


Maintenance Procedure
No. MP870

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TASK DESCRIPTION
INSPECT TRACTION MOTOR LEADS, INSPECT AND CLEAN TRACTION MOTOR, REPAIR VISUAL DEFECTS, QUALIFY BRUSHES
BUILDER'S OR VENDOR'S MAINTENANCE INSTRUCTIONS
MPI LOCOMOTIVE MAINTENANCE MANUAL, SECTION 8
SPECIAL TOOLS REQUIRED:
RELATED MAINTENANCE PROCEDURES MODIFICATIONS, POINTERS, ETC.
SAFETY PRECAUTIONS:
CONTRACTOR TO ASSUME RESPONSIBILITY FOR SAFETY RULES AND COMPLIANCE.
PREPARATION:

PROCEDURE

1. Clean traction motor exterior in accordance with M.I. 3900.
2. Remove traction motor access covers.

	CAUTION Blasts of high pressure air must be avoided due to the possibility of loosening or damaging the protective coating on insulation.
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3. Clean traction motor interior by blowing dust and dirt away with a large volume of clean, dry compressed air at a reasonably low pressure.
4. Use clean, dry, lint-free rags in conjunction with compressed air to clean away heavier dirt deposits.
5. It may be necessary to use a stiff brush, soft wood or fiber scraper, and Stoddard's solvent or equivalent to remove caked grease, dirt, and imbedded deposits.

	CAUTION Precautions must be taken to keep solvent off the commutator and copper parts as well as insulated coils and windings.
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WARNING

Adequate ventilation and safety precautions are necessary when handling inflammable fluids such as Stoddard's solvent (flash point 115°F). Failure to observe this warning can result in personal injury.

6. Access the traction motor brushes by removing three access covers located at the bottom and top of the traction motor and to the left of the electrical leads.
7. Lift brush pressure spring and remove brush from holder.
8. Clean holders, verify carbonways are smooth, and visually inspect for proper height, bolt tightness, and damage.
9. Inspect brush holder terminal lug seat for roughness and rework as required.
10. Check dowel securing the brush holder pins to ensure the casting is peened over at both ends.
11. Remove all arc burns and file off surfaces facing the commutator if metal buildup has occurred.
12. Wipe insulators, ensure spring fingers are not broken and have spring tension.
13. If any of three brushes does not display three wear limit lines, replace all brushes in a brush box with new brushes.

Note: If any brush in a brush box must be replaced, all brushes in the brush box must be replaced.

14. Replace any broken or chipped brushes or brushes with damaged electrical leads.

Note: If there are an excessive number of broken brushes, check for high commutator bar or out of round.

15. Install brushes in holders, let brush pressure spring down on new brush. Verify brush shunts are not pinned by spring fingers.
16. Verify brushes move freely and fit closely in holders to prevent chatter.

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17. Ensure brush shunts are completely vertical and are not following armature riser.
18. Visually inspect commutator and field coils.
19. Wipe dirt from string band with lint-free rag.
20. Ensure all traction motor covers have felts applied. If felts are falling off or missing, apply new felts to cover.
21. Inspect that all covers are in place and seals are in good condition. Reinstall bolts. Do not overtighten.
22. If top cover is not tight, bend tab to obtain proper tension. If cover does not cover opening completely, replace cover.
23. Inspect traction motor connector sleeves, clamps, and cables for looseness, fraying, and cracking.
24. Inspect carbody leads (where visible), traction motor lead connections, boots, clamps, insulation, and ground straps.
25. Inspect leads for cracking, oil soakage, and clearance. Cable insulation should not be damaged, frayed, or worn. Carefully check areas where cables are clamped or subjected to abrasion.
26. Install shrink tubing over cracked leads, wash and clean oil soaked leads, dress leads away from carbody.
27. Inspect traction motor cleat for signs of gouging leads.
28. Ensure traction motor sleeves are in place, clamped, and clamps are tight.
29. Inspect air duct bellows for alignment leakage, damage, and looseness. Repair as required.
30. Inspect wear plates and arm.

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