An Oshkosh Corporation Company

Service and Maintenance Manual

Model(s)
3394RT
4394RT

S/N 0200239053 to Present

P/N - 3121642

January 23, 2018

ANSI

CSA

CE

AS/NZS

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SECTION 1. SPECIFICATIONS

1.1 SPECIFICATIONS

Table 1-1. Operating Specifications

Description	3394RT	4394RT
Maximum Occupants Single Extension: Dual Extension:	6 6	6 6 - ANSI/CSA 5 - CE ONLY
Maximum Workload (Capacity): Single Extension: Dual Extension: Extension Only:	 2250 lbs (1020 kg) 2000 lbs (905 kg) 500 lbs (230 kg)	 1500 lbs (680 kg) 1250 lbs (565 kg) 500 lbs (230 kg)
Maximum Stowed Travel Grade (Gradeability): 2WD 4WD	 35% 45%	
Maximum Stowed Travel Grade (Sideslope):	5°	
Maximum Platform Height	33 ft (10.06m)	43 ft (13.11m)
Maximum Drive Speed 2WD Maximum Drive Speed 4WD	3.0 mph (4.8 kph) 3.5 mph (5.6 kph)	3.0 mph (4.8 kph) 3.5 mph (5.6 kph)
Lift Up Speed (Stowed to Full Height)	31 - 39 sec	40 - 45 sec
Lift Down Speed (Full Height to Stowed)		
Maximum Wind Speed	28 mph (12.5 m/s)	
Maximum Horizontal Manual Side Force: Single Extension Dual Extension Single Extension (CE/AUS) Dual Extension (CE/AUS)	 335 lb force (1490 N) 300 lb force (1335 N) 90 lb force (400 N) 90 lb force (400 N)	 300 lb force (1335 N) 300 lb force (1335 N) 90 lb force (400 N) 90 lb force (400 N)
Maximum Tire Load	4400 lbs (1996 kg)	
Ground Bearing Pressure w/Standard tires	49 psi (3.45 kg/cm^2)	56 psi (3.94 kg/cm^2)
Leveling Jack Bearing Pressure	69 psi (4.9 kg/cm^2)	
Wheelbase	9.67 ft (2.95 m)	
Ground Clearance	12 in (30 cm)	
Maximum Hydraulic System Pressure	3000 psi (207 bar)	
Electrical System Voltage	12 Volt	
Inside Turning Radius	14.5 ft (4.39 m)	

Table 1-1. Operating Specifications

Description	3394RT	4394RT
Outside Turning Radius	20.1 ft (6.12 m)	
Gross Vehicle Weight (with One Extension) **NOTE**: *Certain options or country standards increase weight.*	11,910 lbs (5,402 kg)	15,300 lbs (6,940 kg)

1.2 CAPACITIES

Table 1-2. Capacities

Description	3394RT	4394RT
Fuel Tank	31.5 gal (119 L)	
Hydraulic Tank: Total Capacity Full Level Low Level	 32.3 gal (122.3 L) 27.3 gal (103.3 L) 23.6 gal (89.3 L)	

1.3 ENGINES

Table 1-3. Deutz - D 2.9 - L4 - Engine Specifications (Tier 4 Final Engine)

Emissions		EPA - Tier 4 Final
Fuel Type:		Diesel
Oil Capacity		2.35 Gal. (8.9 L) w/Filter
Coolant Capacity		0.79 Gal. (3.0 L) - Engine Only
Engine RPM Control		Deutz Electronic - EMR4
Low RPM Set		1200 RPM
High RPM Set		2600 RPM
Alternator		95 Amp, 12V, Belt Drive
Battery		112 Amp-Hour, 950 Cold Cranking Amps, 12 VDC
Fuel Consumption:	Low RPM High RPM	1.3 GPH (4.9 lph) 1.6 GPH (6.0 lph)
Horsepower		49 Hp (36.4 Kw) @ 2600 RPM
Torque Rating		108 Ft. lb. (147 Nm) @ 1600 rpm
Cylinder Firing Order		1-3-4-2

Table 1-4. Deutz D2011 L03 T41-Flex Specifications (Tier 4 Flex Engine)

Fuel Type:	Diesel
Oil Capacity	8.5 Quarts (8 L) w/Filter
Low RPM	1200
High RPM	2800
Alternator	95 Amp, Belt Drive
Battery	112 Amp-Hour, 950 Cold Cranking Amps, 12 VDC

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Table 3-14. Symptom Diagnosis

Checks	Action
Important Preliminary Checks	
Before Using This Section	Before using this section, you should have performed On Board Diagnostic Check and determined that: 1. The Control Module and MIL (Malfunction Indicator Lamp) are operating correctly. 2. There are no Diagnostic Trouble Codes (DTCs) stored, or a DTC exists but without a MIL. Several of the following symptom procedures call for a careful visual and physical check. The visual and physical checks are very important. The checks can lead to correcting a problem without further checks that may save valuable time.
LPG Fuel System Check	1. Verify the customer complaint. 2. Locate the correct symptom table. 3. Check the items indicated under that symptom. 4. Operate the vehicle under the conditions the symptom occurs. Verify HEGO switching between lean and rich. **Important:** Normal HEGO switching indicates the LPG fuel system is in closed loop and operating correctly at that time.
Visual and Physical Checks	• Check all ECM system fuses and circuit breakers. • Check the ECM ground for being clean, tight and in its proper location. • Check the vacuum hoses for splits, kinks and proper connections. • Check thoroughly for any type of leak or restriction. • Check for air leaks at all the mounting areas of the intake manifold sealing surfaces. • Check for proper installation of the mixer module assembly. • Check for air leaks at the mixer assembly. • Check the ignition wires for the following conditions: - Cracking - Hardness - Proper routing - Carbon tracking • Check the wiring for the following items: - Proper connections, pinches or cuts • The following symptom tables contain groups of possible causes for each symptom. The order of these procedures is not important. If the scan tool readings do not indicate the problems, then proceed in a logical order, easiest to check or most likely to cause first.
Intermittent	
DEFINITION: The problem may or may not turn ON the Malfunction Indicator Lamp (MIL) or store a Diagnostic Trouble Code (DTC).	
Preliminary Checks	• Refer to Important Preliminary Checks. • Do not use the DTC tables. If a fault is an intermittent, the use of the DTC tables may result in the replacement of good parts.
Faulty Electrical Connections or Wiring	• Faulty electrical connections or wiring can cause most intermittent problems. • Check the suspected circuit for the following conditions: - Faulty fuse or circuit breaker - Connectors poorly mated - Terminals not fully seated in the connector (backed out) - Terminals not properly formed or damaged - Terminal to wires poorly connected - Terminal tension insufficient • Carefully remove all the connector terminals in the problem circuit in order to ensure the proper contact tension. If necessary, replace all the connector terminals in the problem circuit in order to ensure the proper contact tension. • Checking for poor terminal to wire connections requires removing the terminal from the connector body.
Operational Test	If a visual and physical check does not locate the cause of the problem, drive the vehicle with a scan tool. When the problem occurs, an abnormal voltage or scan reading indicates the problem may be in that circuit.

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6.6 SCHEMATICS

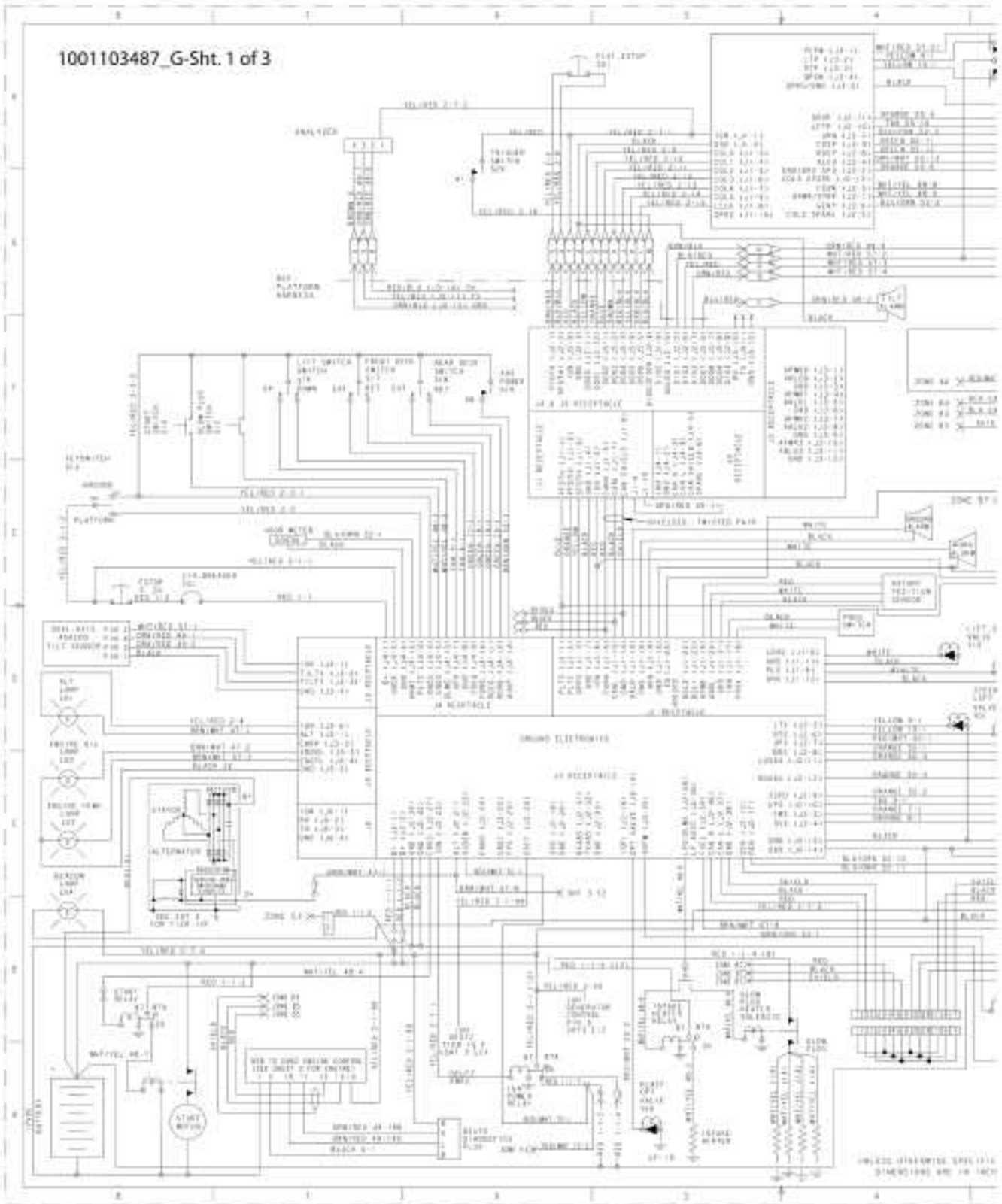


Figure 6-19. Electrical Schematic - Diesel

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2. Install the two quad seals. Install one seal at a time to ensure the seal does not roll. The seal must sit flat on the throttle body.



3. Attach mixer and throttle body together. The two parts do not bolt together; they will be secured when you mount it on the intake. Notice the orientation of the air inlet and throttle body cover.



4. Place gasket on intake manifold and attach mixer/throttle assembly to manifold.

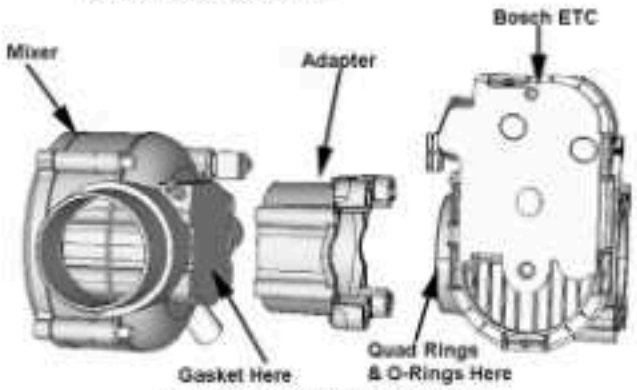


Figure 3-92. Mixer Assembly

Mixer Replacement

See Figure 3-92.

REMOVAL:

1. Remove the throttle control device. Refer to Electronic Throttle Body Replacement.
2. Remove the four (4) bolts to the throttle control device to mixer adapter bolts.
3. Remove and discard the gasket between the mixer and adapter.

INSTALLATION:

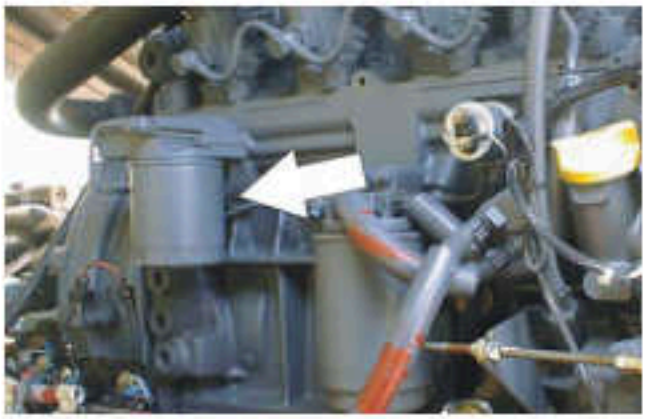
NOTICE

COVER THROTTLE BODY ADAPTER OPENING TO PREVENT DEBRIS FROM ENTERING ENGINE UNTIL REASSEMBLY.

1. Install the gasket onto the mixer.
2. Install the mixer to the throttle control device to mixer adapter. Secure with 4 retaining screws. Tighten 80 lb-in (9 Nm).
3. Install throttle body. Refer to Electronic Throttle Control Device Replacement.
4. Start the engine and leak check all fittings and connections.

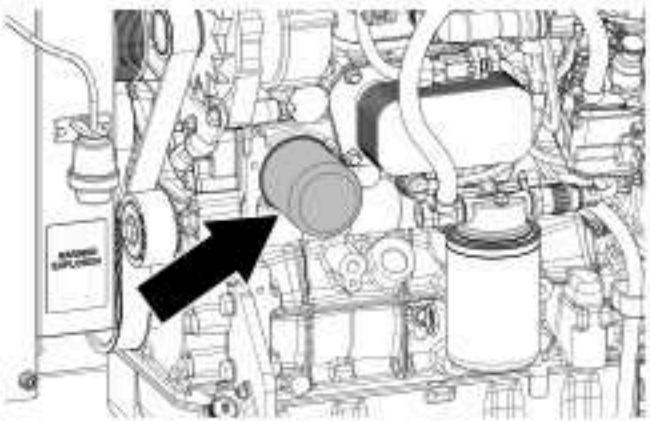
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Oil Change w/Filter - Deutz - D 2011 L03



- Lube Point(s) - Fill Cap/Spin-on Element (JLG P/N 7016331)
- Capacity - 6.3 qt. (5.9 L) engine only
- Lube - EO - Spec: API CJ-4/CG-4 class, ACEA E3-90/E5-02, for Oil Viscosity Ref. Figure 1-3. on page 1-6 - Operating Temperature Range Chart
- Interval - Every Year or 600 hours of operation
- Comments - Check level daily/Change in accordance with engine manual.

Engine Oil Change w/Filter - Deutz D2.9 L4 - T4F



- Lube Point(s) - Fill Cap/Spin-on Element (JLG P/N 7016641)
- Capacity - 2.35 Gal. (8.9 L) engine only
- Lube - EO - Spec: API CJ-4 class, for Viscosity Ref. Figure 1-3. on page 1-6 - Operating Temperature Range Chart
- Interval - Every Year or 600 hours of operation
- Comments - Check level daily/Change in accordance with engine manual.

Oil Change w/Filter - GM - Dual Fuel



- Lube Point(s) - Fill Cap/Spin-on Element (JLG P/N 7027965)
- Capacity- 4.5 qt. (4.25 L) w/filter - Tier 2 - 5.0 qt. (4.73 L) w/filter - Tier 3
- Lube - EO - Spec: API SM/GL class, ILSAC GF-4, GM 6094M, for Viscosity Ref. Figure 1-4. on page 1-7 - Operating Temperature Range Chart
- Interval - 3 Months or 150 hours of operation
- Comments - Check level daily/Change in accordance with engine manual.

Engine Fuel Filter - Deutz



- Lube Point(s) - Replaceable Element
- Interval - Every Year or 600 hours of operation

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