An Oshkosh Corporation Company

Service and Maintenance Manual

Models

800S
810SJ
860SJ

Prior to SN 0300182743 &
B300001328

P/N - 3121139

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Table 1-7. Deutz D2011L04 Specifications

Type	Liquid Cooled (Oil)
Fuel	Diesel
Oil Capacity	
Cooling System	5 Quarts (4.5 L)
Crankcase	11 Quarts (10.5 L) w/Filter
Total Capacity	16 Quarts (15 L)
Idle RPM	1000
Low RPM	1800
High RPM	2600
Alternator	55 Amp, belt drive
Fuel Consumption	
Low RPM	1.90 GPH (7.19 lph)
High RPM	2.50 GPH (9.46 lph)
Battery	1000 Cold Cranking Amps, 210 minutes Reserve Capacity, 12 VDC
Horsepower	64 @ 2600 RPM, full load

Table 1-8. Caterpillar 3044C/ Caterpillar 3.4

Type	Four Stroke Cycle
Cylinders	4 in-line
Bore	3.70 in. (94 mm)
Stroke	4.72 in. (120 mm)
Aspiration	turbocharged
Compression ratio	19:1
Displacement	203 in^3 (3.33 L)
Firing Order	1-3-4-2
Rotation (viewed from flywheel)	Counterclockwise
Oil Capacity (w/filter)	10.6 quarts (10 L)
Cooling System (Engine Only)	5.8 quarts (5.5 L)
Idle RPM	1000
Low RPM	1800
High RPM - 3044C	2600
High RPM - 3.4	2500
Alternator	60 Amp, belt drive

Table 1-9. GM 3.0L

Fuel	Gasoline or Gasoline/LP Gas
No. of Cylinders	4
BHP	
Gasoline	83 hp @ 3000 rpm
LP	75 hp @ 3000 rpm
Bore	4.0 in. (101.6 mm)
Stroke	3.6 in. (91.44 mm)
Displacement	181 cu.in. (3.0 L, 2966 cc)
Oil Capacity w/filter	4.5 qts. (4.25 L)
Minimum Oil Pressure	
At Idle	6 psi (0.4 Bar) @ 1000 rpm
Hot	18 psi (1.2 Bar) @ 2000 rpm
Compression Ratio	9.2:1
Firing Order	1-3-4-2
Max. RPM	2800

Battery

Table 1-10. Battery Specifications

Voltage	12 Volt
Type	31-950
Cold Cranking Amps	950 CCA @ 0°F (-18°C)
Reserve Capacity	205 Minutes @ 80°F (27°C)

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Troubleshooting

Table 3-3. Excessive Noise and/or Vibration

Item	Description	Action
Check oil level in reservoir and oil supply to the motor.	Insufficient hydraulic fluid could lead to cavitation that would cause system noise.	Fill the reservoir to the proper level and ensure that oil supply to the motor is adequate and the lines are unobstructed.
Check for air in the system.	Air trapped within the system lines, or the motor itself, could result in cavitation that would cause system noise.	Ensure that all of the system lines and components are purged of air.
Inspect the output shaft couplings.	A loose or incorrect shaft coupling will produce vibrations that could result in system noise.	Ensure that the correct coupling is used and that it fits properly onto the shaft.
Inspect the output shaft alignment.	Misaligned shafts create excessive frictional vibration that could result in system noise.	Ensure that the shafts are properly aligned.
Hydraulic oil viscosity above limits.	Viscosity above acceptable limits will result in cavitation that would lead to system noise.	Replace hydraulic oil with appropriate fluid for operating conditions.

Table 3-4. System Operating Hot

Item	Description	Action
Check oil level in reservoir and oil supply to the pump.	Insufficient amount of hydraulic fluid will not meet the cooling demands of the system.	Fill the reservoir to the proper level.
Inspect the heat exchanger (if so equipped).	If the heat exchanger fails, or becomes obstructed, it may not meet the cooling demands of the system.	Ensure that heat exchanger is receiving adequate air flow and that the heat exchanger is in good operating condition. Repair or replace as necessary.
Check the system relief valves.	If a system relief valve becomes unseated for an extended period of time or fails for any other reason, the system could become overheated.	Repair or replace any malfunctioning relief valves as applicable and verify that the loads on the machine are not excessive.

Table 3-5. Won't Shift or Slow to Start

Item	Description	Action
Check the signal line to the servo control port.	Obstructed or restricted flow through the servo control signal lines could result in slow shift or no shift conditions within the motor.	Ensure that the signal lines are not obstructed or restricted and that signal pressure is adequate to shift the motor.
Check that the correct supply and drain orifices are properly installed, and are not obstructed.	Supply and drain orifices determine the shift rate of the motor. The smaller the orifice, the longer the time it takes to shift the motor. Obstruction will also increase shift times.	Ensure that the proper control orifices are installed in the motor and verify that they are not obstructed. Clean or replace as necessary.

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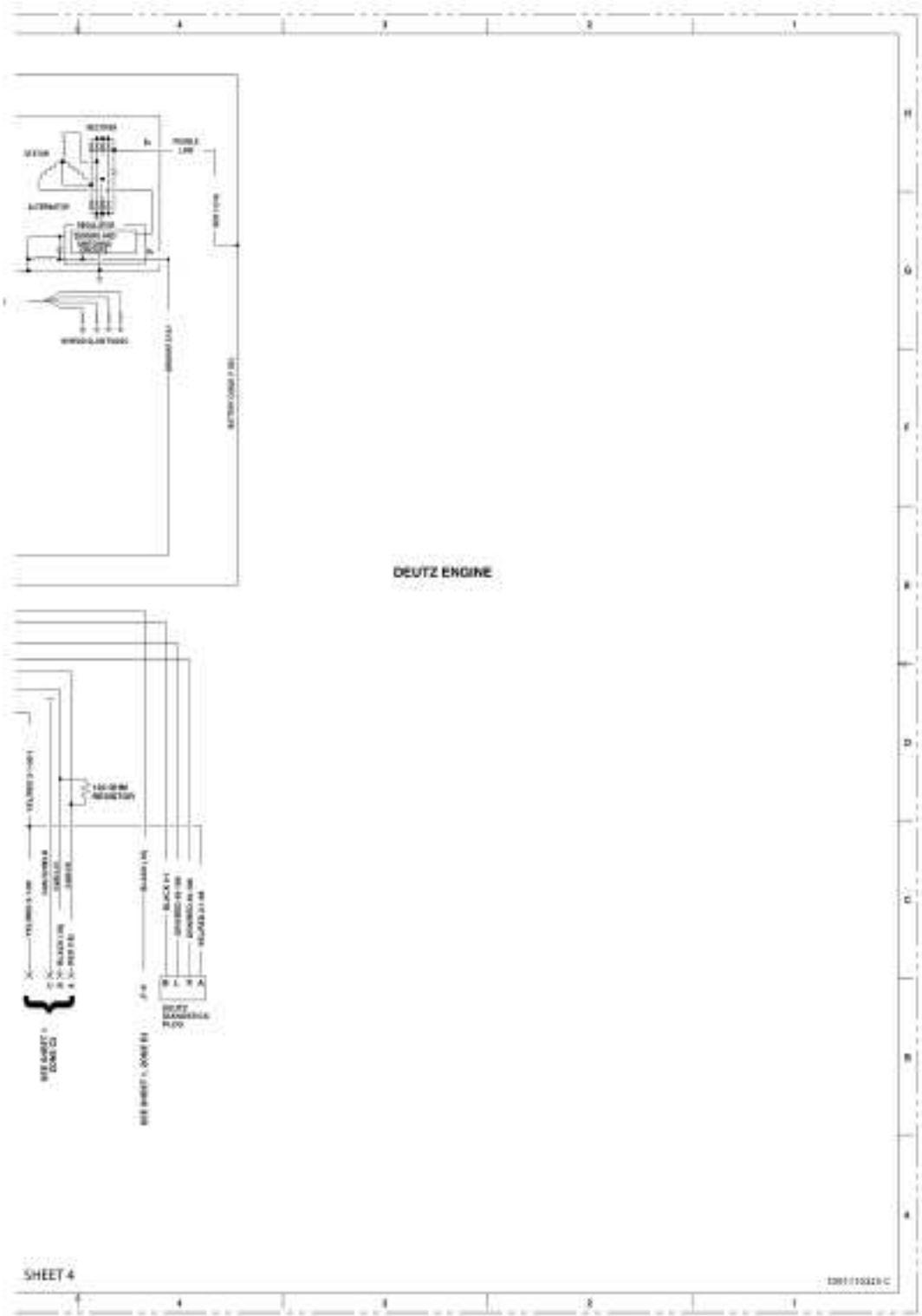


Figure 7-40. Electrical Schematics Caterpillar, Deutz EMR2 and GM (SN 0300139080 through 0300161729 and SN B300000100 through B300000639) - Sheet 8 of 10

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BRAD HARRISON / PHOENIX CONTACT M12

The connector uses gold contact material to resist corrosion and an o-ring seal for moisture integrity. If dielectric grease is mistakenly applied to this connector system, the low-force contacts cannot displace the grease to achieve electrical contact. Once contaminated, there is no practical way to remove the dielectric grease (replacement of female contacts required). The JLG Load Sensing System and 1250AJP Rotary Angle Sensors are examples of components with the M12 connector system.





AMP JUNIOR TIMER

This type of connector uses back-seals for moisture integrity. However, the low-force contacts cannot displace dielectric grease and create electrical contact. It is possible to use solvents (i.e. contact cleaner or mineral spirits) for the removal of improperly applied dielectric grease. The EMR2 engine control module from Deutz employs this connector system (for example).



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Resistance Measurement

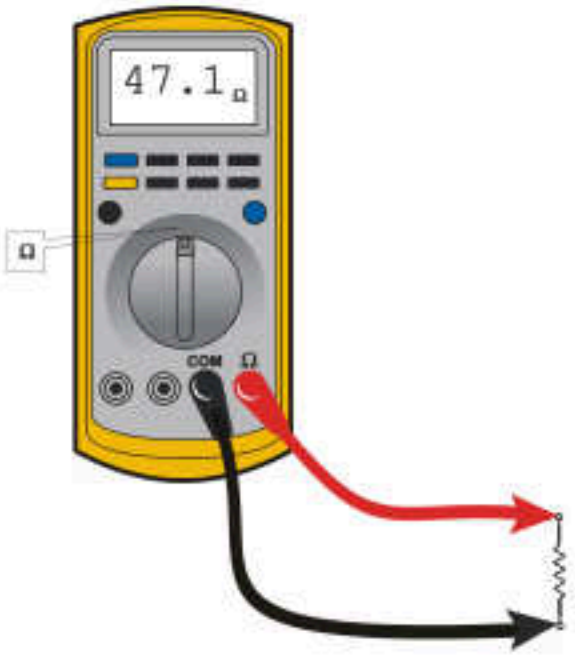


Figure 7-2. Resistance Measurement

- 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.

Continuity Measurement

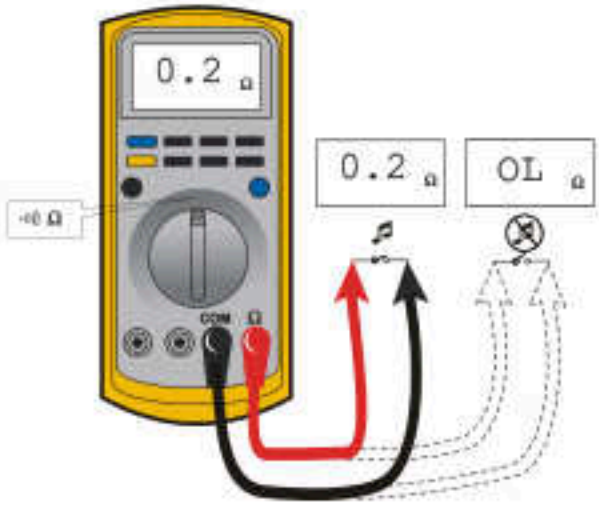


Figure 7-3. Continuity Measurement

- Some meters require a separate button press to enable audible continuity testing.
- Circuit power must be turned OFF before testing continuity.
- Disconnect component from circuit before testing.
- Use firm contact with meter leads.
- First test meter and leads by touching leads together. Meter should produce an audible alarm, indicating continuity.

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