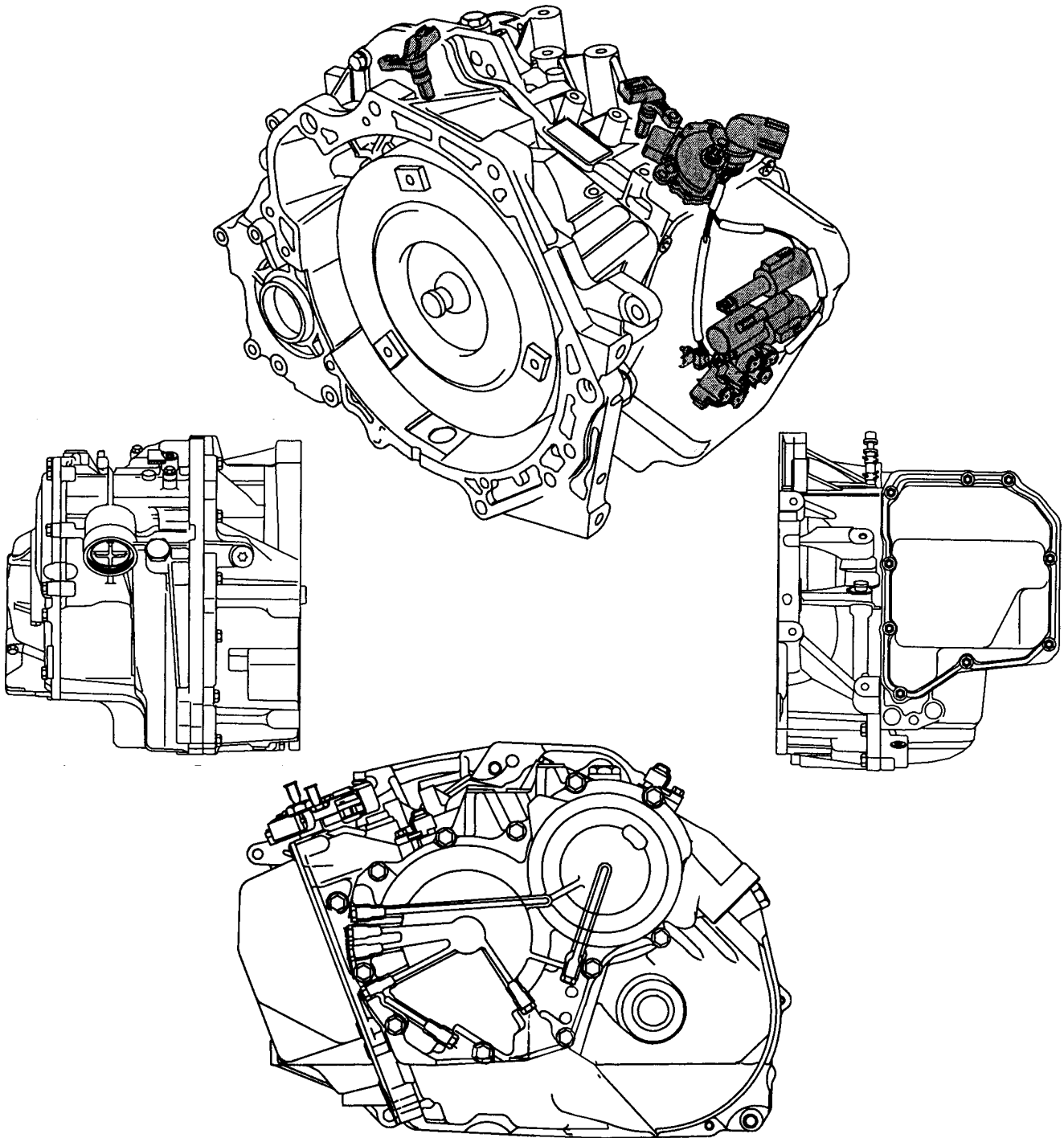
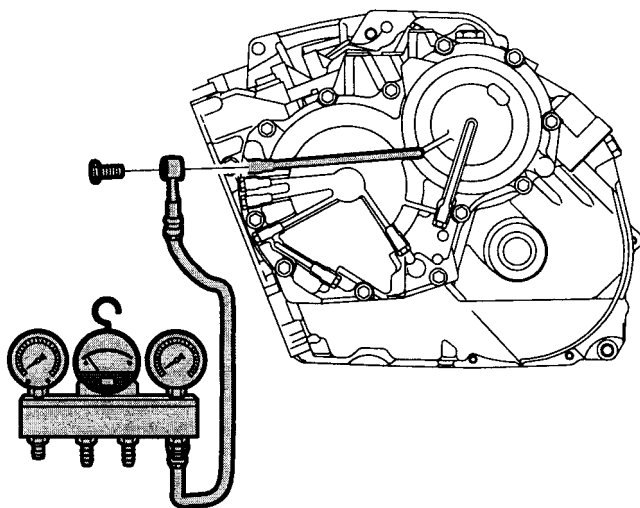


**Volvo AW50-55SN
Saturn AF33-5**



Line Pressure Test



Transaxle in Park (P)		
Line Pressure Control Solenoid Current (Amps)	Approximate Line Pressure	
	kPa	psi
0.43	1144-1241	166-180
0.49	1062-1138	154-165
0.55	993-1055	144-153
0.60	917-986	133-143
0.64	834-910	121-132
0.68	758-827	110-120
0.72	683-752	99-109
0.78	600-676	87-98
0.84	524-593	76-86
0.90	448-517	65-75
0.98	379-441	55-64

Transaxle in Drive (D)		
Engine Speed (rpm)	Approximate Line Pressure	
	kPa	psi
685	330-390	47.9-56.6
2450	1280-1418	185.7-205.6

Transaxle in Reverse (R)		
Engine Speed (rpm)	Approximate Line Pressure	
	kPa	psi
685	500-610	72.5-88.5
2450	1710-1980	248.0-287.2

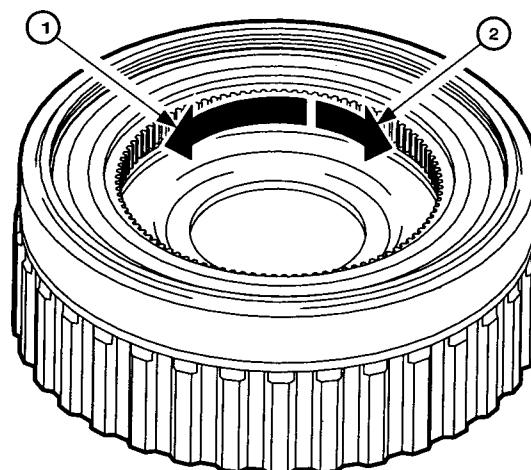
Shift Speed Chart

APP ANGLE	12%	25%	50%
1-2 Shift	20 km/h (12 mph)	30 km/h (19 mph)	49 km/h (30 mph)
2-3 Shift	30 km/h (19 mph)	50 km/h (31 mph)	84 km/h (52 mph)
3-4 Shift	45 km/h (28 mph)	75 km/h (47 mph)	135 km/h (84 mph)
4-5 Shift	75 km/h (47 mph)	113 km/h (70 mph)	N/A
5-4 Shift	70 km/h (43 mph)	75 km/h (47 mph)	75 km/h (47 mph)
4-3 Shift	33 km/h (21 mph)	33 km/h (21 mph)	46 km/h (29 mph)
3-2 Shift	22 km/h (14 mph)	24 km/h (15 mph)	30 km/h (19 mph)
2-1 Shift	10 km/h (6 mph)	10 km/h (6 mph)	12 km/h (7 mph)

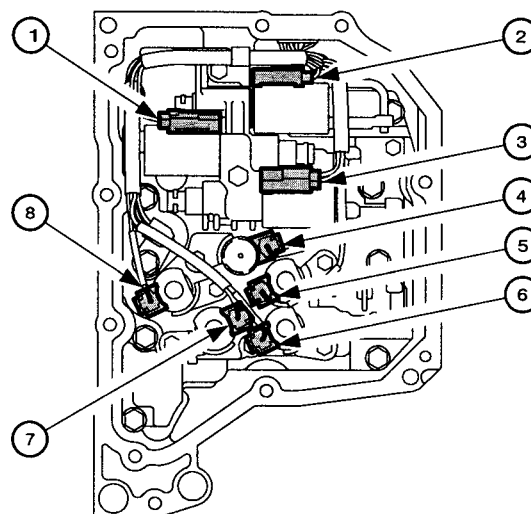
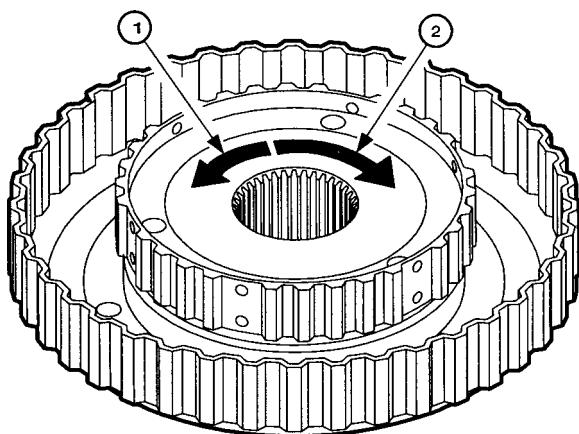
Upshift Control and TCC Apply

The transaxle control module (TCM) calculates the upshift points based primarily on two inputs: Accelerator pedal position (APP) angle and vehicle speed. When the TCM determines that conditions are met for a shift to occur, the TCM commands the shift by closing or opening the voltage circuit for the appropriate solenoids.

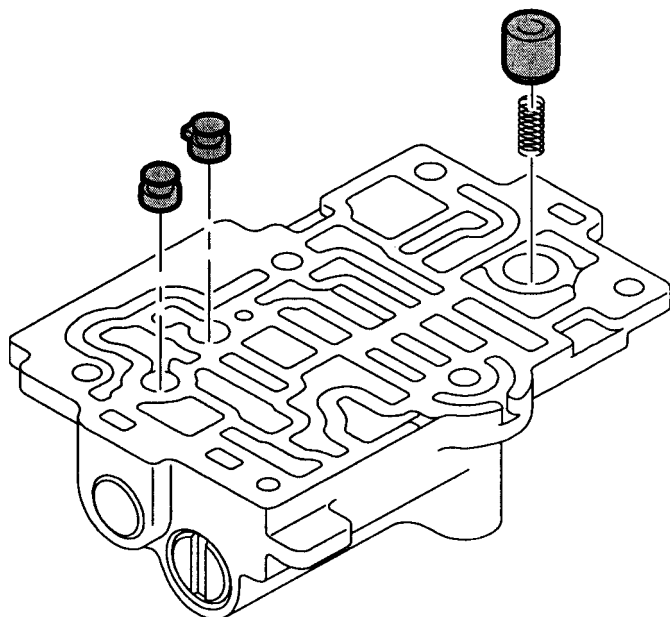
Hold front internal gear and inspect low clutch sprag assembly. The inner race should turn freely counter-clockwise (1), and should lock clockwise (2).



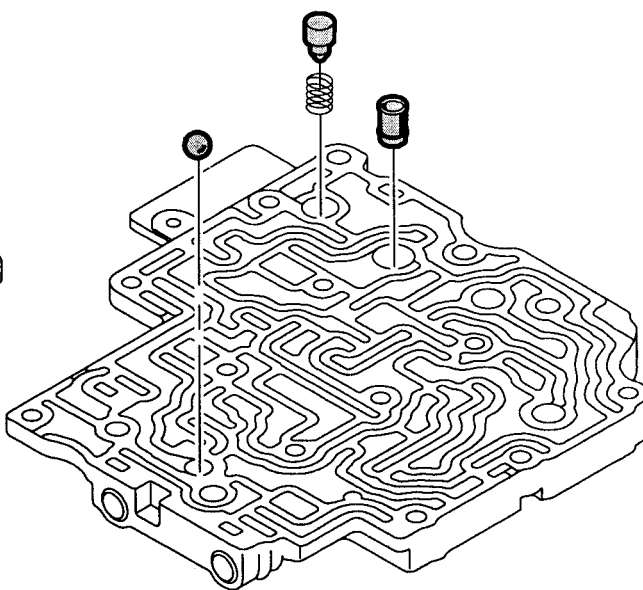
Hold 2nd clutch outer race, and inspect that the 2nd coast clutch hub turns freely clockwise (2) and locks counterclockwise (1).



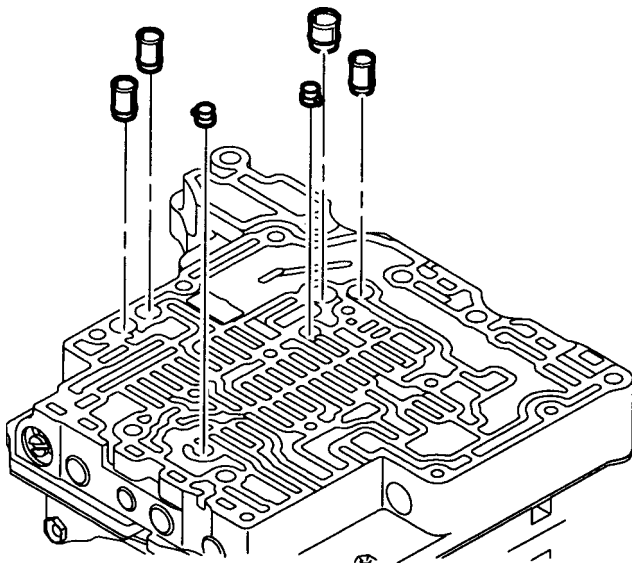
1. Line Pressure Control Solenoid, Blue Connector
2. T.C.C. Pressure Control Solenoid, Black Connector
3. Shift Pressure Control Solenoid, Green Connector
4. Shift Solenoid #1, Black Connector
5. Shift Solenoid #4, Blue Connector
6. Shift Solenoid #3, Dark Gray Connector
7. Shift Solenoid #5, Green Connector
8. Shift Solenoid #2, Light Gray Connector



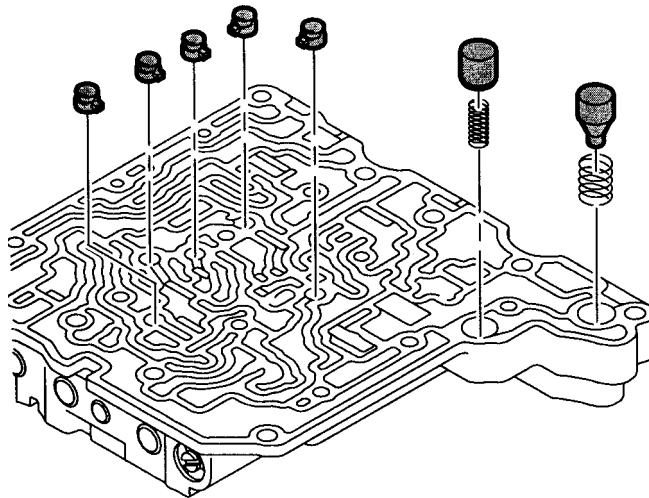
#2 Rear Control Valve Body



Front Control Valve Body

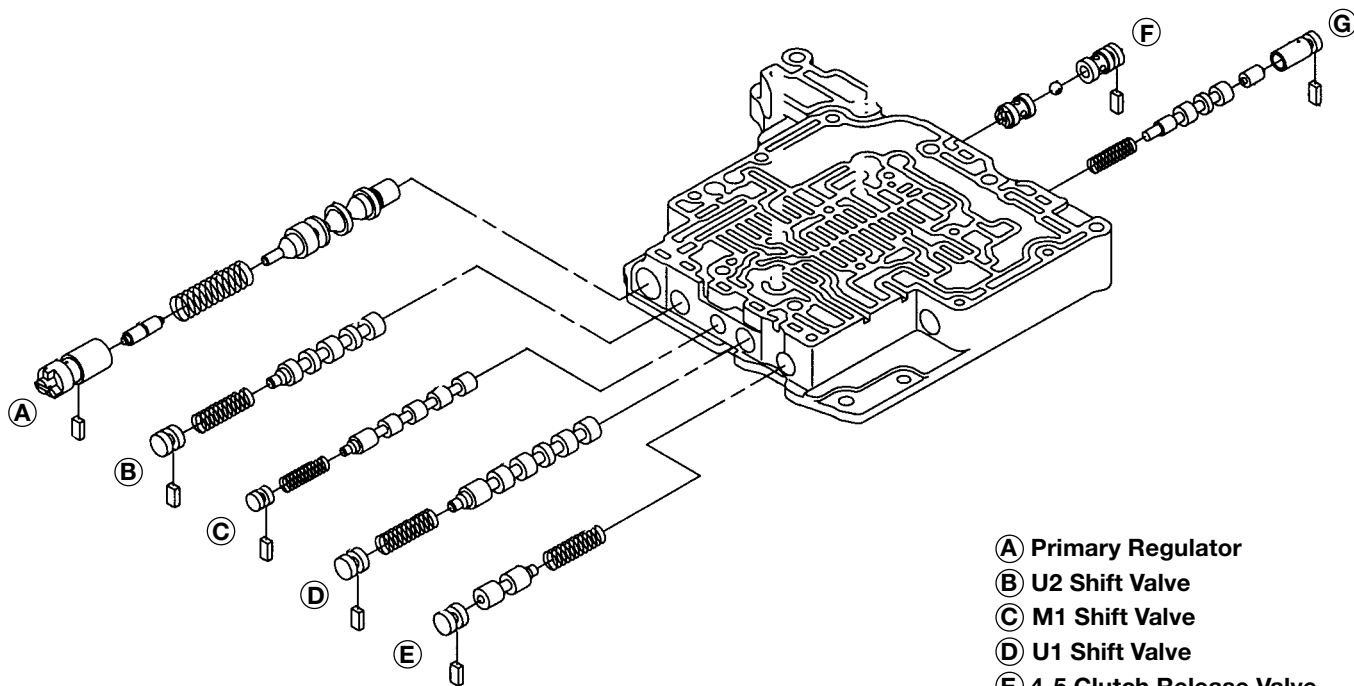


Middle Control Valve Body Front Side



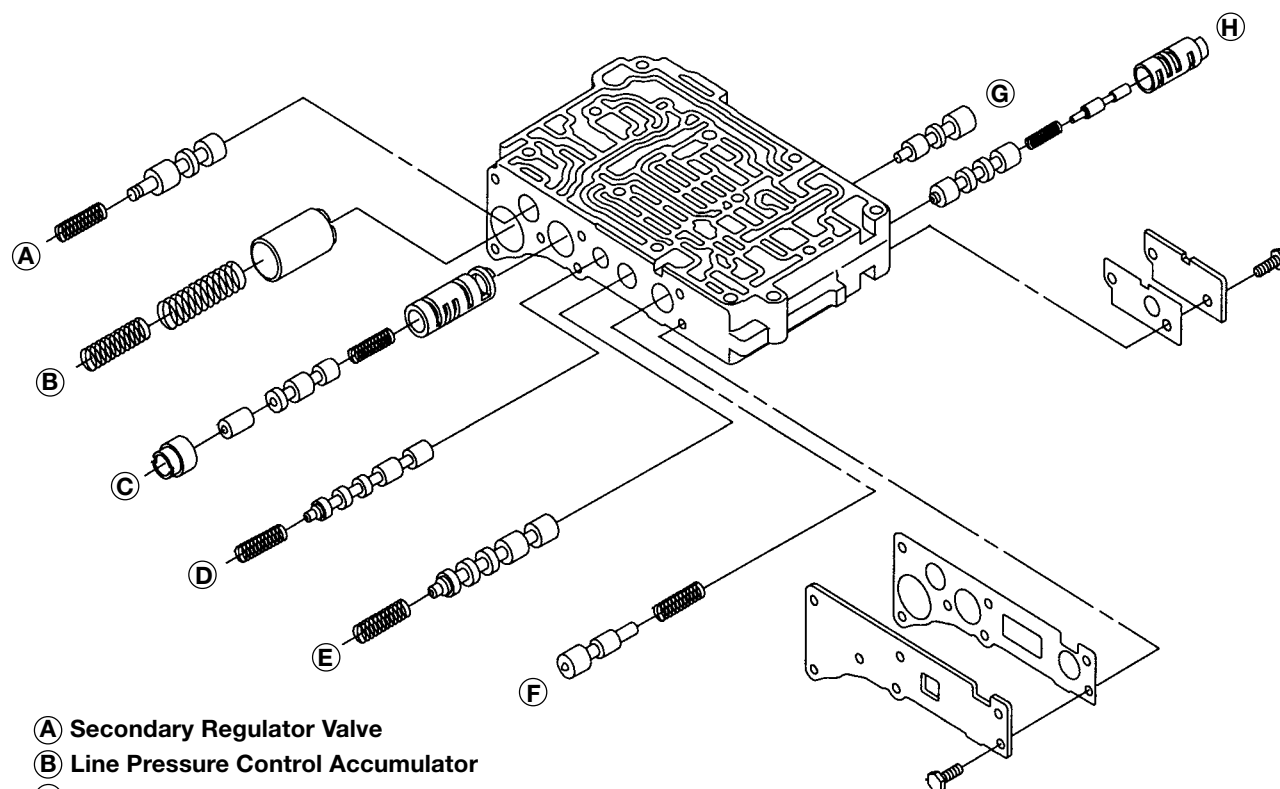
Middle Control Valve Body Rear Side

Middle Control Valve Body Assembly

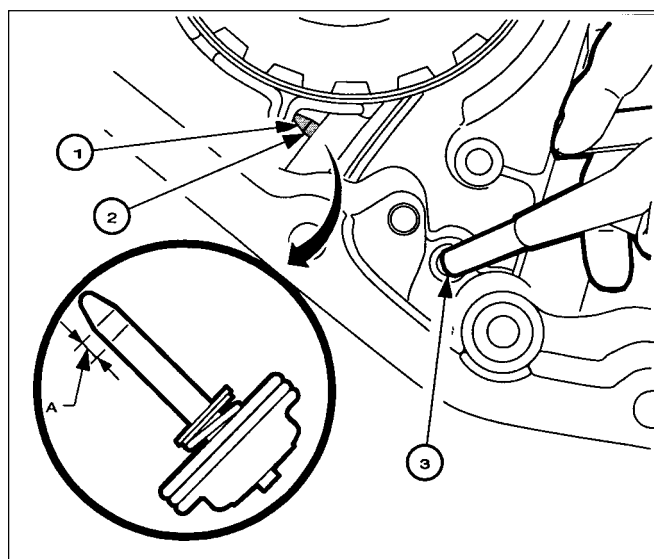


- (A) Primary Regulator
- (B) U2 Shift Valve
- (C) M1 Shift Valve
- (D) U1 Shift Valve
- (E) 4-5 Clutch Release Valve
- (F) Reverse
- (G) Solenoid Relay

Rear Control Valve Body Assembly



- (A) Secondary Regulator Valve
- (B) Line Pressure Control Accumulator
- (C) Shift Pressure Control Valve
- (D) M2 Shift Valve
- (E) Shift Pressure Relay Valve
- (F) 3rd Gear Control Valve
- (G) Rear Underdrive Clutch Control Valve
- (H) Lock Up Relay Valve



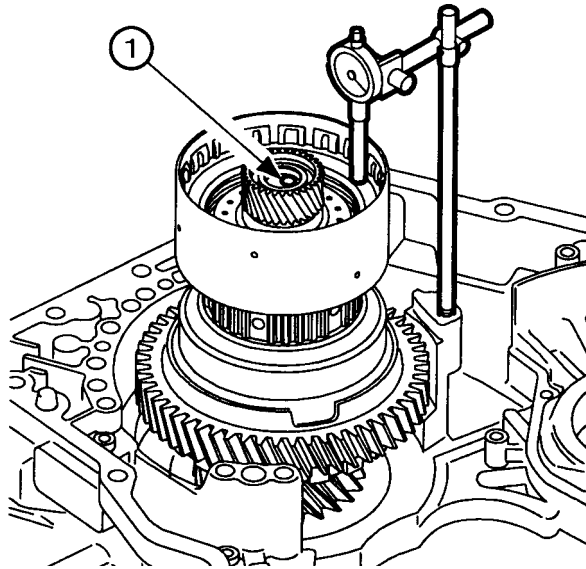
3rd Gear Band Servo Piston Pin Measurement

1. Mark servo piston pin in the release position (1).

Caution: Wear safety glasses when using compressed air in order to prevent eye injury.

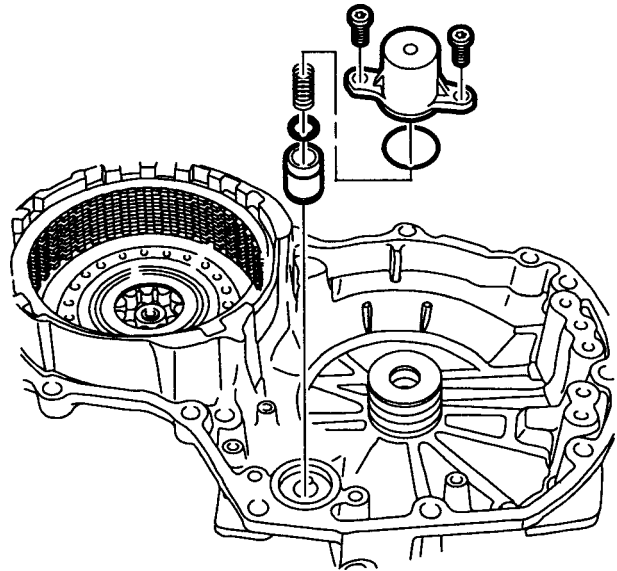
2. Apply compressed air to servo apply passage (3), and mark the apply position on piston pin (2).
3. Measure distance between release and apply marks (A).

4-5 Clutch Air Check

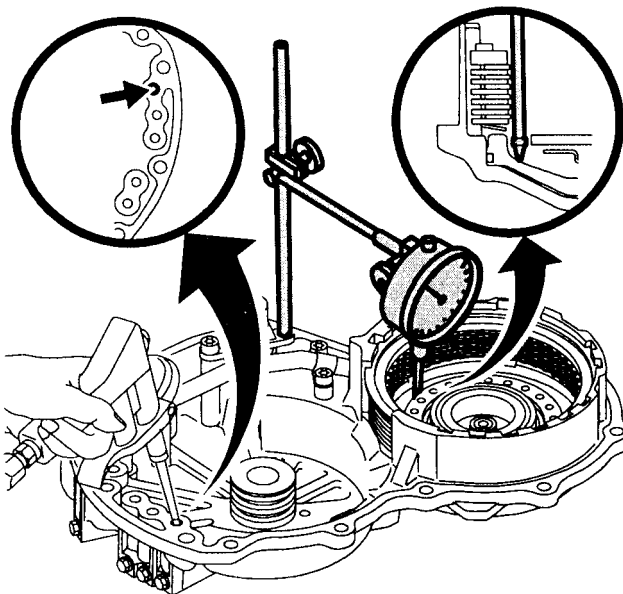


1) Apply Air Here

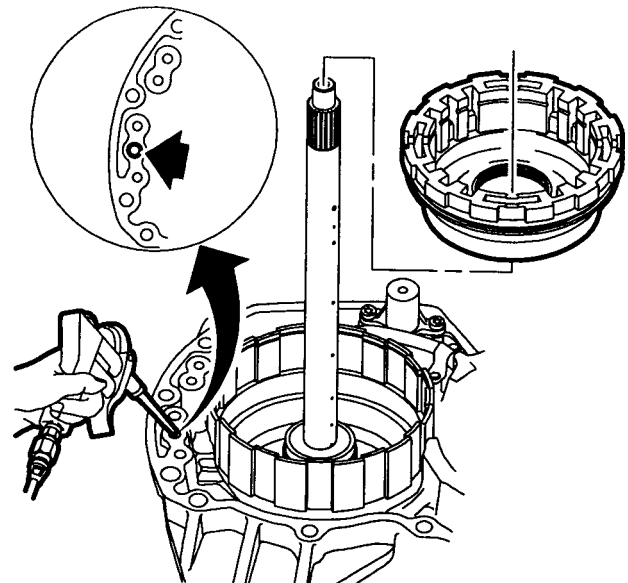
Forward Accumulator



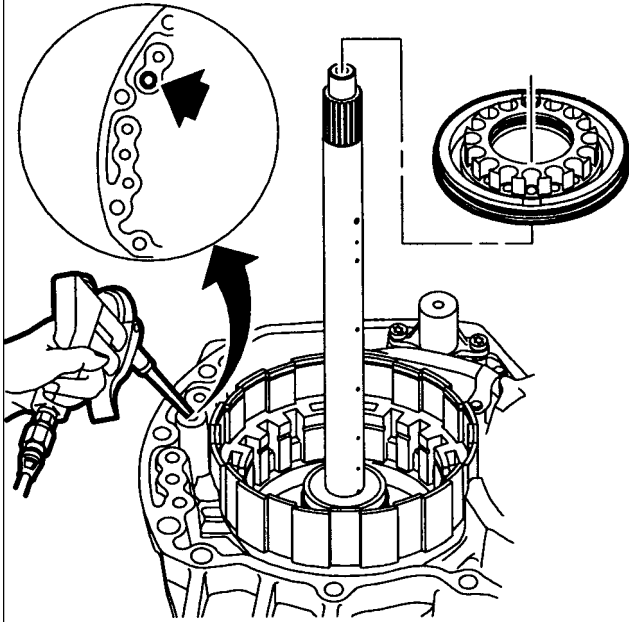
1-2 Reverse Clutch Air Check



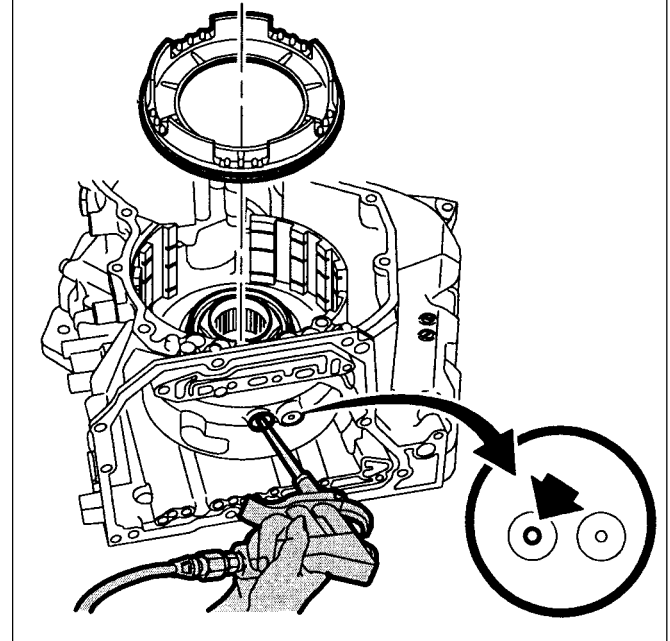
Forward Clutch Air Check



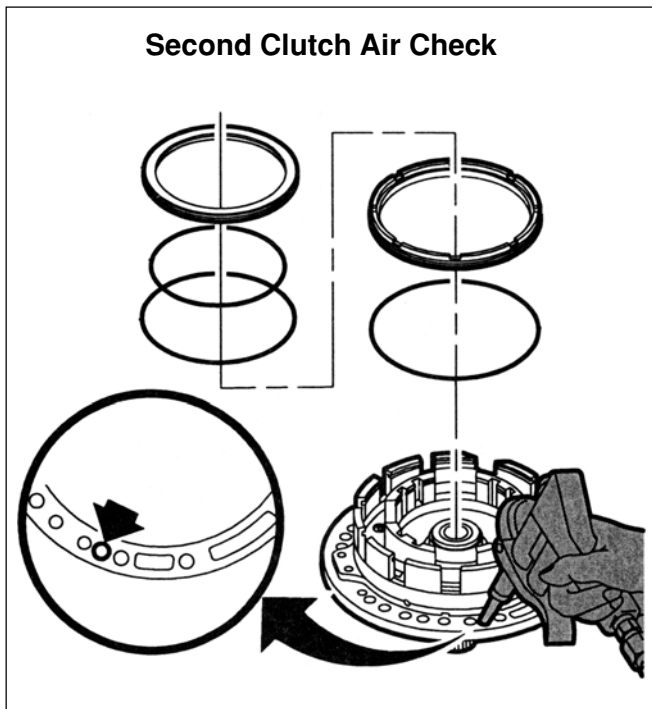
Direct Clutch Air check



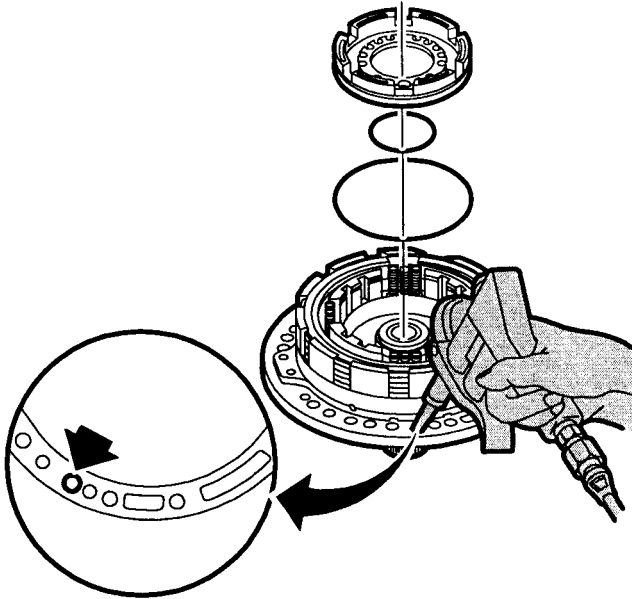
Low/Reverse Clutch Air Check



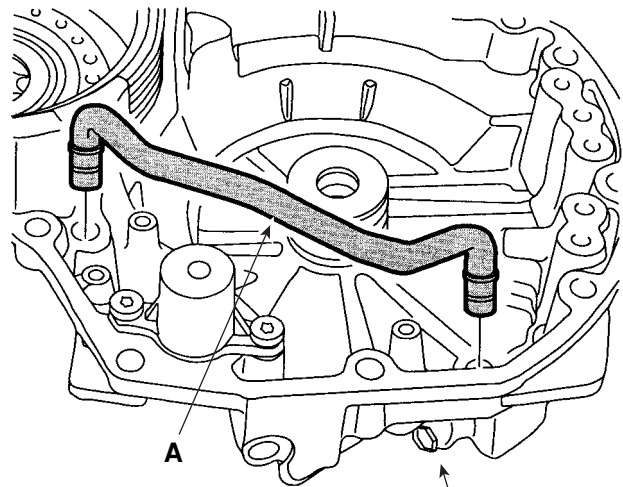
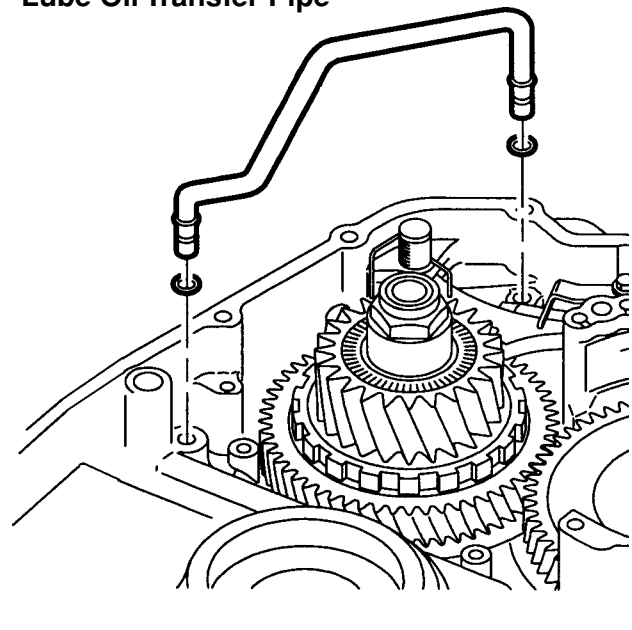
Second Clutch Air Check



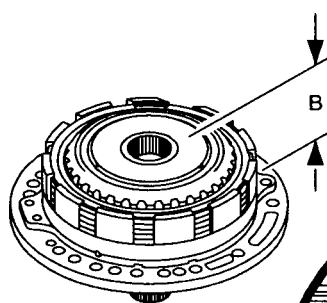
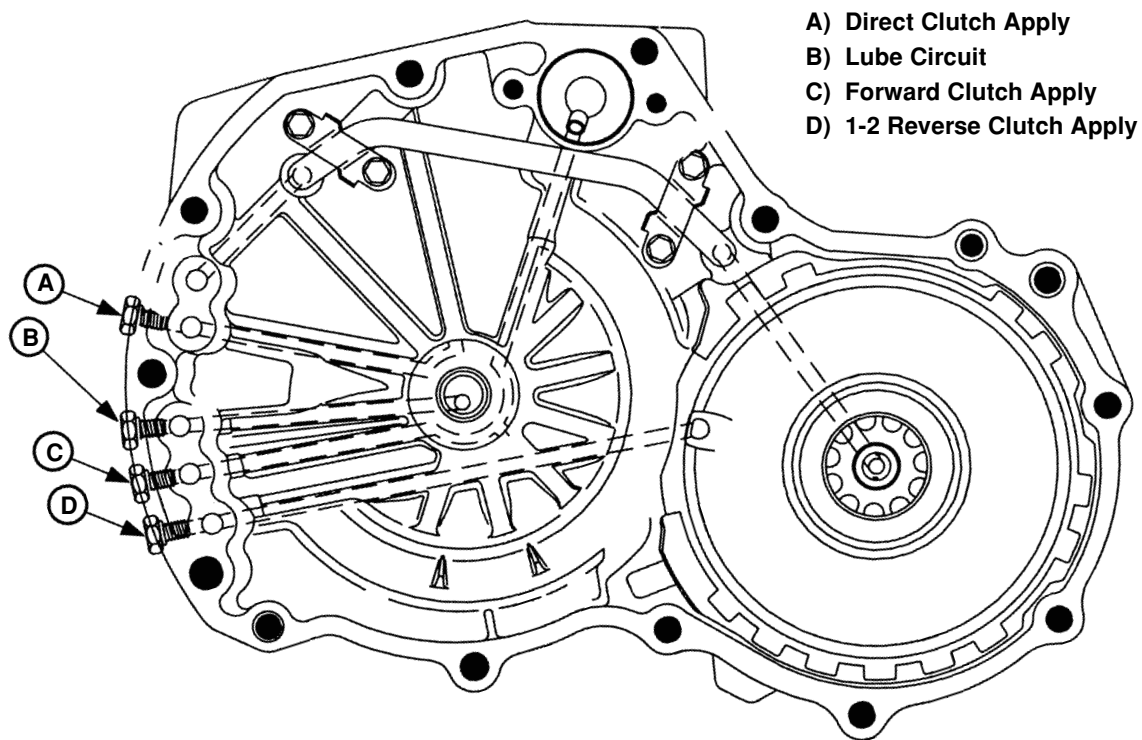
Second Coast Clutch Air Check



Lube Oil Transfer Pipe

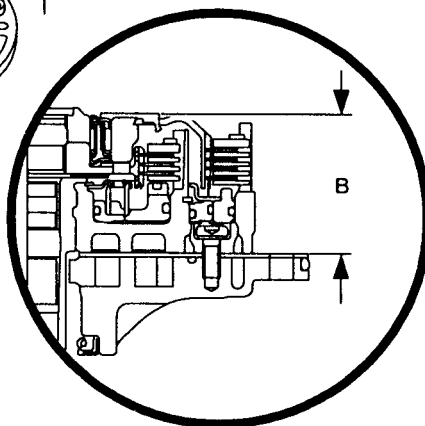


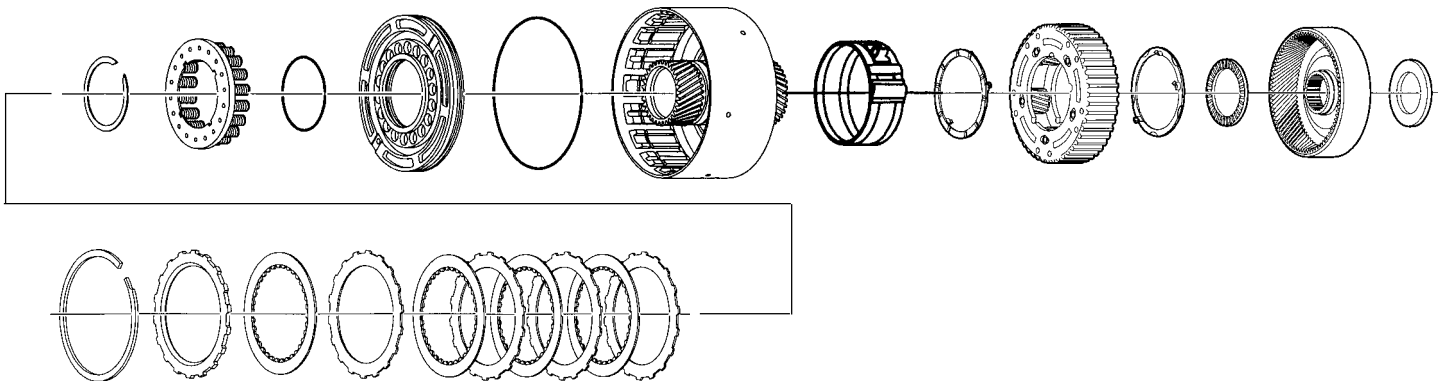
A: 4-5 Clutch Apply Pipe
B: 4-5 Clutch Pressure Port

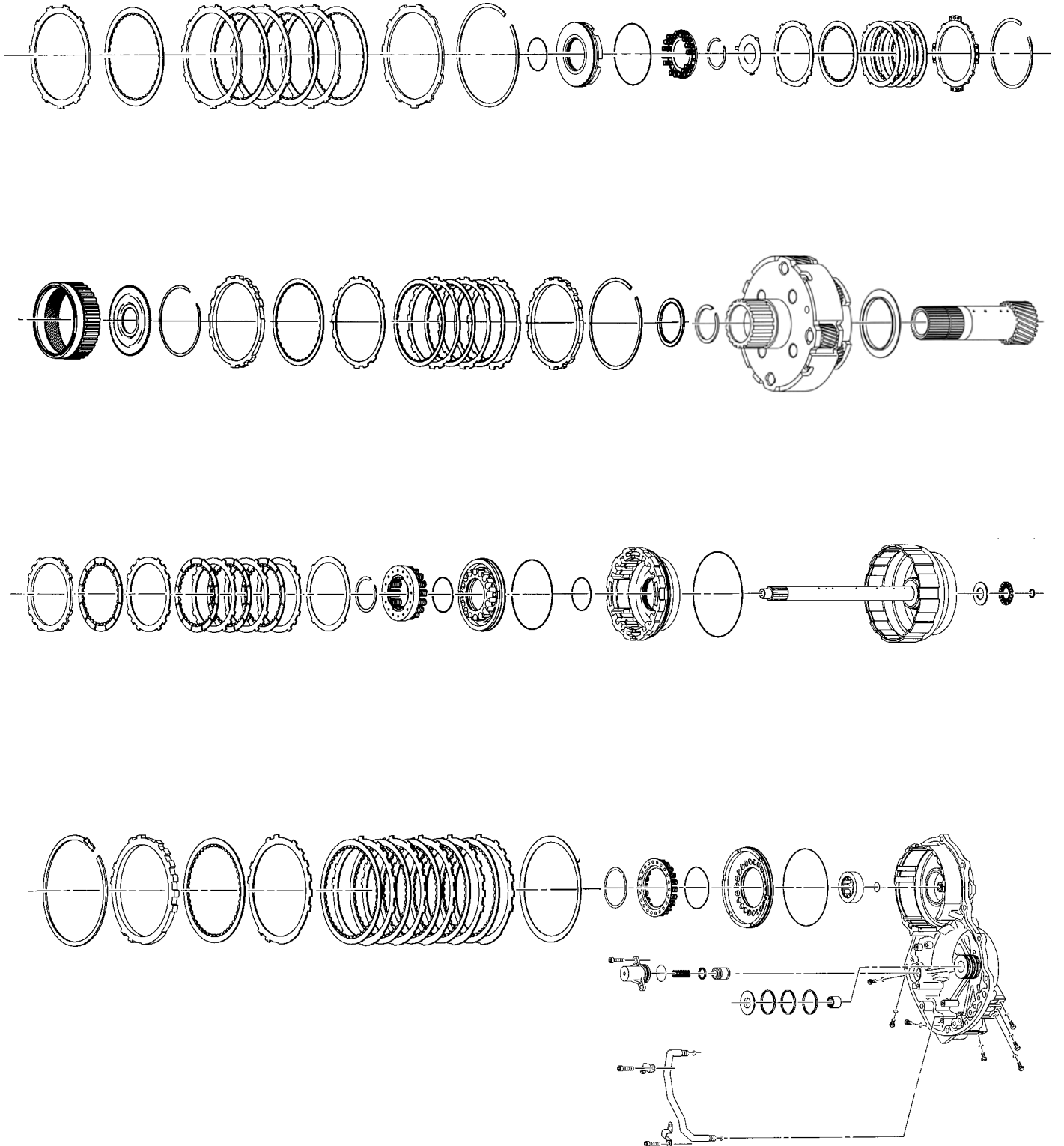


Installation Height

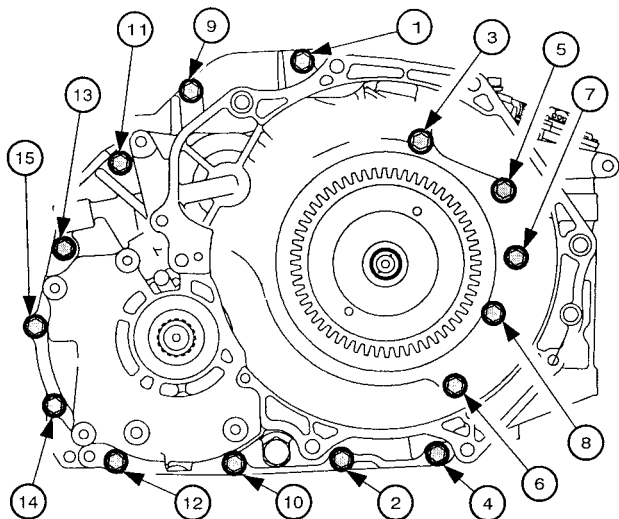
Dimension B should be 51.09 - 51.71 mm
 (2.011 - 2.035 in.)





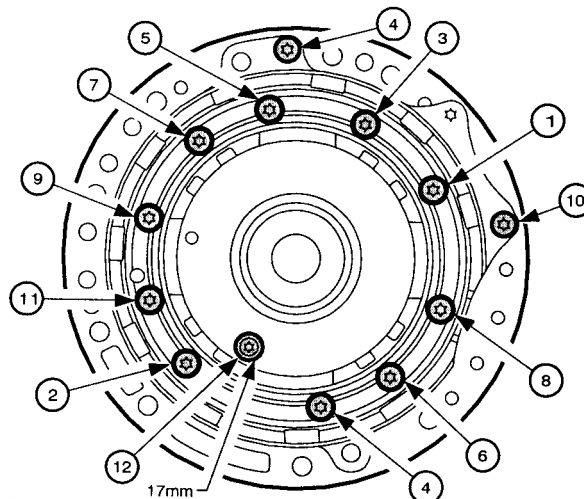


Torque:
Torque Converter Housing Bolts:
30 N·m (22 ft-lbs.)

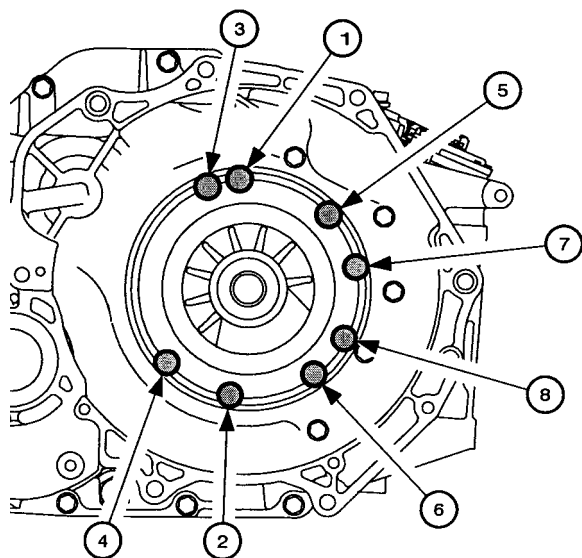


Torque:
Torx Bolts (14.5 mm): 12 N·m (9 ft-lbs.)

Torque:
Torx Bolts (17 mm): 6 N·m (53 in-lbs.)



Torque:
Fluid Pump Assembly Bolts: 25 N·m (18 ft-lbs.)



Torque:
Case Cover Assembly Bolts: 25 N·m (18 ft-lbs.)

