3. If yes, replace the card another heal replace the card with new one.	•

Note : This is not a severe problem, if there is no functional problem(All the dips are responding properly).

#### 2.655 CCCR - DIP Card 2 Missed in CCU MB

Fault Code: 13156	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 6

Check:

- 1. Check whether DIP card is there in the specified slot or not.
- 2. If yes, check whether DIP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem(All the dips are responding properly).

## 2.656 CCCR - DIP Card 3 Missed in CCU MB

13157	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 6
Check: 1. Check whether DIP card is there in t 2. If yes, check whether DIP card is pro 3. If yes, replace the card another heal replace the card with new one.	

Note : This is not a severe problem, if there is no functional problem(All the dips are responding properly).

#### 2.657 CCCR - DIP Card 4 Missed in CCU MB

13158	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 6

Check:

- 1. Check whether DIP card is there in the specified slot or not.
- 2. If yes, check whether DIP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem (All the dips are responding properly).

## 2.658 CCCR - DOP Card 1 Missed in CCU MB

Fault Code:	<b>Schematic:</b>
13159	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
Location:	for DTC
DTC -CRW	Functional group – 6
Check: 1. Check whether DOP card is there in 2. If yes, check whether DOP card is p	•

3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem (All the digital outputs are driving properly).

#### 2.659 CCCR - DOP Card 2 Missed in CCU MB

13160	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 6

Check:

- 1. Check whether DOP card is there in the specified slot or not.
- 2. If yes, check whether DOP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

Note : This is not a severe problem, if there is no functional problem (All the digital outputs are driving properly).

## 2.660 CCCR - DOP Card 3 Missed in CCU MB

13161	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 6
Check: 1. Check whether DOP card is there in the specified slot or not. 2. If yes, check whether DOP card is properly inserted or not. 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes,	

3. If yes, replace the card another healthy card and check the fault is disabled or not. If y replace the card with new one.

Note : This is not a severe problem, if there is no functional problem (All the digital outputs are driving properly).

#### 2.661 CCCR - MAIPFIP Card Missed in CCU MB

13162	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 6

- 1. Check whether AFIP card is there in the specified slot or not.
- 2. If yes, check whether AFIP card is properly inserted or not.
- 3. If yes, replace the card another healthy card and check the fault is disabled or not. If yes, replace the card with new one.

## 2.662 CCCR - Speed Recorder Communication faulty Recovered

Fault Code: 13163	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DRIVER DESK, DTC -CRW	Functional group – 13 Sub Functional group – 4
Check: 1. Check the COMM connector at spee 2. Check the COMM connector at CCL 3. Check the cable continuity for correc 4. verify the communication once by re with new one.	IR is properly inserted or not.

#### 2.663 Min 1 PB Applied Train Line Faulty

Fault Code: 13184	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 7
DTC -CRW	Sub Functional group – 2

- 1. Check whether any PB Applied relay in any coach is energized. And PB iso SW is in OFF position.
- 2. If yes, check DIP21 LED status LED on CCU & CCUR control units, it shall be ON. If all parking brake are released then CCU/CCUR DIP 21 shall be low.
- 3. If not, replace the DIP card with any other healthy card in both control units one after the other.
- 4. If still problem persists, check the wiring.

#### 2.664 ADCR Mismatch With Door Status Acknowledge To Allow Traction

Fault Code: 13186	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 5
DTC -CRW	Sub Functional group – 1
<ul> <li>Check:</li> <li>1. Physically verify all doors are closed or not.</li> <li>2. If all the doors are in closed condition, check all LDSLR. LDSRR relay input status in corresponding control units on DDU, inputs shall be high.</li> <li>3. If any relay input is low, in particular panel check the voltage across contactor coil. It shall be high &amp; ensure relay/ contactor is energized.</li> <li>4. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.</li> <li>5. If supply itself is not available, then check the doors wiring.</li> <li>6. If all LDSLR. LDSRR wiring are ok, check ADCR status in DTC, input shall be high</li> <li>7. If relay input is low, check the relay energisation status.</li> <li>8. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.</li> <li>9. If relay/contactor is not energized, check by replacing with any other working one. It shall be energized.</li> <li>10. If supply itself is not available, then check the door proving loop status wiring.</li> <li>11. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.</li> <li>12. If not, check by replacing with any other healthy DIP card and status shall be high.</li> </ul>	

## 2.665 DOR RLY FB FAIL TO PICKUP

	Schematic:
13187	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 5
DRIVER DESK, DTC -CRW	Sub Functional group – 1

- 1. Ensure Door Open Right switches, Door Close switch are working properly.
- 2. Check the voltage across DORR Relay by pressing both DOOR OPEN Right switches, it shall be 110 V.
- 3. If yes, replace the relay with any other working relay and check point 2.
- 4. If voltage does not come, check the wiring.
- 5. If still problem persists check the relay/contactor feedback input on corresponding DIP card. It shall be high while pressing both DOOR OPEN Right switches.
- 6. If not, check by replacing with any other healthy DIP card and status shall be high, while pressing both DOOR OPEN Right switches.
- 7. If still problem persists, check the DIP wiring.

## 2.666 DOR RLY FB FAIL TO DROPOUT

13188	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group – 5 Sub Functional group – 1

Check:

- 1. Ensure Door Open Right switches, Door Close switch are working properly.
- 2. Check the voltage across DORR Relay by pressing Door Close SW, it shall be 0 V.
- 3. If yes, replace the relay with any other working relay and check point 2.
- 4. If voltage is more than 0V, check the wiring.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status should be low.
- 7. If still problem persists, check the DIP wiring.

#### 2.667 DOL RLY FB FAIL TO PICKUP

Fault Code:	Schematic:
13189	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 5
DRIVER DESK, DTC -CRW	Sub Functional group – 1

- 1. Ensure Door Open Left switches, Door Close switch are working properly.
- 2. Check the voltage across DOLR Relay by pressing both DOOR OPEN Left switches, it shall be 110 V.
- 3. If yes, Replace the Relay with any other working relay and check point 2.
- 4. If voltage does not come, check the wiring.
- 5. If still problem persists check the relay/contactor feedback input on corresponding DIP card. It shall be high, while pressing both DOOR OPEN Left switches
- 6. If not, check by replacing with any other healthy DIP card and status shall be high while pressing both DOOR OPEN Left switches.
- 7. If still problem persists, check the DIP wiring.

## 2.668 DOL RLY FB FAIL TO DROPOUT

Fault Code: 13190	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 5
DRIVER DESK, DTC -CRW	Sub Functional group – 1

Check:

- 1. Ensure Door Open Left switches, Door Close Switch are working properly.
- 2. Check the voltage across DOLR Relay by pressing Door Close SW, it shall be 0V
- 3. If yes, replace the relay with any other working relay and check point 2.
- 4. If voltage is more than 0V, check the wiring.
- 5. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 6. If not, check by replacing with any other healthy DIP card and status shall be low.
- 7. If still problem persists, check the DIP wiring.

#### 2.669 ZVR RLY FB FAIL TO PICKUP

	Schematic:
13191	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 5
DTC -CRW	Sub Functional group – 1

- 1. Ensure DCU TL supply MCB shall be in ON state, ensure DOP driving status as high. If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It all be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

## 2.670 ZVR RLY FB FAIL TO DROPOUT

Fault Code:	Schematic:
13192	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 5
	Sub Functional group – 1
Check: 1. Ensure DCU TL supply MCB shall be in ON state, ensure DOP driving status as low, if driven by system, drop by using DOP test. 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.	

- If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.

## 2.671 VL5 RLY FB FAIL TO PICKUP

Fault Code: 13193		Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
		for DTC
Location:		Functional group – 5
DTC -CRW	Sub Functional group – 1	

- 1. Ensure DCU TL supply MCB should be in ON state, ensure DOP driving status as High. If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.

## 2.672 VL5 RLY FB FAIL TO DROPOUT

Fault Code: 13194	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group – 5 Sub Functional group – 1
<ol> <li>Check:         <ol> <li>Ensure DCU TL supply MCB shall be in ON state, ensure DOP driving status as low, if driven by system, drop by using DOP test.</li> <li>Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.</li> <li>If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be de-energized.</li> <li>If supply itself is available, then check the wiring from DOP TB to coil.</li> <li>If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.</li> <li>If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.</li> <li>If not, check by replacing with any other healthy DIP card and status shall be low.</li> </ol> </li> </ol>	

## 2.673 UV RLY FB FAIL TO PICKUP

	Schematic:
13195	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 8
DTC -CRW	Sub Functional group – 1

- 1. Ensure DTC supply MCB shall be in ON state, ensure DOP driving status as high. If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/ contactor is energized.
- 3. If relay/ contactor is not energized, check by replacing with any other working one. It shall be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

## 2.674 UV RLY FB FAIL TO DROPOUT

Fault Code: 13196	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 8
DTC -CRW	Sub Functional group – 1

Check:

- 1. Ensure DTC supply MCB should be in ON state, ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, it shall be low and ensure relay/ contactor is de-energized.
- 3. If relay/ contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/ contactor feedback input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

# 2.675 Compressor Running Too Long

	Schematic:
13197	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 7
DTC ,NDTC Under frame	Sub Functional group-1

- 1. Check the MR pressure (pressure is >7 bar)
- 2. If pressure is <6 bar check any MR leakage through the rake.
- 3. Check the pressure switch input feed back status it should be high when MR is >7 bar
- 4. If not, check by replacing a new DIP card
- 5. If still problem persist check the wiring

## 2.676 ADCR Relay Fail To Pickup

Fault Code: 13198	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 5
DTC-CRW	Sub Functional group – 1
	ndition,Ensure that all the doors are closed
<ol> <li>Check the voltage across contactor coil, It should be High &amp; ensure relay/contactor is energized.</li> <li>If relay/contactor is not energized, check by replacing with any other working one. It should be energized.</li> </ol>	
4. If supply itself is not available, then check the door proving loop status wiring.	
5. if still problem persist, check the DIP card LED status it should be HIGH.	
<ol><li>If still problem persist check the relay/contactor feed back Input on corresponding DIP card. It should be HIGH.</li></ol>	
7. If still problem persist, check the DIP card LED status by replacing a new working one & it should be	

- 7. If still problem persist, check the DIP card LED status by replacing a new working one & it should be HIGH.
- 8. Still problem persist check the DIP wiring.

# 2.677 ADCR Relay Fail To Dropout

Fault Code:	Schematic:
13199	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 5
DTC-CRW	Sub Functional group – 1

- 1. Ensure that DPL MCB is in ON condition, Ensure that atleast one door is opened.
- 2. Check the voltage across contactor coil, It should be LOW & ensure relay/contactor is Deenergized.
- 3. If relay/contactor is energized, check by replacing with any other working one. It should be Deenergized.
- 4. If supply itself is available, then check the door proving loop status wiring.
- 5. If still problem persist, check the DIP card LED status it should be LOW.
- 6. If still problem persist check the relay/contactor feed back Input on corresponding DIP card. It should be LOW.
- 7. If still problem persist, check the DIP card LED status by replacing a new working one & it should be LOW.
- 8. Still problem persist check the DIP wiring.

## 2.678 ADCR Relay Mismatch

Fault Code: 13200	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 5
DTC- CRW	Sub Functional group-1
<ul> <li>on DDU.Inputs should be high.</li> <li>3. If any relay input is low, in particular panel Chrelay/contactor is energized.</li> <li>4. If relay/contactor is not energized, check by respectively itself is not available, then check the 6. If all LDSLR, LDSRR wiring are OK. Check D 7. If any relay input is low, check the relay energing. Check the voltage across contactor coil. It should be the voltage across contactor coil. It should be the should be the should be the check the 10. If supply itself is not available, then check the 10. If supply itself is not available, then check the should be the should be</li></ul>	PR Left and DPR right Status in DMC. Inputs should be high iisation status. build be High & ensure relay/contactor is energized. eplacing with any other working one. It should be energized. e door proving loop status wiring. ctor feed back Input on corresponding DIP card. It should be high. Ithy DIP card and status should be high.

## 2.679 VCD Relay failed to Drop out.

	Schematic:
13201	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DRIVER DESK, DTC -CRW	Sub Functional group – 1

- 1.Ensure CCC Supply MCB is in ON condition VCD RELAY coil must be in dropped condition, Ensure DOP driving status as Low , If not dropped by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be low & ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de- energized, check by replacing with any other working one. It should be de-energized.
- 4.If supply itself is available, then check the wiring from DOP TB to coil.
- 5.If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in OFF condition.
- 6.If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be Low
- 7.If not, check by replacing with any other healthy DIP card and status should be low.
- 8. Still problem persists check the DIP wiring.

#### 2.680 VCD Relay failed to Pick up

13202	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location.	Functional group – 9 Sub Functional group – 1

Check:

- 1. Ensure CCC Supply MCB is in ON condition & VCD RELAY coil must be in pick up condition, Ensure DOP driving status as High, If not driven by system, drive by using DOP test
- 2. Check the voltage across contactor coil, It should be High & ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It should be in ON condition.
- 6. If still problem persists check the relay/contactor feed back Input on corresponding DIP card. It should be high.
- 7. If not, check by replacing with any other healthy DIP card and status should be high.
- 8. Still problem persists check the DIP wiring.

#### 2.681 Redundant MCH Failed

	Schematic:
13203	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DRIVER DESK, DTC -CRW	Sub Functional group – 2

- 1. Verify the TL inputs of drive, brake and coast from driver cab and compare the MCH inputs with TL inputs at CCU both should match.
- 2. If not check the wiring of TL inputs.
- 3. If still problem persists, check by replacing with any other healthy DIP card.

## 2.682 Flasher relay failed to pick up

Fault Code: 13204	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 10
DTC -CRW	Sub Functional group-3

Check:

- 1. Ensure Supply MCB is in ON condition Ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

#### 2.683 Flasher relay failed to drop out

ault Code:	Schematic:
13205	SCHEMATIC DIAGRAM FOR MAE675U ED 1348
	for DTC
ocation:	Functional group- 10
DTC -CRW	Sub Functional group-3

Check:

- 1. Ensure Supply MCB is in ON condition .ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.

8. Still if problem persists, check the DIP wiring.

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## 2.684 VCD local EB2 Relay failed to pick up

Fault Code: 13208	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 9
DRIVER DESK, DTC -CRW	Sub Functional group – 2

Check:

- 1. Ensure Supply MCB is in ON condition Ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

## 2.685 VCD local EB2 Relay failed to dropout

	Schematic:
13209	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DRIVER DESK, DTC -CRW	Sub Functional group – 2

Check:

- 1. Ensure Supply MCB is in ON condition .ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.

8. Still if problem persists, check the DIP wiring.

## 2.686 Door Closed relay failed to pick up

13210	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 5 Sub Functional group-1

Check:

- 1. Ensure Supply MCB is in ON condition Ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.
- 8. Still if problem persists, check the DIP wiring.

## 2.687 Door Closed relay failed to dropout

10011	Schematic: SCH투MATIC DIAGRAM FOR MAE675UV2, ED 1348
	Functional group- 5 Sub Functional group-1

Check:

- 1. Ensure Supply MCB is in ON condition .ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.

8. Still if problem persists. check the DIP wiring.

#### 2.688 Parking brake apply realy failed to dropout

13212	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 7
DTC -CRW	Sub Functional group – 2

Check:

- 1. Ensure Supply MCB is in ON condition .ensure DOP driving status as low, if driven by system, drop by using DOP test.
- 2. Check the voltage across contactor coil, It should be Low & ensure relay/contactor is de-energized.
- 3. If relay/contactor is not de-energized, check by replacing with any other working one. It shall be deenergized.
- 4. If supply itself is available, then check the wiring from DOP TB to coil.
- 5. If still problem persists, check DOP card LEDs status by replacing with any other healthy card. It shall be in OFF condition.
- 6. If still problem persists, check the relay/contactor feed back Input on corresponding DIP card. It shall be low.
- 7. If not, check by replacing with any other healthy DIP card and status shall be low.
- 8. Still if problem persists, check the DIP wiring.

# 2.689 Parking brake apply realy failed to pickup

	Schematic:
13213	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 7
DTC -CRW	Sub Functional group – 2

- 1. Ensure Supply MCB is in ON condition Ensure DOP driving status as High, If not driven by system, drive by using DOP test.
- 2. Check the voltage across contactor coil, it shall be high and ensure relay/contactor is energized.
- 3. If relay/contactor is not energized, check by replacing with any other working one. It should be energized.
- 4. If supply itself is not available, then check the wiring from DOP TB to coil.
- 5. If still problem persists check DOP card LEDs status by replacing with any other healthy card. It shall be in ON condition.
- 6. If still problem persists, check the relay/contactor feedback input on corresponding DIP card. It shall be high.
- 7. If not, check by replacing with any other healthy DIP card and status shall be high.

#### 2.690 D02 Valve Operated

Fault Code: 13237	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.691 Panto Up Command given by Motorman

Fault Code: 13312	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.692 VCB On Command given by Motorman

Fault Code: 13313	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.693 Neutral Section Mode Enabled

13314	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.694 BU1 Isolation Switch On

Fault Code: 13315	Schematic: NA
Location: NA	
Check: Informative message.	

### 2.695 BU2 Isolation Switch On

Fault Code: 13316	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.696 BU3 Isolation Switch On

Fault Code: 13317	Schematic: NA
Location: NA	
Check: Informative message.	

### 2.697 BU4 Isolation Switch On

Fault Code: 13318 Location:	Schematic: NA
NA	
Check: Informative message.	

## 2.698 BU5 Isolation Switch On

Fault Code: 13319	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.699 BU6 Isolation Switch On

Fault Code: 13320	Schematic: NA
Location: NA	
Check: Informative message.	

#### 2.700 RDM Mode Activated

Fault Code: 13321	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.701 Key Switch is ON in Cab

Fault Code: 13322	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.702 Cab is Occupied

Fault Code: 13323	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.703 Cruise Control Mode requested

Fault Code: 13324	Schematic: NA
Location: NA	
Check: Informative message.	

#### 2.704 EMY Off Switch Operated

Fault Code: 13325	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DRIVER DESK, DTC -CRW	Functional group – 9 Sub Functional group – 1
Check: 1. Check the EMY OFF Sw physically it should be in normal Position, if it is in Operated condition make it normal. 2. If problem still persist, check the wiring . 3. If wiring is OK, check the LEDs of corresponding channel on DIP card. If not matching,	

3. If wiring is OK, check the LEDs of corresponding channel on DIP card. If not matching, change the DIP card.

#### 2.705 EMR OFF bypass switch activated

13326	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 9
DRIVER DESK, DTC -CRW	Sub Functional group – 1

- 1. Check the EOL ISO Sw physically it should be in normal mode, if it is in ISO condition make it normal.
- 2. If problem still persist, check the wiring .
- 3. If wiring is OK, check the LEDs of corresponding channel on DIP card. If not matching, change the DIP card.

## 2.706 Neutral section activated by APC

Fault Code: 13327 Location: NA	Schematic: NA
Check: Informative message.	

#### 2.707 EBL Bypass Switch Activated

	Schematic:
13328	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group – 9
DRIVER DESK, DTC -CRW	Sub Functional group – 2

- 1. Check the EBL ISO Sw physically it should be in normal mode, if it is in ISO condition make it normal.
- 2. If problem still persist, check the wiring .
- 3. If wiring is OK, check the LEDs of corresponding channel on DIP card. If not matching, change the DIP card.

# 2.708 Reverse Driving Direction Selected

Fault Code: 13329	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.709 EMY Brake Triggered Due to VCD Time out

Fault Code: 13330	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.710 EMY Brake Triggered Due To MCH is in EMY Position

Fault Code: 13331	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.711 100% Lights Command Activated

Fault Code: 13332	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.712 50% Lights Command Activated

Fault Code: 13333	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.713 Entered into Roof isolator control settings

Fault Code: 13334	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.714 Parking Brake Apply Command Activated

Fault Code: 13335	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.715 Parking Brake Release Command Activated

Fault Code: 13336	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.716 BAL Isolation Sw Operated in DTC

Fault Code: 13337	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group – 9
DRIVER DESK, DTC -CRW	Sub Functional group – 3
Check:	should be in normal model, if it is in ISO condition
<ol> <li>Check the BAL ISO Sw physically it should be in normal mode, if it is in ISO condition make it normal.</li> <li>If problem still persist, check the wiring .</li> </ol>	
<ol><li>If wiring is OK, check the LEDs of corresponding channel on DIP card. If not matching, change the DIP card.</li></ol>	

# 2.717 Cruise Control Mode Exited - Control Faulty

Fault Code: 13339	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.718 ICS Bypass Switch is On, ICS Logic Bypassed in Cab Occupied Loop

Fault Code: 13344	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.719 Emy Brake Bypass Switch Operated

13345	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.720 TPWS Isolation Switch is On - Cab2

13346	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.721 CCCM - Power On

Fault Code: 13347	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.722 EOL CB Tripped

Fault Code: 13348	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1
2. If still problem persist, check the wir	sponding channel on DIP card. If not matching,

## 2.723 Panto VCB CB Tripped

	Schematic:
13349	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persist, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the Aux Block of corresponding MCB.

## 2.724 BAL CB Tripped

Fault Code: 13350	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 6 Sub Functional group-1
<ol> <li>If still problem persists, check the wi</li> <li>If wiring is OK, check LEDs of correst change DIP card.</li> </ol>	I condition the DIP status shall be high. ring. sponding channel on DIP card. If not matching, the aux. Block of corresponding MCB.

# 2.725 Single Unit Mode Activated

Fault Code: 13351	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.726 CCCM SB/APC/CAB LGT/SPOT LGT MCB Tripped

Fault Code: 13352	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 6 Sub Functional group-1
2. If still problem persist, check the wire	sponding channel on DIP card. If not matching,

# 2.727 CCCM BAL MCB Tripped

Fault Code: 13353	Schematic: NA
Location: NA	
2. If still problem persist, check the wire	sponding channel on DIP card. If not matching,

## 2.728 CCCM DCU TL/DPL MCB Tripped

Fault Code: 13354	Schematic: NA	
Location:		
NA		
Check:		
<ol> <li>Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.</li> <li>If still problem persist, check the wiring.</li> <li>If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.</li> </ol>		
4. If still problem persists, then replace	the Aux Block of corresponding MCB.	

#### 2.729 CCCM EBL BYP/EMY\_BRK MCB Tripped

13355	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persist, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

## 2.730 CCCM CABOCC1/2\_EOL\_EBL\_MCB Tripped

Fault Code: 13356	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 6 Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching,

# 2.731 CCCM BATCONT\_RMPU\_REC\_PANTO\_MCB Tripped

Fault Code:	Schematic:
13357	NA
Location: NA	
<ol> <li>Check:</li> <li>1. Ensure that CB is ON. If CB is in ON</li> <li>2. If still problem persist, check the wiri</li> <li>3. If wiring is OK, check LEDs of corres</li></ol>	ng.
change DIP card. <li>4. If still problem persists, then replace</li>	sponding channel on DIP card. If not matching,

## 2.732 CCCM EXT LIGHTS MCB (FLASHER, HEAD LGT, MARKER) Tripped

Fault Code: 13358	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1
<ol> <li>If still problem persists, check the will</li> <li>If wiring is OK, check LEDs of correst change DIP card.</li> </ol>	I condition the DIP status shall be high. ring. sponding channel on DIP card. If not matching, the aux. block of corresponding MCB.

## 2.733 PIS CB Tripped

Fault Code: 13359	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 12
DTC-CRW	Sub Functional group- 1

- 1. Ensure that CB should be ON. If CB is On condition the DIP status should be high.
- 2. If still problem persist check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching change the DIP card.
- 4. If still problem persist then replace the Aux Block of Corresponding MCB.

#### 2.734 Bn Under Voltage Detected

Fault Code:	Schematic:
13360	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	for DTC
Location:	Functional group- 8
DTC	Sub Functional group- 1
Check:	
Check the BN voltage if it is below 86 V, charge the rake with OHE or connect external battery charger to battery.	

#### 2.735 Bn Under Voltage is Isolated

13361	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC
	Functional group- 8 Sub Functional group- 1

- 1. Check the Battery protection Sw physically it should be in normal mode. if it is in isolation make it normal.
- 2. If problem still persist, check the wiring .
- 3. If wiring is OK, check the LEDs of corresponding channel on DIP card. If not matching, change the DIP card.

## 2.736 Entered Into RDM Test

Fault Code: 13371	Schematic: NA
Location: NA	
Check: Informative message.	

#### 2.737 CCCR DBC MCB Tripped

13377	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DTC-CRW	Sub Functional group-2

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

# 2.738 CCCR DTC MCB Tripped

Fault Code: 13378	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 6 Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching,

#### 2.739 CCCR PB TL MCB Tripped

chematic:
SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
or DTC
Functional group- 6
Sub Functional group-1
0 -

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

## 2.740 CCCR CABOCC1/2\_EOL\_EBL\_MCB Tripped

Fault Code: 13380	Schematic: NA
Location:	
NA	
Check:	
<ol> <li>Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.</li> <li>If still problem persist, check the wiring.</li> <li>If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.</li> </ol>	
4. If still problem persists, then replace	the Aux Block of corresponding MCB.

# 2.741 CCCR BATCONT\_RMPU\_REC\_PANTO\_MCB Tripped

Fault Code:	Schematic:
13381	NA
Location:	
NA	
Check:	
1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.	
<ol> <li>If still problem persist, check the wiring.</li> <li>If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.</li> </ol>	
4. If still problem persists, then replace the Aux Block of corresponding MCB.	

#### 2.742 CCCR EXT LIGHTS MCB (FLASHER,HEAD LGT, MARKER) Tripped

Fault Code: 13382	Schematic: NA
Location: NA	
2. If still problem persist, check the wir	sponding channel on DIP card. If not matching,

#### 2.743 Battery Control Bd CB Tripped

13383	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persist, then replace the aux. block of corresponding MCB.

#### 2.744 ADCR HW Bypass ON

Fault Code: 13384	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC
Location:	Functional group- 2
DTC	Sub Functional group- 2
Check: Informative message. ADCR Hard ware bypassed in followin 1.Inputs mismatch with hard ware and 2.ADCR relay failed condition. 3.DPL, DPR relay failed condition.	

#### 2.745 All MAC On Command Activated

Fault Code: 13387	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.746 Authentication is Bypassed

Fault Code: 13388	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.747 Cab Occ High Priority Loop Selected

Fault Code: 13389	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.748 Attempt to Occupy Cab, While Other Cab is Occupied

Fault Code: 13390	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.749 Aux Headlight CB Trip

Fault Code: 13391	Schematic: NA
Location: NA	
2. If still problem persist, check the wiri	sponding channel on DIP card. If not matching,

## 2.750 Entered Into EP Brake Test

Fault Code: 13392	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.751 Entered Into Holding Brake Test

Fault Code: 13393	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.752 Entered Into EP Isolation Settings

Fault Code: 13394	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.753 Entered Into PB Override Settings

Fault Code: 13395	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.754 Entered Into Air Spring Override- Settings

Fault Code: 13396	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.755 Cab OCC High Priority Circuit CB Tripped

Fault Code: 13397	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 for DTC, ED 1351&1352 for NDTC1 & NDTC2
Location: DTC-CRW NDTC-ECC	Functional group- 2 Sub Functional group- 1

- 1. Ensure that CB should be ON. If CB is in ON condition the DIP status should be high.
- 2. If still problem persist, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persist, then replace the Aux Block of corresponding MCB.

# 2.756 Holding Brake Disabled from DDU

Fault Code: 13398	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.757 Entered Into BU Isolation Settings

Fault Code: 13399	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.758 Entered Into Bogie Isolation Settings

Fault Code: 13400	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.759 Entered Into MAC Settings

Fault Code: 13401	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.760 Entered Into Panto Vcb Settings

Fault Code: 13402 Location: NA	Schematic: NA
Check: Informative message.	

# 2.761 Parking brake release command triggered by TCMS at 10 kmph

Fault Code: 13403	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.762 Fault Reset Switch Operated

Fault Code: 13404	Schematic: NA
Location: NA	
Check: Informative message.	

## 2.763 CCCR - Power On

Fault Code: 13405	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.764 Entered Into ACU Settings

Fault Code: 13407 Location: NA	Schematic: NA
Check: Informative message.	

# 2.765 Battery Supply OFF requested from Cab

Fault Code: 13408	Schematic: NA
Location: NA	
Check: Informative message.	<u>.</u>

### 2.766 ECN1 CB TRIP

Fault Code: 13409	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching,

#### 2.767 ECN2 CB TRIP

13410	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Looution.	Functional group- 6 Sub Functional group-1

- 1. Ensure that CB shall be ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persist, then replace the aux. block of corresponding MCB.

### 2.768 CAB LHT CB TRIP

Fault Code: 13411	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC	
Location:	Functional group- 6	
DTC -CRW	Sub Functional group-1	
Check:		
<ol> <li>Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.</li> <li>If still problem persists, check the wiring.</li> </ol>		
<ol> <li>If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.</li> <li>If still problem persists, then replace the aux. block of corresponding MCB.</li> </ol>		

#### 2.769 DCU LEFT CB TRIP

Fault Code: 13412	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Ensure that CB shall be ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

## 2.770 DCU RIGHT CB TRIP

Fault Code: 13413	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW	Functional group- 6 Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching,

## 2.771 DCU TL CB TRIP

13414	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Looution.	Functional group- 6 Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

#### 2.772 DPL CB TRIP

Fault Code: 13415	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching,

#### 2.773 CAB FAN CB TRIP

Fault Code:	Schematic:
13416	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. Block of corresponding MCB.

#### 2.774 EBL BYPASS CB TRIP

Fault Code: 13417	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1
2. If still problem persists, check the wi	sponding channel on DIP card. If not matching,

#### 2.775 LRMS CB TRIP

13418	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

#### 2.776 PB TL CB TRIP

Fault Code: 13419	Schematic: NA
Location: NA	
2. If still problem persist, check the wir	sponding channel on DIP card. If not matching,

#### 2.777 RMPU CNT CB TRIP

13420	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persist, then replace the aux. block of corresponding MCB.

#### 2.778 SPOT LGT CB TRIP

Fault Code: 13421	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

Check:

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persist, then replace the aux. block of corresponding MCB.

#### 2.779 TCMS DISP CB TRIP

Fault Code:	Schematic:
13422	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 6
DTC -CRW	Sub Functional group-1

- 1. Ensure that CB is ON. If CB is in ON condition the DIP status shall be high.
- 2. If still problem persists, check the wiring.
- 3. If wiring is OK, check LEDs of corresponding channel on DIP card. If not matching, change DIP card.
- 4. If still problem persists, then replace the aux. block of corresponding MCB.

#### 2.780 ALL DOORS CLOSE PUSH BUTTON OPERATED

Fault Code: 13423 Location: NA	Schematic: NA
Check: Informative message.	

#### 2.781 DOOR OPEN LEFT PUSH BUTTON OPERATED

Fault Code: 13424	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

## 2.782 DOOR OPEN RIGHT PUSH BUTTON OPERATED

Fault Code: 13425	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.783 ADCR Bypassed From TFT,Please Ensure All The Doors Are Closed,Before Giving Traction

Fault Code: 13426	Schematic: NA
Location: NA	
Check: Informative message.	<u>.</u>

# 2.784 Fault Reset By Driver

Fault Code: 13427	Schematic: NA
Location: NA	
Check: Informative message.	

#### 2.785 BP Sett On

Fault Code: 13435 Location: NA	Schematic: NA
Check: Informative message.	

#### 2.786 RMPU Sett On

Fault Code: 13436	Schematic: NA
Location: NA	
Check: Informative message.	·

#### 2.787 DCU Sett On

Fault Code: 13437 Location: NA	Schematic: NA
Check: Informative message.	

#### 2.788 Roof VCB ELD Test started

Fault Code: 13438	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.789 BAL Isolated. Brake Binding Can not be detected. It is the Crew Responsibility to ensure that Brakes are in Released condition, Before Proceeding.

Fault Code: 13439	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.790 Driver Acknowledgment For BAL Isolation

Fault Code: 13440 Location: NA	Schematic: NA
Check: Informative message.	

# 2.791 Driver Acknowledgment For VCD Bypass

Fault Code: 13441	Schematic: NA
Location: NA	
Check: Informative message.	

#### 2.792 Panto selection switch in position 1

13442	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC	
Location:	Functional group- 1	
DTC-CRW	Sub Functional group- 1	
Check: Informative message. When we give Panto UP command, only Panto1 & Panto 5 (BU1&5) will be in raised condition.		

#### 2.793 Panto selection switch in position 3

13443	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 1
DTC-CRW	Sub Functional group- 1

Check:

Informative message. When we give Panto UP command, only Panto 1 & Panto 6 (BU1&6) will be in raised condition.

#### 2.794 Panto selection switch in position 2

Fault Code: 13444	Schematic: SCHEMATIC DIAGRAM FOR MAE675U ED 1348 for DTC
Location:	Functional group- 1
DTC-CRW	Sub Functional group- 1
Check: Informative message. When we give Panto UP command, condition.	only Panto2 & Panto 6 (BU2&6) will be in raised

#### 2.795 ENS Aborted, Give VCB ON Command

Fault Code: 13455	Schematic: NA
Location:	
NA	
Check:	
Informative message only.	

# 2.796 Change detected in panto position

Fault Code: 13456 Location: NA	Schematic: NA
Check: Informative message.	

#### 2.797 Unknown Panto Combination detected

Fault Code: 13457	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.798 Redundant Cab occupied

Fault Code: 13458	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.799 Shunting mode cab occupied

Fault Code: 13459	Schematic: NA
Location: NA	
Check:	
Informative message.	

# 2.800 Flasher Switch operated

Fault Code: 13460	Schematic: NA
Location: NA	
Check: Informative message.	<u>.</u>

#### 2.801 Auto Flasher ON

13461	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

# 2.802 Train Running in forward direction

Fault Code: 13462	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.803 Train Running in reverse direction

Fault Code: 13463 Location: NA	Schematic: NA
Check: Informative message.	

# 2.804 Traction safe loop 2 selected

Fault Code: 13464	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.805 Entered into Train Configuration settings

Fault Code: 13465	Schematic: NA
Location:	
NA	
Check: Informative message.	

#### 2.806 Entered into Wheel Dia Test

Fault Code: 13466	Schematic: NA
Location: NA	
Check: Informative message.	

#### 2.807 TRAIN LEVEL ADDRESS REMOVED

Fault Code: 13563	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.808 MAIN LINK FAIL

Fault Code: 13557	Schematic: NA
Location: NA	
Check: Informative message.	

#### 2.809 REDN LINK FAIL

Fault Code: 13558	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.810 CCCM - Regular Slave

13826	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.811 BU 1 MR Pressure switch not inline with sensor

13834	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 7 Sub Functional group-1

- 1. Check MR PRSW calibration (cutin-7.5 bar and cutoff-10 bar)
- 2. Check the MR Sensor reading on DDU, if it is greater than 10 Bar, check the MR PRES SW DIP LED status. It shall be ON.
  - Or If MR sensor reading is less than 7.5 bar, check the DIP LED status, it shall be low.
- 3. If not, check point no 2 by replacing DIP card with healthy DIP card.
- 4. If still problem persists check the MR pressure sw feedback wiring.

#### 2.812 BU 2 MR Pressure switch not inline with sensor

Fault Code: 13835	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1351&1352 for NDTC1 & NDTC2
Location: NDTC -ECC/Underframe	Functional group- 7 Sub Functional group-1
Check: 1. Check MR PRSW calibration (cutin-7.5 bar and cutoff-10 bar) 2. Check the MR Sensor reading on DDU, if it is greater than 10 Bar, check the MR PRES	

Check the MR Sensor reading on DDU, if it is greater than 10 Bar, check the MR PRES SW DIP LED status. It should be ON.

Or If MR sensor reading is less than 7.5 bar, check the DIP LED status, it shall be low.

- 3. If not, check point no 2 by replacing DIP card with healthy DIP card.
- 4. If still problem persists, check the MR pressure sw feedback wiring.

#### 2.813 BU 3 MR Pressure switch not inline with sensor

	Schematic:
13836	SCHEMATIC DIAGRAM FOR MAE675UV2,
	ED 1351&1352 for NDTC1 & NDTC2
Location:	Functional group- 7
NDTC -ECC/Underframe	Sub Functional group-1

- 1. Check MR PRSW calibration (cutin-7.5 bar and cutoff-10 bar).
- 2. Check the MR sensor reading on DDU, if it is greater than 10 Bar, check the MR PRES SW DIP LED status. It shall be ON.
  - Or If MR sensor reading is less than 7.5 bar, check the DIP LED status, it shall be low.
- 3. If not, check point no 2 by replacing DIP card with healthy DIP card.
- 4. If still problem persists check the MR pressure sw feedback wiring.

#### 2.814 BU 4 MR Pressure switch not inline with sensor

Fault Code: 13837	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW/Underframe	Functional group- 7 Sub Functional group-1
Check:	

- 1. Check MR PRSW calibration (cutin-7.5 bar and cutoff-10 bar)
- 2. Check the MR sensor reading on DDU, if it is greater than 10 Bar, check the MR PRES SW DIP LED status. It shall be ON.

Or If MR sensor reading is less than 7.5 bar, check the DIP LED status, it shall be low.

- 3. If not, check point no 2 by replacing DIP card with healthy DIP card.
- 4. If still problem persists, check the MR pressure sw feedback wiring.

#### 2.815 BU 5 MR Pressure switch not inline with sensor

13838	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 7
DTC -CRW/Underframe	Sub Functional group-1

- 1. Check MR PRSW calibration (cutin-7.5 bar and cutoff-10 bar)
- 2. Check the MR sensor reading on DDU, if it is greater than 10 Bar, check the MR PRES SW DIP LED status. It shall be ON.
- Or If MR sensor reading is less than 7.5 bar, check the DIP LED status, it shall be low.
- 3. If not, check point no 2 by replacing DIP card with healthy DIP card.
- 4. If still problem persists, check the MR pressure sw feedback wiring.

#### 2.816 BU 6 MR Pressure switch not inline with sensor

Fault Code: 13839	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location: DTC -CRW/Underframe	Functional group- 7 Sub Functional group-1
Check: 1. Check MR PRSW calibration (cutin-7.5 bar and cutoff-10 bar)	

 Check the MR sensor reading on DDU, if it is greater than 10 Bar, check the MR PRES SW DIP LED status. It shall be ON.

Or If MR sensor reading is less than 7.5 bar, check the DIP LED status, it shall be low.

- 3. If not, check point no 2 by replacing DIP card with healthy DIP card.
- 4. If still problem persists, check the MR pressure sw feedback wiring.

#### 2.817 RDM Trainline Faulty

13867	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DTC -CRW	Sub Functional group-2

- 1. Ensure cab occupation is properly done.
- 2. Ensure none of the IV coupler in open condition through out the train. (can be ensured through RDM Test).
- 3. Check the corresponding DIP LED status on both cab CCUR. It shall be same. If not, replace the DIP card with any other healthy card and check the status.
- 4. If still problem persists, check the wiring.

#### 2.818 CCCM MCH Frequency Out of Range

13868	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 2 Sub Functional group-2

Check:

- 1. Ensure CAB shall be occupied.
- 2. Check frequency of Master Controller in DDU through RDM test. It shall be within the specified limit. (284 to 484 Hz)
- 3. If not check the frequency by replacing AFIP card in CCCM with any healthy card.
- 4. If the problem still persists, check the wiring from master controller to frequency generator and from FGU to CCUM.
- 5. If wiring found OK, verify the frequency by replacing frequency generator with any other working one.
- 6. If problem not resolved, replace the master controller.

#### 2.819 CCCM MCH Adc Value Out of Range

Fault Code: 13869	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC-CRW	Sub Functional group-2

- 1. Ensure CAB shall be occupied.
- 2. Check the MCH percentage through DDU.(in DB Screen)
- 3. If not, check the value by replacing AFIP card with any other healthy card.
- 4. If problem is not resolved, check the wiring from MCH to CCUM.
- 5. If still problem persists, replace the master controller.

#### 2.820 Direction Not Plausible

Fault Code: 14255	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC-CRW	Sub Functional group-2

Check:

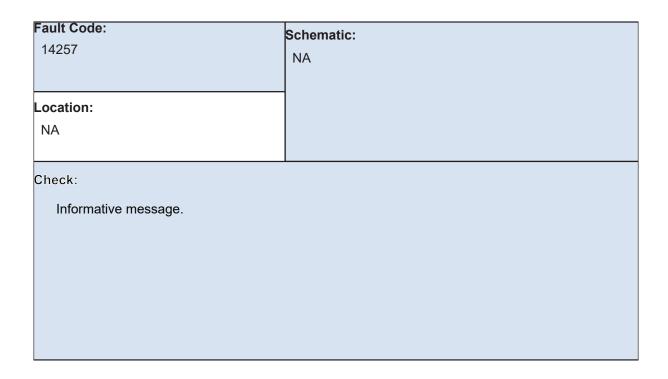
- 1. Ensure Direction SW is functioning properly.
- 2. Check the corresponding DIP LED status by operating DIRECTION SW.
- 3. If both are not inline, check the internal wiring.
- 4. If wiring found OK, replace the DIP card with any other healthy card check point 2.
- 5. If still problem persists check the TL wiring.
- 6. If this wiring also found OK, replace the master controller.

#### 2.821 CCCM - Master controller Inputs Faulty

Fault Code: 14256	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC-CRW	Sub Functional group-2

- 1. Ensure CAB shall be occupied.
- 2. Place the Direction SW in either forward or reverse position.
- 3. Place master controller handle in drive position, verify the Drive, Brake & Coast DIP LED status in CCCM unit. It shall be OFF, OFF & ON respectively.
- 4. Place master controller handle in Coast position, verify the Drive, Brake & Coast DIP LED status in CCCM unit. It shall be ON, OFF & OFF respectively.
- 5. Place master controller handle in Brake position, verify the Drive, Brake & Coast DIP LED status in CCCM unit. It shall be ON, ON & ON respectively.
- 6. If not verify the points 3,4 & 5 replace the DIP card with any other healthy card.
- 7. If still problem persists, check the wiring from master controller to control unit.
- 8. If wiring is OK, replace the master controller.

#### 2.822 Audio Visual Alarm On



#### 2.823 Air Spring Sensor Faulty in at least One Bellow (Ack)

14258	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED 1351&
Location:	1352 for NDTC1 & NDTC2
DTC, MC-ECC	Functional group- 2
TC-ECC, NDTC-ECC	Sub Functional group-3

- 1. Check the bellow physically. If it is punctured, inform to maintenance staff.
- 2. If bellow is OK, replace AFIP card with healthy AFIP card.
- 3. Still problem persists replace load sensor with healthy sensor.

#### 2.824 Broken Suspension in at least One Bellow (Ack)

Fault Code: 14259	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
Location: DTC, MC-ECC TC-ECC, NDTC-ECC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-3
Check: 1. Check the corresponding isolation cocks are in normal position. Check the bellow setting. 2. If cocks, setting is OK, replace AFIP card with healthy card.	

3. Still problem persists replace load sensor with healthy sensor.

# 2.825 Speed Restriction Override In at Least One Coach (Ack)

Fault Code: 14260	Schematic: NA
Location:	
DTC	
Check:	
1.Informative message only.	

#### 2.826 Main Head Light current sensor faulty

14261	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC, ED 1349 for MC, ED 1350 for TC, ED
DTC	1351&1352 for NDTC1 & NDTC2 Functional group- 2 Sub Functional group-3

Check:

- 1. Visually check the Head Light whether both the filaments are working or not.
- 2. If any one filament is not glowing then replace the filament .
- 3. If still problem persists then then check the wiring.
- 4. If wiring ok, verify the head light current with Clamp meter and compare with head light current sensor current.
- 5. If currents are not matching change the sensor, if currents are matching replace the AFIP card.

#### 2.827 CCCR - MCH Adc Value Out of Range

Fault Code: 14262	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
Location:	Functional group- 2
DRIVER DESK, DTC-CRW	Sub Functional group-2

- 1. Ensure CAB should be Occupied.
- 2. Check frequency of Master Controller in DDU through RDM Test. It should be with in the specified limit.
- 3. If not check the frequency by replacing AFIP card in CCCM with any healthy card
- 4. If the problem still persists, check the wiring from master controller to frequency generator and from FGU to CCUM.
- 5. If wiring found OK, verify the frequency by replacing frequency generator with any other working one.
- 6. If problem not resolved, replace the master controller.

#### 2.828 CCCR - MCH Frequency Out of Range

14263	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 for DTC
	Functional group- 2 Sub Functional group-2

Check:

- 1. Ensure CAB is occupied.
- 2. Check frequency of Master Controller in DDU through RDM Test. It shall be within the specified limit. (284 to 484 Hz).
- 3. If not check the frequency by replacing AFIP card in CCCR with any healthy card.
- 4. If the problem still persists, check the wiring from master controller to frequency generator and from FGU to CCUR.
- 5. If wiring found OK, verify the frequency by replacing frequency generator with any other working one.
- 6. If problem not resolved, replace the master controller.

#### 2.829 CCCR - Network Master

Fault Code: 14264	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.830 CCCR - Active Slave

Fault Code: 14265	Schematic: NA
Location: NA	
Check: Informative message.	

# 2.831 CCCR - Regular Slave

Fault Code: 14266	Schematic: NA
Location:	
NA	
Check:	
Informative message.	

#### 2.832 CCCR - Master controller Inputs Faulty

Fault Code:	Schematic:
14267	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	for DTC
Location:	Functional group- 2
DRIVER DESK, DTC-CRW	Sub Functional group-2
Check:	
<ol> <li>Ensure CAB is occupied.</li> <li>Place the Direction SW in eit</li> </ol>	ther forward or reverse position.

- 3. Place master controller handle in Drive position, verify the Drive, Brake & Coast DIP LED status in CCCR unit. It shall be ON, ON & OFF respectively.
- 4. Place master controller handle in Coast position, verify the Drive, Brake & Coast DIP LED status in CCCR unit. It shall be OFF, ON & ON respectively.
- 5. Place master controller handle in Brake position, verify the Drive, Brake & Coast DIP LED status in CCCR unit. It shall be OFF, OFF & OFF respectively.
- 6. If not verify the points 3,4 & 5 replace the DIP card with any other healthy card.
- 7. If still problem persists, check the wiring from master controller to control unit.
- 8. If wiring is OK, replace the master controller.

# Chapter 3 Auxiliary Converter Faults

# 3.1 A1LC INPUT UNDER VOLTAGE

Fault Code: 10767	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Check the Transformer Primary & secondary voltages 2. Check the Healthiness of input voltage sensors and its feedback section. if voltage sensors found defective, Voltage sensor card needs to be replaced.	

#### 3.2 A1LC INPUT OVER VOLTAGE

Fault Code: 10768	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the Transformer Primary & secondary voltages
- 2. Check the Healthiness of input voltage sensors and its feedback section, if voltage sensors found defective, Voltage sensor card needs to be replaced

#### 3.3 A1THREE PHASE OUTPUT L1 OVER CURRENT

Fault Code: 10242	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<ul> <li>Check:</li> <li>1. Measure load current at 415 Vac load side, if more than rated current check for any partial short circuit happened or additional load added beyond the rating.</li> <li>2. If current is less than rated current, check Hall effect sensors inside LC+Inverter module for any physical damage or cable connections. if Hall effect Sensor found defective, LC+Inverter Module needs to be replaced.</li> </ul>	

#### 3.4 A1THREE PHASE OUTPUT L2 OVER CURRENT

Fault Code: 10243	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure load current at 415 Vac load side, if more than rated current check for any partial short circuit happened or additional load added beyond the rating.
- 2. If current is less than rated current, check Hall effect sensors inside LC+Inverter module for any physical damage or cable connections, if Hall effect Sensor found defective, LC+Inverter Module needs to be replaced.

## 3.5 A1THREE PHASE OUTPUT L3 OVER CURRENT

Fault Code: 10244	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<ul> <li>Check:</li> <li>1. Measure load current at 415 Vac load side, if more than rated current check for any partial short circuit happened or additional load added beyond the rating.</li> <li>2. If current is less than rated current, check Hall effect sensors inside LC+Inverter module for any physical damage or cable connections, if Hall effect Sensor found defective, LC+Inverter Module needs to be replaced</li> </ul>	

#### 3.6 A1THREE PHASE OUTPUT L4 OVER CURRENT

Fault Code: 10245	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure load current at 415 Vac load side, if more than rated current check for any partial short circuit happened or additional load added beyond the rating.
- 2. If current is less than rated current, check Hall effect sensors inside LC+Inverter module for any physical damage or cable connections, if Hall effect Sensor found defective, LC+Inverter Module needs to be replaced.

#### 3.7 A1INVERTER SHORT CIRCUIT

Fault Code: 10247	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
<ul> <li>Check:</li> <li>1. Check Inverter sine filter inductor and capacitors for any physical damage</li> <li>2. Check Hall effect sensors inside inverter module for any physical damage or cable connections</li> <li>3. Check gate drive card of Inverter module. As Hall effect sensors and Gate drive cards are internal to the module, LC+Invetrer module needs to be replaced</li> </ul>	

#### 3.8 A1SINGLE PHASING FAULT

Fault Code: 10248	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- Check for any phase loose connection and partial disconnection of the power cable at any 3ph 415 Vac Loads (RMPU/ Compressor/ LTC cooling blowers/ Transformer Oil pump/ Transformer Cooling blowers) by measuring currents through clamp meter.
- If current in all phases are OK, check Healthiness of the external Rphase and Bphase CT's for any Physical damage or cable connection, if CT's found defective, CT's needs to be replaced.

# 3.9 A1415V AC O/P VOLTAGE PHASE IMBALANCE

Fault Code: 10249	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
any 3ph 415 Vac by measuring volta 2. If voltage in all phases are OK, chec	on and partial disconnection of the feedback cable at ages through multimeter. It healthiness of the inside voltage sensor cards for ection, if voltage sensors found defective, voltage

# 3.10 A1415 V AC O/P CURRENT PHASE IMBALANCE

Fault Code: 10250	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
Check: A1415 V AC O/P CURRENT PHASE	E IMBALANCE

## 3.11 A1LC INPUT FUSE FAIL/SOURCE DISCONNECTED

Fault Code: 10251	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check:	
Check the fuse for continuity	

### 3.12 A1LC INPUT L1 OVER CURRENT

Fault Code: 10252	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure input current with clamp meter and ensure if the current is within range or not
- 2. If the current is less than rated current and still fault coming, then check input current sensor and its feedback section. if Current Sensor defective, Current Sensor needs to be replaced.
- If the current is more than rated current, then check for any physical damage in LC+Inverter module DC link capacitors, if found defective, DC link capacitor bank need to be replaced
- 4. If DC Link capacitors found ok, then LC+Inverter module needs to be replaced.

# 3.13 A1LC INPUT L2 OVER CURRENT

Fault Code: 10253	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<ol> <li>Check:         <ol> <li>Measure input current with clamp meter and ensure if the current is within range or not</li> <li>If the current is less than rated current and still fault coming, then check input current sensor and its feedback section, if Current Sensor defective, current sensor needs to be replaced.</li> <li>If the current is more than rated current, then check for any physical damage in LC+Inverter module DC link capacitors, if found defective, DC link capacitor bank need to be replaced</li> <li>If DC link capacitors found ok, then LC+Inverter module needs to be replaced.</li> </ol> </li> </ol>	

### 3.14 A1INV O/P EXTERNAL EARTH LEAK FAULT

Fault Code: 10254	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Switch OFF all the AC loads, enable one by one load and check for the ELD indication at which load event is logged.
- 2. Check the power cables.

# 3.15 A1INV O/P INTERNAL SHORT CIRCUIT

Fault Code: 10255	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
connections	erter module for any physical damage or cable odule. As Hall effect sensors and Gate drive cards are

### 3.16 A1INV O/P EXTERNAL SHORT CIRCUIT

10256	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

#### Check:

Check at 415 Vac load side any partial short circuit happened or additional load added beyond the rating.

# 3.17 A1INV\_OP\_OVER\_CURRENT\_CT

Fault Code: 10257	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<ul> <li>Check:</li> <li>1. Measure Load current at 415 Vac load side, if current is more than rated current check for any partial short circuit at output side or additional load added beyond the rating.</li> <li>2. If current is less than rated current, check healthiness of the external Rphase and Bphase CT's for any physical damage or cable connection, if CT's found defective, CT's needs to</li> </ul>	

# 3.18 A1INV\_EXT\_FAULT

be replaced.

1350 for TC, ED 1351 for NDTC
up- 3
_

#### Check:

Check at 415 Vac load side any partial short circuit happened or additional load added beyond the rating.

# 3.19 DC O/P INTERNAL SHORT CIRCUIT

Fault Code: 10259	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
	module for any physical damage or cable connections dule. As current sensor and Gate drive cards are

### 3.20 DC O/P EXTERNAL SHORT CIRCUIT

Location: Functional group- 3	10260	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
	Location: ACU	Functional group- 3

#### Check:

Check at BN & BD load side any partial short circuit happened or additional load added beyond the rating

# 3.21 DC O/P OVERLOAD

Fault Code: 10336	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
Check:	
1. Check for the external DC loads, wh	ether short circuited or any additional load added. rent sensor and its feedback section, As current DC module needs to be replaced.

# 3.22 DCDC O/P SHORT CIRCUIT

10337	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the DC output section side for any short circuit.
- 2. Check power cables from DCDC module upto load terminals for any possible chances of short circuit conditions.
- 3. Check output voltage and output current sensor feedbacks
- 4. Check gate drive cards of DCDC module, As Gate drive cards, Voltage and current sensor are internal to the module, DCDC module needs to be Replaced

# 3.23 A1LC SHORT CIRCUIT FAULT

Fault Code: 10752	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC	
Location:	Functional group- 3	
ACU		
Check:		
<ol> <li>Check the LC output section side for any short circuit.</li> <li>Check power cables from LC module input upto load terminals for any possible chances of short circuit conditions.</li> <li>Check LC dclink voltage and input current sensor feedbacks</li> <li>Check gate drive cards of LC+Inverter module. As Gate drive cards, voltage and current sensor are internal to the module, LC+Inverter Module needs to be replaced.</li> </ol>		

### 3.24 A1DC LINK OVER VOLTAGE

Fault Code: 10753	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check DC-link capacitors for any physical damage, if found defective, DC Link capacitor bank needs to be replaced.
- 2. Check the DC link voltage feedback sensor for any physical damage and verify its feedback cables, if voltage sensors found defective, voltage sensor card needs to be replaced.

### 3.25 A1DC LINK UNDER VOLTAGE

Fault Code: 10754	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
bank needs to be replaced. 2. Check the DC link Voltage feedback feedback cables, if voltage sensors replaced.	ysical damage, if found defective, DC Link capacitor sensor for any physical damage and verify its found defective, Voltage sensor card needs to be erter module semiconductors might have failed, laced

### 3.26 A1LC MODULE OVER TEMPERATURE

Fault Code: 10755	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel
- 2. Check the ACU air filter. If it is choked, clean the filter

# 3.27 A1LC GD POWER SUPPLY FAIL

Fault Code: 10756	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348	
	For DTC, ED 1350 for TC, ED 1351 for NDTC	
Location:	Functional group- 3	
ACU		
Check:		
<ol> <li>Verify the connections from power supply to GD section</li> <li>There might be possibility of GD card failure, LC+Inverter module needs to be replaced</li> </ol>		

### 3.28 A1LC O/P OVER LOAD

Fault Code:	Schematic:
10757	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	

- 1. Check for LC+Inverter module output cables for any short circuit.
- 2. Check the output load on both 3ph 415 AC loads and DC loads, load side any partial short circuit might have happened or additional load added beyond the rating.
- 3. Else, Check healthiness of DC link current sensor and its feedback section. As current sensor is internal to the module, lcinv module needs to be replaced.

# 3.29 A1LC\_GATE\_VOLTAGE\_FAULT

Fault Code: 10758	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<b>Check:</b> 1. Verify the PWM connectors on contr 2. If all are OK, there might be possibil module needs to be replaced	ol card are as per wiring diagram. ity of GD card failure or semiconductor failure, LC inv

# 3.30 A1CAP\_HV\_FAULT

Fault Code: 10759	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check DC-link capacitors for any physical damage
- 2. Check the cap hv card feedback for any physical damage and verify its feedback cables, if CAP HV card found defective, CAP HV card needs to be replaced.

## 3.31 A1415V AC O/P RY-PHASE UNDER VOLTAGE

Fault Code: 10760	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
	limits check for Inverter output voltage sensor sensor card found defective, voltage sensor card

# 3.32 A1415V AC O/P RY-PHASE OVER VOLTAGE

Fault Code: 10761	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure the output voltage, if within limits check for Inverter output voltage sensor external feedback cables, if voltage sensor cards found defective, voltage sensor card needs to be replaced.
- 2. Check for any physical damage on Sine filter capacitors

# 3.33 A1415V AC O/P YB-PHASE UNDER VOLTAGE

Fault Code: 10762	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC	
Location:	Functional group- 3	
ACU		
Check: 1. Measure the output voltage, if within limits check for Inverter output voltage sensor external feedback cables, if voltage sensor card found defective, voltage sensor card needs to be replaced.		

# 3.34 A1415V AC O/P YB-PHASE OVER VOLTAGE

Fault Code: 10763	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure the output voltage, if within limits check for Inverter output voltage sensor external feedback cables, if voltage sensor cards found defective, voltage sensor card needs to be replaced.
- 2. Check for any physical damage on Sine filter capacitors.

# 3.35 A1INV\_DCLINK\_INSTANT\_PROT\_FLAG

Fault Code: 10764	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
	ysical damage e input voltage sensor and its feedback section. if e, Voltage sensor card needs to be replaced.

### 3.36 A1AC MODULE OVER TEMPERATURE

Fault Code: 10765	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel.
- 2. Check the ACU air filter. If it is choked, clean the filter.

# 3.37 A1HS THERMAL SWITCH FAIL

Fault Code: 10766	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

### 3.38 A1INVERTER GD POWER SUPPLY FAIL

Fault Code: 10769	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify the connections from power supply to GD section
- 2. There might be possibility of GD card failure, LC+Inverter module needs to be replaced

# 3.39 A1LC\_GATE\_VOLTAGE\_FAULT

Fault Code: 10770	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify the PWM connectors on contr 2. If all are OK, there might be possibil LC+Inverter module needs to be rep	ty of GD card failure or semiconductor failure,

# 3.40 A1INV\_YPH\_GATE\_VOLTAGE\_FAULT

Fault Code: 10771	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify the PWM connectors on control card are as per wiring diagram.
- 2. If all are OK, there might be possibility of GD card failure or semiconductor failure, LC+Inverter module needs to be replaced.

# 3.41 A1INV\_BPH\_GATE\_VOLTAGE\_FAULT

Fault Code: 10772	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify the PWM connectors on contr 2. If all are OK, there might be possibil LC+Inverter module needs to be rep	ty of GD card failure or semiconductor failure,

# 3.42 A1INV OP INTERNAL ELD FAULT

Fault Code: 10773	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: Remove the ELD sensor feedback cables and verify, if still problem persists IO card need to be replaced else ELD sensor assembly need to be replaced	

### 3.43 A1INTERNAL AMBIENT OVER TEMPERATURE

Fault Code: 10775	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify if the fault is coming during po section for that particular channel. 2. Check the ACU air filter. If it is choke	ower on it self, if so, verify PT100 sensor and feedback

# 3.44 A1PRE CHARGING CKT FAULT

Fault Code: 10776	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: verify pre charging resistor and its co	nnection.

# 3.45 A1PRE\_CHARG\_CONT\_STUK\_HIGH

Fault Code: 10777	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
control supply is not given, if so repl	pre charging contactor is high (or closed) when the ace the pre charging contactor else feedback channel roblem, replace the SIOA card and verify. n SIOA card to control card

# 3.46 A1PRE\_CHARG\_CONT\_STUK\_LOW

Fault Code: 10778	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the Contactor coil and driving channel healthiness. If coil failure is observed, contactor to be replaced else SIOA card to be replaced.
- 2. Check the auxiliary block of contactor and SIOA channel healthiness, if failure is observed at auxiliary block of contactor, replace auxiliary block else replace SIOA card.
- 3. Check for any loose connection from SIOA card to control card

# 3.47 A1IP\_CONT\_STUK\_HIGH

Fault Code: 10779	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

# 3.48 A1 IP\_CONT\_STUK\_LOW

Fault Code: 10780	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the contactor coil and driving channel healthiness. If coil failure is observed, input contactor to be replaced else SIOA card to be replaced.
- 2. Check the auxiliary block of contactor and SIOA channel healthiness, if failure is observed at auxiliary block of contactor, replace auxiliary block else replace SIOA card.
- 3. Check for any loose connection from SIOA card to control card.

# 3.49 A1THPH OP CONT STUCK HIGH

Fault Code: 10781	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
control supply is not given, if so repla	three phase contactor is high (or closed) when the ace the three phase contactor else feedback channel roblem, replace the SIOA card and verify. In SIOA card to control card

### 3.50 A1THPH OP CONT STUCK LOW

10782	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the contactor coil and driving channel healthiness. If coil failure is observed, contactor to be replaced else SIOA card to be replaced.
- 2.Check the auxiliary block of contactor and SIOA channel healthiness, if failure is observed at auxiliary block of contactor, replace auxiliary block else replace SIOA card.
- 3. Check for any loose connection from SIOA card to control card

# 3.51 DC O/P CONT STUCK HIGH

Fault Code: 10783	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<ul> <li>Check:</li> <li>1. Check whether feedback section of DC output contactor is high (or closed) when the control supply is not given, if so replace the DC output contactor else feedback channel for that particular section might be problem, replace the SIOA card and verify.</li> <li>2. Check for any loose connection from SIOA card to control card.</li> </ul>	

### 3.52 DC O/P CONT STUCK LOW

Fault Code: 10784	Schematic:
	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	

- 1. Check the contactor coil and driving channel healthiness. If coil failure is observed, contactor to be replaced else SIOA card to be replaced.
- 2. Check the auxiliary block of contactor and SIOA channel healthiness, if failure is observed at auxiliary block of contactor, replace auxiliary block else replace SIOA card.
- 3. Check for any loose connection from SIOA card to control card.

# 3.53 A1BLOW CONT STUCK HIGH

Fault Code: 10785	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

### 3.54 A1BLOW CONT STUCK LOW

Fault Code: 10786	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the contactor coil and driving channel healthiness. If coil failure is observed, contactor to be replaced else SIOA card to be replaced.
- 2.Check the auxiliary block of contactor and SIOA channel healthiness, if failure is observed at auxiliary block of contactor, replace auxiliary block else replace SIOA card.
- 3. Check for any loose connection from SIOA card to control card

### 3.55 A1BLOWER OVER LOAD

Fault Code: 10787	<b>Schematic:</b> SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Check the blower CT sensors and it 2. Check the blower supply connection 3. Try to rotate the blower with hand, if replace the blower.	

### 3.56 DC O/P REVERSE POLARITY

Location: Functional group- 3 ACU	Fault Code: 10788	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC	
		Functional group- 3	

- 1. Verify DC output cables for reverse polarity connection
- 2. Verify reverse polarity card feedback

# 3.57 A1PLL UNABLE TO LOCK

10790	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC	
Location:	Functional group- 3	
ACU		
Check:		
Verify primary voltage connections, voltage sensor and its feedback section		

# 3.58 A1DCLV SENSED HIGH DV/DT

Fault Code: 10791	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: Verify DC link voltage sensors and its f	eedback section

### 3.59 A1VR PID SATURATION

Fault Code: 10792	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check:	
NA	

### 3.60 A1INV SHDWN DUE TO BLWR

Fault Code: 10793	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: Verify blower contactor and blowe	er.

# 3.61 A1415V AC ELD INDICATION

Fault Code: 11270	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<ul> <li>Check:</li> <li>1. Switch OFF all the AC Loads, enable one by one load and check for the ELD indication at which load event is logged.</li> <li>2. Check the power cables.</li> <li>3. Remove the ELD sensor feedback cables and verify, if still problem persists IO card need to be replaced else ELD sensor assembly need to be replaced</li> </ul>	

### 3.62 A1LC HS OVER TEMP EVENT

Fault Code: 11271	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel
- 2. Check the ACU air filter. If it is choked, clean the filter

### 3.63 A1INT AMB OVER TEMP EVENT

Fault Code: 11273	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify if the fault is coming during po section for that particular channel 2. Check the ACU air filter. If it is choke	wer on it self, if so, verify PT100 sensor and feedback

# 3.64 A2LC INPUT UNDER VOLTAGE

Fault Code: 10895	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the Transformer Primary & secondary voltages
- 2. Check the Healthiness of input voltage sensors and its feedback section. if voltage sensors found defective, voltage sensor card needs to be replaced.

# 3.65 A2LC INPUT OVER VOLTAGE

Fault Code: 10896	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Check the Transformer Primary & se 2. Check the Healthiness of input volta sensors found defective, voltage ser	ge sensors and its feedback section, if voltage

# 3.66 A2THREE PHASE OUTPUT L1 OVER CURRENT

Fault Code: 10370	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure load current at 415 Vac load side, if more than rated current check for any partial short circuit happened or additional load added beyond the rating.
- 2. If current is less than rated current, check Hall effect sensors inside LC+Inverter module for any physical damage or cable connections, if Hall effect Sensor found defective, LC+Inverter Module needs to be replaced.

# 3.67 A2THREE PHASE OUTPUT L2 OVER CURRENT

Fault Code: 10371	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
short circuit happened or additional 2. If current is less than rated current, o	check Hall effect sensors inside LC+Inverter module nnections, if Hall effect Sensor found defective,

# 3.68 A2THREE PHASE OUTPUT L3 OVER CURRENT

Fault Code: 10372	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure load current at 415 Vac load side, if more than rated current check for any partial short circuit happened or additional load added beyond the rating.
- 2. If current is less than rated current, check Hall effect sensors inside LC+Inverter module for any physical damage or cable connections, if Hall effect Sensor found defective, LC+Inverter module needs to be replaced.

# 3.69 A2THREE PHASE OUTPUT L4 OVER CURRENT

Fault Code: 10373	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
short circuit happened or additional 2. If current is less than rated current, o	check Hall effect sensors inside LC+Inverter module nnections, if Hall effect Sensor found defective,

# 3.70 A2INVERTER SHORT CIRCUIT

Fault Code: 10375	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check inverter sine filter inductor and capacitors for any physical damage
- 2. Check Hall effect sensors inside Inverter module for any physical damage or cable connections
- 3. Check gate drive card of inverter module, As Hall effect sensors and Gate drive cards are internal to the module, LC+Invetrer module needs to be Replaced.

# 3.71 A2SINGLE PHASING FAULT

Fault Code: 10376	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
3ph 415 Vac Loads (RMPU/ Compre transformer Cooling blowers) by me 2. If current in all phases are OK, chec	on and partial disconnection of the power cable at any essor/ LTC cooling blowers\ Transformer Oil pump\ asuring currents through clamp meter. k healthiness of the external Rphase and Bphase ble connection, if CT's found defective, CT's needs to

### 3.72 A2415V AC O/P VOLTAGE PHASE IMBALANCE

10377	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check for any phase loose connection and partial disconnection of the feedback cable at any 3ph 415 Vac by measuring voltages through multimeter.
- 2. If voltage in all phases are OK, check healthiness of the inside voltage sensor cards for any physical damage or cable connection. if voltage sensors found defective, voltage sensor card needs to be replaced.

# 3.73 A2415 V AC O/P CURRENT PHASE IMBALANCE

Fault Code: 10378	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
<ul> <li>Check:</li> <li>1. Check for any phase loose connection and partial disconnection of the power cable at any 3ph 415 Vac loads (Compressor\ LTC cooling blowers\ Transformer Oil pump\ Transformer Cooling blowers) by measuring currents through clamp meter.</li> <li>2. If current in all phases are OK, check Healthiness of the external Rphase and Bphase CT's for any physical damage or cable connection, if CT's found defective, CT's needs to be replaced.</li> </ul>	

# 3.74 A2LC INPUT FUSE FAIL/SOURCE DISCONNECTED

Fault Code: 10379	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Check the fuse for continuity	

# 3.75 A2LC INPUT L1 OVER CURRENT

Fault Code: 10380	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check:	

- 1. Measure input current with clamp meter and ensure if the current is within range or not 2. If the current is less than rated current and still fault coming, then check input current
- sensor and its feedback section. if current sensor is defective, it has to be replaced.
- If the current is more than rated current, then check for any physical damage in LC+Inverter module DC link capacitors. if found defective, DC link capacitor bank need to be replaced
- 4. If DC link capacitors found ok, then LC+Inverter Module needs to be replaced.

# 3.76 A2LC INPUT L2 OVER CURRENT

Fault Code: 10381	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure input current with clamp meter and ensure if the current is within range or not
- 2. If the current is less than rated current and still fault coming, then check input current sensor and its feedback section. if current sensor defective, current sensor needs to be replaced.
- If the current is more than rated current, then check for any physical damage in LC+Inverter module DC link capacitors. if found defective, DC link capacitor bank need to be replaced
- 4. If DC Link capacitors found ok, then LC+Inverter module needs to be replaced.

# 3.77 A2INV O/P EXTERNAL EARTH LEAK FAULT

Fault Code: 10382	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Switch OFF all the AC loads, enable which load event is logged. 2. Check the power cables.	one by one load and check for the ELD indication at

### 3.78 A2INV O/P INTERNAL SHORT CIRCUIT

Fault Code: 10383	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check inverter sine filter inductor and capacitors for any physical damage
- 2. Check Hall effect sensors inside Inverter module for any physical damage or cable connections
- 3. Check gate drive card of Inverter module, As Hall effect sensors and Gate drive cards are internal to the module, LC+Inverter module needs to be Replaced.

# 3.79 A2INV O/P EXTERNAL SHORT CIRCUIT

Fault Code: 10384	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: Check at 415 Vac load side any part beyond the rating.	ial short circuit happened or additional load added

# 3.80 A2INV\_OP\_OVER\_CURRENT\_CT

Fault Code: 10385	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Measure Load current at 415 Vac load side, if current is more than rated current check for any partial short circuit at output side or additional load added beyond the rating.
- 2. If current is less than rated current, check healthiness of the external Rphase and Bphase CT's for any physical damage or cable connection. if CT's found defective, CT's needs to be replaced.

## 3.81 A2INV\_EXT\_FAULT

Fault Code: 10386	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: Check at 415 Vac load side any part beyond the rating.	ial short circuit happened or additional load added

#### 3.82 DC O/P INTERNAL SHORT CIRCUIT

10387	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check DCDC output inductor and capacitors for any physical damage
- 2. Check current sensor inside DCDC module for any physical damage or cable connections
- 3. Check gate drive card of DCDC module. As current sensor and Gate drive cards are internal to the module, DCDC module needs to be replaced.

## 3.83 DC O/P EXTERNAL SHORT CIRCUIT

Fault Code: 10388 Location: ACU	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC Functional group- 3
Check: Check at BN & BD load side any par beyond the rating.	tial short circuit happened or additional load added

#### 3.84 DC O/P OVERLOAD

Fault Code: 10464	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check for the external DC loads, whether short circuited or any additional load added.
- 2. Check healthiness of DC output current sensor and its feedback section. As current sensor is internal to the module, DCDC module needs to be replaced.

### 3.85 DCDC O/P SHORT CIRCUIT

Fault Code:	Schematic:
10465	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
Location:	For DTC, ED 1350 for TC, ED 1351 for NDTC
ACU	Functional group- 3
short circuit conditions. 3. Check output voltage and output cu	odule up to load terminals for any possible chances of rrent sensor feedbacks odule. As Gate drive cards, voltage and current sensor

## 3.86 A2LC SHORT CIRCUIT FAULT

Fault Code: 10880	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the LC output section side for any short circuit.
- 2. Check power cables from LC module input up to load terminals for any possible chances of short circuit conditions.
- 3. Check LC DC link voltage and input current sensor feedbacks
- 4. Check gate drive cards of LC+Inverter module. As Gate drive cards, voltage and current sensor are internal to the module, LC+Inverter module needs to be replaced.

#### 3.87 A2 DC LINK OVER VOLTAGE

Fault Code: 10881	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
bank needs to be replaced. 2. Check the DC link voltage feedback	vsical damage.if found defective, DC Link capacitor sensor for any physical damage and verify its found defective, voltage sensor card needs to be

#### 3.88 A2DC LINK UNDER VOLTAGE

Fault Code: 10882	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check DC-link capacitors for any physical damage. if found defective, DC Link Capacitor bank needs to be replaced.
- 2. Check the DC link Voltage feedback sensor for any physical damage and verify its feedback cables. if voltage sensors found defective, voltage sensor card needs to be replaced.
- 3. If voltage sensors are ok, In LC+Inverter module semiconductors might have failed, LC+Inverter module needs to be replaced.

## 3.89 A2LC MODULE OVER TEMPERATURE

Fault Code: 10883	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
Check:	
<ol> <li>Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel</li> <li>Check the ACU air filter. If it is choked, clean the filter</li> </ol>	

## 3.90 A2LC GD POWER SUPPLY FAIL

Fault Code: 10884	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify the connections from power supply to GD section
- 2. There might be possibility of GD card failure, LC+Inverter module needs to be replaced

## 3.91 A2LC O/P OVER LOAD

Fault Code: 10885	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

Check:

- 1. Check for LC+Inverter module output cables for any short circuit.
- 2. Check the output load on both 3ph 415 AC loads and DC loads, load side any partial short circuit might have happened or additional load added beyond the rating.
- 3. Else, check healthiness of DC link current sensor and its feedback section. -As current sensor is internal to the module, LC inv module needs to be replaced.

## 3.92 A2LC\_GATE\_VOLTAGE\_FAULT

Fault Code: 10886	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify the PWM connectors on control card are as per wiring diagram
- 2. If all are OK, there might be possibility of GD card failure or semiconductor failure, LC inv module needs to be replaced

# 3.93 A2CAP\_HV\_FAULT

Fault Code: 10887	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
Check:	
Check: 1. Check DC-link capacitors for any physical damage 2. Check the cap hv card feedback for any physical damage and verify its feedback cables, if CAP HV card found defective, CAP HV card needs to be replaced.	

## 3.94 A2415V AC O/P RY-PHASE UNDER VOLTAGE

Fault Code: 10888	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check:	

1. Measure the output voltage, if within limits check for Inverter output voltage sensor external feedback cables, if voltage sensor card found defective, voltage sensor card needs to be replaced.

#### 3.95 A2415V AC O/P RY-PHASE OVER VOLTAGE

Fault Code: 10889	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
	l limits check for inverter output voltage sensor sensor cards found defective, voltage sensor card sine filter capacitors

#### 3.96 A2415V AC O/P YB-PHASE UNDER VOLTAGE

Fault Code: 10890	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check:	
<ol> <li>Measure the output voltage, if within limits check for inverter output voltage sensor external feedback cables. if voltage sensor card found defective, voltage sensor card needs to be replaced.</li> </ol>	

## 3.97 A2415V AC O/P YB-PHASE OVER VOLTAGE

Fault Code: 10891	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
	l limits check for inverter output voltage sensor sensor cards found defective, voltage sensor card sine filter capacitors

## 3.98 A2INV\_DCLINK\_INSTANT\_PROT\_FLAG

Fault Code: 10892	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check DC-link capacitors for any physical damage
- 2. Check healthiness of Inverter module input voltage sensor and its feedback section. if voltage sensor cards found defective, voltage sensor card needs to be replaced.

#### 3.99 A2AC MODULE OVER TEMPERATURE

Fault Code: 10893	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify if the fault is coming during po section for that particular channel 2. Check the ACU air filter. If it is choke	ower on it self, if so, verify PT100 sensor and feedback ed, clean the filter.

#### 3.100 A2HS THERMAL SWITCH FAIL

Fault Code: 10894	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify if the fault is coming during power on it self, if so, verify thermal switch sensor and feedback section for that particular channel. As Thermal Switch is internal to the module, LC+Inverter module needs to be replaced.
- 2. Check the ACU air filter. If it is choked, clean the filter.

## 3.101 A2INVERTER GD POWER SUPPLY FAIL

Fault Code: 10897	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify the connections from power s 2. There might be possibility of GD car	upply to GD section d failure, LC+Inverter module needs to be replaced

## 3.102 A2LC\_GATE\_VOLTAGE\_FAULT

Fault Code: 10898	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify the PWM connectors on control card are as per wiring diagram
- 2. If all are OK, there might be possibility of GD card failure or semiconductor failure, LC+Inverter module needs to be replaced

## 3.103 A2INV\_YPH\_GATE\_VOLTAGE\_FAULT

Fault Code: 10899	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify the PWM connectors on cont 2. If all are OK, there might be possibi LC+Inverter module needs to be rep	lity of GD card failure or semiconductor failure,

## 3.104 A2INV\_BPH\_GATE\_VOLTAGE\_FAULT

Fault Code: 10900	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify the PWM connectors on control card are as per wiring diagram.
- 2. If all are OK, there might be possibility of GD card failure or semiconductor failure, LC+Inverter module needs to be replaced.

## 3.105 A2INV OP INTERNAL ELD FAULT

Fault Code: 10901	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: Remove the ELD sensor feedback c to be replaced else ELD sensor asse	ables and verify, if still problem persists IO card need embly need to be replaced

#### 3.106 INTERNAL AMBIENT OVER TEMPRATURE

Fault Code: 10903	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel
- 2. Check the ACU air filter. If it is choked, clean the filter

## 3.107 A2PRE CHARGING CKT FAULT

	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
	Functional group- 3
ACU	
Check: verify pre charging resistor and its conn	ection.

## 3.108 A2PRE\_CHARG\_CONT\_STUK\_HIGH

Fault Code: 10905	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check whether feedback section of pre charging contactor is high (or closed) when the control supply is not given, if so replace the pre charging contactor else feedback channel for that particular section might be problem, replace the SIOA card and verify.
- 2. Check for any loose connections from SIOA card to control card.

## 3.109 805 A2PRE\_CHARG\_CONT\_STUK\_LOW

Fault Code: 10906	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
contactor to be replaced else SIOA 2.Check the auxiliary block of contacto	r and SIOA channel healthiness,if failure is observed ce auxiliary block else replace SIOA card.

## 3.110 A2IP\_CONT\_STUK\_HIGH

Fault Code: 10907	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check whether feedback section of input contactor is high (or closed) when the control supply is not given, if so replace the input contactor else feedback channel for that particular section might be problem, replace the SIOA card and verify.
- 2. Check for any loose connections) from SIOA card to control card

## 3.111 A2IP\_CONT\_STUK\_LOW

Fault Code: 10908	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Check the contactor coil and driving channel healthiness. If coil failure is observed, input contactor to be replaced else SIOA card to be replaced. 2. Check the auxiliary block of contactor and SIOA channel healthiness,if failure is observed	

- at auxiliary block of contactor, replace auxiliary block else replace SIOA card.
- 3. Check for any loose connections from SIOA card to control card.

## 3.112 A2THPH OP CONT STUCK HIGH

Fault Code: 10909	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check whether feedback section of three phase contactor is high (or closed) when the control supply is not given, if so replace the three phase contactor else feedback channel for that particular section might be problem, replace the SIOA card and verify.
- 2. Check for any loose connections from SIOA card to control card.

## 3.113 A2THPH OP CONT STUCK LOW

Fault Code: 10910	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
contactor to be replaced else SIOA 2.Check the auxiliary block of contacto	r and SIOA channel healthiness,if failure is observed ce auxiliary block else replace SIOA card.

#### 3.114 DC O/P CONT STUCK HIGH

10911	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check whether feedback section of DC output contactor is high (or closed) when the control supply is not given, if so replace the DC output contactor else feedback channel for that particular section might be problem, replace the SIOA card and verify
- 2. Check for any loose connections from SIOA card to control card

#### 3.115 DC O/P CONT STUCK LOW

Fault Code: 10912	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
contactor to be replaced else SIOA of 2. Check the auxiliary block of contactor	or and SIOA channel healthiness,if failure is observed ce auxiliary block else replace SIOA card.

#### 3.116 A2BLOW CONT STUCK HIGH

Fault Code: 10913	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check whether feedback section of blower contactor is high(or closed) when the control supply is not given, if so replace the blower contactor else feedback channel for that particular section might be problem, replace the SIOA card and verify.
- 2. Check for any loose connections from SIOA card to control card.

## 3.117 A2BLOW CONT STUCK LOW

Fault Code: 10914	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
contactor to be replaced else SIOA 2. Check the auxiliary block of contacto	or and IO channel healthiness, if failure is observed at auxiliary block else replace SIOA card.

#### 3.118 A2BLOWER OVER LOAD

Fault Code: 10915	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the blower CT sensors and its feedback section
- 2. Check the blower supply connections
- 3. Try to rotate the blower with hand, if any resistance in blower movement observed, replace the blower

#### 3.119 DC O/P REVERSE POLARITY

Fault Code: 10916	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify DC output cables for reverse 2. Verify reverse polarity card feedback	

#### 3.120 A2PLL UNABLE TO LOCK

Fault Code: 10917	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<b>Check:</b> Verify primary voltage connections, vol	tage sensor and its feedback section

## 3.121 A2CATERNARY VOLT FREQ OUT OF LIMITS

Fault Code: 10918	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
Check:	
Verify primary voltage connections, vol	tage sensor and its feedback section

## 3.122 A2DCLV SENSED HIGH DV/DT

Fault Code: 10919	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: Verify DC link voltage sensors and its f	eedback section

#### 3.124 A2VR PID SATURATION

Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Functional group- 3

## 3.123 A2INV SHDWN DUE TO BLWR

Fault Code: 10921	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
Check:	
Verify blower contactor and blower.	

## 3.125 DC O/P OVER VOLTAGE

Fault Code: 10976	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
	r physical damage put voltage sensor and its feedback section, As lule, DCDC module needs to be replaced.

# 3.126 DC O/P UNDER VOLTAGE

Fault Code: 10977	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check the healthiness of DCDC module output voltage sensor and its feedback section
- 2. If the sensor connections are OK and still the problem persists, DCDC module semiconductors might have failed, module need to be replaced.

#### 3.127 DC-DC IGBT MODULE THERMAL SWITCH FAIL

Fault Code:	Schematic:
10978	SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
Location:	For DTC, ED 1350 for TC, ED 1351 for NDTC
ACU	Functional group- 3
Check: 1. Verify if the fault is coming during po feedback section for that particular o 2. Check the ACU air filter. If it is choke	

#### 3.128 DC-DC MODULE OVER TEMPERATURE

Fault Code: 10979	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel.
- 2. Check the ACU air filter. If it is choked, clean the filter.

## 3.129 DC OP OVER CURRENT

Fault Code: 10980	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
happened or additional load added l	load side any partial short circuit might have beyond the rating. urrent sensor and its feedback section. As current

#### 3.130 DCDC I/P UNDER VOLTAGE

Fault Code: 10981	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Check AC2 DC-link capacitors for any physical damage, if found defective, DC Link Capacitor bank needs to be replaced.
- 2. Check the DC link voltage feedback sensor for any physical damage and verify its feedback cables. As voltage sensor is internal to the module, DCDC module needs to be replaced.

#### 3.131 DCDC I/P OVER VOLTAGE

Fault Code: 10982	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
	ysical damage. input voltage sensor and its feedback section. As lule, DCDC module needs to be replaced.

#### 3.132 DCDC GD POWER SUPPLY FAIL

10983	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify the PWM connectors on control card are as per wiring diagram.
- 2. If all are OK, there might be possibility of GD card failure or semiconductor failure, DCDC module needs to be replaced.

## 3.133 DC O/P VOLTAGE SENSOR FAULT

Fault Code: 10984	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: NA	

## 3.134 DC O/P CURRENT SENSOR FAULT

Fault Code: 10985	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check:	
NA	

# 3.135 DCDC\_GATE\_VOLTAGE\_FAULT

Fault Code: 10986	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Verify the PWM connectors on contr 2. If all are OK, there might be possibil module needs to be replaced.	ol card are as per wiring diagram. ity of GD card failure or semiconductor failure, DCDC

## 3.136 DCDC TXFR PRIMARY OVER CURRENT

Fault Code: 10987	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: Intimate to Medha staff.	

## 3.137 DCDC O/P OL WITH VOLT DIP

Fault Code: 10988	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

#### 3.138 A2415V AC ELD INDICATION

Fault Code: 11398	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Switch OFF all the AC loads, enable One by One load and check for the ELD indication at which load event is logged.
- 2. Check the power cables.
- 3. Remove the ELD sensor feedback cables and verify, if still problem persists IO card need to be replaced else ELD sensor assembly need to be replaced

#### 3.139 A2LC HS OVER TEMP EVENT

Fault Code: 11399	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348
	For DTC, ED 1350 for TC, ED 1351 for NDTC
Location:	Functional group- 3
ACU	
Check:	
<ol> <li>Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel.</li> <li>Check the ACU air filter. If it is choked, clean the filter.</li> </ol>	

#### 3.140 A2INT AMB OVER TEMP EVENT

11401	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel.
- 2. Check the ACU air filter. If it is choked, clean the filter.

## 3.141 DCDC IGBT HS OVER TEMP EVENT

Fault Code: 11507	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
<ul> <li>Check:</li> <li>1. Verify if the fault is coming during power on it self, if so, verify PT100 sensor and feedback section for that particular channel</li> <li>2. Check the ACU air filter. If it is choked, clean the filter</li> </ul>	

## 3.142 DC ELD INDICATION

Fault Code: 11527	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check:	

. .. . . . . .

1. Check for DC  $\,$  Power cable and its loads.

## 3.143 BN CONTACTOR STRUCK HIGH

Fault Code: 11530	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3
Check: 1. Enable the BN contactor OFF pulse 2. Check whether the contactor is OFF 3. If not, check by replacing a new coil, 4. Check the contactor feed back statu 5. If still problem persists, check wiring	or not. , contactor should disabled. s,lt should be low.

#### 3.144 BN CONTACTOR STRUCK LOW

Fault Code: 11531	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2, ED 1348 For DTC, ED 1350 for TC, ED 1351 for NDTC
Location: ACU	Functional group- 3

- 1. Enable the BN ON pulse contactor through Train line.
- 2. Check whether PFC relay is driving or not.
- 3. If not, Check whether the contactor is ON or not, If not, check by replacing a new coil, contactor shall enabled.
- 4. Check the contactor feed back status, it shall be high.
- 5. If still problem persists, check the wiring.

Chapter 4 LTC Faults

#### 4.1 Phase Module Temperature Sensor Faulty

Fault Code: 16897	Schematic:
10007	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

Check:

- 1. Check Sensor Resistance manually at atmospheric temperature it should be >100 ohms. (At 0 degC its Resistance is 100ohms and refer PT100 resistance vs temperature table)
- 2. Check the wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago and near phase modules.
- 3. Replace the MTICC card with new card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If the problem remains even after exchanging of cards, then change the Phase Module

#### 4.2 TM1 & TM2 Stator Temperature Sensors Faulty

Fault Code: 16898	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check Sensor Resistance manually at atmospheric temperature it should be >100 ohms. (At 0 degC its Resistance is 100ohms (At 0 degC its Resistance is 100ohms and refer PT100 resistance vs temperature table).)
- 2. Check the wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago and near traction motor and improper crimping at harting Connectors.
- 3. Replace the MTICC card with new card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If the problem remains even after exchanging of cards, then change the Temperature sensor

#### 4.3 TM1 Stator Temperature Sensor Faulty

Fault Code:	Schematic:
16900	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
<ol> <li>Check Sensor Resistance manually at atmospheric temperature it should be &gt;100 ohms. (At 0 degC its Resistance is 100ohms (At 0 degC its Resistance is 100ohms and refer PT100 resistance vs temperature table).</li> </ol>	
<ol> <li>Check the wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago and near traction motor and improper crimping at harting Connectors.</li> </ol>	
3. Replace the MTICC card with new card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new	

MTICC card.4. If the problem remains even after exchanging of cards, then change the Temperature sensor.

## 4.4 TM2 Stator Temperature Sensor Faulty

Fault Code: 16901	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check Sensor Resistance manually at atmospheric temperature it should be >100 ohms. (At 0 degC its Resistance is 100ohms (At 0 degC its Resistance is 100ohms and refer PT100 resistance vs temperature table).
- 2. Check the wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago and near traction motor and improper crimping at harting Connectors.
- 3. Replace the MTICC card with new card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If the problem remains even after exchanging of cards, then change the Temperature sensor

#### 4.5 Phase Module Temperature Crossed Max Limit

Fault Code:	Schematic:
16937	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
<ol> <li>Verify whether the Temperature of the phase module read by LTC/shown in display is genuinely high by comparing it's data with the coolant temperature and manually measuring/checking the LTC phase module temperature.</li> <li>If the temperature is really high, check for conditions where the coolant pump and Radiator blower are not in running condition (such as Blower, coolant pump related faults)</li> <li>If there are no blower, pump related faults and they are running normally, the temperature sensor may be malfunctioning. Then follow the "Phase Module Temperature Sensor Faulty" related actions.</li> </ol>	

#### 4.6 TM Stator Temperature Crossed Max Limit

Fault Code: 16938	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Verify whether the Temperature of the Traction motor read by LTC/shown in display is genuinely high by comparing it's data with the other TM temperature and manually measuring/checking the condition of the traction motor.
- 2. If the temperature is really high, check for conditions where the traction motor's filter is choked or wheel lock condition or motor failure cases.
- 3. If motor is normal and no choking of filters is observed, the temperature sensor may be malfunctioning or MTICC card may be problematic. Then follow the "TM1/TM2 Stator Temperature Sensor Faulty" related actions.

### 4.7 Unbalanced Phase Currents Detected Lockout

	Schematic:
16951	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
the inverter enters Lockout mode an	ected" fault occurs continuously for 3 times in an hour, ad will not take traction. It recovers automatically after a defined for "Unbalanced Phase Currents Detected"

#### 4.8 Unbalanced Phase Currents Detected

Fault Code: 16951	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Verify the connections at the Inverter output, Junction box and at the motor terminals and ensure their tightness
- 2. Replace the MTICC card with another MTICC card. If the problem shifted to other TICC card replace the MTICC card.
- 3. Conduct the OFC Self test. This gives checking of proper cable connections upto the TM and functioning of Current sensors.
- 4. If the problem remains even after exchanging of cards, then one or both of the traction motors may be defective. Validate motors individually to find out the defective motor.

#### 4.9 TM1 & TM2 Speed Sensor Connectors Open

Fault Code: 16965	Schematic: Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
<ul><li>and improper crimping at harting Co provided for the cable or not.</li><li>2. Replace with other MTICC card and change the card.</li></ul>	connectors. Also check for loose connections at wago nnectors. Also check whether proper shielding is check. If the problem is shifted to another card, changing of cards, then change the speed sensor and

#### 4.10 Rpm Crossed Maximum Limit

Fault Code:	Schematic:
17076	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Cross check whether the TM RPM is really crossing the set limit during the fault time by comparing it with the whole train speed. If the train speed is also beyond the permissible limit, then LTC need not be attended for this issue. Otherwise go for below steps
- 2. Check the Speed sensor cables are mixing up with any power cables.
- 3. Check the shielding of the speed sensor cable at both ends.
- 4. Change the speed sensor and check.
- 5. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.11 Phase Current Sensors Faulty

	Schematic:
17045	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: 1. Check the sensor supply connection 2. Check for unconnected power cable 3. Replace the existing MTICC card wi 4. Change the phase current sensors a	s during maintenance activity. th new one and check the operation.

#### 4.12 Pinion Slip Detected By TMC

Fault Code:	Schematic:
17047	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Cut out all the other inverters except the one which declared the fault. Keep the Inverter in active mode and apply 10 to 20% Torque. As only one inverter is enabled, It is not possible for the train to move. In this case, If the motors coupled to this inverter are showing finite RPM but no physical movement of the train is observed, Then Pinion Slip fault declared is genuine. Intimate Medha Staff.
- 2. If Motor RPM is showing zero in the above case, then fault may not be genuine. Intimate Medha Staff.

### 4.13 Gate Drive Power Supply Fail or RX Open SHD

Fault Code: 17049	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
<ol> <li>Check:</li> <li>Check the corresponding Rx of the OFC cable feed back light by removing the OFC cable at the MTICC card. If light is not coming check the insertion of the cable at the IGBT GD card. If this is proper, then IGBT GD card may be faulty. Replace the IGBT Phase module with another one.</li> <li>If light is coming, then replace the MTICC with new MTICC and check. If the problem is not coming with new TICC then old MTICC is faulty, otherwise the IGBT GD Card may be faulty.</li> </ol>	

### 4.14 Locked Axle Detected By TMC

Fault Code: 17051	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b>	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check physically whether the wheel is rotating when Traction is applied.
- 2. If wheel is not rotating even though the train is in motion, then fault declared is genuine.
- 3. If wheel is not locked and able to rotate, then Intimate Medha Staff.

### 4.15 Motor Phase Cables Reversed Shutdown

Fault Code: 17053	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: 1. Check the power cable connections/ 2. If the phase sequence is incorrect, th 3. If power cables are connected correc	nen the fault declared is genuine.

#### 4.16 PWM Vce Desaturation Fault Lockout

Fault Code: 17072	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1 ED1353 FOR MC2
MC Coach	

- 1. Check if any of the inverter power cable is open circuit/short circuit/damaged from the inverter Output terminal to the motor terminals. Check whether the OFC cables are fine and properly connected or not. Check for any loose connection in inverter output current sensors molex connectors.
- 2. Check for the current sensor wiring loose connection near wago.
- 3. If everything is good then replace the MTICC card with new one.
- 4. If problem still exists, then change the corresponding phase module.
- 5. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.17 Differential Rpm Shutdown Lockout

Fault Code: 17073	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
<ol> <li>Check:         <ol> <li>This fault shall always be associated with other speed sensor related faults. Therefore, Check the speed sensor wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago, improper crimping at harting Connectors.</li> <li>If wiring is verified, then replace the MTICC card with another one and check the operation by moving the train.</li> <li>If the operation is validated with new MTICC card also, then change the speed sensor with another one and check the performance.</li> <li>Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.</li> </ol> </li> </ol>	

#### 4.18 Current Crossed Maximum Limit Lockout

Fault Code:	Schematic:
17074	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Verify the OFC cable connections.
- 2. Verify the Inverter output connections for any loose contact or short circuit at the Junction Box or Traction Motor. Verify the inverter output current sensor molex connectors.
- 3. If wiring is verified and problem perisists, Replace the MTICC card with new MTICC card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If problem still exists, contact shed staff.
- 5. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.19 PWM Shutdown Transmit Open Lockout

Fault Code: 17075	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
<ul> <li>MC Coach</li> <li>Check:</li> <li>1. Check the corresponding Rx of the OFC cable feed back light by removing the OFC cable at the MTICC card. If light is not coming check the insertion of the cable at the IGBT GD card. If this is proper, then IGBT GD card may be faulty. Replace the IGBT Phase module with another one.</li> <li>2. If light is coming, then swap the MTICC with another MTICC and check. If the problem shifted to other TICC then MTICC is faulty, otherwise the IGBT GD Card may be faulty.</li> <li>3. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.</li> </ul>	

#### 4.20 Rpm Crossed Maximum Limit Lockout

Fault Code: 17076	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Cross check whether the TM RPM is really crossing the set limit during the fault time. If it really happens no need to do any activity. Otherwise go for below steps.
- 2. Check the Speed sensor cables are mixing up with any power cables.
- 3. Check the shielding of the speed sensor cable at both ends.
- 4. Change the speed sensor and check.
- 5. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.21 Phase Current Sensors Faulty Lockout

Fault Code: 17077	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
sensor. 2. If the connections are verified and pr MTICC card. If the problem shifted to 3. If the problem remains same after in	isor connections. Check for any damage of the current roblem persists, Replace the MTICC card with another o other TICC card replace the MTICC card. terchanging the cards, inform medha staff. hly after control power supply recycle of the

### 4.22 ATC-TMC Communication Fail issued by TMC Lockout

ault Code: 17078	Schematic: Functional Group 3&
ocation:	Sub Functional Group 2 ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Ensure that the software versions are updated correctly to recent values.
- 2. If problem still exists, replace the MTICC card with another MTICC card. If the problem shifted to other TICC card then replace the MTICC card with new card.
- 3. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.23 Pinion Slip Detected By TMC Lockout

Fault Code: 17079	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check:	

- 1. Cut out all the other inverters except the one which declared the fault. Keep the Inverter in active mode and apply 10 to 20% Torque. As only one inverter is enabled, It is not possible for the train to move. In this case, If the motors coupled to this inverter are showing finite RPM but no physical movement of the train is observed, Then Pinion Slip fault declared is genuine. Intimate Medha Staff.
- 2. If Motor RPM is showing zero in the above case, then fault may not be genuine. Intimate Medha Staff.
- 3. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.24 Control Data Checksum Failed Lockout

Fault Code: 17080	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b>	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Ensure that the software versions are updated correctly to recent values.
- 2. If problem still exists, replace the MTICC card with another MTICC card. If the problem shifted to other TICC card then replace the MTICC card with new card.
- 3. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.25 Gate Drive Power Supply Fail or RX Open SHD Lockout

	Schematic:
17081	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
<ol> <li>Check the corresponding Rx of the OFC cable feed back light by removing the OFC cable at the MTICC card. If it is not coming check the insertion of the cable at the IGBT GD card. If this is proper, then IGBT GD card may be faulty. Replace the IGBT Phase module with another one.</li> <li>If light is coming, then replace the MTICC with new MTICC card and check. If the problem</li> </ol>	
shifted to other TICC then MTICC is faulty, otherwise the IGBT GD Card may be faulty.	

<sup>3.</sup> Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

#### 4.26 DCLV Crossed Maximum Limit Lockout

Fault Code: 17082	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check the OHE status during the fault period . If there is any genuine issues w.r.t OHE supply like panto bounce, OHE variation ,priamry voltage out of range, then no action is necessary.
- 2. If problem persists, Replace the MTICC card with new card and check the operation.
- 3. If problem perisists, Change the DCLV sensor if DCLV voltage sensed by TC is abnormal.
- 4. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.27 Locked Axle Detected By TMC Lockout

	Schematic:
17083	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: 1. Check physically whether the wheel is rotating when Traction is applied. 2. If wheel is not rotating even though the train is in motion, then fault declared is genuine. 3. If wheel is not locked and able to rotate, then Intimate Medha Staff.	

#### 4.28 DCLV Below Minimum Limit Lockout

Fault Code: 17084	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check the OHE status during the fault period f. If there is any genuine issues w.r.t OHE supply like panto bounce, OHE variation ,primary voltage out of range, then no action is necessary.
- 2. If problem persists, Replace the MTICC card with new card and check the operation.
- 3. If problem perisists, Change the DCLV sensor if DCLV voltage sensed by TC is abnormal.
- 4. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.29 Motor Phase Cables Reversed Shutdown Lockout

Fault Code: 17085	Schematic: Functional Group 3&
Location: MC Coach	Sub Functional Group 2 ED1349 FOR MC1 ED1353 FOR MC2
Check: 1. Check the power cable connections/ 2. If the phase sequence is incorrect, th 3. If power cables are connected corre	nen the fault declared is genuine.

#### 4.30 ATC Shutdown Lockout

Fault Code: 17086	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. There are multiple reasons for this shutdown. The reason can be found out by seeing the fault message above this fault.
- 2. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.31 ATC-TMC Communication Fail Issued By ATC Lockout

Fault Code: 17087	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
shifted to other TICC card then repla	FICC card with another MTICC card. If the problem

### 4.32 U- Phase Current Sensor Faulty

Fault Code: 17092	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
This is an add-on message for the fault "Phase Current Sensors Faulty" to specify which sensor/analog channel is malfunctioning in the inverter	

# 4.33 V- Phase Current Sensor Faulty

Fault Code: 17093	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: This is an add-on message for the fa sensor/analog channel is malfunctio	ault "Phase Current Sensors Faulty" to specify which ning in the inverter.

### 4.34 W- Phase Current Sensor Faulty

Fault Code: 17094	Schematic:
17084	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: This is an add-on message for the fa sensor/analog channel is malfunctio	ault "Phase Current Sensors Faulty" to specify which ning in the inverter.

#### 4.35 Locked Axle Detected - Motor-1 By TMC

	Schematic:
17100	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
This is an add-on message for the fault "Locked Axle Detected By TMC" to specify which traction motor is sensed as 'locked'. Follow all actions as per "Locked Axle Detected By TMC" fault.	

#### 4.36 Locked Axle Detected - Motor-2 By TMC

Fault Code: 17101	Schematic: Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check:	

This is an add-on message for the fault "Locked Axle Detected By TMC" to specify which traction motor is sensed as 'locked'. Follow all actions as per "Locked Axle Detected By TMC" fault.

### 4.37 Pinion Slip Detected - Motor-1 By TMC

Fault Code:	Schematic:	
17102	Functional Group 3&	
	Sub Functional Group 2	
Location:	ED1349 FOR MC1	
MC Coach	ED1353 FOR MC2	
Check:		
This is an add-on message for the fault "Pinion Slip Detected By TMC" to specify which traction motor is sensed as faulty. Follow all actions as per "Pinion Slip Detected By TMC" fault.		

#### 4.38 Pinion Slip Detected - Motor-2 By TMC

Fault Code: 17103	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

Check:

This is an add-on message for the fault "Pinion Slip Detected By TMC" to specify which traction motor is sensed as faulty. Follow all actions as per "Pinion Slip Detected By TMC" fault.

### 4.39 Speed Sensor Connector Open- Detected By ATC in Motor-1

Fault Code: 17106	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
and improper crimping at harting Co	check. If the problem is shifted to another card,

#### 4.40 Speed Sensor Connector Open-Detected By ATC in Motor-2

Fault Code: 17109	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Properly connect TM Speed sensor connectors. Also check for loose connections at wago and improper crimping at harting Connectors.
- 2. Replace with other MTICC card and check. If the problem is shifted to another card, change the card.
- 3. If problem persists, then change the speed sensor.

### 4.41 Phase Module Temperature Sensor Faulty

Fault Code:	Schematic:
18945	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: 1. Check Sensor Resistance manually at atmospheric temperature it should be >100 ohms. (At 0 dogC its Resistance is 100 ohms and refer RT100 resistance we temperature table)	
<ul><li>(At 0 degC its Resistance is 100ohms and refer PT100 resistance vs temperature table)</li><li>2. Check the wiring for open or short circuit. Also check whether proper shielding is provided for the cable or pet Also check for loose connections at wage and near phase medules.</li></ul>	

- for the cable or not. Also check for loose connections at wago and near phase modules.3. Replace the MTICC card with new card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If the problem remains even after exchanging of cards, then change the Phase Module.

#### 4.42 TM1 & TM2 Stator Temperature Sensors Faulty

Fault Code: 18946	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check Sensor Resistance manually at atmospheric temperature it should be >100 ohms. (At 0 degC its Resistance is 100ohms (At 0 degC its Resistance is 100ohms and refer PT100 resistance vs temperature table).)
- 2. Check the wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago and near traction motor and improper crimping at harting Connectors.
- 3. Replace the MTICC card with new card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If the problem remains even after exchanging of cards, then change the Temperature sensor

### 4.43 TM1 Stator Temperature Sensor Faulty

Fault Code:	Schematic:
18948	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
<ol> <li>Check Sensor Resistance manually at atmospheric temperature it should be &gt;100 ohms. (At 0 degC its Resistance is 100ohms (At 0 degC its Resistance is 100ohms and refer PT100 resistance vs temperature table)</li> </ol>	
<ol> <li>Check the wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago and near traction motor and improper crimping at harting Connectors.</li> </ol>	
3. Replace the MTICC card with new card and check the operation. If the fault doesn't	

- repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If the problem remains even after exchanging of cards, then change the Temperature sensor.

#### 4.44 TM2 Stator Temperature Sensor Faulty

Fault Code: 18949	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check Sensor Resistance manually at atmospheric temperature it should be >100 ohms. (At 0 degC its Resistance is 100ohms (At 0 degC its Resistance is 100ohms and refer PT100 resistance vs temperature table).
- 2. Check the wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago and near traction motor and improper crimping at harting Connectors.
- 3. Replace the MTICC card with new card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If the problem remains even after exchanging of cards, then change the Temperature sensor.

### 4.45 Phase Module Temperature Crossed Max Limit

Fault Code: 18985	Schematic:
	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	e phase module read by LTC/shown in display is
<ul> <li>genuinely high by comparing it's data with the coolant temperature and manually measuring/checking the LTC phase module temperature.</li> <li>If the temperature is really high, check for conditions where the coolant pump and</li> </ul>	
<ul> <li>Radiator blower are not in running condition (such as Blower, coolant pump related faults).</li> <li>3. If there are no blower, pump related faults and they are running normally, the temperature sensor may be malfunctioning. Then follow the "Phase Module Temperature Sensor Faulty" related actions.</li> </ul>	

#### 4.46 TM Stator Temperature Crossed Max Limit

Fault Code: 18986	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Verify whether the Temperature of the Traction motor read by LTC/shown in display is genuinely high by comparing it's data with the other TM temperature and manually measuring/checking the condition of the traction motor.
- 2. If the temperature is really high, check for conditions where the traction motor's filter is choked or wheel lock condition or motor failure cases.
- 3. If motor is normal and no choking of filters is observed, the temperature sensor may be malfunctioning or MTICC card may be problematic. Then follow the "TM1/TM2 Stator Temperature Sensor Faulty" related actions.

### 4.47 Unbalanced Phase Currents Detected Lockout

Fault Code: 18999	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
If "Unbalanced Phase Currents Detected" fault occurs continuously for 3 times in an hour, the inverter enters Lockout mode and will not take traction. It recovers automatically after hour change. Follow actions that are defined for "Unbalanced Phase Currents Detected" fault.	

#### 4.48 Unbalanced Phase Currents Detected

Fault Code:	Schematic:
19010	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Verify the connections at the Inverter output, Junction box and at the motor terminals and ensure their tightness.
- 2. Replace the MTICC card with another MTICC card. If the problem shifted to other TICC card replace the MTICC card.
- 3. Conduct the OFC Self test. This gives checking of proper cable connections upto the TM and functioning of Current sensors.
- 4. If the problem remains even after exchanging of cards, then one or both of the traction motors may be defective. Validate motors individually to find out the defective motor.

### 4.49 TM1 & TM2 Speed Sensor Connectors Open

Fault Code:	Schematic:
19013	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
<ul><li>and improper crimping at harting Co provided for the cable or not.</li><li>2. Replace with other MTICC card and change the card.</li></ul>	connectors. Also check for loose connections at wago nnectors. Also check whether proper shielding is check. If the problem is shifted to another card, changing of cards, then change the speed sensor and

#### 4.50 Rpm Crossed Maximum Limit

Fault Code: 19092	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Cross check whether the TM RPM is really crossing the set limit during the fault time by comparing it with the whole train speed. If the train speed is also beyond the permissible limit, then LTC need not be attended for this issue. Otherwise go for below steps
- 2. Check the Speed sensor cables are mixing up with any power cables.
- 3. Check the shielding of the speed sensor cable at both ends.
- 4. Change the speed sensor and check.
- 5. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.51 Phase Current Sensors Faulty

Fault Code: 19093	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: 1. Check the sensor supply connection 2. Check for unconnected power cable 3. Replace the existing MTICC card wi 4. Change the phase current sensors a	s during maintenance activity. th new one and check the operation.

#### 4.52 Pinion Slip Detected By TMC

Fault Code: 19095	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Cut out all the other inverters except the one which declared the fault. Keep the Inverter in active mode and apply 10 to 20% Torque. As only one inverter is enabled, It is not possible for the train to move. In this case, If the motors coupled to this inverter are showing finite RPM but no physical movement of the train is observed, Then Pinion Slip fault declared is genuine. Intimate Medha Staff.
- 2. If Motor RPM is showing zero in the above case, then fault may not be genuine. Intimate Medha Staff.

### 4.53 Gate Drive Power Supply Fail or RX Open SHD

Fault Code: 19097	Schematic: Functional Group 3&
	Sub Functional Group 2
_ocation:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
<ul> <li>Check:</li> <li>1. Check the corresponding Rx of the OFC cable feed back light by removing the OFC cable at the MTICC card. If light is not coming check the insertion of the cable at the IGBT GD card. If this is proper, then IGBT GD card may be faulty. Replace the IGBT Phase module with another one.</li> <li>2. If light is coming, then replace the MTICC with new MTICC and check. If the problem is not coming with new TICC then old MTICC is faulty, otherwise the IGBT GD Card may be faulty.</li> </ul>	

#### 4.54 Locked Axle Detected By TMC

Fault Code: 19099	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b>	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check physically whether the wheel is rotating when Traction is applied.
- 2. If wheel is not rotating even though the train is in motion, then fault declared is genuine.
- 3. If wheel is not locked and able to rotate, then Intimate Medha Staff.

#### 4.55 Motor Phase Cables Reversed Shutdown

Fault Code: 19101	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: 1. Check the power cable connections/ 2. If the phase sequence is incorrect, th 3. If power cables are connected correct	nen the fault declared is genuine.

#### 4.56 PWM Vce Desaturation Fault Lockout

Fault Code: 19120	Schematic: Functional Group 3& Sub Functional Group 2
<b>Location:</b>	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check if any of the inverter power cable is open circuit/short circuit/damaged from the inverter Output terminal to the motor terminals. Check whether the OFC cables are fine and properly connected or not. Check for any loose connection in inverter output current sensors molex connectors.
- 2. Check for the current sensor wiring loose connection near wago.
- 3. If everything is good then replace the MTICC card with new one.
- 4. If problem still exists, then change the corresponding phase module.
- 5. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.57 Differential Rpm Shutdown Lockout

ault Code: 19121	Schematic:
	Functional Group 3&
	Sub Functional Group 2
ocation:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
<ol> <li>Check:</li> <li>This fault shall always be associated with other speed sensor related faults. Therefore, Check the speed sensor wiring for open or short circuit. Also check whether proper shielding is provided for the cable or not. Also check for loose connections at wago, improper crimping at harting Connectors.</li> <li>If wiring is verified, then replace the MTICC card with another one and check the operation by moving the train.</li> <li>If the operation is validated with new MTICC card also, then change the speed sensor with</li> </ol>	
another one and check the performance. 4. Recovery of this fault will happen only after control power supply recycle of the	

4. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

#### 4.58 Current Crossed Maximum Limit Lockout

Fault Code: 19122	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Verify the OFC cable connections.
- 2. Verify the Inverter output connections for any loose contact or short circuit at the Junction Box or Traction Motor. Verify the inverter output current sensor molex connectors.
- 3. If wiring is verified and problem perisists, Replace the MTICC card with new MTICC card and check the operation. If the fault doesn't repeat, then conclude that previous MTICC card was faulty. Continue operation with new MTICC card.
- 4. If problem still exists, contact shed staff.
- 5. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.59 PWM Shutdown Transmit Open Lockout

Fault Code: 19123	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
<ul> <li>MC Coach</li> <li>Check:</li> <li>1. Check the corresponding Rx of the OFC cable feed back light by removing the OFC cable at the MTICC card. If light is not coming check the insertion of the cable at the IGBT GD card. If this is proper, then IGBT GD card may be faulty. Replace the IGBT Phase module with another one.</li> <li>2. If light is coming, then swap the MTICC with another MTICC and check. If the problem shifted to other TICC then MTICC is faulty, otherwise the IGBT GD Card may be faulty.</li> <li>3. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.</li> </ul>	

#### 4.60 Rpm Crossed Maximum Limit Lockout

Fault Code: 19124	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Cross check whether the TM RPM is really crossing the set limit during the fault time. If it really happens no need to do any activity. Otherwise go for below steps.
- 2. Check the Speed sensor cables are mixing up with any power cables.
- 3. Check the shielding of the speed sensor cable at both ends.
- 4. Change the speed sensor and check.
- 5. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.61 Phase Current Sensors Faulty Lockout

Fault Code: 19125	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
sensor. 2. If the connections are verified and p MTICC card. If the problem shifted to 3. If the problem remains same after in	nsor connections. Check for any damage of the current roblem persists, Replace the MTICC card with another o other TICC card replace the MTICC card. terchanging the cards, inform medha staff. nly after control power supply recycle of the

#### 4.62 ATC-TMC Communication Fail issued by TMC Lockout

Fault Code: 19126	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Ensure that the software versions are updated correctly to recent values.
- 2. If problem still exists, replace the MTICC card with another MTICC card. If the problem shifted to other TICC card then replace the MTICC card with new card.
- 3. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.63 Pinion Slip Detected By TMC Lockout

Fault Code: 19127	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Chack	

Check:

- 1. Cut out all the other inverters except the one which declared the fault. Keep the Inverter in active mode and apply 10 to 20% Torque. As only one inverter is enabled, It is not possible for the train to move. In this case, If the motors coupled to this inverter are showing finite RPM but no physical movement of the train is observed, Then Pinion Slip fault declared is genuine. Intimate Medha Staff.
- 2. If Motor RPM is showing zero in the above case, then fault may not be genuine. Intimate Medha Staff.
- 3. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

#### 4.64 Control Data Checksum Failed Lockout

Fault Code: 19128	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b>	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Ensure that the software versions are updated correctly to recent values.
- 2. If problem still exists, replace the MTICC card with another MTICC card. If the problem shifted to other TICC card then replace the MTICC card with new card.
- 3. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

#### 4.65 Gate Drive Power Supply Fail or RX Open SHD Lockout

Fault Code: 19129	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1 ED1353 FOR MC2
MC Coach	
at the MTICC card. If it is not coming card. If this is proper, then IGBT GD with another one. 2. If light is coming, then replace the M shifted to other TICC then MTICC is	OFC cable feed back light by removing the OFC cable g check the insertion of the cable at the IGBT GD card may be faulty. Replace the IGBT Phase module TICC with new MTICC card and check. If the problem faulty, otherwise the IGBT GD Card may be faulty. Iy after control power supply recycle of the

#### 4.66 DCLV Crossed Maximum Limit Lockout

Fault Code:	Schematic:
19130	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check the OHE status during the fault period . If there is any genuine issues w.r.t OHE supply like panto bounce, OHE variation ,priamry voltage out of range, then no action is necessary.
- 2. If problem persists, Replace the MTICC card with new card and check the operation.
- 3. If problem perisists, Change the DCLV sensor if DCLV voltage sensed by TC is abnormal.
- 4. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.67 Locked Axle Detected By TMC Lockout

s genuine.

#### 4.68 DCLV Below Minimum Limit Lockout

Fault Code: 19132	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b>	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. Check the OHE status during the fault period f. If there is any genuine issues w.r.t OHE supply like panto bounce, OHE variation ,primary voltage out of range, then no action is necessary.
- 2. If problem persists, Replace the MTICC card with new card and check the operation.
- 3. If problem perisists, Change the DCLV sensor if DCLV voltage sensed by TC is abnormal.
- 4. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.69 Motor Phase Cables Reversed Shutdown Lockout

Fault Code: 19133	Schematic:	
	Functional Group 3& Sub Functional Group 2	
Location:	ED1349 FOR MC1	
MC Coach	ED1353 FOR MC2	
Check:		
<ol> <li>Check the power cable connections/ phase sequence of the Motors.</li> <li>If the phase sequence is incorrect, then the fault declared is genuine.</li> </ol>		
3. If power cables are connected correctly, Intimate Medha Staff.		

#### 4.70 ATC Shutdown Lockout

Fault Code:	Schematic:
19134	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

- 1. There are multiple reasons for this shutdown. The reason can be found out by seeing the fault message above this fault.
- 2. Recovery of this fault will happen only after control power supply recycle of the corresponding MTICC.

### 4.71 ATC-TMC Communication Fail Issued By ATC Lockout

Fault Code: 19135	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1 ED1353 FOR MC2
MC Coach	
shifted to other TICC card then repla	FICC card with another MTICC card. If the problem

#### 4.72 U- Phase Current Sensor Faulty

Fault Code: 19140	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: This is an add-on message for the fault "Phase Current Sensors Faulty" to specify which	

sensor/analog channel is malfunctioning in the inverter.

### 4.73 V- Phase Current Sensor Faulty

Fault Code: 19141	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: This is an add-on message for the fa sensor/analog channel is malfunctio	ault "Phase Current Sensors Faulty" to specify which ning in the inverter.

### 4.74 W- Phase Current Sensor Faulty

	Schematic:
19142	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
This is an add-on message for the fa sensor/analog channel is malfunction	ault "Phase Current Sensors Faulty" to specify which ning in the inverter.

#### 4.75 Locked Axle Detected - Motor-1 By TMC

	Schematic:
19148	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
	ult "Locked Axle Detected By TMC" to specify which Follow all actions as per "Locked Axle Detected By

## 4.76 Locked Axle Detected - Motor-2 By TMC

Fault Code: 19149	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check:	

This is an add-on message for the fault "Locked Axle Detected By TMC" to specify which traction motor is sensed as 'locked'. Follow all actions as per "Locked Axle Detected By TMC" fault.

### 4.77 Pinion Slip Detected - Motor-1 By TMC

	Schematic:
19150	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
	ault "Pinion Slip Detected By TMC" to specify which blow all actions as per "Pinion Slip Detected By TMC"

#### 4.78 Pinion Slip Detected - Motor-2 By TMC

Fault Code: 19151	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

Check:

This is an add-on message for the fault "Pinion Slip Detected By TMC" to specify which traction motor is sensed as faulty. Follow all actions as per "Pinion Slip Detected By TMC" fault.

## 4.79 Speed Sensor Connector Open- Detected By ATC in Motor-1

Fault Code: 19154	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
and improper crimping at harting Co	check. If the problem is shifted to another card,

#### 4.80 Speed Sensor Connector Open-Detected By ATC in Motor-2

Fault Code: 19157	Schematic: Functional Group 3& Sub Functional Group 2
<b>Location:</b>	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

Check:

- 1. Properly connect TM Speed sensor connectors. Also check for loose connections at wago and improper crimping at harting Connectors.
- 2. Replace with other MTICC card and check. If the problem is shifted to another card, change the card.
- 3. If problem persists, then change the speed sensor.

# 4.81 Precharging Contactor Stuck Open

Fault Code: 21026	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the related wiring. Check the MLTIOCOM Card. Confirm the failure of Contactor and re	place with New one.

# 4.82 Line Contactor Stuck Open

Fault Code: 21030	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the related wiring. Check the MLTIOCOM Card. Confirm the failure of Contactor and replace with New one.	

## 4.83 Line Contactor Stuck Closed

Fault Code: 21031	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the related wiring. Check the MLTIOCOM Card. Confirm the failure of Contactor and re	place with New one.

# 4.84 Precharging Failed

Fault Code: 21034	Schematic: Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the DC Link Terminals for any S Check the Precharging Circuit (Precha	hort Circuit. rging Contactor & Precharging Resistors).

# 4.85 Precharging Resistor Temperature High

Fault Code: 21037	Schematic: Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Ensure the Value and physical properti	es of the Resistor. Replace the resistors if damaged.

# 4.86 Input Line Contactor Stuck Close DCLV Below Min

	Schematic:
21044	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check: Check the related wiring. Check the MLTIOCOM Card. Confirm the failure of Contactor and replace with New one.	

## 4.87 Coolant Level is LOW

Fault Code: 21046	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Coolant Level guage. Check the MLTIOCOM Card. Check Coolant Level Switch related wi	ring.

## 4.88 Coolant Pressure is LOW

Fault Code: 21081	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the Pressure Sensor related wiring. Check the 3-Ph supply related wiring to Pump. Check the MLICC Card.	

#### 4.89 Blower Current Crossed Maximum Limit

Fault Code: 21100	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the related wiring. Check the MLICC Card. Check the Blower Motor for any failure	and replace with new one.

# 4.90 Pump Current Crossed Maximum Limit

Fault Code: 21101	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the related wiring. Check the MLICC Card. Check the Pump for any failure and rep	place with new one.

# 4.91 Secondary Input Over Current

Fault Code: 21248	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Secondary Chech the MLICC Card.	Current Sensor.

#### 4.92 LC PWM Ofc Tx Open

Fault Code: 21252	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2	
Location:	ED1349 FOR MC1	
MC Coach	ED1353 FOR MC2	
Check: Check the OFC Cable at Control Card and Phase Module side.		
Chech the MLICC Card.		

#### 4.93 LC PWM GDPS or Rx Fail

Fault Code: 21253	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the OFC Cable at Control Card Chech the MLICC Card.	and Phase Module side.

## 4.94 Earth Fault At Positive Side

Fault Code: 21258	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check:	

Check the Connections at Earth Fault Voltage Sensor. Check the MLICC Card. Check the Grounding of DC Link Positive terminal in LTC Unit.

# 4.95 Earth Fault At Negative Side

Fault Code: 21259	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Earth Fault Check the MLICC Card. Check the Grounding of DC Link Nega	

# 4.96 Earth Fault at Transformer Side

Fault Code: 21260	Schematic:
	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the Connections at Earth Fault	Voltage Sensor.
Check the MLICC Card. Check the Grounding of DC Link Positive/Negative terminal in LTC Unit.	
5	5

## 4.97 Earth Fault at Traction Motor Side

Fault Code: 21261	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Earth Fault Voltage Sensor. Check the MLICC Card. Check the Grounding of DC Link Positive/Negative terminal in LTC Unit.	

# 4.98 Primary Voltage Sensor Faulty Shd

Fault Code: 21266	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2	
Location:	ED1349 FOR MC1	
MC Coach	ED1353 FOR MC2	
Check:		
Check the Connections at Input Voltage Sensor. Check the MLICC Card.		

# 4.99 Secondary Current Sensor Faulty Shd

Fault Code: 21267	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Secondary Check the MLICC Card.	Current Sensor.

# 4.100 Brake Chopper Igbt Short Circuit

Fault Code:	Schematic:
21270	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Brake Chop Check MLICC Card. Check the Brake Chopper Circuit.	per Current Sensor.

## 4.101 DC Link Short Circuited

Fault Code: 21274	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at DC Link Vol Check for Short Circuit at DC Link Terr Check the MLICC Card.	

# 4.102 Brake Chopper Igbt GDPS or Rx-Fail

Fault Code: 21411	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the OFC Cable at Control Card Check the MLICC Card.	and Phase Module side

# 4.103 Secondary Input Over Current Lockout

Fault Code: 21440	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Secondary Chech the MLICC Card.	Current Sensor.

# 4.104 Input Line Frequency PLL Unable to Lock Lockout

Fault Code: 21441 Location: MC Coach	Schematic: Functional Group 3& Sub Functional Group 2 ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the Connections at Input Voltage Check the MLICC Card.	e Sensor.

# 4.105 Catenary Voltage Frequency Out of Limits Lockout

Fault Code: 21442	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Input Voltag Check the MLICC Card.	je Sensor.

## 4.106 LC PWM Vcesat Fault Lockout

Fault Code: 21443	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the OFC Cable at Control Card	and Phase Module side

## 4.107 LC PWM Ofc Tx Open Lockout

Fault Code: 21444 Location: MC Coach	Schematic: Functional Group 3& Sub Functional Group 2 ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the OFC Cable at Control Card	and Phase Module side.

## 4.108 LC PWM GDPS or Rx Fail Lockout

Fault Code: 21445	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the OFC Cable at Control Card	and Phase Module side.

# 4.109 Dc Link Voltage Crossed Max Limit Lockout

Fault Code: 21447	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at DC Link Vol Check the MLICC Card.	tage Sensor.

# 4.110 DCLV Sensed High Dv By Dt Lockout

Fault Code: 21448	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
<b>Location:</b> MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the Connections at DC Link Vol Check the MLICC Card.	age Sensor.

# 4.111 Dc Link Voltage Crossed Min Limit Lockout

Fault Code: 21449	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at DC Link Vol Check the MLICC Card.	tage Sensor.

# 4.112 Precharging Failed Lockout

Fault Code: 21460	Schematic:	
	Functional Group 3& Sub Functional Group 2	
Location:	ED1349 FOR MC1	
MC Coach	ED1353 FOR MC2	
Check:		
Check the DC Link Terminals for any Short Circuit. Check the Precharging Circuit (Precharging Contactor & Precharging Resistors).		

## 4.113 Line Converter Control Reached Saturation Lockout

Fault Code: 21461	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check:	
NA	

# 4.114 Precharging Contactor Stuck Open

Fault Code: 23074	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	

Check the related wiring. Check the MLTIOCOM Card. Confirm the failure of Contactor and replace with New one.

## 4.115 Line Contactor Stuck Open

Fault Code: 23078	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2	
Location:	ED1349 FOR MC1	
MC Coach	ED1353 FOR MC2	
Check:		
Check the related wiring. Check the MLTIOCOM Card. Confirm the failure of Contactor and replace with New one.		

## 4.116 Line Contactor Stuck Closed

Fault Code: 23079	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the related wiring	J.

Check the MLTIOCOM Card.

Confirm the failure of Contactor and replace with New one.

# 4.117 Precharging Failed

Fault Code: 23082	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the DC Link Terminals for any S Check the Precharging Circuit (Precha	hort Circuit. rging Contactor & Precharging Resistors).

# 4.118 Precharging Resistor Temperature High

Fault Code:	Schematic:
23085	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2

#### Check:

Ensure the Value and physical properties of the Resistor. Replace the resistors if damaged.

# 4.119 Input Line Contactor Stuck Close DCLV Below Min

Fault Code: 23092	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2	
Location:	ED1349 FOR MC1	
MC Coach	ED1353 FOR MC2	
Check:		
Check the related wiring. Check the MLTIOCOM Card. Confirm the failure of Contactor and replace with New one.		

#### 4.120 Coolant Level is LOW

Fault Code: 23094	Schematic: Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check:	

Check the Coolant Level guage. Check the MLTIOCOM Card. Check Coolant Level Switch related wiring.

## 4.121 Coolant Pressure is LOW

Fault Code: 23129	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Pressure Sensor related wir Check the 3-Ph supply related wiring to Check the MLICC Card.	

## 4.122 Blower Current Crossed Maximum Limit

	Schematic:
23148	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the related wiring.	
Check the MLICC Card. Check the Blower Motor for any failure and replace with new one.	
Crieck the blower Motor for any failure	and replace with new one.

# 4.123 Pump Current Crossed Maximum Limit

Fault Code: 23149	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the related wiring. Check the MLICC Card. Check the Pump for any failure and re	place with new one.

# 4.124 Secondary Input Over Current

Fault Code: 23296	Schematic:
	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Secondary ( Check the MLICC Card.	Current Sensor.

## 4.125 LC PWM Ofc Tx Open

23300	Schematic: Functional Group 3& Sub Functional Group 2 ED1349 FOR MC1
Location: MC Coach	ED1353 FOR MC2
Check: Check the OFC Cable at Control Card Check the MLICC Card.	and Phase Module side.

## 4.126 LC PWM GDPS or Rx Fail

Fault Code:	Schematic:
23301	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the OFC Cable at Control Car Check the MLICC Card.	d and Phase Module side.

#### 4.127 Earth Fault At Positive Side

Fault Code: 23306	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the Connections at Earth Fault Check the MLICC Card. Check the Grounding of DC Link Positi	

# 4.128 Earth Fault At Negative Side

Fault Code: 23307	Schematic: Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Earth Fault Check the MLICC Card. Check the Grounding of DC Link Nega	,

## 4.129 Earth Fault at Transformer Side

Fault Code:	Schematic:
23308	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Earth Fault Check the MLICC Card. Check the Grounding of DC Link Positi	-

# 4.130 Earth Fault at Traction Motor Side

	Schematic:
23309	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the Connections at Earth Fault Voltage Sensor. Check the MLICC Card. Check the Grounding of DC Link Positive/Negative terminal in LTC Unit.	

# 4.131 Primary Voltage Sensor Faulty Shd

Fault Code: 23314	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Input Voltage Sensor. Check the MLICC Card.	

# 4.132 Secondary Current Sensor Faulty Shd

Fault Code:	Schematic:
23315	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the Connections at Secondary Current Sensor. Check the MLICC Card.	

# 4.133 Brake Chopper Igbt Short Circuit

Fault Code: 23318	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
<b>Check:</b> Check the Connections at Brake Chop Check MLICC Card. Check the Brake Chopper Circuit.	per Current Sensor.

# 4.134 DC Link Short Circuited

Fault Code: 23322	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the Connections at DC Link Vol Check for Short Circuit at DC Link Terr Check the MLICC Card.	-

# 4.135 Brake Chopper Igbt GDPS or Rx-Fail

Fault Code: 23459	Schematic: Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the OFC Cable at Control Card Check the MLICC Card.	and Phase Module side

# 4.136 Secondary Input Over Current Lockout

Fault Code: 23488 Location:	Schematic: Functional Group 3& Sub Functional Group 2 ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at Secondary ( Check the MLICC Card.	Current Sensor.

# 4.137 Input Line Frequency PLL Unable to Lock Lockout

Fault Code: 23489	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the Connections at Input Voltag Check the MLICC Card.	e Sensor.

# 4.138 Catenary Voltage Frequency Out of Limits Lockout

Fault Code: 23490	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check: Check the Connections at Input Voltag Check the MLICC Card.	e Sensor.

## 4.139 LC PWM Vcesat Fault Lockout

Fault Code: 23491	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the OFC Cable at Control Card and Phase Module side.	

# 4.140 LC PWM Ofc Tx Open Lockout

Fault Code:	Schematic:
23492	Functional Group 3&
	Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the OFC Cable at	Control Card and Phase Module side.

## 4.141 LC PWM GDPS or Rx Fail Lockout

Fault Code: 23493	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the OFC Cable at Control Card and Phase Module side.	

# 4.142 Dc Link Voltage Crossed Max Limit Lockout

Fault Code: 23495	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at DC Link Voltage Sensor. Check the MLICC Card.	

# 4.143 DCLV Sensed High Dv By Dt Lockout

Fault Code: 23496	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the Connections at DC Link Voltage Sensor. Check the MLICC Card.	

# 4.144 Dc Link Voltage Crossed Min Limit Lockout

Fault Code: 23497	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check: Check the Connections at DC Link Voltage Sensor. Check the MLICC Card.	

# 4.145 Precharging Failed Lockout

Fault Code: 23508	<b>Schematic:</b> Functional Group 3& Sub Functional Group 2
Location:	ED1349 FOR MC1
MC Coach	ED1353 FOR MC2
Check:	
Check the DC Link Terminals for any Short Circuit. Check the Precharging Circuit (Precharging Contactor & Precharging Resistors).	

## 4.146 Line Converter Control Reached Saturation Lockout

Fault Code: 23509	Schematic: Functional Group 3& Sub Functional Group 2
Location: MC Coach	ED1349 FOR MC1 ED1353 FOR MC2
Check:	
NA	

# **Chapter 5 VFD Faults**

# 5.1 VFD Comp1 Inv OP Over current

Fault Code:	Schematic:
14672	
	NA
Location:	
RMPU	
Check: Verify the load currents at CCMS display, If more than the rated current is drawn by the VFD, check for any partial short circuit happened or additional load added beyond the rating of VFD. If so, make the connections properly and re check for the Fault recovery.	

# 5.2 VFD Comp1 Inv single phasing fault

Fault Code: 14673	Schematic:
	NA
Location:	
RMPU	
Check: Check for any Phase loose connection or partial disconnection of power cable at VFD output to VFD compressor. If so, make the connections correctly and re check for the fault recovery. Still fault repeats, change the VFD with new one.	

### 5.3 VFD Comp1 Inv OP Current Imbalance

Fault Code: 14674	Schematic:
	NA
Location:	
RMPU	
Check: Check for any Phase loose connection and partial disconnection of power cable at VFD	
input section and VFD output section. If so, make the connections correctly and recheck for the fault recovery. Still fault repeats, change the VFD drives or Change the Compressor to know which is faulty.	

### 5.4 VFD Comp2 Inv OP Over current

Fault Code: 14688	Schematic:
	NA
Location:	
RMPU	
the VFD, check for any partial short	splay, If more than the rated current is drawn by circuit happened or additional load added beyond the ections properly and re check for the Fault recovery.

# 5.5 VFD Comp2 Inv single phasing fault

Fault Code: 14689	Schematic:
	NA
Location:	
RMPU	
Check: Check for any Phase loose connect output to VFD compressor. If so, ma recovery. Still fault repeats, change	ion or partial disconnection of power cable at VFD ake the connections correctly and re check for the fault the VFD with new one

### 5.6 VFD Comp2 Inv OP Current Imbalance

Fault Code: 14690	Schematic:
	NA
Location:	
RMPU	
Check: Check for any Phase loose connection and partial disconnection of power cable at VFD input section and VFD output section. If so, make the connections correctly and recheck	
for the fault recovery. Still fault repeats, change the VFD drives or Change the Compressor to know which is faulty.	

### 5.7 VFD Emy1 Inv OP Over Current

Fault Code:	Schematic:
14704	
	NA
Location:	
RMPU	
check for any partial short circuit happ	ay, If more than the rated current is drawn by the VFD, ened or additional load added beyond the rating of erly and re check for the Fault recovery.

### 5.8 VFD Emy1 Inv single phasing fault

Fault Code: 14705	Schematic:
	NA
Location:	
RMPU	
Check:	
Check for any Phase loose connection or partial disconnection of power cable at VFD output to Blower. If so, make the connections correctly and re check for the fault recovery. Still fault repeats, change the VFD with new one.	

### 5.9 VFD Emy1 inv op current imbalance

Fault Code:	Schematic:
14706	
	NA
Location:	
RMPU	
Check: Check for any Phase loose connection and partial disconnection of power cable at VFD	
input section and VFD output section. If so, make the connections correctly and recheck for the fault recovery. Still fault repeats, change the VFD drives or Change the Blower to know which is faulty.	

## 5.10 VFD Emy2 Inv OP Over Current

Fault Code: 14736	Schematic:
	NA
Location:	
RMPU	
Check:	
Verify the load currents at CCMS display, If more than the rated current is drawn by the VFD, check for any partial short circuit happened or additional load added beyond the rating of VFD. If so, make the connections properly and re check for the Fault recovery.	

## 5.11 VFD Emy2 Inv single phasing fault

Fault Code: 14737	Schematic:
	NA
Location:	
RMPU	
Check:	
Check for any Phase loose connection or partial disconnection of power cable at VFD output to Blower. If so, make the connections correctly and re check for the fault recovery. Still fault repeats, change the VFD with new one.	

### 5.12 VFD Emy2 inv op current imbalance

Fault Code: 14738	Schematic:
	NA
Location:	
RMPU	
Check: Check for any Phase loose connection and partial disconnection of power cable at VFD input section and VFD output section. If so, make the connections correctly and recheck for the fault recovery. Still fault repeats, change the VFD drives or Change the Blower to know which is faulty.	

Chapter 6 HVAC Faults

### 6.1 R1 OVH Too Hot

Fault Code:	Schematic:
14593	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
Location:	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2
RMPU	Functional group- 11
	Sub Functional group-1
Check:	
<ol> <li>Check the wiring from RMPU Control unit to Heater Sensor</li> <li>If wiring is ok, Check the Heater Digital input it should be High,</li> </ol>	

3. If still problem persists, replace the Heater.

#### 6.2 R1 Cond Fan1 Over temperature

Fault Code:	Schematic:
14595	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1 Check the wiring from RMPU Control unit to Condenser fan Sensor.
- 2. If wiring is ok, Check the Condenser fan Digital input it should be High.
- 3. If still problem persists, replace the Condenser fan.

#### 6.3 R1 Cond Fan2 Over temperature

Fault Code: 14596	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
<b>Location:</b> RMPU	NDTC2 Functional group- 11 Sub Functional group-1
Chack	

Check:

- 1 Check the wiring from RMPU Control unit to Condenser fan Sensor.
- 2. If wiring is ok, Check the Condenser fan Digital input it should be High,
- 3. If still problem persists, replace the Condenser fan .

#### 6.4 R1 Comp1 LPS Faulty

	Schematic:
14613	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
	Functional group- 11
	Sub Functional group-1

- 1. check the wiring between RMPU unit to corresponding pressure sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

### 6.5 R1 Comp2 LPS Faulty

14614	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
	NDTC2
	Functional group- 11 Sub Functional group-1

#### Check:

- 1. check the wiring between RMPU unit to corresponding pressure sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.6 R1 Comp1 HPS Faulty

Fault Code:	Schematic:
14615	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1. check the wiring between RMPU unit to corresponding pressure sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.7 R1 Comp2 HPS Faulty

14616	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
	NDTC2
	Functional group- 11 Sub Functional group-1

#### Check:

- 1. check the wiring between RMPU unit to corresponding pressure sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.8 R1 SAS Limit Error

Fault Code:	Schematic:
14617	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1. Check the wiring between RMPU unit to corresponding supply air sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.9 R1 Comp1 LP Fault Lockout

14618 Location: RMPU	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 11 Sub Functional group-1
Check:	

- 1. Check the wiring between RMPU unit to corresponding sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.10 R1 Comp2 LP Fault Lockout

Fault Code:	Schematic:
14619	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1. Check the wiring between RMPU unit to corresponding sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.11 R1 Comp1 HP Fault Lockout

Fault Code: 14620	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location RMPU	NDTC2 Functional group- 11 Sub Functional group-1
Check: 1. Check the wiring betv	veen RMPU unit to corresponding sensor.

- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.12 R1 Comp2 HP Fault Lockout

Fault Code:	Schematic:
14621	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1. Check the wiring between RMPU unit to corresponding sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.13 R1 Overhead Heat Locked Out

Fault Code: 14622	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11 Sub Functional group-1

#### Check:

- 1 Check the wiring from RMPU Control unit to Heater Sensor.
- 2. If wiring is ok, Check the Heater Digital input it should be High,
- 3. If still problem persists, replace the Heater.

#### 6.14 R2 OVH Too Hot

14633	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
RMPU	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 11 Sub Functional group-1

- 1 Check the wiring from RMPU Control unit to Heater Sensor.
- 2. If wiring is ok, Check the Heater Digital input it should be High,
- 3. If still problem persists, replace the Heater.

#### 6.15 R2 Cond Fan1 Over temperature

Fault Code:	Schematic:
14635	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2,
	ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1
Check:	
1 Check the wiring from	n RMPU Control unit to Condenser fan Sensor.

- If wiring is ok, Check the Condenser fan Digital input it should be High,
- 3. If still problem persists, replace the Condenser fan.

#### 6.16 R2 Cond Fan2 Over temperature

		Schematic:
	14636	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
		FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
		1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
I	_ocation:	NDTC2
F	RMPU	Functional group- 11
ľ		Sub Functional group-1

- 1 Check the wiring from RMPU Control unit to Condenser fan Sensor.
- 2. If wiring is ok, Check the Condenser fan Digital input it should be High,
- 3. If still problem persists, replace the Condenser fan.

### 6.17 R2 Comp1 LPS Faulty

14653	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
	NDTC2
	Functional group- 11 Sub Functional group-1

Check:

- 1. check the wiring between RMPU unit to corresponding pressure sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.18 R2 Comp2 LPS Faulty

Fault Code:	Schematic:
14654	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1. check the wiring between RMPU unit to corresponding pressure sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.19 R2 Comp1 HPS Faulty

14655 Location: RMPU	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 11 Sub Functional group-1
Check:	

- 1. check the wiring between RMPU unit to corresponding pressure sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.20 R2 Comp2 HPS Faulty

Fault Code:	Schematic:
14656	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1. check the wiring between RMPU unit to corresponding pressure sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.21 R2 SAS Limit Error

14657	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
	NDTC2
	Functional group- 11 Sub Functional group-1

#### Check:

- 1. check the wiring between RMPU unit to corresponding supply air sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.22 R2 Comp1 LP Fault Lockout

Fault Code:	Schematic:
14658	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1. check the wiring between RMPU unit to corresponding sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.23 R2 Comp2 LP Fault Lockout

14659 Location: RMPU	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR NDTC2 Functional group- 11 Sub Functional group-1
Check: 1. check the wiring between RMPU uni 2. If wiring is ok, then Check replace se 3. Still if problem persists, replace the l	ensor with ok one,

#### 6.24 R2 Comp1 HP Fault Lockout

Fault Code:	Schematic:
14660	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1. check the wiring between RMPU unit to corresponding sensor.
- 2. If wiring is ok, then Check replace sensor with ok one,
- 3. Still if problem persists, replace the RMPU unit.

#### 6.25 R2 Comp2 HP Fault Lockout

Fault Code: 14661	Schematic: SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348 FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED 1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location: RMPU	NDTC2 Functional group- 11 Sub Functional group-1
Check: 1. check the wiring between RMPU unit to corresponding sensor. 2. If wiring is ok, then Check replace sensor with ok one, 3. Still if problem persists, replace the RMPU unit.	

#### 6.26 R2 Overhead Heat Locked Out

Fault Code:	Schematic:
14662	SCHEMATIC DIAGRAM FOR MAE675UV2 ED 1348
	FOR DTC, ED 1349 for MC1,ED 1353 FOR MC2, ED
	1350 for TC,ED 1351 FOR NDTC1,ED 1352 FOR
Location:	NDTC2
RMPU	Functional group- 11
	Sub Functional group-1

- 1 Check the wiring from RMPU Control unit to Heater Sensor.
- 2. If wiring is ok, Check the Heater Digital input it should be High,
- 3. If still problem persists, replace the Heater.

Chapter 7 PIS Faults

### 7.1 GPS Communication Fail

Fault Code: 31232	Schematic: ED-1348 and Sub FG-14
Location: DTC	
Check: 1.Check the Health status of GPS in M 2.Check the GPS connector at MCP. 3.Check the wiring between the MCP a 4.Replace the GPS Antenna.	

## 7.2 CCTV Communication Fail

Fault Code: 31233	Schematic: ED-1348 and Sub FG-14
Location: DTC	
Check: 1.Check the health at MCP. 2.Check the CCTV display power cond 3.Check the connection between switc	

#### 7.3 TCMS Communication Fail

Fault Code: 31234	Schematic: ED-1348 and Sub FG-14
Location:	
DTC	
Check:	
1.Check the health at MCP.	
2.Check the TCMS display power condition.	
3.Check the connection between the TCMS display and switch and LED status at switch.	

# 7.4 Speed Recorder Communication Fail

Fault Code: 31235	Schematic: ED-1348 and Sub FG-14
Location:	
DTC	
Check:	
1.Check the health at MCP.	
2.Check the Speed Recorder power condition.	
3.Check the connection between the Speed Recorder and switch and LED status at switch.	

### 7.5 Train Radio Communication Fail

Fault Code: 31236	Schematic: ED-1348 and Sub FG-14
Location:	
DTC	
Check:	
Not Applicable.	

## 7.6 CC1 Communication Fail

Fault Code: 31237	Schematic: ED-1348 and Sub FG-14
Location:	
DTC	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Module.	
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC module and the Switch.	
5.Replace the CC Module.	

#### 7.7 CC2 Communication Fail

Fault Code: 31238	Schematic: ED-1349 and Sub FG-14
Location: MC1	
Check:	
1.Check the CC health in MCP. 2.Check the Power condition of CC Module.	
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC module and the Switch.	
5.Replace the CC Module.	

## 7.8 CC3 Communication Fail

Fault Code: 31239 Location: TC	Schematic: ED-1350 and Sub FG-14
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Module.	
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC module and the Switch.	
5.Replace the CC Module.	

## 7.9 CC4 Communication Fail

Fault Code: 31240	Schematic: ED-1353 and Sub FG-14
Location: MC2	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Mc	dule.
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC mo	odule and the Switch.
5.Replace the CC Module.	

## 7.10 CC5 Communication Fail

Fault Code: 31241 Location:	Schematic: ED-1349 and Sub FG-14
MC1	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Module.	
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC module and the Switch.	
5.Replace the CC Module.	

#### 7.11 CC6 Communication Fail

Fault Code: 31242	Schematic: ED-1350 and Sub FG-14
Location: TC	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Module.	
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC module and the Switch.	
5.Replace the CC Module.	

## 7.12 CC7 Communication Fail

Fault Code: 31243 Location: MC2	Schematic: ED-1353 and Sub FG-14
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Module.	
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC module and the Switch.	
5.Replace the CC Module.	

### 7.13 CC8 Communication Fail

Fault Code: 31244	Schematic: ED-1351 and Sub FG-14
Location: NDTC-1	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Mo	dule.
3.Check the Health LED in CC Module	
4.Check the wiring between the CC mo	odule and the Switch.
5.Replace the CC Module.	

## 7.14 CC9 Communication Fail

Fault Code: 31245	Schematic: ED-1352 and Sub FG-14
Location:	
NDTC-2	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Module.	
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC module and the Switch.	
5.Replace the CC Module.	

#### 7.15 CC10 Communication Fail

Fault Code: 31246	Schematic: ED-1353 and Sub FG-14
Location: MC2	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Mo	dule.
3.Check the Health LED in CC Module	
4.Check the wiring between the CC mo	odule and the Switch.
5.Replace the CC Module.	

## 7.16 CC11 Communication Fail

Fault Code: 31247 Location: TC	Schematic: ED-1350 and Sub FG-14
Check: 1.Check the CC health in MCP.	
<ul><li>2.Check the Power condition of CC Module.</li><li>3.Check the Health LED in CC Module.</li><li>4.Check the wiring between the CC module and the Switch.</li></ul>	
5.Replace the CC Module.	

### 7.17 CC12 Communication Fail

Fault Code: 31248	Schematic: ED-1349 and Sub FG-14
Location:	
MC1	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Mo	dule.
3.Check the Health LED in CC Module	
4.Check the wiring between the CC mo	odule and the Switch.
5.Replace the CC Module.	

### 7.18 CC13 Communication Fail

Fault Code: 31249	Schematic: ED-1353 and Sub FG-14
Location:	
MC2	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Mo	dule.
3.Check the Health LED in CC Module	
4.Check the wiring between the CC mo	odule and the Switch.
5.Replace the CC Module.	

#### 7.19 CC14 Communication Fail

Fault Code: 31250	Schematic: ED-1350 and Sub FG-14
Location: TC	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Mo	dule.
3.Check the Health LED in CC Module.	
4.Check the wiring between the CC mo	odule and the Switch.
5.Replace the CC Module.	

## 7.20 CC15 Communication Fail

Fault Code: 31251 Location:	Schematic: ED-1349 and Sub FG-14
MC1	
Check:	
1.Check the CC health in MCP.	
2.Check the Power condition of CC Mo	dule.
3.Check the Health LED in CC Module	
4.Check the wiring between the CC mo	odule and the Switch.
5.Replace the CC Module.	

### 7.21 CC16 Communication Fail

Fault Code: 31252	Schematic: ED-1348 and Sub FG-14
Location: DTC	
Check: 1.Check the CC health in MCP.	
2.Check the Power condition of CC Mo 3.Check the Health LED in CC Module	
4.Check the wiring between the CC mo	
5.Replace the CC Module.	

### 7.22 MCP Master Communication Fail

Fault Code: 31261	Schematic: ED-1348 and Sub FG-14	
Location:	<b>`</b>	
DTC		
Check:		
1.Check the Power Condition of MCP Module.		
2.Check the Communication connection at MCP.		
3.Check the Communication connector at switch.		
4.Replace the MCP Module.		

### 7.23 MCP Follower Communication Fail

Fault Code: 31262	Schematic: ED-1348 and Sub FG-14
Location:	
DTC	
Check:	
1.Check the Power Condition of MCP	Module.
2.Check the Communication connectio	n at MCP.
3.Check the Communication connector	at switch.
4.Replace the MCP Module.	

### 7.24 MCP Power On

Fault Code: 31744	<b>Schematic:</b> ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

### 7.25 Menu Granted

Fault Code: 31745	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

# 7.26 Route Selected Successfully

Fault Code: 31746	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.27 Route Deselected

Fault Code: 31747	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
<b>Check:</b> Informative Message.	

## 7.28 Manual Message Selected

Fault Code: 31748	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

### 7.29 Manual Audio Selected

Fault Code: 31749	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

# 7.30 Manual Message and Audio Selected

Fault Code: 31750	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.31 DVA Volume Selected

Fault Code: 31751	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.32 PA Volume Selected

Fault Code: 31752	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.33 IC Volume Selected

Fault Code: 31753	<b>Schematic:</b> ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.34 ETBU Volume Selected

Fault Code: 31754	<b>Schematic:</b> ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location:	ED-1352
TRAIN	
Check:	
Informative Message.	

## 7.35 RSF Message Played

Fault Code: 31755	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
<b>Check:</b> Informative Message.	

#### 7.36 Station co-ordinate detected

Fault Code: 31756	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.37 Speed zero detected

Fault Code: 31757	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.38 Departure detected

Fault Code: 31758	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.39 Arrival detected

Fault Code: 31759	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.40 Last Station detected

Fault Code: 31760	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.41 PA Enabled

Fault Code: 31761	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.42 PA Disabled

Fault Code: 31762	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.43 IC Enabled

Fault Code: 31763	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.44 IC Disabled

Fault Code: 31764	<b>Schematic:</b> ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.45 Loud Speaker Test Enabled

Fault Code: 31765	<b>Schematic:</b> ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
<b>Check:</b> Informative Message.	

## 7.46 Loud speaker test disabled

Fault Code: 31766	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.47 Display Test Enabled

Fault Code: 31767	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.48 Display Test Disabled

Fault Code: 31768	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.49 Switched to Automatic Mode

Fault Code: 31770	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.50 Simulation Mode Enabled

Fault Code: 31771	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	
	INA 420 Dev

#### 7.51 Simulation Mode Disabled

Fault Code: 31772	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.52 Rake Direction Changed

Fault Code: 31773	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.53 GPS Change over detected

Fault Code: 31776	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
<b>Check:</b> Informative Message.	

#### 7.54 ETBU1 Request

Fault Code: 31793	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location:	ED-1352
TRAIN	
Check:	
Informative Message.	

## 7.55 ETBU1 Request TimeOut

Fault Code: 31794	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.56 ETBU1 Accept

Fault Code: 31795	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.57 ETBU1 Reject

Fault Code: 31796	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.58 ETBU1 END

Fault Code: 31797	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.59 ETBU1 Call Timeout

Fault Code: 31798	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.60 ETBU2 Request

Fault Code: 31799	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.61 ETBU2 Request Timeout

Fault Code: 31800	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.62 ETBU2 Accept

Fault Code: 31801	<b>Schematic:</b> ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.63 ETBU2 Reject

Fault Code: 31802	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.64 ETBU2 END

Fault Code: 31803	<b>Schematic:</b> ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.65 ETBU2 Call Timeout

Fault Code: 31804	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.66 ETBU3 Request

Fault Code: 31805	<b>Schematic:</b> ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.67 ETBU3 Request Timeout

Fault Code: 31806	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.68 ETBU3 Accept

Fault Code: 31807	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.69 ETBU3 Reject

Fault Code: 31808	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.70 ETBU3 END

Fault Code: 31809	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.71 ETBU3 Call Timeout

Fault Code: 31810	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.72 ETBU4 Request

Fault Code: 31811	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.73 ETBU4 Request Timeout

Fault Code: 31812	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.74 ETBU4 Accept

Fault Code: 31813	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.75 ETBU4 Reject

Fault Code: 31814	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.76 ETBU4 END

Fault Code: 31815	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.77 ETBU4 Call Timeout

Fault Code: 31816	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.78 ETBU5 Request

Fault Code: 31817	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.79 ETBU5 Request Timeout

Fault Code: 31818	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.80 ETBU5 Accept

Fault Code: 31819	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.81 ETBU5 Reject

Fault Code: 31820	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.82 ETBU5 END

Fault Code: 31821	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.83 ETBU5 Call Timeout

Fault Code: 31822	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.84 ETBU6 Request

Fault Code: 31823	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.85 ETBU6 Request Timeout

Fault Code: 31824	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.86 ETBU6 Accept

Fault Code: 31825	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.87 ETBU6 Reject

Fault Code: 31826	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

#### 7.88 ETBU6 END

Fault Code: 31827	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

## 7.89 ETBU6 Call Timeout

Fault Code: 31828	Schematic: ED-1348 and Sub FG-14,ED-1349 and Sub FG-14,ED-1353,ED-1350 and Sub FG-14,ED-1351 &
Location: TRAIN	ED-1352
Check: Informative Message.	

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Troubleshooting Manual

## **25 KV AC THREE PHASE PROPULSION & OTHER EQUIPMENT FOR TRAIN SET**

**TYPE MAE675UV2 TRAIN SET** 



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