Service Manual

Models
644E-42
944E-42

644E-42 - S/N 17569 thru 20123
and 0160002514 & After
944E-42 - S/N 17569 thru 20123
and 0160002514 thru
0160041827

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Hydraulic System:	644E-42 and 944E-42
System Capacity	50.2 gal (190 liters)
Reservoir Capacity	33.5 gal (127 liters)
Type of Oil	ISO Grade 46 Anti-Wear Hydraulic Oil Refer to Section 2.6.4, "Hydraulic System."

2.5.11 Hydraulic System

Description	644E-42 and 944E-42
Valve Relief Settings:	
Port Relief Attachment Tilt (Both Sides)	4,000 ±100 psi (275,8 ±6,9 bar)
Port Relief - Aux	3,000 ±100 psi (206,8 ±6,9 bar)
Transfer Carriage Cylinder Base Port Relief	2,500 ±100 psi (172,4 ±7 bar)
Transfer Carriage Cylinder Base Port Relief	3,750 ±100 psi (258,6 ±6,9 bar)
Extend Base Port Relief	3,000 ±100 psi (206,8 ±6,9 bar)
Pressure Reducing Relieving Valve - Stabilizer	75-150 psi (5,2-10,3 bar)
Pressure Reducing Valve - Park Brakes	550 ±50 psi (37,9 ±3,4 bar)
Pressure, Steering Relief	2,500 ±100 psi (172,4 ±7 bar)
Main Pump Standby Pressure @ Valve Inlet	200-250 psi (13,8-17,2 bar)
Main Relief Pressure @ Main Valve Inlet	3,500 ±100 psi (241,3 ±6,9 bar)
Accumulator Charge Valve	Low Setting 1050 ±50 psi (72,4 ±3,4 bar) High Setting 1950 ±50 psi (134,4 ±3,4 bar)

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6.8.1 Transmission Troubleshooting (Continued)

Problem	Cause	Remedy
3. Low clutch pressure.	1. Incorrect oil level.	1. Fill transmission to correct level with Universal Tractor Fluid. (Refer to the appropriate Owners/Operators Manual.)
	2. Main pressure valve stuck open.	2. Clean the valve spool and housing.
	3. Broken or worn coupling shaft or piston o-rings.	3. Replace coupling and/or o-rings.
	4. Pressure reducing valve stuck open.	4. Clean the valve spool and housing.
4. Lack of power.	1. Park or service brake dragging.	1. Refer to Section 8.8.7, "Park Brake Circuit & Troubleshooting," and Section 8.8.8, "Service Brake Circuit & Troubleshooting."
	2. Low engine rpm causes converter stall.	2. Adjust the engine rpm to specifications (refer to Cummins 4BT3.9 Service Manual).
	3. Pump output pressure is low.	3. Refer to Section 6.8.1, "Transmission Troubleshooting," **Problem 2.** "Low or no pump flow or pressure."
	4. Clutch discs worn or damaged.	4. Replace clutch discs.
	5. Transmission overheating.	5. Refer to Section 6.8.1, "Transmission Troubleshooting," **Problem 5.** "Transmission overheating (oil above 248° F [120° C])."

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9.6.1 Removal and Replacement

Remove a wiring harness only if damaged or unusable. Install a new harness one terminal at a time as the old harness is removed. Label or tag the terminal locations of all wires, harness clips, tie wraps and conduit as the old harness is removed to allow correct installation of the new harness.

9.6.2 Disassembly

Disassembly of the wiring harness is not recommended due to the precise arrangement of wires and splice requirements. If it becomes necessary to replace wires, use the correct gauge size wiring, and **NEVER** replace a wire with a smaller gauge wire.

9.6.3 Cleaning and Drying

Clean a wire harness with a natural bristle brush and the same detergent used to clean the vehicle. Allow the harness to air dry. **DO NOT** allow surface temperatures to exceed 225° F (107° C).

9.6.4 Inspection and Repair

Replace a harness only if it is damaged or unusable. If a splice or repair must be made to a wire, always use rosin core solder to bond wires together. Use heat-shrink tubing or insulating electrical tape to cover all splices or bare wires.

9.6.5 Installation

The wiring harnesses are held securely in place by wire tie wraps, clips or other devices to help prevent chafing or wearing of the insulation and entanglement with moving parts. Sections of ribbed plastic conduit have been installed where wiring or harnesses pass through openings in the vehicle frame. Always install tie wraps, clips, conduit, etc., in their original locations to help prevent damage to the wiring or harnesses.

9.6.6 Wire Code and Color

The chart below indicates the wire code abbreviation and color as used on the electrical schematics.

Wire Code	Color
BLK	Black
BLU	Blue
BRN	Brown
DK BLU	Dark Blue
DK GRN	Dark Green
GRN	Green
GRY	Grey
LT BLU	Light Blue
LT GRN	Light Green
ORN	Orange
PNK	Pink
PUR	Purple
RED	Red
TAN	Tan
YEL	Yellow
WHT	White

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