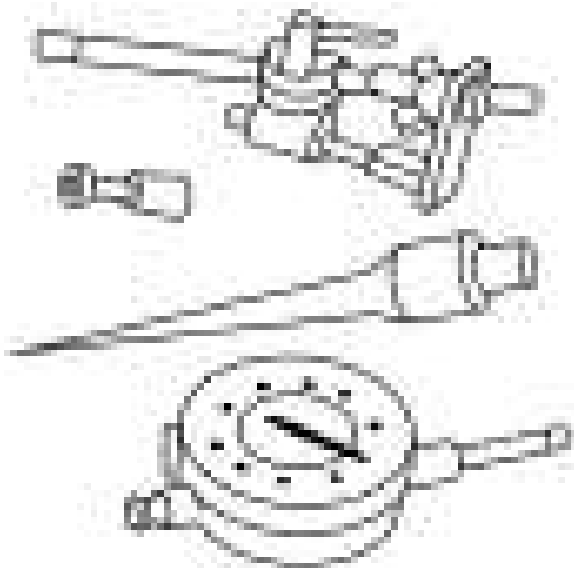


# ASSEMBLY

## TRANSMISSION

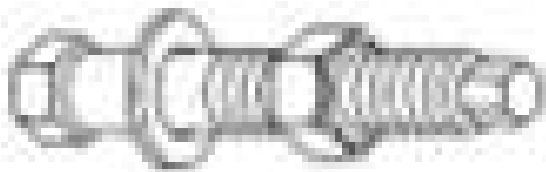
Special Tool(s)

### SPECIAL TOOL SPECIFICATION



ST1214-A

Dial Indicator Gauge with Holding Fixture  
100-002 (TOOL-4201-C)



ST1350-A

Drawbar (Heavy Duty Threaded) 204-029  
(T77F-1176)



**ST2683-A**

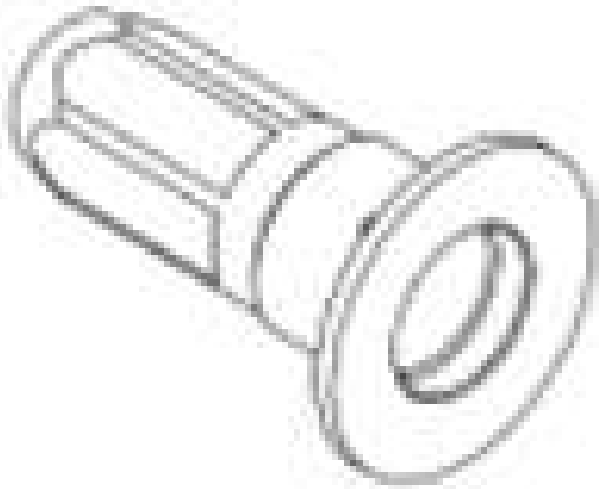
End Play Gauge, Transmission 307-534



**ST1631-A**

Handle, Torque Converter 307-091 (T81P-7902-C)

Installer, Rear Seal 4X4 307-637



**ST3059-A**



**ST2887-A**

Installer, Fluid Pump Seal 307-556



Installer, Front Wheel Hub Oil Seal 205-276  
(T88T-1175-AH)



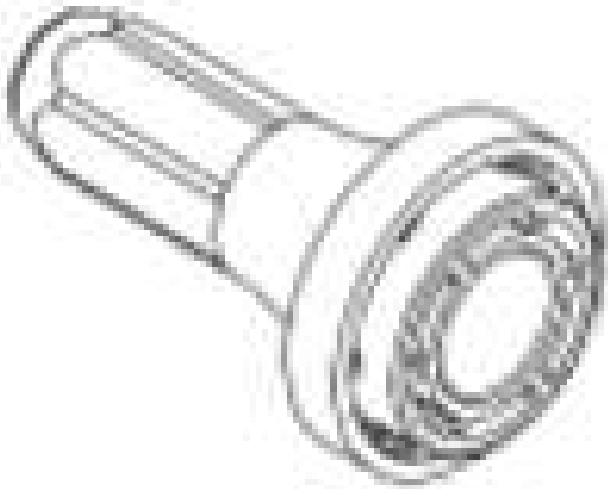
Installer, Output Shaft Bearing 307-647

**ST2694-A**



**ST2890-A**

Installer, Shifter Fluid Seal 307-559



**ST3050-A**

Rear Seal Installer 4X2 307-638

Remover/Installer, Rear Bearing 307-639

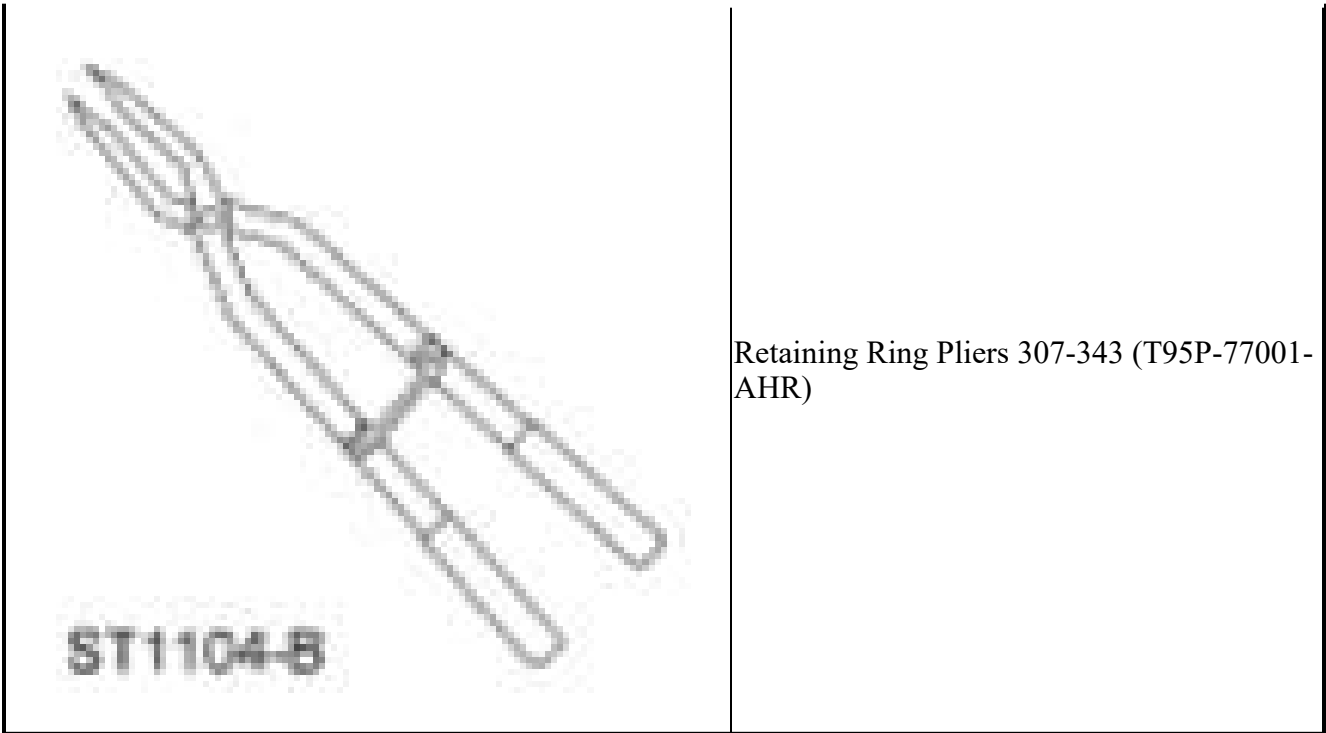


**ST3061-A**



**ST2891-A**

Remover, Transmission Fluid Pump 307-553



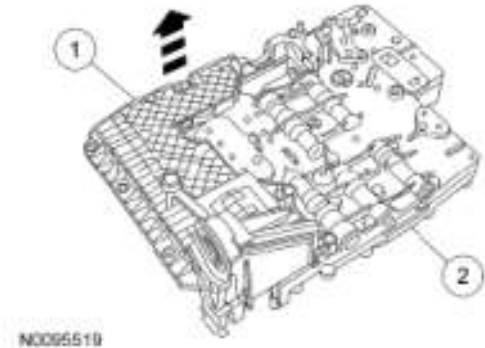
Retaining Ring Pliers 307-343 (T95P-77001-AHR)

**Material**

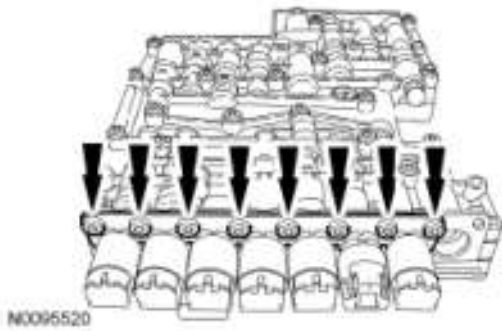
**MATERIAL SPECIFICATION**

Item	Specification
Motorcraft® MERCON® LV Automatic Transmission Fluid XT-10-QLV	MERCON® LV
Multi-Purpose Grease XG-4 and/or XL-5	ESB-M1C93-B

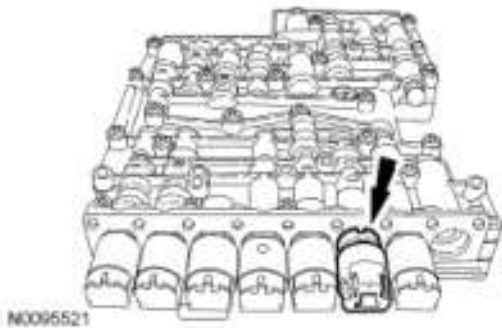
**Disassembled Views**



**Fig. 535: Exploded View Of Transmission (1 Of 3)**  
 Courtesy of FORD MOTOR CO.



**Fig. 536: Exploded View Of Transmission (2 Of 3)**  
 Courtesy of FORD MOTOR CO.



**Fig. 537: Exploded View Of Transmission (3 Of 3)**  
 Courtesy of FORD MOTOR CO.

**PART NUMBER REFERENCE**

Item	Part Number	Description
1	N800750-S437	Flexplate-to-torque converter nut (4 required)
2	7902	Torque converter
3	7A103	Pump assembly
4	7A248	Front pump oil seal
5	-	Pump body (part of 7A103)
6	7A248	Front pump inner oil seal
7	7N134	Front pump-to-case bolt (13 required)
8	7A103	Front pump assembly
9	W707871-S300	Bolt - attaches pump to pump adapter assembly (11 required)
10	7A248	Front pump outer oil seal
11	7D019	Clutch support fluid seal
12	7L323	Front pump support seal
13	-	Forward clutch assembly (clutch A)
14	-	Forward clutch rear bushing (part of 7A360)
15	7D014	Front pump selective washer
16	7A360	Forward clutch cylinder and hub assembly
17	7A548	Forward clutch inner piston seal
18	7A548	Forward clutch outer piston seal
19	7A262	Forward clutch piston



20	7A480	Forward clutch piston retaining spring
21	7H360	Forward clutch balance piston assembly
22	7A548	Forward clutch balance piston outer seal
23	7H365	Forward clutch balance piston snap ring
24	7E085	Forward clutch cushion spring
25	7E314	Forward clutch steel plates (externally splined) (quantity model dependent)
26	7B164	Forward clutch friction plates (internally splined) (quantity model dependent)
27	7B066	Forward clutch pressure plate
28	7D483	Pressure plate retaining snap ring
29	7D063	Front planetary sun gear (No. 1)
30	7H375	Bearing (T1)
31	-	Front planetary carrier assembly snap ring (part of 7A398)
32	7A398	Front planetary carrier assembly
33	7L339	Plate transmission fluid collector
34	7L495	Bearing (T2)
35	-	Overdrive (O/D) clutch assembly (clutch E)
36	7G091	Turbine shaft seals (3 required)
37	7F207	Input shaft
38	-	Fluid distributor sleeve (part of 7J006)
39	-	Output shaft bushing (part of 7J006)
40	7A548	<b>O/D</b> clutch piston outer seal
41	7A548	<b>O/D</b> clutch piston inner seal
42	7A262	<b>O/D</b> clutch piston
43	7B070	<b>O/D</b> clutch piston spring
44	7A548	Balance piston outer seal
45	7H360	<b>O/D</b> balance piston
46	7C122	Balance piston snap ring
47	7B442	<b>O/D</b> clutch steel plates (externally splined)
48	7B164	<b>O/D</b> clutch friction plates (internally splined)
49	7B066	<b>O/D</b> pressure plate
50	7D483	<b>O/D</b> clutch retaining ring
51	7C096	Bearing (T3)
52	7F351	Intermediate clutch shaft
53	7H375	Bearing (T4)
54	-	Sun gear bushings (part of 7R193) (2 required)
55	7B067	Sun gear hub and shaft assembly
56	7F236	Direct clutch hub
57	7C122	Direct clutch cylinder retaining ring
58	7D483	Direct clutch pressure plate retaining ring
59	-	Direct clutch assembly (clutch B)
60	7B066	Direct clutch pressure plate
61	7B164	Direct clutch friction plates (internally splined) (quantity model dependent)
62	7B442	Direct clutch steel plates (externally splined) (quantity model dependent)
63	7E085	Direct clutch cushion plate
64		

	7C096	Bearing (T5)
65	7A577	Direct clutch piston retaining ring
66	7A262	Direct clutch balance piston
67	7A548	Direct clutch balance seal
68	7B488	Direct clutch piston return spring
69	-	Direct clutch piston
70	7A548	Direct clutch piston outer seal
71	7C099	Direct clutch piston inner seal
72	-	Direct clutch hub bushings (part of 7F283) (2 required)
73	-	Gear shaft tube sleeve (part of 7F283)
74	7F283	Direct clutch cylinder
75	7D020	Shell cylinder seals (2 required)
76	7D483	Center support retaining ring
77	-	Intermediate clutch assembly (clutch C)
78	7D483	Intermediate clutch pressure plate retaining ring
79	7B066	Intermediate clutch pressure plate
80	7B442	Intermediate clutch steel plates (externally splined) (quantity model dependent)
81	7B164	Intermediate clutch friction plates (internally splined) (quantity model dependent)
82	7E085	Intermediate clutch pressure plate spring
83	7A577	Intermediate clutch retaining ring
84	7B043	Intermediate clutch ring
85	7A480	Intermediate clutch piston spring
86	7E005	Intermediate clutch piston
87	7F225	Intermediate clutch piston inner seal
88	7F224	Intermediate clutch piston outer seal
89	7F373	Bearing (T6)
90	-	Center shaft sleeve (part of support assembly)
91	7B220	Center support keys (2 required)
92	7G199	Center support seals (4 required)
93	-	Support assembly
94	7F225	Low/reverse clutch piston center seal
95	7D404	Low/reverse clutch piston inner seal
96	7D403	Low/reverse clutch piston outer seal
97	7A262	Low/reverse clutch piston
98	7B070	Low/reverse clutch piston return spring
99	7C122	Retainer transmission-snap ring
100	7D483	Low/reverse clutch piston retaining ring
101	7E085	Clutch disc cushion plate
102	7B442	Low/reverse clutch steel plates (externally splined)
103	7B164	Low/reverse clutch friction plates (internally splined)
104	7B066	Low/reverse clutch pressure plate (select fit)
105	7F405	Thrust gear shim (select fit)
106	7C041	Bearing (T7)

107	7D063	Sun gear No. 2
108	7D235	Thrust bearing outer race
109	7D234	Bearing (T8)
110	7D063	Sun gear No. 3
111	7D234	Bearing (T9)
112	-	Bearing race (T9)
113	7D006	Rear planetary carrier assembly
114	-	Fluid collar rear planetary plate (part of 7D006)
115	7A153	Output shaft ring gear assembly
116	7G178	Bearing (T10)
117	7B256	Output shaft bushing (part of 7060)
118	7060	Output shaft park gear assembly (Rear Wheel Drive (RWD))
119	7060	Output shaft park gear assembly (Four-Wheel Drive (4WD))
120	7N194	Output shaft retaining ring
121	7B368	Bearing (T11)
122	7005	Transmission case assembly (model dependent)
123	7A010	Transmission case fluid fill plug assembly
124	7H398	Transmission case fluid fill plug
125	7A010	Transmission case fluid fill seal
126	7A010	Transmission oil level indicator
127	7034	Transmission case vent assembly (model dependent)
128	7A415	Output shaft bearing assembly (RWD )
129	7A415	Output shaft bearing assembly (4WD )
130	7A433	Washer
131	7B368	Bearing (T12)
132	7030	Output shaft bearing snap ring 4WD
133	7N357	Slip plane washer
134	7052	Extension housing seal (RWD )
135	7052	Extension housing seal (4WD )
136	7089	Output shaft flange (RWD )
137	7052	Extension housing flange seal
138	7045	Output shaft flange retaining nut (RWD )
139	7E332	Manual valve detent spring
140	W711235-S300	Manual valve detent spring retaining screw and washer
141	7A232	Park pawl actuating rod
142	7A441	Park pawl
143	7D070	Park pawl return spring
144	7D071	Park pawl shaft
145	7H398	Plug assembly transmission case housing
146	7G101	Park rod actuating plate
147	W711235-S300	Park pawl abutment retaining screw and washer
148	W708455-S441	Manual control lever nut

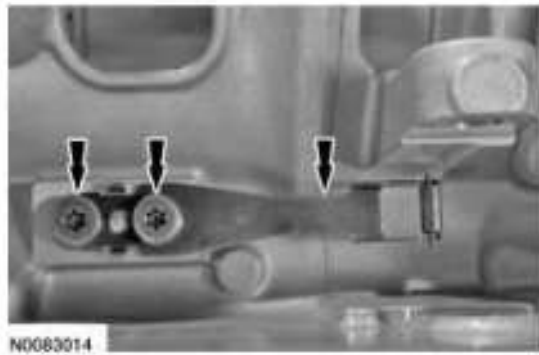
149	7A256	Manual control lever
150	7B498	Manual control lever shaft seal
151	7C493	Manual control lever shaft
152	7A209	Manual control lever shaft spacer
153	7A115	Manual valve detent lever assembly
154	7G100	Manual valve detent lever retaining pin
155	7H322	Thermal bypass valve
156	7F401	Front pump adapter seal
157	7A100	Main control assembly
158	-	Main control valve body assembly (part of 7A100)
159	7Z490	Main control valve body separator plate
160	-	Lower main control valve body (part of 7A100)
161	-	Transmission Control Module (TCM) (part of 7A100)
162	7G276	Bulkhead connector sleeve
163	-	Transmission fluid filter seal (part of 7A098)
164	7A098	Transmission fluid filter
165	-	Transmission fluid pan magnet
166	7A191	Transmission fluid pan gasket
167	7A194	Transmission fluid pan
168	W500214-S437	Transmission fluid pan bolt

**NOTE: Clutch plate quantity is model dependent based on engine displacement:**

- **4.6L engine (Explorer, Mountaineer, Sport Trac, F-150)**
  - **Four friction plates**
  - **Five steel plates**
- **5.4L engine (Expedition, Navigator, F-150)**
  - **Five friction plates**
  - **Six steel plates**

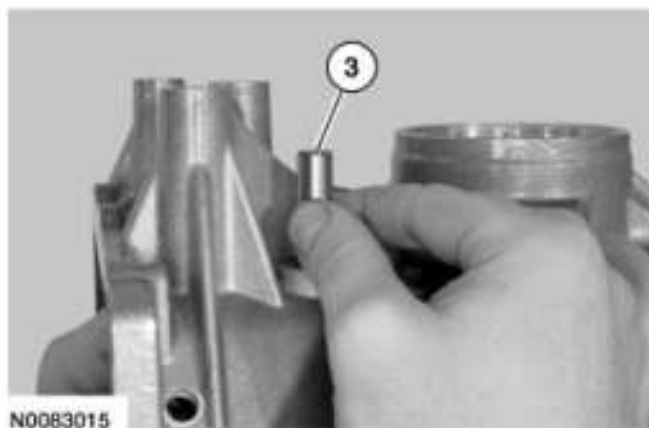
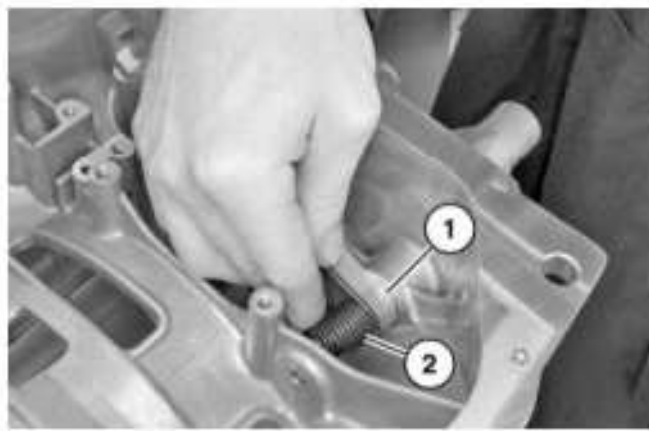
#### **All vehicles**

1. Install the detent spring and the 2 bolts.
  - Tighten to 12 Nm (106 lb-in).



**Fig. 538: Locating Detent Spring And Bolts**  
Courtesy of FORD MOTOR CO.

2. Position the park pawl and spring into the case and install the park pawl pin.
  1. Park pawl
  2. Park pawl spring
  3. Park pawl pin



**Fig. 539: Installing Park Pawl Pin**  
Courtesy of FORD MOTOR CO.

3. Install the park pawl pin bolt.
  - Tighten to 23 Nm (17 lb-ft).



**Fig. 540: Locating Park Pawl Pin Bolt**  
Courtesy of FORD MOTOR CO.

4. Install a new manual control lever shaft seal on the Shifter Fluid Seal Installer 307-559.



**Fig. 541: Locating Manual Control Lever Shaft Seal On Shifter Fluid Seal Installer 307-559**  
Courtesy of FORD MOTOR CO.

5. Using the Shifter Fluid Seal Installer 307-559, install the manual control lever shaft seal.



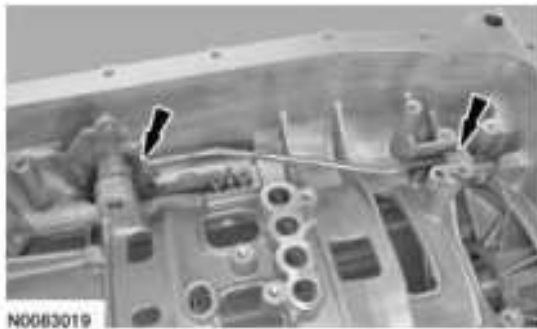
**Fig. 542: Installing Manual Control Lever Shaft Seal**  
Courtesy of FORD MOTOR CO.

6. Assemble the manual valve detent lever assembly and park pawl actuator rod.



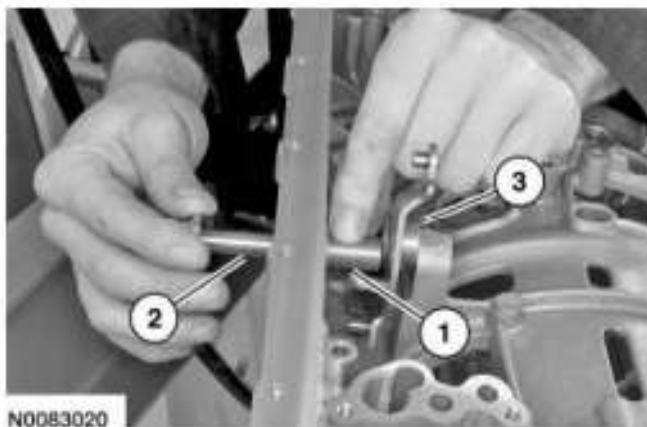
**Fig. 543: Identifying Manual Valve Detent Lever Assembly And Park Pawl Actuator Rod**  
Courtesy of FORD MOTOR CO.

7. Position the detent lever and park pawl actuator rod in the transmission case.



**Fig. 544: Locating Detent Lever And Park Pawl Actuator Rod**  
Courtesy of FORD MOTOR CO.

8. Position the manual control lever spacer in place and slide the manual control lever shaft in the case and into the manual lever detent plate.
  1. Manual control lever spacer
  2. Manual control lever shaft
  3. Manual control lever detent plate



**Fig. 545: Positioning Manual Control Lever Spacer In Place**  
Courtesy of FORD MOTOR CO.

9. Align the roll pin hole in the manual control lever detent plate with the roll pin hole in the manual control lever shaft and install a new roll pin using a suitable tool.



**Fig. 546: Installing Roll Pin Using Suitable Tool**  
Courtesy of FORD MOTOR CO.

10. Install the park rod actuating plate and the 4 bolts.
  - Tighten to 12 Nm (106 lb-in).

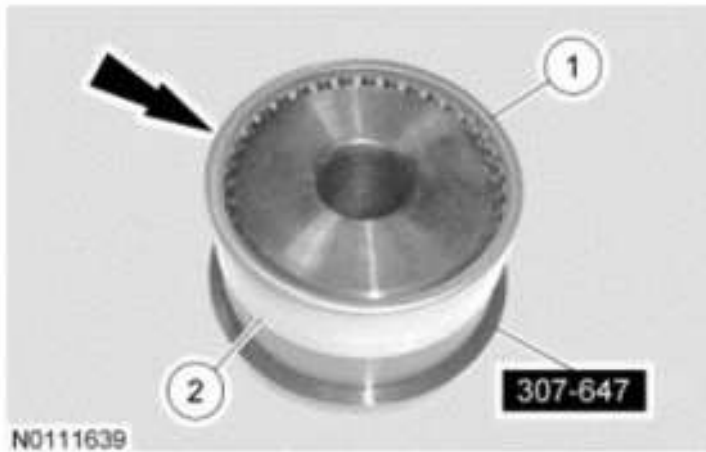


**Fig. 547: Locating Park Rod Actuating Plate**  
Courtesy of FORD MOTOR CO.

#### **Four-Wheel Drive (4WD) vehicles**

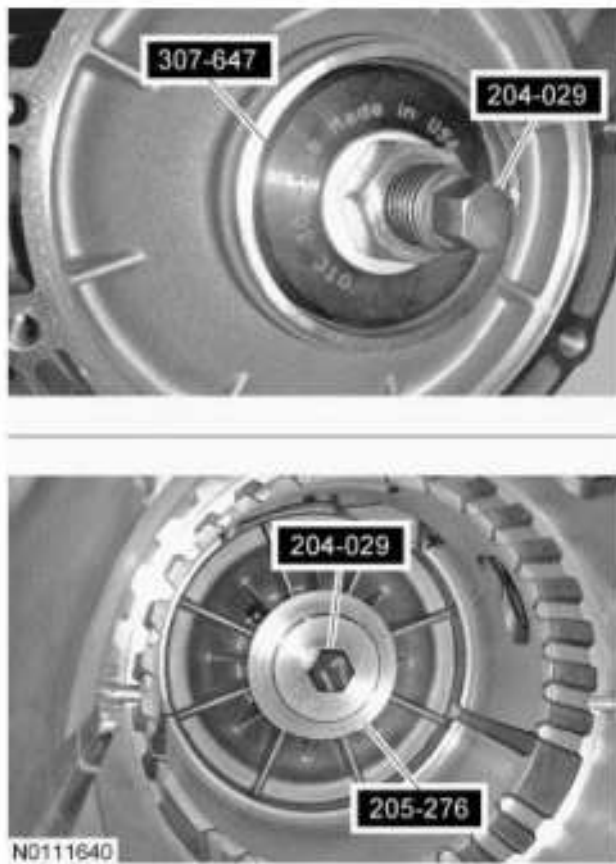
11. If removed, position a new bearing on Needle Bearing Installer 307-647. Install the bearing with the flat bearing surface facing down and the rounded bearing surface facing up so that when installed, the flat surface is on the snap ring side and the rounded surface is on the transmission case side.
  1. Rounded bearing surface facing up
  2. Flat bearing surface facing down





**Fig. 548: Identifying Bearing Installation Position**  
Courtesy of FORD MOTOR CO.

- Using the Needle Bearing Installer 307-647, the Drawbar 204-029 and the Front Wheel Hub Oil Seal Installer 205-276, install the bearing in the transmission case.



**Fig. 549: Installing Bearing In Transmission Case**  
Courtesy of FORD MOTOR CO.

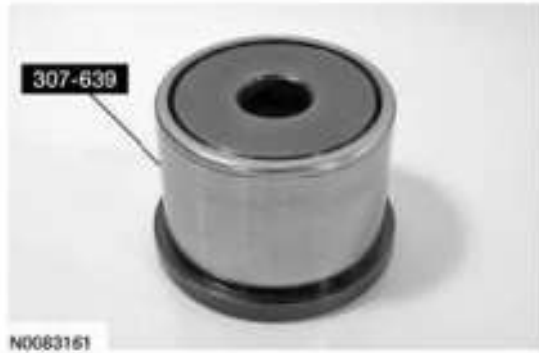
- Install the snap ring.



**Fig. 550: Locating Snap Ring**  
Courtesy of FORD MOTOR CO.

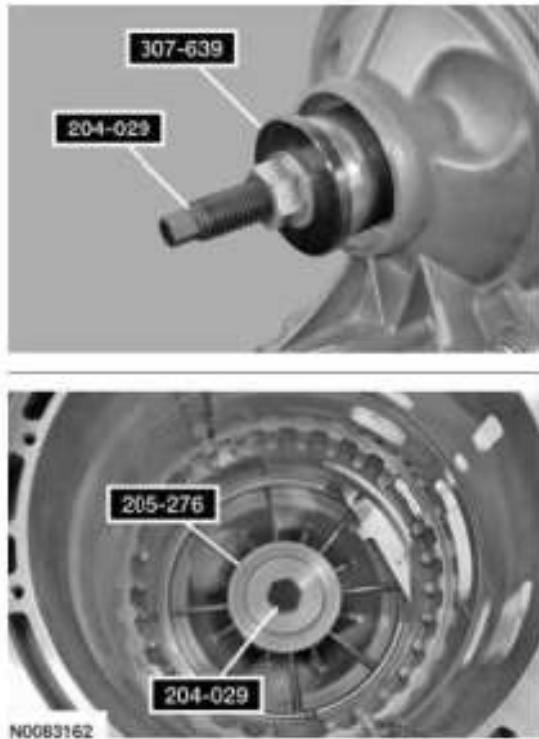
**Rear Wheel Drive (RWD) vehicles**

14. Install the bearing on the Rear Bearing Remover/Installer 307-639.



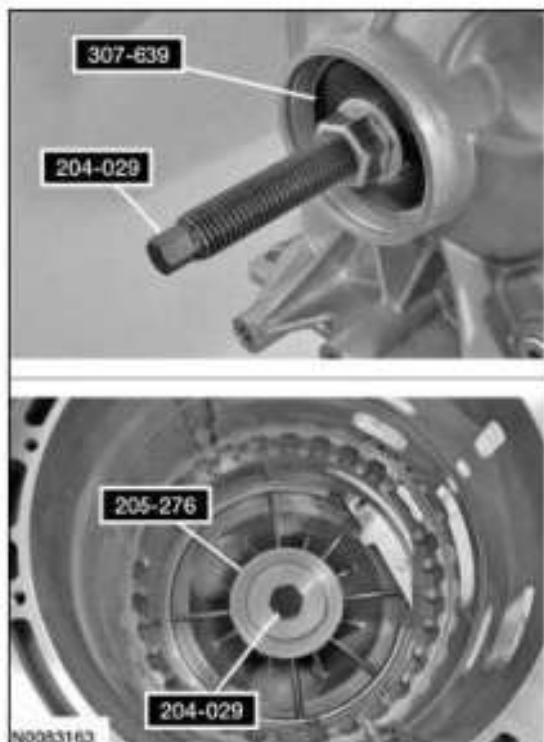
**Fig. 551: Installing Bearing On Rear Bearing Remover/Installer 307-639**  
Courtesy of FORD MOTOR CO.

15. Assemble the Front Wheel Hub Oil Seal Installer 205-276 and the Rear Bearing Remover/Installer 307-639 on the Drawbar 204-029 and install the bearing in the transmission case.



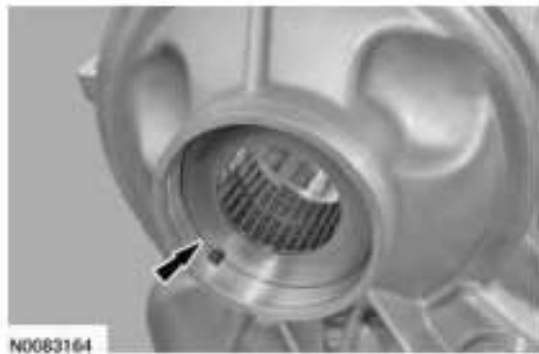
**Fig. 552: Identifying Front Wheel Hub Oil Seal Installer 205-276 And Rear Bearing Remover/Installer 307-639 On Drawbar 204-029**  
Courtesy of FORD MOTOR CO.

16. Remove the Front Wheel Hub Oil Seal Installer 205-276, the Rear Bearing Remover/Installer 307-639 and the Drawbar 204-029.



**Fig. 553: Identifying Front Wheel Hub Oil Seal Installer 205-276, Rear Bearing Remover/Installer 307-639 And Drawbar 204-029**  
Courtesy of FORD MOTOR CO.

17. Position the thrust bearing spacer in place.



**Fig. 554: Locating Thrust Bearing Spacer**  
Courtesy of FORD MOTOR CO.

18. Using the Needle Bearing Installer 307-558 and a press, press the thrust bearing spacer in place.



**Fig. 555: Pressing Thrust Bearing Spacer Using Needle Bearing Installer 307-558**  
Courtesy of FORD MOTOR CO.

19. Install the T12 thrust bearing.



**Fig. 556: Locating T12 Thrust Bearing**  
Courtesy of FORD MOTOR CO.

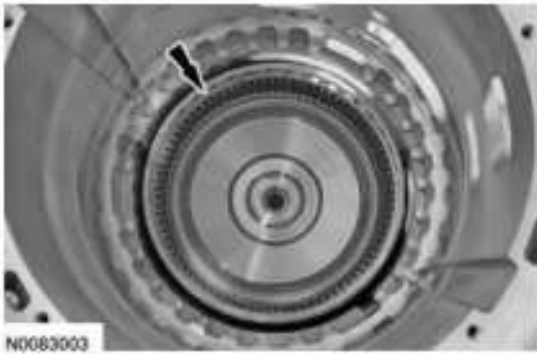
20. Install the slip plane washer.



**Fig. 557: Locating Slip Plane Washer**  
Courtesy of FORD MOTOR CO.

**All vehicles**

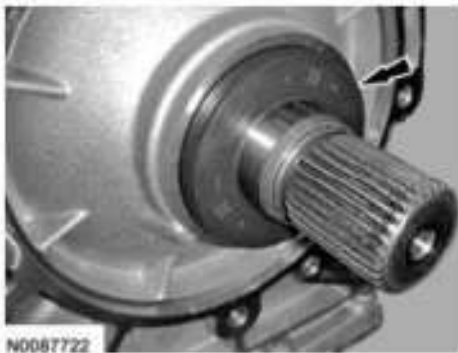
21. Place the transmission in the vertical position.
22. Install the T11 bearing, planet carrier hub and output shaft assembly.



**Fig. 558: Locating T11 Bearing, Planet Carrier Hub And Output Shaft Assembly**  
Courtesy of FORD MOTOR CO.

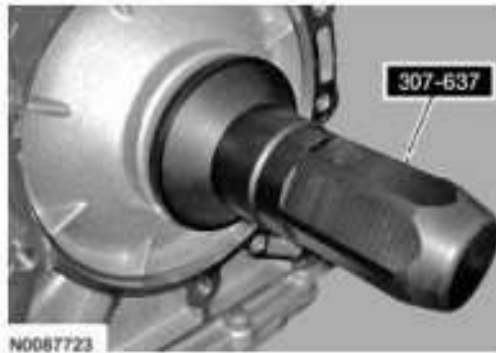
**4WD vehicles**

23. Position a new output shaft seal in place.



**Fig. 559: Locating Output Shaft Seal**  
Courtesy of FORD MOTOR CO.

24. Using the Rear Seal 4X4 Installer 307-637, install the output shaft seal.



**Fig. 560: Installing Output Shaft Seal**  
Courtesy of FORD MOTOR CO.

RWD vehicles

25. Position a new output shaft seal on the Rear Seal Installer 4X2 307-638.



**Fig. 561: Identifying Rear Seal Installer 4X2 307-638**  
Courtesy of FORD MOTOR CO.

26. Using the Rear Seal Installer 4X2 307-638, install the output shaft seal.



**Fig. 562: Tapping Output Shaft Seal**  
Courtesy of FORD MOTOR CO.

27. Install the output shaft flange and the extension housing flange seal.



**Fig. 563: Locating Extension Housing Flange Seal And Output Shaft Flange**  
Courtesy of FORD MOTOR CO.

28. Loosely install a new output shaft flange nut.

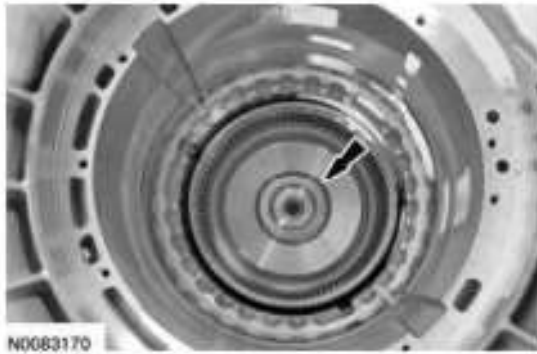


**Fig. 564: Locating Output Shaft Flange Nut**  
Courtesy of FORD MOTOR CO.

**All vehicles**

29. Install the T10 bearing and silver shim (caged bearing) on the planet carrier hub and output shaft

assembly.



**Fig. 565: Locating T10 Bearing And Silver Shim (Caged Bearing)**  
Courtesy of FORD MOTOR CO.

30. Install the T9 roller bearing race in the bottom of the carrier.



**Fig. 566: Locating T9 Roller Bearing Race In Bottom Of Carrier**  
Courtesy of FORD MOTOR CO.

31. Install the top T8 and the bottom T9 roller bearings onto the sun gear.



**Fig. 567: Locating Top T8 And Bottom T9 Roller Bearings**  
Courtesy of FORD MOTOR CO.

**NOTE:** When installing the sun gear, make sure that the taper edge is facing up toward the torque converter housing.

- 32.



Install the sun gear into the planet assembly.



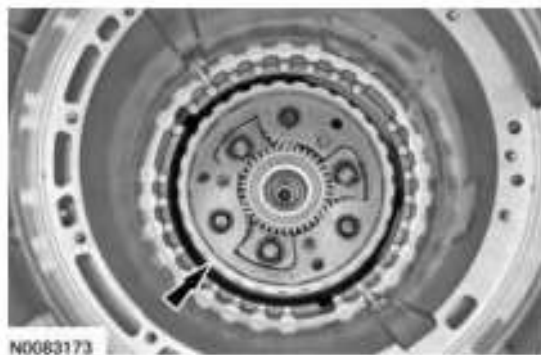
**Fig. 568: Installing Sun Gear Into Planet Assembly**  
Courtesy of FORD MOTOR CO.

33. Install the low/reverse sun gear and race in the planet carrier.



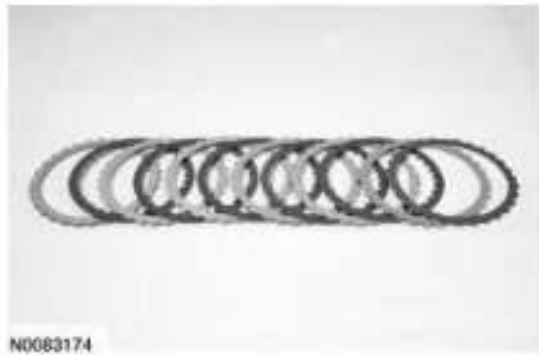
**Fig. 569: Locating Low/Reverse Sun Gear And Race In Planet Carrier**  
Courtesy of FORD MOTOR CO.

34. Install the planet carrier.



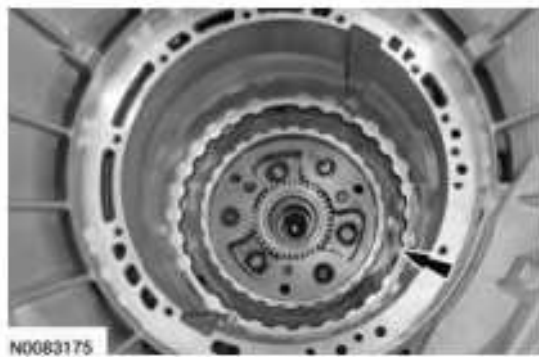
**Fig. 570: Locating Planet Carrier**  
Courtesy of FORD MOTOR CO.

35. Soak the new low/reverse clutch plates in clean automatic transmission fluid.



**Fig. 571: Identifying Low/Reverse Clutch Plates**  
Courtesy of FORD MOTOR CO.

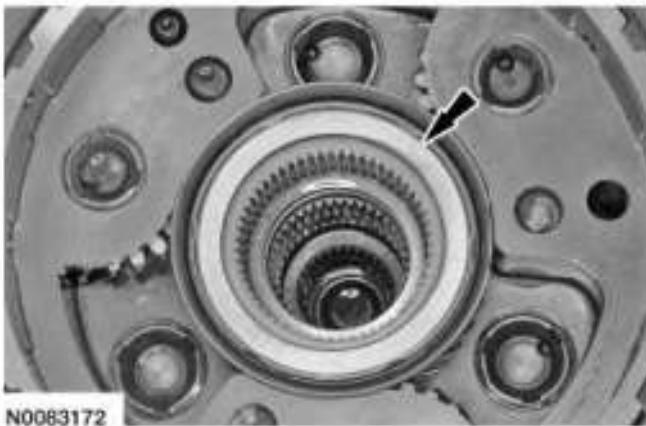
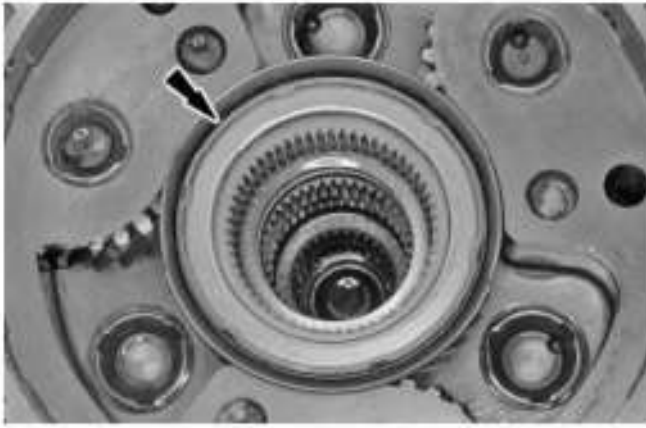
36. Install the low/reverse clutch plates, starting with the pressure plate and alternating between the friction and steel plates and ending with the wave spring plate on the top.



**Fig. 572: Locating Low/Reverse Clutch Plates**  
Courtesy of FORD MOTOR CO.

37. **NOTE:        Inspect and install a new thrust bearing as required.**

Install the low/reverse thrust bearing T7 and the select fit thrust gear shim.



**Fig. 573: Locating Low/Reverse Thrust Bearing T7 And Thrust Gear Shim**  
Courtesy of FORD MOTOR CO.

38. **NOTE:** Make sure that when installing the center support the feed holes on the center support are lined up with the feed holes in the case.

Install the center support into the case.



**Fig. 574: Installing Center Support Into Case**  
Courtesy of FORD MOTOR CO.

39. **NOTE:** Rotate the case to a horizontal position.

Using the Retaining Ring Pliers 307-343, install the center support snap ring. Using a suitable tool, be sure the snap ring is fully seated.



**Fig. 575: Installing Center Support Snap Ring**  
Courtesy of FORD MOTOR CO.

RWD vehicles

40. Install the Dial Indicator Gauge with Holding Fixture 100-002 on the transmission case and position the plunger on the output shaft flange.



**Fig. 576: Identifying Dial Indicator Gauge With Holding Fixture 100-002 On Transmission Case**  
Courtesy of FORD MOTOR CO.

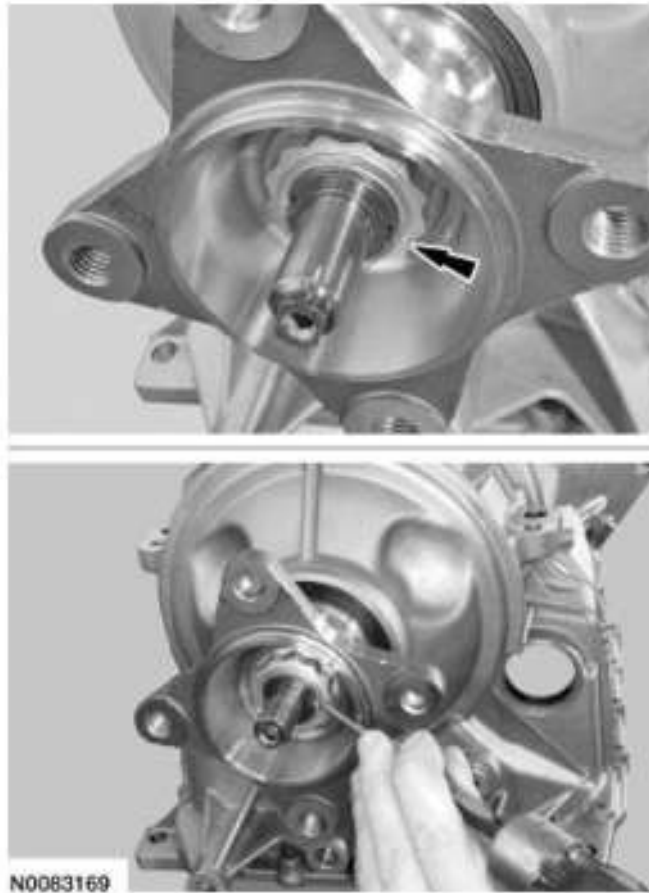
41. Using the Dial Indicator Gauge with Holding Fixture 100-002, lift up on the output shaft flange and record the reading. The reading should be within 0.15-0.35 mm (0.005-0.013 in).
  - If the reading is not within the specification, install a different (either thinner or thicker) select fit thrust gear shim.



**Fig. 577: Identifying Dial Indicator Gauge With Holding Fixture 100-002 On Output Shaft Flange**

Courtesy of FORD MOTOR CO.

42. Tighten the output shaft flange nut.
  - Tighten to 80 Nm (59 lb-ft).
  - After installing the new output shaft flange nut, stake the slots to prevent it from coming loose.



**Fig. 578: Locating Output Shaft Flange Nut**

Courtesy of FORD MOTOR CO.

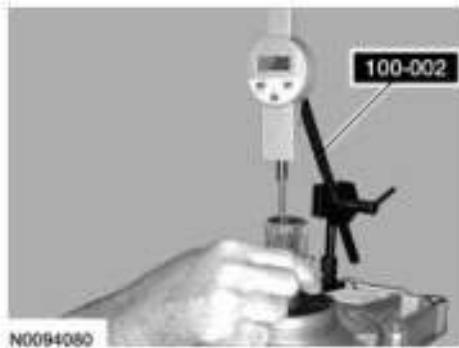
4WD vehicles

43. Install the Dial Indicator Gauge with Holding Fixture 100-002 on the transmission case and position the plunger on the output shaft.



**Fig. 579: Identifying Dial Indicator Gauge With Holding Fixture 100-002 On Transmission Case**  
Courtesy of FORD MOTOR CO.

44. Using the Dial Indicator Gauge with Holding Fixture 100-002, lift up on the output shaft and record the reading. The reading should be within 0.15-0.35 mm (0.005-0.013 in).
- If the reading is not within the specification, install a different (either thinner or thicker) select fit thrust gear shim.



**Fig. 580: Selecting Fit Thrust Gear Shim**  
Courtesy of FORD MOTOR CO.

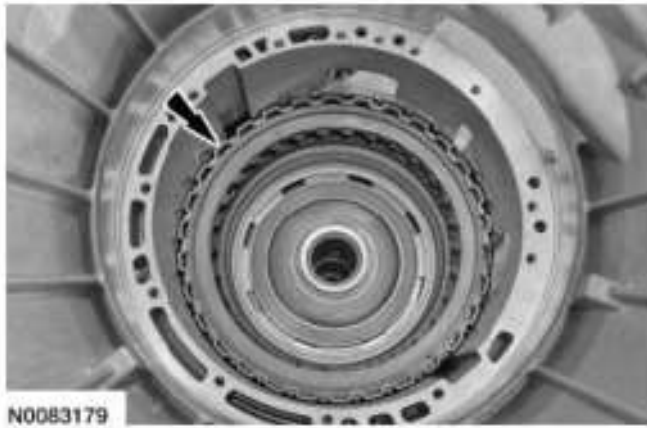
**All vehicles**

45. Install the T6 thrust bearing.



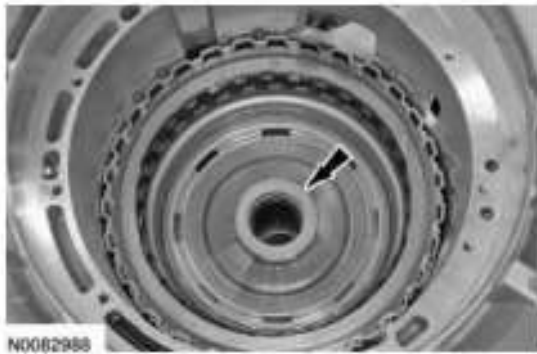
**Fig. 581: Locating T6 Thrust Bearing**  
Courtesy of FORD MOTOR CO.

46. Install the direct clutch drum.



**Fig. 582: Locating Direct Clutch Drum**  
Courtesy of FORD MOTOR CO.

47. Install the T5 bearing on the direct clutch assembly.



**Fig. 583: Locating T5 Bearing On Direct Clutch Assembly**  
Courtesy of FORD MOTOR CO.

48. Install the forward and overdrive clutch assembly.



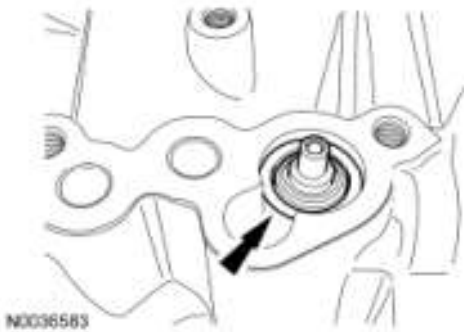
**Fig. 584: Locating Forward And Overdrive Clutch Assembly**  
Courtesy of FORD MOTOR CO.

49. Install the selective pump washer.



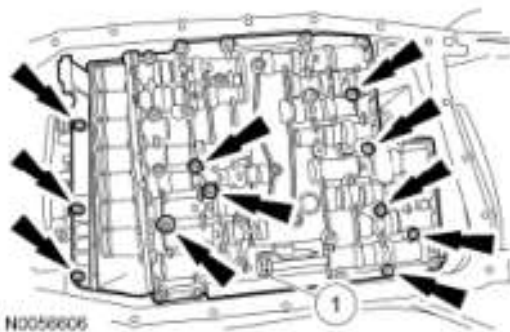
**Fig. 585: Locating Selective Pump Washer**  
Courtesy of FORD MOTOR CO.

50. If the front pump assembly was not disassembled and assembled, install a new front pump outer diameter O-ring seal and lubricate it with petroleum jelly.



**Fig. 586: Locating Front Pump Outer Diameter O-Ring Seal**  
Courtesy of FORD MOTOR CO.

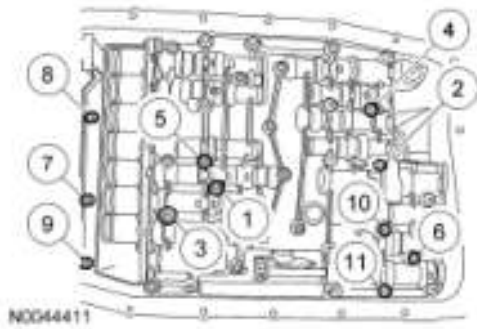
51. Install a new front pump seal on the Fluid Pump Seal Installer 307-556.



**Fig. 587: Locating Front Pump Seal On Fluid Pump Seal Installer 307-556**  
Courtesy of FORD MOTOR CO.

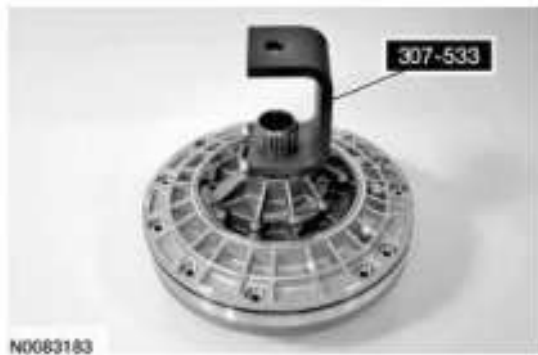
52. Using the Fluid Pump Seal Installer 307-556, install the front pump seal.





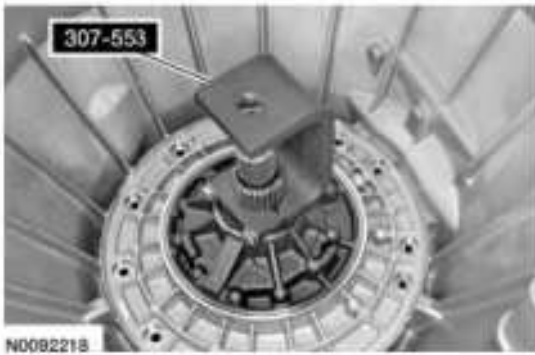
**Fig. 588: Installing Front Pump Seal**  
 Courtesy of FORD MOTOR CO.

53. Install the Transmission Fluid Pump Remover 307-553 on the front pump.



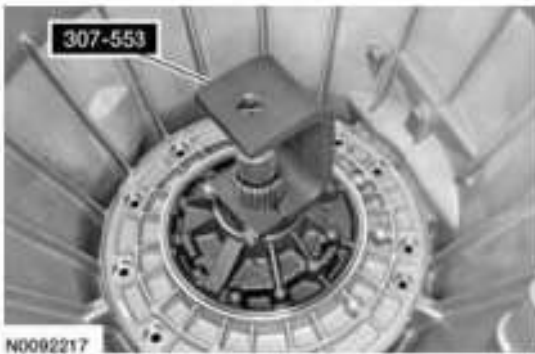
**Fig. 589: Identifying Transmission Fluid Pump Remover 307-553 On Front Pump**  
 Courtesy of FORD MOTOR CO.

54. Lubricate the transmission case pump bore with petroleum jelly. Using the Transmission Fluid Pump Remover 307-553, position the pump assembly in the case and rotate the pump to insert the pump splines into the front planetary sun gear. Rotate the pump to align the pump-to-case bolts and push the pump into the case.



**Fig. 590: Positioning Pump Assembly In Case**  
Courtesy of FORD MOTOR CO.

55. Remove the Transmission Fluid Pump Remover 307-553.



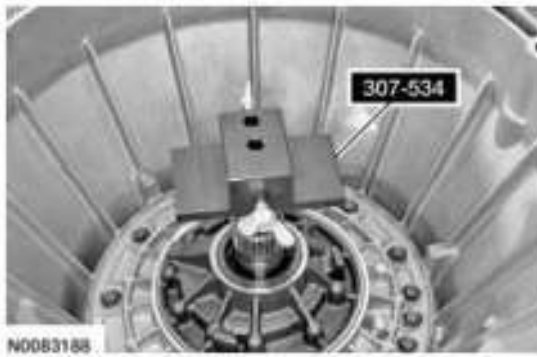
**Fig. 591: Identifying Transmission Fluid Pump Remover 307-553**  
Courtesy of FORD MOTOR CO.

56. Install new front pump bolts with new washers. Tighten the bolts in a crisscross pattern.
  - Tighten to 10 Nm (89 lb-in).



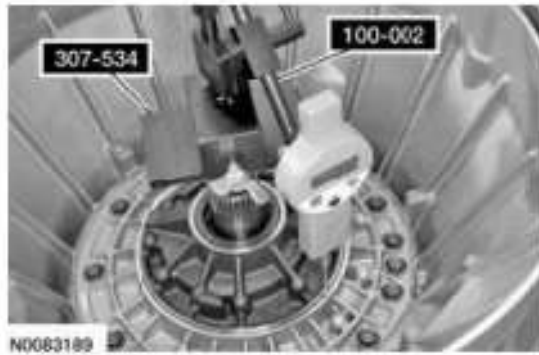
**Fig. 592: Locating Front Pump Bolts**  
Courtesy of FORD MOTOR CO.

57. Install the Transmission End Play Gauge 307-534 on the input shaft to measure the end play.
- Tighten the wing nut.



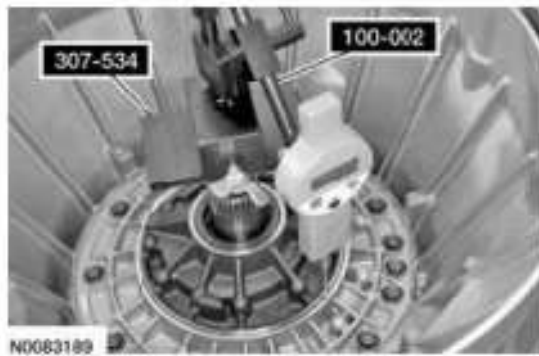
**Fig. 593: Identifying Transmission End Play Gauge 307-534 On Input Shaft**  
Courtesy of FORD MOTOR CO.

58. Install the Dial Indicator Gauge with Holding Fixture 100-002 on the Transmission End Play Gauge 307-534.
- Push down on the Transmission End Play Gauge 307-534 and zero out the Dial Indicator Gauge.
  - Lift up on the Transmission End Play Gauge 307-534 and record the measurement on the Dial Indicator Gauge. The measurement should be between 0.2-0.4 mm (0.008-0.015 in). If the measurement is not within specification, install a new selective front pump washer.
  - Measure the original washer, install a thinner or a thicker washer to achieve the correct measurement.



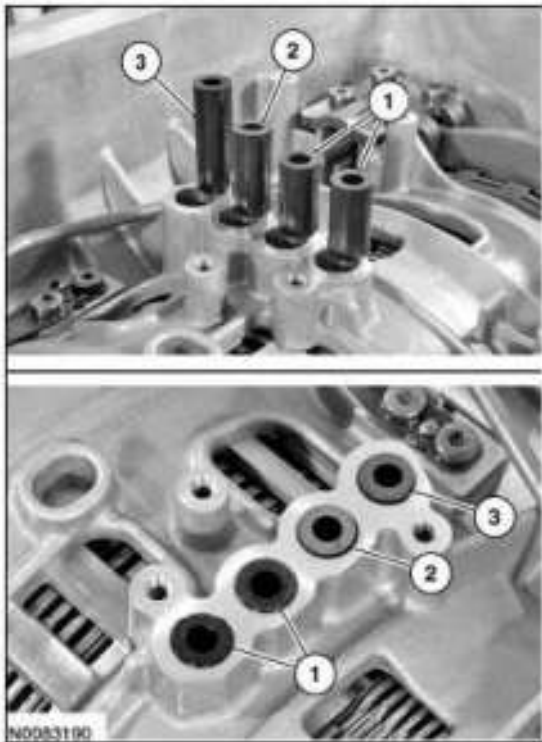
**Fig. 594: Identifying Dial Indicator Gauge With Holding Fixture 100-002 And Transmission End Play Gauge 307-534**  
Courtesy of FORD MOTOR CO.

59. Remove the Dial Indicator Gauge with Holding Fixture 100-002 and the Transmission End Play Gauge 307-534.



**Fig. 595: Identifying Dial Indicator Gauge With Holding Fixture 100-002 And Transmission End Play Gauge 307-534**  
Courtesy of FORD MOTOR CO.

60. Install the 4 rubber feed tubes for the center support.
1. Black feed tubes
  2. Green feed tube
  3. Blue feed tube



**Fig. 596: Identifying Rubber Feed Tubes**  
 Courtesy of FORD MOTOR CO.

61. **NOTE:** Make sure that the fluid filter seal has been removed. If it has not, use a suitable pick and remove the seal.

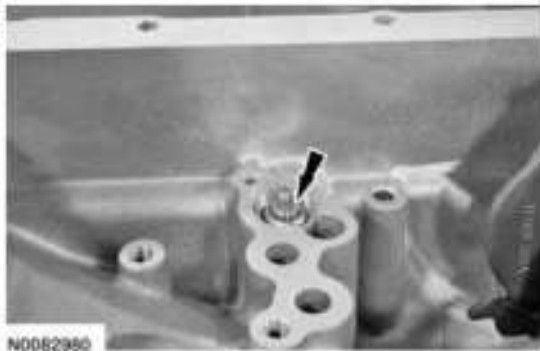
**NOTE:** Add 0.118L (4 oz) of clean transmission fluid to prime the pump.

Install the rubber adapter and prime the fluid pump.



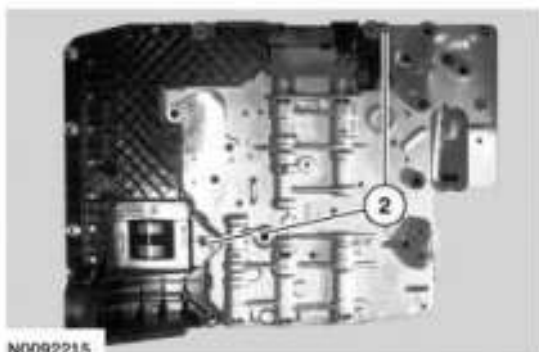
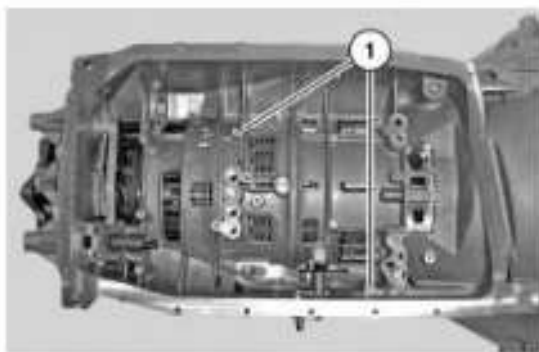
**Fig. 597: Locating Rubber Adapter**  
 Courtesy of FORD MOTOR CO.

62. Install the thermal bypass valve into the case.



**Fig. 598: Locating Thermal Bypass Valve**  
**Courtesy of FORD MOTOR CO.**

63. Align the mechatronic assembly guide pins in the alignment holes in the transmission case and position the mechatronic assembly in place.
1. Alignment holes
  2. Guide pins



**Fig. 599: Identifying Alignment Holes And Guide Pins**  
**Courtesy of FORD MOTOR CO.**

**NOTE:** The mechatronic assembly will not lay flush on the case, this is a normal condition with the rubber feed tubes, the bolts will pull the mechatronic assembly down.

64. Slightly lift the mechatronic assembly and align the manual valve in the manual valve linkage and position the mechatronic assembly in place.

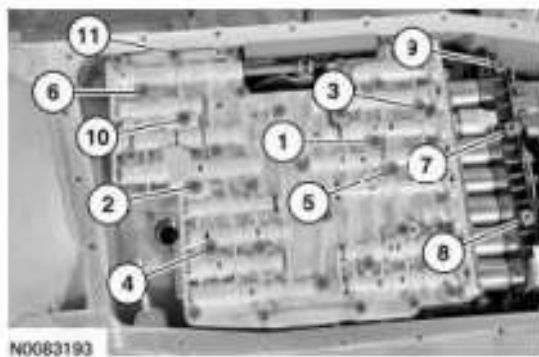


**Fig. 600: Locating Manual Valve And Rubber Feed Tubes**  
 Courtesy of FORD MOTOR CO.

65. **NOTE:** Do not touch the electrical connector pins or the exposed solenoid tabs on the Transmission Control Module (TCM). Electrostatic discharge may occur and may cause damage to the mechatronic unit.

Install the mechatronic assembly bolts and tighten the bolts in the sequence shown in illustration.

- Tighten to 8 Nm (71 lb-in).



**Fig. 601: Identifying Mechatronic Assembly Bolts Tightening Sequence**  
 Courtesy of FORD MOTOR CO.

66. **NOTE:** Do not touch the electrical connector pins or the exposed solenoid tabs on the Transmission Control Module (TCM). Electrostatic discharge may occur and may cause damage to the mechatronic unit.

With the release tab up and unlocked, push the outer shell of the bulkhead electrical connector into the transmission. Make sure that the bulkhead connector is fully seated into the TCM .



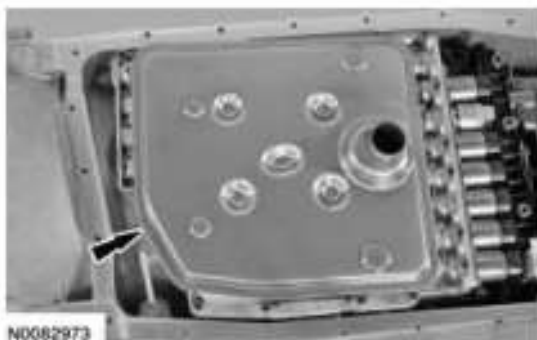
**Fig. 602: Locating Tab And Bulkhead Electrical Connector**  
Courtesy of FORD MOTOR CO.

67. Press down on the tab and lock the outer shell of the bulkhead electrical connector in place. Make sure that the locking tab is securely locked.



**Fig. 603: Locating Outer Shell Of Bulkhead Electrical Connector**  
Courtesy of FORD MOTOR CO.

68. Install a new transmission fluid filter.

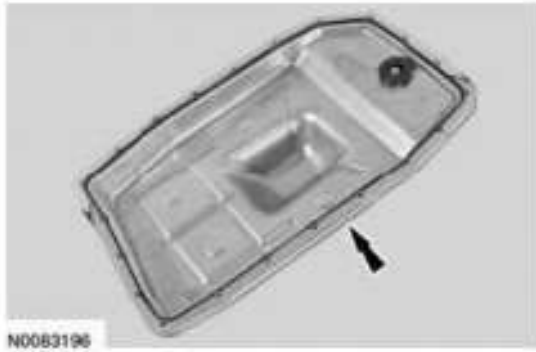


**Fig. 604: Identifying Transmission Fluid Filter**  
Courtesy of FORD MOTOR CO.

69. **NOTE:** The fluid pan gasket can be reused if not damaged.

Install a new transmission fluid pan gasket if required.





**Fig. 605: Locating Transmission Fluid Pan Gasket**  
Courtesy of FORD MOTOR CO.

70. Install the fluid pan and tighten the bolts in a crisscross pattern.
  - Tighten to 12 Nm (106 lb-in).



**Fig. 606: Locating Transmission Fluid Pan And Bolts**  
Courtesy of FORD MOTOR CO.

71. Using the Torque Converter Handle 307-091, install the torque converter. Remove the Torque Converter Handle 307-091.



**Fig. 607: Identifying Torque Converter Handle 307-091 On Torque Converter**  
Courtesy of FORD MOTOR CO.