



**Massachusetts Bay
Transportation Authority**

Safety Engineering Update

MBTA Board of Directors – Safety, Health and Environmental Sub-Committee

January 12, 2023

Steven V. Culp, Chief of Safety Engineering and Construction

Orange Line Type 14 – Grounding Strap Issue

- On Monday December 26, 2022 during a routine inspection of a Type 14 vehicle, the inspection engineer discovered a grounding strap disconnected and hanging under the train.
- Entire fleet was cycled through Wellington Carhouse to be inspected.
- Multiple broken grounding straps were discovered, primarily on the #2 and #3 axles.
- Some grounding straps made contact with the rotating axles prompting Vehicle Engineering and Maintenance to remove those vehicles from service until axles were replaced.

Normal Configuration



Broken Ground Strap

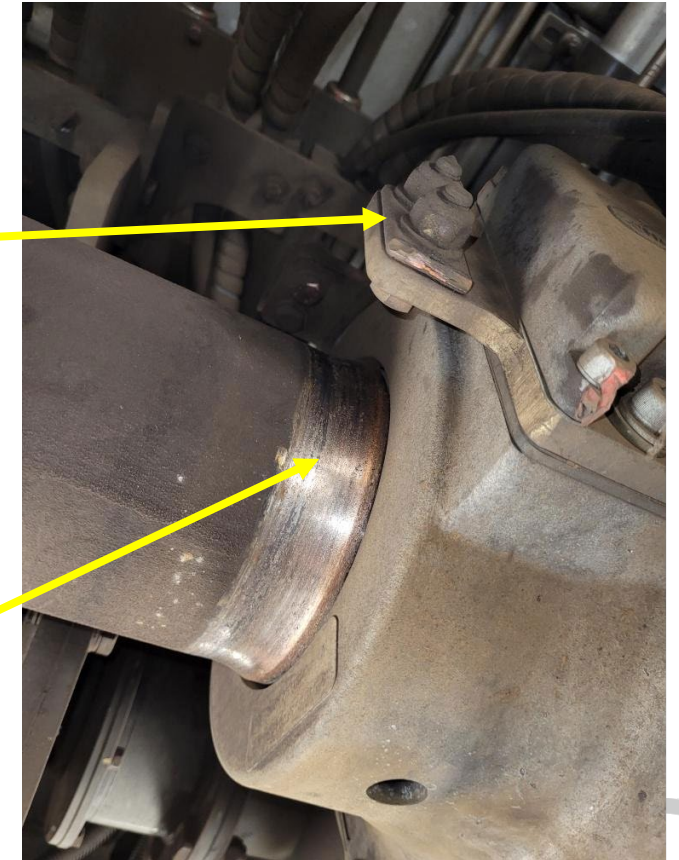


Orange Line Type 14 – Grounding Strap Issue

- As of January 3, 2023, repairs were made to all vehicles for this issue, except 4 cars (repairs underway for these cars).
- Strap connectors and cables being assessed for material failure.
- Strap routing is being assessed as a contributing factor.
- Operational factors are being assessed as a contributing factor.
- Investigation is still ongoing, as a probable cause has not yet been identified.
- Vehicles are being inspected weekly to identify any further issues.

Ground Strap
Connection
Point

Strap Contact
with Axle



Conclusion

Questions?

