

Service Call: Use of the TL Cat B Dielectric Test Shield

Tools Required:

- 12-point 1/2" wrench or socket
- 7/16" wrench or socket
- 9/16" wrench or socket
- Flat blade screw driver
- Multi-meter for continuity testing

Model(s):

TL Category B insulated sections

Tech Tip Safety Rules



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.

Introduction

Dielectric testing is the process of applying a high voltage to one portion of the test object and measuring the amount of current flow through the object. The high voltage applied to the object is typically measured in kilovolts.

The electrical properties of the insulation must be tested to confirm that they do indeed provide the required electrical protection per ANSI 92.2 standard. If it is not tested, then it cannot be assumed that it will provide any insulating protection. If it is not tested it must be considered conductive.

Step 1

Carefully and thoroughly inspect the unit before performing a dielectric test. It is critical to identify any deficiencies prior to performing a dielectric test. Some areas to check are listed below, consult your unit and unit specific maintenance manual for additional inspection items.

- Outside and inside surface conditions are clean and dry
- Check to see if all test electrodes components are monitored.
- Verify all hoses in the insulated section are orange non-conductive hoses
- Check to see that all hoses are monitored
- Make sure that all hoses crossing the insulated sections are filled with oil
- Inspect all the pieces on the boom that will be operated

Step 2

Install the test shield according to the instructions on kit sheet 495464.

ASSEMBLE ITEMS TO FIT SNUG ON THE BOOM.

CONDUCTIVE SHIELD INSTALL

DATE: 5-19-14	ECN# 70622	495464	B
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GROUND TO METAL BOOMS THEN TEST
CURRENT LEAKAGE BY USING
COAX CONNECTOR INSIDE OF BOOM

NOTES:

1. SHIELD TO HAVE ELECTRICAL CONTINUITY TO STEEL BOOM
2. SHIELD TO BE INSULATED FROM TEST BANDS

ITEM	PART NO	PART NAME	QTY
10	451367	1/4-20 X .62 PLASTIC HD	REF
9	-	-	-
8	428808	SHIM	REF
7	433494	1/4-16 ACORN NUT-SS	REF
6	433492	1/4-20 X .88 SRHMS-SS	REF
5	419883	3/8-16 JAMNUT-SS	REF
4	SS10220	3/8 LOCK WASHER-SS	REF
3	435290	3/8-16 NC X 1.50 SRHMS-SS	REF
2	433444	SPACER ASSY	REF
1	495463	CONDUCTIVE SHIELD HALF	REF

* SEE SEPARATE ASSEMBLY SHEET

PAGE \emptyset F 1

(NS)=NOT SHOWN

Step 3

Follow the ANSI A92.2 procedure shown in Figure 1 (Reference 5.4.2.1) for conducting the dielectric test. This includes placing the jumpers to ensure good contact between the metal components: test shield, elbow, lower boom inserts, turntable, and chassis.

Note: The manual of responsibility (P/N 494635) can be purchased from Terex Utilities which provides the dielectric test process.

Note: Dielectric tests forms can be copied from the unit specific maintenance manuals from Terex Utilities for the test procedure being performed.



When continuity is in doubt, use a jumper to achieve a good connection. Test the jumpers to ensure they are providing good conductivity. A bad connection can cause very high or low readings producing inaccurate test results.

Step 4

Record the physical conditions of the test on the dielectric test form. Keeping a maintenance history is an ANSI requirement and keeping records year to year gives and accurate overall picture of the unit's dielectric protection.

Step 5

After testing is completed, remove the test shield from the boom and store it in a clean dry location for the next dielectric test.