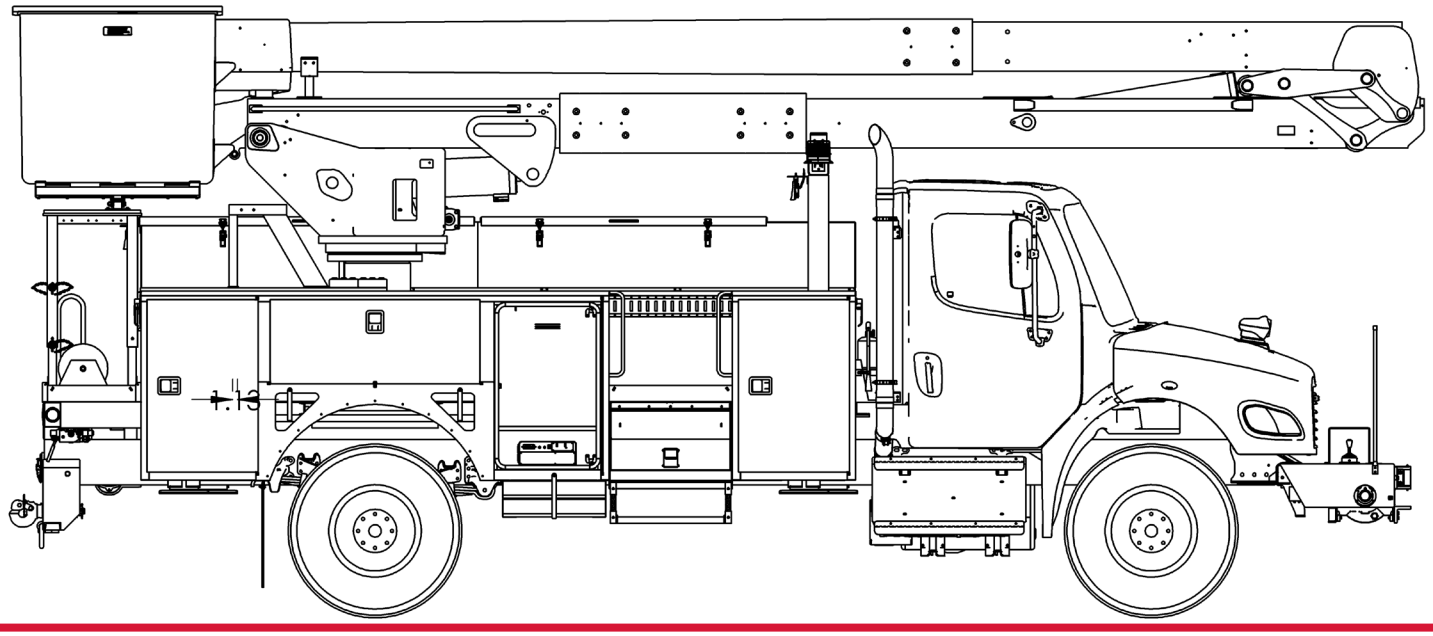
TEREX

TECH TIPS

DRYING OUT A HYPOWER BATTERY BOX EXPOSED TO WATER

NO. 07



SERVICE CALL:
DRYING OUT A HYPOWER BATTERY BOX EXPOSED TO WATER

MODEL(S):
ALL 408V HYPOWER SYSTEMS

TOOLS NEEDED:
AIR HOSE
TORQUE WRENCH
DIGITAL VOLTMETER
PROPER PERSONAL PROTECTIVE (PPE)
VARIOUS SCREWDRIVERS AND SOCKETS
MOTOTUNE DIAGNOSTIC SOFTWARE

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DANGER

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury.

Many of the hazards identified in the Operator's Manual are also safety hazards when maintenance and repair procedures are performed.

DO NOT PERFORM MAINTENANCE UNLESS:

√ You are trained and qualified to perform maintenance on this machine.

√ You read, understand and obey:

- manufacturer's instructions and safety rules
- employer's safety rules and worksite regulations
- applicable governmental regulations

√ You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this Tech Tip is a supplement to the Service Manual. Consult the appropriate Service Manual of your machine for safety rules and hazards.

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INTRODUCTION

Water intrusion into a battery box may occur if the box is damaged, the box vents are plugged, or if the cover is not properly torqued down.

Battery boxes that have experienced a water intrusion must be completely dried out and thoroughly inspected before putting the unit back into service.

Tools should be 10,000V tested and 1,000V rated annually to ensure that an inadvertent resting or dropping of a tool across the battery terminals does not lead to an arc flash

For measurements use only a meter to IEC 61010 (CAT III or higher). Always begin using the highest range. CAT I and CAT II meters must not be used on this product.

Proper Personal Protective Equipment (PPE) worn by the assembler should include eye protection and insulated gloves meeting ASTM class 0. High voltage gloves must be tested and re-qualified annually and stored properly to prevent damage.

STEP 1 - Disassemble the battery box*

1. Check the torque value for each of the screws on the battery box cover. Torque values for the battery box screw should be torqued to 35 in-lbs, note any torque values that are incorrect.
2. Disconnect the battery cables to step down the voltage potential inside the battery box.
3. Disconnect all remaining connections between the batteries
4. Remove the LBM Brackets
5. Remove the batteries from the box

***Note**: Reference the current assembly manual for the individual battery box to determine how to properly step down the voltage potential inside the battery box and to properly disassemble the battery box components.

Battery Box	Manual P/N
Generation 2, Battery Box 1	607332
Generation 2, Battery Box 2	607333
Generation 3, Battery Box 1	607334
Generation 3, Battery Box 2	607335

Table 1 - Battery Manuals - Quick Reference

Each Terex HyPower™ battery pack supplies 204V and can be lethal. Do not perform any repairs, maintenance, or testing when batteries are connected.

STEP 2

Attempt to determine the source of the water intrusion, look for rust or water stains that may indicate the source of the water intrusion.

Clean and dry individual components to remove all moisture from the exterior of components.

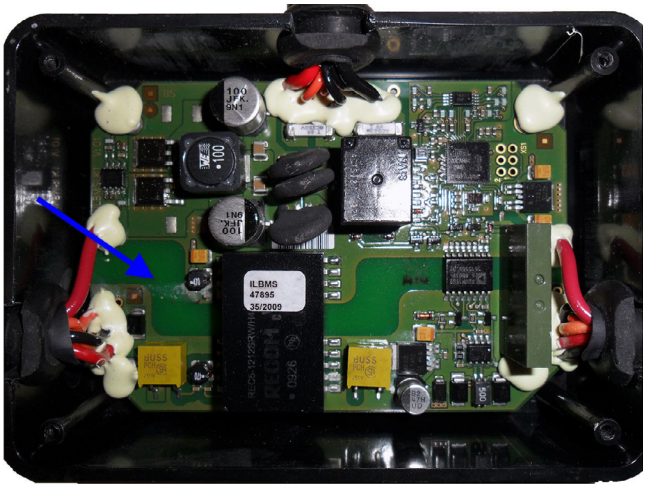
STEP 3

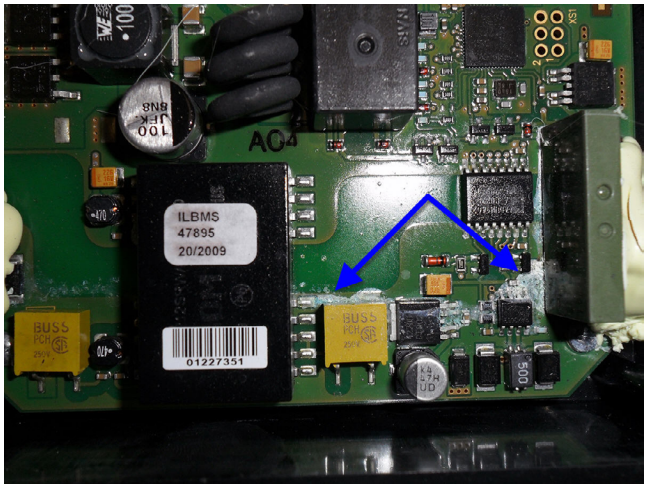
Use an air hose to dry the inside of the battery box. The battery box may need to be repeatedly tipped up and down to dislodge all of the water trapped inside the battery box.

Failure to remove all of the water will result in additional damage to battery box components.

STEP 4

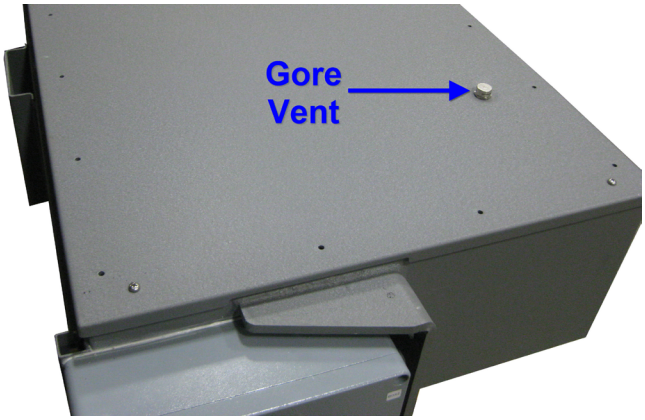
Open the covers of the local battery management modules (LBM's) and inspect the circuit boards for damage from moisture. Allow the LBM's to dry in the open air overnight and re-inspect in the morning. Replace any LBM that shows signs of corrosion.





STEP 5

Check each of the Gore vents to ensure the vents haven't been plugged with dirt or debris.



Failure to clean or replace blocked vents will prevent the battery pack from breathing, causing moisture to build up inside the battery box resulting in additional damage to battery box components.

STEP 6

Re-assemble the battery box components following the directions in the corresponding manual.

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Generation 3, Battery Box 1	607334
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Table 2 - Battery Manuals - Quick Reference

Each Terex HyPower™ battery pack supplies 204V and can be lethal. Do not perform any repairs, maintenance, or testing when batteries are connected.

STEP 7

Operate the system and use Mototune to verify that the system is operating properly. Items to check include the system impedance and the individual local battery management (LBM) modules.

After verifying the system operation, use Mototune to check the system during an automatic engine charge and a plug-in charge. If everything is operational, allow the unit to plug-in charge overnight.

FOR FURTHER ASSISTANCE,
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