Doc No.: SD-8628	Rev. No.: 00	Page 1 of 4	Product Code: MAE675UV2		MEDHA MEDHA
Title: MAINTENANC MAE675UV2					
Prd By: DURGA RAO	Chkd By: DEVENDER.S	Appd By: I	KJSRK	Date	
Sign: DURGA RAO	Sign: DEVENDER.S	Sign: KJS	રા	25.08.2022	

## 1. Introduction

During maintenance of Line and Traction Converter (LTC) unit or DC link earthing switch, entire rake OHE power is switched OFF and power circuit in the Basic Unit (BU) is safely connected to earth from the pantograph to traction. Transformer and then to LTC unit. To properly ensure all these things, a safety interlock system with lock and key is provided in the system.



Fig 1.1 Front View



Fig 1.2 Rear View

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	E PROCEDURE OF	DC L	INK EART	HING SW	ІТСН-	
MAE675UV2 Prd By: Durga rao Chkd By: Devender.s Appd By: KJSRK Date						
Sign: DURGA RAO				25.08.2022		
_	<u> </u>		-			
<ul> <li>For any muser need</li> <li>To avoid of DC link po</li> <li>This can b DC link ea</li> <li>Both the L</li> <li>4- poles of To operate blue color</li> <li>After removes from the Vith this shorted a box in the Vith this shorted a</li> <li>Yellow co</li> <li>Release</li> <li>To know to switch, Net State of the Vith this shorted to switch, Net State of the Vith this shorted to switch, Net State of the Vith this shorted to switch, Net State of the Vith this shorted to switch, Net State of the Vith this shorted to switch, Net State of the Vith the Vith the State of the Vith the</li></ul>	positive and negative te be done by operating to arthing switch box, wh TC unit positive and r of DC link earthing switch e DC link earthing switch out key. noving the blue colour om the system, due to e key in 25 kV roof ear w colour keys gets re any one of the yellow e underframe and ope , all the positive and r	relations so see paciti ermin the E ich h nega itch. key, arthin lease colo erate negati d in t n the n the als a	ed to LTC u ecured that tor from stra als of LTC o DC link earth as one 4-po tive termina down the p pneumatic y reason an g switch an ed and blue ur key and i it. tive termina n and provic he DC link ear arthing are connected	the DC lin ay charging unit. hing switch ole DC linh ils in the s antograph pressure d pantogra d operate key will b insert it int ls of two L les safe co earthing swit ed to MCC	k voltage s g, it is recor h, Each mo k earthing s ame MC ar n of BU and does not bu aph will not its handle to the DC lin to difficient for witch panel ch panel.	hall beat zero volts. mmended to short the tor coach consists one witch. e connected to release the pantograph uild up, even if command raise. to earth position. the panel. nk earthing switch the same MC shall be maintenance activities.
					Earthing	Switch
			Fig 1.3			
					► I/P	: O/P Terminal
			Fig 1.4			
			-			

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Sign: DURGA RAO Sig	IN: DEVENDER.S	Sign: KJS	RK	25.08.2022			
<ul> <li>To restore to actual conditions, follow the same steps from last to first.</li> <li>Insert green colour key into the DC link earthing switch and rotate the handle to normal working mode.</li> <li>Then green colour key will gets locked and Yellow key is released from the DC link earthing switch.</li> <li>Insert yellow key in 25 kV AC roof earthing switch and move the earthing switch handle to working conditions.</li> <li>Then two yellow keys gets locked and blue colour key will be released from the 25 kV AC roof earthing switch.</li> <li>Insert blue key into pantograph and rotate the key into its normal slot.</li> <li>With this, pantograph doesnot raise automatically. If command comes from the system, pantograph raises.</li> </ul>							
3. Activities to be a Switch unit: Before any maintenar or any activity in the u dangerous high voltage	ice activity related t nder frame, followir	o line and trac	tion conve	erter unit, D	C Link earthing switch,		
<ol> <li>Ensure that the all the pantographs are in down conditions in the rake. Open all the VCBs in the system. Wait for 10 minutes from the instant the VCB's get opened.</li> <li>Remove the blue key from all the pantographs in the rake so that the pantographs are not be raised, during maintenance.</li> <li>Use the blue key to operate VCB earthing switch into earth position in all four basic units. This ensures OHE in earth condition, under all situations, even if any body operates. Release the yellow key from the VCB earthing switch. Yellow key is used to operate the DC link earthing switch of LTC units.</li> <li>Insert the yellow key in the DC link earthing of the motor coach and rotate it. Then rotate the DC link earthing switch handle, as per the direction given on the earthing switch panel to connect DC link connection to earth.</li> <li>After completion of maintenance work, follow the opposite sequence mentioned above to restore normal conditions. Otherwise the system does not get the OHE power supply.</li> </ol>							
4. Cleaning	compression latches	1		Door Mount			
	Front panel		Re	ar panel			

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<ul> <li>Use key and spanners provided with unit to open the doors.</li> <li>Spanner sizes:         <ul> <li>For M6 - 10-11mm</li> <li>For M8 - 12-13mm</li> <li>For M10 - 16-17mm</li> </ul> </li> </ul>								
4.1 Cleaning th	e UN	I-Ventilated s	sec	ctions:				
<ul> <li>Do not use water, solvents, or compressed air.</li> <li>Dust and dirt deposits must be vacuumed up.</li> <li>Remove all unventilated doors.</li> <li>Vacuum or brush out the equipment sections and components, lint free cloth may be used if required.</li> </ul>								
4.2 Cleaning the Ventilated Section:								
<ul> <li>Do not use steam or water jets.</li> <li>Do not use aggressive solvents.</li> <li>Use oil free or acid free compressed air only.</li> </ul>								
5. Removing Earth Switch								
		rake is disconn e given in the se			E supply a	and follow th	e	
<ul> <li>Wear ESD shoes apron and ESD wrist band with other end grounded.</li> <li>Open the earthing switch unit door with key.</li> <li>Remove the IP/ OP connections.</li> <li>By using 18-19 spanner, remove M12 bolts (4nos).</li> <li>Remove DC earthing switch form the enclosure.</li> </ul>								
5.1 Maintena	ince	of Doors and	d G	Baskets:				
<ul> <li>Due to moist and hot ambient exposure, traction converter door mountings and gaskets get deteriorate. Periodically all the door mountings shall be checked for total presence/ availability and in good condition</li> <li>On identifying any missed hardware, it is strictly to be added and maintained further.</li> <li>On identifying any jammed hardware, it shall be properly removed and to is to be replaced by new hardware with anti seize compound, applied by using screw extractor.</li> <li>Periodically all door gaskets shall be checked for total presence/ availability and in good condition.</li> <li>On identifying any missed gasket, it is strictly to be added and maintained further, on identifying any damaged gasket, it is strictly to be replaced with</li> </ul>								