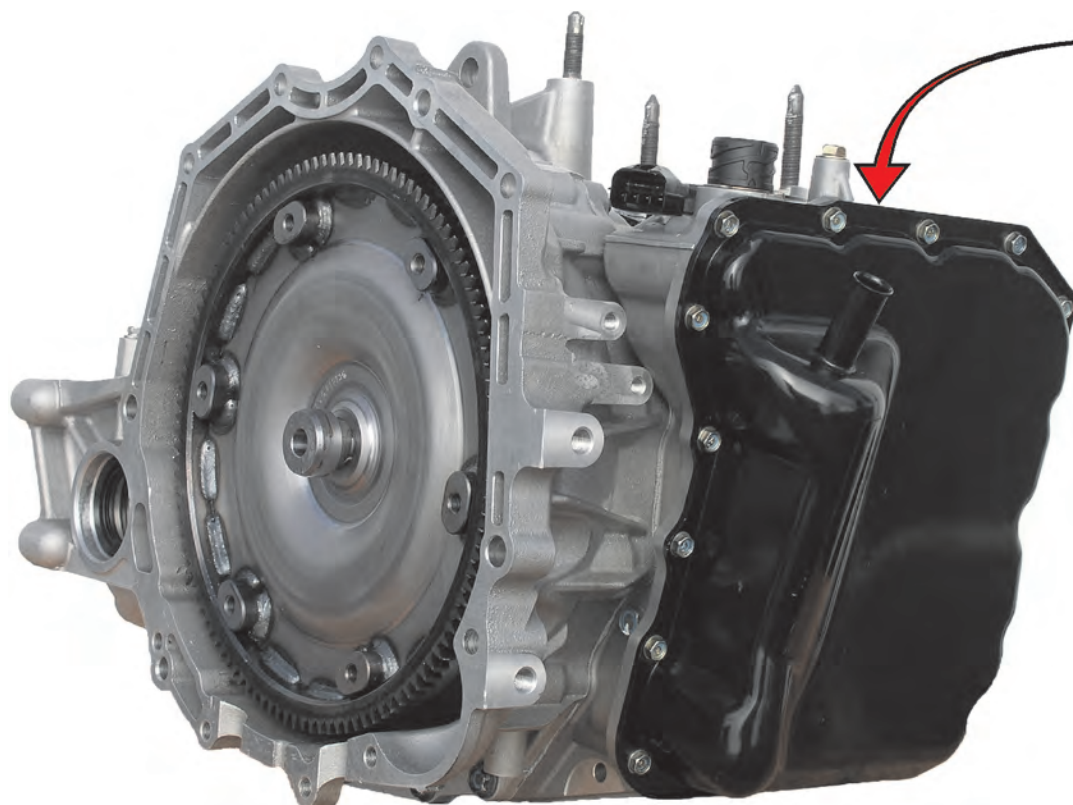


THE JF613E

VALVE BODY & SOLENOID INFORMATION



Jatco ID Tag for a Mitsubishi Outlander
(Pad area on top of the case near the manual control shaft)

Some International Applications (JF613E, RE6F01A, F6AJA / W6AJA, AJO):

<i>Auto</i>	<i>Model</i>	<i>Year</i>	<i>Engine</i>
MITSUBISHI	LANCER	08--	L4 1.8L 2.0L
MITSUBISHI	OUTLANDER	07--	L4 2.4L V6 3.0L
NISSAN / DATSUN	MURANO	10--	L4 2.5L
NISSAN / DATSUN	PATHFINDER	11--	V6 3.5L
NISSAN / DATSUN	QASHQAI/ + 2	06--	L4 2.0L
NISSAN / DATSUN	X-TRAIL	07--	L4 2.0L
RENAULT	ESPACE	07--	L4 2.0L
RENAULT	KOLEOS	08--	L4 2.0L
RENAULT	LAGUNA	07--	L4 2.0L V6 3.0L 3.5L
RENAULT	MEGANE	08--	L4 2.0L
RENAULT	SCENIC	06--	L4 2.0L
SAMSUNG	SM5	09--	L4 2.0L V6 2.
SAMSUNG	SM7	10--	V6 2.5L 3.5L

Many thanks to ALTO for the use of this transmission

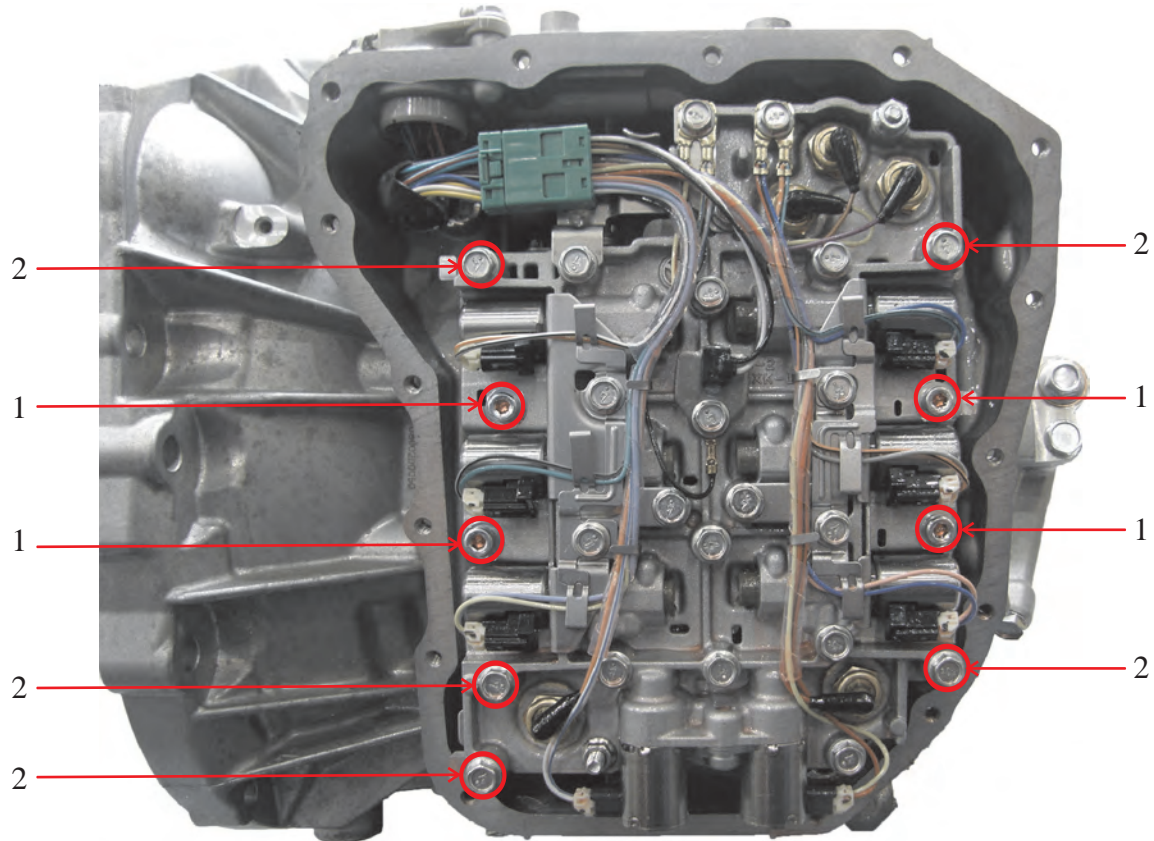
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Figure 1

THE JF613E

VALVE BODY & SOLENOID INFORMATION

REMOVING THE VALVE BODY



1 - Remove (4) 5mm hexagon socket head bolts.

Shank length: 58mm (2.28")

2 - Remove (5) 10mm hexagon head bolts.

Shank length: 71.5mm (2.82")

Both bolts labeled 1 and 2 tighten to 7.9Nm (70 inch pounds)

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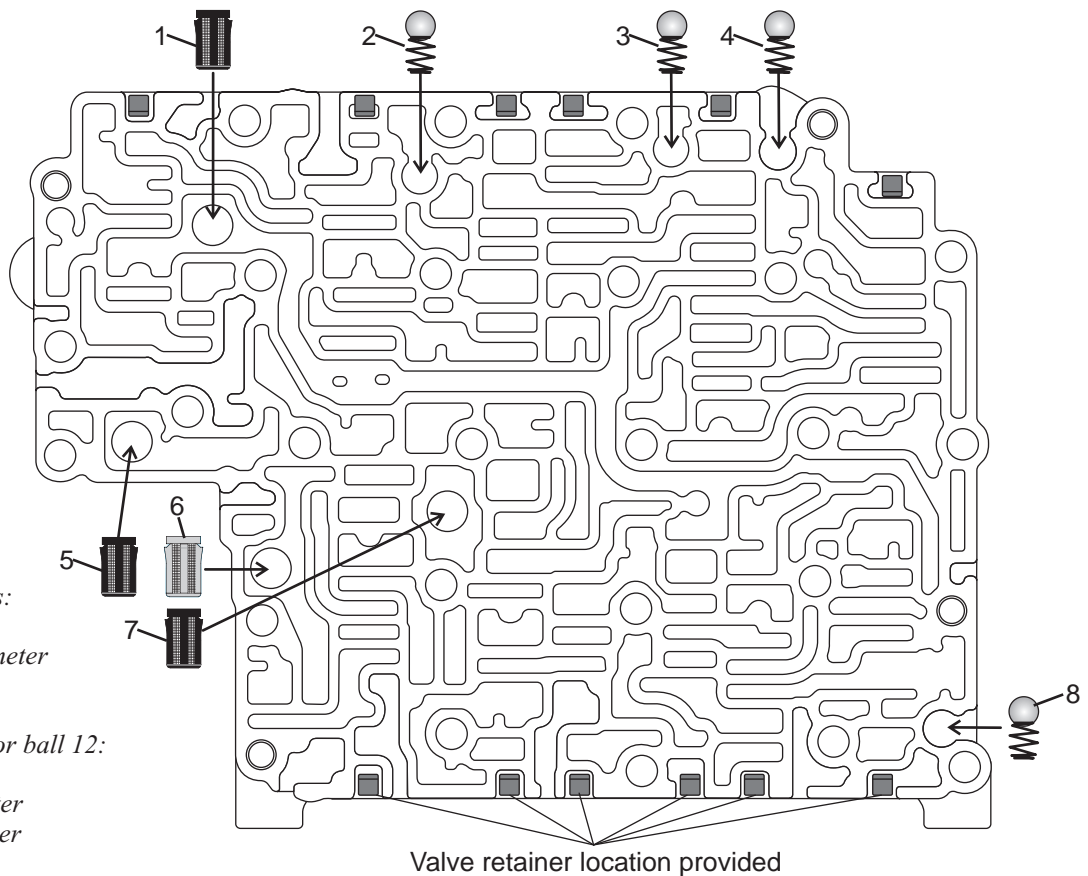
Figure 2

THE JF613E

VALVE BODY & SOLENOID INFORMATION

Center valve body

1. Filter for D range main line pressure supply to VB.
2. L/R Brake pre-fill/exhaust check ball (8mm-.312") [M1]
3. Low clutch pre-fill/exhaust check ball (8mm-.312")
4. High Clutch pre-fill/exhaust check ball (8mm-.312")
5. Filter for R range main line pressure supply to VB.
6. Filter for pilot valve pressure
7. Filter for regulated main line pump pressure to LR/B control valve
8. 3-5-R clutch pre-fill/exhaust check ball (8mm-.312")

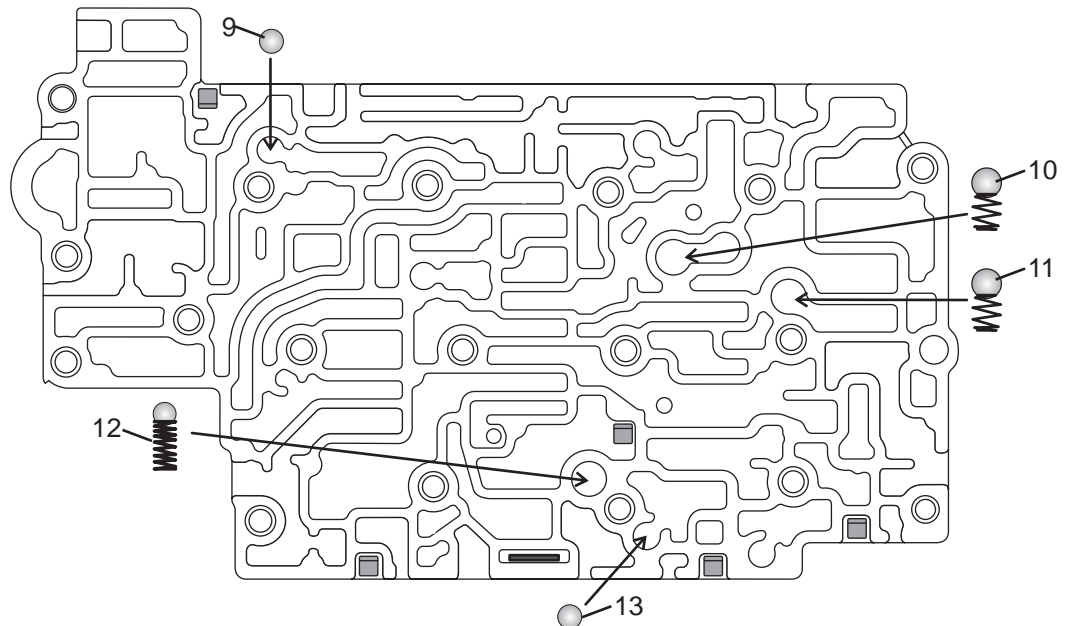


All Check Ball Barrel Springs:
 9mm (.355") in length
 0.25mm (0.010") in wire diameter
 5 coils

Line Pressure Relief Spring for ball 12:
 17mm (.673") in length
 8mm (.316") in spring diameter
 1.1mm (.045") in wire diameter
 9 coils

Inner valve body

9. Drive pressure exhaust control ball (5.5mm-.218")
10. Center lube check ball (8mm-.312")
11. Converter charge check ball (8mm-.312")
12. Line pressure relief ball (8mm-.312")
13. Reverse pressure exhaust control ball (5.5mm-.218")



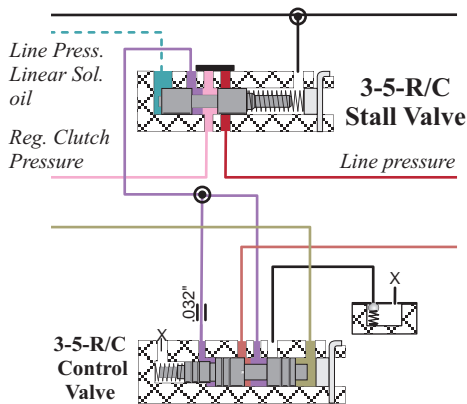
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Figure 3

THE JF613E

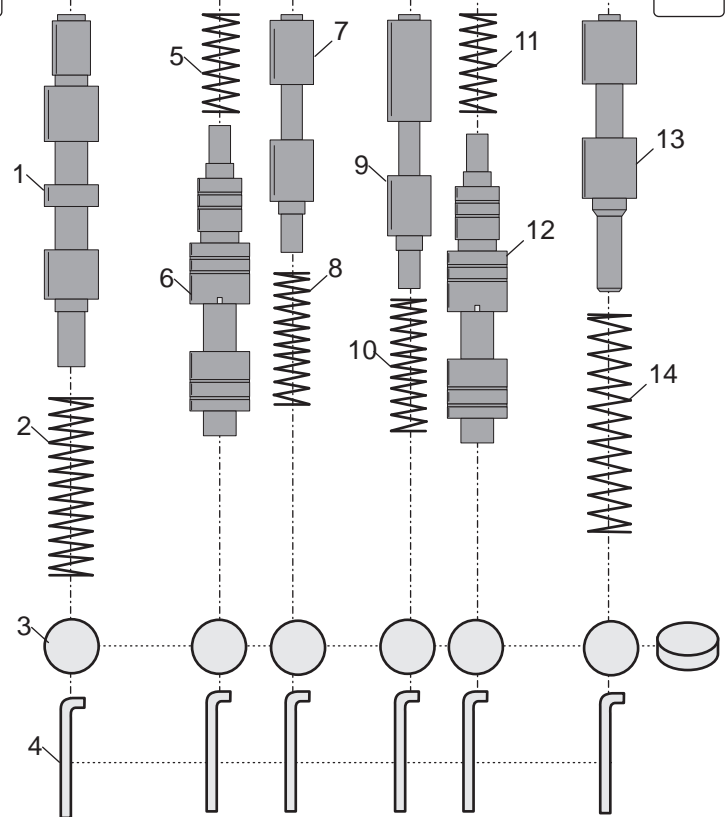
VALVE BODY & SOLENOID INFORMATION

Center valve body



The 3-5-R Clutch Stall Valve supplies regulated clutch pressure to the 3-5-R clutch for engagement. As the throttle is depressed, line pressure linear solenoid oil moves the stall valve to the right allowing full line pressure to enter the circuit for increased holding pressure on the clutch.

1. Lock-up Solenoid Shift Valve
2. 33mm x 8mm x 0.7mm x 14 coils
(1.298" x .310" x .027")
3. Bore plug
4. Retainer
5. 18mm x 6.9mm x 0.56mm x 8 coils
(.714" x .271" x .022")
6. Low/Reverse Brake Control Valve
7. Low/Reverse Brake Shift Valve
8. 25mm x 7mm x 0.66mm x 12 coils
(.975" x .265" x .026")
9. 3-5-R Clutch Shuttle Valve
10. 25mm x 7mm x 0.66mm x 12 coils
(.975" x .265" x .026")
11. 18mm x 6.9mm x 0.56mm x 8 coils
(.714" x .271" x .022")
12. 3-5-R Clutch Control Valve
13. 3-5-R Clutch Stall Valve
14. 40mm x 8.55mm x 0.9mm x 14 coils
(1.582" x .336" x .036")



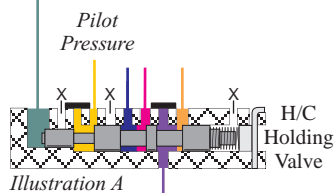
Valve names courtesy of Bob Nuttall from Autotech Inc.

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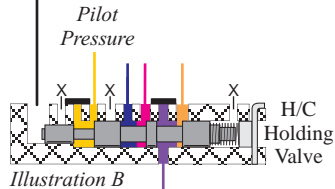
Center valve body

1. Retainer
2. Bore Plug
3. **2/6 Brake Control Valve**
4. 18.3mm x 7.6mm x 0.64mm x 8 coils
(.720" x .298" x .025")
5. **Low Clutch Control Valve**
6. 18mm x 7mm x 0.64mm x 11 coils
(.705" x .270" x .025")
7. 33mm x 8.6mm x 0.64mm x 13 coils
(1.305" x .340" x .025")
8. **Low Clutch Shift Valve**
9. 25mm x 6.7mm x 0.66mm x 12 coils
(.975" x .265" x .026")
10. **Low Clutch Failsafe Valve**
11. 33mm x 8.6mm x 0.56mm x 11 coils
(1.295" x .340" x .022")
12. **High Clutch Hold Valve**
13. **High Clutch Control Valve**
14. 18.3mm x 7.6mm x 0.64mm x 8 coils
(.720" x .298" x .025")

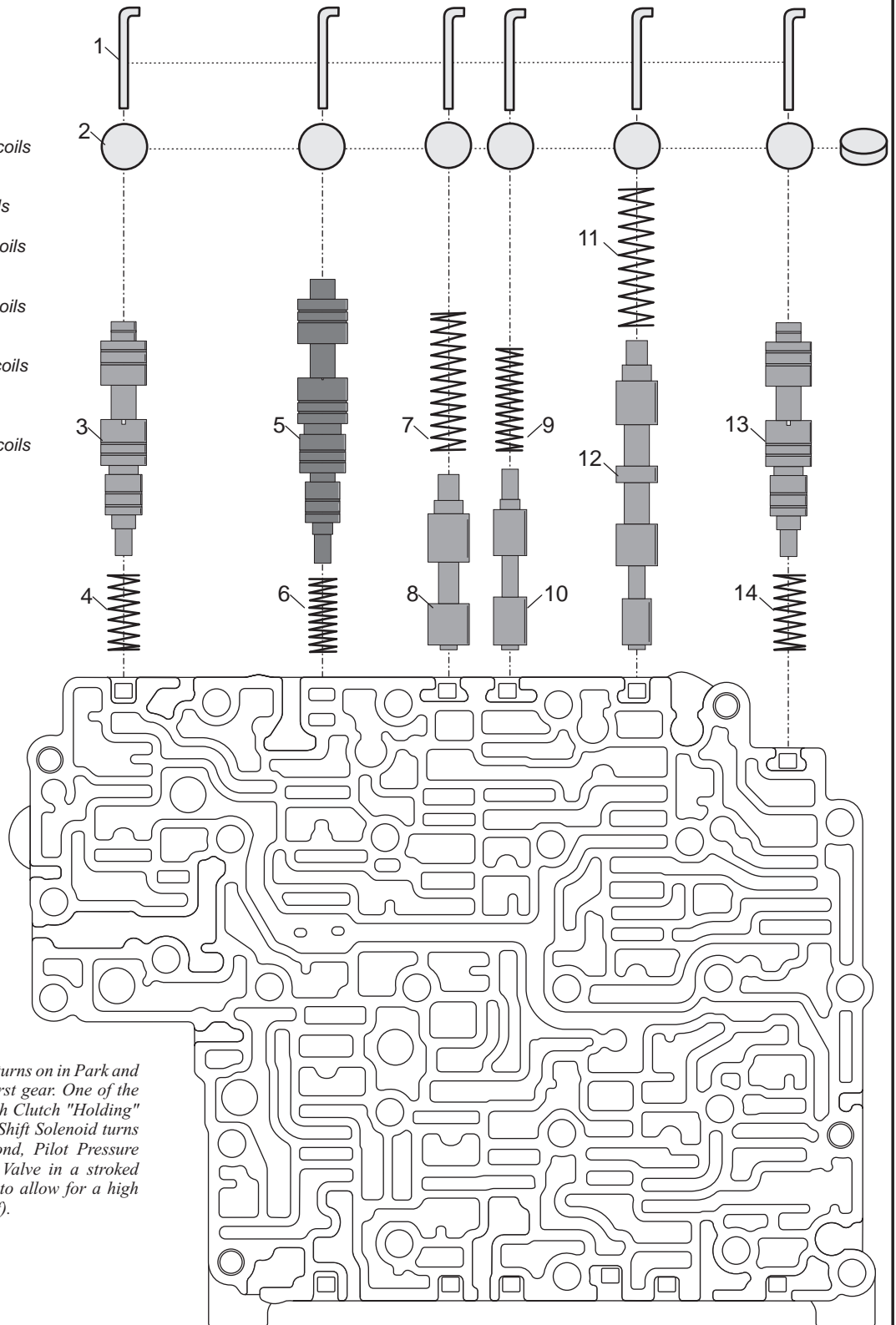
LR/B Shift Solenoid



LR/B Shift Solenoid



The Low-Reverse Brake Shift Solenoid turns on in Park and is on in Reverse, Neutral and Drive first gear. One of the solenoid's function is to stroke the High Clutch "Holding" Valve (Illustration A). When the LR/B Shift Solenoid turns off as the transmission shifts to second, Pilot Pressure "holds" the High Clutch "Holding" Valve in a stroked position (Illustration B). This is done to allow for a high gear (5th gear) failsafe (all solenoids off).



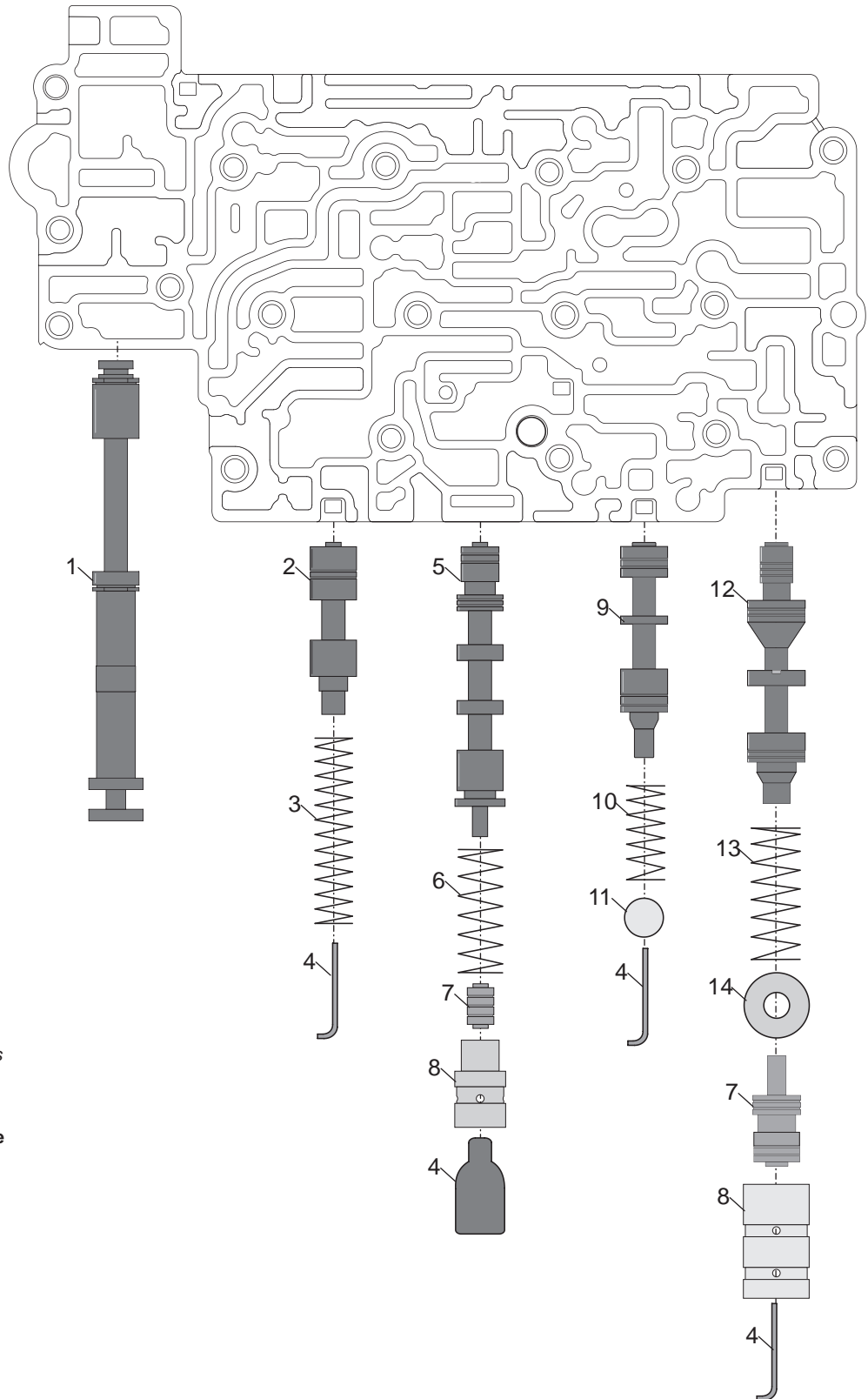
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Figure 5

THE JF613E

VALVE BODY & SOLENOID INFORMATION

Inner valve body



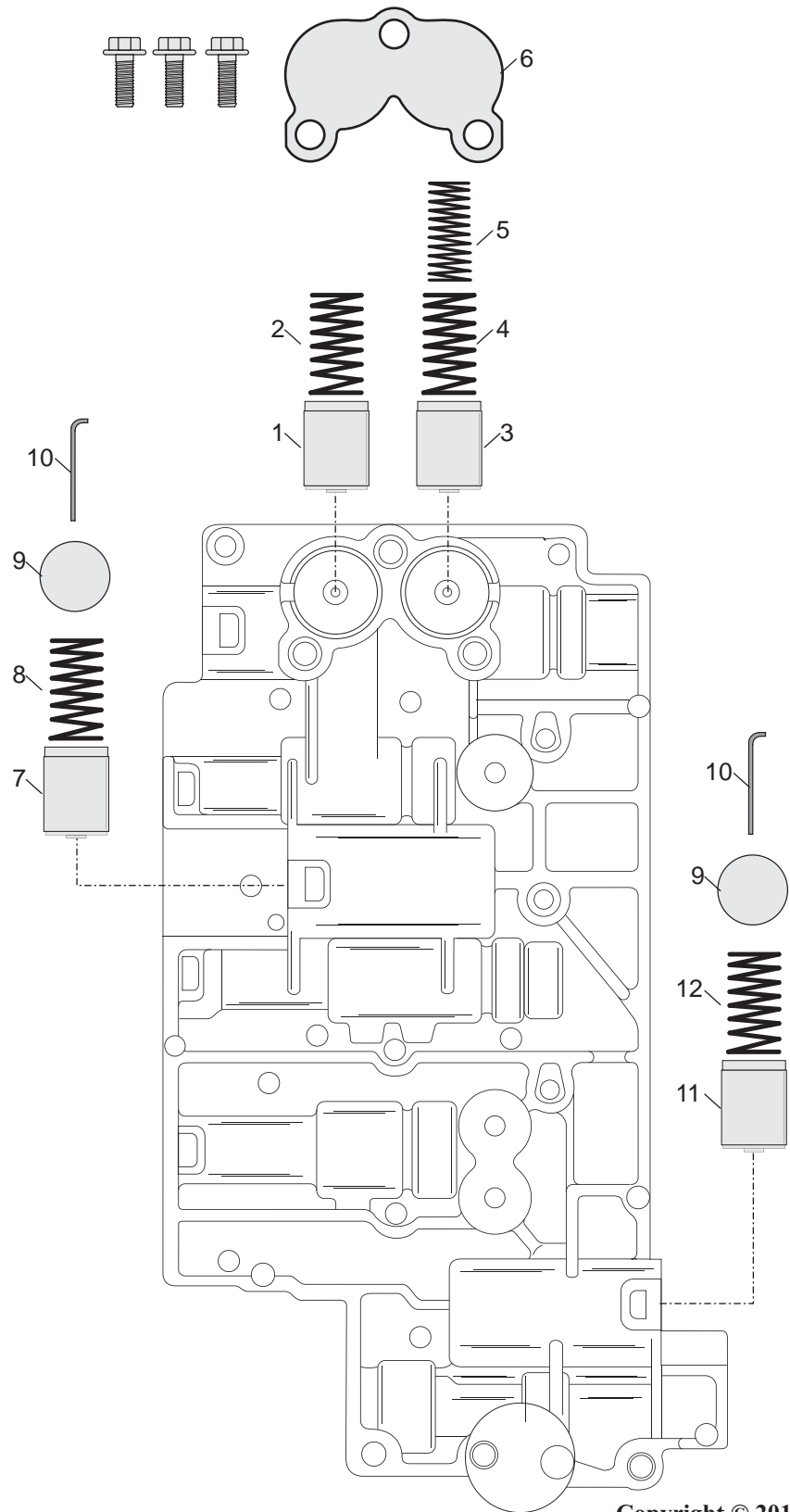
1. Manual Valve
2. **Pilot Valve**
3. 49mm x 11mm x 1.4mm x 14 coils
(1.935" x .431" x .055")
4. Retainer
5. **Lock-up Control Valve**
6. 32.4mm x 12mm x 0.89mm x 8 coils
(1.275" x .475" x .035")
7. **Boost Valve**
8. **Boost Valve Sleeve**
9. **Torque Converter Regulator Valve**
10. 25mm x 10mm x 1mm x 8 coils
(.995" x .395" x .042")
11. Bore Plug
12. **Pressure Regulator Valve**
13. 38mm x 13mm x 1.12mm x 9 coils
(1.406" x .510" x .044")
14. Shim

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Figure 6

Inner valve body

1. **3-5-R Clutch Accumulator Piston**
2. 36.3mm x 16mm x 2.4mm x 8 coils
(1.430" x .630" x .095")
3. **High Clutch Accumulator Piston**
4. 36.3mm x 16mm x 2.4mm x 8 coils
(1.430" x .630" x .095")
5. 36mm x 10.8mm x 1.5mm x 12 coils
(1.420" x .425" x .060")
6. Accumulator Cover Plate and Bolts
7. **Low Clutch Accumulator Piston**
8. 36.3mm x 16mm x 2.4mm x 8 coils
(1.430" x .630" x .095")
9. Bore Plug
10. Retainer
11. **2/6 Brake Accumulator Piston**
12. 36.3mm x 16mm x 2.4mm x 8 coils
(1.430" x .630" x .095")



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Figure 7

THE JF613E

VALVE BODY & SOLENOID INFORMATION

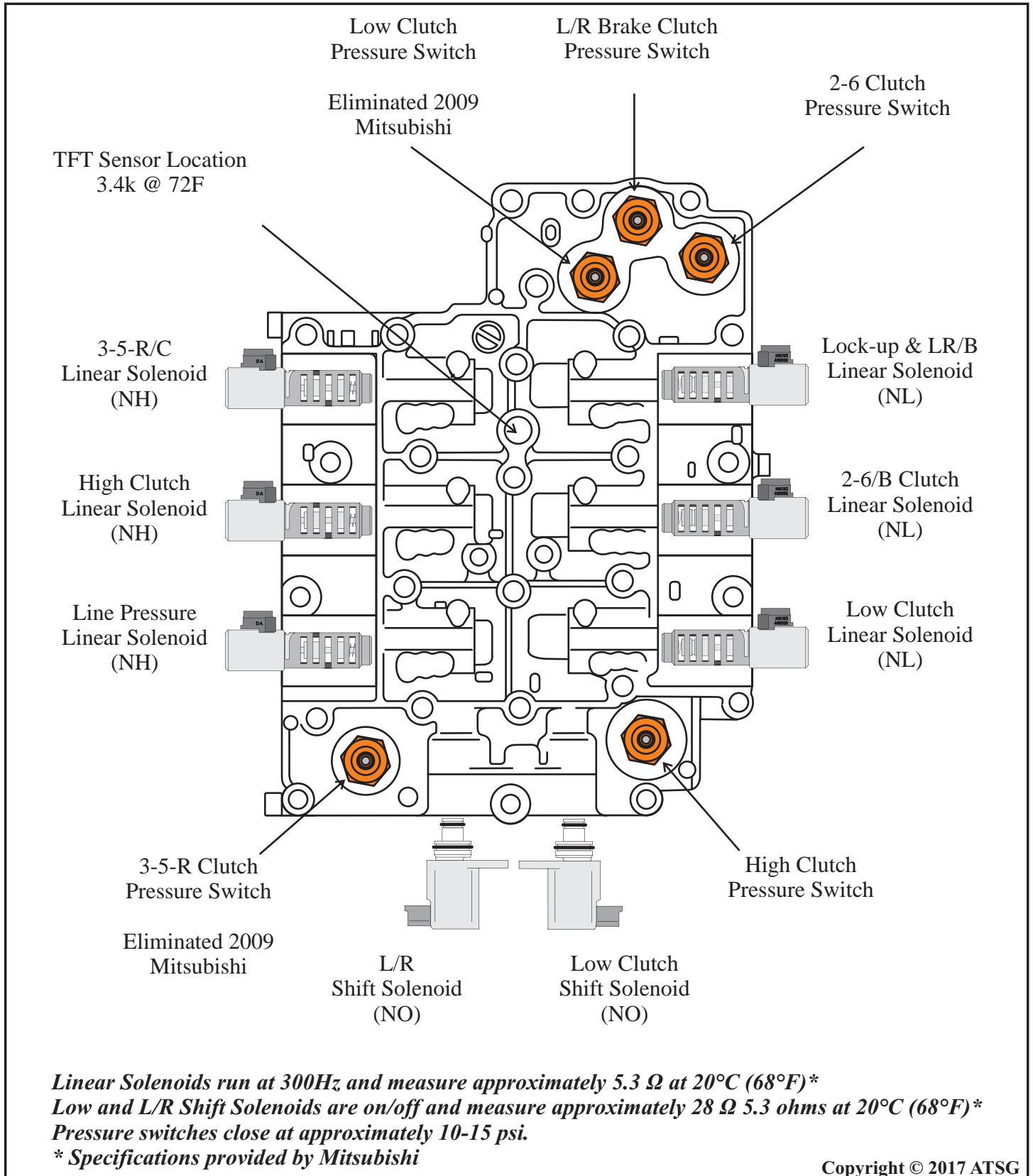
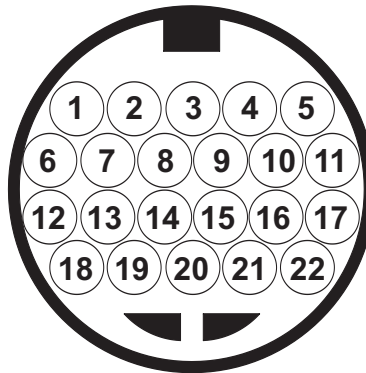


Figure 8

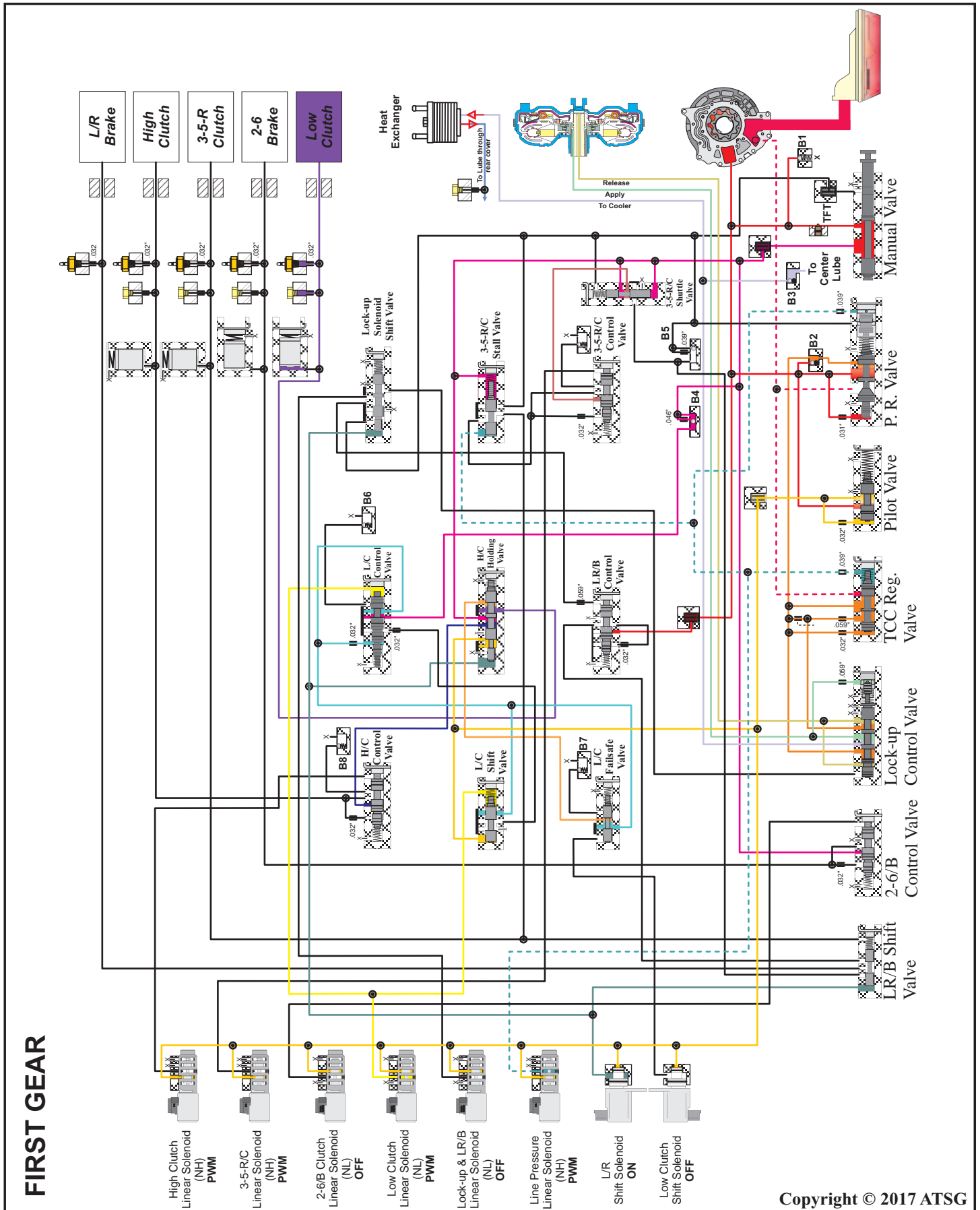
THE JF613E

VALVE BODY & SOLENOID INFORMATION

Mitsubishi
Case Connector
Terminal Identification



1. Low Clutch Linear Solenoid (NL): 5.3Û at 20°C (68°F)
2. TFT +
3. TFT - : @ 10°C (50°F) 6.62k Û
@ 25°C (77°F) 3.51k Û [Approx. 2.35V]
@ 80°C (176°F) 0.55k Û [Approx. 0.69V]
@ 110°C (230°F) 0.25k Û
4. Lock-up & Low-Reverse Brake Linear Solenoid Valve (NL): 5.3Û at 20°C (68°F)
5. High Clutch Pressure Switch: Closes at approximately 10-15 psi
6. 2-6 Brake Linear Solenoid Valve (NL): 5.3Û at 20°C (68°F)
7. Low-Reverse Brake Pressure Switch: Closes at approximately 10-15 psi
8. Low Clutch Pressure Switch: Closes at approximately 10-15 psi
9. Line Pressure Linear Solenoid Valve (NH): 5.3Û at 20°C (68°F)
10. 2-6 Brake Pressure Switch: Closes at approximately 10-15 psi
11. 3-5-R Clutch Pressure Switch: Closes at approximately 10-15 psi
12. Not used
13. Ground
14. 3-5-R Clutch Linear Solenoid Valve (NH): 5.3Û at 20°C (68°F)
15. Not used
16. Not used
17. Low-Reverse Brake Shift Solenoid Valve (NO - On/Off): 28Û at 20°C (68°F)
18. Not used
19. High Clutch Linear Solenoid Valve (NH): 5.3Û at 20°C (68°F)
20. Not used
21. Not used
22. Low Clutch Shift Solenoid Valve (NO - On/Off): 28Û at 20°C (68°F)



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