SERVICE MANUAL

T8.270 / T8.295 / T8.325
T8.355 / T8.385

Tractor

Part number 84417609
English
March 2014

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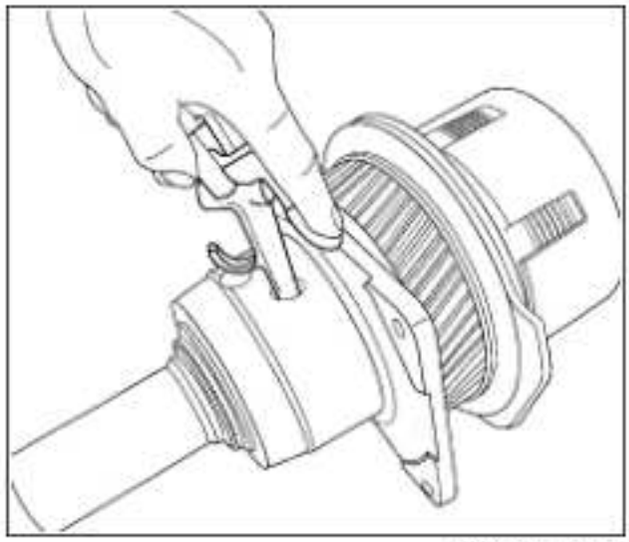
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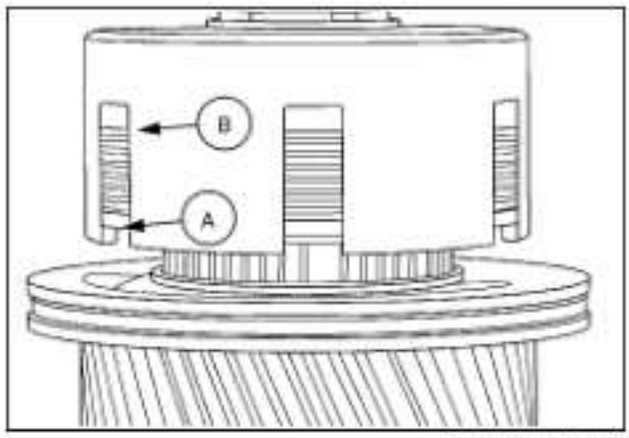
51. Air test the piston pressure port for seal ring leakage and for proper seating. Add some oil to the pressure port and cover the air nozzle with a rag to prevent oil spray. Rotate the clutch can during the air test. The clutch piston must move when air is applied: this verifies that the clutch is properly installed and seats the clutch parts.

NOTE: *Some air leakage will occur. If leakage is excessive, sealing rings were damaged during assembly and must be replaced.*



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52. Measure the gap between the backing plate and the retaining ring **(A)**. Measure in two places **180 °** apart. The gap should be a minimum of **0.3 mm** (**0.012 in**). Measure the gap between the steel separator plate and the piston **(B)**. Measure in two places **180 °** apart. The gap should be a minimum of **1.5 mm** (**0.059 in**).
    - If the gap between the steel separator plate and the piston **(B)** does not meet minimum dimensions, the **3.5 mm** (**0.138 in**) brake pusher plate was installed in Step **34** and not replaced in Step **46**.
    - Therefore, replace the **3.5 mm** (**0.138 in**) plate with the **3.0 mm** (**0.118 in**) thick brake pusher plate **87366284**.



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Next operation:
Power Take-Off (PTO) clutch - Install (31.114)

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Wire harnesses - Electrical schematic sheet 62 - FNRP

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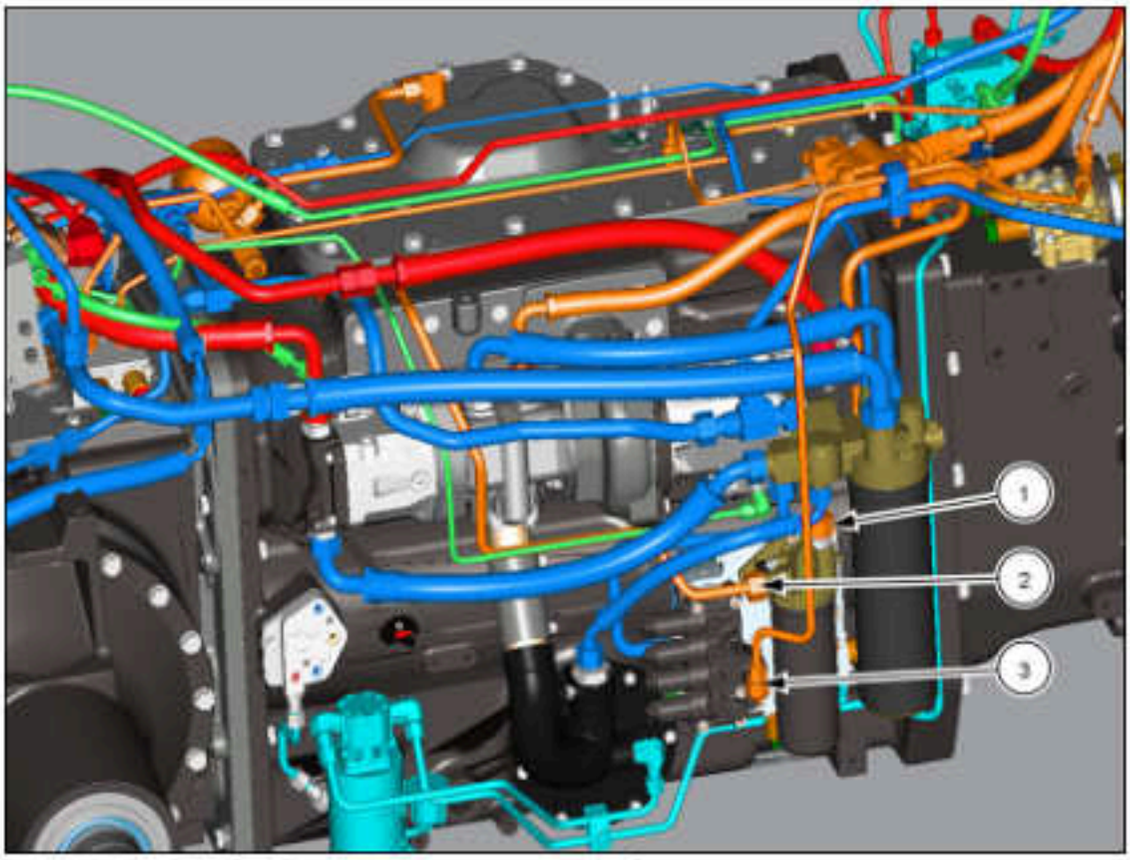
Connector **X-010**	To main chassis harness
Connector **X-051**	Forward neutral reverse park (FNRP)
Connector **X-054**	Forward neutral reverse park (FNRP)
Connector **X-263**	FNRP switched B+ relay #2

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Message	Description	Controller
2356	C5-6 clutch solenoid is shorted to +12 volts - current sensed while driver is off	
2357	Low clutch solenoid is shorted to +12 volts - current sensed while driver is off	
2358	Medium clutch solenoid is shorted to +12 volts - current sensed while driver is off	
2359	High clutch solenoid is shorted to +12 volts - current sensed while driver is off	
2360	Reverse clutch solenoid is shorted to +12 volts - current sensed while driver is off.	
2361	Creeper clutch solenoid is shorted to +12 volts - current sensed while the driver is off	
2362	Master clutch solenoid is shorted to +12 volts - current sensed while driver is off	
2363	Odd clutch not calibrated	
2364	Even clutch not calibrated	
2365	C1-2 clutch not calibrated	
2366	C3-4 clutch not calibrated	
2367	C5-6 clutch not calibrated	
2368	Low range clutch not calibrated	
2369	Mid range clutch not calibrated	
2370	High clutch not calibrated	
2371	Reverse clutch not calibrated	
2372	Creeper clutch not calibrated	
2373	Master clutch not calibrated	
2374	Master clutch solenoid open circuit or short to ground	
2610	Cal current or quickfill time has been manually modified	
2800	Autoguidance isolation valve driver fault	
2805	System pressure valve solenoid - open circuit or short to ground	
2806	System pressure solenoid is shorted to B+	
2807	Transmission output RPM over speed	
2808	Shuttle commanded while operator out of seat	
2809	Battery voltage is too low for clutch solenoid operation	
2811	Transmission oil temperature hot	
2811	Transmission oil temperature hot	
2812	Transmission oil temperature sensor short to B+ or open circuit	
2813	Transmission oil temperature sensor short to ground	
2814	Integrated control panel offline	
2815	Engine RPM speed sensors do not match	
2816	Transmission regulated pressure accumulator is discharged	

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RAIL13TR00686FA 2

Regulated circuit flow

1. Cooler return to regulated circuit filter assembly
2. Regulated supply outlet
3. Regulated supply outlet to transmission forward/reverse control valve

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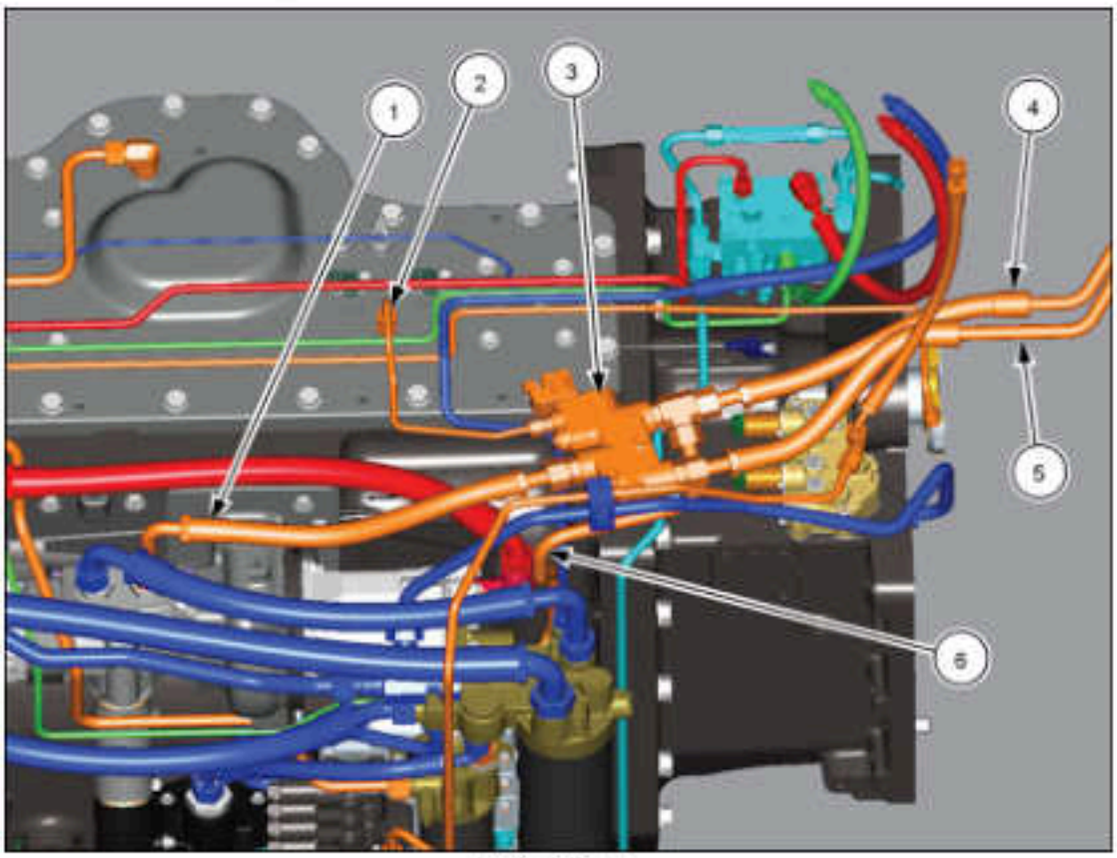
Oil cooler/Heat exchanger Bypass valve - Dynamic description

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The cooler bypass valve is located on the top of the transmission housing, above the main filter assembly.

All regulated circuit pump flow is directed to the cooler bypass valve inlet. The tractor control unit (TCU) controls the cooler bypass valve function based on transmission oil temperature.

When the transmission oil temperature is below a preset limit, the cooler bypass solenoid valve will be energized. When energized most of the supply flow will bypass the cooler. When the oil temperature exceeds the preset limit, the cooler bypass solenoid will be de-energized by the tractor control unit (TCU), now all of the flow entering the bypass valve to be directed through the oil cooler.



RAE131R0078PA 1

1. Regulated supply to cooler bypass valve	4. Cooler return line
2. Cooler bypass drain	5. Cooler supply line
3. Cooler bypass valve	6. Cooler bypass to regulated filter assembly

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Hydraulic schematic 47513532 — Sheet 2— Power shift Transmission.

	PFC PISTON PUMP
	REGULATED CIRCUIT PUMP
	CHARGE /LUBE PUMP FLOW
	RETURN TO TANK/SUMP
	OIL COOLER / FILTRATION AUX. CHARGE PUMP FLOW
	TWIN FLOW PUMP MEGA FLOW PUMP
1. REMOTE SECTION	32. PARK CLUTCH
2. LOAD SENSE DIAGNOSTIC	33. INLET BRAKE VALVE
3. PILOT / HITCH DRAIN	34. PRIORITY REGULATOR VALVE
4. PILOT SUPPLY	35. THERMAL BYPASS VALVE
5. RETURN	36. OIL COOLER
6. SUPPLY	37. LUBE REGULATOR
7. HITCH VALVE	38. PRESSURE AND FLOW COMPENSATED (PFC) PISTON PUMP
8. NOT USED	39. FILTER
9. HITCH CYLINDERS	40. PTO CLUTCH LUBE
10. RETURN	41. ODD / EVEN LUBE
11. SUPPLY	42. DROP BOX LUBE
12. SIGNAL	43. CREEP DRIVE LUBE
13. CASE DRAIN	44. MASTER CLUTCH LUBE
14. POWER BEYOND MANIFOLD (OPTIONAL)	45. RIGHT BRAKE / DIFFERENTIAL LUBE
15. PTO / DIFFERENTIAL LOCK VALVE	46. MFD / RANGE LUBE
16. PTO CLUTCH / BRAKE	47. LEFT BRAKE / DIFFERENTIAL LUBE
17. DIFFERENTIAL LOCK CLUTCH	48. TO PARK BRAKE VALVE SOLENOID
18. BEVEL PINION LUBE	49. SERVICE BRAKE
19. LUBE SUPPLY	50. MASTER CLUTCH
20. MFD CLUTCH	51. IN
21. LOW CLUTCH	52. MASTER CLUTCH INCHING VALVE
22. MEDIUM CLUTCH	53. PARK / EMERGENCY BRAKE
23. HIGH CLUTCH	54. BRAKE RELEASE PUMP
24. REVERSE CLUTCH	55. STEERING HAND PUMP
25. FIFTH CLUTCH	56. STEERING CYLINDERS
26. THIRD CLUTCH	57. BYPASS VALVE
27. FIRST CLUTCH	58. BRAKE VALVE
28. EVEN CLUTCH	59. NOTE: SWITCH IS OPENED WHEN PEDAL REACHES FULL STROKE WHEN HYDRAULIC POWER IS LOST
29. ODD CLUTCH	60. ACCUMULATOR
30. CREEP CLUTCH HI	61. TWIN FLOW PUMP MEGA FLOW PUMP
31. TRANSMISSION CONTROL VALVES	62. TWIN FLOW MANIFOLD PLUGS MEGA FLOW MANIFOLD PLUGS

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