Electrical System Maintenance Requirements

This document contains information of vital importance concerning the inspection and repair of electrical system components. If damaged electrical system components are not corrected, they can lead to fires causing death, serious injury and / or property damage.

It is important that the machine be inspected regularly. Any damaged electrical system components must be repaired immediately by qualified repair technicians.

Electrical System Maintenance Requirements

WARNING: Death or serious injury may occur from fire. Improper maintenance of the electrical system may result in electrical shorts which can cause fires. Regularly inspect and maintain electrical harnesses, cables, and electrical components as outlined. Ensure that harnesses are properly routed and secured after servicing the truck.

WARNING: Keep vehicle clean and free of grease, oil or dirt build up that can act as fuel for a fire.

Electrical system components must be regularly inspected, maintained, and repaired to ensure safe operation of powered industrial trucks. The following requirements are provided to aid maintenance personnel in proper electrical system maintenance practices. The following requirements are in addition to the regular daily inspections in the operator's guide, maintenance manual, and safety literature included with the truck.

Inspection

In addition to the daily inspection required by OSHA, a thorough visual inspection of all battery cables, wiring harnesses, and electrical connections should be made every 6 months or 1,500 hours of truck operation to check for damage or wear. Wiring harnesses should also be thoroughly inspected any time a major component is removed (i.e. engine, transmission, operator base, etc.) or when an electrical problem occurs.

Prior to any inspection, thoroughly clean the vehicle paying particular attention to the areas to be inspected.

Some areas in which to pay special attention during the inspection include:

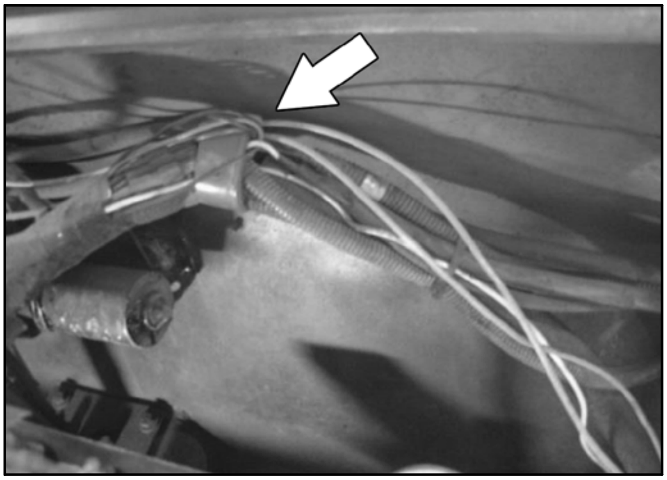
- Areas where there is relative movement between components (i.e. engine / frame).
- Areas where wiring runs around corners, edges of parts, or through holes.
- Areas where components are exposed to high temperatures (i.e. near exhaust components).
- Areas where components are secured with clamps, straps, ties, etc.
- Battery cables (entire length) and terminals
- Connectors / connections
- Wire harnesses in cable tracks or over rollers

Problems requiring maintenance include:

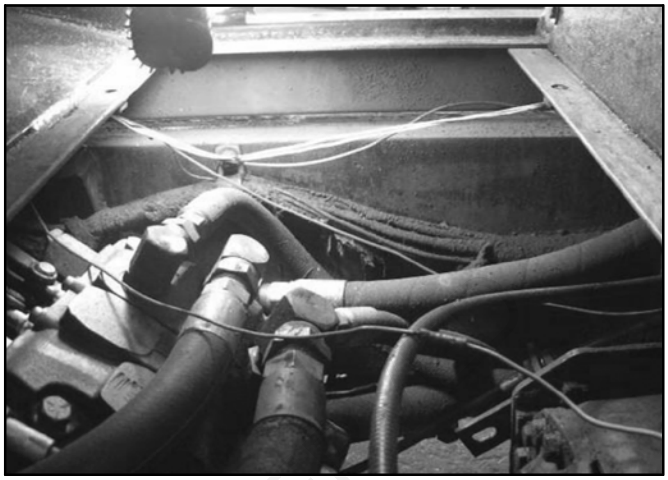
- Build up of combustible material on wiring harnesses or vehicle components
- Worn harness coverings
- Wear in wire insulation
- Exposed conductors
- Evidence of arcing
- Loose fasteners or clamps
- Unprotected or uncovered wires
- Improper repairs or additions
- Corrosion
- Discoloration of connectors
- Improperly secured wiring

NOTE: *Any damaged electrical system components must be repaired or replaced before the unit is returned to service.*

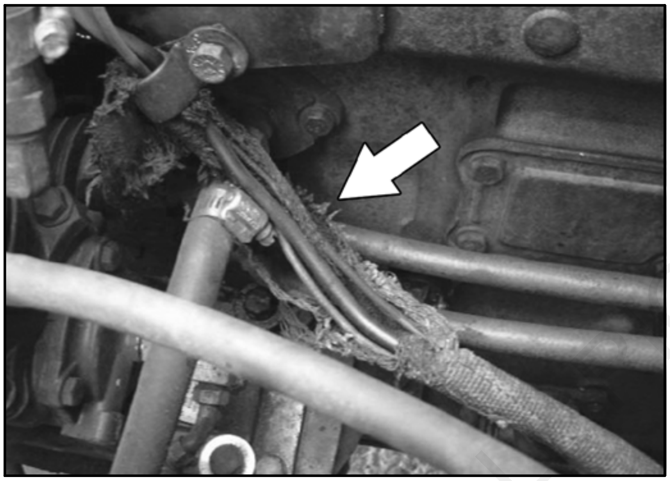
Examples of electrical system maintenance problems are shown in the illustrations below:



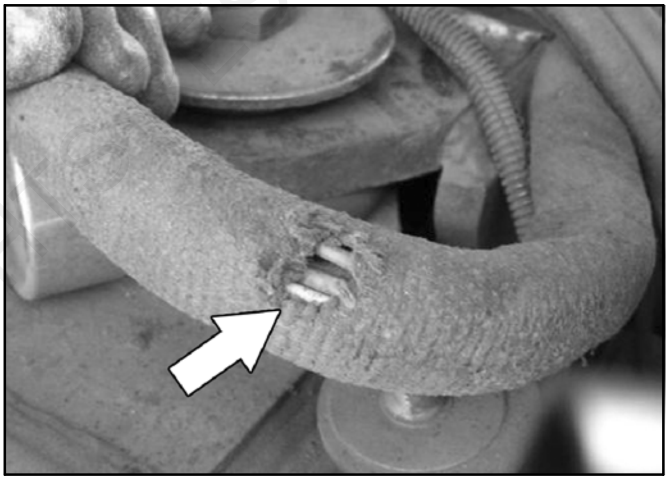
Unprotected Wires



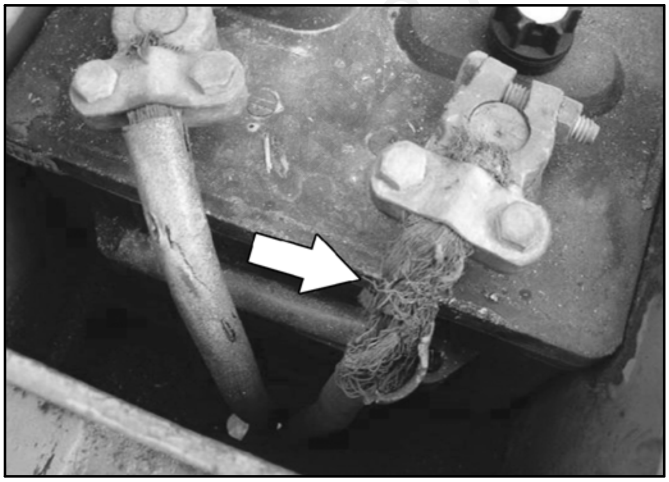
Improper Wire Routing / Unprotected Wires



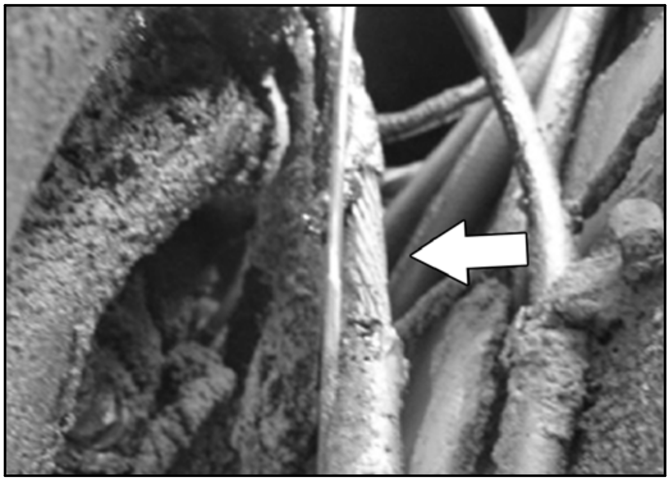
Damaged Sheathing / Unprotected Wires



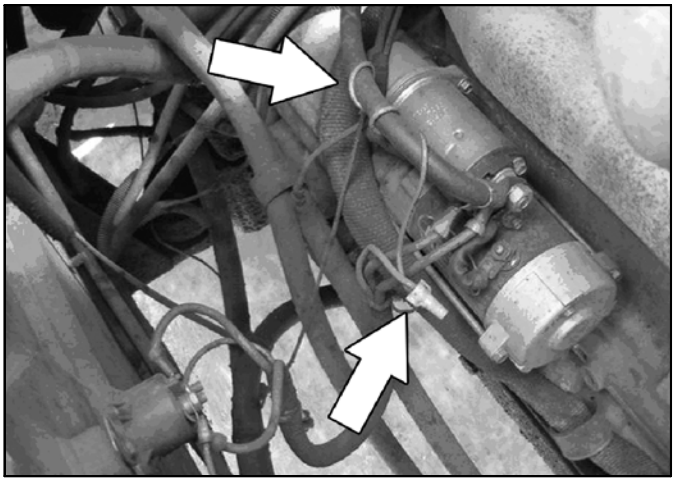
Worn Sheathing



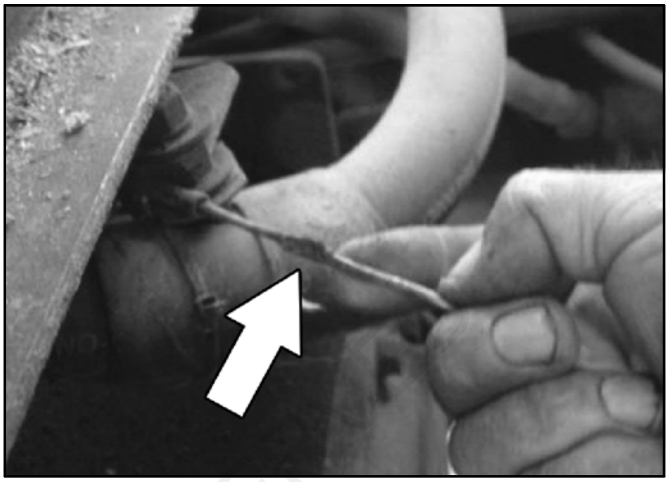
Frayed Battery Cable



Exposed Conductor / Grease Buildup

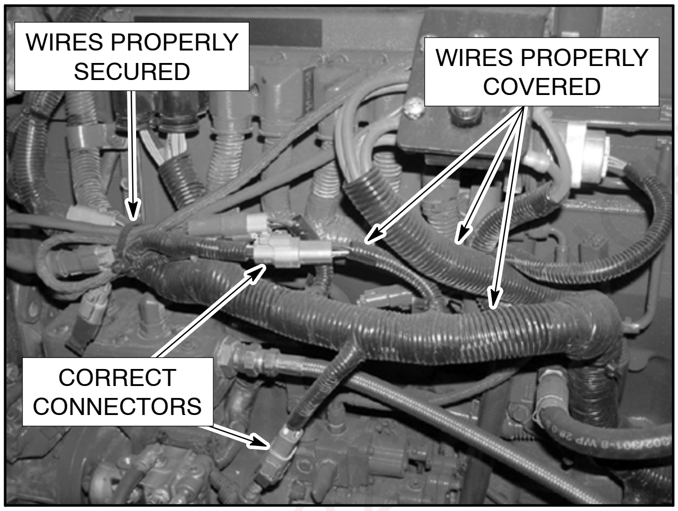


Improper Routing And Connector
Unprotected Wires



Worn or Damaged Wire Insulation
Unprotected Wires

Proper Electrical Wiring Maintenance



Wires Properly Connected, Covered, and Secured

Battery Cable Properly Covered

Corrective Actions

⚠ WARNINGS:

- **Use only genuine Taylor replacement parts. Lesser quality parts may fail resulting in property damage, personal injury, or death.**
- **Under no circumstances, without prior written approval from Taylor Machine Works, should the electrical system of the machine be modified in a manner which affects safe vehicle operation as per OSHA 29 CFR1910.178 (a) (4).**
- **Only trained and qualified maintenance personnel should make inspections and repairs on the electrical system and components.**

NOTE: *There are many types of aftermarket electrical components which may or may not meet OEM specifications, quality and design requirements. Always use genuine Taylor replacement parts.*

Corrective actions to follow to repair electrical system components include:

- Keep the vehicle free of grease, oil and dirt build up by regular thorough cleaning.
- Use genuine Taylor replacement parts (wire, connectors, looms, clamps, etc.).
- Use approved split loom to cover worn or missing protective covering on wiring harnesses.
- Tape minor worn places on conductors with electrical tape before covering with wiring loom.
- Protect all wiring with approved loom.
- Properly clamp connectors / terminals on wiring. Use proper crimping tools to attach terminals and connectors.
- Remove and replace damaged wires. Replace wires with same gauge. Short (less than 1" long) damaged sections of wire may be repaired by removing the damaged section and re-connecting the wire with an approved crimp-type connector.
- Never repair or replace a large single wire with multiple small wires.
- Never use connectors that are not approved by TMW.
- Never use residential wiring connectors.
- Use properly sized connectors for wire size.
- Never replace circuit breakers with circuit breakers of higher amperage.
- Keep spacing between wire harness and moving parts.
- Check the integrity of connectors and replace if necessary.
- Replace missing clamps.
- When replacing wire harnesses, use common sense to minimize chaffing when securing and use existing clamping points when possible.
- Properly route wiring and wire harnesses during repairs.
- Use rubber grommets to protect wiring and harnesses which run through holes.

Note: Complete replacement wiring harnesses are available through all Taylor’s normal service parts outlets.

Taylor Electrical Part Numbers

Commonly Used Electrical Maintenance Repair Parts

Part Number	Part Description
1730-010	Split Loom 5/8”
1730-011	Split Loom 3/4”
1730-013	Split Loom 1/4”
1730-014	Split Loom 7/8”
1730-015	Split Loom 1 1/4”
1730-016	Split Loom 1 1/2”
1730-020	Split Loom 13/32”
1730-300	Split Loom 3/8”
1730-301	Split Loom 1/2”
2000-317	Split Loom 1”
2315-050	Relay 12V 20/30Amp
2324-017	Socket, Gold Plated 20 ga
2324-028	Pin, Gold Plated 20 ga
2324-055	Terminal, #10 Yellow Ring 10-12 ga
2324-096	Terminal, 3/8” Ring 6 ga
2324-100	Terminal, #6 Blue Ring 14-16 ga
2324-112	Terminal, #4 Red Ring 18-22 ga
2324-150	Butt Splice, 14-16 ga
2324-160	Butt Splice, 14-16 ga
2324-165	Terminal, 1/4” Ring 6 ga
2324-171	Terminal, Yellow Push-on Female 10-12 ga

Part Number	Part Description
2324-172	Terminal, Yellow Push-on Male 10–12 ga
2324-241	Terminal, Blue Push-on Male 14–16 ga
2324-242	Terminal, Blue Push-on Female 14-16 ga
2324-285	Stud mount tie down
2324-340	Terminal, #10 Blue Ring 14-16 ga
2324-380	Terminal, #8 Blue Ring 14-16 ga
2324-384	Terminal, Blue Female 90 deg Push-on 14-16 ga
2324-427	**Weather Pack Socket 14-16 ga
2324-428	**Weather Pack Pin 14-16 ga
2324-571	*Deutsch Pin 14-16 ga
2324-572	*Deutsch Socket 14-16 ga
2324-729	*Deutsch crimp tool, 12-26 ga
2324-846	Heavy Duty Crimper
2324-847	Butt Splice, 6 ga
5144-002	*Deutsch removal tool, Blue 16 ga
5144-003	*Deutsch removal tool, Red 20 ga
5144-005	*Deutsch removal tool, Yellow 12 ga
5144-006	*Deutsch removal tool, White 6 ga
5144-009	Weather Pack removal tool

Notes: All wires must conform to Type SXL, GXL or TXL SAE J1128 Specifications
* These parts are required for proper removal and installation of Deutsch connections
** These parts require Packard GM12014254 crimp tool
Remaining parts may be installed with common tools