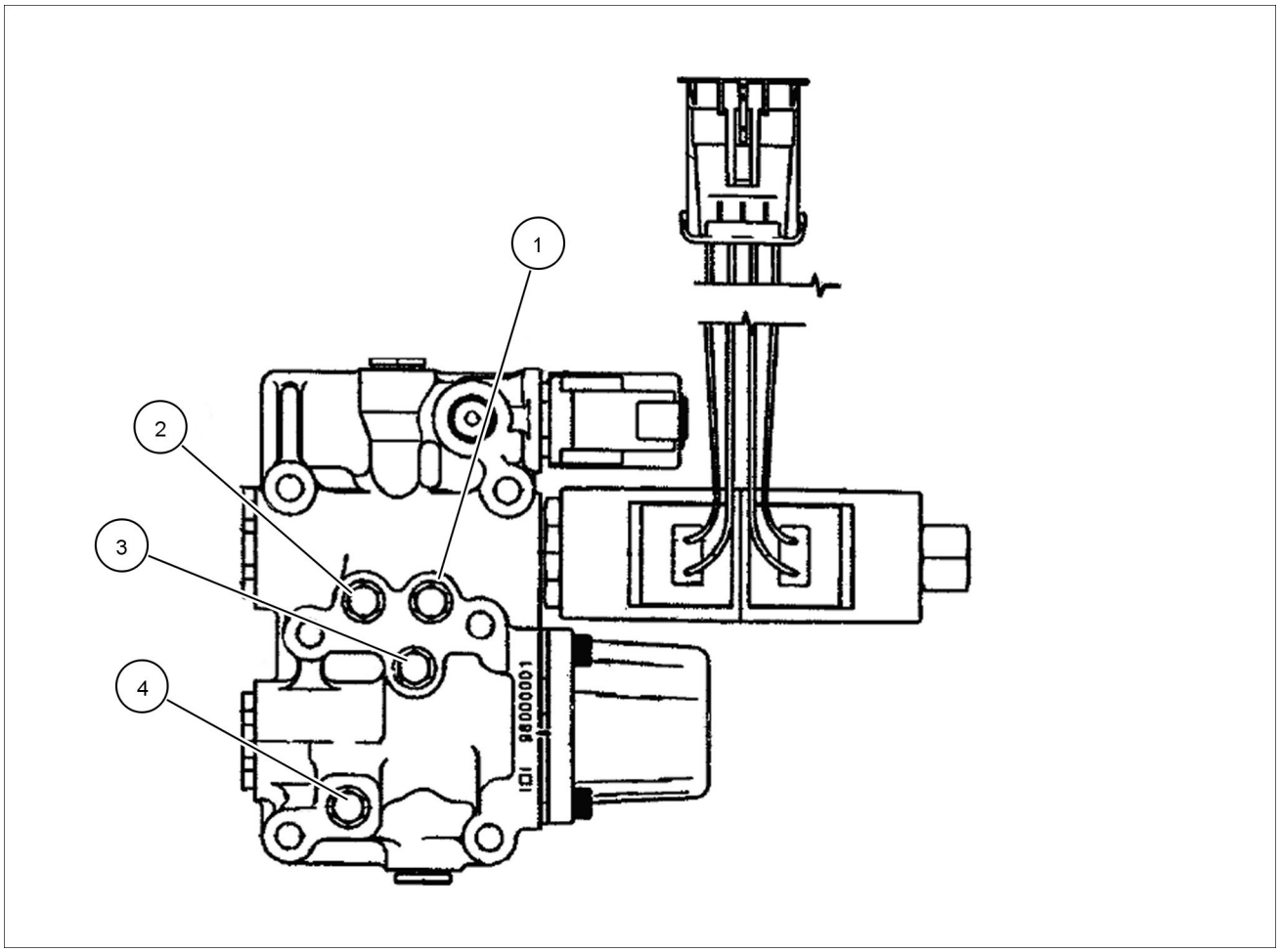
TRANSMISSION Power Shuttle - Tool connection - Pressure Test Ports, Two Wheel Drive



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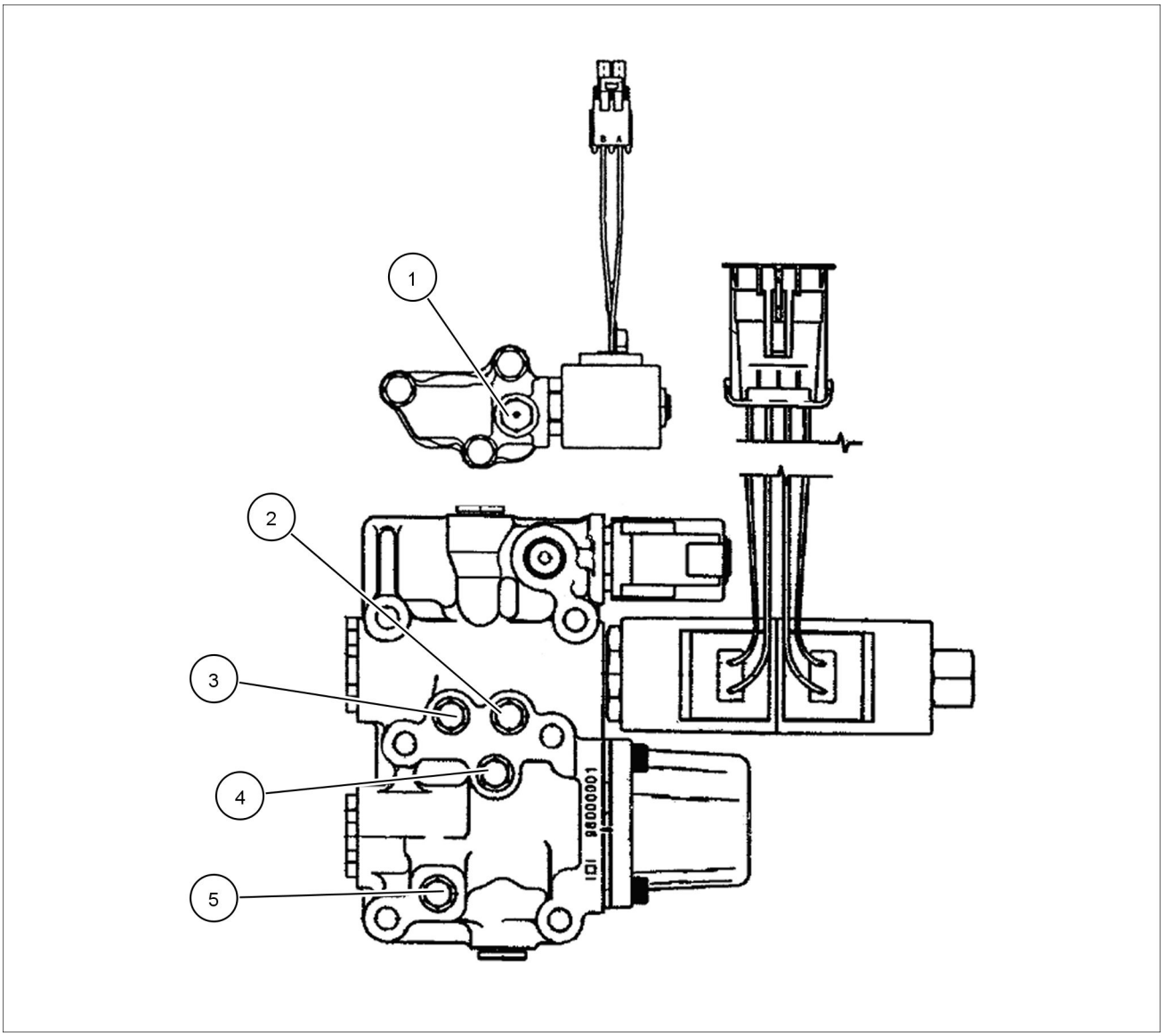
(1)	Reverse Clutch Pressure	**(3)**	Regulated Clutch Pressure
(2)	Forward Clutch Pressure	**(4)**	Torque Converter Pressure

TRANSMISSION Power Shuttle - Tool connection Pressure Test Ports 4 Wheel Drive



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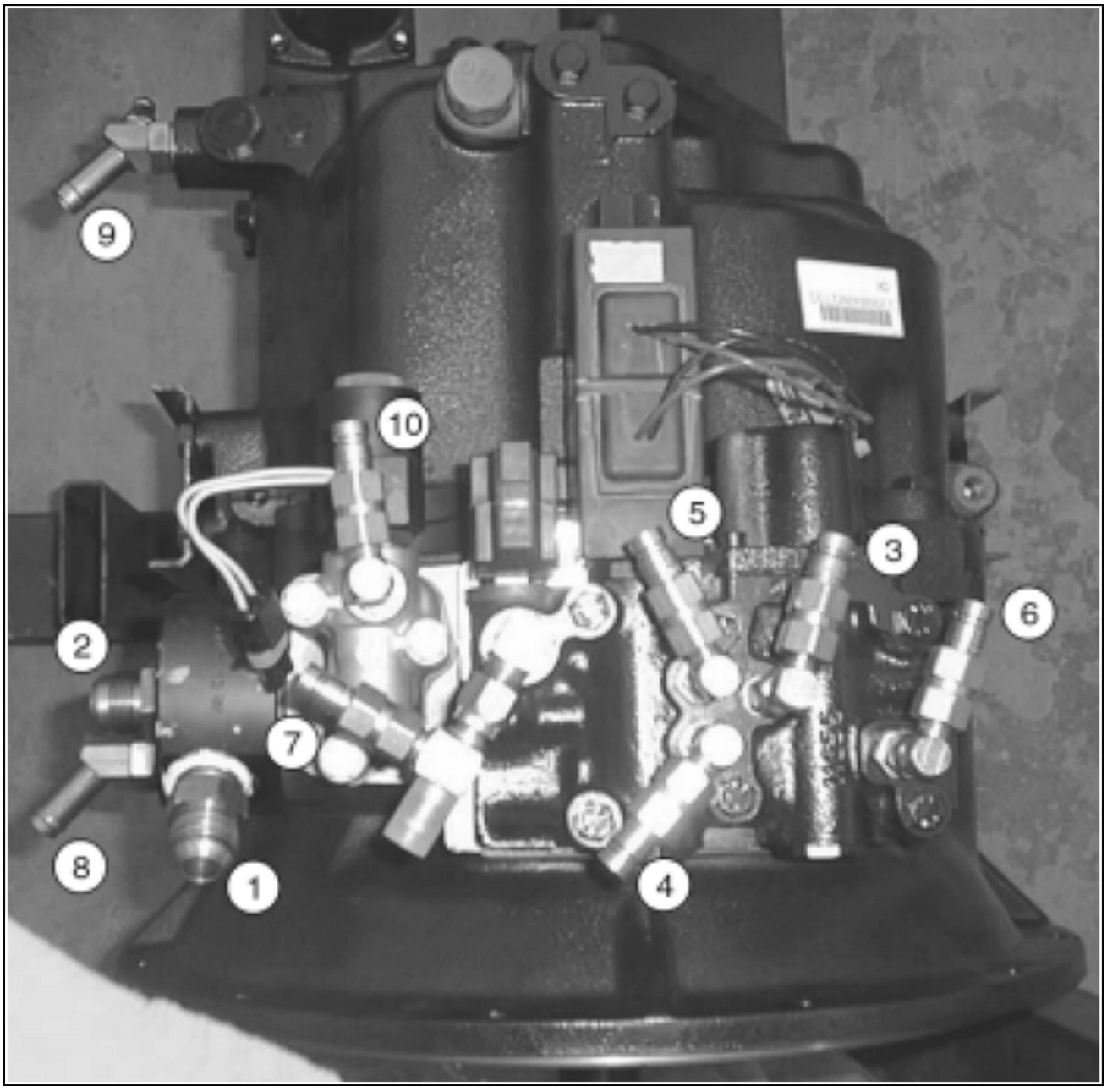
(1)	Supply Pump Pressure, Four Wheel Drive Only	**(4)**	Regulated Clutch Pressure
(2)	Reverse Clutch Pressure	**(5)**	Torque Converter Pressure
(3)	Forward Clutch Pressure		

TRANSMISSION Power Shuttle - Tool connection Four Wheel Drive Port Identification



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1.	Flow meter adapter from charge pump to flow meter (Use CAS-2011). Connect the CAS-1029 Flow meter or equivalent.
2.	Return from flow meter to transmission (CAS-2383).
3.	Regulated clutch pressure, common to forward and reverse. Use CAS-2745 and CAS-2746
4.	Regulated reverse clutch pressure. Use CAS-2745 and CAS-2746
5.	Regulated forward clutch pressure. Use CAS-2745 and CAS–2746
6.	Torque Converter IN pressure. Use CAS-2745 and CAS-2746
7.	Differential lock pressure. Use CAS-2744
8.	Converter out to cooler. Use CAS-2747
9.	Lubrication pressure, common to converter return. Use CAS-2745 and CAS-2746 or use CAS-2747
10.	Pump supply pressure, 4 wheel drive only. Use CAS-2745 and CAS-2746

TRANSMISSION Power Shuttle - Pressure test – 4 Wheel Drive, Test One - Engine at Idle 900 to 1100 rpm

NOTE: *All specifications shown were taken from a sampling of new production machines with less than 20 engine hours, your figures may differ slightly.*

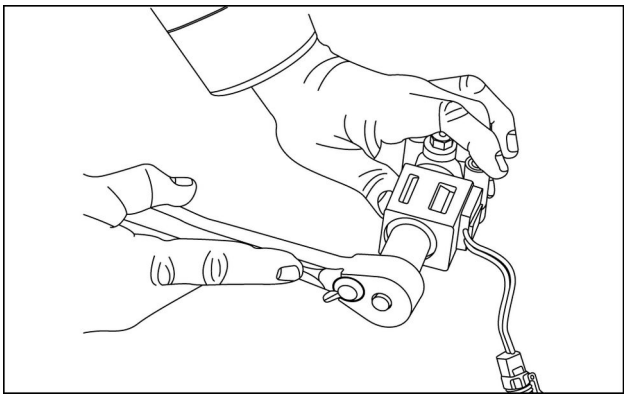
Test Port	Item	Specifications — 4 wheel Drive	Actual
1 and 2	Supply Pump Flow	27 to 28 L/min at 1379 kPa 14 bar at 49° C (7.02 to 7.28 gpm at 200psi at 120° F)	
1 and 2	Cold Oil By-Pass	2875 kPa to 3137 kPa 29.3 bar to 32.0 bar at 49° C (417 to 455 psi I at 120° F)	
7	Differential Lock Pressure (FNR must be in forward or reverse	1262 to 1317 kPa, 12.7 to 13.4 bar (183 to 191 psi)	
Forward			
10	Pump Supply Pressure	1393 to 1427 kPa 14.2 to 14.6 bar (202 to 207 kPa)	
4	Regulated Clutch Pressure	1276 to 1317 kPa 13.0 to 13.4 bar (185 to 191 psi)	
6	Torque Converter IN	545 to 607 kPa 5.6 to 6.2 bar (79 to 88 psi)	
8	Torque Converter OUT	393 to 414 kPa 4.0 to 4.2 bar (57 to 60 psi)	
9	Lubrication Pressure	269 to 283 kPa 2.7 to 2.9 bar (39 to 42 psi)	
Neutral			
10	Pump Supply Pressure	690 to 758 kPa 7.0 to 17.7 bar (194 to 202 psi)	
6	Torque Converter IN	517 to 579 kPa 5.3 to 5.9 bar (75 to 84 psi)	
8	Torque Converter OUT	414 to 427 kPa 4.2 to 4.4 bar (60 to 62 psi)	
9	Lubrication Pressure	352 to 365 kPa 3.4 to 3.7 bar (51 to 53 psi)	
Reverse			
10	Pump Supply Pressure	1400 to 1434 kPa 14.2 to 14.6 psi (203 to 208 psi)	
5	Regulated Clutch Pressure	1276 to 1317 kPa 13.0 to 13.4 bar (185 to 191 psi)	
6	Torque Converted IN	517 to 565 kPa 5.3 to 5.8 bar (75 to 82 psi)	
8	Torque Converter OUT	331 to 345 kPa 3.4 to 3.5 bar (48 to 50 psi)	
9	Lubrication Pressure	214 to 228 kPa 2.2 to 2.3 bar (31 to 33 psi)	

TRANSMISSION Power Shuttle - Pressure test - 4 Wheel Drive, Test Two - Engine at 2200 rpm

Test Port	Item	Specifications — 4 wheel Drive	Actual
1 and 2	Supply Pump Flow	62 to 70L/min at 1379 kPa 14 bar at 49° C (16.3 to 18.5 gpm at 200 psi at 120° F)	
1 and 2	Cold Oil By-Pass	3034 kPa to 3310 kPa 30.9 bar to 33.7 bar at 49° C (440 to 480 psi I at 120° F)	
7	Differential Lock Pressure (FNR must be in forward or reverse	1276 to 1323 kPa, 13.0 to 13.5 bar (185 to 192 psi)	
Forward			
10	Pump Supply Pressure	1586 to 1655 kPa 16.2 to 16.9 bar (230 to 240 kPa)	
4	Regulated Clutch Pressure	1276 to 1317 kPa 13.0 to 14.1 bar (185 to 200 psi)	
6	Torque Converter IN	827 to 965 kPa 8.4 to 9.8 bar (120 to 140 psi)	
8	Torque Converter OUT	434 to 455 kPa 4.4 to 4.6 bar (63 to 65 psi)	
9	Lubrication Pressure	290 to 303 kPa 3.0 to 3.1bar (42 to 44 psi)	
Neutral			
10	Pump Supply Pressure	1407 to 1462 kPa 14.4 to 14.9 bar (205 to 212 psi)	
6	Torque Converter IN	724 to 862kPa 7.4 to 8.8 bar (105 to 125 psi)	
8	Torque Converter OUT	483 to 503 kPa 4.9 to 5.3 bar (70 to 73 psi)	
9	Lubrication Pressure	414 to 434 kPa 4.2 to 4.4 bar (60 to 63 psi)	
Reverse			
10	Pump Supply Pressure	1585 to 1627 kPa 15.9 to 16.6 psi (226 to 236 psi)	
5	Regulated Clutch Pressure	1276 to 1379 kPa 13.0 to 14.1 bar (185 to 200 psi)	
6	Torque Converted IN	827 to 965 kPa 8.4 to 9.8 bar (120 to 140 psi)	
8	Torque Converter OUT	339 to 414 kPa 4.0 to 4.2 bar (57 to 60 psi)	
9	Lubrication Pressure	241 to 255 kPa 2.5 to 2.6 bar (35 to 37 psi)	

Control valve - Disassemble - Four wheel drive valve (if equipped)

1. Remove the nut.



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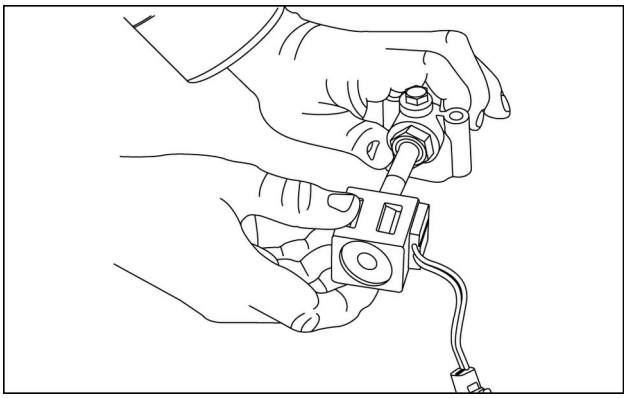
2. Remove the solenoid coil.



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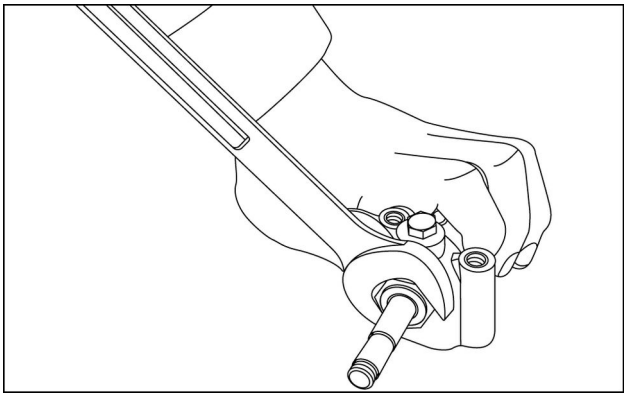
3. Remove the solenoid valve.



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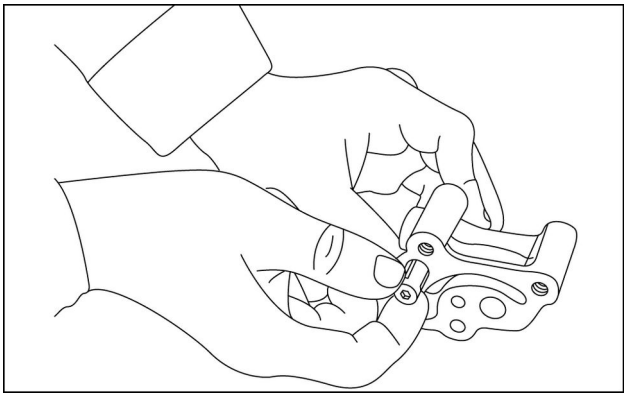
4. Remove the check valve from the solenoid valve body. DO NOT try to disassemble the check valve. There are no serviceable parts. If there is a problem, use a new check valve.



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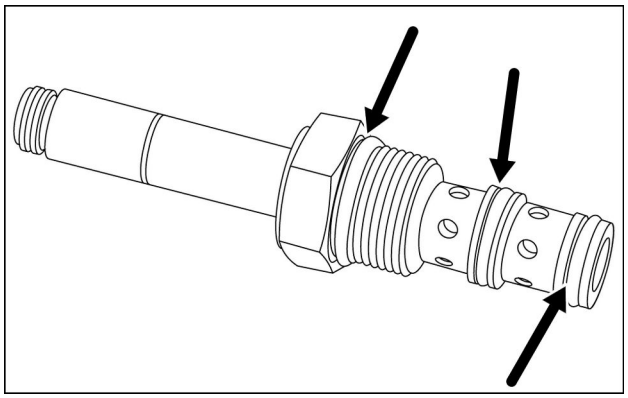
5. Remove the three O-rings from the solenoid valve.



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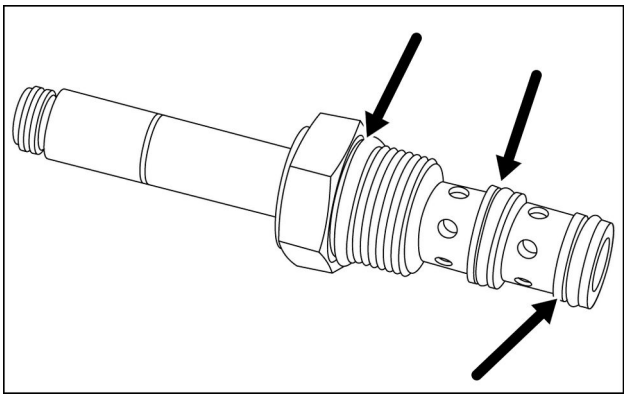
Next operation:
Control valve - Assemble (C.20.C)

Control valve - Assemble - Four wheel drive valve (if equipped)

1. Install the three new O-rings on the solenoid valve. Use clean transmission oil to lubricate the O-rings.



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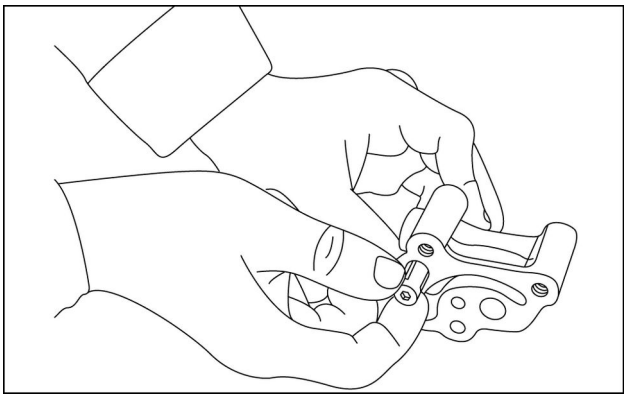
2. Install the check valve in the valve body as shown.



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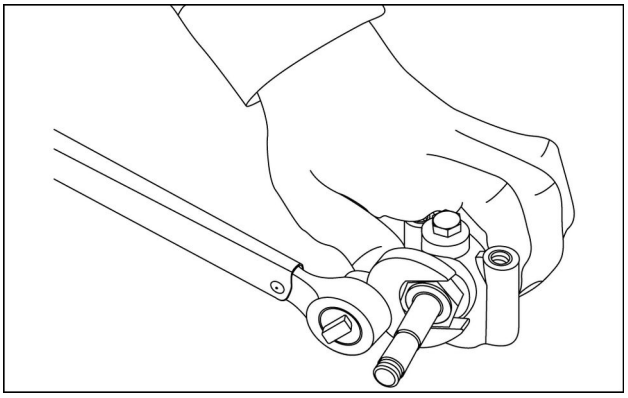
3. Install the solenoid valve in the solenoid valve body. Tighten the solenoid valve to a torque of 22 Nm (195 pound-inches).



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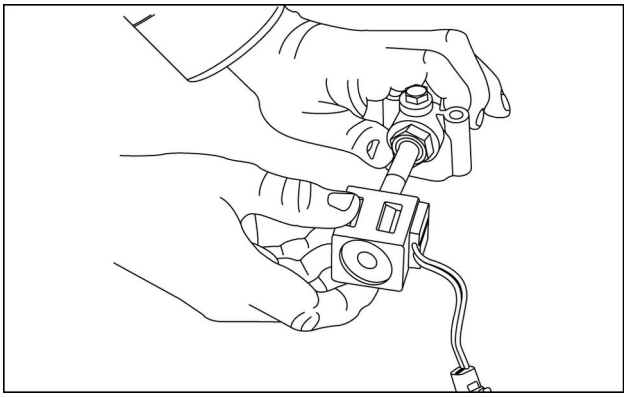
4. Install the solenoid coil on the solenoid valve.



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