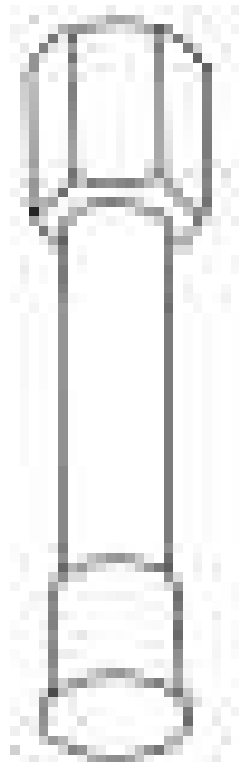


DISASSEMBLY AND ASSEMBLY

TRANSFER CASE

Special Tool(s)

SPECIAL TOOL REFERENCE



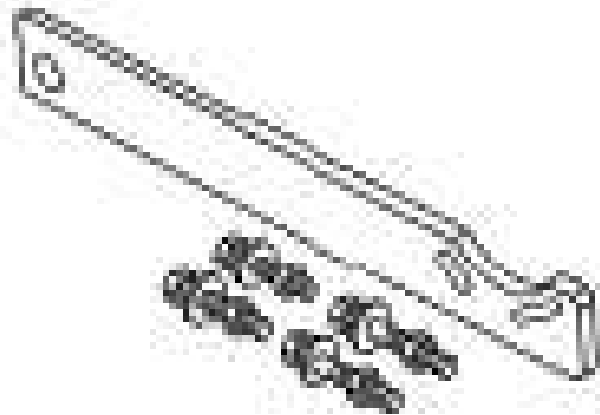
ST 1607-A

Collet (1-Inch to 1-1/4-Inch) 303-D021
(D80L-100-S) or equivalent

Handle 205-153 (T80T-4000-W)



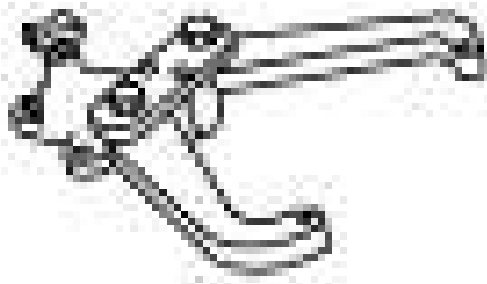
ST1255-A



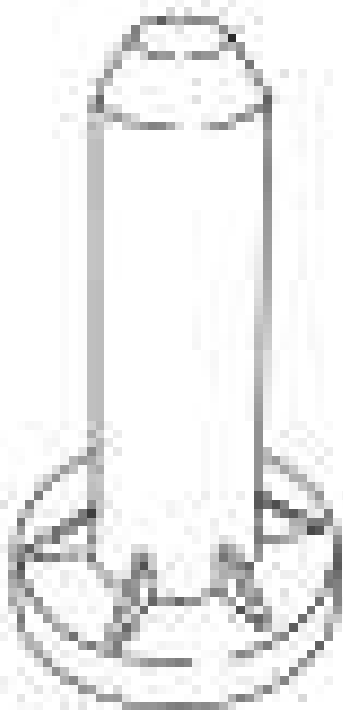
ST1257-A

Holding Fixture, Drive Pinion Flange 205-126 (T78P-4851-A)

Holding Fixture, Transmission 307-003 (T57L-500-B)

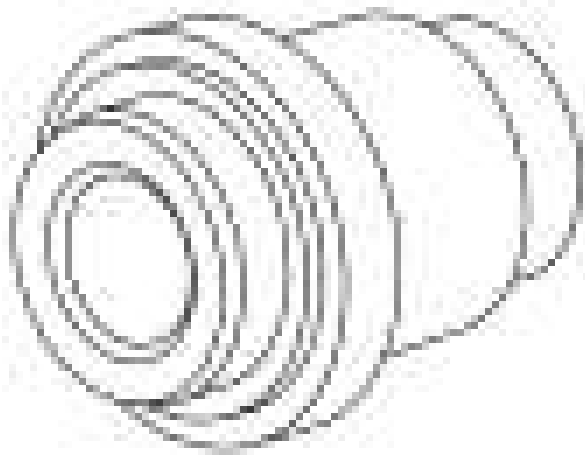


ST1185-A



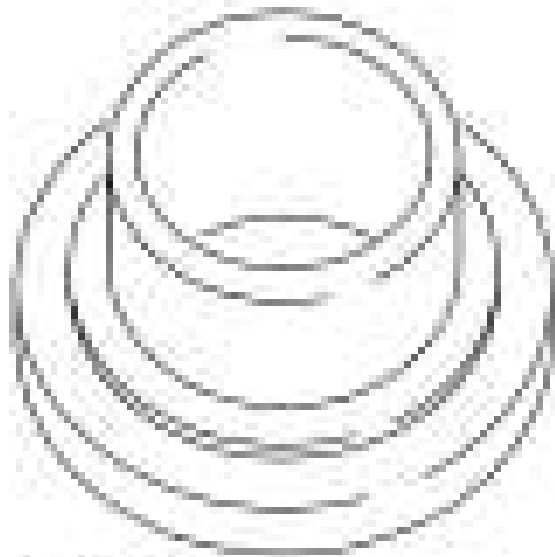
ST2519-A

Installer, Drive Pinion Oil Seal 205-304
(T90T-4676-A)



ST1789-A

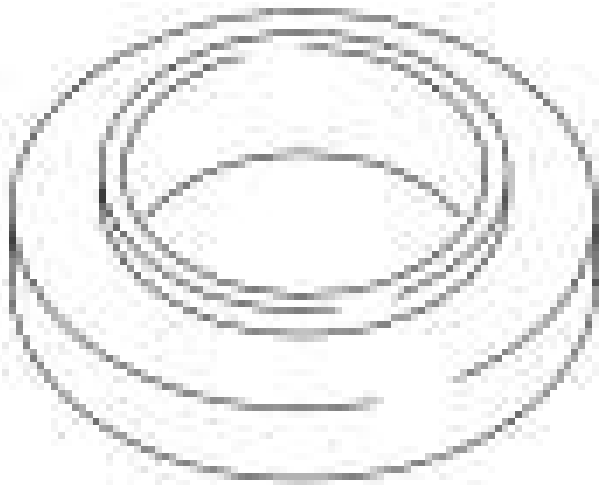
Installer, Input Shaft Bearing 308-085
(T83T-7025-C)



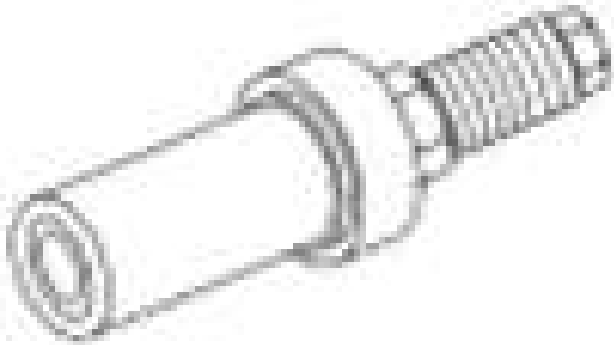
ST2521-A

Installer, Needle Bearing 308-089 (T83T-
7127-A)

Installer, Shaft Bearing Cone 308-169
(T88T-7025-B)



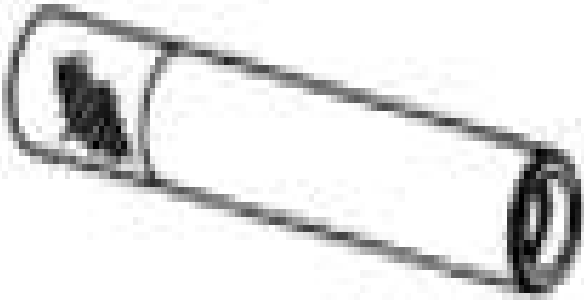
ST2520-A



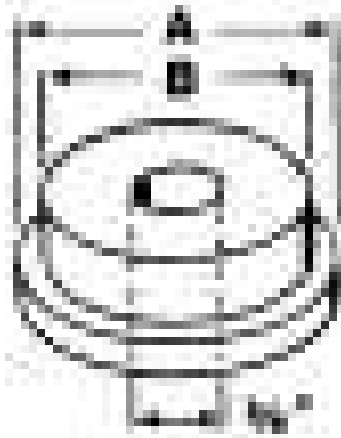
ST2518-A

Installer, Transmission Output Shaft Flange
205-495

Installer, Valve Stem Oil Seal 303-367
(T90P-6510-AH)



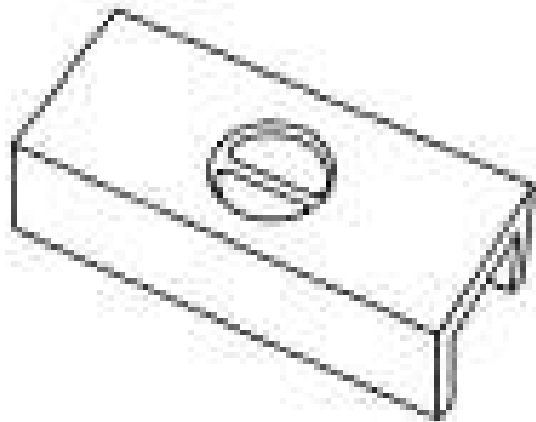
ST1466-A



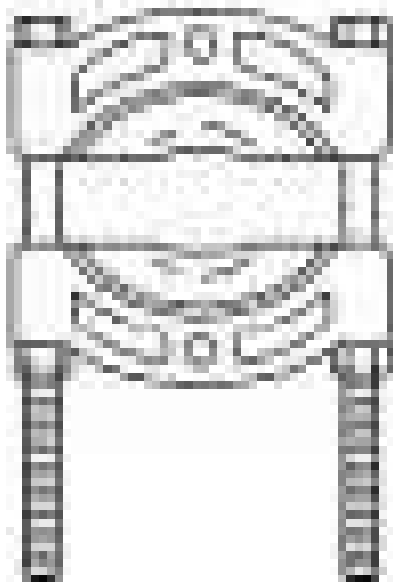
ST1471-A

Installer, Wheel Hub Bearing Cup 204-020
(T73T-1202-A)

Plate, Bearing Oil Seal 205-090 (T75L-1165-
B)

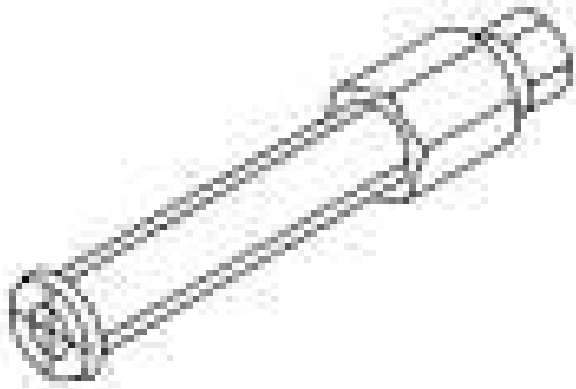


ST1254-A



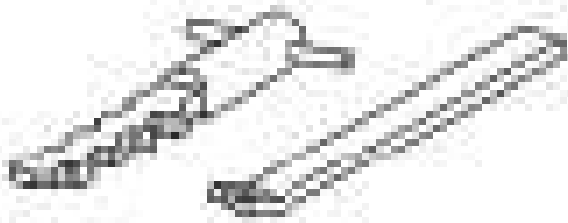
ST1368-A

Puller, Bearing 205-D064 (D84L-1123-A) or equivalent



ST2058-A

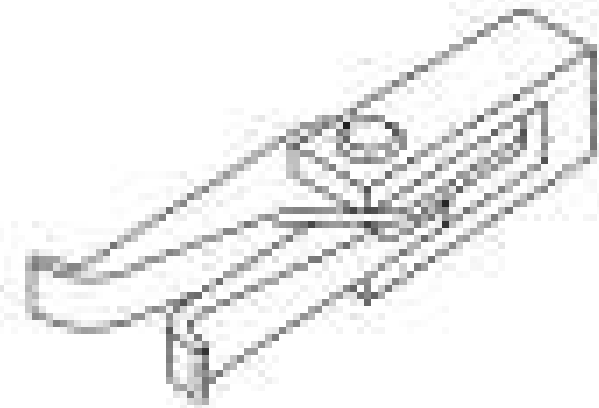
Remover, Input Shaft Bearing 308-201
(T91T-7127-A)



ST1385-A

Remover, Oil Seal 303-409 (T92C-6700-CH)

Remover, Stator Bearing 307-318 (T94P-
77001-KH)



ST1352-A



ST1185-A

Slide Hammer 100-001 (T50T-100-A)

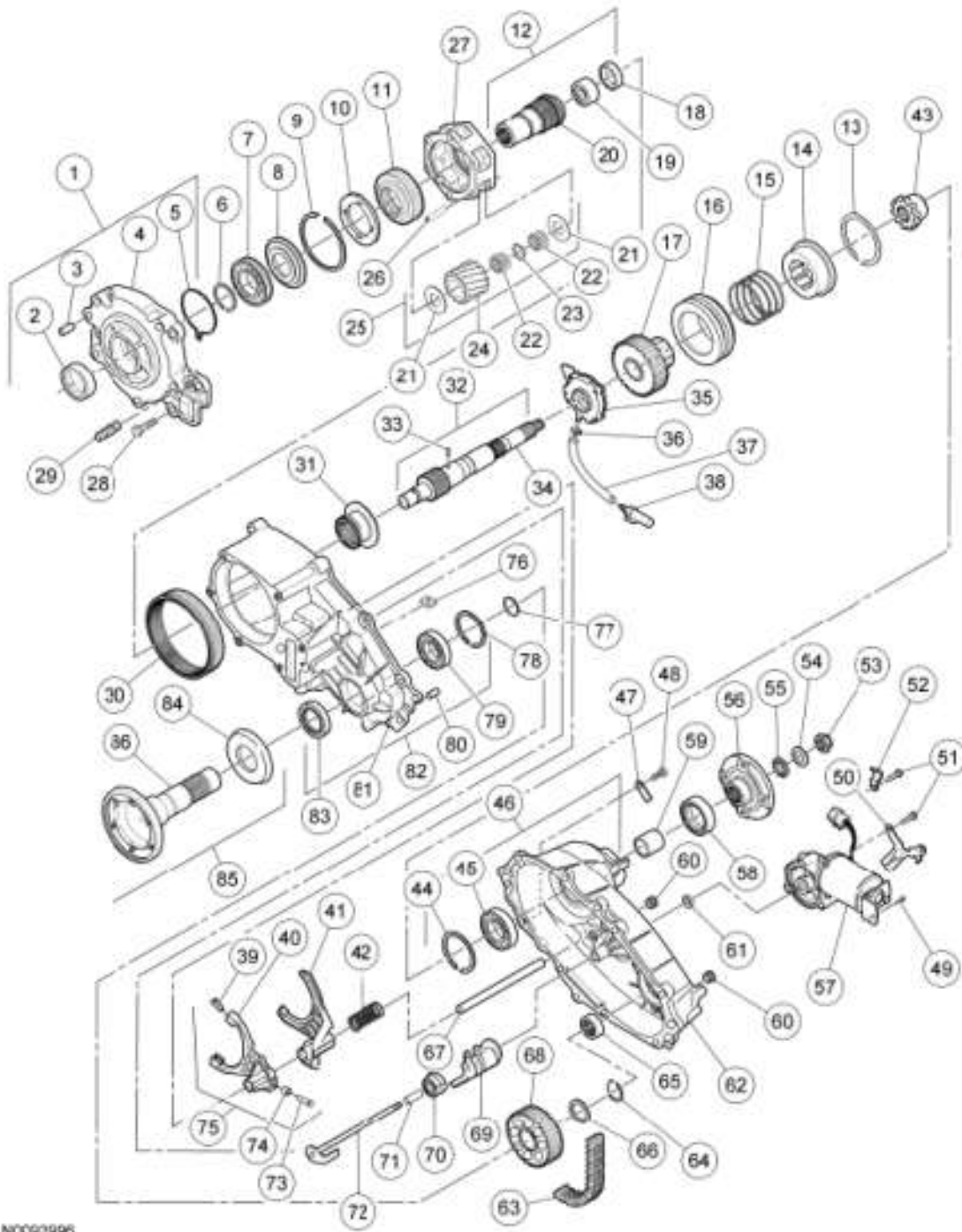
Material

ITEM SPECIFICATION

Item	Specification
Motorcraft® Transfer Case Fluid XL-12	ESP-M2C166-H
Ultra Silicone Sealant TA-29	-

Disassembly

Transfer Case Disassembled View



N0093896

Fig. 14: Exploded View Of Transfer Case Components
 Courtesy of FORD MOTOR CO.

ITEM DESCRIPTION

Item	Part Number	Description
1	7050	Front adapter
2	7B215	Oil seal (also part of 7050)
3	-	Spiral pin (part of 7050)
4	-	Front adapter (part of 7050)
5	7917	Snap ring (also part of 7050)

6	7917	Snap ring
7	7025	Bearing
8	7A385	Thrust washer
9	7C122	Snap ring
10	7B066	Thrust plate
11	7D063	Sun gear
12	7017	Input shaft assembly
13	-	Snap ring
14	7D164	Lockup hub
15	7D126	Sleeve return spring
16	7106	Lockup collar
17	7177	Drive sprocket
18	7065	Sleeve bearing (also part of 7017)
19	7120	Needle bearing (also part of 7017)
20	-	Input shaft (part of 7017)
21	-	Pinion thrust washers (part of 7A398)
22	-	Needle roller bearings (part of 7A398)
23	-	Pinion needle spacer (part of 7A398)
24	-	Pinion gear (part of 7A398)
25	7A398	Complete carrier assembly
26	-	Planet pinion pin (part of 7A398)
27	-	Planet carrier (part of 7A398)
28	7A443	Bolt (6 required)
29	7034	Breather barb
30	7A153	Ring gear (part of 7005)
31	7100	Reduction hub
32	-	Shaft assembly
33	7B362	Spring pin (also part of 7005)
34	-	Output shaft
35	7A149	Pump assembly
36	-	Hose clamp
37	-	Hose
38	7A098	Oil strainer
39	7C430	Shift fork facing (also part of 7289)
40	-	Reduction shift fork (part of 7289)
41	7289	Lockup fork
42	7219	Return spring
43	7100	Shift collar hub
44	7917	Snap ring (also part of 7005)
45	7025	Bearing (also part of 7005)
46	-	Transfer cover assembly (part of 7005)
47	-	Identification tag
48	7A443	Bolt (9 required)
49	7A443	Bolt
50		

	7K470	Bracket
51	-	Bolts (3 required)
52	-	J-clip
53	7045	Nut
54	7B368	Washer
55	7052	Oil seal
56	7B214	Flange
57	7G360	Motor assembly and connector
58	7B215	Rear output shaft seal
59	7072	Spacer
60	7A010	Drain/fill plugs
61	7B216	Oil seal (also part of 7005)
62	-	Transfer case cover (part of 7005)
63	-	Drive chain
64	7917	Snap ring
65	7127	Needle bearing (also part of 7005)
66	7119	Spacer
67	7240	Shift rail
68	-	Driven sprocket
69	7F063	Electric shift cam
70	7W074	Torsion spring
71	7Z112	Spacer
72	7N095	Shift shaft
73	-	Cam pin (part of 7289)
74	-	Cam roller (part of 7289)
75	7289	Reduction fork assembly
76	7E290	Magnet
77	7917	Snap ring
78	7917	Snap ring (also part of 7005)
79	7025	Bearing (also part of 7005)
80	7B362	Dowel pin (also part of 7005)
81	-	Transfer case (part of 7005)
82	7005	Transfer case assembly
83	7B215	Oil seal
84	7C016	Dust deflector (also part of 7061)
85	7061	Front output shaft assembly
86	-	Front output shaft (part of 7061)

1. Remove the transfer case from the vehicle. For additional information, refer to **TRANSFER CASE, Removal**.
2. Attach the transfer case to the Transmission Holding Fixture.

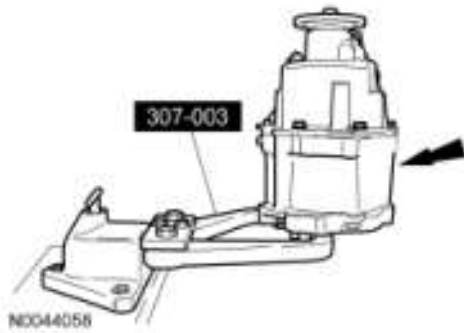


Fig. 15: Attaching Transfer Case To Transmission Holding Fixture
 Courtesy of FORD MOTOR CO.

3. **NOTE:** Index-mark the rear output shaft and the flange.

NOTE: The nut has a self-locking feature. Discard the nut and the washer after removing.

Use the Drive Pinion Flange Holding Fixture to prevent the flange from turning. Remove and discard the flange nut and the washer.

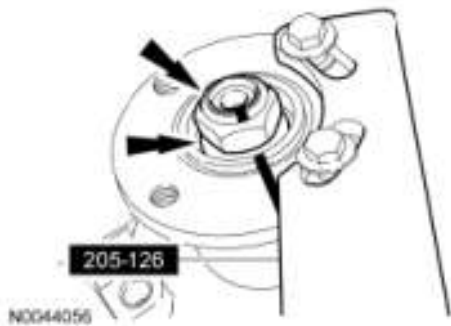


Fig. 16: Removing Flange Nut And Washer
 Courtesy of FORD MOTOR CO.

4. Using a suitable puller and the Drive Pinion Flange Holding Fixture, remove the flange.

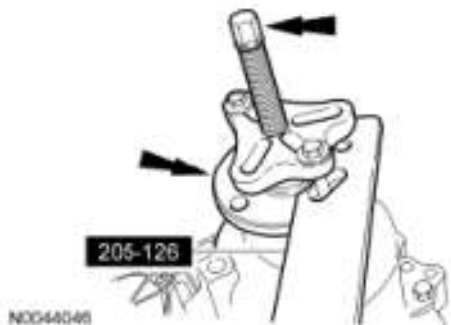


Fig. 17: Removing Flange Using Suitable Puller
 Courtesy of FORD MOTOR CO.

5. Remove and discard the oil seal if it remains on the rear output shaft.



Fig. 18: Locating Oil Seal On Rear Output Shaft
Courtesy of FORD MOTOR CO.

6. Using the Oil Seal Remover, remove and discard the rear output shaft seal.

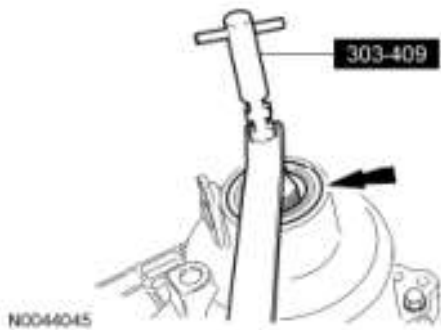


Fig. 19: Removing Rear Output Shaft Seal Using Oil Seal Remover
Courtesy of FORD MOTOR CO.

7. Remove the spacer.



Fig. 20: Locating Spacer
Courtesy of FORD MOTOR CO.

8. Remove the shift motor bracket bolt and the 3 shift motor bolts.



Fig. 21: Locating Shift Motor Bracket Bolt And Shift Motor Bolts
 Courtesy of FORD MOTOR CO.

9. Remove the coil wire from the shift motor electrical connector.
 1. Remove the inner retainer from the electrical connector.
 2. Lift up on the lock tab and remove the wire from the electrical connector.

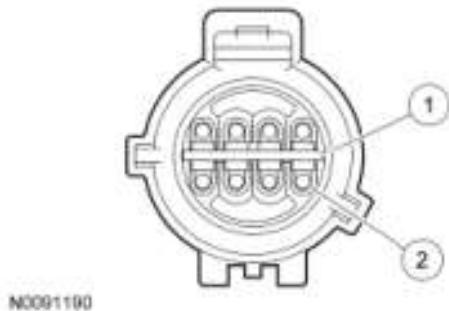


Fig. 22: Identifying Inner Retainer And Electrical Connector
 Courtesy of FORD MOTOR CO.

10. Remove the 9 transfer case cover bolts.

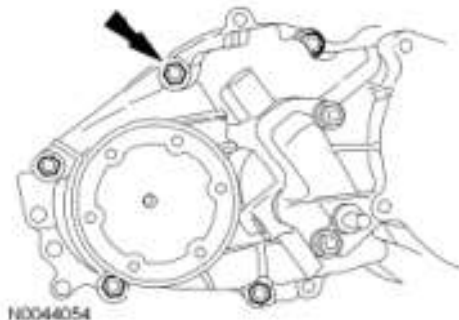


Fig. 23: Locating Transfer Case Cover Bolts
 Courtesy of FORD MOTOR CO.

- NOTE:** Position the assembly so that the front of the transfer case is facing downward.
- 11.

Using the pry bosses, separate the transfer case cover from the transfer case.

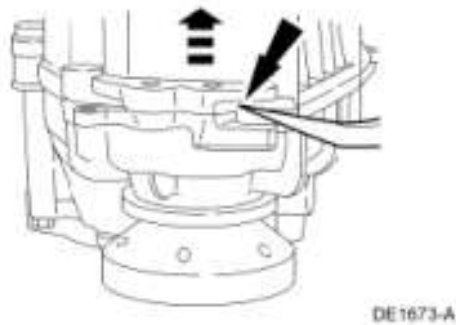


Fig. 24: Separating Transfer Case Cover From Transfer Case
Courtesy of FORD MOTOR CO.

12. Remove the snap ring that retains the bearing in the case.

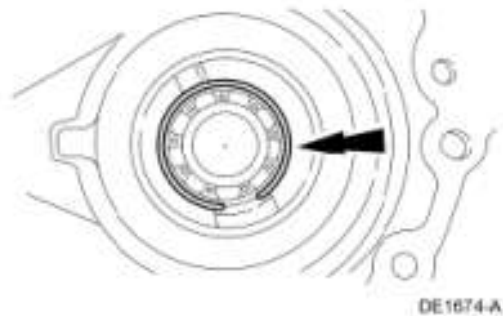


Fig. 25: Locating Snap Ring
Courtesy of FORD MOTOR CO.

13. Using the Stator Bearing Remover with the Slide Hammer, remove the bearing.

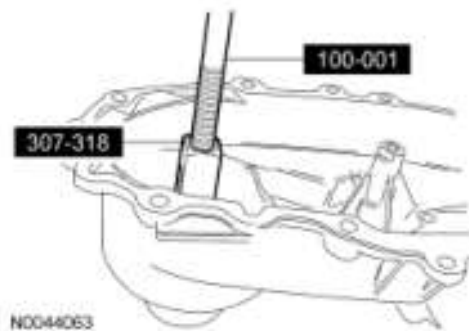


Fig. 26: Removing Bearing Using Stator Bearing Remover With Slide Hammer
Courtesy of FORD MOTOR CO.

14. Using the Collet with the Slide Hammer, remove the needle bearing.

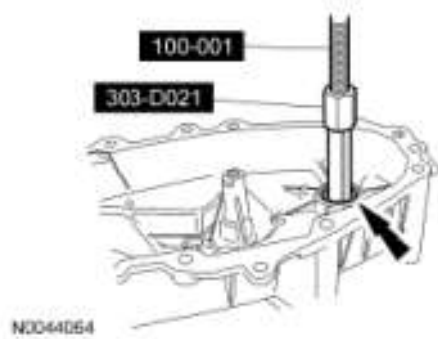


Fig. 27: Removing Needle Bearing Using Collet With Slide Hammer
 Courtesy of FORD MOTOR CO.

15. Remove the following:
 1. Shift collar hub.
 2. Return spring.
 3. Lockup collar and the lockup fork as an assembly.
 4. Electric shift cam assembly.
 5. Shift rail.

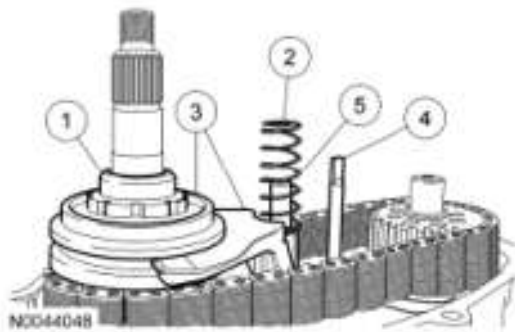


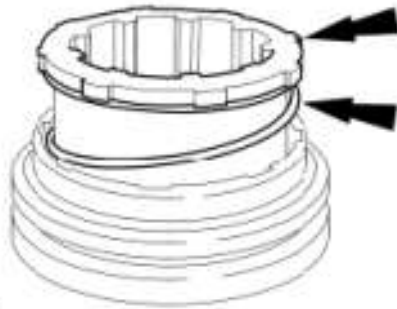
Fig. 28: Identifying Shift Collar Hub, Return Spring, Electric Shift Cam Assembly And Shift Rail
 Courtesy of FORD MOTOR CO.

16. Remove the lockup hub snap ring.



Fig. 29: Locating Lockup Hub Snap Ring
 Courtesy of FORD MOTOR CO.

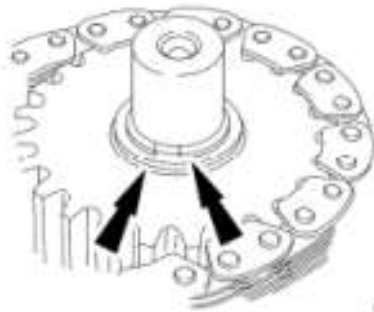
17. Remove the lockup hub and the sleeve return spring from the lockup collar.



ACC19998

Fig. 30: Locating Lockup Hub And Sleeve Return Spring
Courtesy of FORD MOTOR CO.

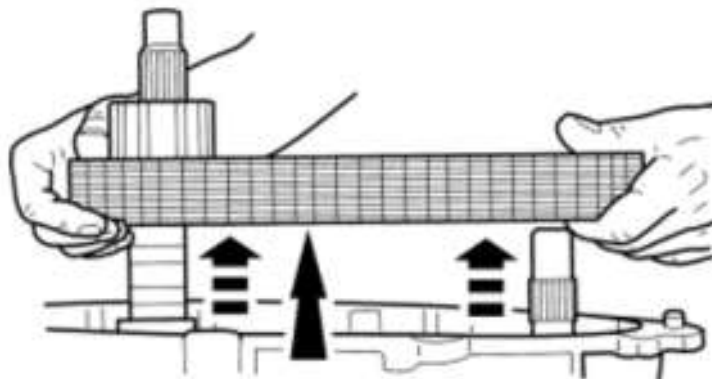
18. Remove the snap ring and the spacer.



DE1686-A

Fig. 31: Locating Snap Ring And Spacer
Courtesy of FORD MOTOR CO.

19. Remove the drive chain, driven sprocket, and the drive sprocket as an assembly.



DE1686-A

Fig. 32: Locating Drive Chain, Driven Sprocket And Drive Sprocket
Courtesy of FORD MOTOR CO.

20. Remove the magnet and the oil strainer from the slot in the transfer case.

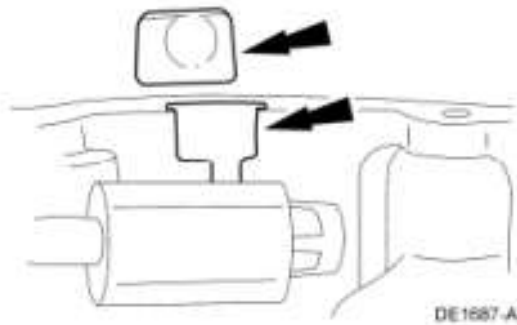


Fig. 33: Locating Magnet And Oil Strainer
 Courtesy of FORD MOTOR CO.

21. Remove the rear output shaft and the pump assembly as an assembly.

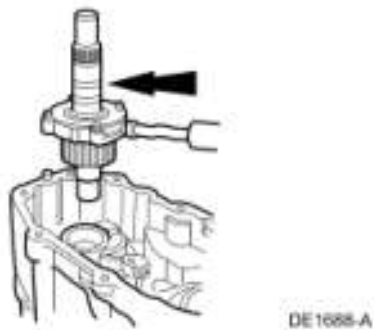


Fig. 34: Locating Rear Output Shaft And Pump Assembly
 Courtesy of FORD MOTOR CO.

22. Rotate the pump assembly to align the keyway in the cover and the spring pin in the rear output shaft and separate the pump from the shaft.

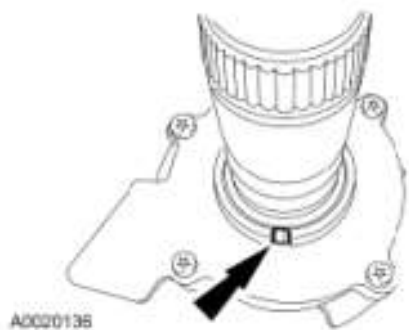


Fig. 35: Rotating Pump Assembly
 Courtesy of FORD MOTOR CO.

NOTE: The height of the oil pump spring pin must be measured before removal so that during assembly, it can be installed at the correct height so that the oil pump shaft rotates with the rear output shaft.

23. Using a micrometer, measure and record the pump drive pin height above the diameter of the rear output shaft. Remove the drive pin from the rear output shaft.

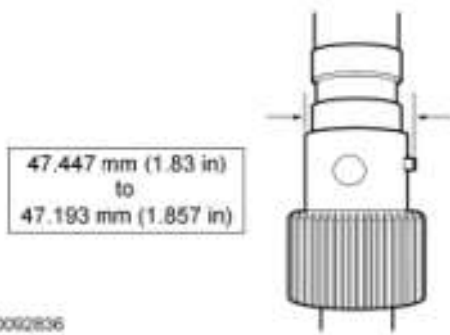


Fig. 36: Measuring Pump Drive Pin Height
Courtesy of FORD MOTOR CO.

24. **NOTE:** Do not let the front output shaft assembly fall out of the case while removing the snap ring or damage to the component may occur.

Remove the snap ring. Discard the snap ring if it was damaged during removal.

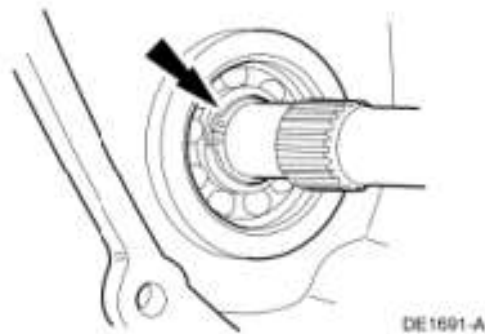


Fig. 37: Removing Snap Ring
Courtesy of FORD MOTOR CO.

25. Remove the front output shaft.

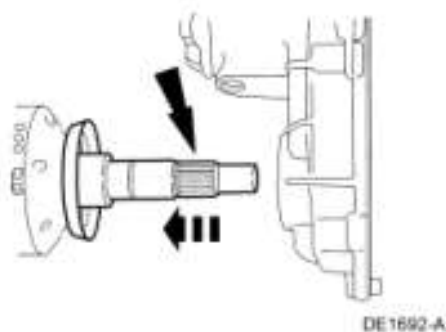


Fig. 38: Removing Front Output Shaft
Courtesy of FORD MOTOR CO.

26. Remove the reduction fork and the reduction hub as an assembly.

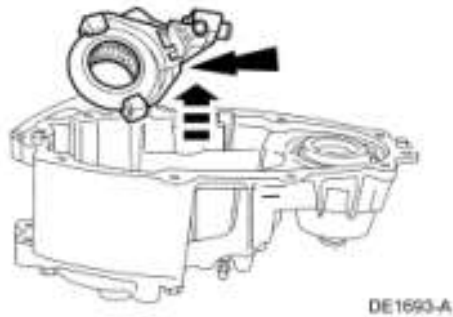


Fig. 39: Removing Reduction Fork And Reduction Hub
Courtesy of FORD MOTOR CO.

27. Remove the 6 bolts retaining the front adapter to the case.

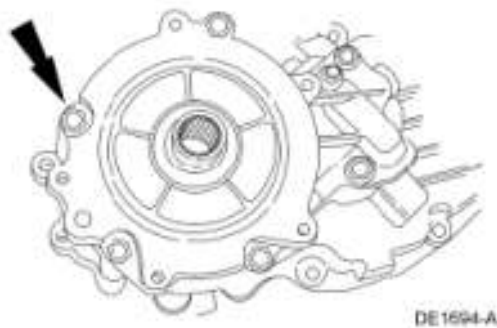


Fig. 40: Locating Case Bolts
Courtesy of FORD MOTOR CO.

28. Remove the front adapter, input shaft and the complete carrier as an assembly.

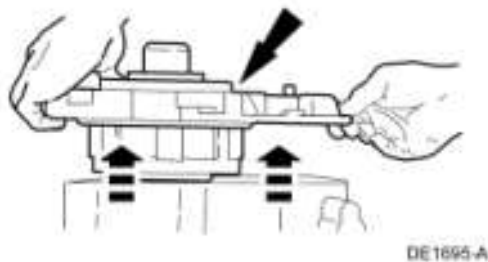


Fig. 41: Removing Front Adapter, Input Shaft And Complete Carrier
Courtesy of FORD MOTOR CO.

29. Using snap ring pliers, expand the tangs of the large snap ring and remove the complete carrier and the input shaft from the front adapter.

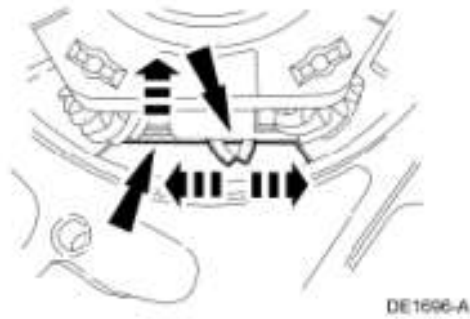


Fig. 42: Removing Complete Carrier And Input Shaft
Courtesy of FORD MOTOR CO.

30. Remove the large snap ring from the front adapter.

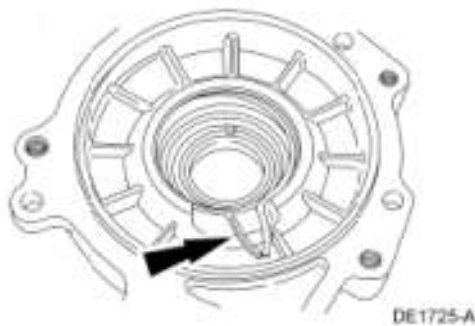


Fig. 43: Locating Large Snap Ring And Front Adapter
Courtesy of FORD MOTOR CO.

31. Using a suitable tool, remove and discard the oil seal from the front adapter.

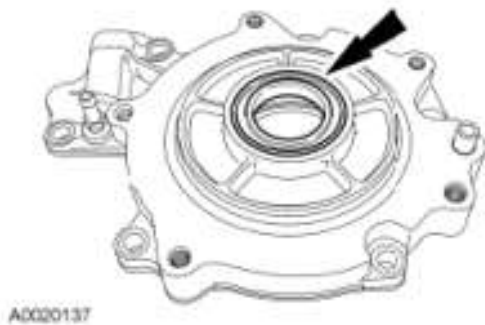
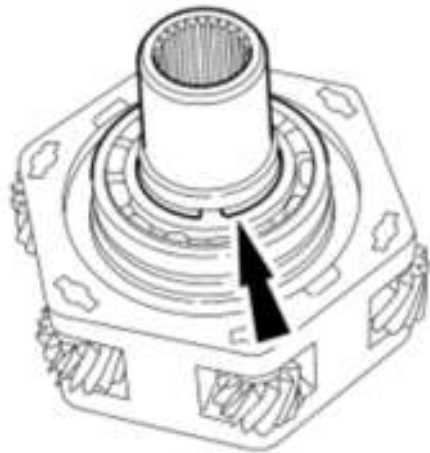


Fig. 44: Locating Oil Seal
Courtesy of FORD MOTOR CO.

32. Remove the snap ring retaining the input shaft to the planet carrier.



DE1698-A

Fig. 45: Locating Snap Ring
Courtesy of FORD MOTOR CO.

33. Using the Bearing Puller and a suitable press, remove the bearing.

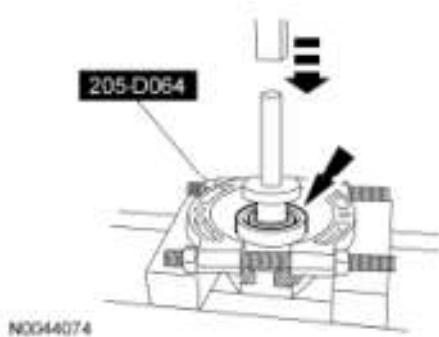


Fig. 46: Removing Bearing Using Bearing Puller And Suitable Press
Courtesy of FORD MOTOR CO.

34. Remove the thrust washer and the input shaft.

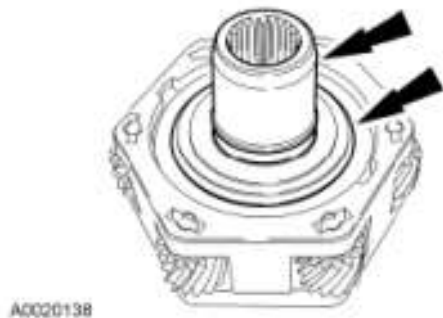


Fig. 47: Locating Thrust Washer And Input Shaft
Courtesy of FORD MOTOR CO.

35. Remove the snap ring, the thrust plate and the sun gear.



Fig. 48: Locating Snap Ring, Thrust Plate And Sun Gear
 Courtesy of FORD MOTOR CO.

36. **NOTE:** Remove and discard both the sleeve bearing and the needle bearing if either one is worn/damaged.

Using the Input Shaft Bearing Remover, Shaft Bearing Cone Installer, Bearing Oil Seal Plate and a suitable press, remove the needle bearing and the sleeve bearing from the input shaft.

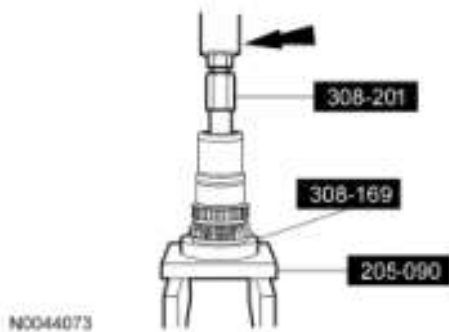


Fig. 49: Removing Needle Bearing And Sleeve Bearing Using Input Shaft Bearing Remover
 Courtesy of FORD MOTOR CO.

37. Using a suitable tool, remove and discard the oil seal.

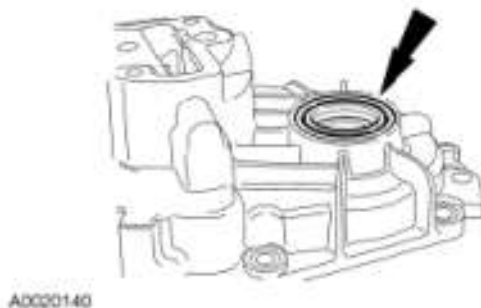


Fig. 50: Removing Oil Seal Using Suitable Tool
 Courtesy of FORD MOTOR CO.

38. Remove the snap ring retaining the bearing to the case.

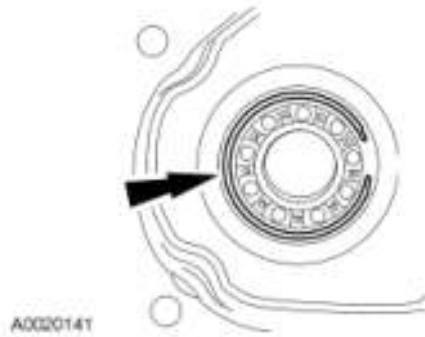


Fig. 51: Locating Snap Ring
Courtesy of FORD MOTOR CO.

39. Using the Stator Bearing Remover with the Slide Hammer, remove the bearing.

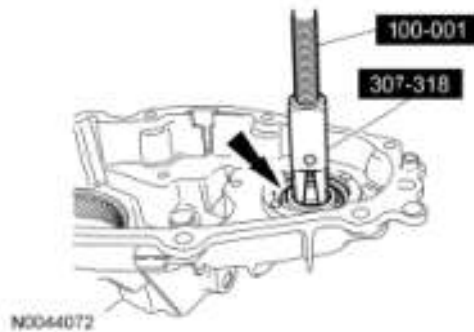


Fig. 52: Removing Bearing Using Stator Bearing Remover
Courtesy of FORD MOTOR CO.

40. Using a suitable tool, remove and discard the oil seal.



Fig. 53: Discarding Oil Seal Using Suitable Tool
Courtesy of FORD MOTOR CO.

41. Remove the shift fork facings.

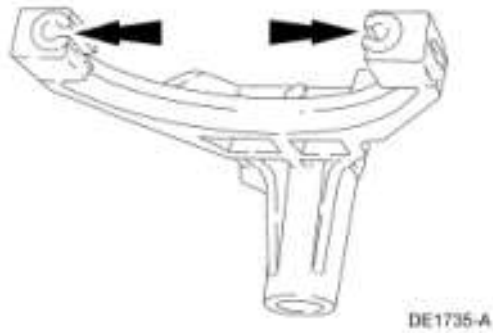


Fig. 54: Removing Shift Fork Facings
 Courtesy of FORD MOTOR CO.

42. Remove the electric shift cam from the shift shaft.

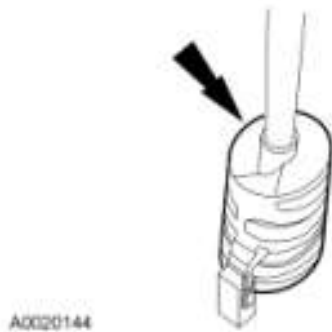


Fig. 55: Locating Electric Shift Cam And Shift Shaft
 Courtesy of FORD MOTOR CO.

WARNING: Keep fingers away from spring ends when releasing the spring. Spring ends are under tension and will unwind with force. Failure to follow this instruction may result in injured fingers.

- 43.

Remove the torsion spring and the spacer from the shift shaft.

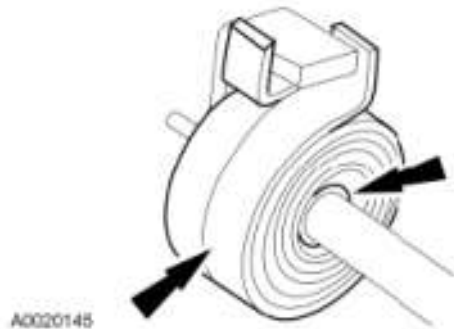


Fig. 56: Locating Torsion Spring And Spacer
 Courtesy of FORD MOTOR CO.

Assembly

NOTE: Prior to assembly, lubricate all parts with transfer case fluid. Failure to

lubricate the parts may cause damage to the components.

1. Using the Wheel Hub Bearing Cup Installer with the Handle and a suitable press, install the bearing.

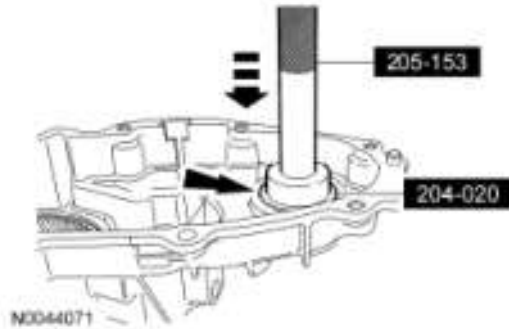


Fig. 57: Installing Bearing
Courtesy of FORD MOTOR CO.

2. Install the snap ring.

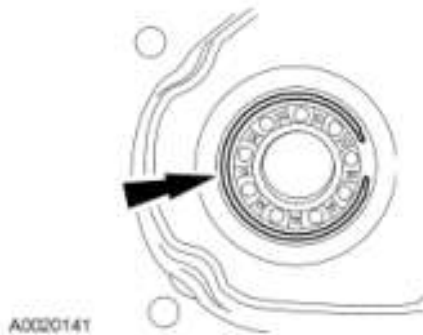


Fig. 58: Locating Snap Ring
Courtesy of FORD MOTOR CO.

3. Using the Drive Pinion Oil Seal Installer, install a new oil seal.

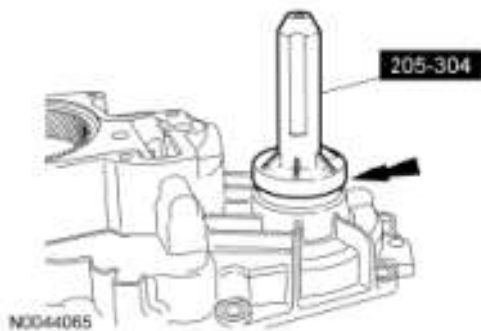


Fig. 59: Installing Oil Seal Using Drive Pinion Oil Seal Installer
Courtesy of FORD MOTOR CO.

NOTE: Do not damage the needle bearing when installing or component damage may occur.

- 4.

Using the Input Shaft Bearing Installer with the Handle and a suitable press, install a new needle bearing.

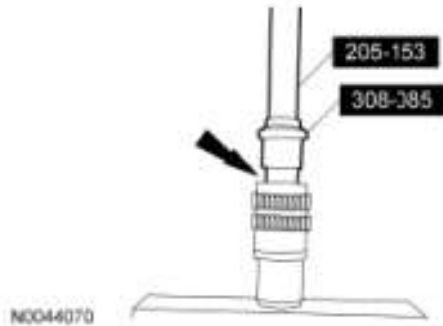


Fig. 60: Locating Needle Bearing Using Input Shaft Bearing Installer
Courtesy of FORD MOTOR CO.

5. Using a suitable tool and a suitable press, install a new sleeve bearing.

NOTE: The recessed face of the sun gear must face the rear of the transfer case.

- 6.

Install the sun gear, thrust plate and the snap ring.

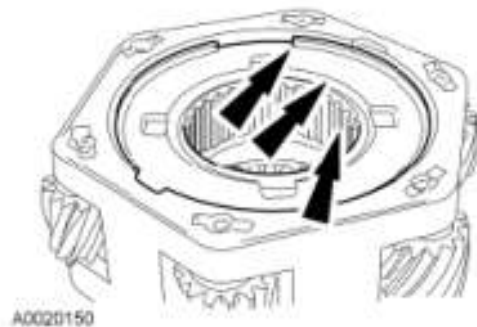


Fig. 61: Locating Sun Gear, Thrust Plate And Snap Ring
Courtesy of FORD MOTOR CO.

7. **NOTE:** The stepped face of the thrust washer must face upward.

Install the input shaft and the thrust washer.

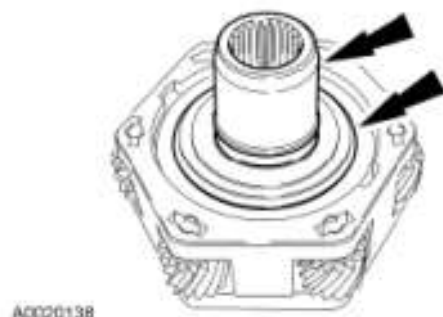


Fig. 62: Locating Input Shaft And Thrust Washer

Courtesy of FORD MOTOR CO.

- NOTE:** Install the bearing on the input shaft so that the snap ring groove in the bearing is closest to the top of the planet carrier.
- 8.

Using a suitable press, install the bearing.

9. Install the snap ring on the input shaft.

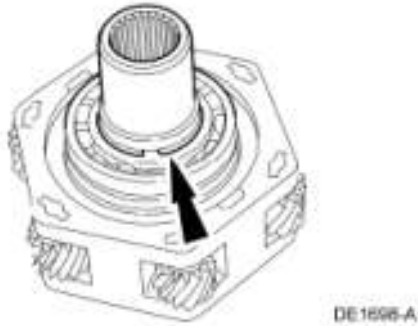


Fig. 63: Installing Snap Ring And Input Shaft
Courtesy of FORD MOTOR CO.

10. Using the Drive Pinion Oil Seal Installer, install a new oil seal.

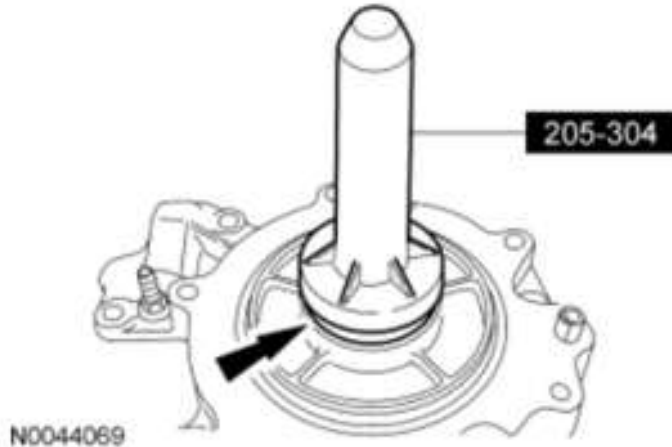


Fig. 64: Installing Oil Seal Using Drive Pinion Oil Seal Installer
Courtesy of FORD MOTOR CO.

11. Install the large snap ring in the groove in the front adapter.

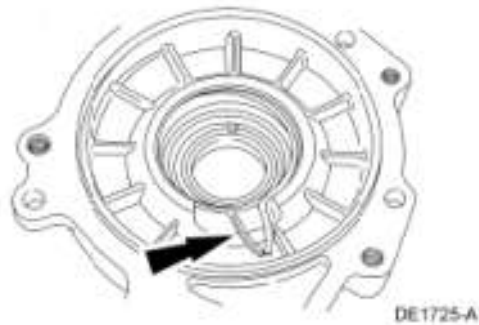


Fig. 65: Locating Large Snap Ring And Front Adapter
 Courtesy of FORD MOTOR CO.

NOTE: Install the front adapter within 15 minutes of applying the silicone sealant or it will be necessary to apply new sealant. If possible, allow one hour before filling the transfer case with lubricant to allow the silicone sealant to cure.

12.

Apply a 3 mm (1/8 in) bead of silicone sealant to the front adapter mounting surface of the transfer case.

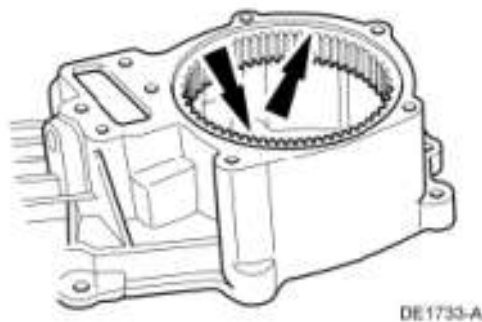


Fig. 66: Locating Front Adapter Mounting Surface
 Courtesy of FORD MOTOR CO.

13. Position the front adapter on the transfer case and install the 6 bolts.
- Tighten to 34 Nm (25 lb-ft).



Fig. 67: Locating Transfer Case And Bolts
 Courtesy of FORD MOTOR CO.

14. Install the input shaft and the complete carrier as an assembly.

- Align the pinion gears gear teeth and the ring gear teeth. Expand the snap ring and push inward on the planet carrier until the input shaft seats fully in the front adapter. Verify that the snap ring engaged the assembly by holding the front adapter and lightly tapping the face of the input shaft against a wooden block.

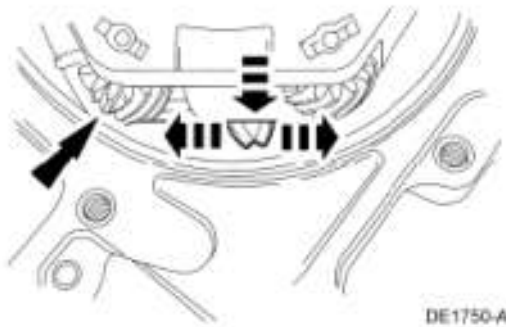


Fig. 68: Installing Input Shaft
Courtesy of FORD MOTOR CO.

15. Attach the front case to the Transmission Holding Fixture.

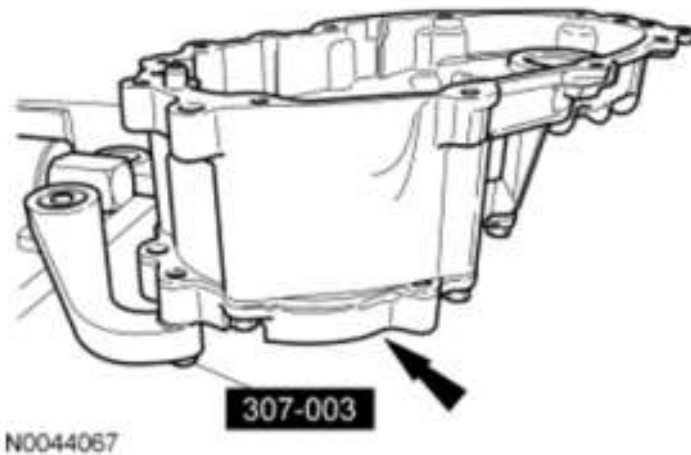


Fig. 69: Attaching Front Case To Transmission Holding Fixture
Courtesy of FORD MOTOR CO.

16. Install the new shift fork facings. Verify that they snap securely into place.

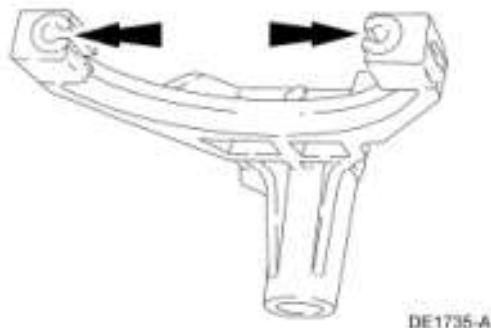


Fig. 70: Locating Shift Fork Facings
Courtesy of FORD MOTOR CO.

17. Install the reduction hub and the reduction fork as an assembly.

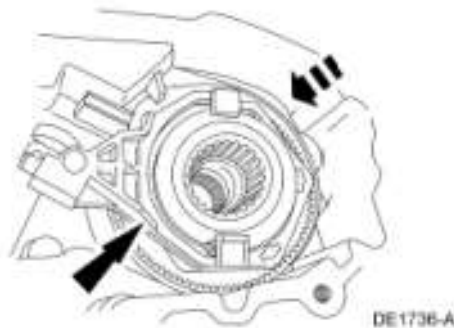


Fig. 71: Installing Reduction Hub And Reduction Fork
Courtesy of FORD MOTOR CO.

18. **NOTE:** The oil pump spring pin must be installed at the correct height so that the oil pump shaft rotates with the rear output shaft.

NOTE: If a measurement was not taken during disassembly, install the pin to the correct height specification using a micrometer.

Press the pin into the rear output shaft pin hole to the previously measured height.

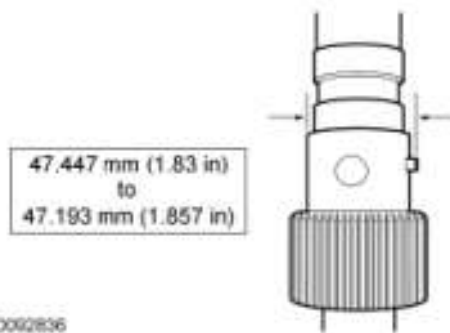


Fig. 72: Measuring Pump Drive Pin Height
Courtesy of FORD MOTOR CO.

19. **NOTE:** Do not remove the plastic insert from the bore of a new pump assembly. Discard it after it slides out of the bore during the pump assembly installation on the rear output shaft.

NOTE: Align the keyway in the cover and the spring pin in the rear output shaft and fully seat the pump assembly on the shaft. The shaft will rotate freely in the pump assembly when the pump assembly is fully seated. If the pump assembly does not turn freely, realign the keyway and the spring pin and shake the pump assembly until it seats fully and rotates freely on the shaft.

Install the pump assembly on the rear output shaft.

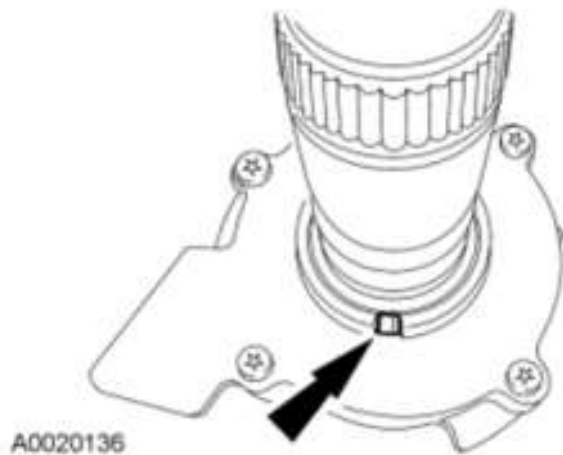


Fig. 73: Locating Input Shaft And Thrust Washer
 Courtesy of FORD MOTOR CO.

20. Prime the pump assembly.
 - Submerge the pump in a container full of clean transfer case fluid.
21. Install the rear output shaft and the pump assembly.

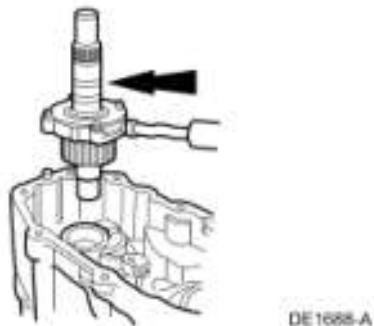


Fig. 74: Locating Rear Output Shaft And Pump Assembly
 Courtesy of FORD MOTOR CO.

22. Install the oil strainer and the magnet in the slot in the case.

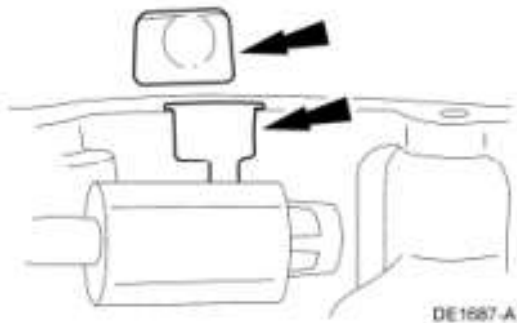


Fig. 75: Locating Magnet And Oil Strainer
 Courtesy of FORD MOTOR CO.

23. Install the front output shaft.

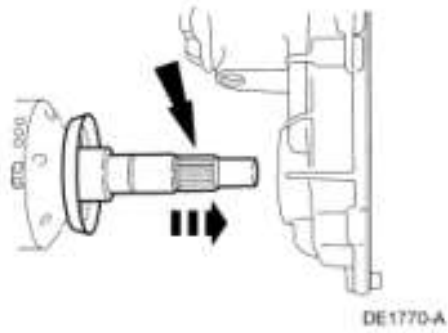


Fig. 76: Locating Front Output Shaft
Courtesy of FORD MOTOR CO.

24. Install the snap ring.

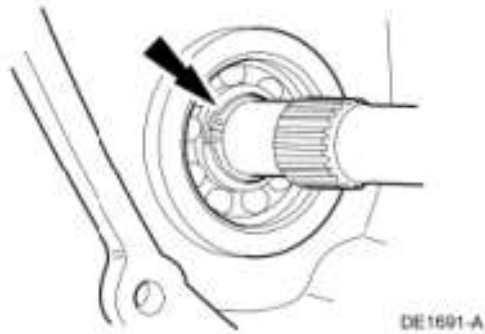


Fig. 77: Installing Snap Ring
Courtesy of FORD MOTOR CO.

25. Install the drive chain, drive sprocket and the driven sprocket as an assembly.

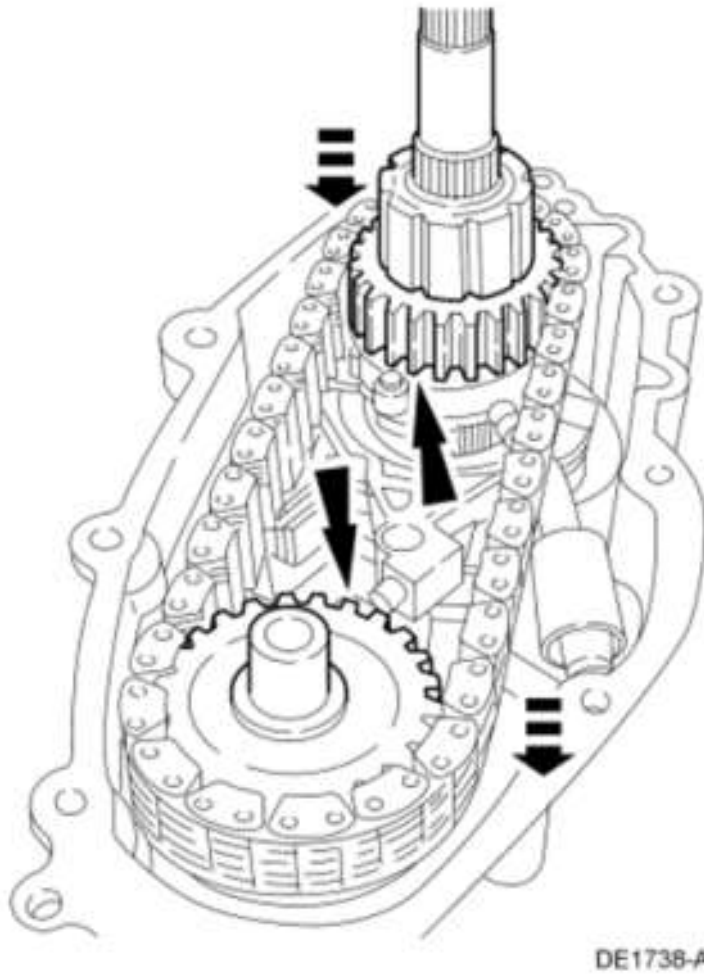


Fig. 78: Installing Reduction Hub And Reduction Fork
Courtesy of FORD MOTOR CO.

26. Install the spacer and the snap ring.

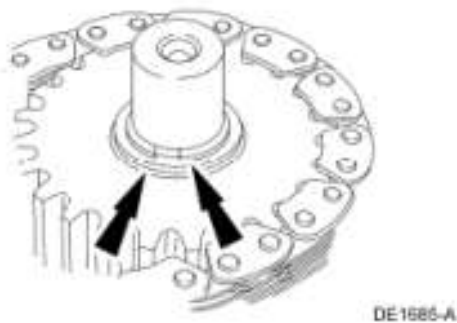


Fig. 79: Locating Snap Ring And Spacer
Courtesy of FORD MOTOR CO.

27. Install the shift rail through the reduction shift fork. Verify that the shift rail seats in the case bore.

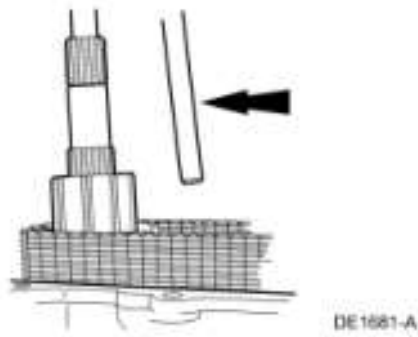


Fig. 80: Installing Shift Rail
 Courtesy of FORD MOTOR CO.

28. Slide the spacer and the torsion spring on the shift shaft and position it beneath the drive tang.



Fig. 81: Sliding Spacer And Torsion Spring
 Courtesy of FORD MOTOR CO.

WARNING: Keep fingers away from spring ends when releasing the spring. Spring ends are under tension and will unwind with force. Failure to follow this instruction may result in injured fingers.

- 29.

Position the first spring tang to the left of the drive tang.

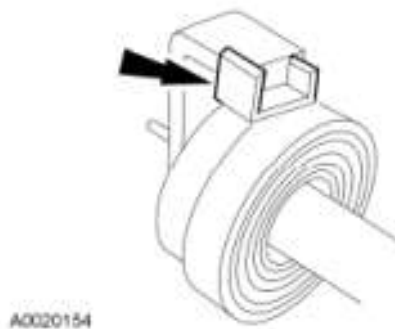


Fig. 82: Locating Drive Tang
 Courtesy of FORD MOTOR CO.

WARNING: Keep fingers away from spring ends when releasing the spring. Spring ends are under tension and will unwind with force. Failure to follow this instruction may result in injured fingers.

- 30.

Wind the second spring tang clockwise past the drive tang, and push the torsion spring and sleeve in as far as it will go.



Fig. 83: Pushing Torsion Spring
Courtesy of FORD MOTOR CO.

31. Install the electric shift cam and slide the drive tang between the torsion spring tangs as far as it will go.

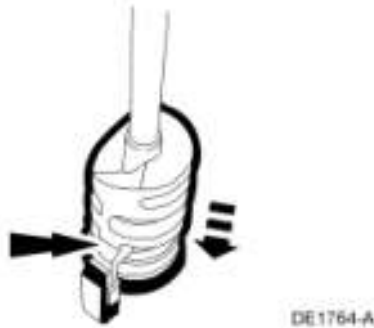


Fig. 84: Installing Electric Shift Cam And Drive Tang
Courtesy of FORD MOTOR CO.

32. **NOTE:** Do not bend the cam during installation. This will damage the locating pin on the end of the shift shaft.

Install the pin on the end of the shift shaft into the hole in the case.



Fig. 85: Locating Shift Shaft And Case
Courtesy of FORD MOTOR CO.

33. Position the torsion spring tangs so that they point toward the top side of the case and just touch the reduction shift fork.

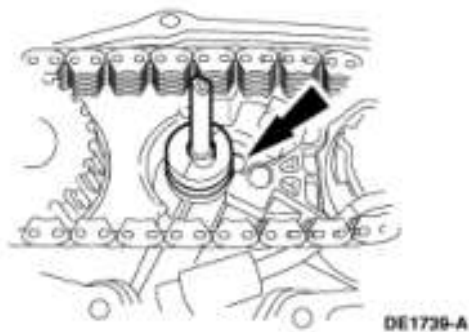


Fig. 86: Positioning Torsion Spring Tangs
Courtesy of FORD MOTOR CO.

34. Assemble the lockup assembly.

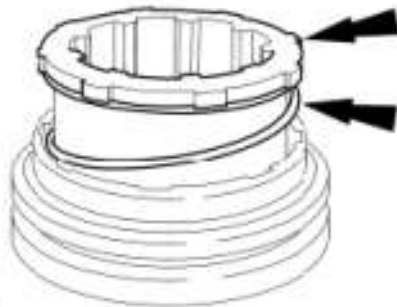


Fig. 87: Locating Lockup Assembly
Courtesy of FORD MOTOR CO.

35. Press downward on the lockup hub and install the snap ring.



Fig. 88: Pressing Lockup Hub And Snap Ring
Courtesy of FORD MOTOR CO.

36. Install the lockup fork and the lockup collar as an assembly.

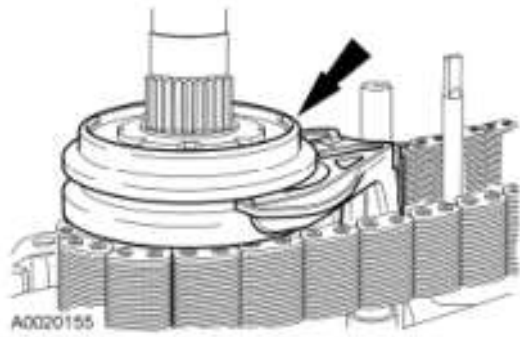


Fig. 89: Installing Lockup Fork And Lockup Collar
 Courtesy of FORD MOTOR CO.

37. **NOTE:** The triangular shaft will be in the 2WD position (2H) at final assembly.

Verify that the cam roller is resting on the top surface of the electric shift cam and not into an inside track after the lockup fork is released.



Fig. 90: Locating Electric Shift Cam
 Courtesy of FORD MOTOR CO.

38. Lift upward on the lockup fork slightly while holding down on the shift rail and rotate the electric shift cam track into the cam roller by turning the shift shaft.

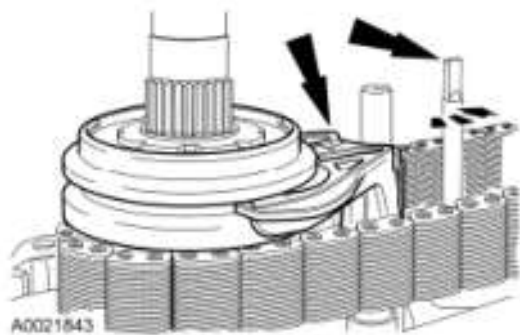


Fig. 91: Locating Electric Shift Cam Track And Shift Rail
 Courtesy of FORD MOTOR CO.

39. Install the shift collar hub and the return spring.

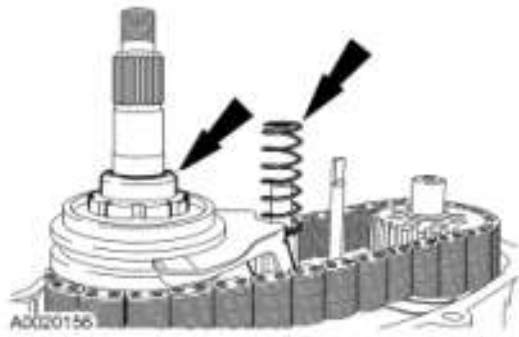


Fig. 92: Locating Shift Collar Hub And Return Spring
 Courtesy of FORD MOTOR CO.

40. **NOTE:** Do not damage the needle bearing or damage to components may occur.

Using the Needle Bearing Installer with the Handle and a suitable press, install the needle bearing.

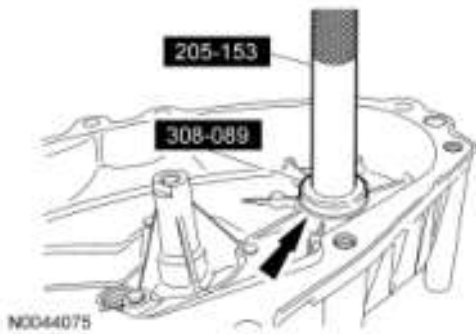


Fig. 93: Installing Needle Bearing
 Courtesy of FORD MOTOR CO.

41. Using the Wheel Hub Bearing Cup Installer with the Handle and a suitable press, install the bearing.

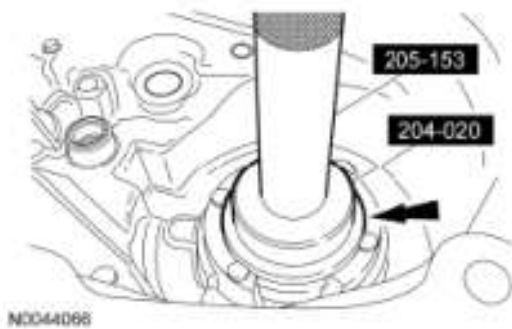


Fig. 94: Installing Bearing
 Courtesy of FORD MOTOR CO.

42. Install the snap ring that retains the bearing to the transfer case cover.

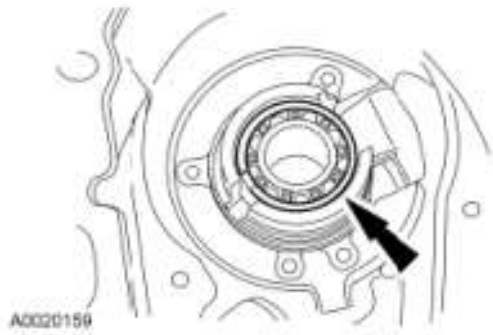


Fig. 95: Installing Snap Ring And Transfer Case Cover
 Courtesy of FORD MOTOR CO.

43. Using the Valve Stem Oil Seal Installer, install a new oil seal.

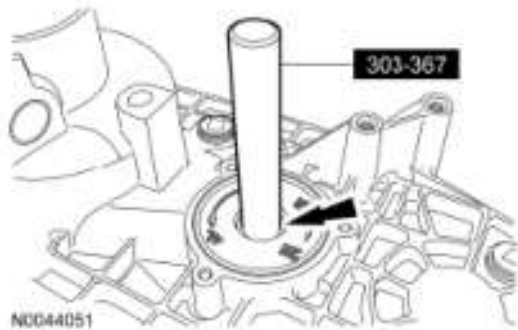


Fig. 96: Installing Oil Seal Using Valve Stem Oil Seal Installer
 Courtesy of FORD MOTOR CO.

NOTE: Assemble the cases within 15 minutes of applying the silicone sealant or it will be necessary to apply new sealant. If possible, allow one hour before filling the transfer case with lubricant to allow the silicone sealant to cure.

- 44.

Apply a 3 mm (1/8 in) bead of silicone sealant to the mating surface of the front case.

NOTE: Align the output shaft, the shift shaft and the return spring to their respective bores in the transfer case cover.

- 45.

Assemble the cases.

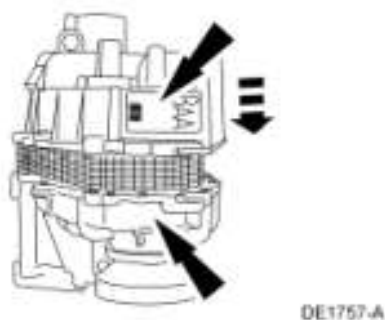


Fig. 97: Aligning Output Shaft
Courtesy of FORD MOTOR CO.

46. Install the 9 transfer case cover bolts.
 - Tighten to 34 Nm (25 lb-ft).

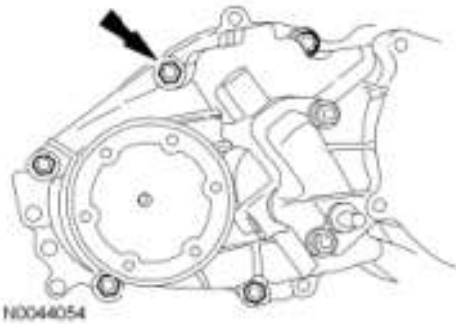


Fig. 98: Locating Transfer Case Cover Bolts
Courtesy of FORD MOTOR CO.

47. Install the spacer on the rear output shaft.



Fig. 99: Locating Spacer On Rear Output Shaft
Courtesy of FORD MOTOR CO.

48. Using the Drive Pinion Oil Seal Installer, install a new oil seal.

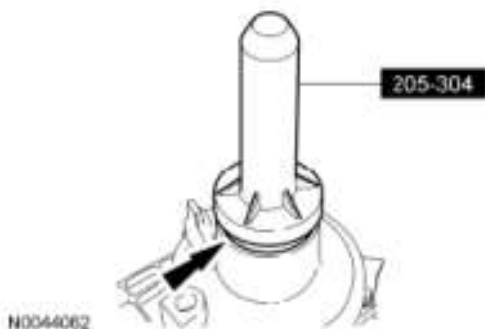


Fig. 100: Installing Oil Seal Using Drive Pinion Oil Seal Installer
Courtesy of FORD MOTOR CO.

49. **NOTE:** Align the index marks made during disassembly.

NOTE: **Verify the oil seal is not on the shaft before installing the shaft.**

Position the flange on the rear output shaft. If necessary, reseal the oil seal in the flange.

50. Install a new oil seal in the flange.
51. Using the Transmission Output Shaft Flange Installer, install the flange. Tighten the nut on the Transmission Output Shaft Flange Installer to 54 Nm (40 lb-ft) to seat the flange on the shaft.

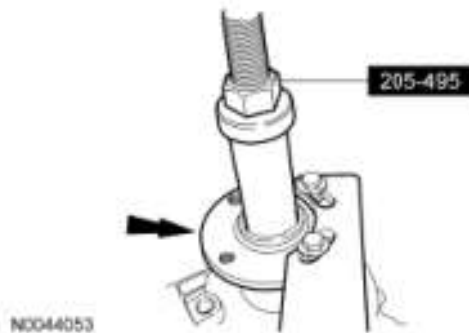


Fig. 101: Installing Flange Using Transmission Output Shaft Flange Installer
Courtesy of FORD MOTOR CO.

52. Use the Drive Pinion Flange Holding Fixture to prevent the flange from turning. Install a new washer and a new flange nut.
 - Tighten to 210 Nm (155 lb-ft).

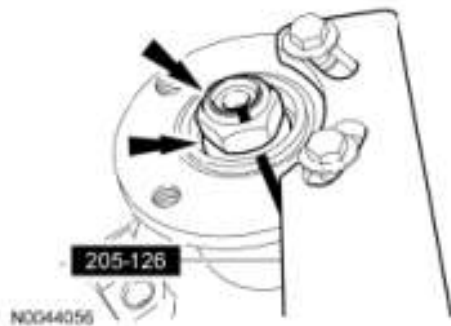


Fig. 102: Locating Flange Nut And Washer
Courtesy of FORD MOTOR CO.

NOTE: **Install the motor within 15 minutes of applying the silicone sealant or it will be necessary to apply new sealant. If possible, allow one hour before filling the transfer case with lubricant to allow the silicone sealant to cure.**

53.

Apply a thin coat of silicone sealant to the base of the motor housing.

NOTE: **If the shift shaft will not stay in the 4H position, rotate the shift shaft clockwise to the 2H position. During motor assembly installation, rotate the motor counterclockwise until the motor aligns with the mounting holes.**

54.

Position the motor assembly. Install the 3 shift motor bolts and bracket bolt.

- Tighten to 10 Nm (89 lb-in).



Fig. 103: Locating Shift Motor Bracket Bolt And Shift Motor Bolts
Courtesy of FORD MOTOR CO.

55. Install the coil wire to the shift motor electrical connector.
 1. Insert the wire into the electrical connector.
 2. Install the inner retainer into the electrical connector.

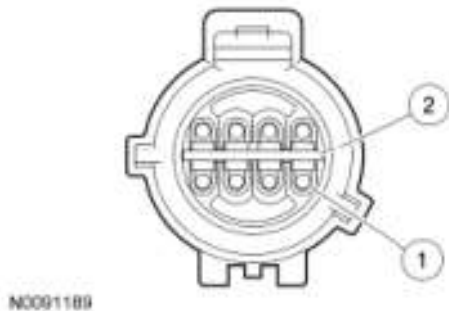


Fig. 104: Identifying Inner Retainer And Electrical Connector
Courtesy of FORD MOTOR CO.

56. Install the transfer case. For additional information, refer to **TRANSFER CASE**, Installation.