An Oshkosh Corporation Company

Service & Maintenance Manual

Models

R6 (AUST)
R6 (ANSI)
R10 (ANSI)

3121688

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ANSI

AS/NZS

An Oshkosh Corporation Company

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1.2 CRITICAL STABILITY WEIGHTS

⚠ WARNING

DO NOT REPLACE ITEMS CRITICAL TO STABILITY, SUCH AS BATTERIES OR SOLID TIRES, WITH ITEMS OF DIFFERENT WEIGHT OR SPECIFICATION. DO NOT MODIFY UNIT IN ANY WAY TO AFFECT STABILITY.

Table 1-9. Critical Stability Weights

COMPONENT	R6	R10
Wheel and Tire Assembly (ea) Front: Rear:	 21.6 lb. (9.8 kg) 21.6 lb. (9.8 kg)	 43 lb. (19.5 kg) 40.5 lb. (18.4 kg)
Wheel/Tire and Drive Assembly (ea)	104 lb. (47 kg)	134 lb. (60.8 kg)
Batteries (each) Standard: AGM:	62 lb. (28.1 kg) 65 lb. (29.5 kg)	62 lb. (28.1 kg) 65 lb. (29.5 kg)
Batteries (combined) Standard: AGM:	 248 lb. (112 kg) 260 lb. (118 kg)	 248 lb. (112 kg) 260 lb. (118 kg)

1.3 LUBRICATION

Hydraulic Oil

NOTE: *Hydraulic oils must have anti-wear qualities at least to API Service Classification GL-3, and sufficient chemical stability for mobile hydraulic system service. JLG Industries recommends DTE 10 or Excel 15 hydraulic oil.*
Aside from JLG recommendations, it is not advisable to mix oils of different brands or types, as they may not contain the same required additives or be of comparable viscosities. If use of hydraulic oil other than DTE 10 or Excel 15 is desired, contact JLG Industries for proper recommendations.

Table 1-10. Hydraulic Oil

HYDRAULIC SYSTEM OPERATING TEMPERATURE RANGE	SAE VISCOSITY GRADE
0°F to +23°F (-18°C to -5°C)	10W
0°F to 210°F (-18°C to +99°C)	10W-20, 10W-30
50°F to 210°F (+10°C to +210°C)	20W-20

Table 1-11. Lubrication Specifications

KEY	SPECIFICATIONS
MPG	Multipurpose Grease having a minimum dripping point of 350°F. Excellent water resistance and adhesive qualities, and being of extreme pressure type. (Timken OK 40 pounds minimum.)
EPGL	Extreme Pressure Gear Lube (oil) meeting API service classification GL-5 or MIL-Spec MIL-L-2105.
HO	JLG Recommends - Mobil DTE 10, EXCEL 15 or ATF - Automatic Transmission Fluid Mobil EAL ENVIRONSYN H 32 (IN U.S.A.) Mobil EAL HYDRAULIC OIL 32 (IN EUROPE)

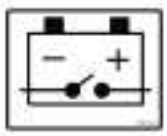
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3.2 BATTERY REMOVAL/MAINTENANCE

NOTICE

JLG MACHINES EQUIPPED WITH DELTA Q BATTERY CHARGERS ARE DESIGNED FOR THE BEST PERFORMANCE WITH OEM FACTORY APPROVED BATTERIES. APPROVED JLG REPLACEMENT BATTERIES ARE AVAILABLE THROUGH JLG'S AFTERMARKET PARTS DISTRIBUTION CENTERS OR JLG'S AFTERMARKET PROGRAMS. FOR ASSISTANCE WITH PROPER BATTERY REPLACEMENT, PLEASE CONTACT YOUR LOCAL JLG SUPPORT OFFICE.
BATTERIES APPROVED BY JLG HAVE BEEN TESTED FOR COMPATIBILITY WITH THE ALGORITHM PROGRAMMING OF THE DELTA Q BATTERY CHARGER TO OPTIMIZE BATTERY LIFE AND MACHINE CYCLE TIMES. THE USE OF NON APPROVED BATTERIES IN YOUR JLG EQUIPMENT MAY RESULT IN PERFORMANCE ISSUES OR BATTERY CHARGER FAULT CODES. JLG ASSUMES NO RESPONSIBILITY FOR SERVICE OR PERFORMANCE ISSUES ARISING FROM THE USE OF NON APPROVED BATTERIES.

Battery Quick-Disconnect - (If Equipped)



Machines equipped with the battery quick-disconnect allow all machine power to be easily disconnected at the batteries without removing battery cables from the battery posts. To disconnect power, locate the RED quick-disconnect connector on top of the batteries inside the battery compartment and pull halves apart.

⚠ CAUTION

BEFORE BATTERY REMOVAL CAN BEGIN, ENSURE THAT THE (+) AND (–) BATTERY CABLES HAVE BEEN PROPERLY DISCONNECTED.

1. The machine batteries are located inside the machine right side cover, remove the cover.
2. Once the battery door is removed from the machine, battery replacement/maintenance can begin.
3. To remove one or more batteries from the machine, the battery hold down bar will need to be removed. (See Figure 3-4.)
4. Remove the (2) nuts and washers from each hold-down anchor at the ends of the hold-down bar. Remove the bar and lay aside.
5. After battery removal and installation re-install the battery hold down bar.
6. After any maintenance on the batteries or replacement of the batteries is complete, reconnect the batteries and check for proper operation.
7. Re-install the machine right side cover.

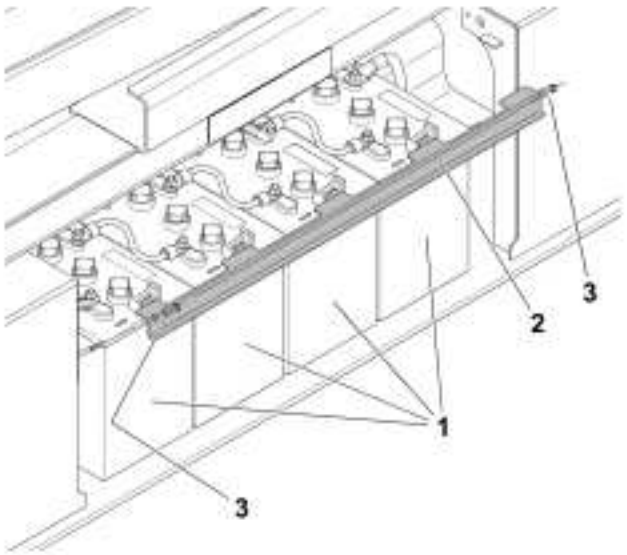


Figure 3-4. Battery Location/Hold Down Bar (R6/R10)

1. Batteries (4 - 6V)
2. Hold-Down Bar
3. Hold-Down Bar Fasteners

Battery Maintenance and Safety Practices

⚠ CAUTION

ENSURE THAT BATTERY ACID DOES NOT COME INTO CONTACT WITH SKIN OR CLOTHING. WEAR PROTECTIVE CLOTHING AND EYEWEAR WHEN WORKING WITH BATTERIES. NEUTRALIZE ANY BATTERY ACID SPILLS WITH BAKING SODA AND WATER.

BATTERY ACID RELEASES AN EXPLOSIVE GAS WHILE CHARGING, ALLOW NO OPEN FLAMES, SPARKS OR LIGHTED TOBACCO PRODUCTS IN THE AREA WHILE CHARGING BATTERIES. CHARGE BATTERIES ONLY IN A WELL VENTILATED AREA.

ADD ONLY DISTILLED WATER TO BATTERIES. WHEN ADDING WATER TO THE BATTERIES, A NON-METALLIC CONTAINER AND/OR FUNNEL MUST BE USED.

⚠ WARNING

DO NOT REPLACE ITEMS CRITICAL TO STABILITY, SUCH AS BATTERIES, WITH ITEMS OF DIFFERENT WEIGHT OR SPECIFICATION. DO NOT MODIFY UNIT IN ANY WAY TO AFFECT STABILITY.

Check the electrolyte level of the batteries often, adding only distilled water when required. When fully charged, battery fluid level should be 1/8" below vent tubes. *(See Figure 3-5.)*.

- DO NOT fill to bottom of vent tubes.
- DO NOT allow fluid level to go below the top of the plates when charging or operating.
- Clean terminal connections if they become corroded.

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Continuity Measurement Over Long Distances

When trying to determine continuity of a harness or wire, longer than the reach of standard instrument leads, is possible to perform the check without excessively long leads. Using the other wires in the harness one can determine the condition of a particular wire in the harness.

Requirements:

- Harness with at least three separate wires including the wire under test.
- These wires must be able to be isolated from other wires, etc.
- Jumper or method to connect contacts on one side of harness.
- Meter that can measure resistance or continuity.

Procedure

Test multimeter leads resistance. Subtract this value from the measured resistance of the wires to get a more accurate measurement.

Consult the circuit schematic to determine which wires to use in addition to wire under test, here called wire #1 and wire #2, and how to isolate these wires. These wires should appear in the same connectors as the wire under test or are within reach of the jumper.

1. Disconnect all connections associated with the wire under test and the two additional wires. If harness is not completely isolated disconnect battery terminals also, as a precaution.
2. Measure continuity between wire #1 and wire #2. If there is continuity, both wires are good and can be used for this test. If there is not continuity, either wire could be bad. Check connections and measurement setup. Redo measurement. If still no continuity, repair wires or consult schematic for other wires to use for test.
3. Jumper from wire under test to wire #1.
4. Measure continuity. If there is continuity, the wire under test is good. Resistance of a wire increases as the length increases and as the diameter decreases.

One can find the continuity of two wires, here #1 and #2, at once by following steps 1 through 4. If there is a problem the third wire is used to troubleshoot the other wires. To find the problem, start at step 1 and use the entire procedure.

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Voltage Measurement

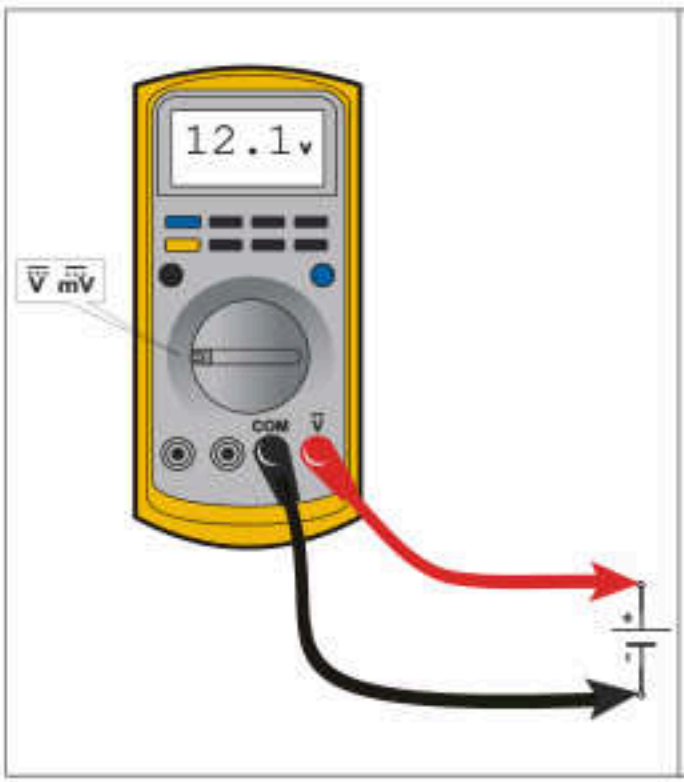


Figure 7-1. Voltage Measurement (DC)

- If meter is not auto ranging, set it to the correct range (See multimeter's operation manual)
- Use firm contact with meter leads

Resistance Measurement

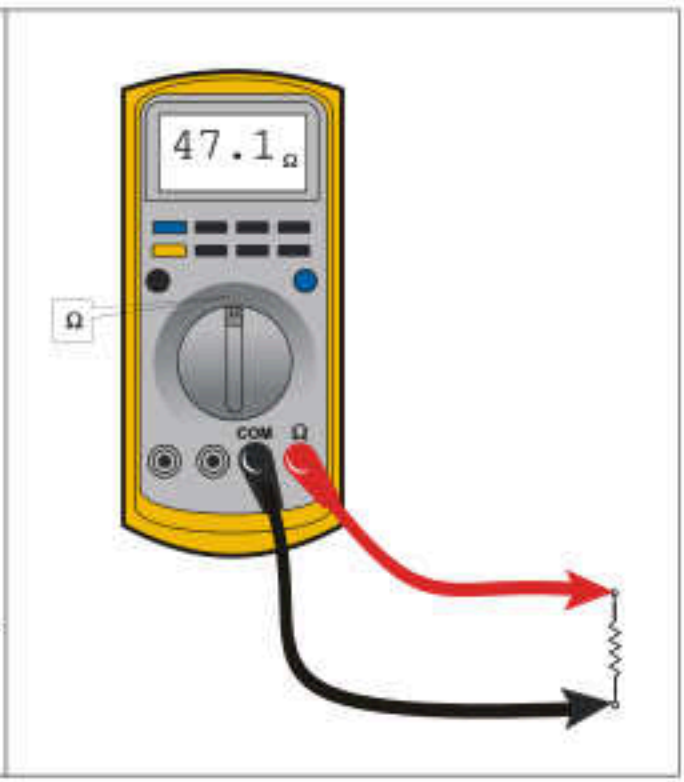


Figure 7-2. Resistance Measurement

- First test meter and leads by touching leads together. Resistance should read a short circuit (very low resistance)
- Circuit power must be turned OFF before testing resistance
- Disconnect component from circuit before testing
- If meter is not auto ranging, set it to the correct range (See multimeter's operation manual)
- Use firm contact with meter leads

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