An Oshkosh Corporation Company

Service & Maintenance Manual

Models

1930ES
2032ES
2632ES
2646ES
3246ES

USA Built - S/N-0200239382 to Present
China Built - S/N-B200020297 to Present
Mexico Built - S/N-M200000100 to Present
Belgium Built - S/N-1200025021 to Present

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Capacities

Table 1-2. Platform Capacities

NOTE: *All platform extension capacities are 250 lbs (120 kg)*

Model	ANSI/CSA		CE INDOOR		CE OUTDOOR		AUSTRALIAN INDOOR		AUSTRALIAN OUTDOOR	
	Max Capacity	Max Persons	Max Capacity	Max Persons	Max Capacity	Max Persons	Max Capacity	Max Persons	Max Capacity	Max Persons
1930ES	500 lbs (227 kg)	2	230 kg	2	120 kg	1	230 kg	2	120 kg	1
2032ES	800 lbs (363 kg)	2	360 kg	2	160 kg	1	360 kg	2	160 kg	1
2632ES single cap	500 lbs (227 kg)	2	230 kg	2	N/A	N/A	230 kg	2	N/A	N/A
2632ES dual cap to 20 ft	800 lbs (363 kg)	2	360 kg	2	N/A	N/A	360 kg	2	N/A	N/A
2632ES dual cap to 26 ft	500 lbs (227 kg)	2	230 kg	2	N/A	N/A	230 kg	2	N/A	N/A
2646ES	1000 lbs (454 kg)	2	450 kg	2	230 kg	2	450 kg	2	230 kg	2
3246ES to 26 ft	1000 lbs (454 kg) Zone A	2	450 kg	2	320 kg	1	450 kg	2	320 kg	1
3246ES to 32 ft	700 lbs (317 kg) Zone B	2	320 kg	2	320 kg	1	320 kg	2	320 kg	1

Fluid Capacities

Table 1-3. Fluid Capacities

Description	1930ES	2032ES	2632ES	2646ES	3246ES
Hydraulic Tank	2 Gal (7.6 L)	2 Gal (7.6 L)		3 Gal (11.3 L)	
Hydraulic System (Including Tank)	2.2 Gal (8.3 L)	2.8 Gal (10.6 L)		5.3 Gal (19.9 L)	

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Table 5-2. Flash Code Listing

Flash Code	Help Message	Cause	Possible Resolve
9 9	LSS INTERNAL ERROR – PIN EXCITATION	The Excitation Voltage for the Load Sensors < 4.25V. 9-9 Flash Code LSS Module Message – Status Message (0x81) is reporting "INTERNAL ERROR – PIN EXCITATION < 4.25V" AND [Machine Setup's LOAD is set to 1=CUTOUT PLT OR 2=CUTOUT ALL]. Retained until power is re-cycled. Vehicle assumed to be Overloaded.	The sensors may be excessively loading the Excitation Supply due to wiring damage, or the Load Sensing System Module may have hardware difficulty.
9 9	LSS INTERNAL ERROR – DRDY MISSING FROM A/D	The DRDY Interrupt from the Load Sensing System Module's A/D Converter is missing. 9-9 Flash Code LSS Module Message – Status Message (0x81) is reporting "INTERNAL ERROR – DRDY INTERRUPT FROM A/D" AND [Machine Setup's LOAD is set to 1=CUTOUT PLT OR 2=CUTOUT ALL]. Retained until power is re-cycled. Vehicle assumed to be Overloaded.	This may indicate Load Sensing System Module hardware difficulty.
9 9	POWER MODULE FAILURE: PERSONALITY RANGE ERROR	The Power Module detected an out-of-range or corrupt personality setting. 9-9 Flash Code The Power Module is reporting a "Configuration Range" Fault Code (11d) OR a "Configuration CRC" Fault Code (12d) OR a "Motor Setup" Fault Code (13d). Retained until power is re-cycled.	Reset control system Personalities to default settings to clear difficulty.
9 9	POWER MODULE FAILURE: INTERNAL ERROR	The Power Module detected an internal error via self-test. 9-9 Flash Code The Power Module is reporting a "Two Direction" Fault Code (4d) OR a "Sequence" Fault Code (5d) OR a "CANbus Input" Fault Code (6d) OR a "12V Supply Detection" Fault Code (18d) OR a "System Monitor Activated" Fault Code (24d). Retained until power is re-cycled.	Re-cycle power to clear difficulty.
9 9	POWER MODULE FAILURE: CHECK POWER CIRCUITS OR MOSFET SHORT CIRCUIT	The Power Module detected an error in the Power Wiring for the Drive or Pump. Alternately, the Power Module has failed a self-test. 9-9 Flash Code The Power Module is reporting an "Armature MOSFET Short Circuit" Fault Code (17d) OR an "Armature MOSFET's Off" Fault Code (19d) OR an "Armature MOSFET's On" Fault Code (20d) OR an "Armature Pullup MOSFET Short Circuit" Fault Code (21d). Retained until power is re-cycled.	Check wiring and motors or replace the Power Module. Re-cycle power to clear difficulty.
9 9	POWER MODULE FAILURE: SYSTEM MONITOR	The groundboard detected armature, field, or pump current while function was not commanded.	Refer to Drive Motor Electrical Evaluation in Section 3.2. Refer to Pump Motor Electrical Evaluation in Section 4.3. Refer to Power Module Electrical Evaluation in Section 3.6.
9 9	EEPROM FAILURE – CHECK ALL SETTINGS	The control system detected an EEPROM failure. Personalities and Machine Setup settings may be reset to default values. 9-9 Flash Code The control system's EEPROM checksum indicates corruption. Retained until EEPROM settings are corrected and power is re-cycled.	Check / correct all settings and re-cycle power to clear difficulty.

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7.6 HYDRAULIC SCHEMATIC

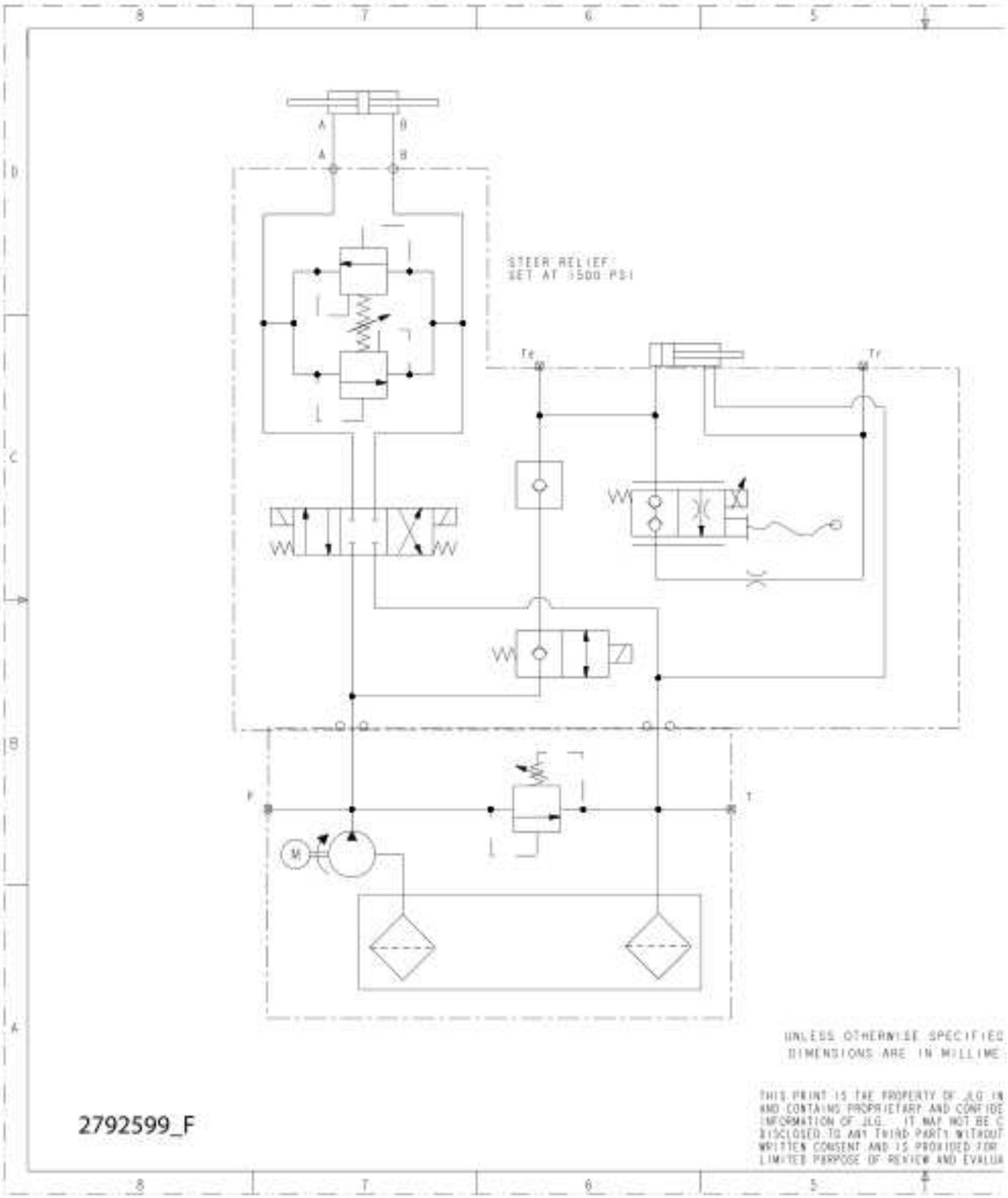


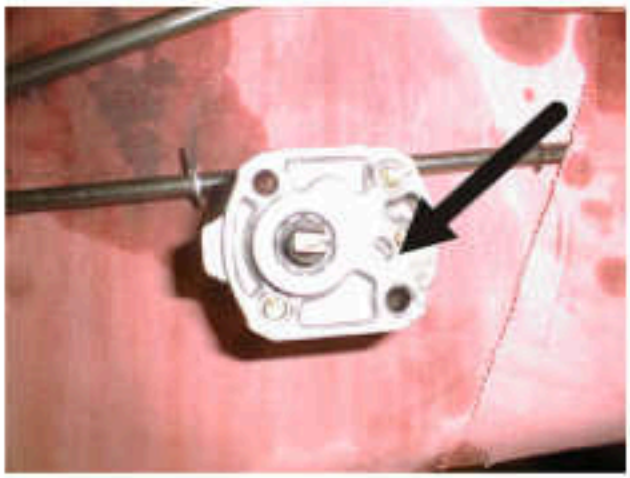
Figure 7-20. Hydraulic Schematic - USA Manufactured

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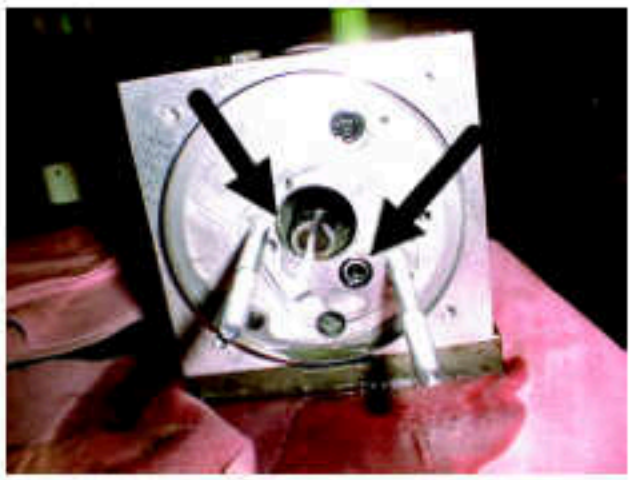


11. Remove allen nut on the return/filter line and rotate large retainer ring to remove return/filter line.
12. Replace the return/filter line oring if necessary.
13. With the return line and the pickup tube removed, the pump can be removed.
14. Loosen and remove the two hexhead nuts from the pump and block. Remove pump from valve body.





NOTE: *Be sure to remove and discard the plastic plug at the oil inlet on the new pump before installing.*



15. Check oring on valve body and replace if necessary before installing the new pump. Lubricate orings before assembling.

NOTE: *There are two orings used to seal the pump to the valve body, one for the pump inlet (shown above) and one on the pump boss around the drive coupler.*

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3.7 MDI (MULTIFUNCTION DIGITAL INDICATOR) AND BRAKE RELEASE



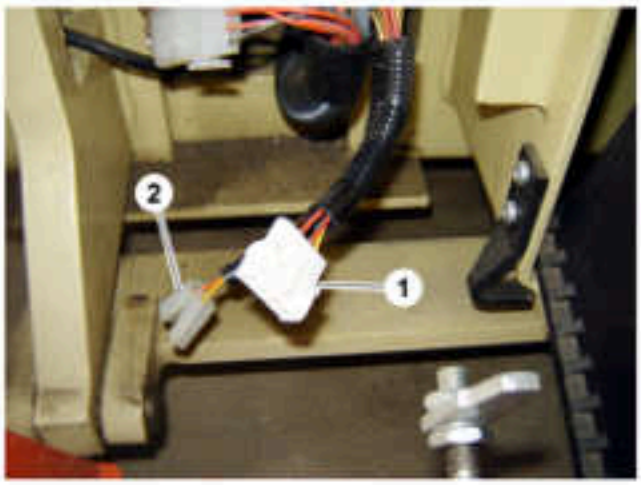
MDI and Brake Release Bracket

Installation:

NOTICE

ENSURE EMS BUTTONS ON THE CONTROL STATIONS ARE PUSHED IN TO THE OFF POSITION BEFORE CONNECTING AND MOUNTING THE MDI AND BRAKE RELEASE BRACKET.

1. Open the Battery Cover on the right side of the machine (ground control station side). Lifting up on the battery tray and pulling out will allow for maximum extension.
2. Locate the Diagnostic Port (1) and Brake Release Plugs (2).

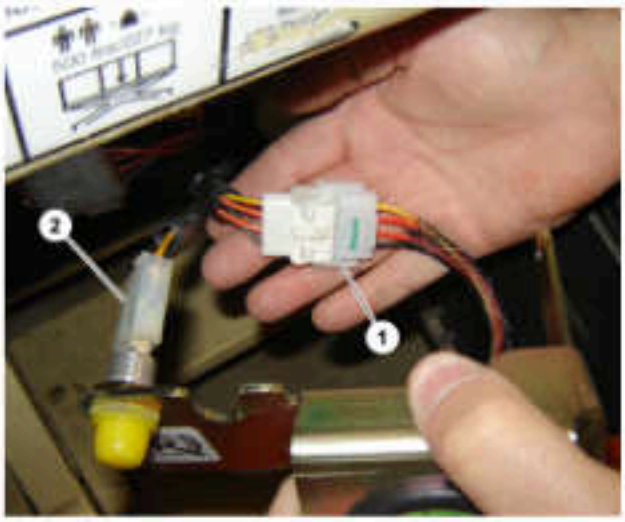


1. Diagnostic Port
2. Brake Release Plugs

3. Apply di-electric grease to the two Brake Release Plugs. Connect the Brake Release Plugs to the Brake Release Button on the backside of the mounting bracket.

NOTE: *The brake release plugs have no polarity, therefore, can be connected to either post on the button.*

4. Connect the MDI harness to the Diagnostic Port.



1. MDI Connected
2. Brake Release Connected

5. Using a 5/32" allen wrench, mount the MDI and Brake Release Bracket onto the wall of the battery compartment. (appropriate mounting holes are pre-existing) Apply Loctite #242 to the screws and torque to 3.6 ft-lb (5 Nm). (Refer to Figure 3-19.)

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