DODGE/JEEP RE SERIES TRANSMISSIONS
FORWARD CLUTCH FAILURE

COMPLAINT: Pre-mature failure of the forward clutch.

CAUSE:

1. Manual valve alignment is critical as the forward clutch is fed directly from the valve as seen in figure 1. If the manual valve becomes mis-positioned, pressure to the clutch drops as it dumps to an exhaust through the neutral circuit. There are two areas of wear that takes place in the valve body that causes the manual valve to be mis-positioned
   a. The detent ball wears into the valve body due to the continuous movement and vibration of the manual valve linkage (Figure 2).
   b. Wear also occurs where the detent lever pilots into the casting of the valve body. This too mis-positions the manual valve (Figure 2).
2. The stator support bushing (# 77 in Figure 3) is critical for proper support of the Input Shaft, particularly for the proper sealing of the green plastic style rings now being used in all the RE units (Figure 3). Poor support will compromise the ring's pressure retention causing the forward clutches to burn.

3. The forward clutch piston inner lip seal (# 108 in Figure 4) is known to shrink or deteriorate causing a loss of pressure.

4. Modified power programmers/performance chips designed to increase engine torque have been known to loosen the input shaft splines to the drum causing a loss of forward clutch pressure between these pieces.

5. Excessive end play clearance allowing the forward clutch drum to move too far forward causing sealing ring # 102 in figure 3to move far enough out of the pump to produce a leak in the forward clutch circuit.

CORRECTION:

1. There are aftermarket sources which provide repair kits that correct the wear conditions related to the detent lever restoring the integrity of manual valve alignment. Otherwise, replace the valve body with one that does not have wear in the locations mentioned.

2. Replace the stator bushing.

3. There are aftermarket sources that provide modified inner lip seals for increased durability and pressure retention. Be sure to properly prepare the seal's surface area with 600 grit wet/dry paper.

4. Replace the forward drum assembly. If the power program/performance chip is kept in place, there are companies that provide modified performance parts designed to withstand the increased torque. The shaft and hub (# 104 in Figure 4) are usually billet in design or hardened 1 piece design.

5. Adjust end play according to manufacturer's procedures and specifications.

SERVICE INFORMATION:

Transtar sells steel rings for the turbine shaft in both small and large diameters.
Large diameter rings.....22177E
Smaller diameter rings.....22177A

DODGE/JEEP RE SERIES TRANSMISSIONS
FORWARD CLUTCH FAILURE

TYPICAL 46RE/47RE PARTIAL HYDRAULIC SCHEMATIC
"DRIVE" POSITION 3rd GEAR WITH TCC "ON"

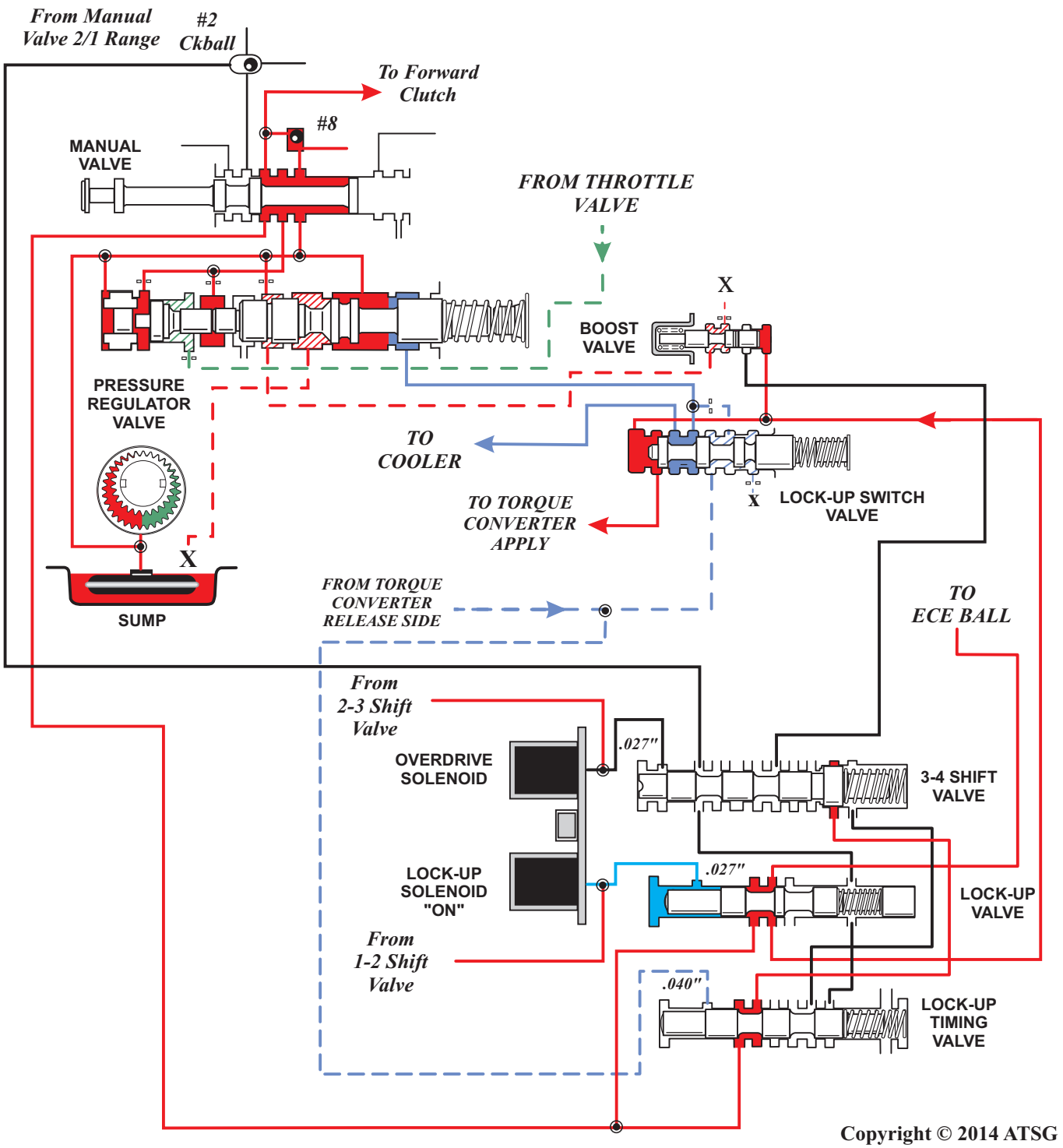
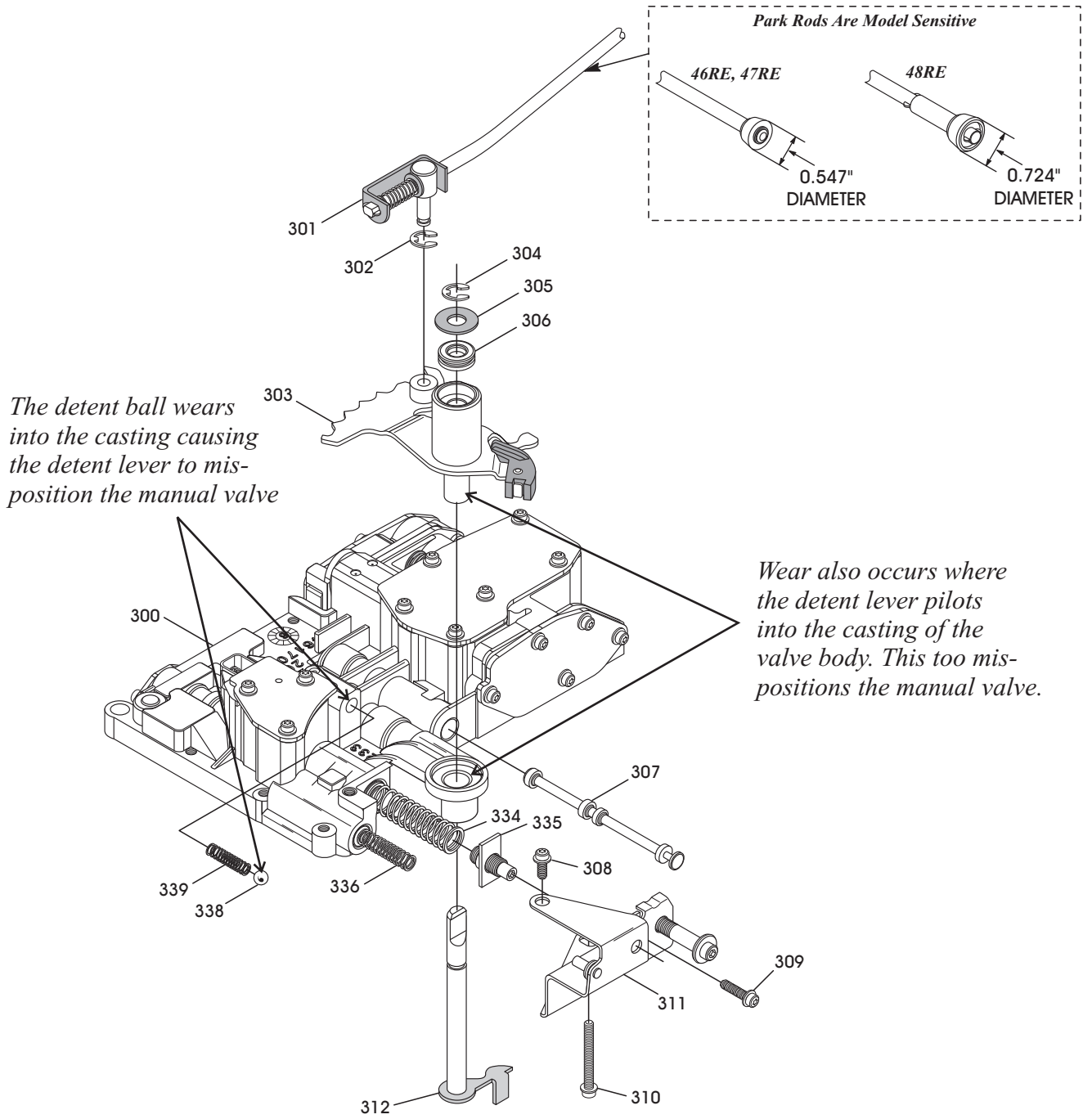


Figure 1

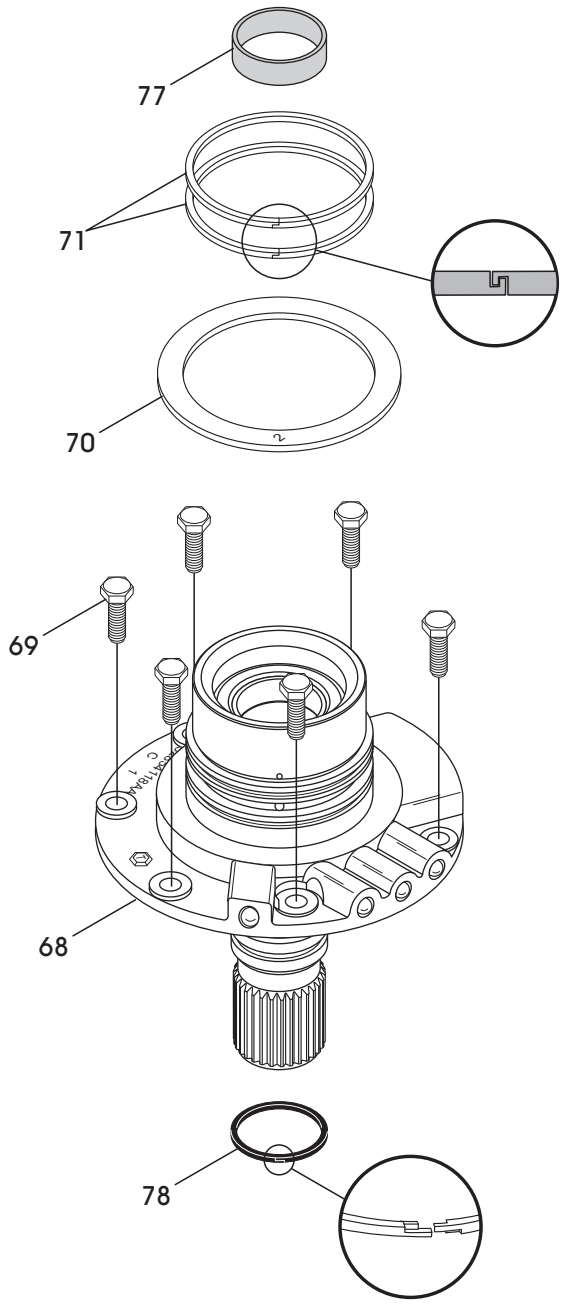
DODGE/JEEP RE SERIES TRANSMISSIONS
FORWARD CLUTCH FAILURE

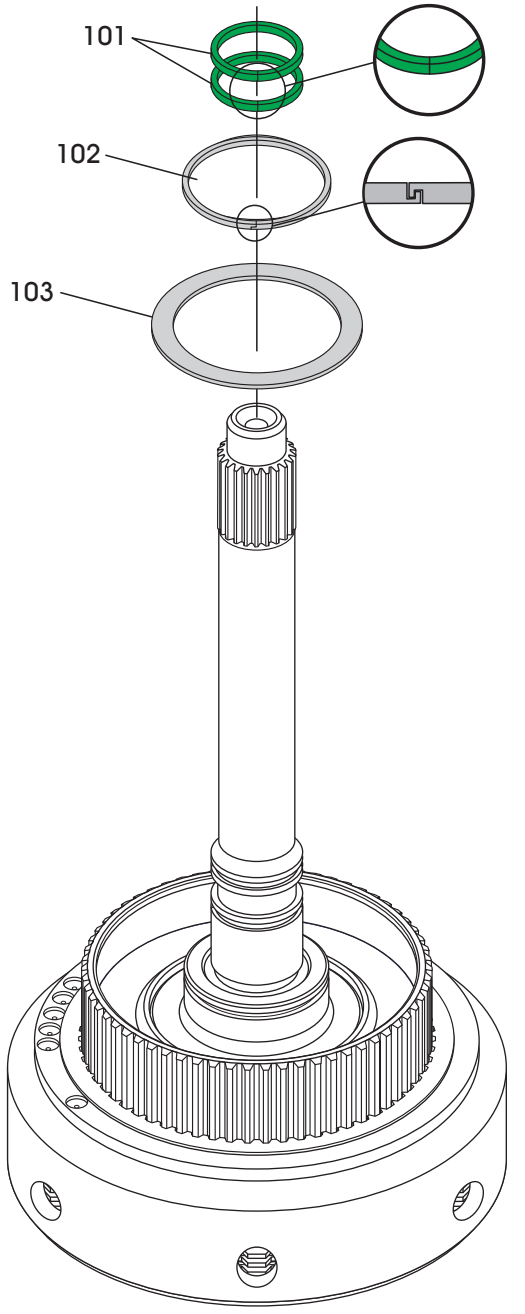


300 UPPER VALVE BODY ASSEMBLY.
301 PARK ROD (MODEL SENSITIVE).
302 PARK ROD TO DETENT LEVER "E" CLIP.
303 INSIDE MANUAL DETENT LEVER *(MODEL SENSITIVE)*.
304 INSIDE THROTTLE LEVER "E" CLIP.
305 THROTTLE LEVER WASHER.
306 THROTTLE LEVER SHAFT SEAL.
307 MANUAL VALVE.
308 ADJUSTING SCREW BRACKET ATTACHING SCREW, 9.2 MM (.362").
309 ADJUSTING SCREW BRACKET ATTACHING SCREW, 14 MM (.551").
310 ADJUSTING SCREW BRACKET ATTACHING SCREW, 37.5 MM (1.476").
311 LINE PRESSURE ADJUSTING SCREW BRACKET.
312 INSIDE THROTTLE PRESSURE LEVER AND SHAFT ASSEMBLY.
334 PRESSURE REGULATOR VALVE SPRING.
335 PRESSURE REGULATOR ADJUSTMENT SCREW.
336 SWITCH VALVE SPRING.
338 MANUAL DETENT BALL, 8.75 MM (.345") DIAMETER.
339 MANUAL DETENT BALL SPRING.

Figure 2

DODGE/JEEP RE SERIES TRANSMISSIONS
FORWARD CLUTCH FAILURE





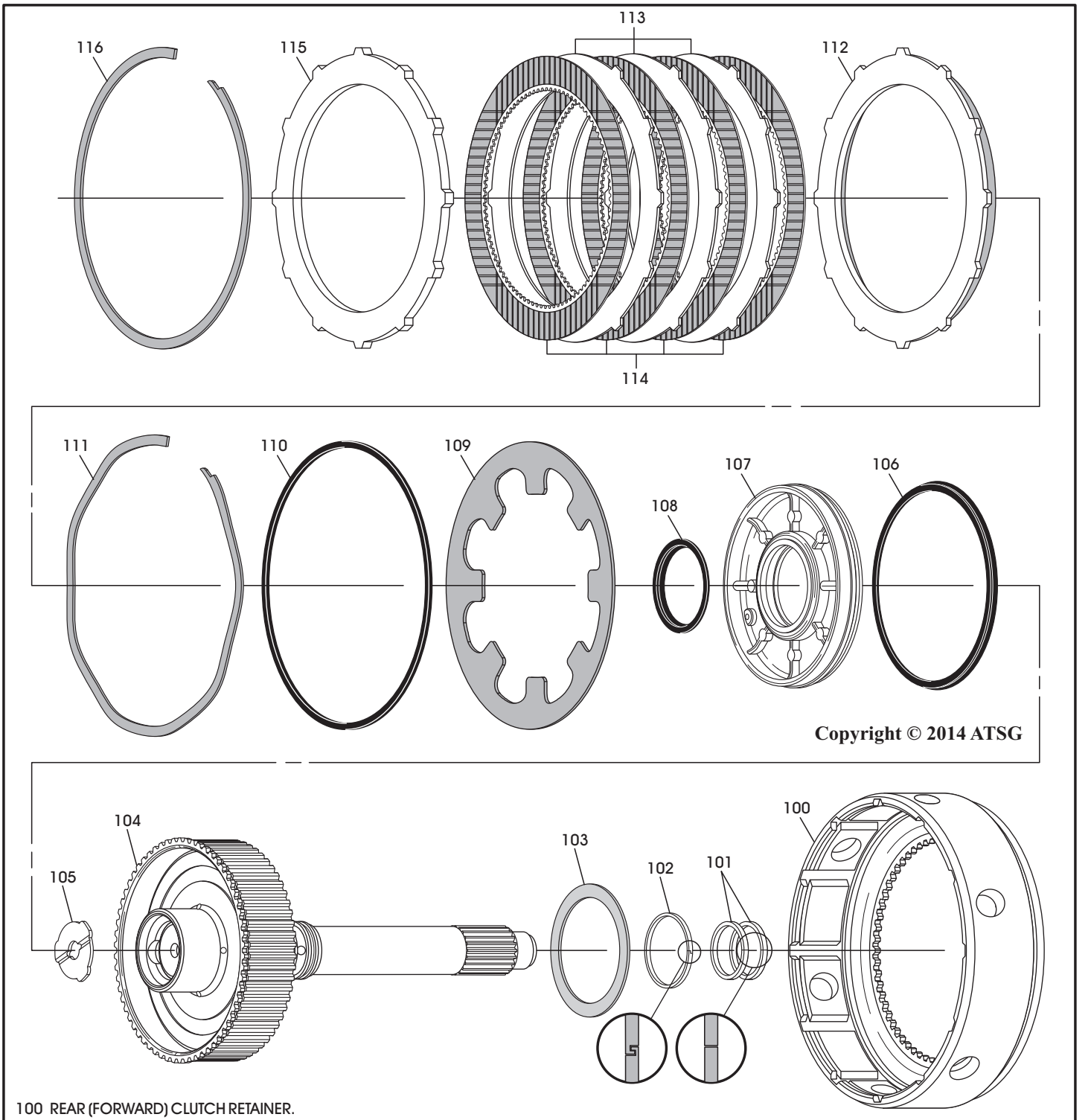
68 OIL PUMP COVER/STATOR SHAFT ASSEMBLY.
69 PUMP COVER TO PUMP BODY RETAINING BOLTS (6 REQUIRED).
70 NUMBER 1 SELECTIVE THRUST WASHER.
71 FRONT (DIRECT) CLUTCH SEAL RINGS (2 REQUIRED).
77 OIL PUMP COVER REAR BUSHING.
78 STATOR SHAFT TEFLON SEALING RING.

101 TURBINE SHAFT SEALING RINGS (2 REQUIRED - Green Plastic).
102 CLUTCH HUB STEEL SEALING RING (HOOK JOINT).
103 NUMBER 2 THRUST WASHER (PLASTIC).

Figure 3

DODGE/JEEP RE SERIES TRANSMISSIONS

FORWARD CLUTCH FAILURE



100 REAR (FORWARD) CLUTCH RETAINER.
101 TURBINE SHAFT TEFLON SEALING RINGS (2 REQUIRED).
102 CLUTCH HUB STEEL SEALING RING (HOOK JOINT).
103 NUMBER 2 THRUST WASHER (PLASTIC).
104 TURBINE SHAFT & FRONT CLUTCH HUB ASSEMBLY.
105 NUMBER 3 THRUST WASHER.
106 REAR (FORWARD) CLUTCH APPLY PISTON OUTER "LIP" SEAL.
107 REAR (FORWARD) CLUTCH APPLY PISTON.
108 REAR (FORWARD) CLUTCH APPLY PISTON INNER "LIP" SEAL.
109 REAR (FORWARD) CLUTCH "BELLVILLE" RETURN SPRING.
110 "BELLVILLE" RETURN SPRING SPACER RING (PLASTIC).
111 "BELLVILLE" RETURN SPRING "WAVED" SNAP RING.
112 REAR (FORWARD) CLUTCH APPLY PLATE.
113 REAR (FORWARD) CLUTCH STEEL PLATES, (.068" THK) (QTY VARIES).
114 REAR (FORWARD) CLUTCH FRICTION PLATES (QTY VARIES).
115 REAR (FORWARD) CLUTCH BACKING PLATE (.280" THICK).
116 REAR (FORWARD) CLUTCH FLAT "SELECTIVE" SNAP RING.

Figure 4