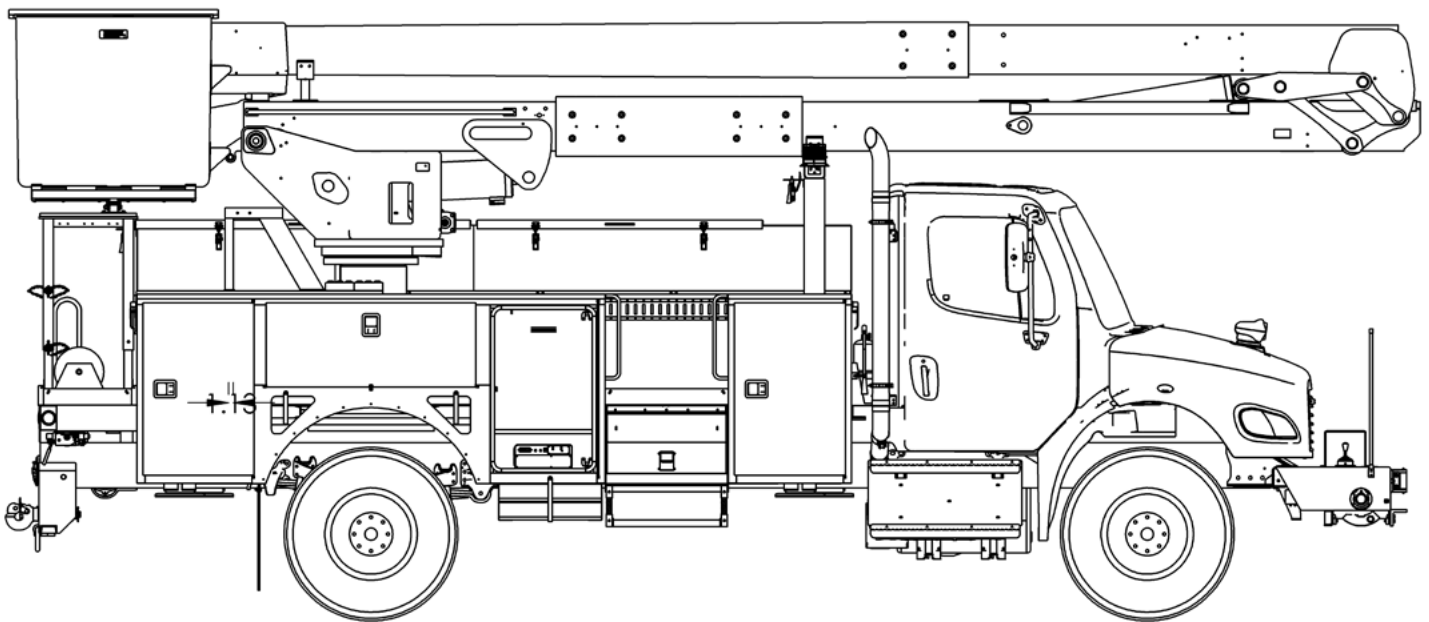




TECH TIPS

TROUBLESHOOTING THE OUTRIGGER INTERLOCK SYSTEM

NO. 182



GENERAL KNOWLEDGE
TROUBLESHOOTING THE
OUTRIGGER INTERLOCK SYSTEM



MODEL(S):
ALL TEREX UTILITIES EQUIPMENT
WITH OUTRIGGER INTERLOCK



TOOLS NEEDED:
TEST LIGHT
MULTIMETER
SIMPLE HAND TOOLS

TEREX UTILITIES TECHNICAL SUPPORT TEAM

PHONE: 1-844-TEREX4U (1-844-837-3948) | EMAIL: UTILITIES.SERVICE@TEREX.COM



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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CONTENTS

TECH TIP #182

4

| Engage PTO
| Extend outriggers

INTRODUCTION
STEP 1

5

| Check for outputs

STEP 2

6

| Faults

STEP 3 - STEP 6

7

| A-Frame Outriggers

INTRODUCTION
STEP 7 - STEP 9

8

| Check solenoid

STEP 10 - STEP 12

9

| Check for magnetism

STEP 13 - STEP 15

INTRODUCTION

Outrigger interlocks are an operator aid. If installed on the unit, the switches must be operable and intact. Any modification must be approved by the manufacturer in writing. Do not operate the unit if the interlock system is bypassed or inoperable.

Interlock system dumps the flow of oil to tank, preventing the boom from raising out of the rest.

Before starting your troubleshooting, we suggest reading the following Tech-tips:

Tech-tip 39 – Identifying a Terex Chassis Controller

Tech-tip 40 – Troubleshooting the Terex Light Duty Chassis Controller

Tech-tip 41 – Troubleshooting the First-Generation Terex Chassis Controller

Tech-tip 42 – Troubleshooting the Second-Generation Terex Chassis Controller

Tech-tip 108 – Canview 4 Switch Panel Features and Troubleshooting

Tech-tip 176 – Adjusting Electrical Outrigger Interlock Switches

Outrigger interlock is normally accomplished using the Master Power output on the chassis controller and will be referenced that way in this Tech-tip. Always confirm wiring with the wiring schematic for the specific unit. Consult the electrical schematic when switching ground or voltage. The more common option is switching voltage and will be discussed in this Tech-tip.

If you do not have an electrical schematic Contact Terex Utilities Technical Support at 1-844-Terex4U (1-844-837-3948) or utilities.service@terex.com for troubleshooting assistance.

STEP 1

Turn on the truck, set the parking brake, and engage the PTO. Extend the outriggers down enough to satisfy the outrigger interlock. Confirm that the unit will raise out of the rest with the outriggers down.

STEP 2

If you have a switch panel / Canview 4 screen, go into the diagnostic screen and see what Master Output is showing (Output 1, Output 2).

If showing ON (1), then the controller is indicating that it is providing an output. Use a test light to confirm voltage on the output.

If it has a light duty controller verify the Master Power LED light is illuminated.

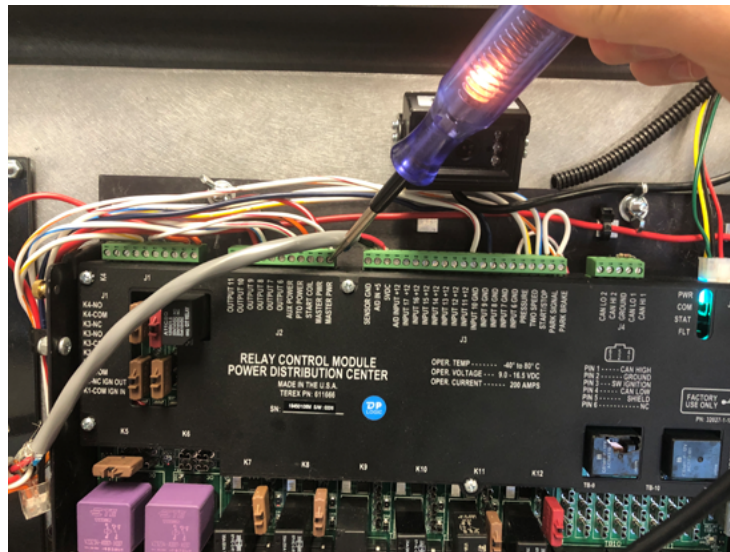


FIGURE 1

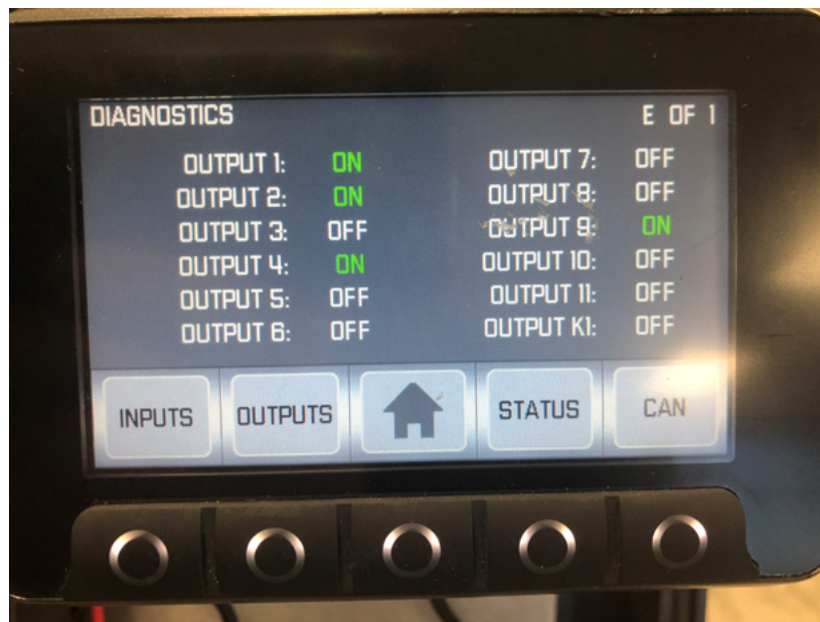


FIGURE 2

STEP 3

If you do not have voltage on the output but the switch panel is indicating that there should be voltage, then it is likely that the output is bad. If the other master power output is available, you can move the wires to that output.

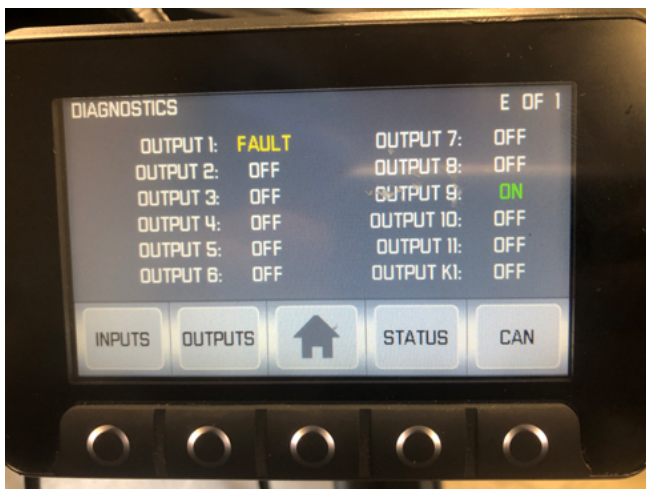
Call Terex Utilities Technical Support at 1- 844-Terex4U (1-844-837-3948) or utilities.service@terex.com for assistance moving the wires to an available output and reprogramming the controller.

Note: Anytime wires are moved to another output a note should be added to the controller indicating the move. If a new controller is ordered, it will have the original program and the wires will need to be moved back to the original output.

Easiest way to do this is write on a piece of tape and put in on the inside of the controller cover.

STEP 4

If diagnostics page is showing a Fault (F), then there is an issue with the circuit and the controller has shut off the output to protect the board.



STEP 5

If showing Fault (F), remove the wire(s) from the Master Power output and reset the controller by opening the circuit breaker located near the chassis battery. Let the power stay off for at least 30 seconds before powering the board back up. After powering up the controller, engage the PTO again and verify status of the output. If showing ON (1) confirm with the test light that voltage is on the output.

STEP 6

Touch the wire back to the Master Power output and check the diagnostic screen. If the output is again showing a Fault (F), it confirms the issue is in the circuit and not the controller.

STEP 7

If there is still no unit function, gain access to the outrigger switches and confirm continuity across each switch with the outrigger down.

STEP 8

If the unit has A-frame outriggers, confirm that the switch arm has not caught on the switch housing, tricking the system into thinking the outrigger is not deployed. If so, remove the arm from the housing and follow the steps for **Tech-tip 176**. **Figure 4**

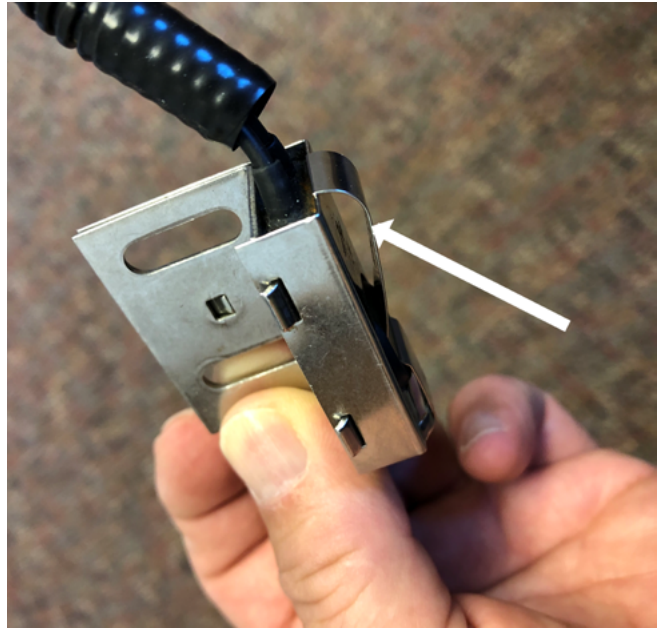


FIGURE 4

STEP 9

If the unit has A-frame outriggers, remove the cover over each of the outriggers. If the truck is using radial outriggers, follow the wires from the outrigger interlock switch to the weather pack connector. Either use 4 small pieces of wire or create a jumper as shown. Disconnect each outrigger and install the jumper connection.

Note: This should only be done for troubleshooting purposes only. Bypassing an operator aid is not allowed during normal unit operation.



STEP 10

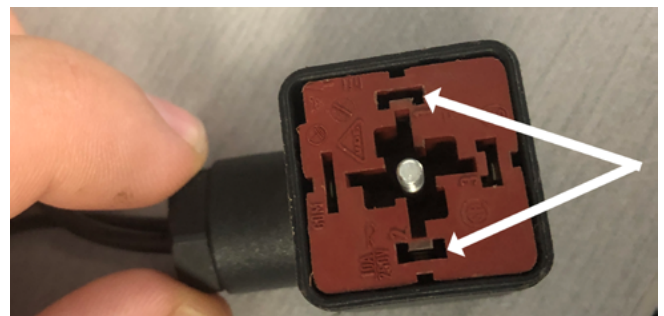
With the truck running and PTO on, and all outrigger switches having jumpers, confirm that the unit is now able to raise out of the rest.

If the unit is able to be raised out of the rest, then reconnect each outrigger switch one by one, checking unit functionality as each interlock switch is introduced into the circuit until the boom will not raise. This will show which interlock switch is bad and needs to be replaced.

Note: When checking functionality use only the boom fold or unfold functions. Rotation does not need much pressure / flow to work and can give false readings of functionality.

STEP 11

If all outrigger switches are bypassed and the boom will still not move out of the rest, then the enable valve will need to be checked. The first step is to loosen the screw holding the connector and remove the connector from the solenoid. Using the test light, confirm 12V across terminal connections 1 and 2 on the Din connector.



STEP 12

Check the resistance across the coil of the solenoid to confirm that it is good. It should read 8 ohms for both styles of coils that may be installed. If the reading is 0 ohms, it indicates the coil is shorted. If it reads OL or infinity reading, it indicates the coil is open, with a wire broken inside.



STEP 13

When voltage is running through the solenoid coil, it should have a magnetic force around it. Use a screwdriver to confirm magnetism at the coil.



STEP 14

If good voltage and ground are confirmed but no magnetism, then check to make sure the screw is tight.

If the screw is tight, replace the coil and retest.

STEP 15

If the coil shows magnetism, then the valve must be stuck. Replace the valve.



FOR FURTHER ASSISTANCE,
CONTACT THE TEREX UTILITIES TECHNICAL SUPPORT TEAM
PHONE: **1-844-TEREX4U (1-844-837-3948)** | EMAIL: **UTILITIES.SERVICE@TEREX.COM**
