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Title: Procedure for r	un out bogies – Train	set Bogie		
Prepared by	Checked by	Approved	by Initiated date	
Sai Madhu.M	Srikanth.P	BOC Redo	dy 30.08.2022	

1) <u>Introduction</u>: This documents covers the procedure for run out the bogies from the vehicle. Detailed procedure, required tools and material are listed in this document

## 2) Required machinery and tools:

- → Synchronized lifting jacks of sufficient capacity to lift the car body.
- → Suitable crane of sufficient capacity to lift bogie.
- → Suitable stand to place car body
- → Suitable stand to place bogie frame
- → Suitable pit line with sufficient length to access under side of both the bogies.
- → Suitable lifting slings (preferably nylon) with eye bolts ( to suit bogie equipment, motor, etc..)
- → Suitable tools such as Spanners, Adapters, Wrenches, Screw Drivers, etc.

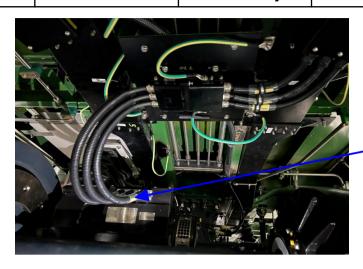
### 3) Reference Drawings:

SI.No.	Description	Drawing / Document No.
1)	MC BOGIE FINAL _ BOGIE-CARBODY CONNECTION	D-A675UV2-140895
2)	TC BOGIE FINALBOGIE -CARBODY-CONNECTION	D-A675UV2-146255
3)	NDTC BOGIE FINAL _BOGIE-CARBODY-CONNECTION	D-A675UV2-146256
4)	DTC FRONT BOGIE FINAL _ BOGIE- CARBODY CONNECTION	D-A675UV2-146253
5)	DTC REAR BOGIE FINAL BOGIE-CARBODY CONNECTION	D-A675UV2-146254

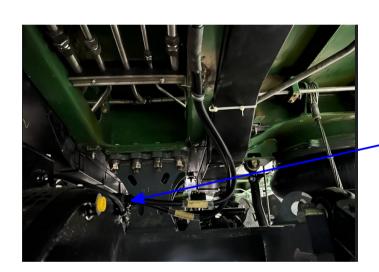
### 3) Steps to be ensured before bogie run out:

→ <u>Electrical disconnection</u>: Disconnect all cables to traction motors, ERCU, Speed sensor, Phonic wheel sensor, earthing connections(Bogie to car-body connections),etc.

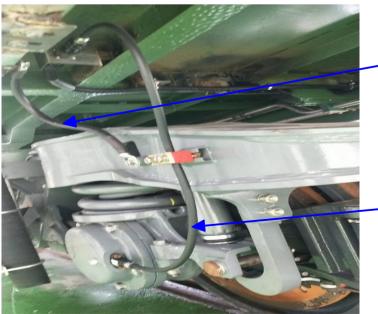
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TM Input cables



Speed and Temperature Cables



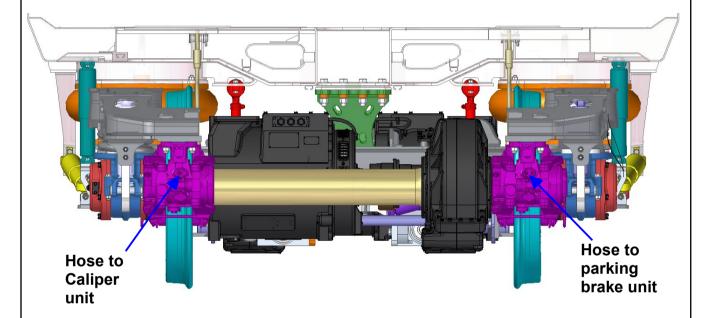
Carbody Earthing Cables

Sensor Cables

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## → Disconnecting Air pipes :

- 1) Disconnect all pneumatic hose connections to brake caliper units and parking brake units .
- 2) Pull manual release and ensure release of all PB Units.

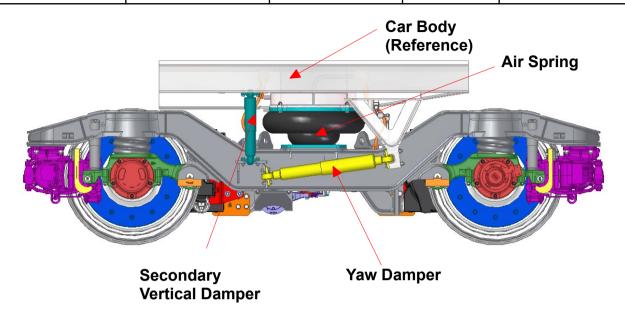


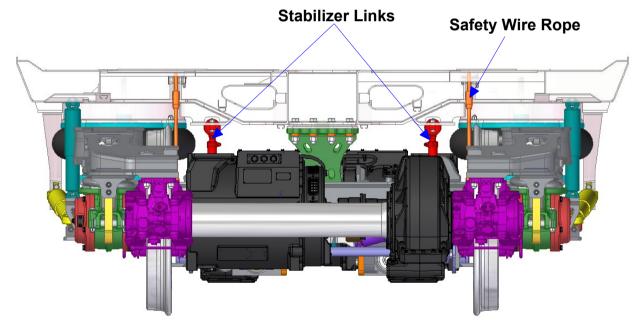
### → Mechanical disconnection:

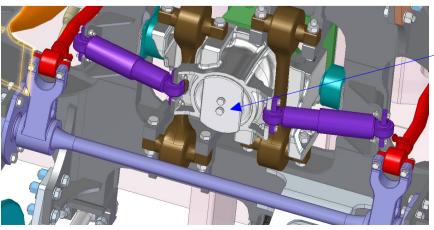
# Bogie is connected to car body through the following links,

- 1)Center Pivot Pin bottom closing plate 2 No.
- 2)Safety Wire Ropes 8 No.s
- 3)Secondary Air Springs 4 No.
- 4)Secondary Vertical Dampers 4 No.s
- 5)Yaw Dampers 4 No.s
- 6)Stabilizer Links 4 No.s
- 7)Traction motor air bellow connections- 4 No.s

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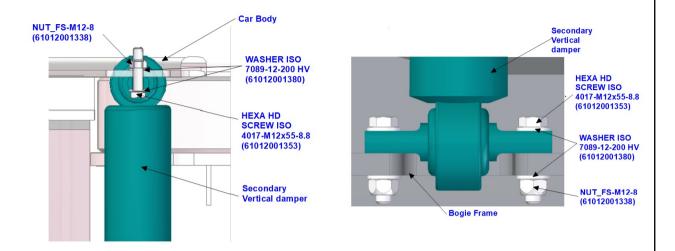


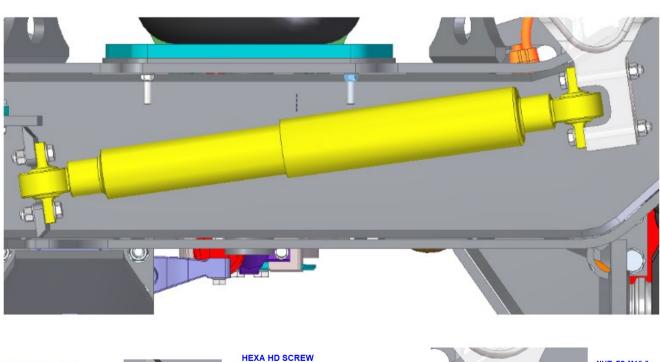


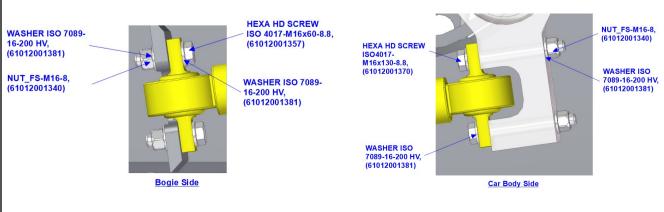
CP Pin Bottom closing Plate

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→ Unscrew the fasteners and remove Vertical dampers, Yaw dampers and store the dampers as per OEM instructions.

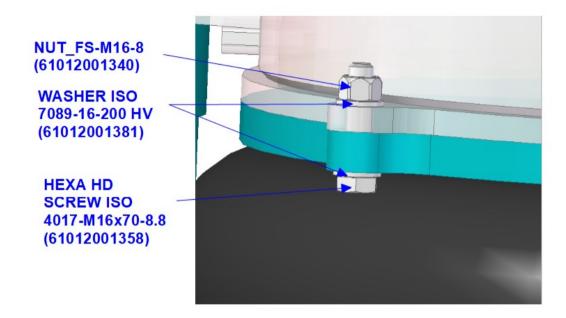




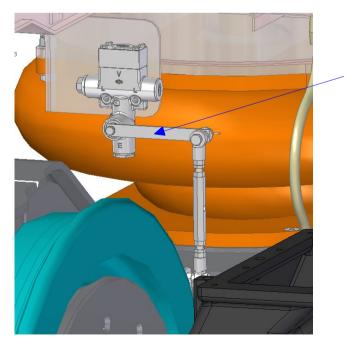


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→ Remove the top fitment screws of air springs, 2 screws from can be removed from outside and other remaining can be accessed from inside of the pit line.



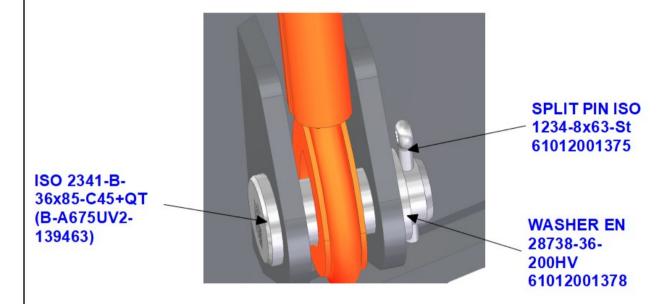
→ Unscrew and detach installation lever of leveling valve.



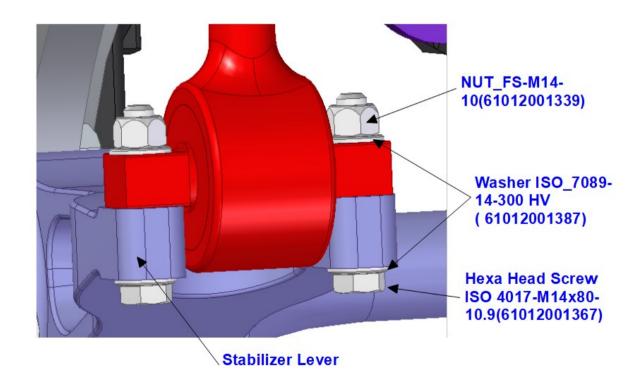
Installation lever

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→ Remove Split Pins and Clevis pins of wire ropes on bogie side.

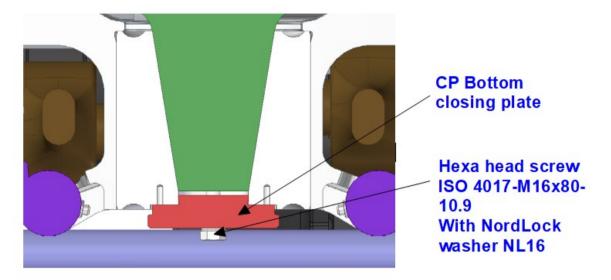


→ Unscrew bolts of Stabilizer Link's bottom side connecting with Stabilizer lever.

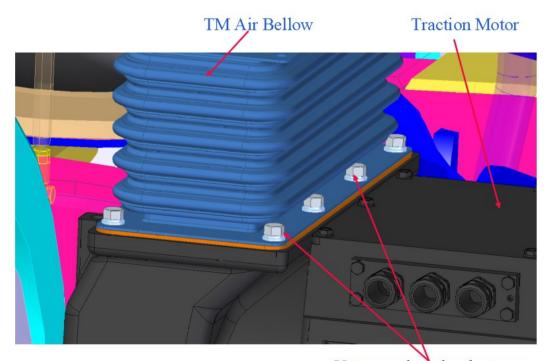


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→ Unscrew and remove CP Pin bottom closing plate plate.



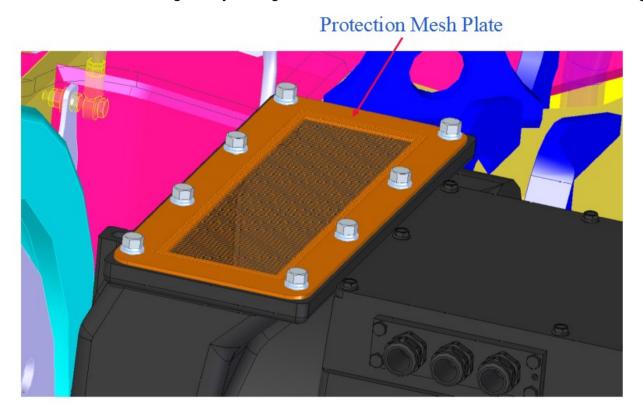
→ Unscrew and remove the TM air bellow fixing hardware towards motor side as per below,



Unscrew these hardware to remove Bellow from TM

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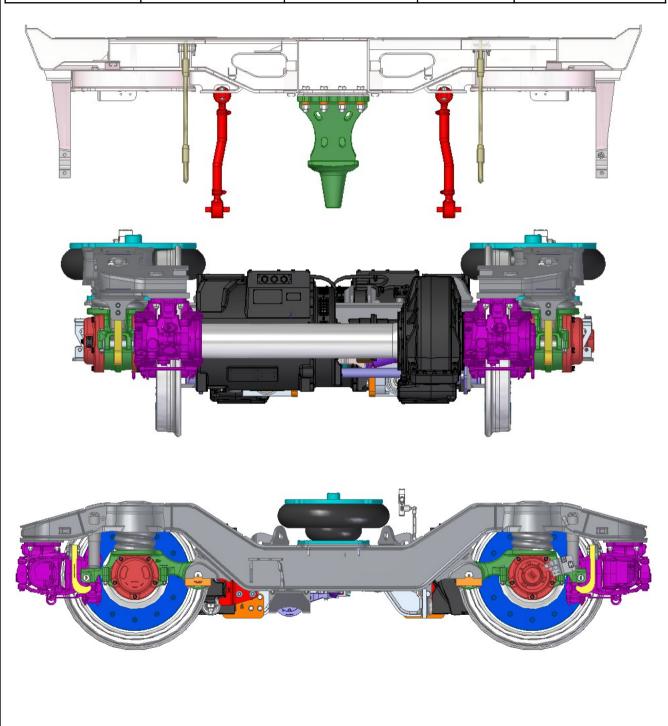
→ After unscrewing the Bellow fixing hardware, do not remove the Protection Mesh Plate which is available between Bellow and Traction motor
Assemble the unscrewed hardware again to fix the Protection Mesh Plate to Traction Motor to avoid falling of any Foreign Particles into Traction Motor as shown in below fig



# 4) Procedure for bogie run out:

- → Ensure all Electrical, Pneumatic and mechanical connections are disconnected as detailed above.
- → Suitably rotate stabilizer lever away from stabilizer link and secure with suitable rope/ wire with bogie to avoid hitting on ground.
- → Suitably push wire rope away from bracket and ensure it not entangles or damages any bogie bracket or component.
- → Suitably & slowly (preferably inching up control to be used) lift the car body using synchronized jacks on all four lifting positions.
- → While lifting, suitably ensure air spring's spigot is relieved from car body. If necessary, use suitable lever / wedge in between air spring top plate & car body to push down air spring.
- → Run out both the bogies and suitably place in pit line. Provide suitable packing on all 4 wheels to arrest bogie movement.

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