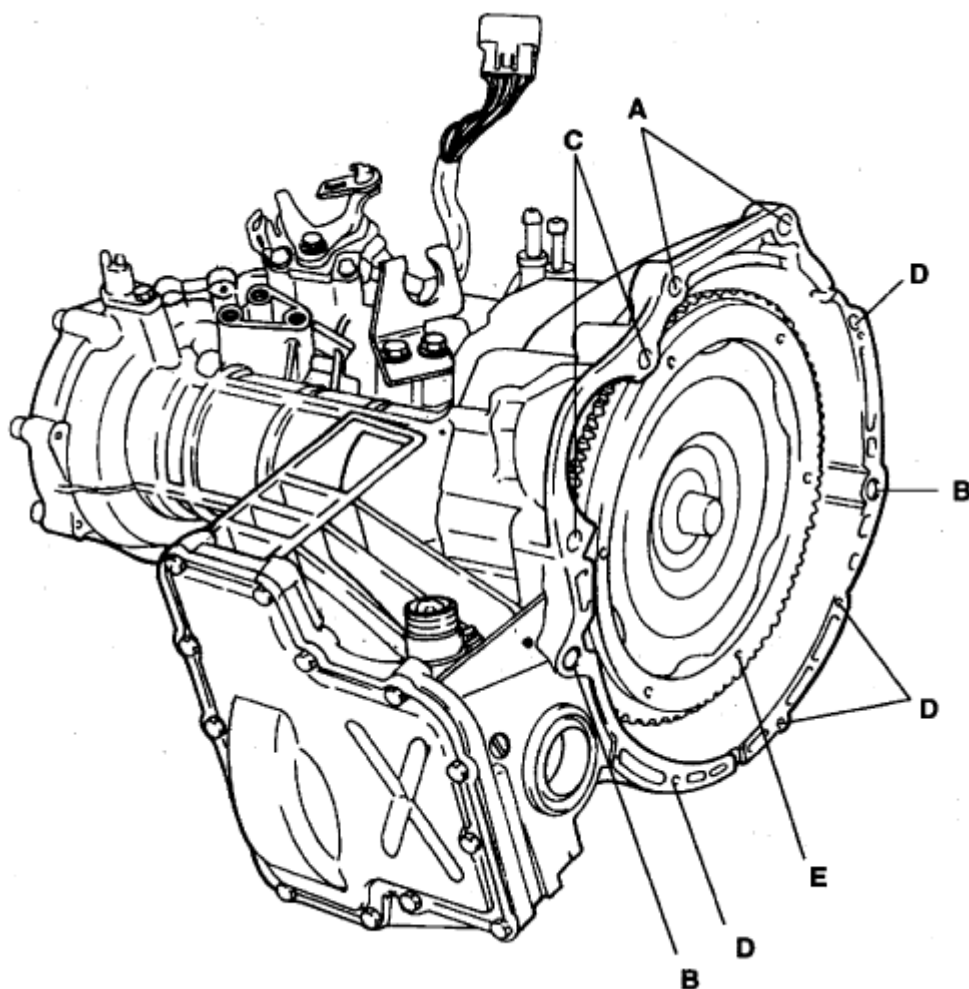


1995-2010 AUTOMATIC TRANSMISSION**Overhaul - A4AF2 & A4AF3 - Accent****GENERAL INFORMATION****AUTOMATIC TRANSAXLE****APPLICATION****APPLICATION TABLE**

Year	Model ⁽¹⁾	Transmission
1995-1999	Accent	A4AF2
2000-2010	Accent	A4AF3
(1) Canadian models included		

COMPONENTS

1995 Hyundai Accent

1995-2010 AUTOMATIC TRANSMISSION Overhaul - A4AF2 & A4AF3 - Accent

Fig. 1: Identifying Automatic Transaxle Mounting Bolts
Courtesy of HYUNDAI MOTOR CO.**BOLT SPECIFICATIONS**

	Nm	Kg.cm	lb.ft	O.D. x Length mm (in.)	Bolt identification
A	60-80	600-800	43-58	12 x 40 (1.6)	A x B
B	43-55	430-550	31-40	10 x 70 (2.7)	
C	27-34	270-340	20-25	10 x 55 (2.2)	
D	8-10	80-100	6-7	6 x 10 (0.4)	
E	46-53	460-530	33-38	8 x 12 (0.5)	

SERVICE SPECIFICATIONS**SERVICE SPECIFICATIONS**

Item	Standard
Input shaft endplay	0.3L - 1.0L
Differential case endplay	0 - 0.15 L
Low reverse brake endplay	0.675L - 0.987L
Differential side gear and pinion backlash	0.025L - 0.150L

TIGHTENING TORQUE**TORQUE SPECIFICATIONS**

Items	Nm	kg.cm	lb.ft
Oil pan bolts	10-12	100-120	7-9
Selector lever assembly mounting bolts	12-15	120-150	9-11
Starter motor mounting bolt	27-34	270-340	20-24
Oil cooler hose connector	15-22	150-220	11-16
Hose bracket	3-5	30-50	2-4
Cover to selector knob	2.0 or more	20 or more	1.4 or more
Selector knob to lever assembly	2.0 or more	20 or more	1.4 or more
Bell housing cover to engine	8-10	80-100	6-7
Transaxle mounting bolt [10 mm (0.40 in.) diameter bolt]	43-55	430-550	31-40
Transaxle mounting bolt [12 mm (0.47 in.) diameter bolt]	60-80	600-800	43-58
Torque converter to drive plate	46-53	460-530	33-38

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Control cable to body	5-7	50-70	4-5
Indicator panel	1.5 or more	15 or more	1.1 or more
Lever assembly to bracket assembly	14-22	140-220	10-14
Drain plug	35-45	350-450	25-32
Pressure check plug	8-10	80-100	6-7
Pulse generator mounting bolt	10-12	100-120	7-9
Bearing retainer screw	17-22	170-220	12-16
Transfer shaft lock nut	200-230	2000-2300	145-166
One-way clutch outer race bolt	35-45	350-450	25-32
Differential drive gear bolt	130-140	1300-1400	94-101
Differential bearing retainer	43-55	430-550	31-40
Differential bearing cap	60-80	600-800	43-58
Differential cover [8 mm (0.31 in.) diameter bolt]	20-27	200-270	14-20
Manual control lever lock nut	17-21	170-210	12-15
Manual control shaft set screw	8-10	80-100	6-7
Transaxle range switch attaching bolt	10-12	100-120	7-9
Sprag rod support bolt	20-27	200-270	15-19
Pump housing-to-reaction shaft support bolt	10-12	100-120	7-9
Oil pump assembly mounting bolt	19-23	190-230	13-16
Valve body bolt	4-6	40-60	3-4
Valve body assembly mounting bolt	10-12	100-120	7-9
Oil filter bolt	5-7	50-70	4-5
Speedometer sleeve locking plate bolt	3-5	30-50	2-4
End clutch cover	6-8	60-80	5-6
Kickdown lock nut	15-22	150-220	11-16
End cover	19-23	190-230	14-16

LUBRICANTS

LUBRICANT SPECIFICATIONS

Items	Specified lubricant	Quantity
Transaxle fluid lit. (U.S. qts., Imp.qts.)	GENUINE DIAMOND ATF SP-II M	6.7L

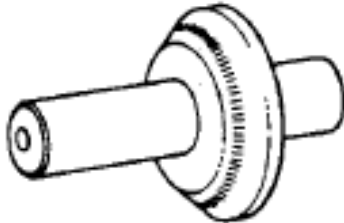
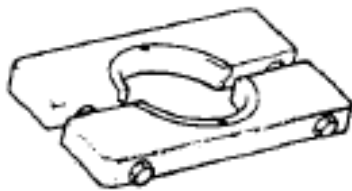
1995 Hyundai Accent

1995-2010 AUTOMATIC TRANSMISSION Overhaul - A4AF2 & A4AF3 - Accent

Drive shaft oil seal lip	Automatic transaxle fluid	As required
Sliding part of bushing	Chassis grease SAE J310, NLGI No. 0	As required
Selector lever sliding portion	Multipurpose grease SAE J310, NLGI No. 2	As required

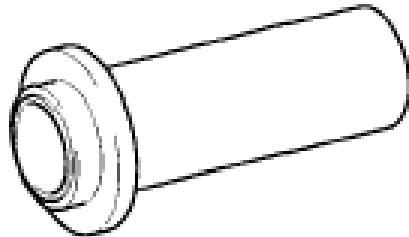
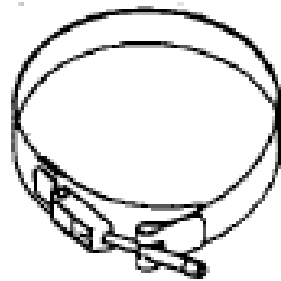
SPECIAL TOOLS

SPECIAL TOOLS

Tool (Number and name)	Illustration	Use
09431-21200 Oil seal installer	 Y45-005C	Installation of differential oil seal.
09432-33800 Bearing and gear installer	 Y45-008B	Installation of the transfer shaft bearing and transfer driven gear.
09433-21000 Removing plate	 Y45-005F	Removal of transfer shaft taper roller bearing and differential ball bearing.
09452-21500 Oil pressure gauge	 Y45-006E	Measurement of the oil pressure (use with 09452-21001, 09452-21002)
09452-21001 Oil pressure gauge adapter		Measurement of the oil pressure (use with 09452-21500, 09452-21002)

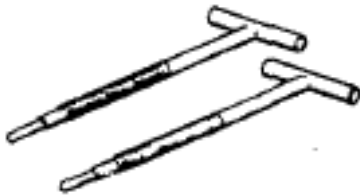
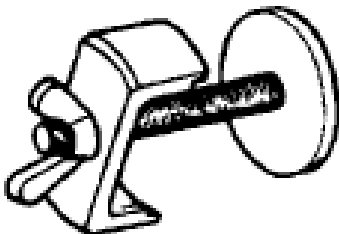
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1995-2010 AUTOMATIC TRANSMISSION Overhaul - A4AF2 & A4AF3 - Accent

	 Y45-005G	
09452-21002 Oil pressure gauge adapter	 Y45-005H	Measurement of the oil pressure, (use with 09452-21500 and 09452-21001)
09452-21100 Oil pump remover	 Y45-006A	Removal of the oil pump
09452-21200 Bearing and oil seal installer	 Y45-006B	Installation of oil pump oil seal and transfer drive gear bearing.
09452-21301 Oil pump band	 Y45-006C	Assembling the oil pump
09452-21401		Installation of the oil pump

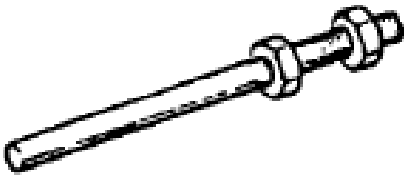
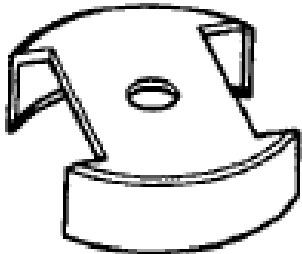
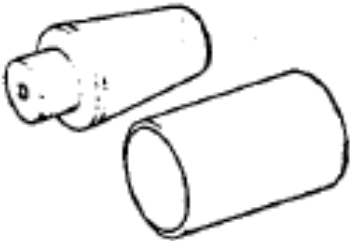
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1995-2010 AUTOMATIC TRANSMISSION Overhaul - A4AF2 & A4AF3 - Accent

Guide pin	 Y45-006D	
09452-22000 Differential bearing retainer remover	 Y45-006A	Removal of the differential bearing retainer
09453-21000 Spring compressor	 Y45-010B	Removal and installation of the snap ring and return spring of the clutch
09453-21100 Spring compressor	 Y45-006F	Removal and installation of the rear clutch (use with 09453-21000)
09453-21310 Center support remover and installer	 Y45-006G	Removal and installation of the center support
09453-21400 Dial gauge support		Measurement of the input shaft, low and reverse brake and transfer shaft end play.

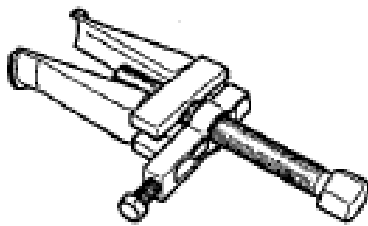
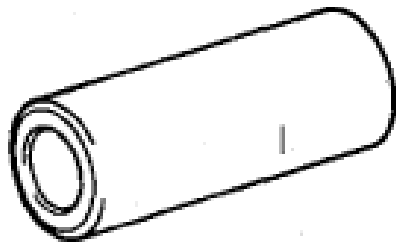
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1995-2010 AUTOMATIC TRANSMISSION Overhaul - A4AF2 & A4AF3 - Accent

	 Y45-006H	(Use with dial gauge)
09453-24000 Spring compressor	 Y45-007A	Installation of snap ring and front clutch
09453-33000 Snap ring installer	 Y45-007B	Installation of end clutch snap ring
09453-33100 Dial gauge extension	 Y45-007C	Measurement for the low and reverse brake end play (use with dial gauge)
09455-21100 Bearing installer	 Y45-007G	Installation of differential ball bearing
09455-32200 Bearing outer race remover		Removal of the transfer driven gear bearing outer race

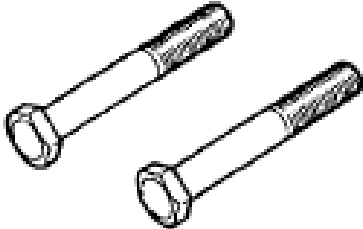
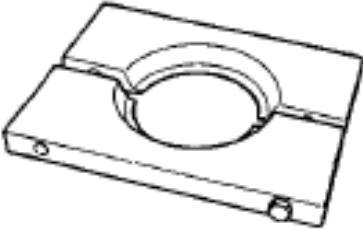
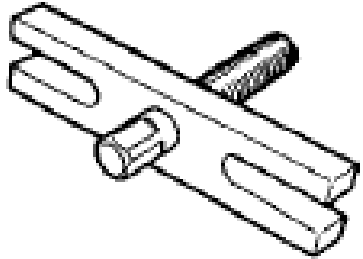
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1995-2010 AUTOMATIC TRANSMISSION Overhaul - A4AF2 & A4AF3 - Accent

	 X45-007A	
09455-33000 Removing plate	 X45-007B	Removal of the transfer driven gear taper roller bearing
09455-33200 Bearing installer	 X45-007J	Installation of transfer driven gear taper roller bearing
09456-21000 Guide pin	 Y45-008C	Assembly of the valve body
09457-22000 Removing plate	 X45-007C	Removal of the transfer drive gear rear bearing
09457-22100 Transfer shaft bearing outer race installer		Installation of the transfer shaft bearing outer race

1995 Hyundai Accent

1995-2010 AUTOMATIC TRANSMISSION Overhaul - A4AF2 & A4AF3 - Accent

	 X45-008A	
09457-22200 Transfer driven gear remover	 X45-008B	Removal of the transfer driven gear (use with 09526-11001)
09457-34000 Removing plate	 X45-008C	Removal of the transfer drive gear front bearing
09526-11001 Transfer driven gear remover	 X45-008C	Removal of the transfer driven gear (use with 09457-22200)

AUTOMATIC TRANSAXLE

DISASSEMBLY

CAUTION: Because the automatic transaxle is composed of component parts of an especially high degree of precision, these parts should be very carefully handled during disassembly and assembly so as not to scar or scratch them.

A rubber mat should be placed on the workbench, and it should always be

kept clean.

During disassembly, cloth gloves or rags should not be used. If such items must be used, use articles made of nylon, or use paper towels. All disassembled parts must be thoroughly cleaned. Metal parts may be cleaned with ordinary detergents, but must be thoroughly air dried. Clean the clutch disc, resin thrust plate and rubber parts by using ATF (automatic transaxle fluid), being very careful that dust, dirt, etc. do not adhere.

If the transaxle main unit is damaged, also disassemble and clean the cooler system as well.

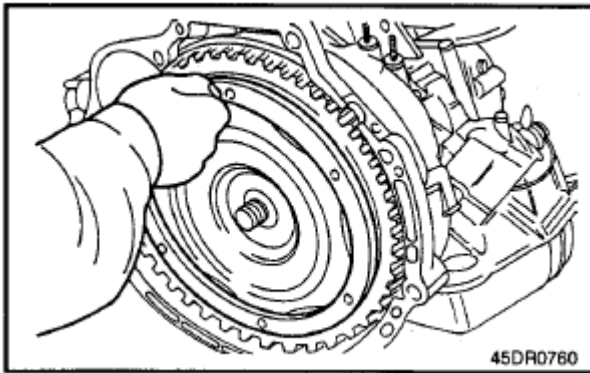


Fig. 2: Identifying Torque Converter
Courtesy of HYUNDAI MOTOR CO.

1. Clean away any sand, mud, etc. adhered around the transaxle.
2. Place the transaxle assembly on the workbench with the oil pan down.
3. Remove the torque converter.
4. Measuring input shaft end play before disassembly will usually indicate when a thrust washer change is required (except when major parts are replaced).

Standard value : 0.3-1.0 mm (0.012-0.039 in.)

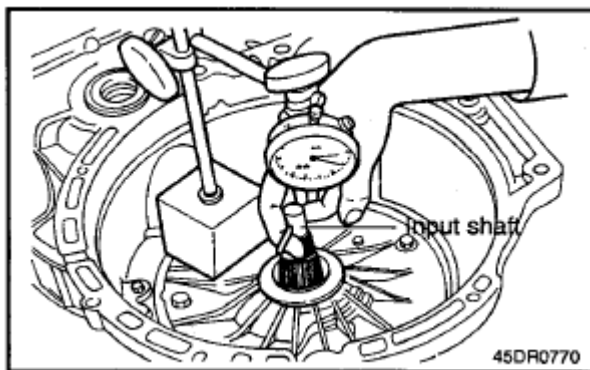


Fig. 3: Measuring Input Shaft End Play

Courtesy of HYUNDAI MOTOR CO.

Thrust washers are located between the reaction shaft support and rear clutch retainer, and between the reaction shaft support and front clutch retainer.

Mount a dial indicator to the converter housing with the dial indicator support.

Make sure that the indicator plunger is seated against the end of the input shaft.

When checking end play, pull out or push in the input shaft with pliers. Be careful not to scratch the input shaft. Record indicator reading for reference when reassembling the transaxle.

5. Remove the pulse generators "A" and "B".

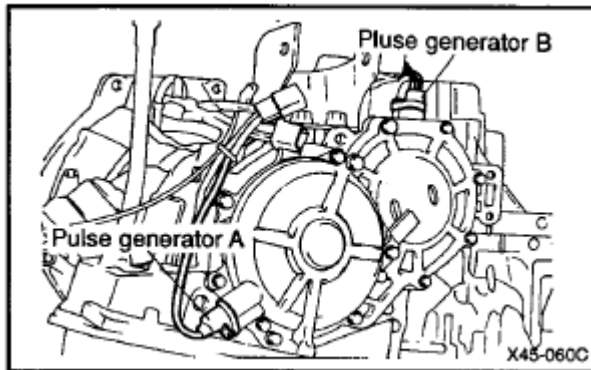


Fig. 4: Identifying Pulse Generators
Courtesy of HYUNDAI MOTOR CO.

6. Remove manual control lever, then remove the transaxle range switch.

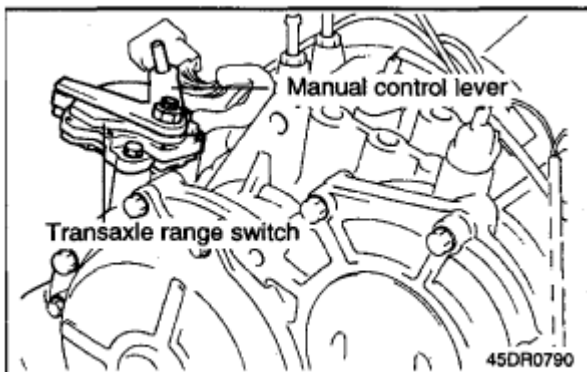


Fig. 5: Identifying Manual Control Lever & Transaxle Range Switch
Courtesy of HYUNDAI MOTOR CO.

7. Remove the snap ring and kickdown servo switch.

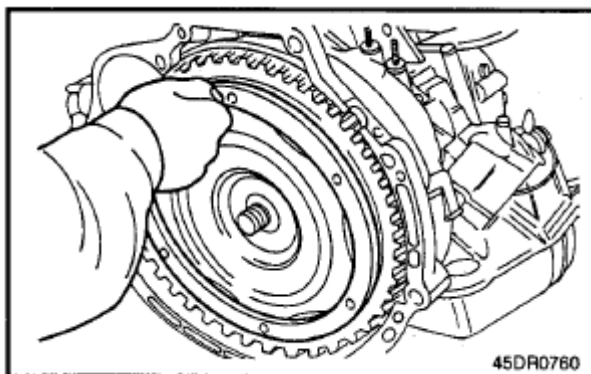


Fig. 6: Identifying Torque Converter
Courtesy of HYUNDAI MOTOR CO.

8. Remove 6 bolts, attach the Special Tools (09452-21100) and remove oil pump assembly

NOTE: When removing the oil pump assembly, be sure to follow to prevent the damage of onto transaxle case.

1. Turn the knob of both special service tools simultaneously and uniformly not to be inclined to "B" side.
2. While turning the special service tool, tap on the "A" side of the oil pump lightly with rubber or plastic hammer if necessary.

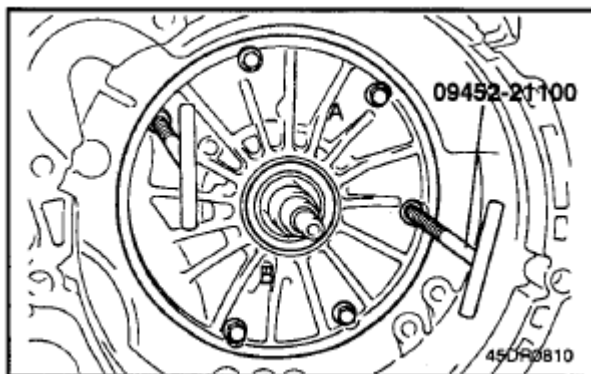


Fig. 7: Removing Oil Pump Assembly
Courtesy of HYUNDAI MOTOR CO.

9. Remove the fiber thrust washer.

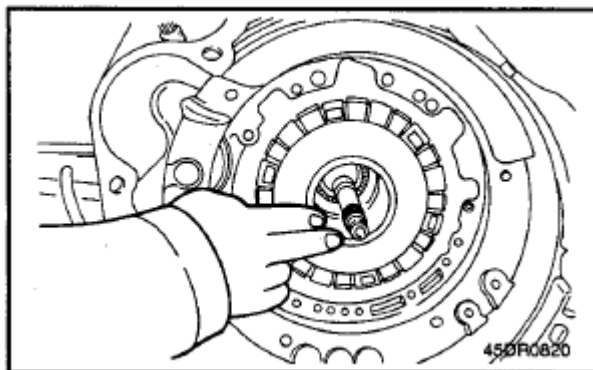


Fig. 8: Removing Fiber Thrust Washer
Courtesy of HYUNDAI MOTOR CO.

10. Pull up the input shaft, and remove the front clutch assembly and the rear clutch assembly together.

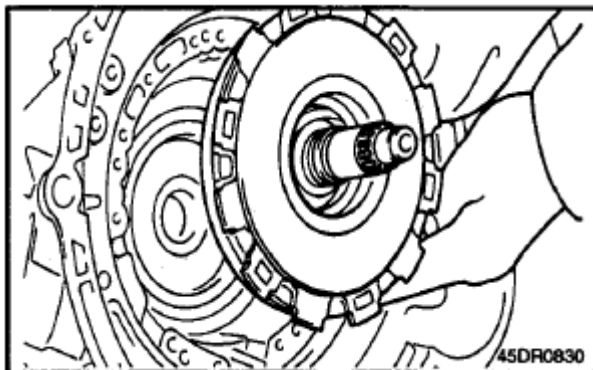


Fig. 9: Removing Front/Rear Clutch Assembly
Courtesy of HYUNDAI MOTOR CO.

11. Remove the thrust bearing.

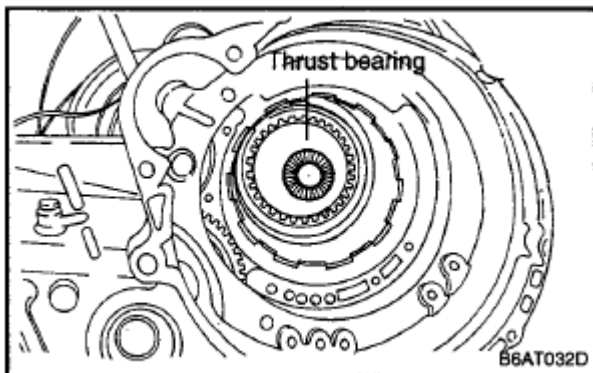


Fig. 10: Identifying Thrust Bearing
Courtesy of HYUNDAI MOTOR CO.

12. Remove the clutch hub.

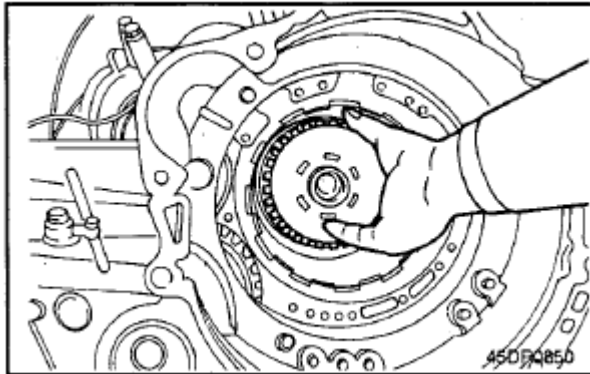


Fig. 11: Removing Clutch Hub
Courtesy of HYUNDAI MOTOR CO.

13. Remove the thrust race and bearing.

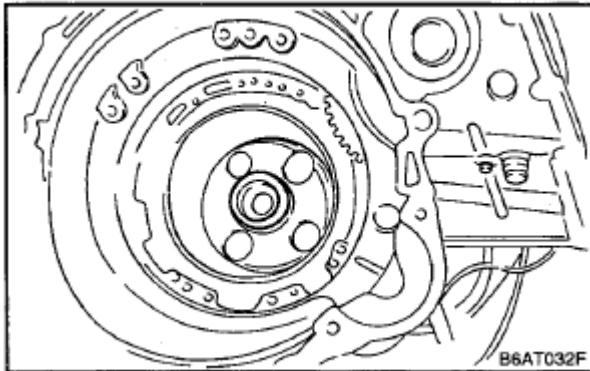


Fig. 12: Identifying Thrust Race & Bearing
Courtesy of HYUNDAI MOTOR CO.

14. Remove the kickdown drum.

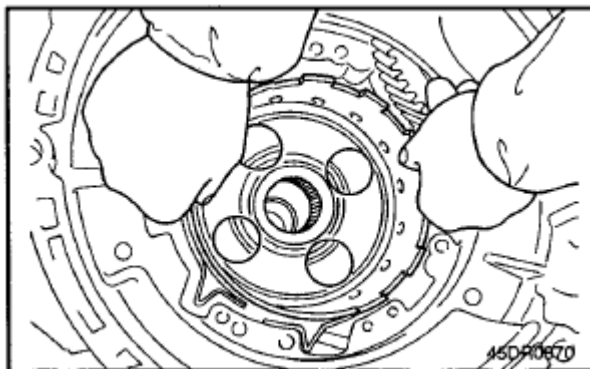


Fig. 13: Removing/Installing Kickdown Drum
Courtesy of HYUNDAI MOTOR CO.

15. Remove the kickdown band.

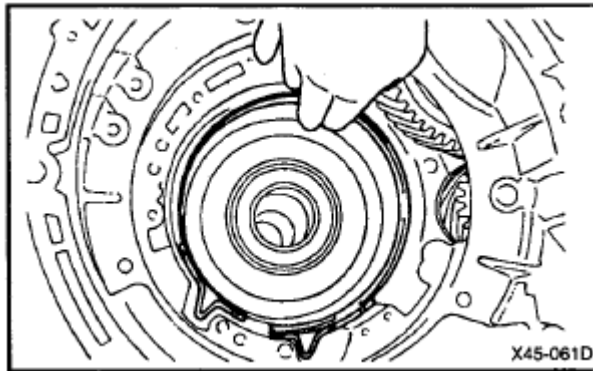


Fig. 14: Removing Kickdown Band
Courtesy of HYUNDAI MOTOR CO.

16. Remove the snap ring.

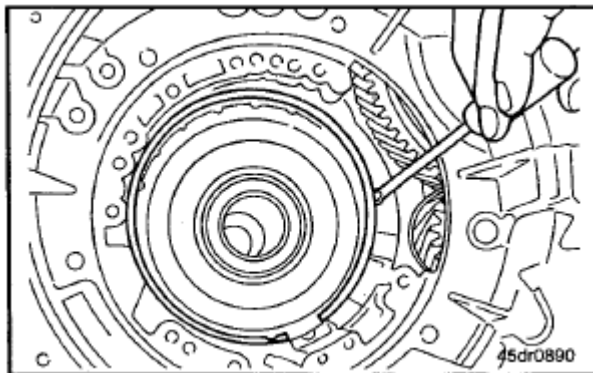


Fig. 15: Removing/Installing Snap Ring
Courtesy of HYUNDAI MOTOR CO.

17. Attach the Special Tool (09453-21310) on the center support. Holding the handle of the tool, pull the center support straight upward.

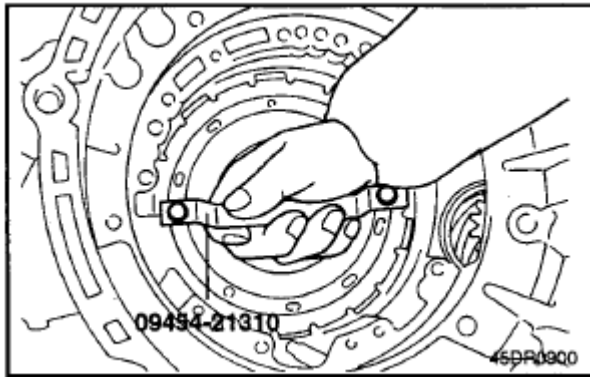


Fig. 16: Attaching Special Tool (09453-21310) On Center Support
Courtesy of HYUNDAI MOTOR CO.

18. Remove the reverse sun gear and the forward sun gear together.

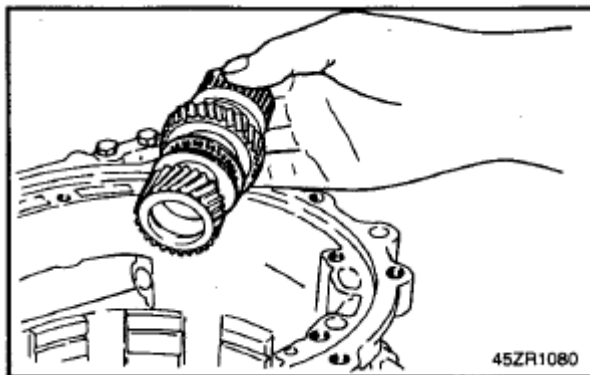


Fig. 17: Removing Reverse Sun Gear & Forward Sun Gear Together
Courtesy of HYUNDAI MOTOR CO.

19. Remove the planet carrier assembly and thrust bearing.

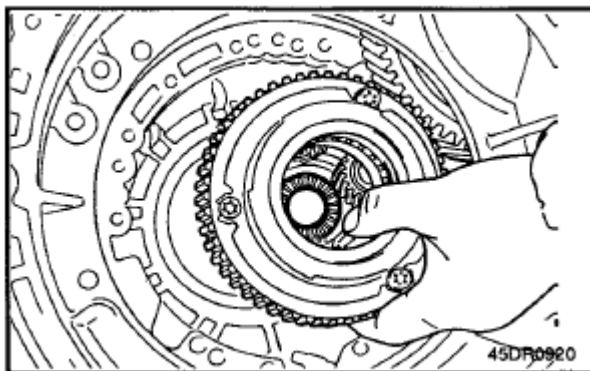


Fig. 18: Removing Planet Carrier Assembly & Thrust Bearing
Courtesy of HYUNDAI MOTOR CO.

20. Remove the wave spring, return spring, reaction plate, brake disc, and brake plate.

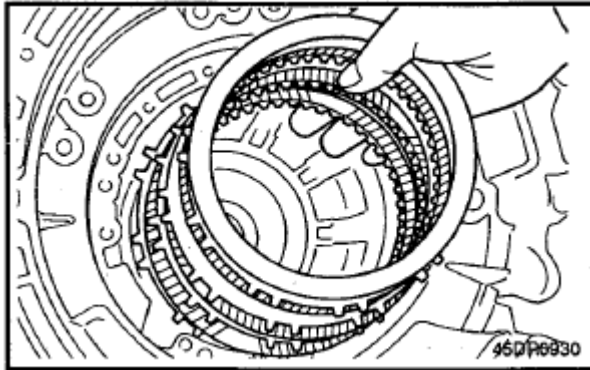


Fig. 19: Identifying Wave Spring, Return Spring, Reaction Plate, Brake Disc, & Brake Plate
Courtesy of HYUNDAI MOTOR CO.

21. Remove the end cover.

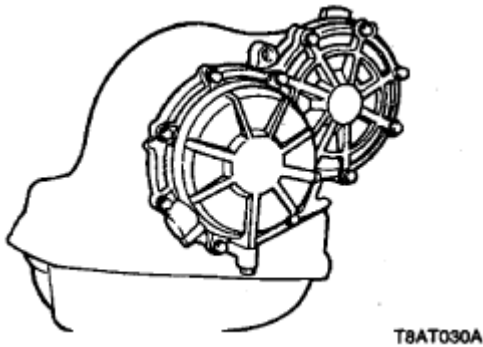


Fig. 20: Identifying End Cover
Courtesy of HYUNDAI MOTOR CO.

22. Remove the end clutch assembly.

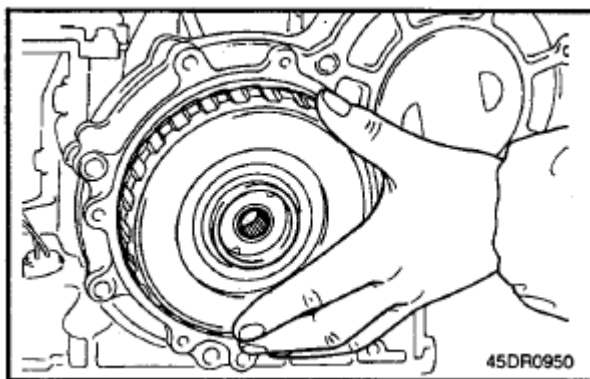


Fig. 21: Removing End Clutch Assembly

Courtesy of HYUNDAI MOTOR CO.

23. Remove the thrust plate.

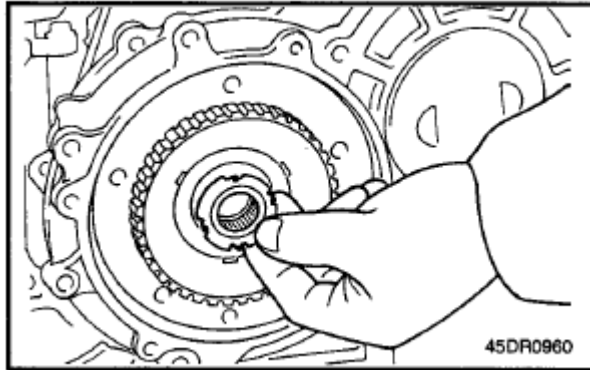


Fig. 22: Removing Thrust Plate
Courtesy of HYUNDAI MOTOR CO.

24. Remove the end clutch hub and thrust bearing.

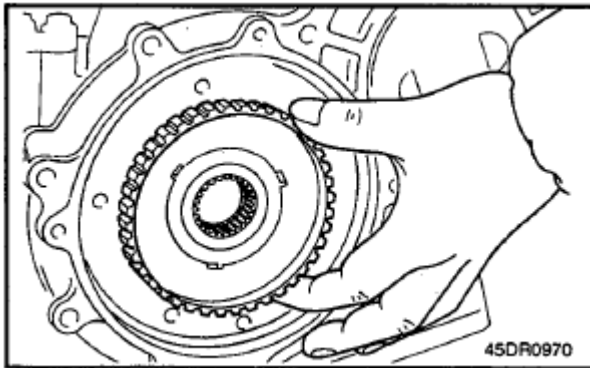


Fig. 23: Removing End Clutch Hub & Thrust Bearing
Courtesy of HYUNDAI MOTOR CO.

25. Pull out the end clutch shaft.

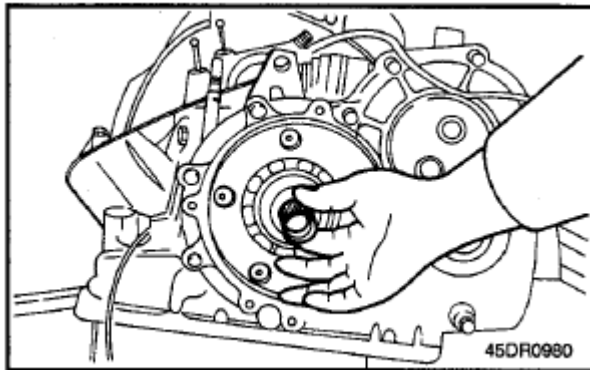


Fig. 24: Pulling Clutch Shaft
Courtesy of HYUNDAI MOTOR CO.

26. Remove the oil pan and gasket.

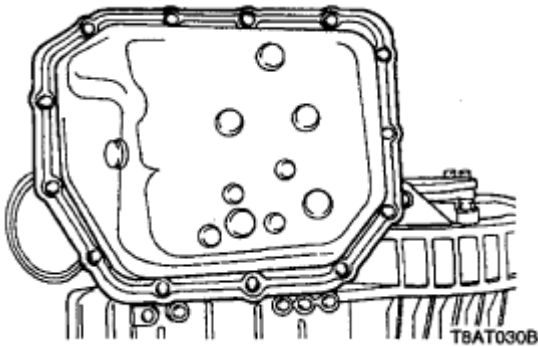


Fig. 25: Identifying Oil Pan & Gasket
Courtesy of HYUNDAI MOTOR CO.

27. Remove the oil filter from the valve body.

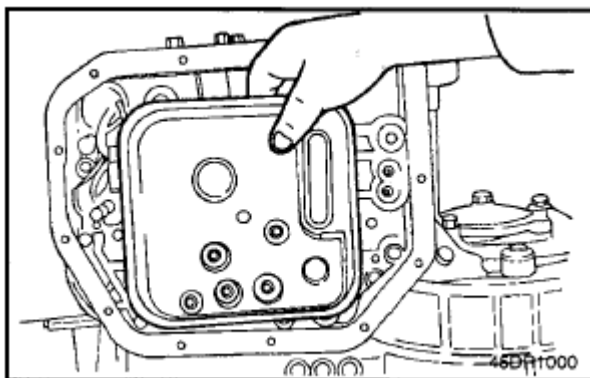


Fig. 26: Removing Oil Filter
Courtesy of HYUNDAI MOTOR CO.

28. Remove the oil-temperature sensor installation bolt; then, after removal from the bracket, pull out from

the connector.

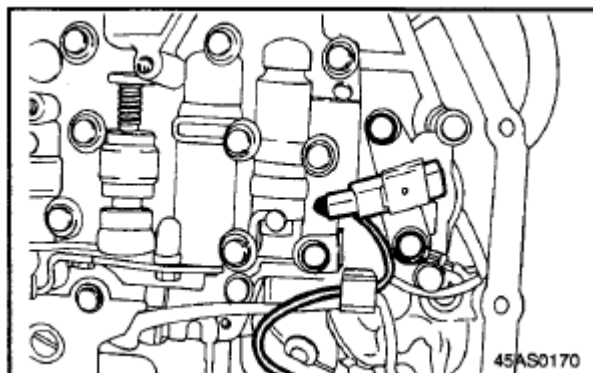


Fig. 27: Identifying Oil-Temperature Sensor
Courtesy of HYUNDAI MOTOR CO.

29. Remove the clip of the solenoid valve harness grommet and pull it.

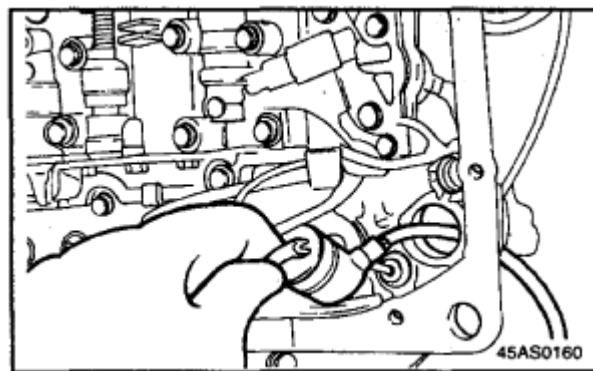


Fig. 28: Removing Clip Of Solenoid Valve Harness Grommet
Courtesy of HYUNDAI MOTOR CO.

30. Remove the 9 valve body bolts. Remove the valve body.

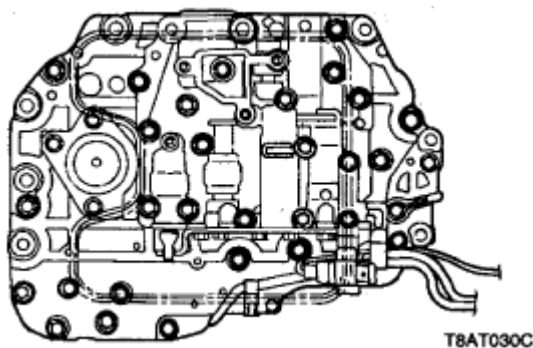


Fig. 29: Identifying Valve Body
Courtesy of HYUNDAI MOTOR CO.

31. Unstake the transfer shaft lock nut stopper.

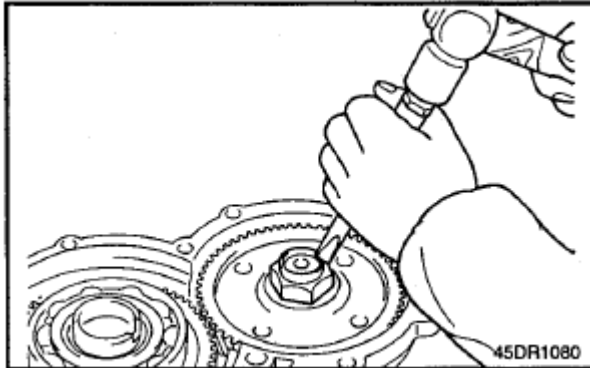


Fig. 30: Unstaking Transfer Shaft Lock Nut Stopper
Courtesy of HYUNDAI MOTOR CO.

32. Install the Special Tool to the transaxle case.

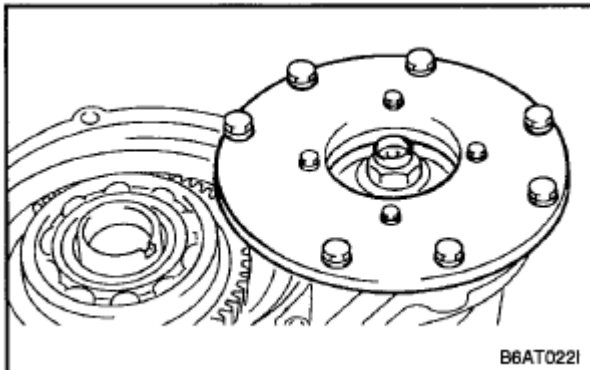


Fig. 31: Identifying Special Tool
Courtesy of HYUNDAI MOTOR CO.

33. Remove the locking nut.

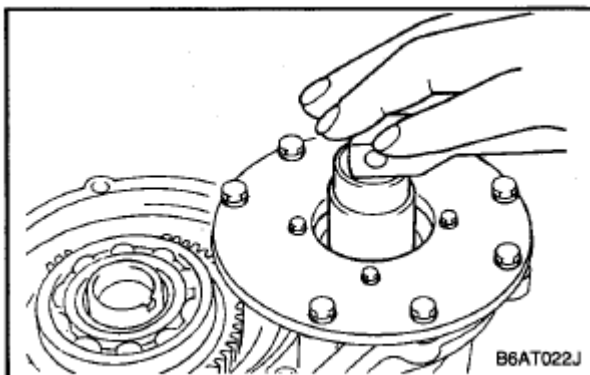


Fig. 32: Removing Locking Nut
Courtesy of HYUNDAI MOTOR CO.

34. Using the Special Tool, remove the transfer driven gear.

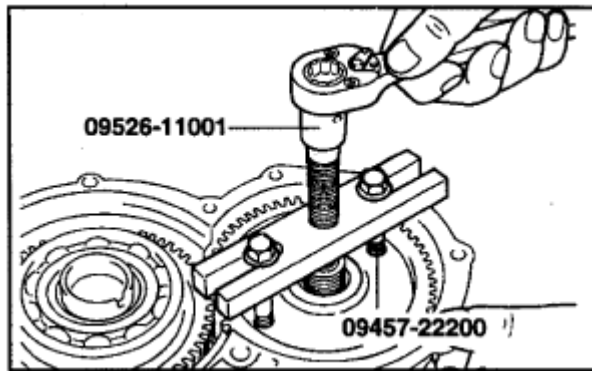


Fig. 33: Removing Transfer Driven Gear
Courtesy of HYUNDAI MOTOR CO.

35. Remove the taper roller bearing outer race.

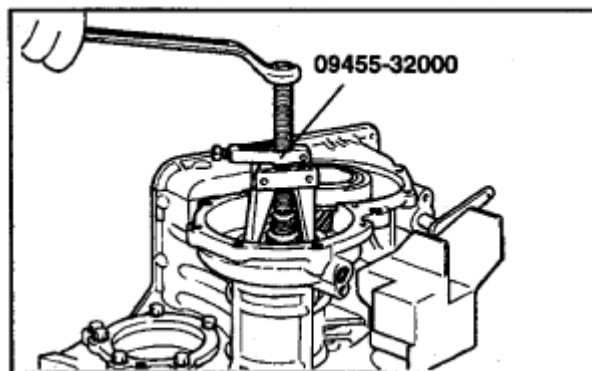


Fig. 34: Removing Taper Roller Bearing Outer Race
Courtesy of HYUNDAI MOTOR CO.

36. Remove the snap ring.

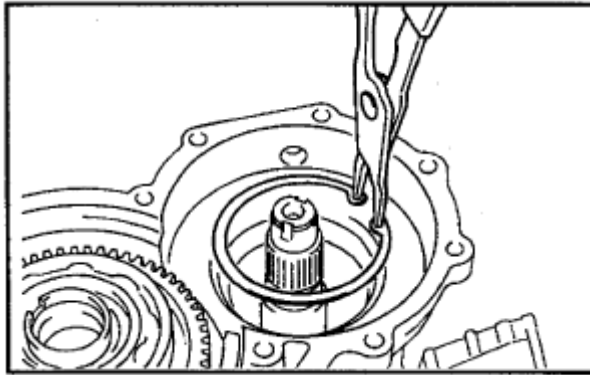


Fig. 35: Removing Snap Ring
Courtesy of HYUNDAI MOTOR CO.

37. Remove the transfer shaft and taper roller bearing.

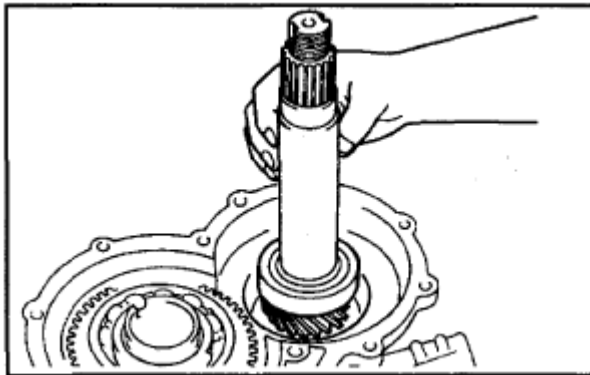


Fig. 36: Removing Transfer Shaft & Taper Roller Bearing
Courtesy of HYUNDAI MOTOR CO.

38. Remove the speedometer sleeve.

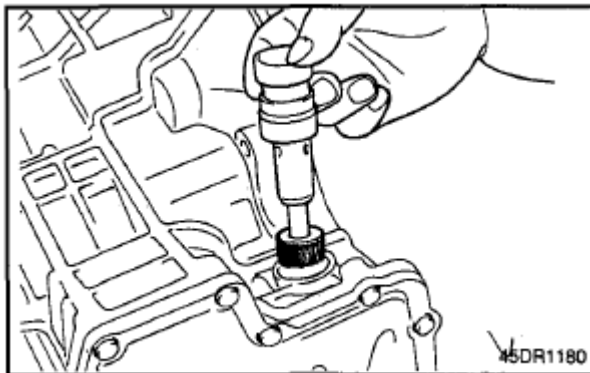


Fig. 37: Removing Speedometer Sleeve
Courtesy of HYUNDAI MOTOR CO.

39. Remove the differential cover and the gasket.

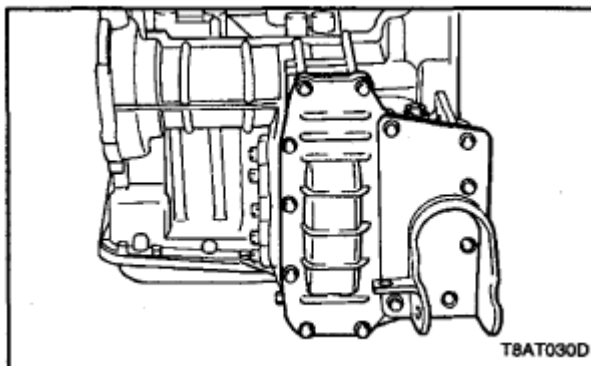


Fig. 38: Identifying Differential Cover
Courtesy of HYUNDAI MOTOR CO.

40. Before removal of the differential gear, measure the end play of the differential gear with a dial gauge.

Standard value: 0-0.15 mm (0-0.006 in.)

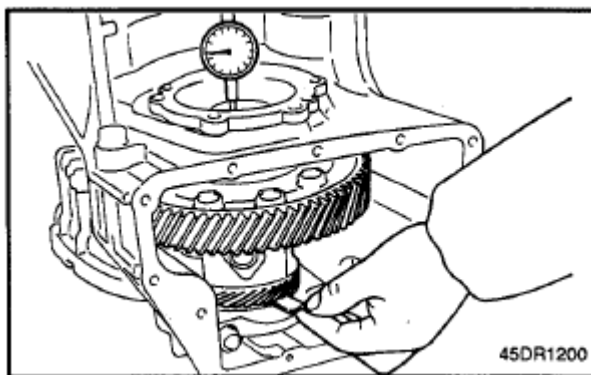


Fig. 39: Measuring End Play Of Differential Gear
Courtesy of HYUNDAI MOTOR CO.

41. Remove the 5 differential bearing retainer mounting bolts.

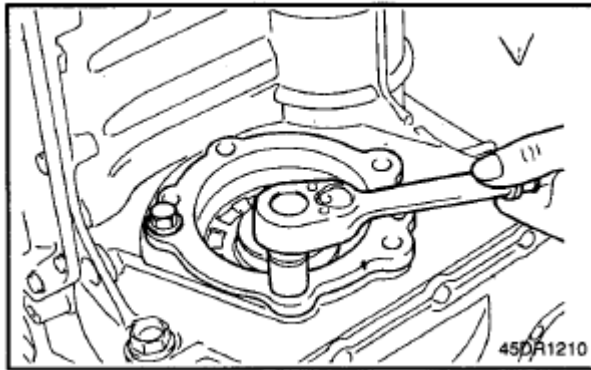


Fig. 40: Removing Differential Bearing Retainer Mounting Bolts
Courtesy of HYUNDAI MOTOR CO.

42. Using the Special Tool, remove the differential bearing retainer.

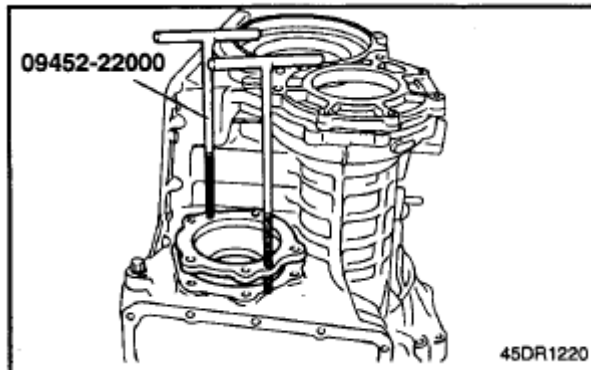


Fig. 41: Removing Differential Bearing Retainer
Courtesy of HYUNDAI MOTOR CO.

43. Loosen the mounting bolts and remove the bearing cap.

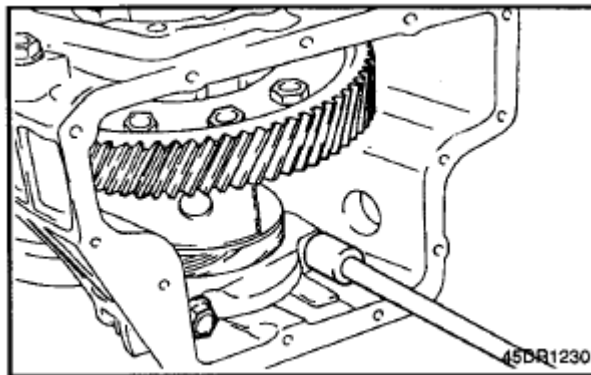


Fig. 42: Removing Bearing Cap
Courtesy of HYUNDAI MOTOR CO.

44. Remove the differential assembly.

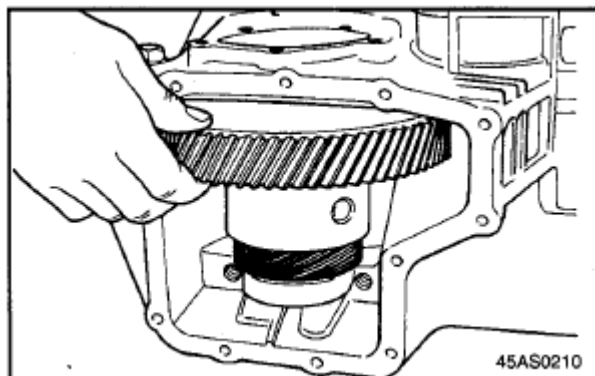


Fig. 43: Removing Differential Assembly
Courtesy of HYUNDAI MOTOR CO.

45. Remove two bolts of the sprag rod support and the bolt of the detent spring assembly.

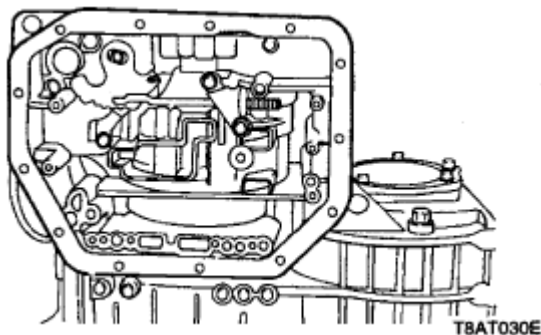


Fig. 44: Identifying Detent Spring Assembly & Sprag Rod Support
Courtesy of HYUNDAI MOTOR CO.

46. Remove the set screw, the manual control shaft assembly, the sprag rod and the detent spring assembly.

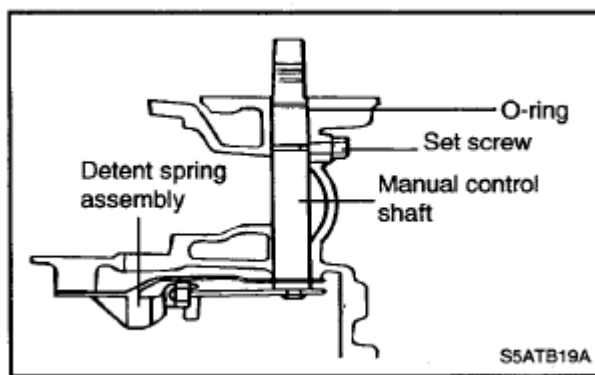


Fig. 45: Identifying Manual Control Shaft Assembly, Sprag Rod, Set Screw, & Detent Spring Assembly

Courtesy of HYUNDAI MOTOR CO.

47. Remove the kickdown servo snap ring.

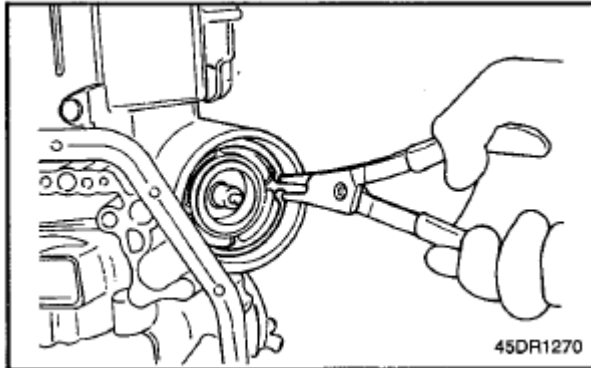


Fig. 46: Removing Kickdown Servo Snap Ring
Courtesy of HYUNDAI MOTOR CO.

48. Remove the kickdown piston assembly.

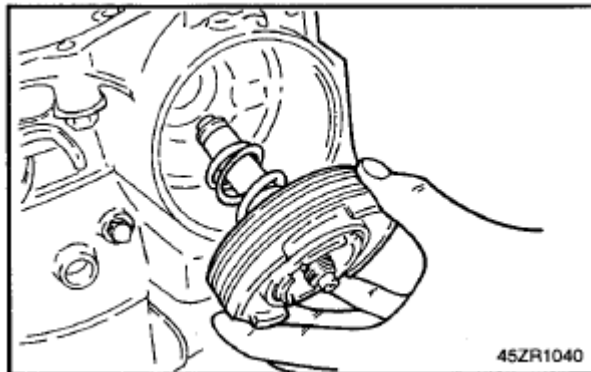


Fig. 47: Identifying Kickdown Piston, Servo Spring, & Sleeve
Courtesy of HYUNDAI MOTOR CO.

REASSEMBLY

CAUTION: Do not reuse gaskets, oil seals and rubber parts. Replace them with new ones at every reassembly. The O-ring of the oil level dipstick need not be replaced.

Do not use grease other than petrolatum or industrial vaseline. Apply automatic transaxle fluid to friction elements, rotating parts, and sliding parts before installation. Refer to LUBRICANTS. New clutch discs should be immersed in automatic transaxle fluid for a minimum of two hours before installation.

Do not apply sealer or adhesive to gaskets.

When bushings must be replaced, replace their complete assembly which.

**Do not use shop towels during disassembly and reassembly operation.
The oil in the cooler should also be replaced.**

1. After installing the detent spring assembly and the sprag rod assembly on manual control shaft, insert manual control shaft into transaxle case and push it fully toward manual control lever. At this time, do not install the O-ring (large one of two O-rings) on manual control shaft.

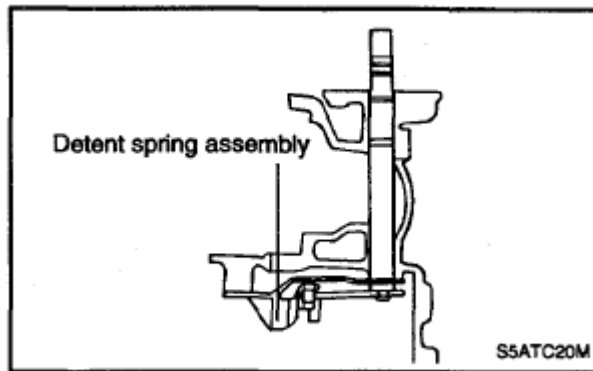


Fig. 48: Identifying Detent Spring Assembly
Courtesy of HYUNDAI MOTOR CO.

2. After installing the new O-ring on manual control shaft, draw shaft back into case, then install set screw and gasket.

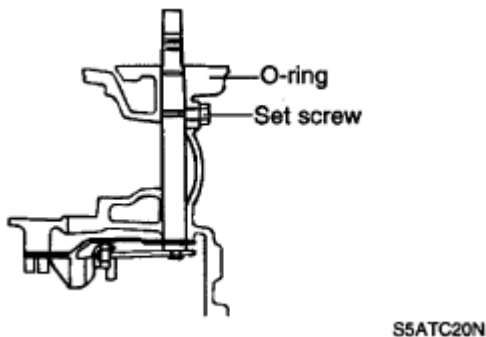


Fig. 49: Identifying O-Ring & Set Screw
Courtesy of HYUNDAI MOTOR CO.

3. Install the sprag rod support and tighten two bolts. Install the washer and tighten the bolt of the detent spring assembly.

Sprag rod support bolts : 20-27 Nm (200-270 kg.cm, 15-19 lb.ft)

Detent sprag assembly bolt: 10-12 Nm (100-120 kg.cm, 7.5-8.4 lb.ft)

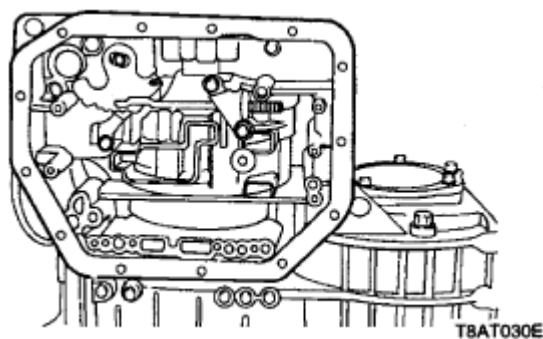


Fig. 50: Identifying Detent Spring Assembly & Sprag Rod Support
Courtesy of HYUNDAI MOTOR CO.

4. Before assembly of the transaxle, measure the end play of the low-reverse brake, and select a pressure plate to be used so that the end play will be the standard value.
 1. Install the brake reaction plate, brake plate and brake disc to the transaxle case.

CAUTION: If new brake discs are used, be sure to immerse them in ATF for a minimum of two hours.

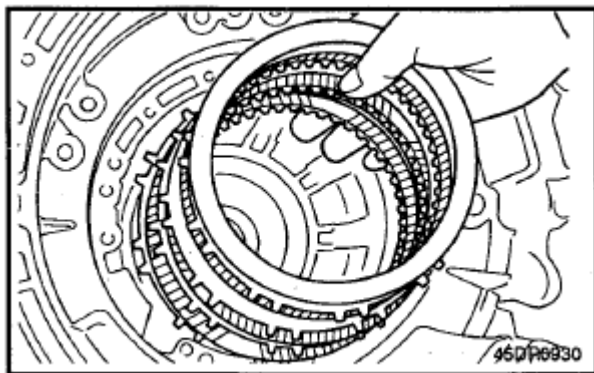


Fig. 51: Identifying Wave Spring, Return Spring, Reaction Plate, Brake Disc, & Brake Plate
Courtesy of HYUNDAI MOTOR CO.

2. Install the appropriate pressure plate and then install the return spring.

CAUTION: Be sure that the return spring is installed so that it faces in the correct direction.

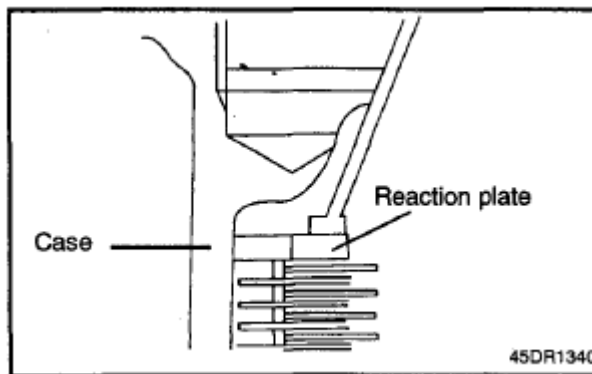


Fig. 52: Identifying Reaction Plate & Case
Courtesy of HYUNDAI MOTOR CO.

3. Apply a coating of petroleum jelly to the wave spring and attach it to the center support.

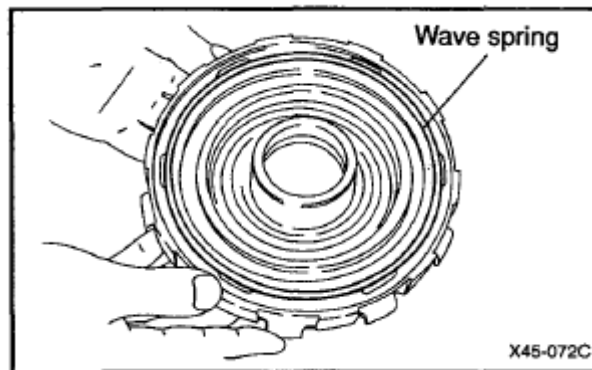


Fig. 53: Identifying Wave Spring
Courtesy of HYUNDAI MOTOR CO.

4. Install the Special Tool (09453-21310) to the center support.

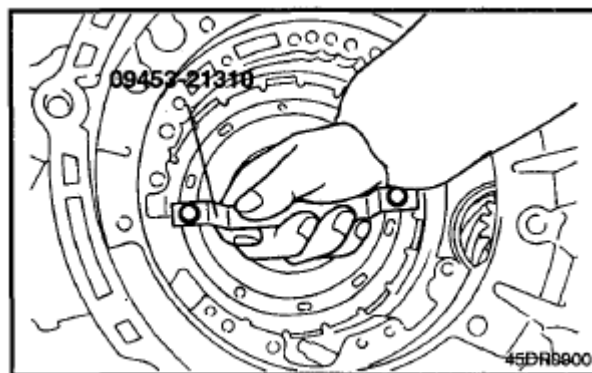


Fig. 54: Attaching Special Tool (09453-21310) On Center Support
Courtesy of HYUNDAI MOTOR CO.

5. Install the snap ring.

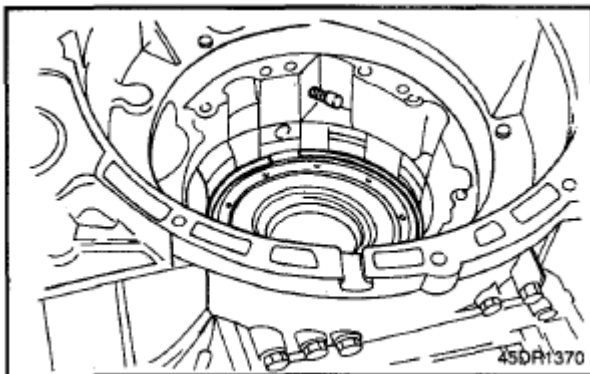


Fig. 55: Identifying Snap Ring
Courtesy of HYUNDAI MOTOR CO.

6. Install the Special Tools (09454-21400,09453-33100) and a dial gauge at the rear side of the transaxle case.

CAUTION: Install the dial gauge so that it contacts the brake reaction plate at a right angle from the transfer idler shaft hole.

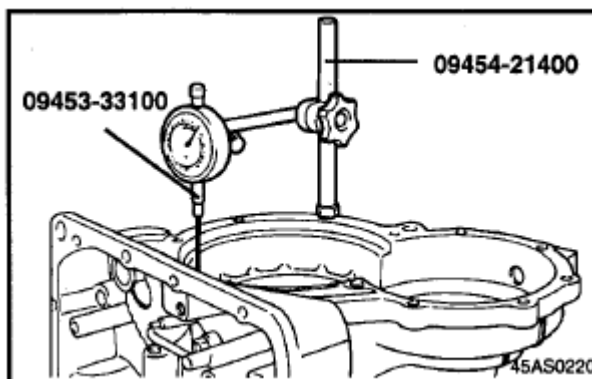


Fig. 56: Installing Special Tools & Dial Gauge At Rear Side Of Transaxle Case
Courtesy of HYUNDAI MOTOR CO.

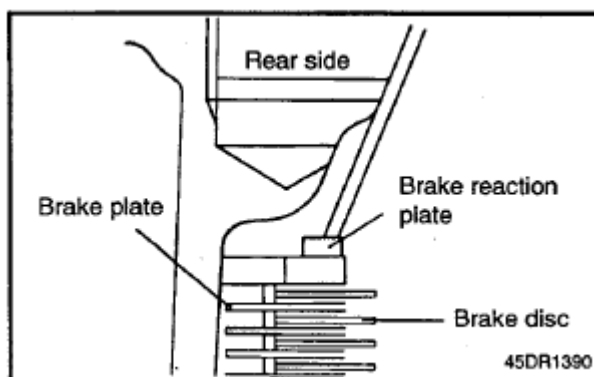


Fig. 57: Identifying Brake Plate, Brake Disc, & Brake Reaction Plate
Courtesy of HYUNDAI MOTOR CO.

7. Using a manual pump, pump air (5 kg/cm²) in from the position shown in **Fig. 58**. Read the dial indicator gauge, and select the pressure plate that will provide the standard value.
8. After selecting pressure plate, remove center support, brake plate, brake disc, brake reaction plate and pressure plate

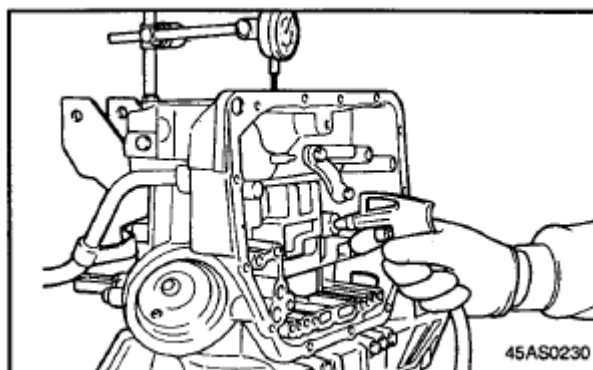


Fig. 58: Pumping Air Using Manual Pump
Courtesy of HYUNDAI MOTOR CO.

5. Install the transfer shaft, and press-fit the bearing outer race to the transaxle case.

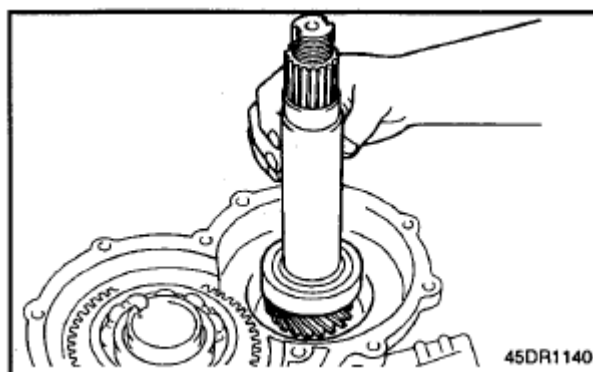


Fig. 59: Installing Transfer Shaft
Courtesy of HYUNDAI MOTOR CO.

6. Install the transfer shaft snap ring.

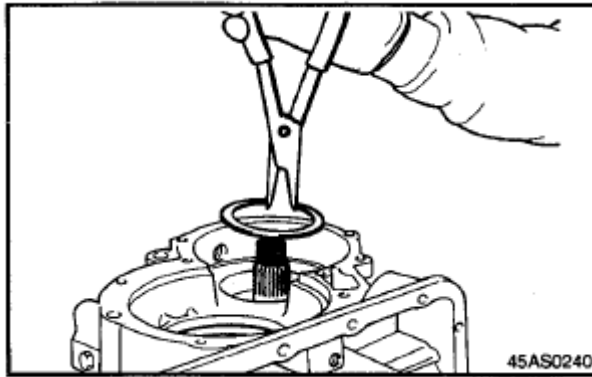


Fig. 60: Installing Transfer Shaft Snap Ring
Courtesy of HYUNDAI MOTOR CO.

7. Insert the spacer on the transfer shaft.

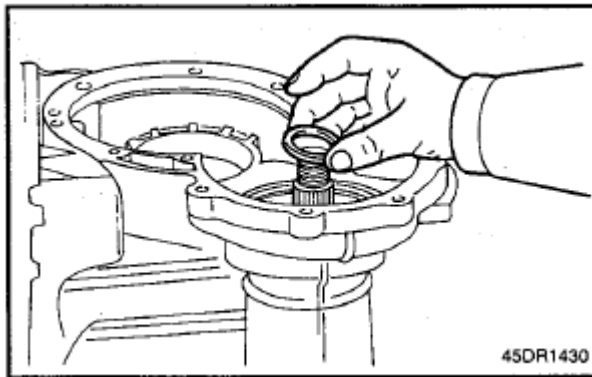


Fig. 61: Installing Spacer On Transfer Shaft
Courtesy of HYUNDAI MOTOR CO.

8. Install the bearing cage on the case.

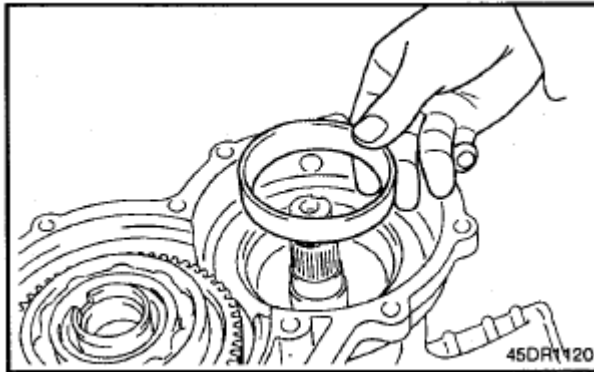


Fig. 62: Installing Bearing Cage On Case
Courtesy of HYUNDAI MOTOR CO.

9. Press-fit the transfer driven gear to the transfer shaft.

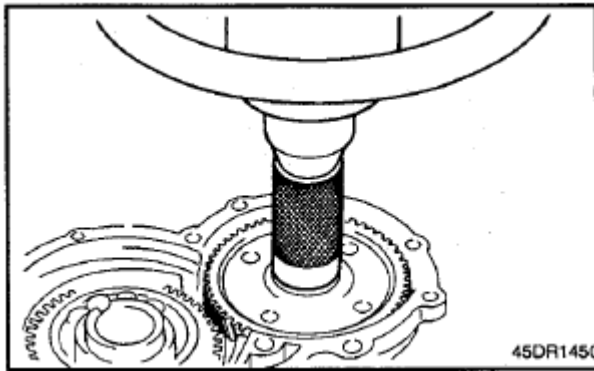
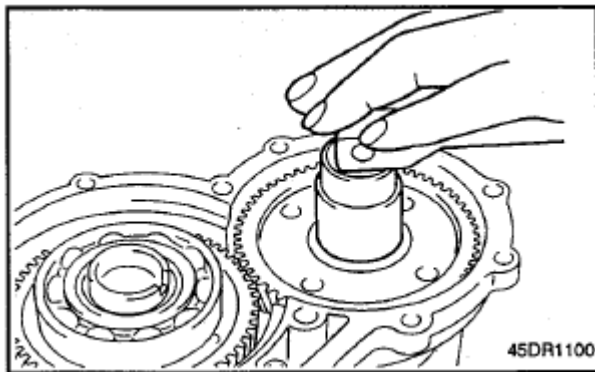


Fig. 63: Pressing Transfer Driven Gear To Transfer Shaft
Courtesy of HYUNDAI MOTOR CO.

10. Tighten the lock nut to the specified torque.

Transfer lock nut:

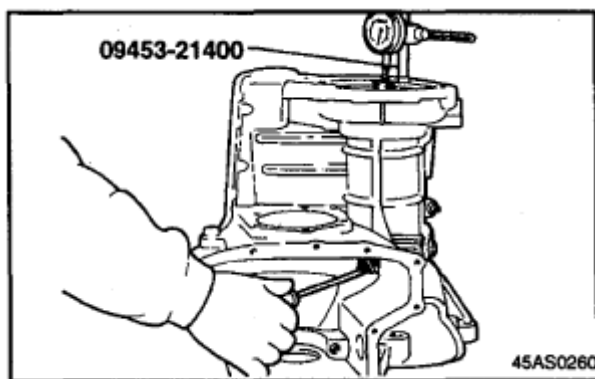
200-230 Nm (2000-2300 kg.cm, 146-166 lb.ft)

**Fig. 64: Tightening Lock Nut**

Courtesy of HYUNDAI MOTOR CO.

11. After installing the dial gauge, measure the end play of the transfer shaft: then select the spacer (s) needed to obtain the standard value, and refit.

Transfer shaft end play: 0-0.06 mm (0-0.002 in.)

**Fig. 65: Measuring End Play Of Transfer Shaft**

Courtesy of HYUNDAI MOTOR CO.

12. Using a punch, lock the lock nut to prevent rotation.

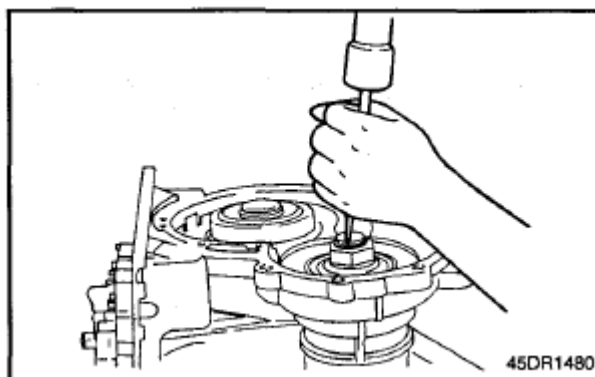


Fig. 66: Locking Lock Nut Using Punch
Courtesy of HYUNDAI MOTOR CO.

13. Install the transfer drive gear assembly.

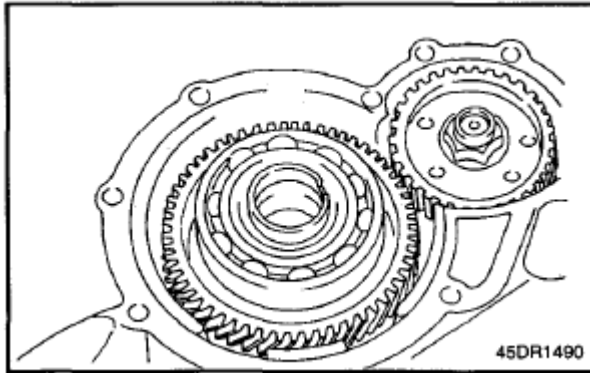


Fig. 67: Identifying Transfer Drive Gear Assembly
Courtesy of HYUNDAI MOTOR CO.

14. Install the Special Tool at the rear side of the transaxle case.

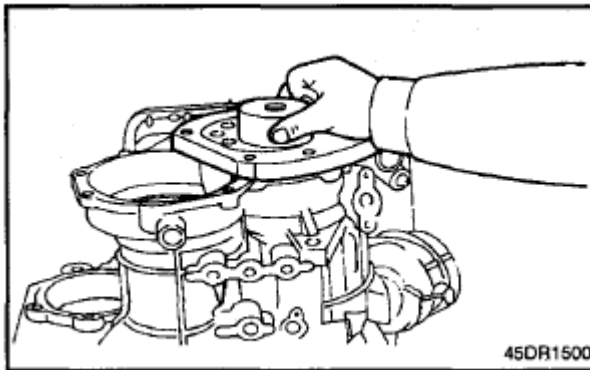


Fig. 68: Installing Special Tool Rear Side Of Transaxle Case
Courtesy of HYUNDAI MOTOR CO.

15. Using the Special Tool, insert an assembly of the annulus gear into the transfer drive gear.

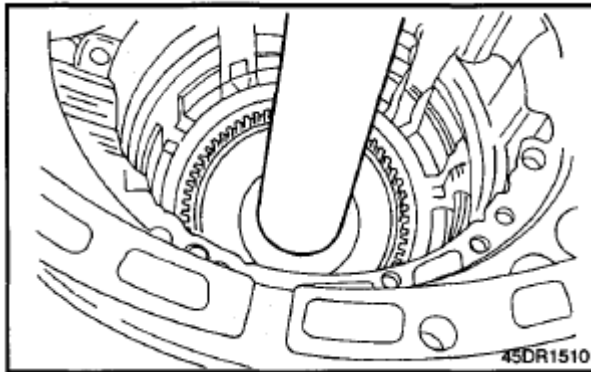


Fig. 69: Inserting Assembly Of Annulus Gear Into Transfer Drive Gear
Courtesy of HYUNDAI MOTOR CO.

16. Install the stopper plate and snap ring.

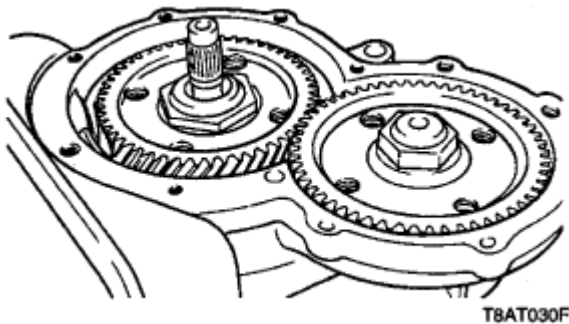


Fig. 70: Identifying Stopper Plate & Snap Ring
Courtesy of HYUNDAI MOTOR CO.

17. Apply specified sealant to the rear cover.

Specified sealant: THREE BOND 1281B

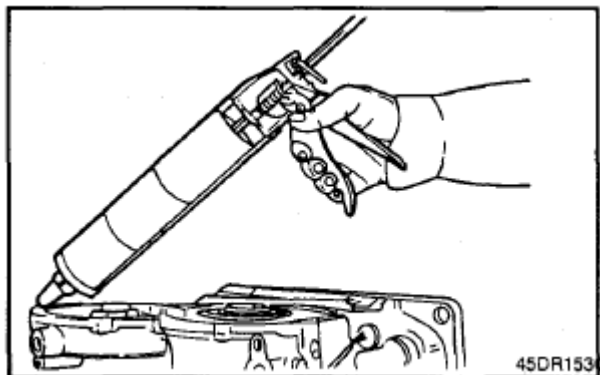


Fig. 71: Applying Specified Sealant To Rear Cover
Courtesy of HYUNDAI MOTOR CO.

18. Install the rear cover assembly.

Tightening torque:

17-22 Nm (170-220 kg.cm, 12.3-15.9 lb.ft)

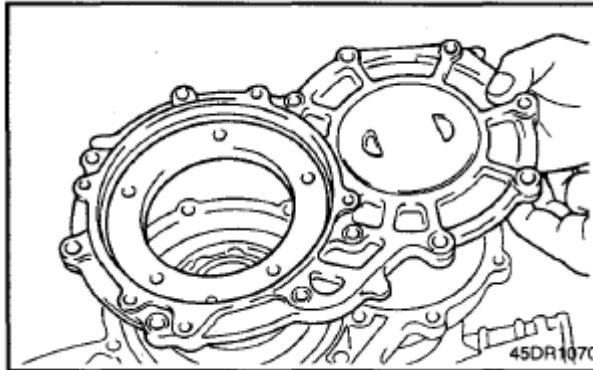


Fig. 72: Installing Rear Cover Assembly
Courtesy of HYUNDAI MOTOR CO.

19. Install snap ring.

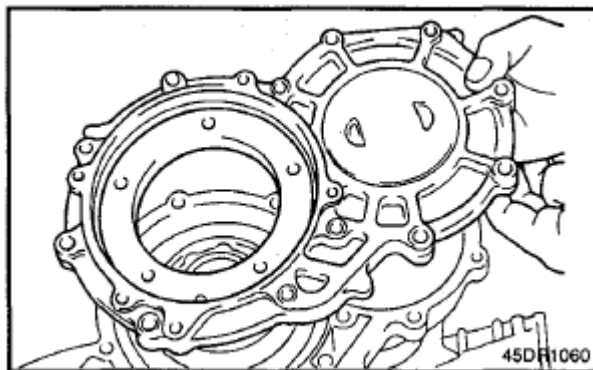
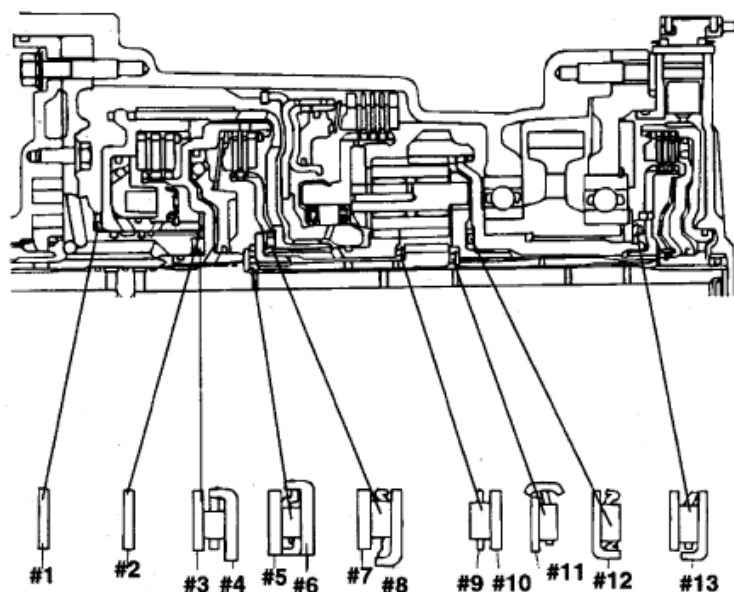


Fig. 73: Installing Snap Ring
Courtesy of HYUNDAI MOTOR CO.



X45-077B

Fig. 74: Identifying Thrust Bearings, Thrust Races, & Thrust Washers
Courtesy of HYUNDAI MOTOR CO.

Identification of thrust bearings, thrust races and thrust washers

THRUST BEARING/RACE/WASHER THICKNESS & INNER/OUTER DIAMETER REFERENCE CHART

			Unit: mm (in.)
Outer diameter	Inner diameter	Thickness	Code No.
70 (2.756)	55.7 (2.193)	1.4 (0.055)	#1
70 (2.756)	55.7 (2.193)	1.8 (0.071)	
70 (2.756)	55.7 (2.193)	2.2 (0.087)	
70 (2.756)	55.7 (2.193)	2.6 (0.102)	
70 (2.756)	55.7 (2.193)	1.8 (0.071)	#2
48.9 (1.925)	37 (1.457)	1.0 (0.039)	#3
48.9 (1.925)	37 (1.457)	1.2 (0.047)	
48.9 (1.925)	37 (1.457)	1.4 (0.055)	
48.9 (1.925)	37 (1.457)	1.6 (0.063)	
48.9 (1.925)	37 (1.457)	1.8 (0.071)	
48.9 (1.925)	37 (1.457)	2.0 (0.079)	
48.9 (1.925)	37 (1.457)	2.2 (0.087)	
48.9 (1.925)	37 (1.457)	2.4 (0.094)	
48.1 (1.906)	34.4 (1.354)	-	#4
40 (1.575)	21 (0.827)	2.4 (0.094)	#5
42.6 (1.677)	28 (1.102)	-	#6
54 (2.126)	38.7 (1.524)	1.6 (0.063)	#7

1995 Hyundai Accent

1995-2010 AUTOMATIC TRANSMISSION Overhaul - A4AF2 & A4AF3 - Accent

52 (2.047)	36.4 (1.433)	-	#8
41 (1.614)	28 (1.102)	-	#9
39 (1.535)	28 (1.102)	1.2 (0.047)	#10
38 (1.496)	22.2 (0.874)	-	#11
52 (2.047)	36.4 (1.433)	-	#12
58 (2.283)	44 (1.732)	-	#13

20. Apply a coating of petroleum jelly to thrust bearing #12 and attach to the planetary carrier.

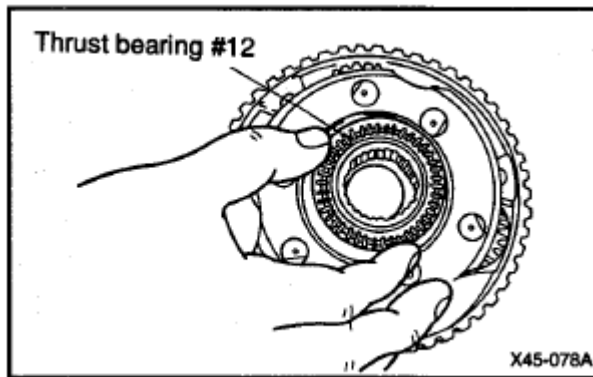


Fig. 75: Identifying Thrust Bearing
Courtesy of HYUNDAI MOTOR CO.

21. Install the planetary carrier to the case.

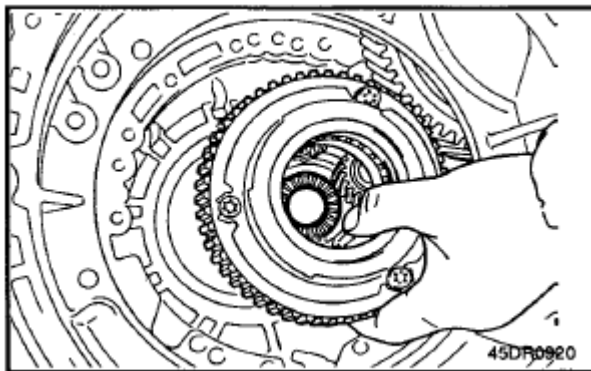


Fig. 76: Installing Planetary Carrier To Case
Courtesy of HYUNDAI MOTOR CO.

22. Assemble the reverse sun gear and the forward sun gear in the following order:
1. Attach the seal ring and the snap ring to the reverse sun gear. When attaching, squeeze the seal ring as shown in **Fig. 77**.
 2. Attach thrust race #10 to the forward sun gear.
 3. Attach thrust bearing #9 to the forward sun gear.



S5AA0200

Fig. 77: Squeezing Seal Ring
Courtesy of HYUNDAI MOTOR CO.

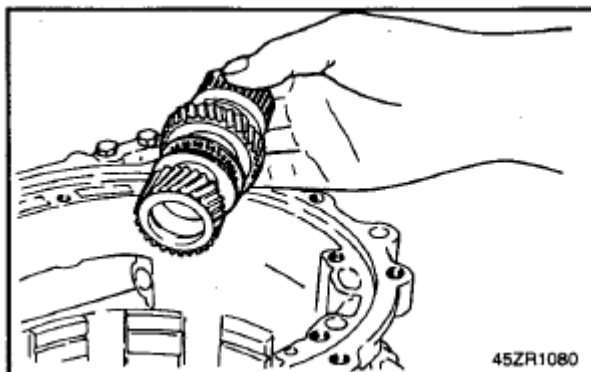
4. Assemble the reverse sun gear, and then the forward sun gear.



X45-078D

Fig. 78: Assembling Reverse Sun Gear & Forward Sun Gear
Courtesy of HYUNDAI MOTOR CO.

23. Install both of the previously assembled sun gears into the planetary carrier.



45ZR1080

Fig. 79: Installing Both Of Previously Assembled Sun Gears Into Planetary Carrier
Courtesy of HYUNDAI MOTOR CO.

24. Install the brake disc and brake plate.

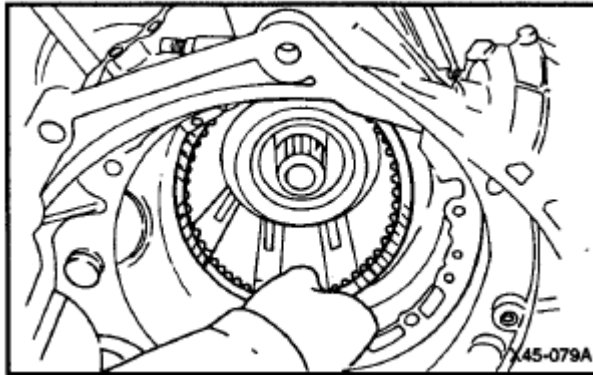


Fig. 80: Installing Brake Disc & Brake Plate
Courtesy of HYUNDAI MOTOR CO.

25. Install the selected brake pressure plate.

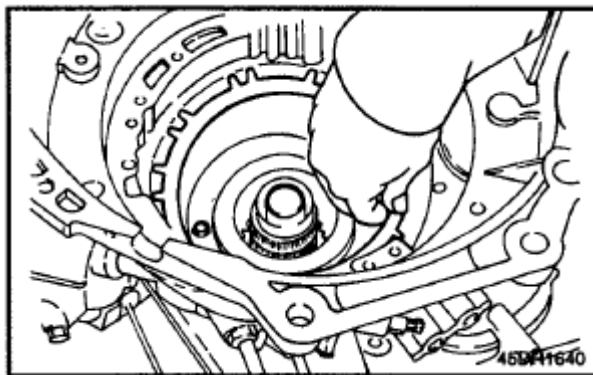


Fig. 81: Installing Selected Brake Pressure Plate
Courtesy of HYUNDAI MOTOR CO.

26. Install the return spring. (Spring type)

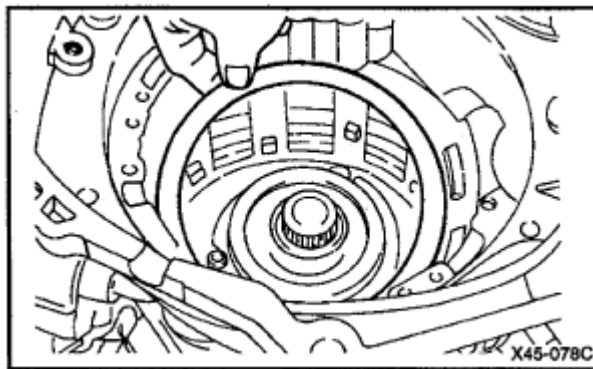


Fig. 82: Installing Return Spring
Courtesy of HYUNDAI MOTOR CO.

27. Apply a coating of petroleum jelly to the wave spring and attach it to the center support.

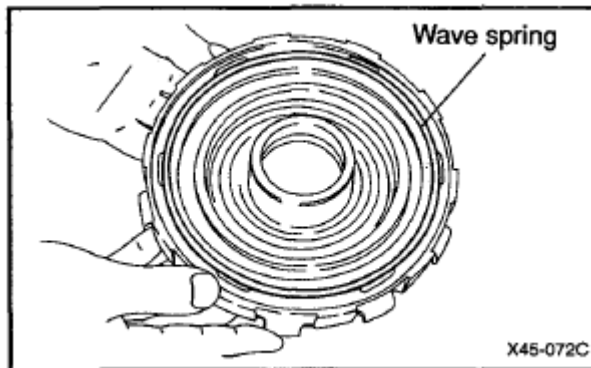


Fig. 83: Identifying Wave Spring
Courtesy of HYUNDAI MOTOR CO.

28. Install the two new O-rings to the center support.

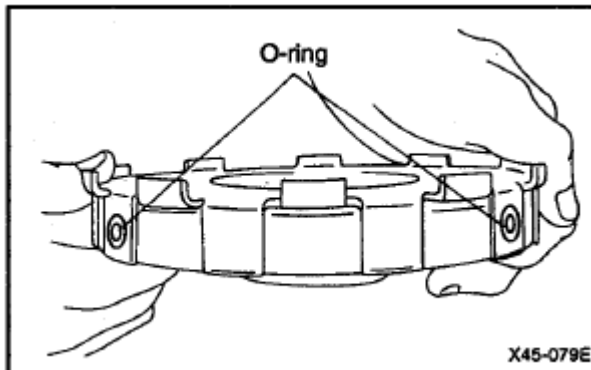


Fig. 84: Identifying O-Rings
Courtesy of HYUNDAI MOTOR CO.

29. After applying a coating of ATF to the O-rings, install the special tool (09453-21310) to the center support, and install into the case.

CAUTION: Be sure that the wave spring is not out of position

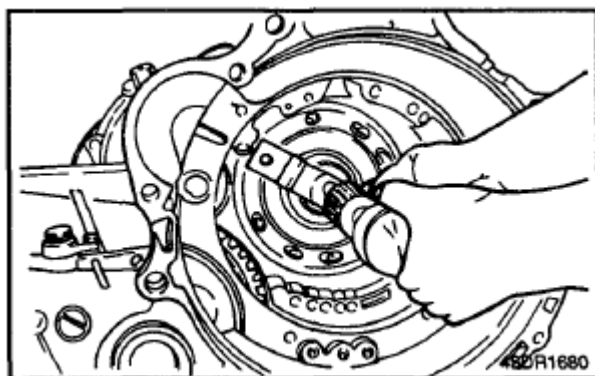


Fig. 85: Identifying Special Tool (09453-21310) To Center Support
Courtesy of HYUNDAI MOTOR CO.

30. Install the snap ring.

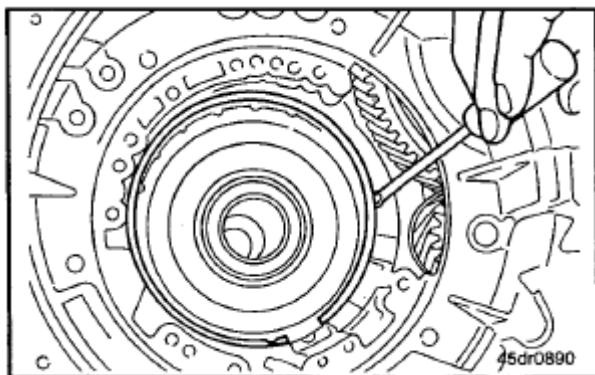


Fig. 86: Removing/Installing Snap Ring
Courtesy of HYUNDAI MOTOR CO.

31. Assemble a new seal ring (large diameter) and D-ring (small diameter) to the kickdown servo piston, and install a new O-ring in the groove around the sleeve; then assemble the kickdown servo spring, piston and sleeve in the transaxle case.

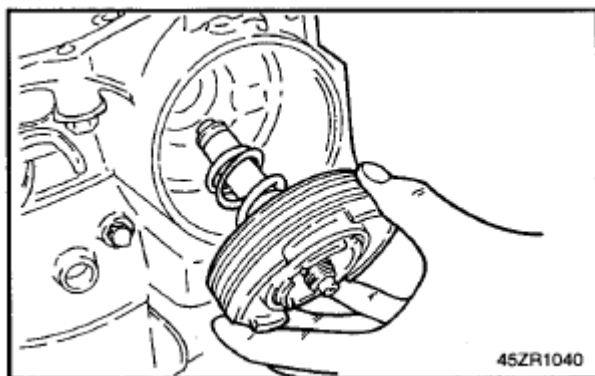


Fig. 87: Identifying Kickdown Piston, Servo Spring, & Sleeve

Courtesy of HYUNDAI MOTOR CO.

32. Press the kickdown servo and sleeve, and install the snap ring.

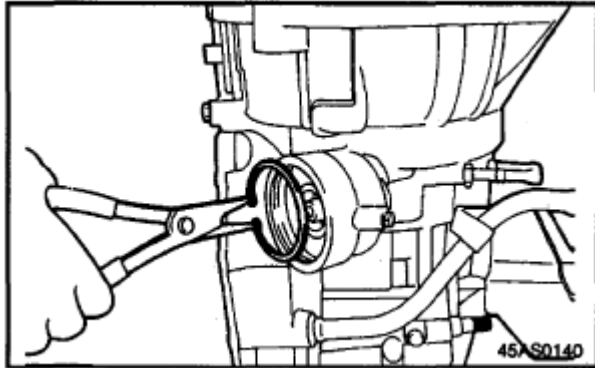


Fig. 88: Installing Snap Ring

Courtesy of HYUNDAI MOTOR CO.

33. Install the end clutch shaft. Be sure to install the longer spline toward the front as shown.

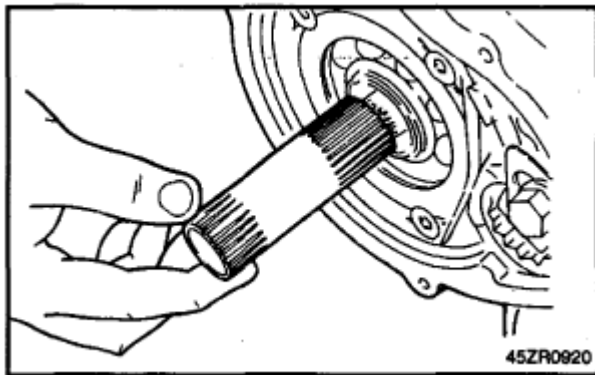


Fig. 89: Installing Clutch Shaft

Courtesy of HYUNDAI MOTOR CO.

34. Fit the thrust washer toward the return spring at the end clutch side.

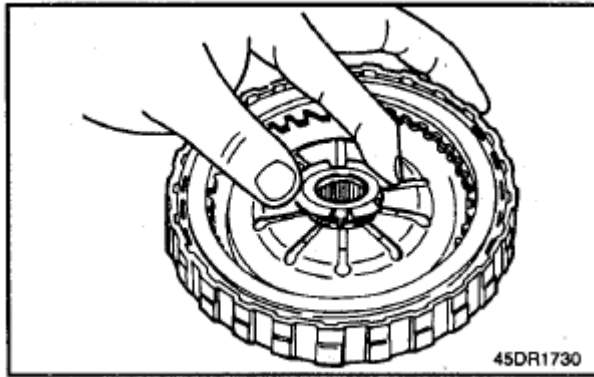


Fig. 90: Installing Thrust Washer
Courtesy of HYUNDAI MOTOR CO.

35. Install the end clutch hub to end clutch.

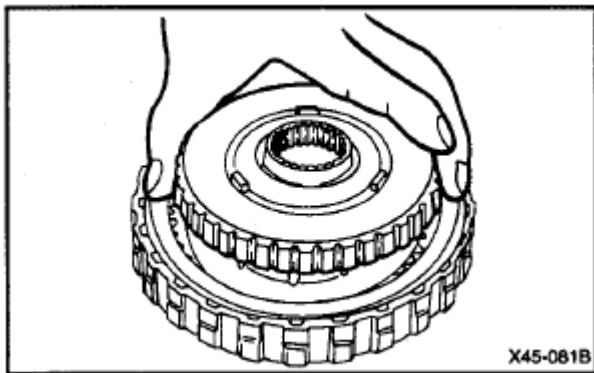


Fig. 91: Installing End Clutch Hub To End Clutch
Courtesy of HYUNDAI MOTOR CO.

36. Attach, using petroleum, thrust bearing #13 to the end clutch hub.

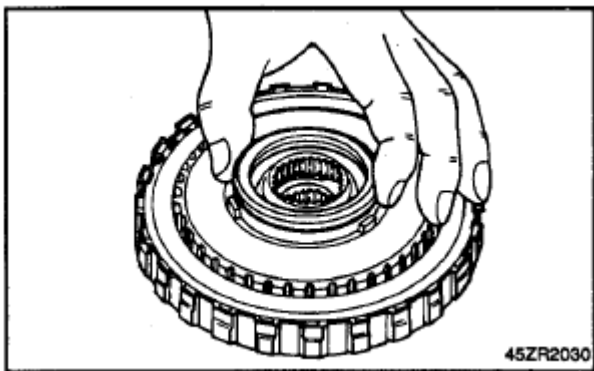


Fig. 92: Attaching Thrust Bearing To End Clutch Hub
Courtesy of HYUNDAI MOTOR CO.

37. Install the end clutch assembly.

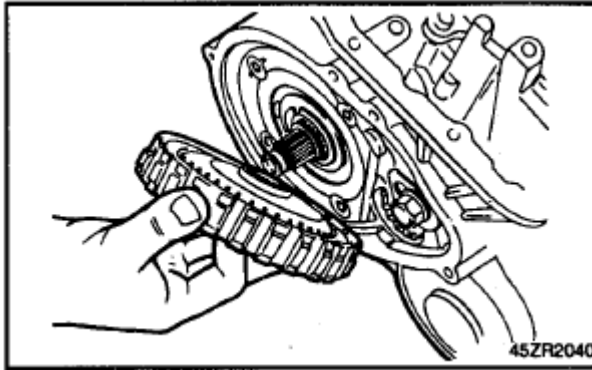


Fig. 93: Installing End Clutch Assembly
Courtesy of HYUNDAI MOTOR CO.

38. Attach a new O-ring and D-ring to the end clutch cover.

CAUTION: Install so that the D-ring is not twisted.
Apply a sufficient amount of automatic transaxle fluid to the bearing.

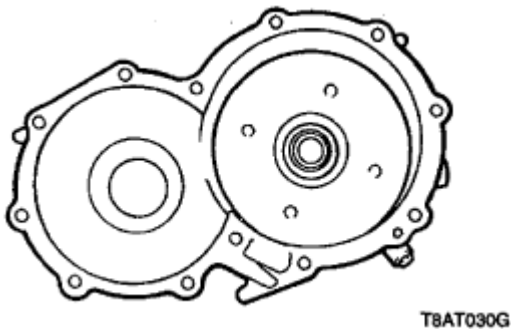


Fig. 94: Identifying Clutch Cover
Courtesy of HYUNDAI MOTOR CO.

39. Attach the end cover and fasten it with four bolts.

CAUTION: When installing the end cover, be sure the screw hole is correctly aligned. If the end cover is turned (after it is installed) in order to align with the screw hole, the O-ring and/or the D-ring may be twisted as result.

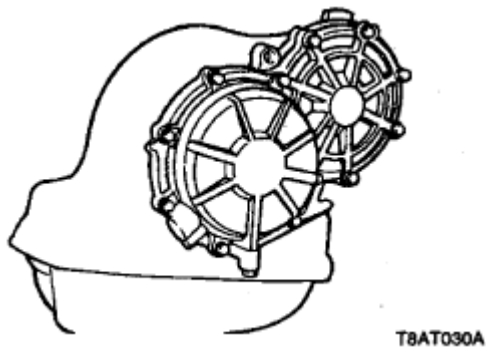


Fig. 95: Identifying End Cover
Courtesy of HYUNDAI MOTOR CO.

40. Install kickdown drum with its splines in mesh with the sun gear. Place the kickdown band on the kickdown drum and tighten the kickdown servo adjusting screw to keep the band in position.

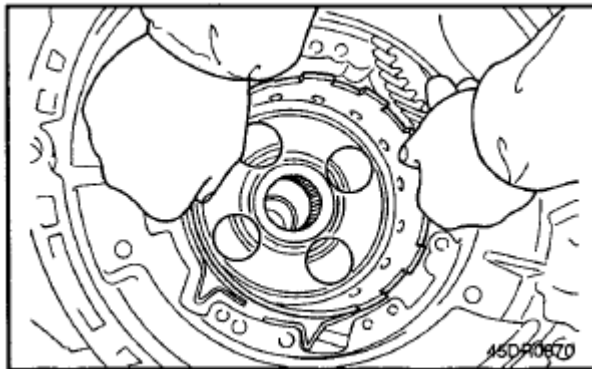


Fig. 96: Removing/Installing Kickdown Drum
Courtesy of HYUNDAI MOTOR CO.

41. Apply a coating of petroleum jelly to thrust bearing #8, and then attach to the kickdown drum.

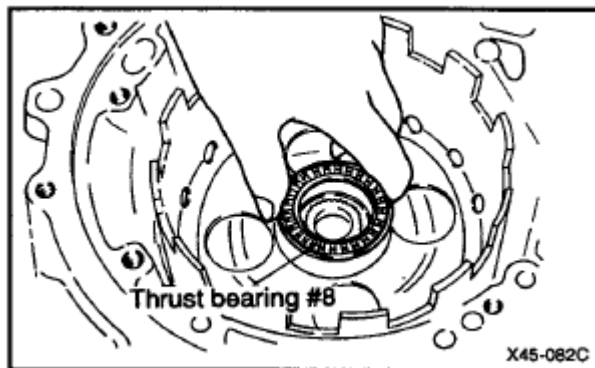


Fig. 97: Identifying Thrust Bearing
Courtesy of HYUNDAI MOTOR CO.

42. Apply a coating of petroleum jelly to thrust race #7, and then attach to the rear clutch hub.

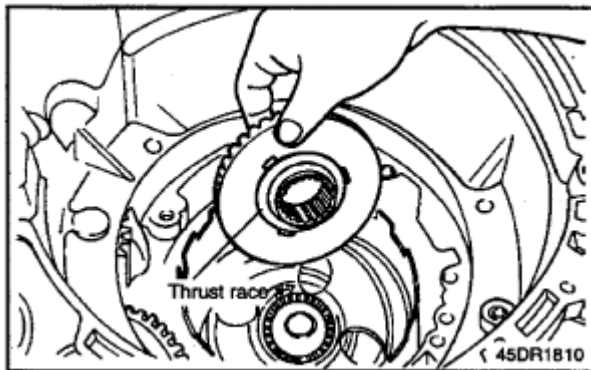


Fig. 98: Identifying Thrust Race
Courtesy of HYUNDAI MOTOR CO.

43. Install the clutch hub to the sun gear splines.

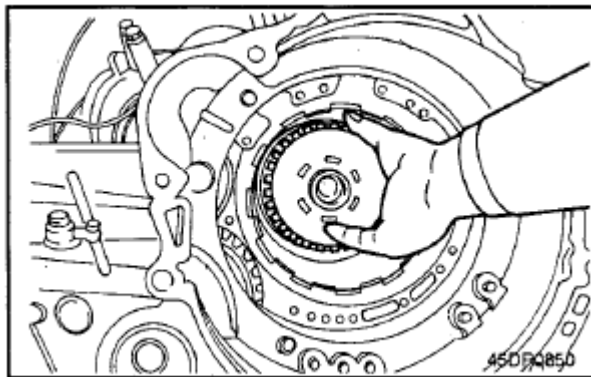


Fig. 99: Installing Clutch Hub To Sun Gear Splines
Courtesy of HYUNDAI MOTOR CO.

44. Attach thrust bearing #6 onto the hub using petroleum jelly.

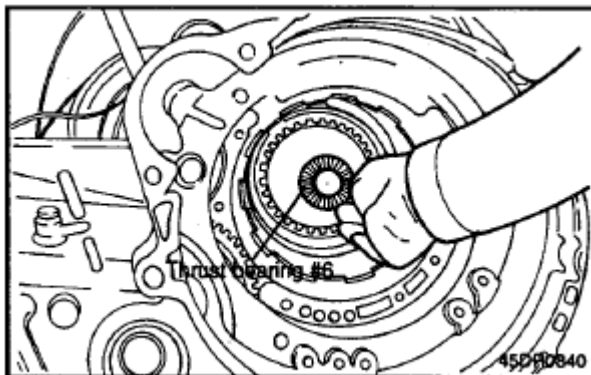


Fig. 100: Attaching Thrust Bearing Onto Hub
Courtesy of HYUNDAI MOTOR CO.

45. Apply a coating of petroleum jelly to thrust washer #2 and thrust bearing #4. Attach to the rear clutch assembly.

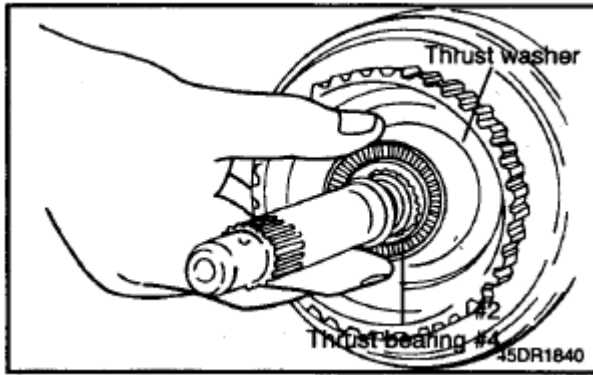


Fig. 101: Identifying Thrust Bearing & Thrust Washer
Courtesy of HYUNDAI MOTOR CO.

46. Combine the rear clutch and the front clutch assemblies.

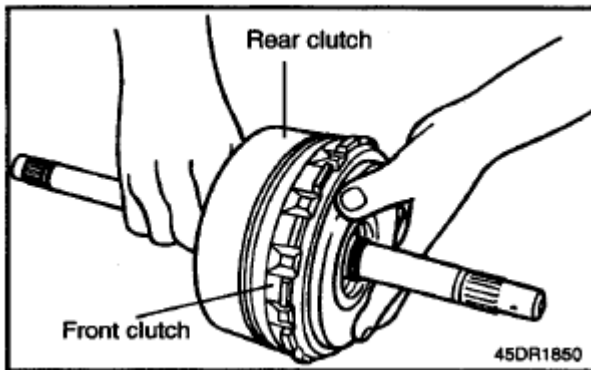


Fig. 102: Identifying Rear Clutch & Front Clutch Assemblies
Courtesy of HYUNDAI MOTOR CO.

47. Install the end clutch assembly.

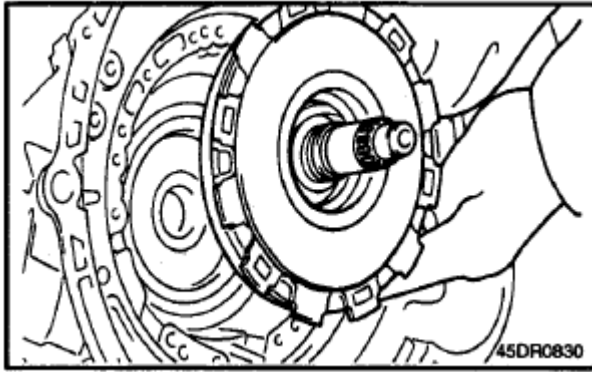


Fig. 103: Removing Front/Rear Clutch Assembly
 Courtesy of HYUNDAI MOTOR CO.

48. If end play which was measured and recorded at disassembly is not within standard value, adjust to specification by selecting thrust race #3.

Standard value: 0.3-1.0 mm (0.012-0.040 in.)

When the thrust race is replaced with that of a different thickness, also replace thrust washer#1 located between the oil pump and front clutch. Use a washer of proper corresponding thickness corresponding to thrust race.

Find correct pair of thrust races (metal) and thrust washers (fiber) from following table.

THRUST WASHER #1 & THRUST RACE #3 THICKNESS SPECIFICATIONS

Thrust washer #1 (fiber)	Thrust race #3 (metal)
Thickness mm (in.)	Thickness mm (in.)
1.4 (0.055)	1.0 (0.039)
1.4 (0.055)	1.2 (0.047)
1.8 (0.071)	1.4 (0.055)
1.8 (0.071)	1.6 (0.063)
2.2 (0.087)	1.8 (0.071)
2.2 (0.087)	2.0 (0.079)
2.6 (0.102)	2.2 (0.087)
2.6 (0.102)	2.4 (0.095)

Example:

When a different thickness thick thrust race is selected, a corresponding thrust washer must be paired with it.

49. Attach the reused thrust washer #1, or the one selected in step 48 to the front clutch by using petroleum jelly.
50. Install the Special Tool (09452-21401) to the case.

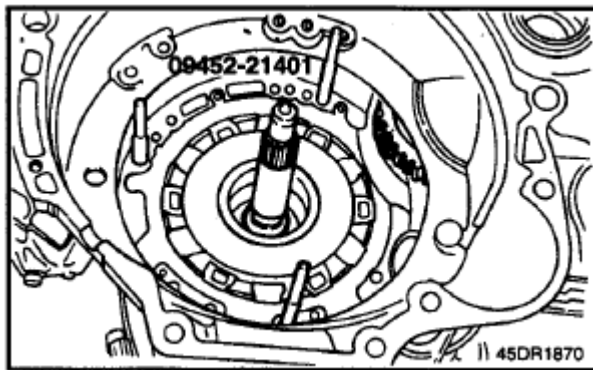


Fig. 104: Installing Special Tool (09452-21401) To Case
Courtesy of HYUNDAI MOTOR CO.

51. Attach the reused thrust race #3 or the one selected in step 50 to the oil pump by using petroleum jelly.

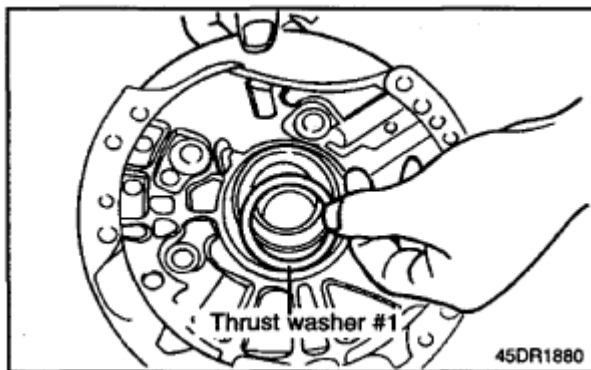


Fig. 105: Installing Thrust Race
Courtesy of HYUNDAI MOTOR CO.

52. Install a new oil pump gasket and the oil pump assembly.

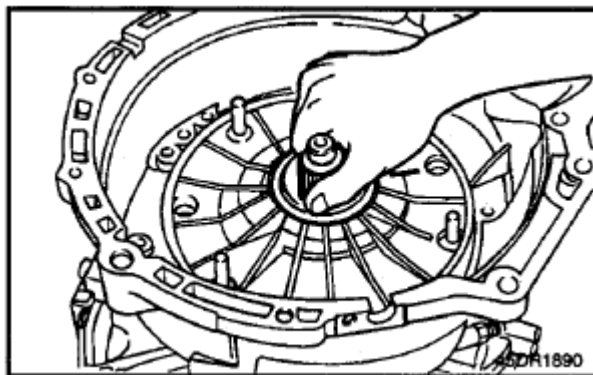


Fig. 106: Identifying Oil Pump Assembly
Courtesy of HYUNDAI MOTOR CO.

53. Install a new O-ring in the groove of the oil pump housing and lightly apply automatic transaxle fluid to the outside surface of the O-ring.
54. Install the oil pump assembly by tightening the six bolts evenly. When installing this oil pump assembly, be careful that the thrust washer remains in place.

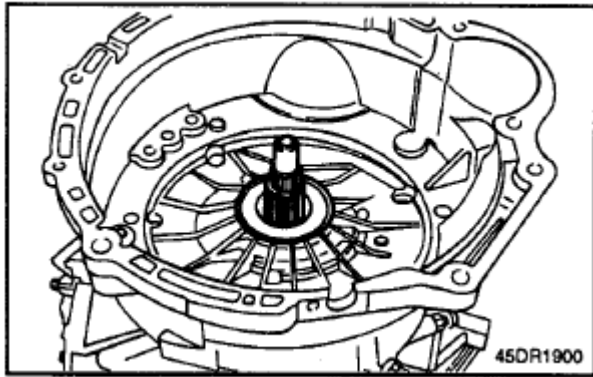


Fig. 107: Identifying Oil Pump Assembly
Courtesy of HYUNDAI MOTOR CO.

55. Check the input shaft end play. Readjust if necessary (see step 50).

Standard value: 0.3-1.0 mm (0.012-0.040 in.)

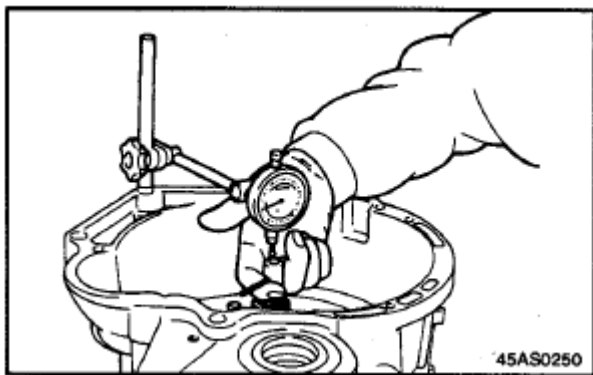


Fig. 108: Checking Input Shaft End Play
Courtesy of HYUNDAI MOTOR CO.

56. Install the O-ring at the center of the top of the valve body assembly (brake oil pressure passage).

Install the valve body assembly to the case, fitting the detent plate (manual control shaft) pin in the slot of the manual valve.

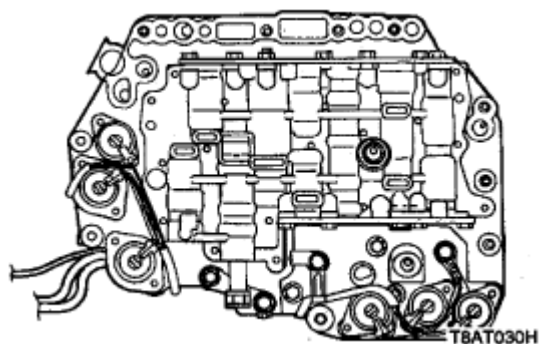


Fig. 109: Identifying Valve Body Assembly
Courtesy of HYUNDAI MOTOR CO.

- 57. Replace the O-ring of the solenoid valve connector with a new one.
- 58. Tighten the valve body assembly mounting bolts to 10-12 Nm (100-120 kg.cm, 7-9 lb.ft)
- 59. Install the oil filter. Tighten the four oil filter mounting bolts to 5-7 Nm (50-70 kg.cm, 4-5 lb.ft)

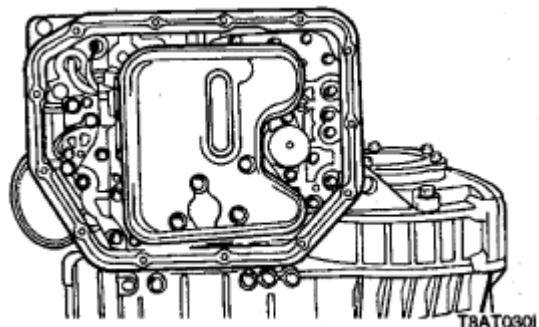


Fig. 110: Identifying Oil Filter Mounting Bolts
Courtesy of HYUNDAI MOTOR CO.

- 60. Install five magnets into the five depression provided in the oil pan.

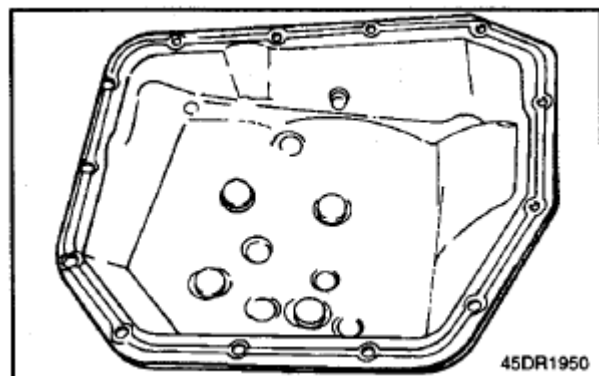


Fig. 111: Identifying Magnets
Courtesy of HYUNDAI MOTOR CO.

61. Install a new oil pan gasket and oil pan. Tightening 12 bolts to 10-12 Nm (100-120 kg.cm, 7-9 lb.ft)

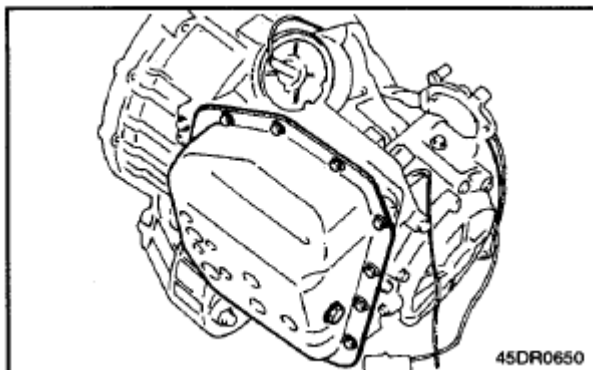


Fig. 112: Identifying Oil Pan

Courtesy of HYUNDAI MOTOR CO.

62. Install a new D-ring to the kickdown servo switch. Press into the case and secure using the proper snap ring.

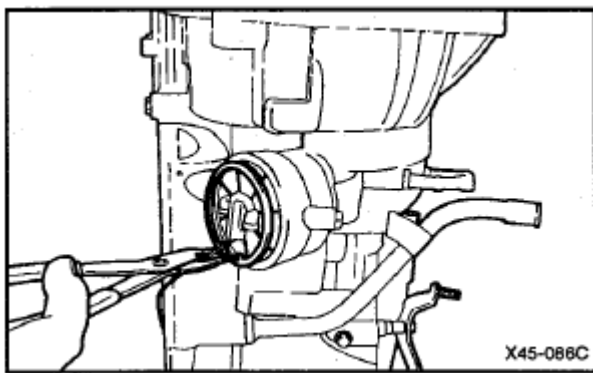


Fig. 113: Installing D-Ring

Courtesy of HYUNDAI MOTOR CO.

63. Install the transaxle range switch and manual lever. Adjust the transaxle range switch.

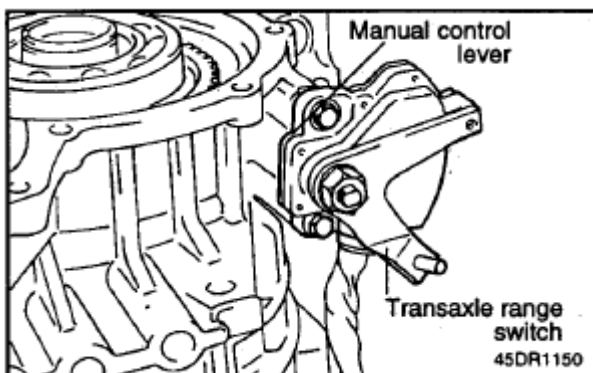


Fig. 114: Identifying Transaxle Range Switch & Manual Lever
Courtesy of HYUNDAI MOTOR CO.

64. Install the pulse generator.

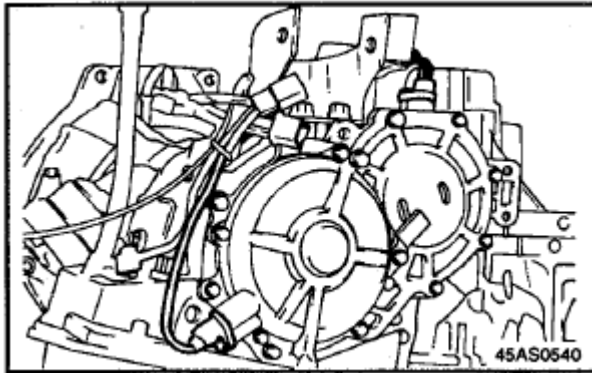


Fig. 115: Identifying Pulse Generator
Courtesy of HYUNDAI MOTOR CO.

65. Install the differential assembly.

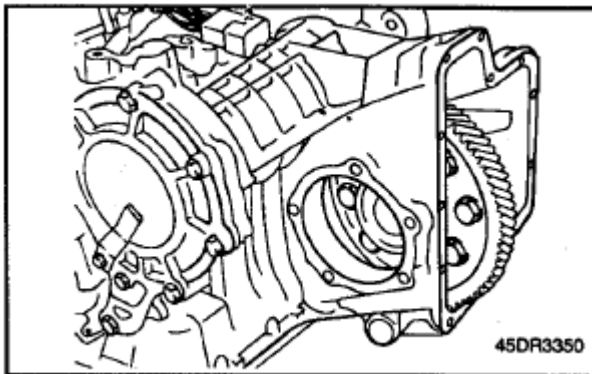


Fig. 116: Identifying Differential Assembly
Courtesy of HYUNDAI MOTOR CO.

66. Place two pieces of solder, roughly 10 mm (0.4 in.) long and 3 mm (0.12 in.) in diameter, at the position shown on the differential bearing retainer outer race.

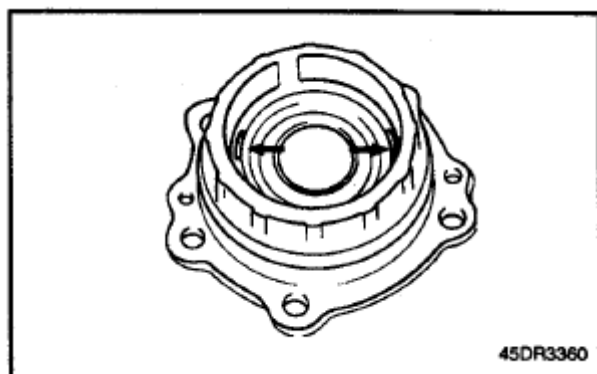


Fig. 117: Identifying Solder Area On Differential Bearing Retainer Outer Race
Courtesy of HYUNDAI MOTOR CO.

67. Install the differential bearing retainer and tighten the bolt to specified torque.

Standard value : 43-55 Nm (430-550 kg.cm, 31-40 lb.ft)

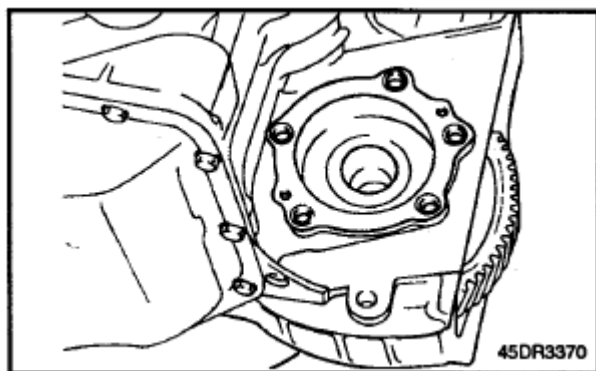


Fig. 118: Identifying Differential Bearing Retainer
Courtesy of HYUNDAI MOTOR CO.

68. Remove the differential bearing retainer
69. Remove the crushed solder from the outer race of the differential bearing.
70. Using a micrometer, measure the thickness of the crushed solder.

Select and install a spacer so that the preload of the differential bearing will be the standard value.

Standard : 0-0.15 mm (0-0.006 in.)

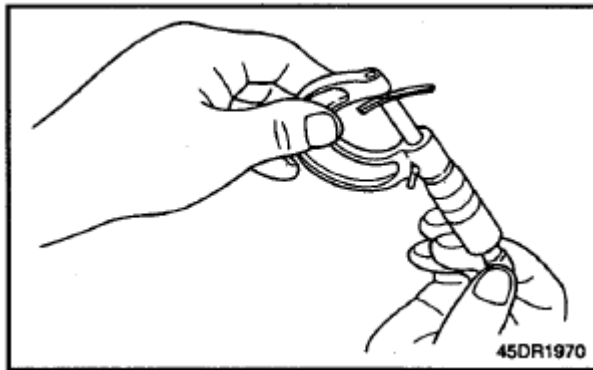


Fig. 119: Measuring Thickness Of Crushed Solder
Courtesy of HYUNDAI MOTOR CO.

71. Apply the ATF to the new installed O-ring and install the differential bearing retainer.

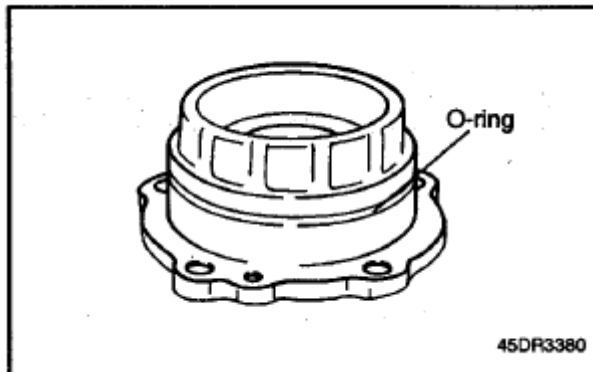


Fig. 120: Identifying O-Ring
Courtesy of HYUNDAI MOTOR CO.

72. Install the differential bearing cap.

Tightening torque

Standard value: 60-80 Nm (600-800 kg.cm, 43-58 lb.ft)

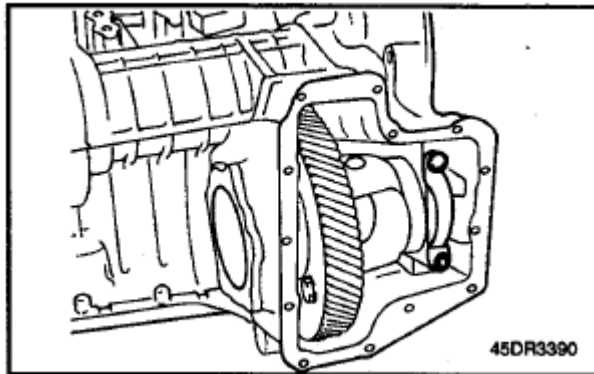


Fig. 121: Identifying Differential Bearing Cap
Courtesy of HYUNDAI MOTOR CO.

73. Install the speedometer sleeve.

Tightening torque

Standard value: 10-12 Nm (100-120 kg.cm, 7-9 lb.ft)

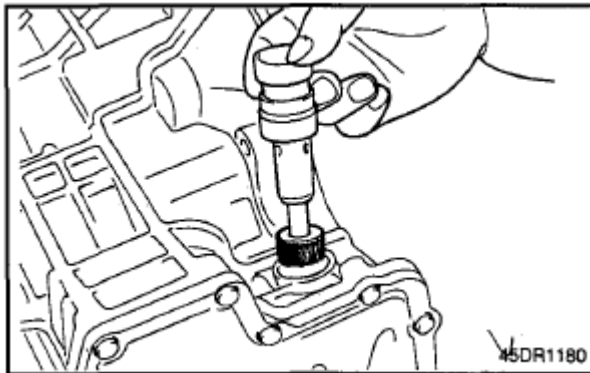


Fig. 122: Installing Speedometer Sleeve
Courtesy of HYUNDAI MOTOR CO.

74. Install the differential cover and the rear roll bracket with new gasket.

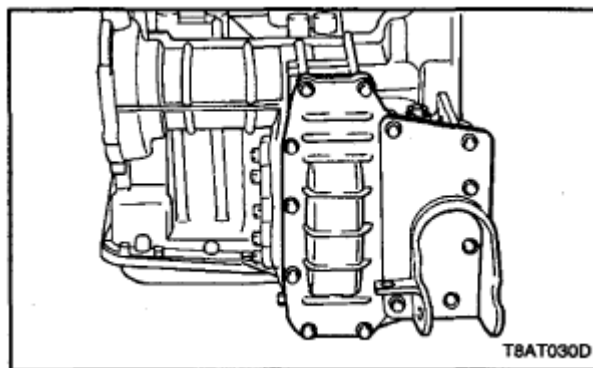


Fig. 123: Identifying Differential Cover
Courtesy of HYUNDAI MOTOR CO.

75. After applying automatic transaxle fluid to the outside surface of the oil pump-side cylindrical portion of the torque converter, install the torque converter carefully so as not to damage the seal lip. Make certain that the torque converter is in mesh with oil pump drive gear.
76. Measure the distance between the ring gear end and the converter housing end. The torque converter has been properly installed when measurement is approximately 12 mm (0.47 in.)

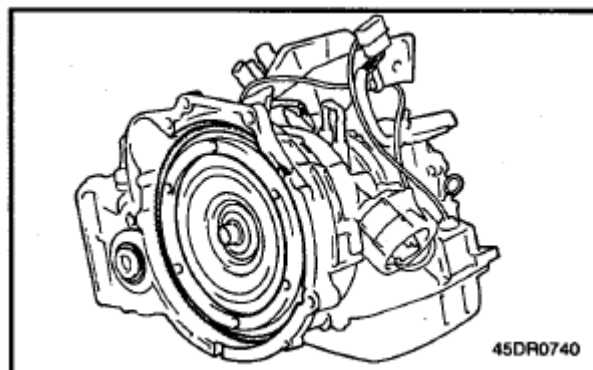
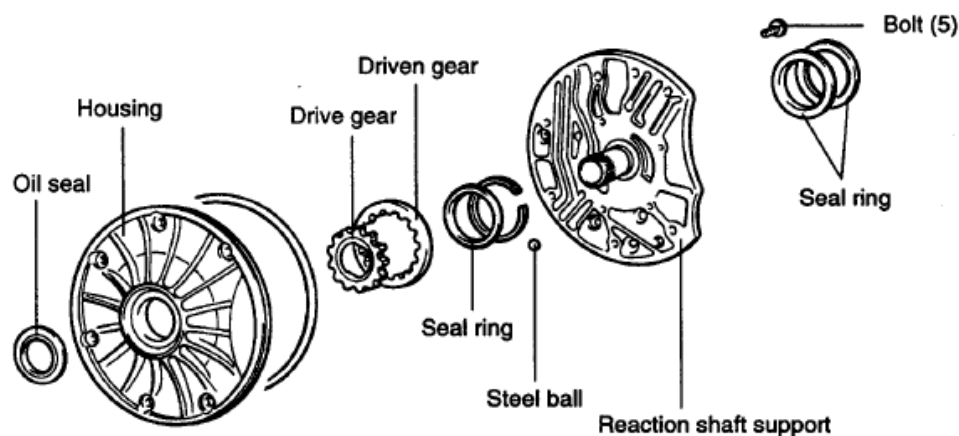


Fig. 124: Identifying Torque Converter
Courtesy of HYUNDAI MOTOR CO.

OIL PUMP ASSEMBLY

OIL PUMP ASSEMBLY

COMPONENTS

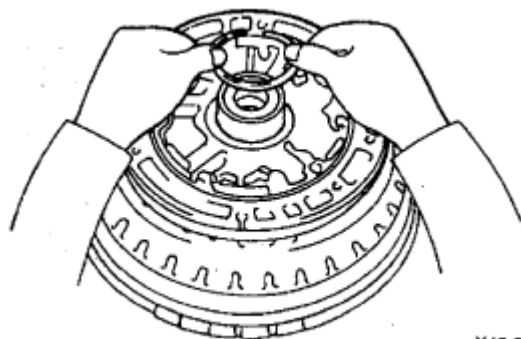


X45-089A

Fig. 125: Identifying Oil Pump Assembly Components
Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Place the oil pump body on the torque converter.
2. Remove the two seal rings and O-ring.



X45-089B

Fig. 126: Identifying Seal Rings & O-Ring
Courtesy of HYUNDAI MOTOR CO.

3. Remove five bolts and remove reaction shaft support from housing.
4. Remove the oil pump body from the torque converter.

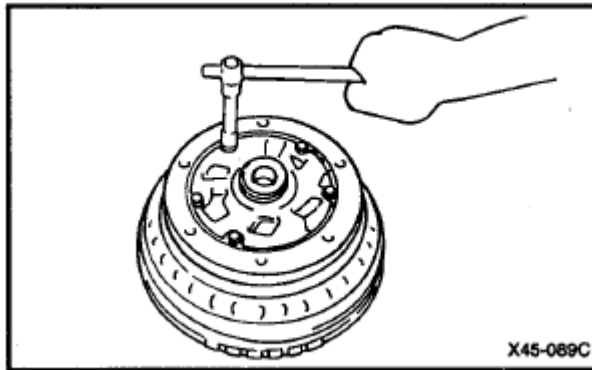


Fig. 127: Removing Reaction Shaft Support Bolts
Courtesy of HYUNDAI MOTOR CO.

5. Make reassembly alignment marks on drive and driven gear.
6. Remove oil pump drive and driven gears from pump housing.
7. Remove the steel ball from housing.

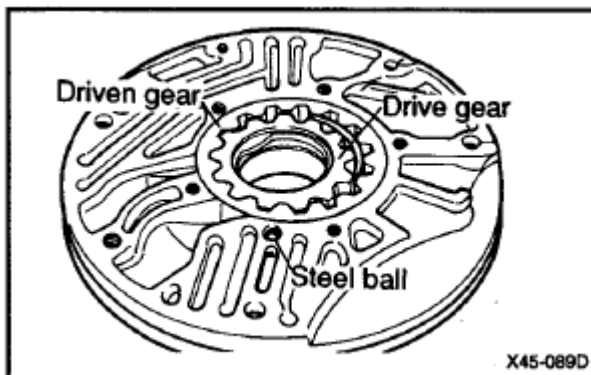


Fig. 128: Identifying Oil Pump Drive, Driven Gear, & Steel Ball
Courtesy of HYUNDAI MOTOR CO.

8. Remove the snap ring and the oil seal from the oil pump drive gear.

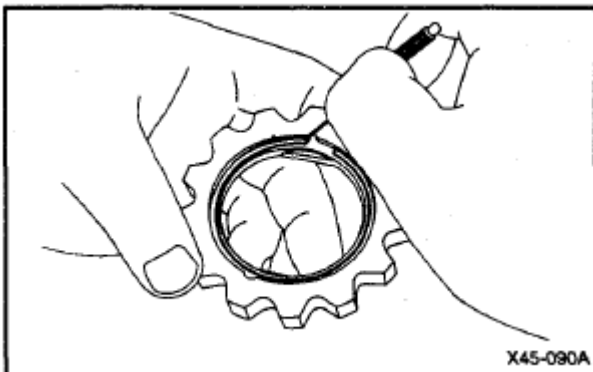


Fig. 129: Removing Snap Ring

Courtesy of HYUNDAI MOTOR CO.

INSPECTION

1. Measure the side clearance of the oil pump gear. If the clearance exceeds the standard value, or if an inspection of the surface area (of the oil pump housing) that contacts the oil pump gear reveals indications of interference, replace the entire oil pump assembly.

Standard value: 0.02-0.048 mm (0.0008-0.0019 in.)

2. Check the surface of the reaction shaft support that contacts the oil pump gear. If there are indications of interference, replace the entire oil pump assembly.
3. Check oil pump drive gear rotation.

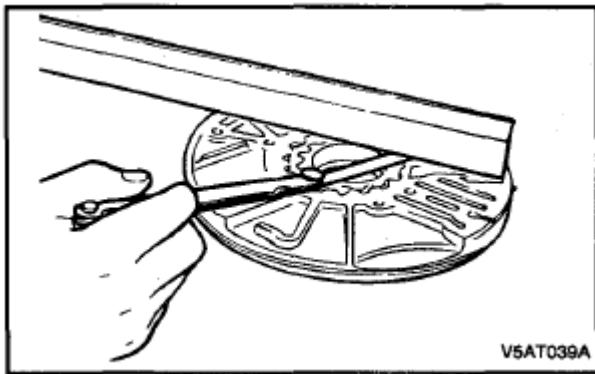


Fig. 130: Measuring Side Clearance Of Oil Pump Gear

Courtesy of HYUNDAI MOTOR CO.

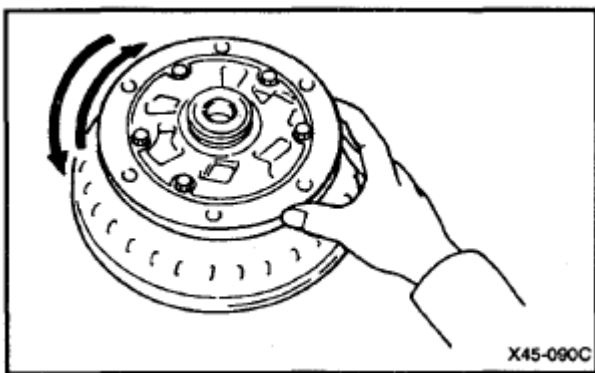


Fig. 131: Checking Oil Pump Drive Gear Rotation

Courtesy of HYUNDAI MOTOR CO.

ASSEMBLY

1. Install the oil seal to the oil pump drive gear.

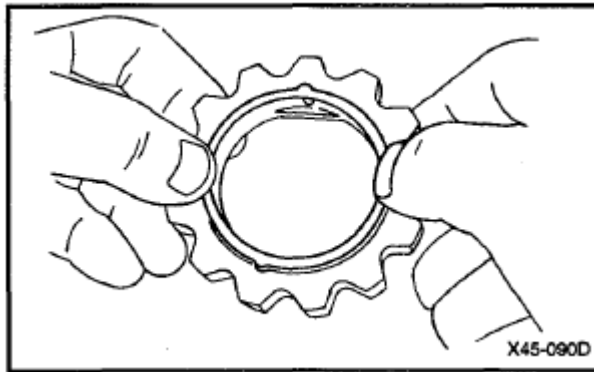


Fig. 132: Installing Oil Seal
Courtesy of HYUNDAI MOTOR CO.

2. Install the snap ring.

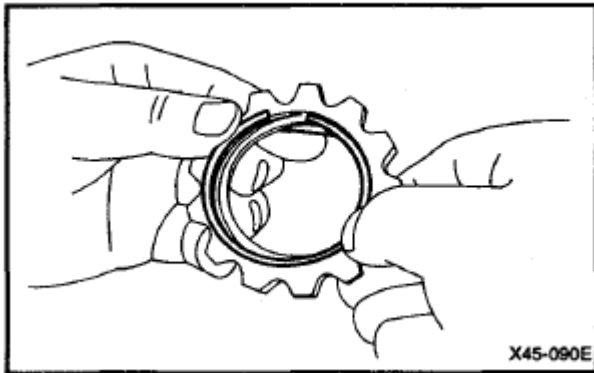


Fig. 133: Installing Snap Ring
Courtesy of HYUNDAI MOTOR CO.

3. After immersing the drive and driven gears in automatic transaxle fluid, install them into pump housing. When reusing gears, install with mating marks properly aligned.
4. Fit a new O-ring into the groove at the inner circumference of the drive gear.
5. Install the steel ball in the hole as shown in **Fig. 134**.

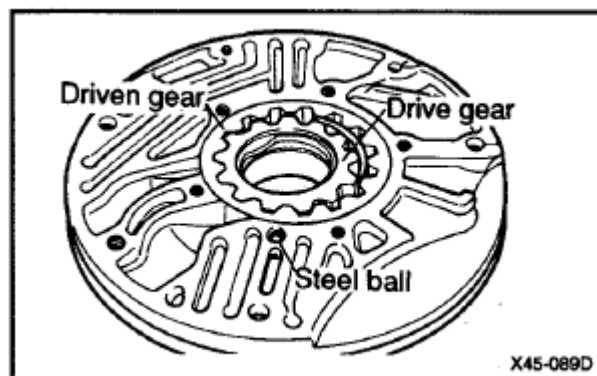


Fig. 134: Identifying Oil Pump Drive, Driven Gear, & Steel Ball
 Courtesy of HYUNDAI MOTOR CO.

6. Install the two seal rings, coated with automatic transaxle fluid, to the reaction shaft support.

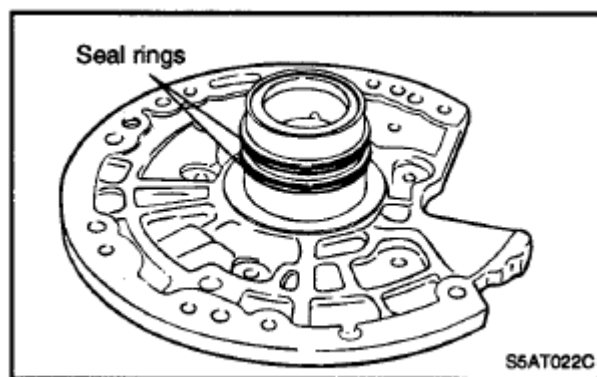


Fig. 135: Identifying Seal Rings
 Courtesy of HYUNDAI MOTOR CO.

7. Make sure that oil pump gear turns freely.
8. Install a new O-ring in the groove provided in the circumference of the pump housing and apply petroleum jelly to the circumference of the O-ring.
9. Loosely install the reaction shaft support on the pump housing. Tighten the five bolts finger-tight.
10. With the reaction shaft support properly positioned on the pump housing, using special tools (09452-2140109452-21301) tighten the five bolts to 10-12 Nm (100-120 kg.cm, 7-9 lb.ft).

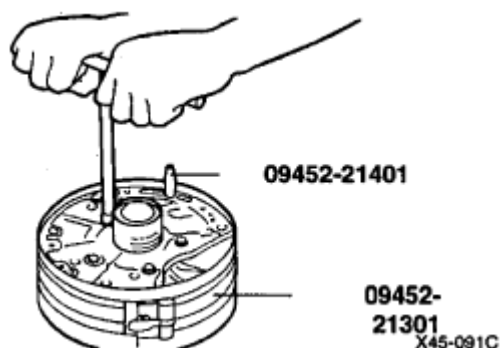


Fig. 136: Tightening Bolts
Courtesy of HYUNDAI MOTOR CO.

OIL SEAL REPLACEMENT

1. Pry off the pump housing oil seal using a screwdriver.

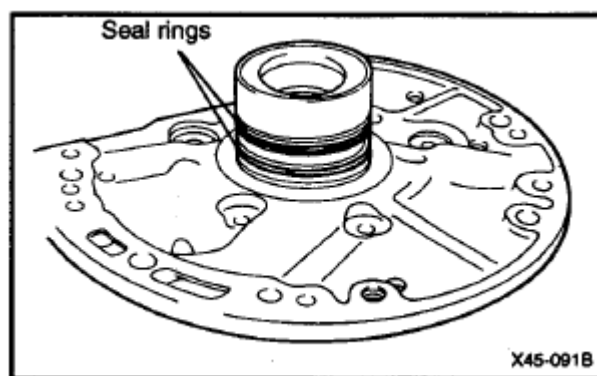


Fig. 137: Identifying Seal Rings
Courtesy of HYUNDAI MOTOR CO.

2. Using the special tool (09452-21200), install the oil seal to the pump housing. Apply a thin coat of automatic transaxle fluid to the lip of the oil seal before installation.

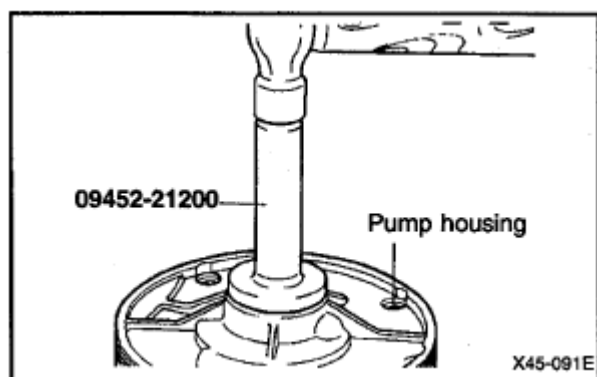


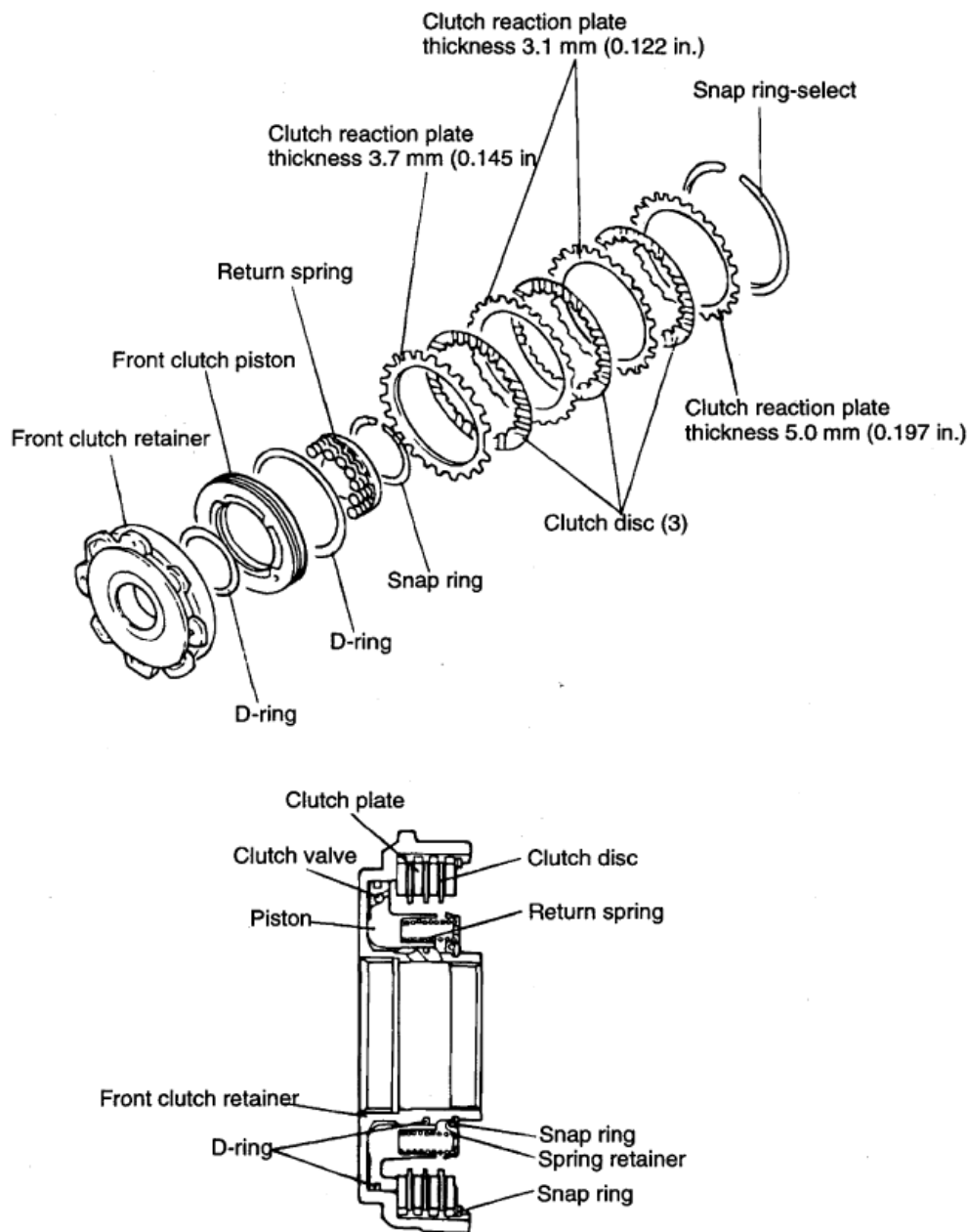
Fig. 138: Installing Oil Seal To Pump Housing

Courtesy of HYUNDAI MOTOR CO.

FRONT CLUTCH ASSEMBLY

FRONT CLUTCH ASSEMBLY

COMPONENTS



V5AT041A

Fig. 139: Identifying Front Clutch Assembly Components

Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Remove the snap ring from the clutch retainer.
2. Take out the three clutch reaction plates and two clutch discs. If the clutch reaction plates and the clutch discs are to be reused, be sure not to change the installation order or direction.
3. With return spring compressed with the special tool (09453-24000), Spring Compressor, remove snap ring, then spring retainer and return spring.
4. Remove the piston from the retainer.
5. Remove the D-section rings from the inner and outer circumferences of the piston.

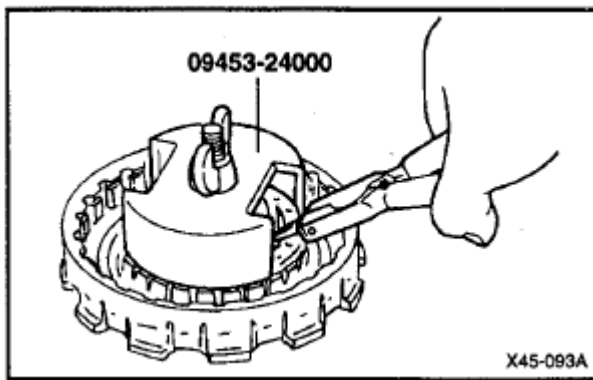


Fig. 140: Compressing Return Spring With Special Tool & Removing Snap Ring
Courtesy of HYUNDAI MOTOR CO.

INSPECTION

1. Check to see if the sliding surface of the disc, plate are worn or burnt, if necessary, replace them.

NOTE: If the lining of the disc is peeling off, replace all discs.

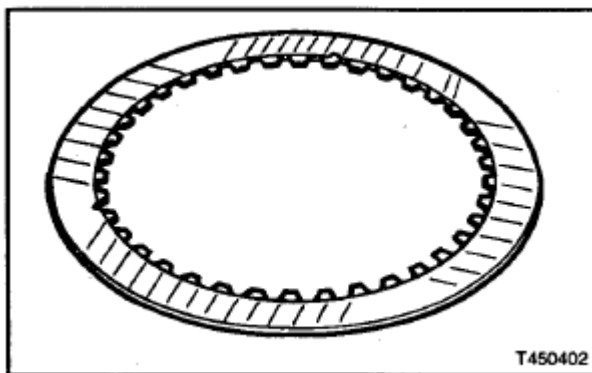


Fig. 141: Checking Sliding Surface Of Disc
Courtesy of HYUNDAI MOTOR CO.

2. Check that the check ball is free by shaking the piston.

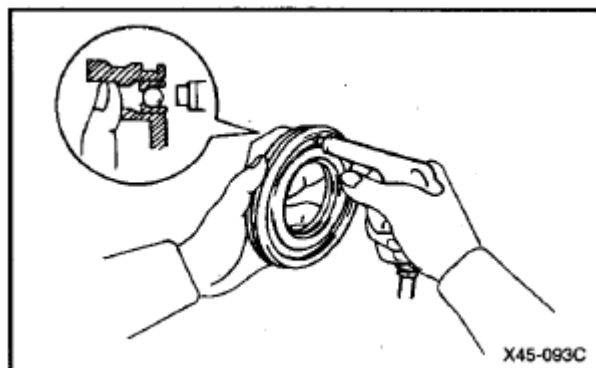


Fig. 142: Checking Check Ball
Courtesy of HYUNDAI MOTOR CO.

ASSEMBLY

1. Install the D-section ring in the groove on the outside surface of the piston with its round side out. Install another D-section ring to the front clutch retainer.
2. Apply automatic transaxle fluid to the outside surface of the D-section rings. Then push the piston into front clutch retainer by hand.

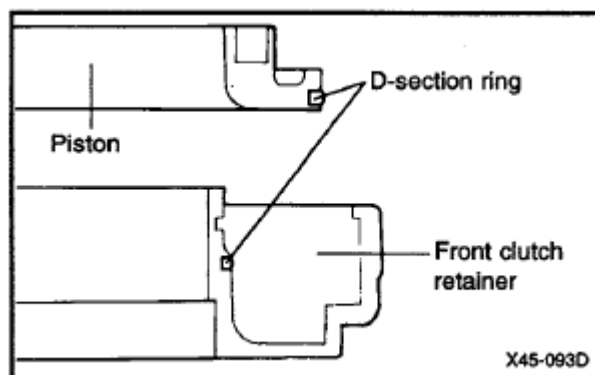


Fig. 143: Installing D-Section Ring
Courtesy of HYUNDAI MOTOR CO.

3. Install the return spring and spring retainer.
4. Compress the return spring with the special tool (09453-24000) and install the snap ring.

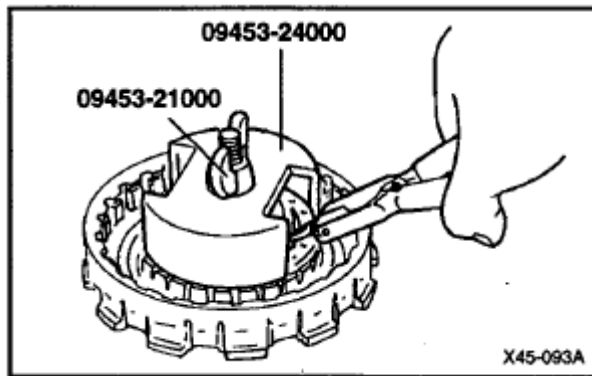


Fig. 144: Compressing Return Spring With Special Tool & Installing Snap Ring
Courtesy of HYUNDAI MOTOR CO.

5. Install the three clutch reaction plates and two clutch discs. Prior to installation, apply automatic transaxle fluid to them.

CAUTION:

1. When new clutch discs are used, they should be immersed in automatic transaxle fluid a minimum of two hours prior to installation.
2. As you know, the color of current clutch disc turns to black when burnt. When the new clutch disc is immersed in ATF for two hours, its color also turns to black, which makes it difficult to identify if the clutch disc is normal or has been burnt. Therefore, care should be taken not to confuse or misuse the burnt clutch disc of current type and new type clutch discs immersed in ATF.
3. The burnt clutch disc of new type should be identified by looking at the height difference of protruded section and base section.

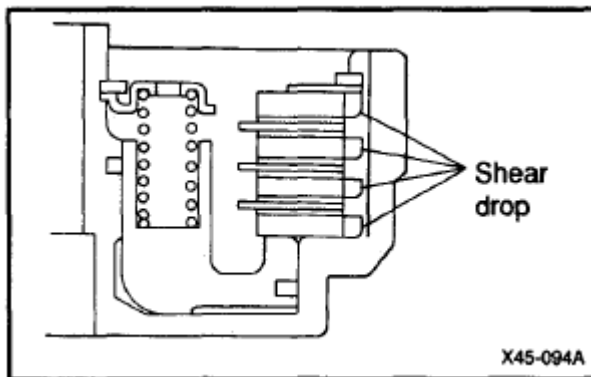


Fig. 145: Identifying Shear Drop
Courtesy of HYUNDAI MOTOR CO.

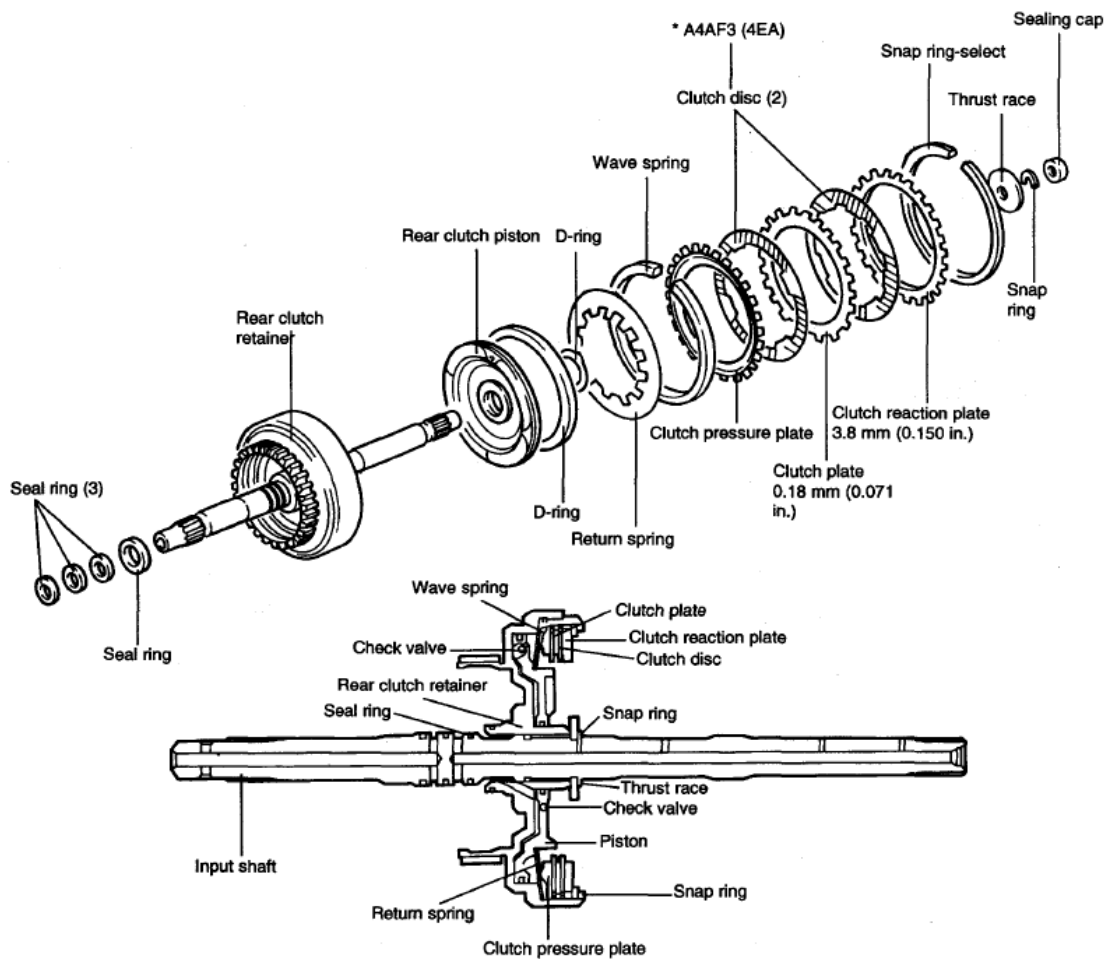
6. After installing the snap ring, check to see if there is a 0.4-0.6 mm (0.0157-0.0236 in.) clearance between the snap ring and the clutch reaction plate.

To check clearance, hold the entire circumference of the clutch reaction plate down with 50 N (11 lb.) force. If clearance is out of specification, adjust the clearance by selecting the proper snap ring.

REAR CLUTCH ASSEMBLY

REAR CLUTCH ASSEMBLY

COMPONENTS



X45-095A

Fig. 146: Identifying Rear Clutch Assembly Components

Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Remove the snap ring and thrust race.
2. Remove the input shaft from the rear clutch retainer.
3. Remove the snap ring from the clutch retainer.
4. Remove the clutch reaction plate, three clutch plates, two clutch discs and clutch pressure plate from the retainer.

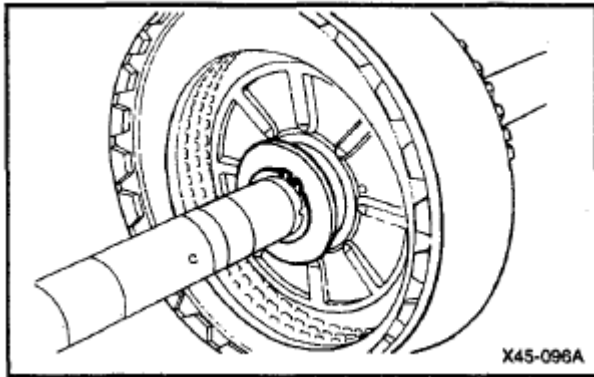


Fig. 147: Identifying Input Shaft
Courtesy of HYUNDAI MOTOR CO.

5. Compress the return spring by using the spring compressor.
6. Using a screwdriver, remove the wave spring.
7. Remove the return spring and piston.
8. Remove the two D-section rings from the piston.

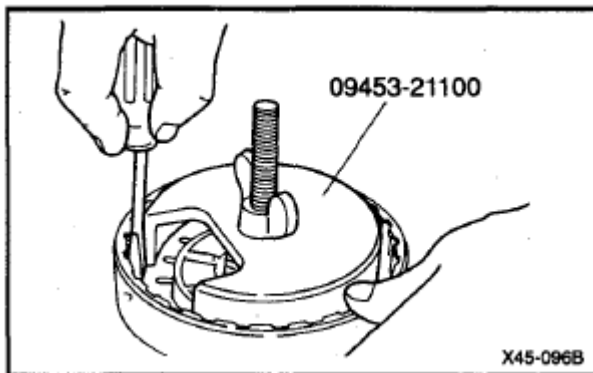


Fig. 148: Compressing Return Spring & Removing Wave Spring
Courtesy of HYUNDAI MOTOR CO.

ASSEMBLY

1. Install the D-section rings in the grooves in the outside and inside surfaces of the piston.
2. After applying automatic transaxle fluid to the outside surface of the D-section rings, push the piston into the rear clutch retainer by hand.
3. install the return spring on the piston.
4. Compress the return spring with the snap ring, by pushing down with a screwdriver and setting the snap ring in its groove.

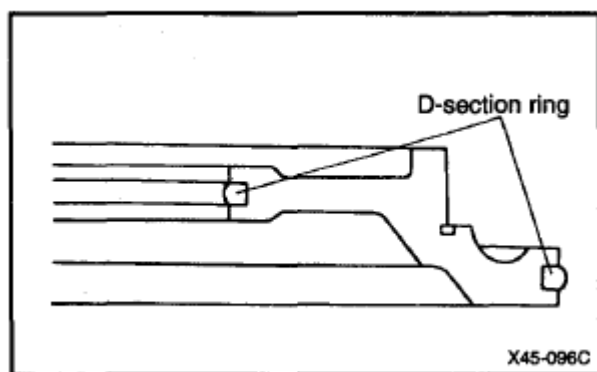


Fig. 149: Identifying D-Section Rings
Courtesy of HYUNDAI MOTOR CO.

5. Install clutch pressure plate, two clutch discs, clutch plate and clutch reaction plate into the rear clutch retainer.

When the reaction plate, clutch plate and clutch disc are removed, reinstall them by reversing the order of disassembly. Prior to installing, apply automatic transaxle fluid to the plates and discs.

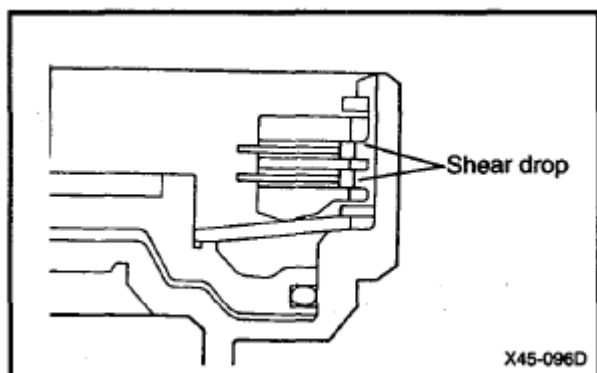


Fig. 150: Identifying Shear Drop
Courtesy of HYUNDAI MOTOR CO.

- CAUTION:**
1. When new clutch discs are used, immerse them in automatic transaxle fluid for a minimum of two hours prior to installation
 2. The four splines of disc are deleted to discriminate the rear clutch disc from front clutch disc.

3. If the lining of the disc is peeling off, replace all discs.
4. As you know, the color of current clutch disc turns to black when burnt. When the new clutch disc is immersed in ATF for two hours, its color also turns to disc is normal or has been burnt. Therefore, care should be taken not to confuse or misuse the burnt clutch disc of current type and new type clutch discs immersed in ATF.
5. The burnt clutch disc of new type should be identified by looking at the height difference of protruded section and base section.

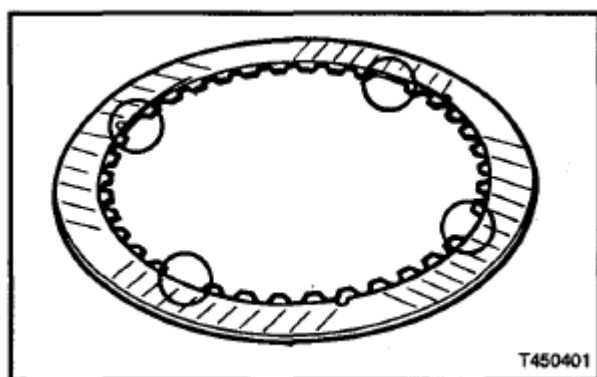


Fig. 151: Identifying Areas Of Deleted Disc Splines
Courtesy of HYUNDAI MOTOR CO.

6. Install the snap ring. Check to see that the clearance between the snap ring and clutch reaction plate is 0.3-0.5 mm (0.0118-0.0197 in.). To check clearance, hold the entire circumference of the clutch reaction plate down with 50N (11 lbs.) force. If clearance is out of specification, adjust by selecting the proper snap ring. Snap rings are the same as those used for the front clutch.

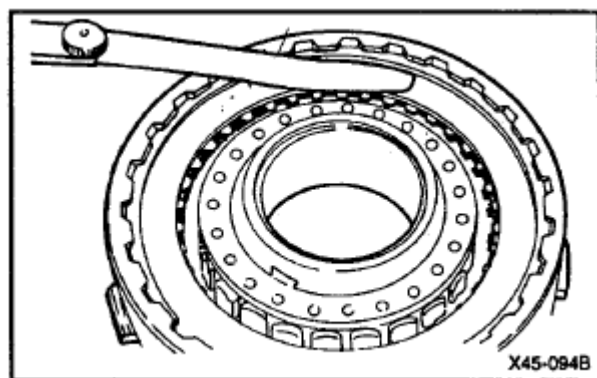


Fig. 152: Checking Clearance Between Snap Ring & Clutch Reaction Plate
Courtesy of HYUNDAI MOTOR CO.

7. Insert the input shaft into the clutch retainer.

8. Install the thrust race, and snap ring.
9. Install the three seal rings to the grooves in the input shaft.

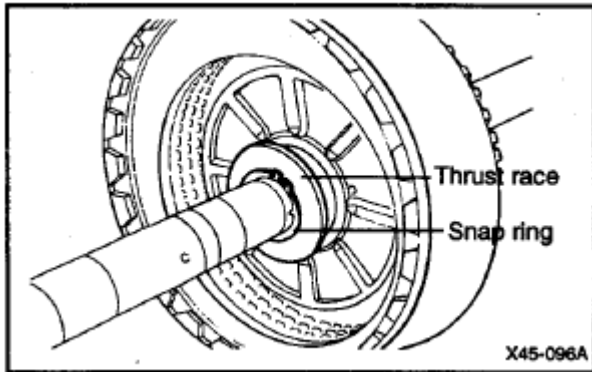
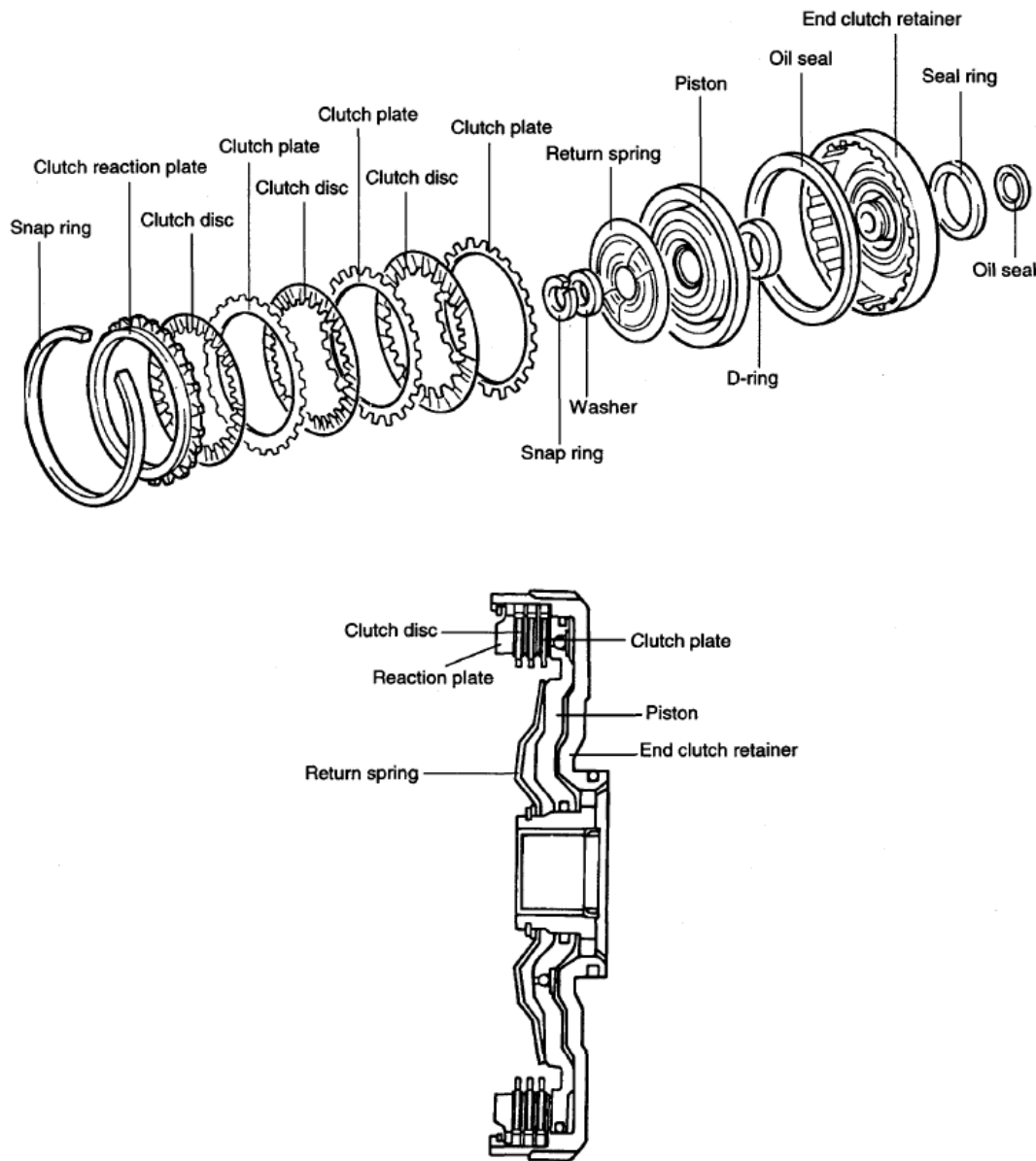


Fig. 153: Identifying Thrust Race & Snap Ring
Courtesy of HYUNDAI MOTOR CO.

END CLUTCH ASSEMBLY

END CLUTCH ASSEMBLY

COMPONENTS



X45-098A

Fig. 154: Identifying End Clutch Assembly Components
Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Remove the snap ring, clutch reaction plate, clutch disc, and the clutch plate. If the disc and plate are reused, note the installation order and direction when they are disassembled.

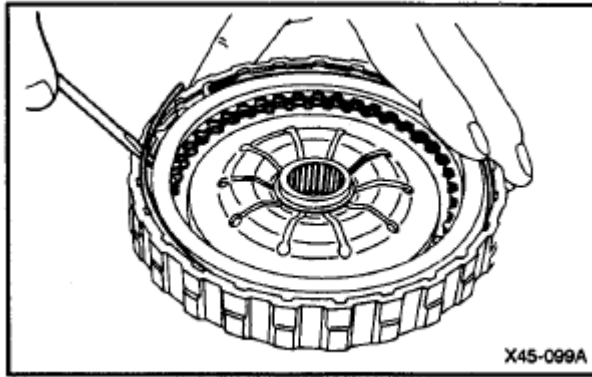


Fig. 155: Removing Snap Ring
Courtesy of HYUNDAI MOTOR CO.

2. Remove the snap ring with snap-ring pliers, and then remove the washer and return spring.

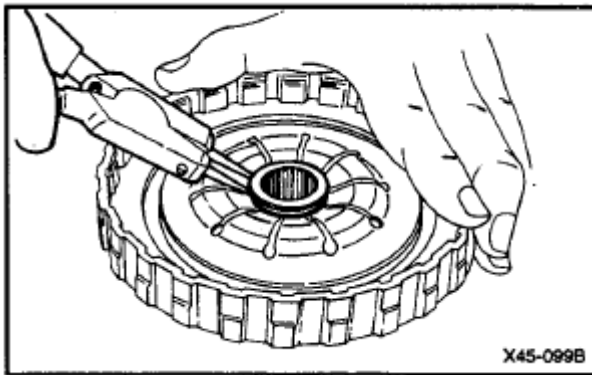


Fig. 156: Removing Washer & Return Spring
Courtesy of HYUNDAI MOTOR CO.

3. Remove the piston. If it is difficult to remove, face the piston side downward, and, with the retainer on a base, blow air in through the oil passage on the rear surface.
4. Remove the seal ring from the retainer.
5. Remove the two D-section rings and oil seal from the piston.

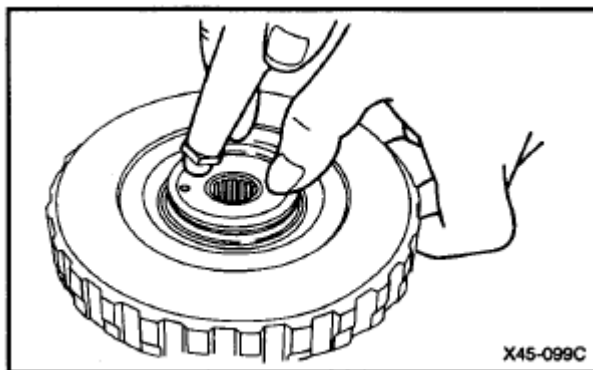


Fig. 157: Blowing Air In Oil Passage On Rear Surface
Courtesy of HYUNDAI MOTOR CO.

ASSEMBLY

1. Install the D-section rings and oil seal in the piston inner and outer grooves.
2. After applying a coating of automatic transaxle fluid to the D-section rings outer circumference, manually press the piston into the end clutch retainer.
3. Install the return spring and washer.
4. After fitting a new snap ring into the guide of the special tool (09453-33000), install the retainer. Push the snap ring as far down on the guide as possible.

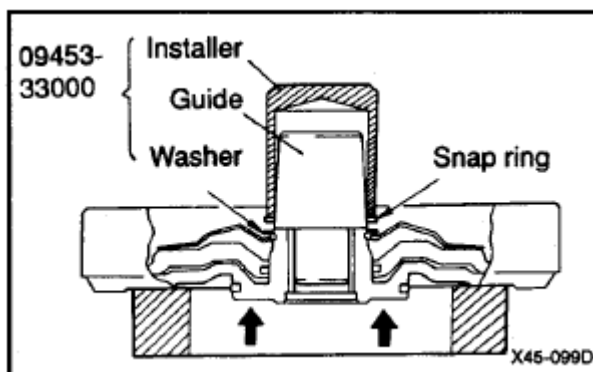


Fig. 158: Installing Snap Ring
Courtesy of HYUNDAI MOTOR CO.

Attach the installer and press until the snap ring enters the groove. Do not press more than necessary. The places indicated by arrows in **Fig. 159** (center projections) are not to be supported.

5. Install the clutch plate, clutch disc and reaction plate to the end clutch retainer.

If the reaction plate, clutch plate and clutch disc are reused, install them in the same order they were disassembled. Apply a coating of automatic transaxle fluid.

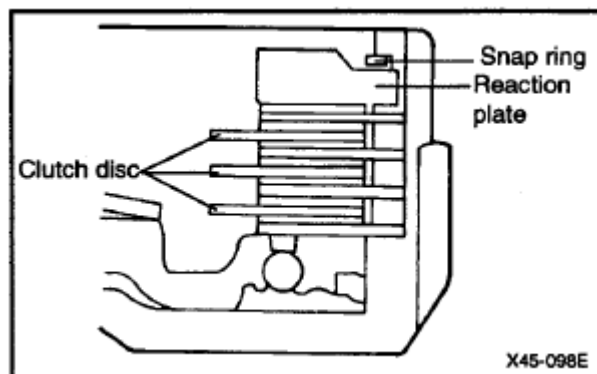


Fig. 159: Identifying Clutch Disc & Reaction Plate With Snap Ring
Courtesy of HYUNDAI MOTOR CO.

CAUTION: When a new clutch disc is used, soak it in automatic transaxle fluid for 2 hours before using it.

6. Install the snap ring. Check that the clearance between the snap ring and the clutch reaction plate is 0.4-0.65 mm (0.016- 0.026 in.).

To check the clearance, hold the circumference of the clutch reaction plate down with 50N (11 lb.) force.

If clearance is out of specifications, adjust the clearance by selecting the proper snap ring.

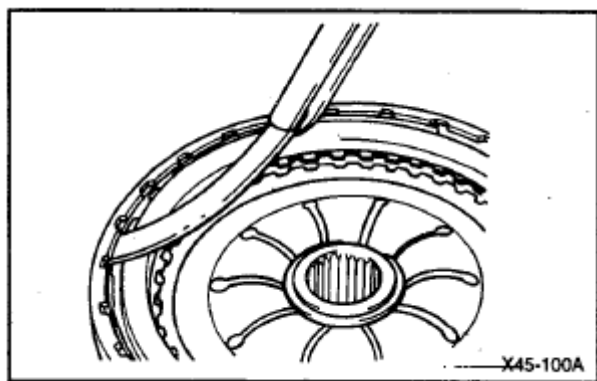
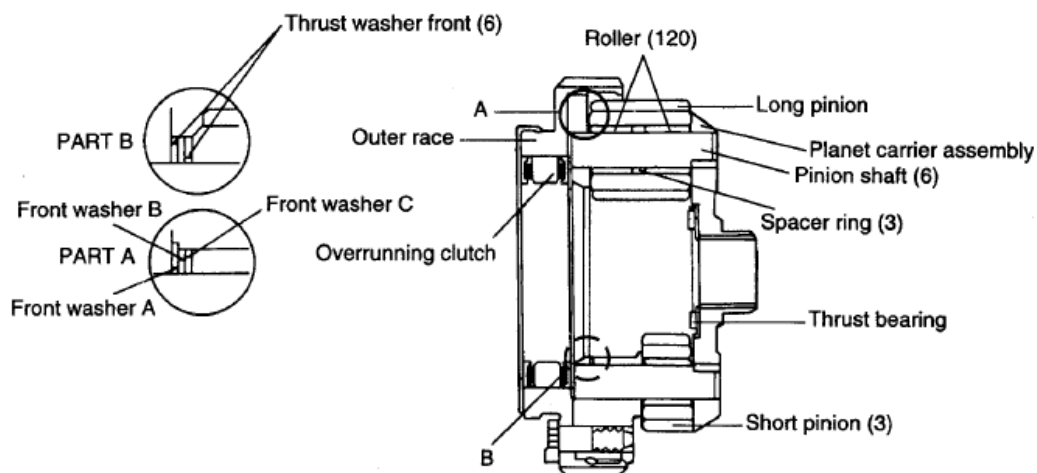


Fig. 160: Checking Clearance Between Snap Ring & Clutch Reaction Plate
Courtesy of HYUNDAI MOTOR CO.

PLANETARY GEAR SET

PLANETARY GEAR SET

COMPONENTS



X45-101A

Fig. 161: Identifying Planetary Gear Set Components
Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Remove three bolts.

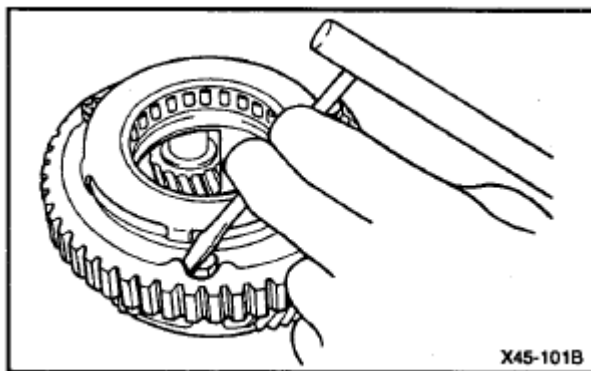


Fig. 162: Removing Bolts
Courtesy of HYUNDAI MOTOR CO.

2. Remove the overrunning clutch outer race assembly.

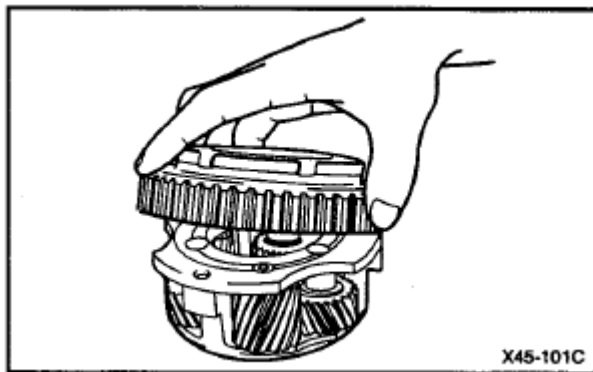


Fig. 163: Removing Overrunning Clutch Outer Race Assembly
Courtesy of HYUNDAI MOTOR CO.

3. Remove the shaft of only one short pinion.
4. Remove the spacer bushing and two front thrust washers.
5. Remove the pinion. Do not drop the 17 roller bearings in the pinion.

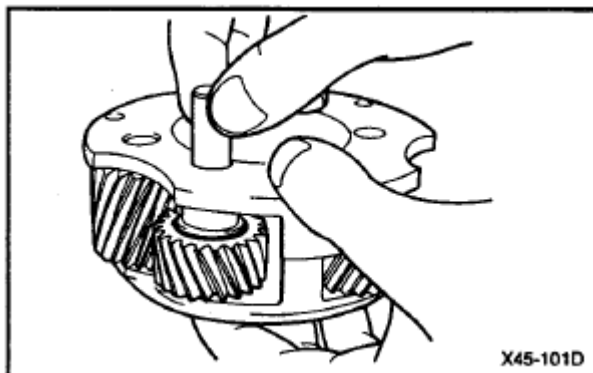


Fig. 164: Removing Pinion Shaft
Courtesy of HYUNDAI MOTOR CO.

6. Remove the thrust bearing (#11).

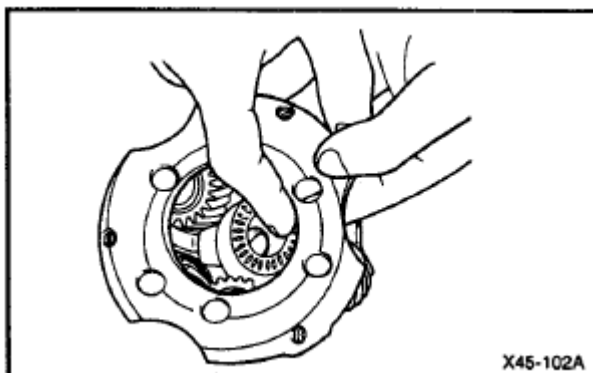


Fig. 165: Removing Thrust Bearing
Courtesy of HYUNDAI MOTOR CO.

7. Push the overrunning clutch out of the outer race by hand.

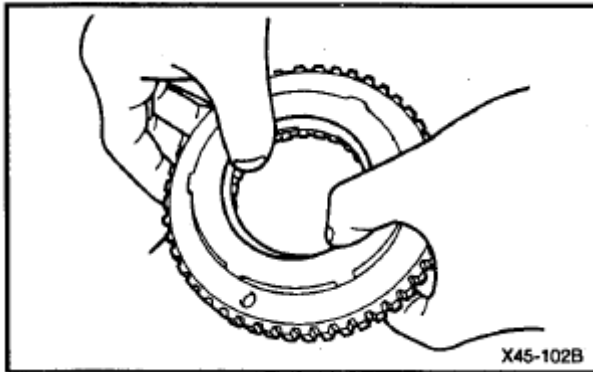


Fig. 166: Pushing Overrunning Clutch Out Of Outer Race
Courtesy of HYUNDAI MOTOR CO.

REASSEMBLY

1. Install the thrust bearing in the carrier. Be sure that it fits correctly in the carrier.

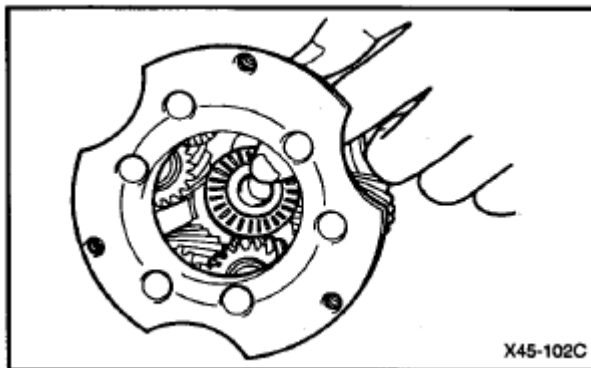


Fig. 167: Installing Thrust Bearing In Carrier
Courtesy of HYUNDAI MOTOR CO.

2. Apply a generous amount of petroleum jelly to the inside of the short pinion to hold the 17 rollers bearings in place.

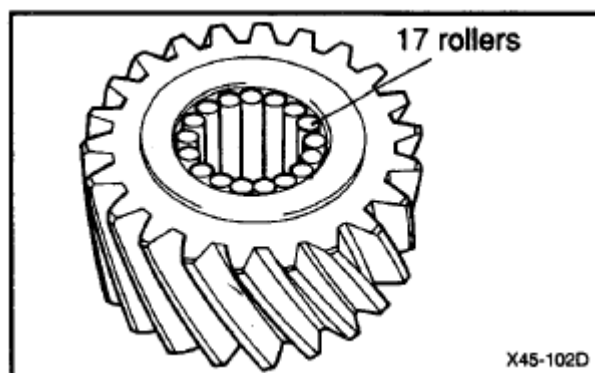


Fig. 168: Identifying Rollers

Courtesy of HYUNDAI MOTOR CO.

3. Line up the holes in the rear thrust washer and front thrust washer with the shaft of the carrier.
4. Install the short pinion, spacer bushing and two front thrust washers and align the holes. Use care not to allow the rollers to move out of position.

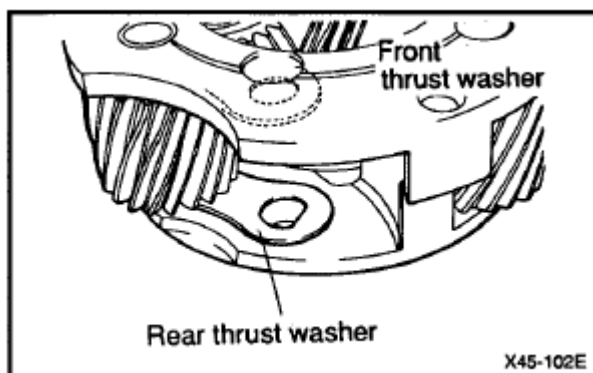


Fig. 169: Identifying Front & Rear Thrust Washer

Courtesy of HYUNDAI MOTOR CO.

5. Insert the pinion shaft. Be sure that the flattened end of the pinion shaft fits properly into the hole in the rear thrust plate when the pinion shaft is inserted.

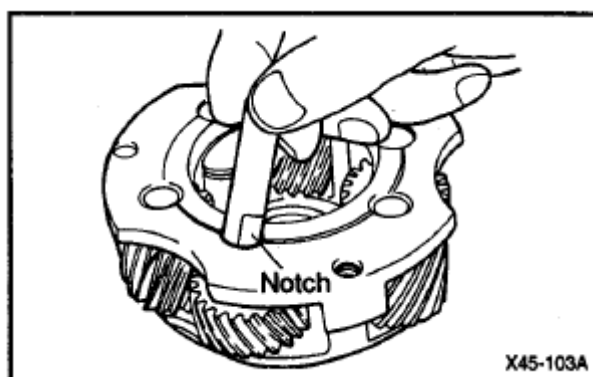


Fig. 170: Inserting Pinion Shaft
Courtesy of HYUNDAI MOTOR CO.

6. Install the end plate in the outer race.

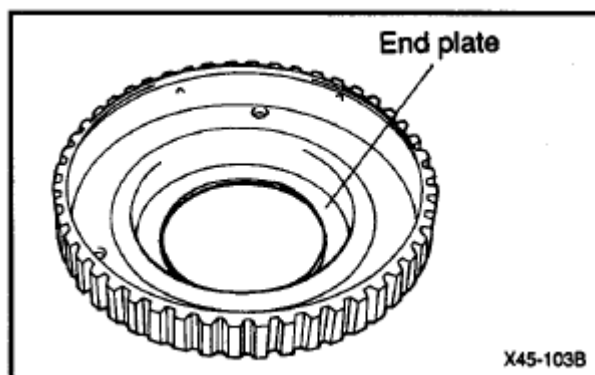


Fig. 171: Identifying End Plate
Courtesy of HYUNDAI MOTOR CO.

7. Press the over running clutch into the outer race. Be sure that the arrow on the outside circumference of the cage is pointing upward as shown in **Fig. 172** when the overrunning clutch is installed.

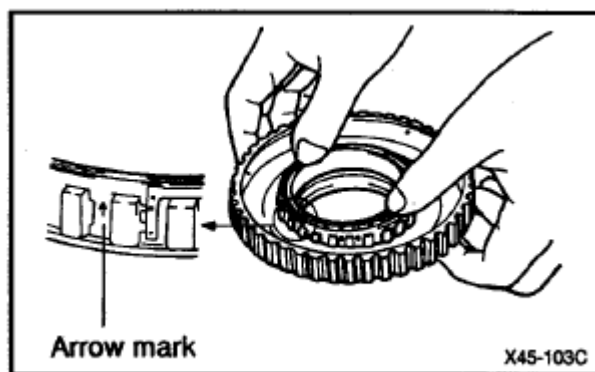


Fig. 172: Pressing Over Running Clutch Into Outer Race
Courtesy of HYUNDAI MOTOR CO.

8. Apply petroleum jelly to the overrunning clutch end plate to retain it inside the overrunning clutch. Install the end plate in the clutch.

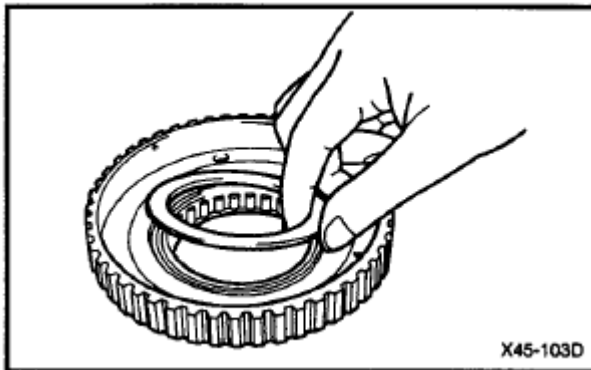


Fig. 173: Installing End Plate In Clutch
Courtesy of HYUNDAI MOTOR CO.

ANNULUS GEAR AND OUTPUT FLANGE

ANNULUS GEAR AND OUTPUT FLANGE

COMPONENTS

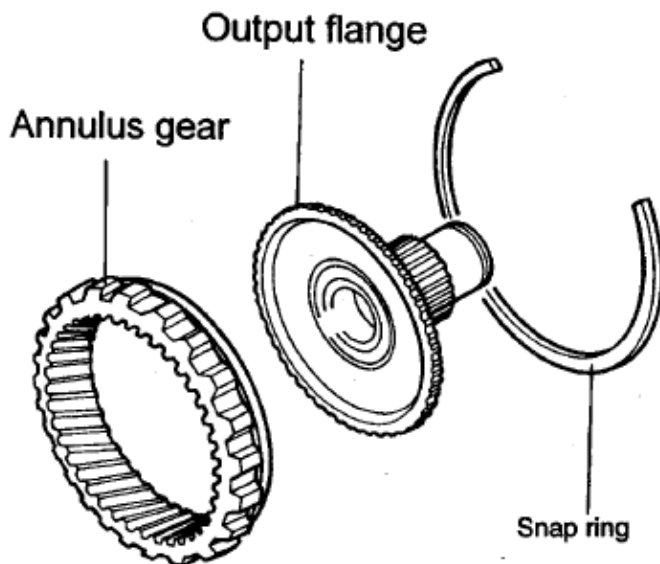


Fig. 174: Identifying Annulus Gear & Output Flange With Snap Ring
Courtesy of HYUNDAI MOTOR CO.

1. Remove the snap ring from the rear of the output flange.

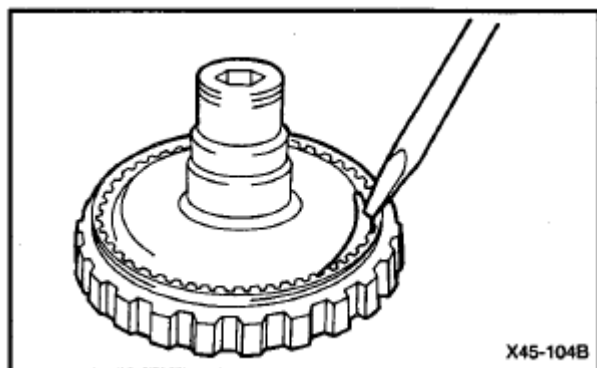


Fig. 175: Removing Snap Ring From Rear Of Output Flange
Courtesy of HYUNDAI MOTOR CO.

TRANSFER DRIVEN GEAR ASSEMBLY

TRANSFER DRIVEN GEAR ASSEMBLY

COMPONENTS

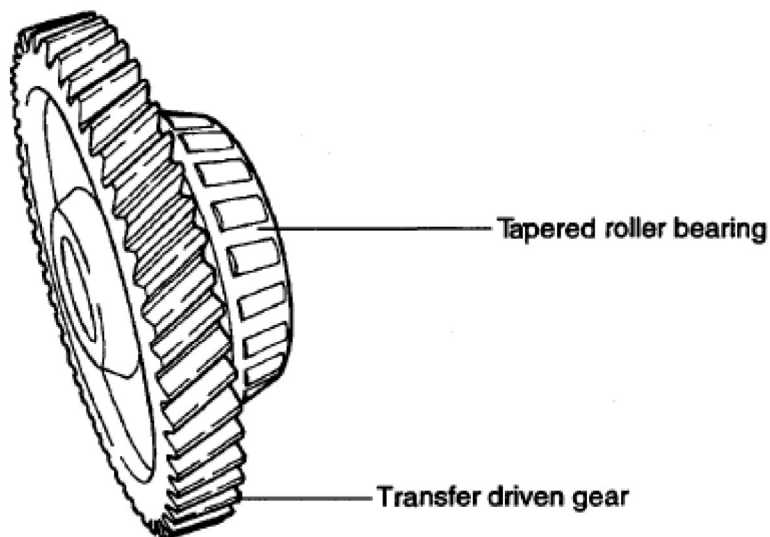


Fig. 176: Identifying Transfer Driven Gear & Tapered Roller Bearing
Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Using special tool (09455-33000), pull off tapered roller bearing from the transfer driven gear.

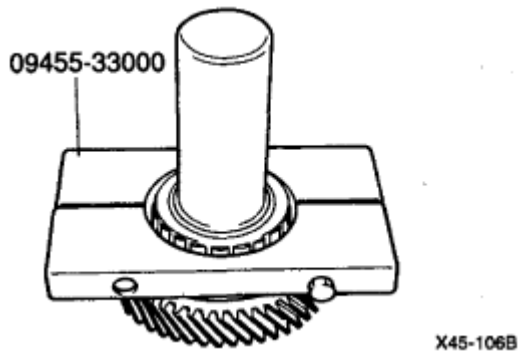


Fig. 177: Pulling Off Tapered Roller Bearing From Transfer Driven Gear
Courtesy of HYUNDAI MOTOR CO.

REASSEMBLY

1. Using special tool (09455-33200), press tapered roller bearing onto the transfer driven gear.

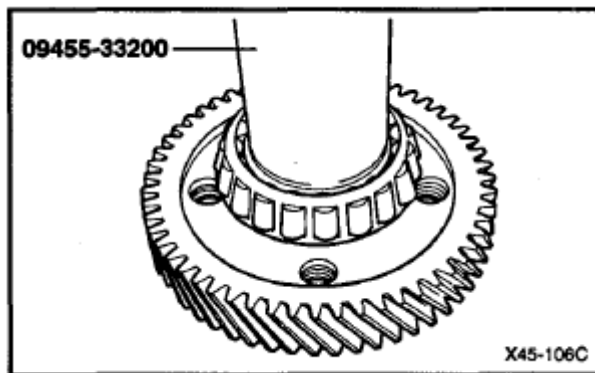
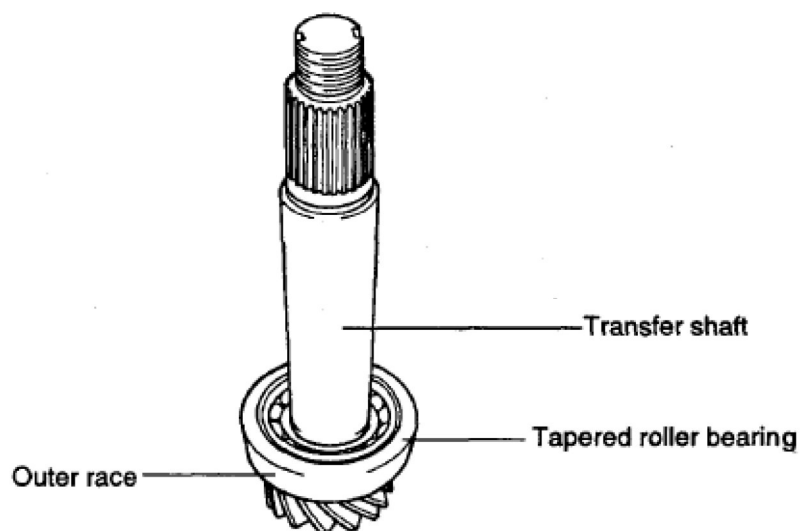


Fig. 178: Pressing Tapered Roller Bearing Onto Transfer Driven Gear
Courtesy of HYUNDAI MOTOR CO.

TRANSFER SHAFT ASSEMBLY

TRANSFER SHAFT ASSEMBLY

COMPONENTS



X45-107A

Fig. 179: Identifying Transfer Shaft, Outer Race, & Tapered Roller Bearing
Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Using special tool (09433-21000), remove the bearing from the transfer shaft.

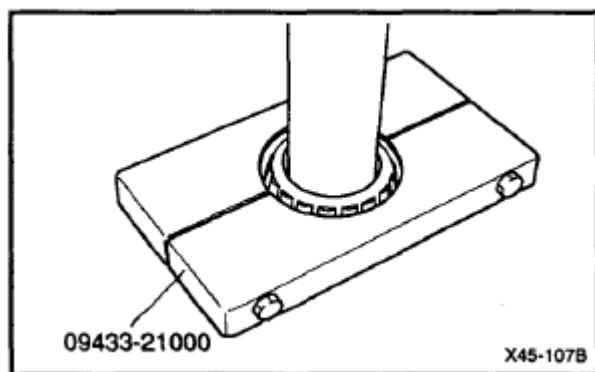


Fig. 180: Removing Bearing From Transfer Shaft
Courtesy of HYUNDAI MOTOR CO.

REASSEMBLY

1. Press the bearing inner race on to the transfer shaft.

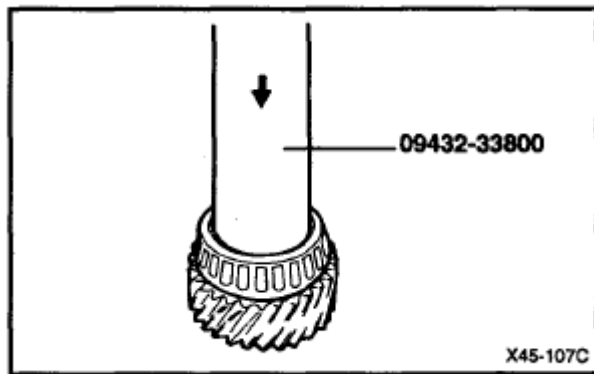


Fig. 181: Pressing Bearing Inner Race On To Transfer Shaft
Courtesy of HYUNDAI MOTOR CO.

DIFFERENTIAL

DIFFERENTIAL

COMPONENTS

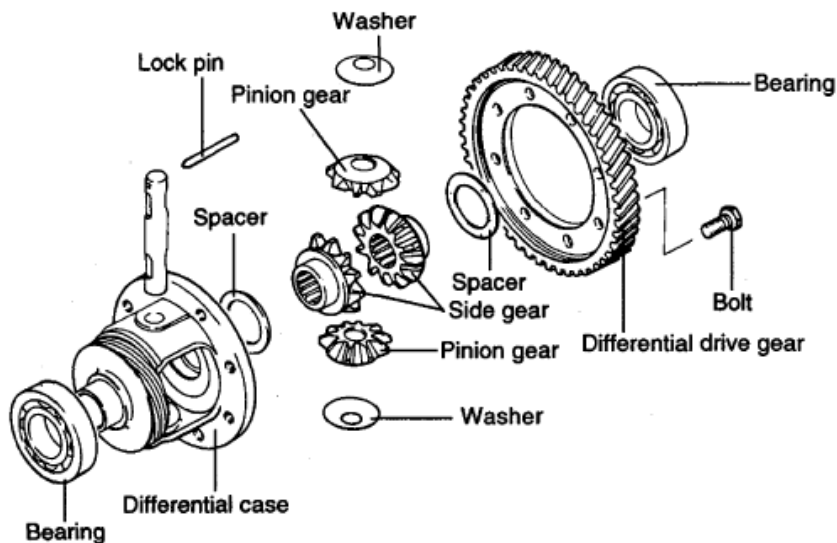


Fig. 182: Identifying Differential Components
Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Remove the drive gear retaining bolts and drive gear from the differential case.

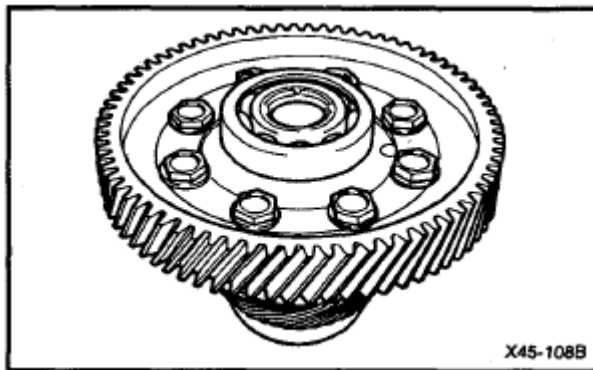


Fig. 183: Identifying Drive Gear Retaining Bolts
Courtesy of HYUNDAI MOTOR CO.

2. Remove the bearing with the special tool (09433-21000).

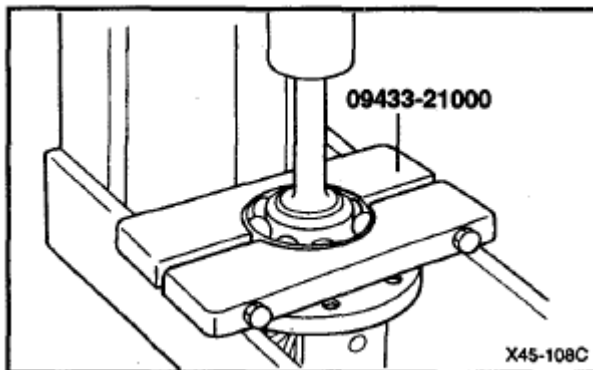


Fig. 184: Removing Bearing With Special Tool
Courtesy of HYUNDAI MOTOR CO.

3. Drive out the lock pin with a punch inserted in hole "A".
4. Remove the pinion shaft, pinion gears and washers.
5. Remove the side gears and spacers.

Do not mix the gears and spacers between the left and right sides.

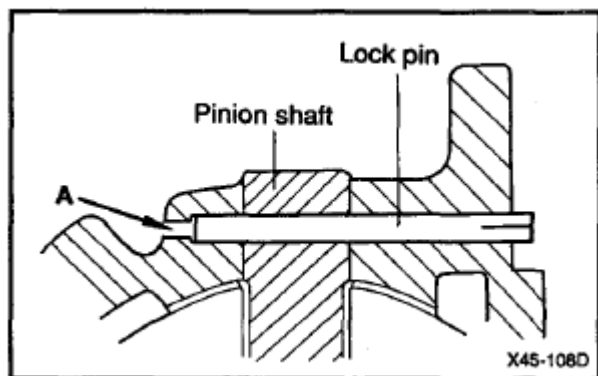


Fig. 185: Identifying Pinion Shaft & Lock Pin
Courtesy of HYUNDAI MOTOR CO.

REASSEMBLY

1. With the spacers installed on the back of the differential side gears, install the gears into the differential case. If reusing parts, install them in their original positions noted during disassembly. If using new differential side gears, install medium thickness spacers 1.0mm (0.039in.).
2. Install the washers on the back of the pinion gears. Install gears into the differential case, then insert the pinion shaft.
3. Measure the backlash between the side gear and the pinion gear.

Backlash should be 0.025-0.150 mm (.0010-.0059 in.) and the right and left hand gear pairs should have equal backlash. If the backlash is out of specification, disassemble and reassemble using different spacers for the correct backlash.

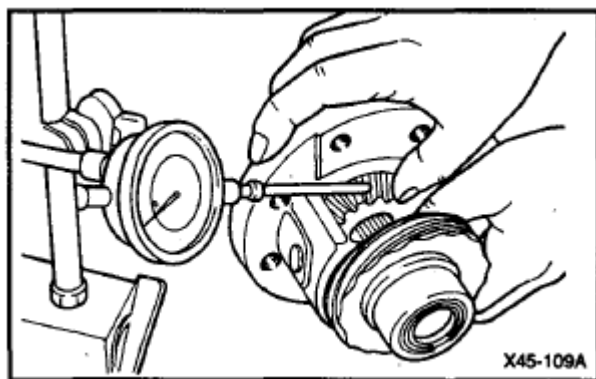


Fig. 186: Measuring Backlash Between Side Gear & Pinion Gear
Courtesy of HYUNDAI MOTOR CO.

Standard value: 0.025-0.150 mm (.0010-.0059 in.)

4. Install the pinion shaft lock pin in the direction specified in **Fig. 187**.

CAUTION: The lock pin must not be reused.

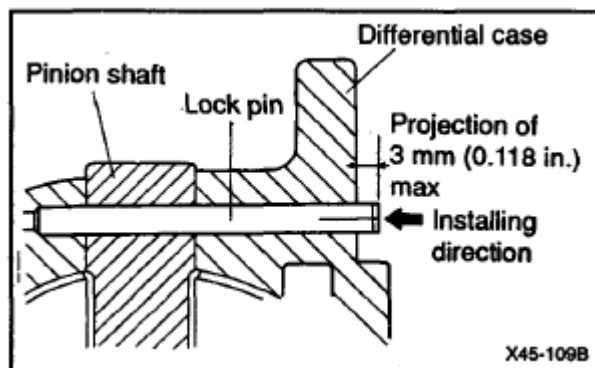


Fig. 187: Installing Pinion Shaft Lock Pin
Courtesy of HYUNDAI MOTOR CO.

5. Press the bearings onto both ends of differential case. Press on the inner race when installing the bearings. Do not apply load to outer race.

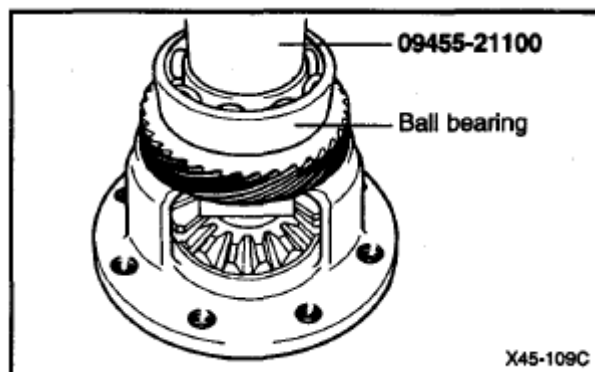


Fig. 188: Pressing Bearings Onto Both Ends Of Differential Case
Courtesy of HYUNDAI MOTOR CO.

6. Install the differential drive gear onto the case.
7. Apply ATF to the bolts and tighten the bolts, using a criss-cross pattern, to the specified torque.

Tightening torque:

130-140 Nm (1300-1400 kg.cm, 94-101 lb.ft)

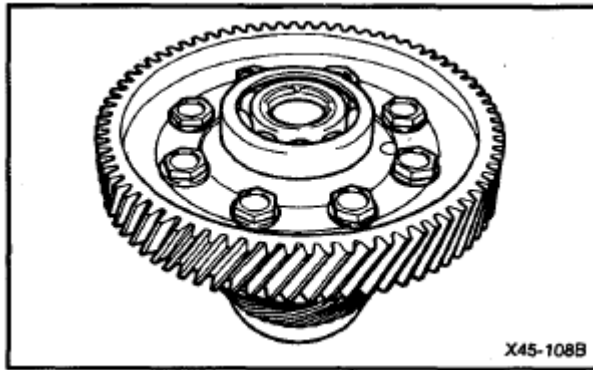
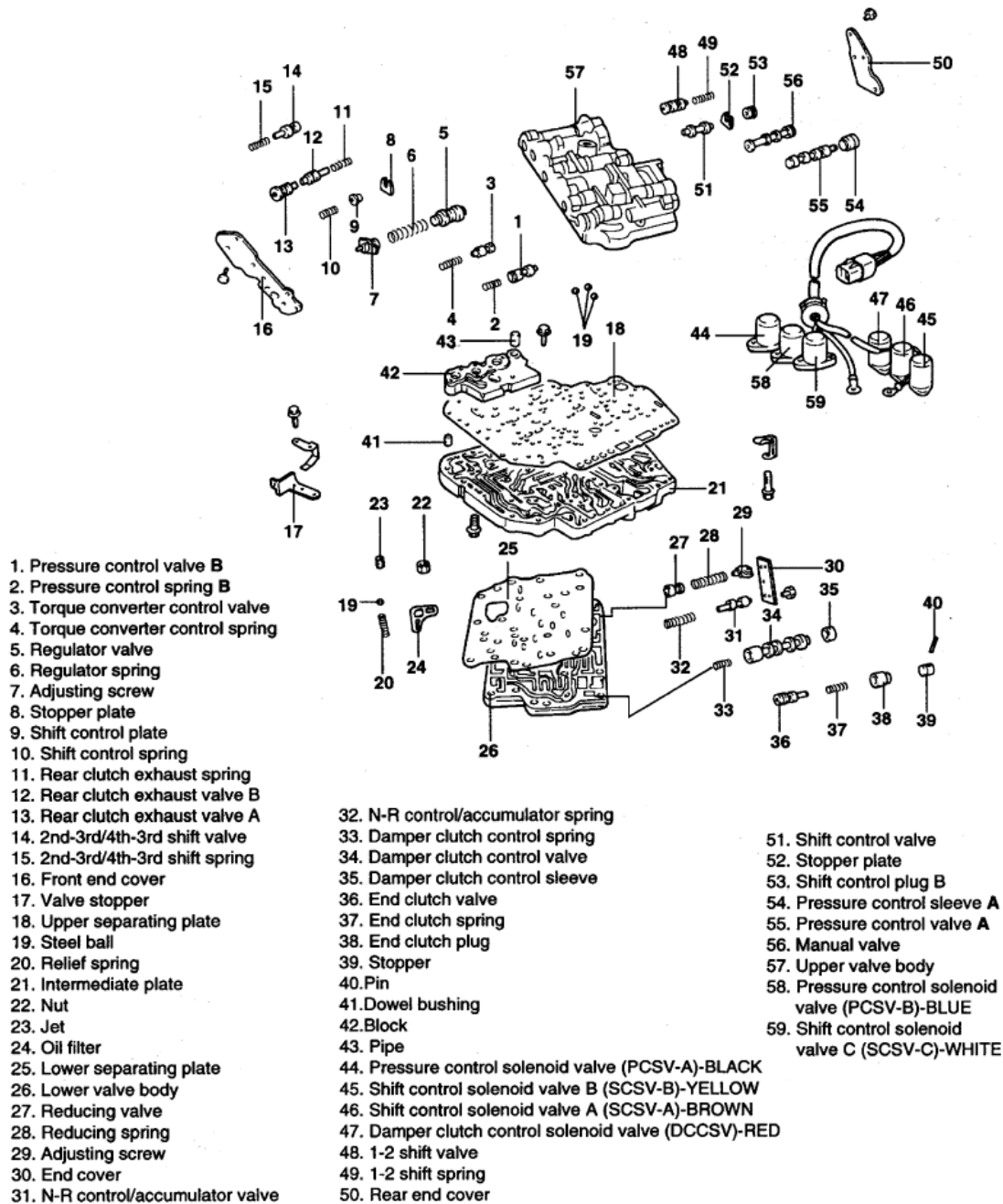


Fig. 189: Identifying Drive Gear Retaining Bolts
Courtesy of HYUNDAI MOTOR CO.

VALVE BODY

VALVE BODY

COMPONENTS



X45-110A

Fig. 190: Identifying Valve Body Components

Courtesy of HYUNDAI MOTOR CO.

DISASSEMBLY

1. Remove the solenoid valves and the oil temperature sensor bracket.

NOTE: **A4AF2, A4BF1 : 4 solenoid valve**
 A4AF3 : 6 solenoid valve

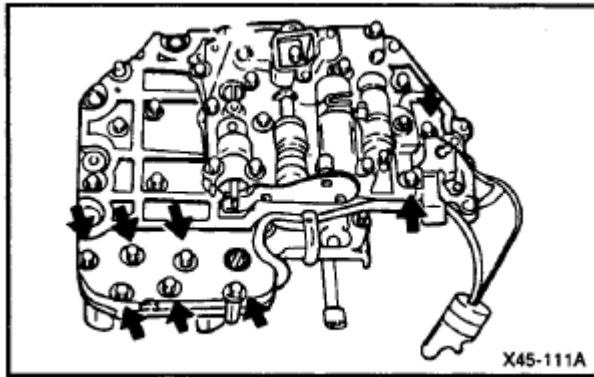


Fig. 191: Locating Solenoid Valves
Courtesy of HYUNDAI MOTOR CO.

2. Remove the manual valve.

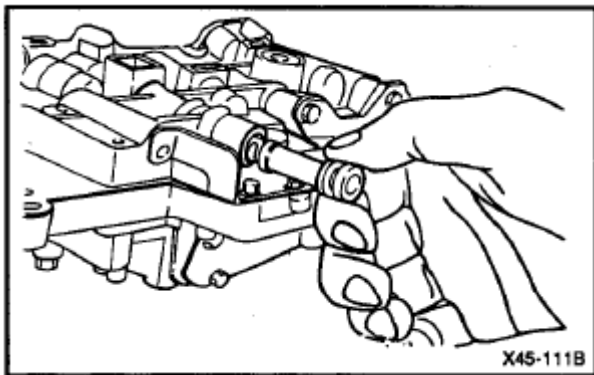


Fig. 192: Removing Manual Valve
Courtesy of HYUNDAI MOTOR CO.

3. Remove the valve stopper and clamp.

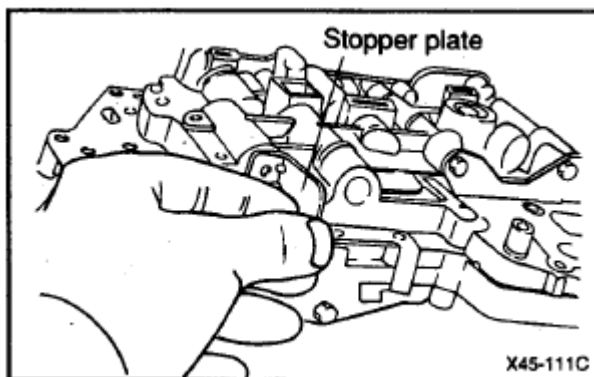
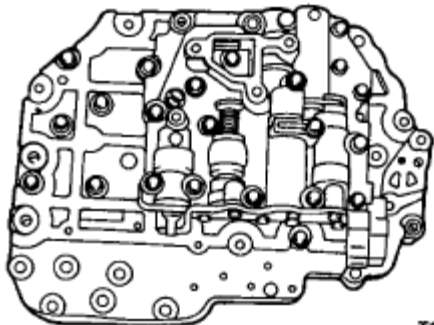


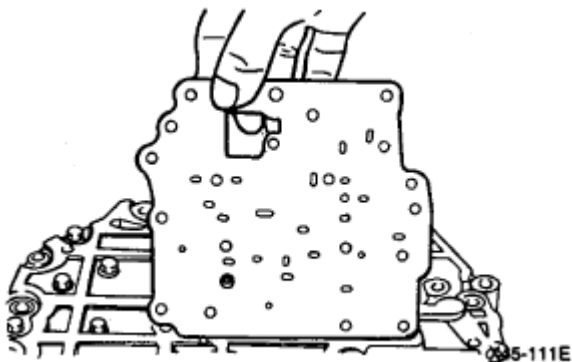
Fig. 193: Identifying Stopper Plate
Courtesy of HYUNDAI MOTOR CO.

4. Remove the bolts (16), and then remove the lower valve body.
5. Remove the separating plate.



T8AT031A

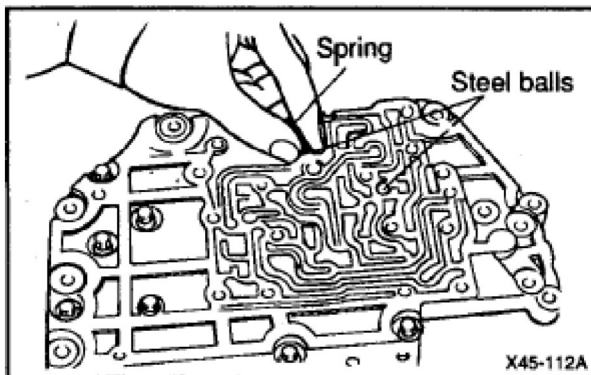
Fig. 194: Identifying Lower Valve Body Bolts
Courtesy of HYUNDAI MOTOR CO.



5-111E

Fig. 195: Identifying Separating Plate
Courtesy of HYUNDAI MOTOR CO.

6. Remove the relief spring, two steel balls and oil filter from the intermediate plate.



X45-112A

Fig. 196: Identifying Spring & Steel Balls
Courtesy of HYUNDAI MOTOR CO.

7. Remove the bolts (6), and then remove the intermediate plate and upper separation plate.

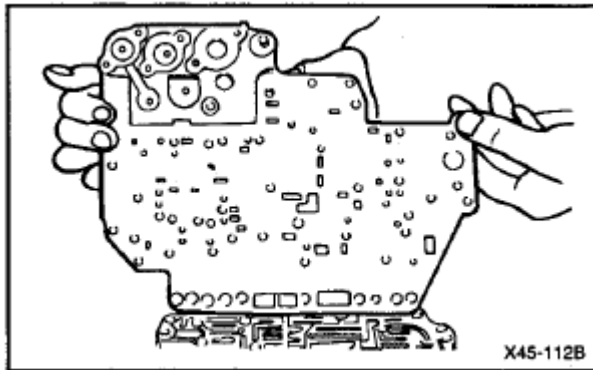


Fig. 197: Identifying Intermediate Plate
Courtesy of HYUNDAI MOTOR CO.

8. Remove the block.

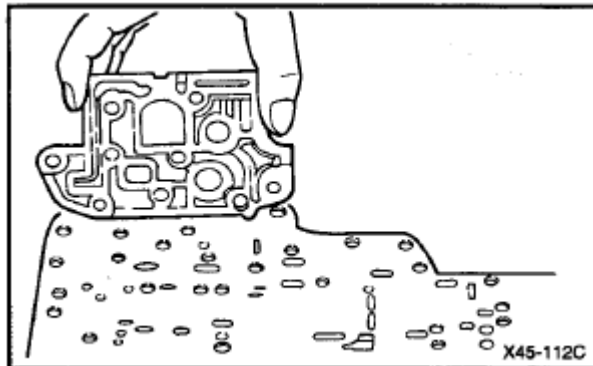


Fig. 198: Removing Block
Courtesy of HYUNDAI MOTOR CO.

9. Remove the upper separating plate.

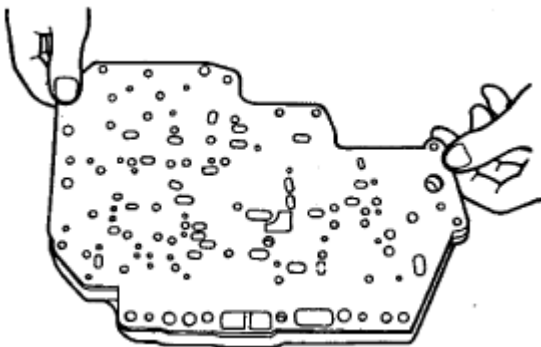


Fig. 199: Identifying Upper Separating Plate

Courtesy of HYUNDAI MOTOR CO.

10. Remove, from the upper valve body, the steel balls, two stopper plates.

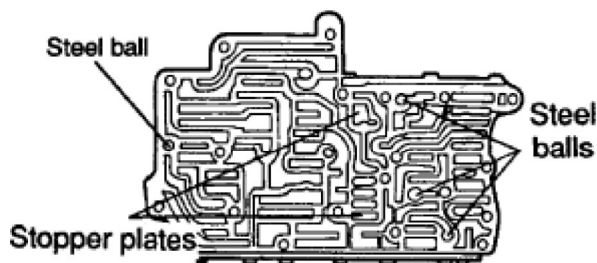


Fig. 200: Identifying Steel Balls & Stopper Plates
Courtesy of HYUNDAI MOTOR CO.

11. Remove, from the upper valve body, the seven bolts; then remove the front end cover and the adjustment screw.

CAUTION: When removing the bolts, be sure to firmly press the front end cover (as shown) so as to prevent the spring from causing the adjustment screw to pop out.

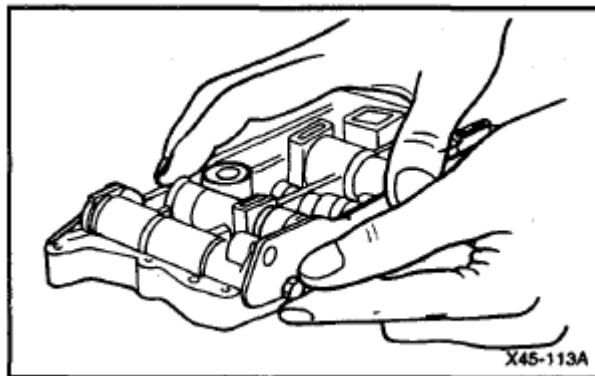


Fig. 201: Removing Front End Cover
Courtesy of HYUNDAI MOTOR CO.

12. Remove the pressure control spring and the pressure control valve.

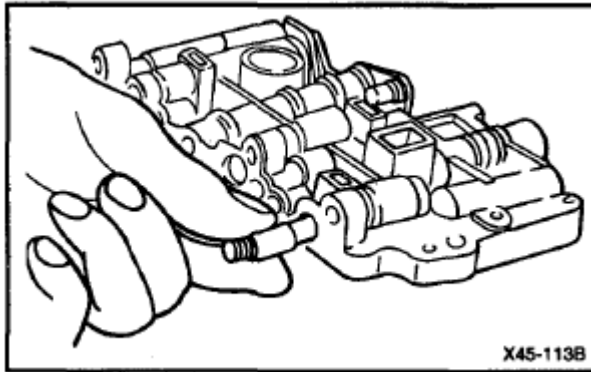


Fig. 202: Removing/Installing Pressure Control Spring & Pressure Control Valve
Courtesy of HYUNDAI MOTOR CO.

13. Remove the torque converter control spring and the torque converter control valve.

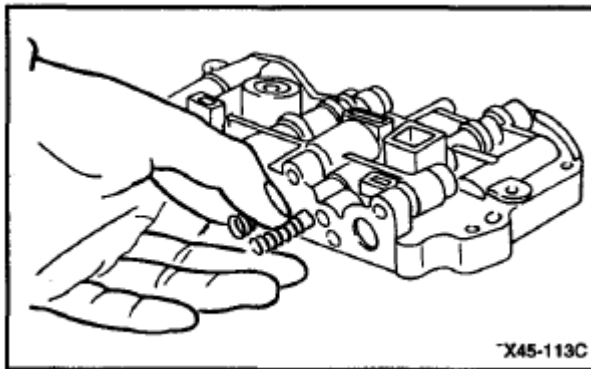


Fig. 203: Removing/Installing Torque Converter Control Valve & Torque Converter Control Spring
Courtesy of HYUNDAI MOTOR CO.

14. Remove the regulator spring and the regulator valve.

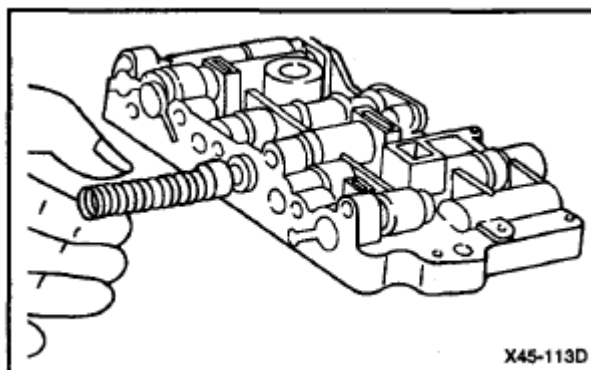


Fig. 204: Removing/Installing Regulator Valve & Regulator Spring
Courtesy of HYUNDAI MOTOR CO.

15. Remove the shift-control spring and shift-control plug.

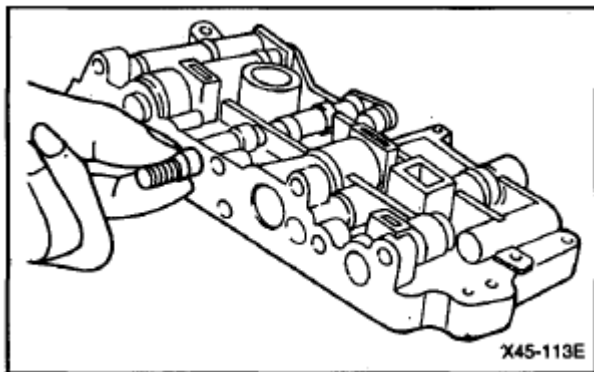


Fig. 205: Removing/Installing Shift-Control Plug & Shift Control Spring
Courtesy of HYUNDAI MOTOR CO.

16. Remove rear clutch exhaust valves as well as the rear clutch exhaust spring.

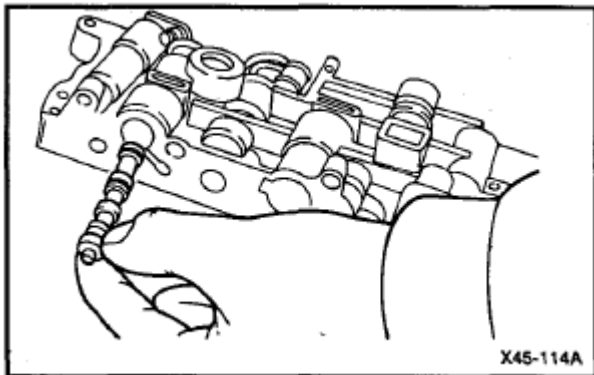


Fig. 206: Removing/Installing Rear Clutch Exhaust Spring & Rear Clutch Exhaust Valves
Courtesy of HYUNDAI MOTOR CO.

17. Remove the 2-3/4-3 shift spring and the shift valve.

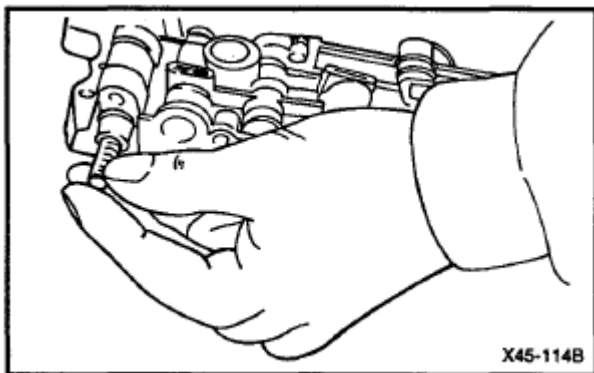


Fig. 207: Removing Shift Spring
Courtesy of HYUNDAI MOTOR CO.

18. Remove, from the rear side of the upper valve body, the Pressure control sleeve and the Pressure control valve.

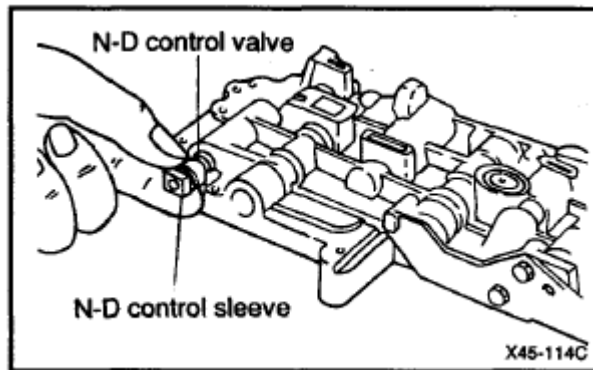


Fig. 208: Removing/Installing Pressure Control Sleeve & Pressure Control Valve
Courtesy of HYUNDAI MOTOR CO.

19. Remove the five bolts, and then remove the rear end cover.

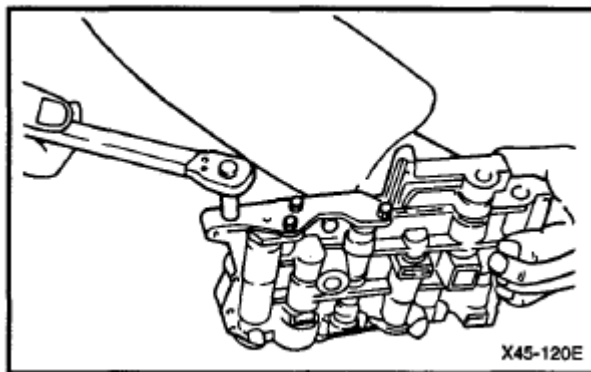


Fig. 209: Removing/Installing Rear End Cover
Courtesy of HYUNDAI MOTOR CO.

20. Remove the 1-2 shift spring and the 1-2 shift valve.

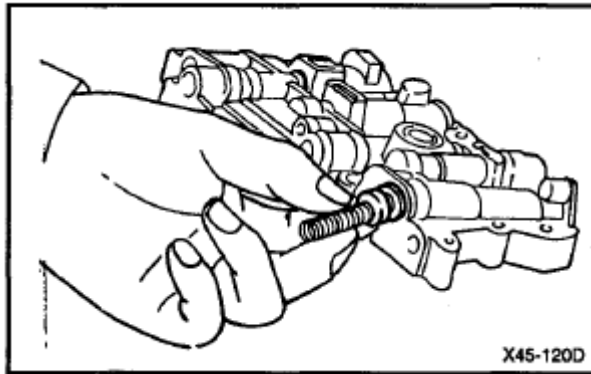


Fig. 210: Removing/Installing 1-2 Shift Spring & 1-2 Shift Valve
Courtesy of HYUNDAI MOTOR CO.

21. Remove shift-control plug.

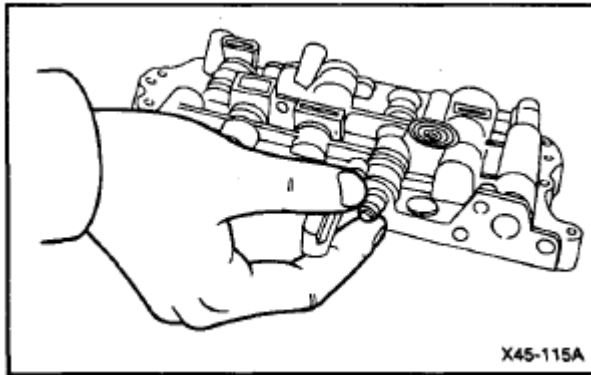


Fig. 211: Removing Shift-Control Plug
Courtesy of HYUNDAI MOTOR CO.

22. Remove the shift-control valve and the high-low pressure valve.

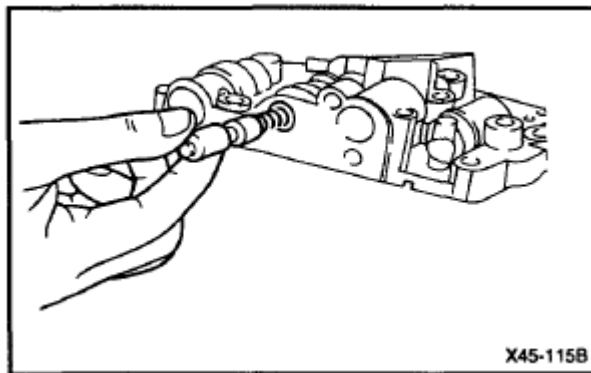


Fig. 212: Removing Shift-Control Valve & High-Low Pressure Valve
Courtesy of HYUNDAI MOTOR CO.

23. Using a magnet, extract the pin from the lower valve body, and then remove the stopper.

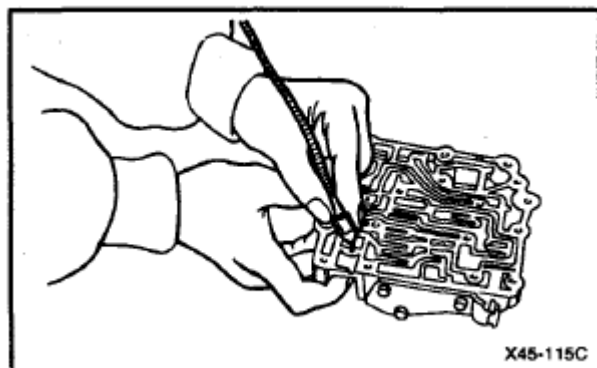
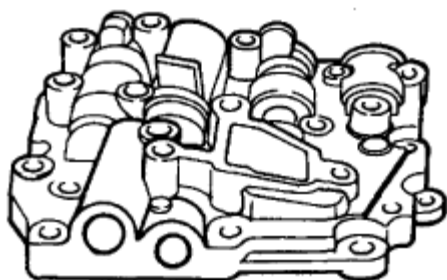


Fig. 213: Extracting Pin From Lower Valve Body
Courtesy of HYUNDAI MOTOR CO.

24. Remove the end clutch valve plug, end clutch spring, and end clutch valve. Then remove the control switch valve.



T8AT031B

Fig. 214: Identifying Clutch Valve Plug
Courtesy of HYUNDAI MOTOR CO.

25. Remove the six bolts from the lower valve body, and then remove the end cover, adjustment screw, and reducing spring.

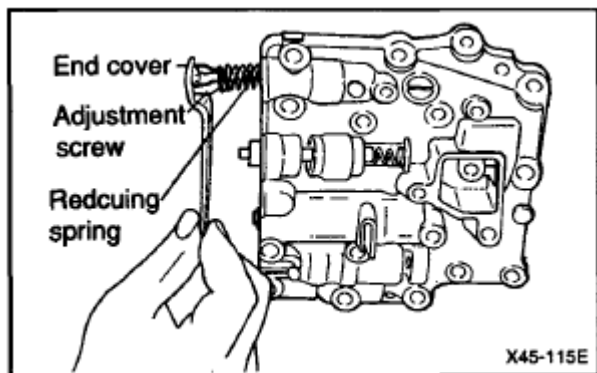


Fig. 215: Removing End Cover, Adjustment Screw, & Reducing Spring
Courtesy of HYUNDAI MOTOR CO.

26. Remove the reducing valve.

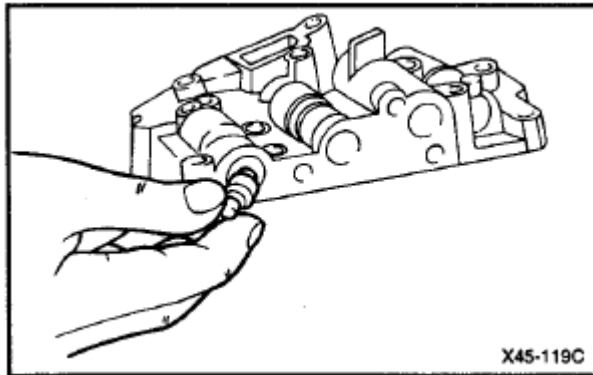


Fig. 216: Removing Reducing Valve
Courtesy of HYUNDAI MOTOR CO.

27. Remove the N-R control valve and the N-R control spring.

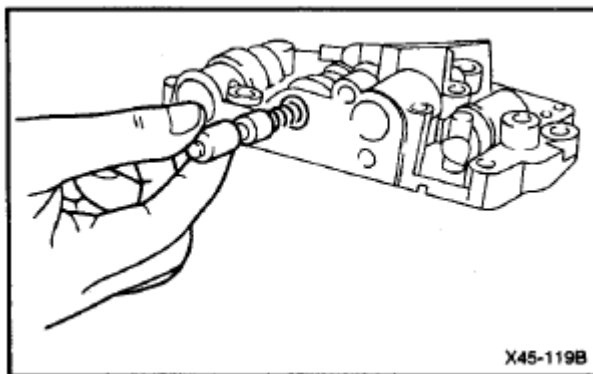


Fig. 217: Installing N-R Control Spring & N-R Control Valve
Courtesy of HYUNDAI MOTOR CO.

28. Remove the damper clutch control sleeve, damper clutch control valve, and the damper clutch control spring. And then remove the fail safe valve.

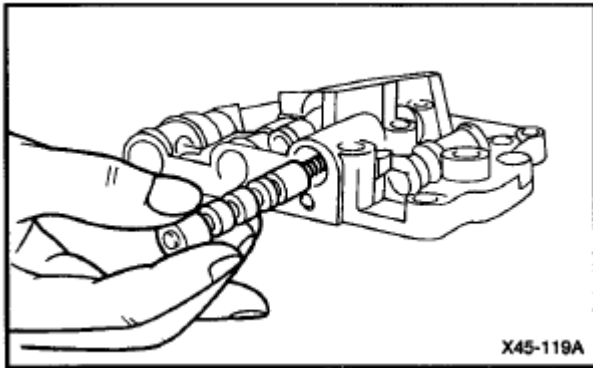
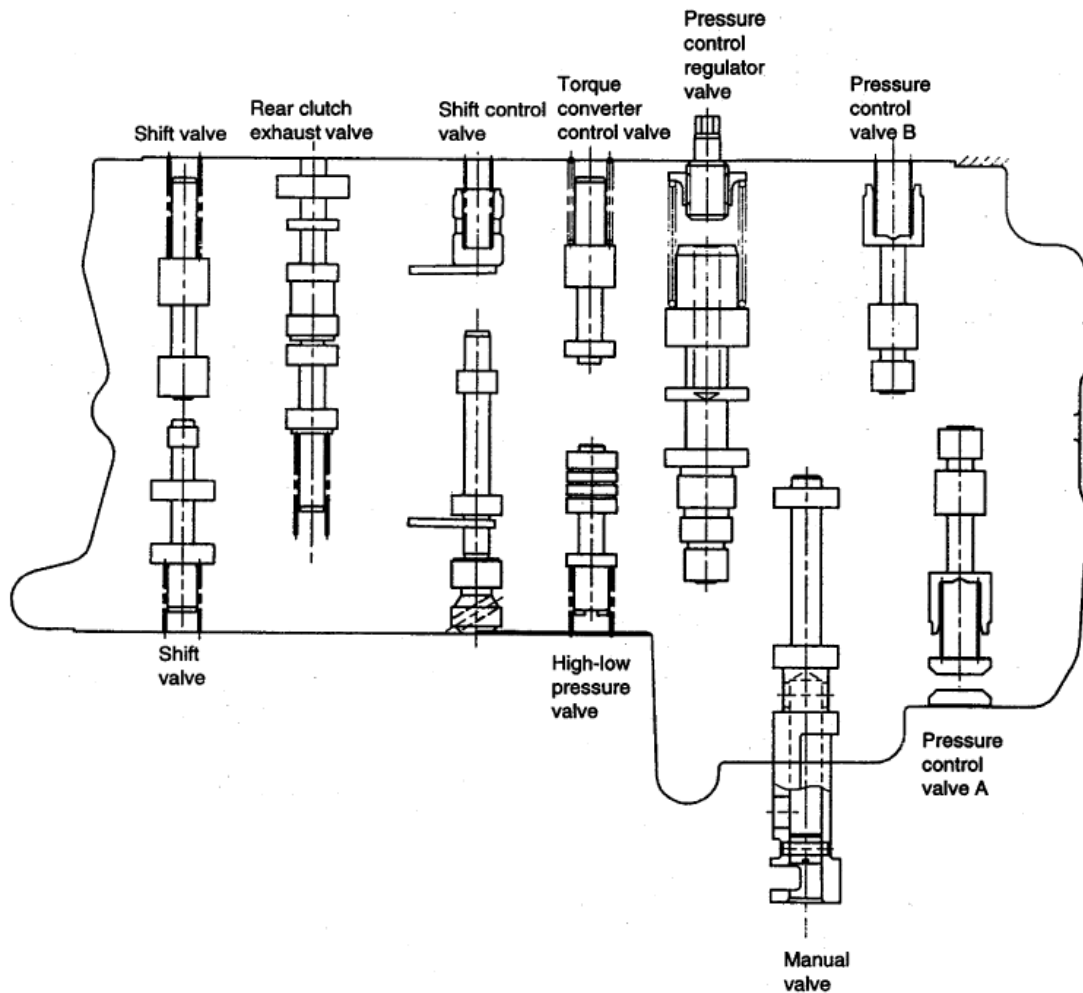


Fig. 218: Removing Damper Clutch Control Sleeve, Valve, Spring, & Fail Safe Valve
Courtesy of HYUNDAI MOTOR CO.

VALVE INSTALLATION POSITIONS

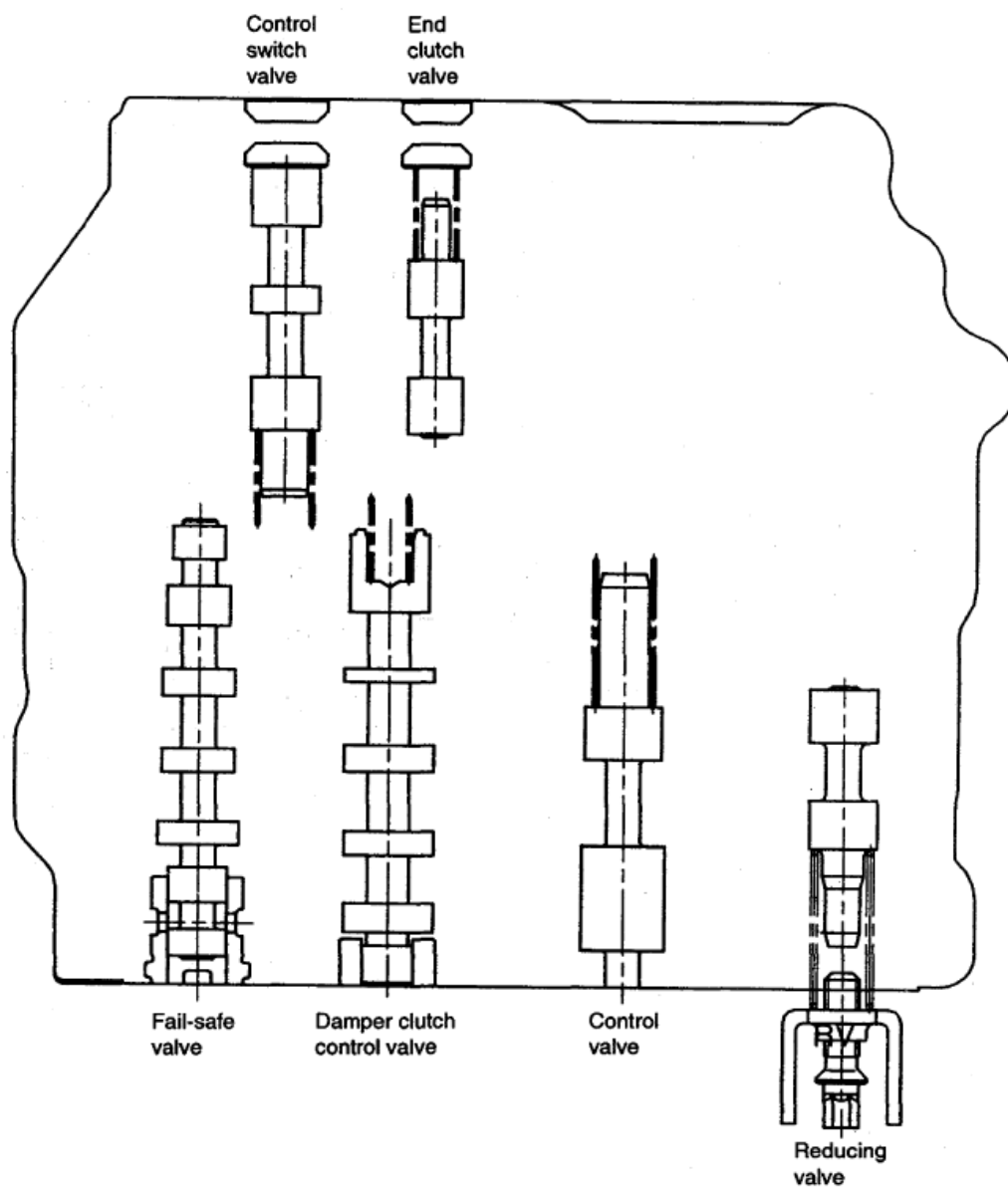
Upper Valve Body



T8AT031C

Fig. 219: Identifying Valve Installation Positions - Upper Valve Body
 Courtesy of HYUNDAI MOTOR CO.

Lower Valve Body



T8AT031D

Fig. 220: Identifying Valve Installation Positions Lower Valve Body
Courtesy of HYUNDAI MOTOR CO.

REASSEMBLY

1. Install in the lower valve body, the damper clutch control spring, damper clutch control valve, and the damper clutch control sleeve. And then install the fail safe valve.

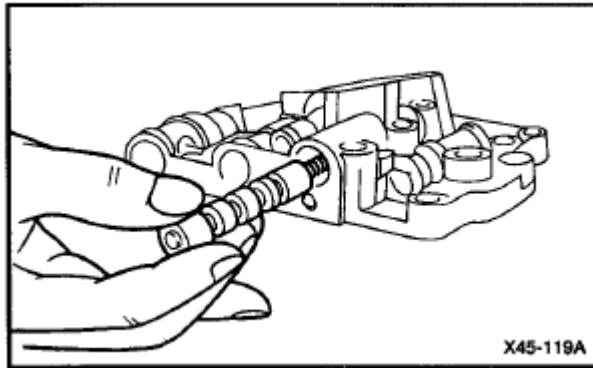


Fig. 221: Removing Damper Clutch Control Sleeve, Valve, Spring, & Fail Safe Valve
Courtesy of HYUNDAI MOTOR CO.

2. Install the N-R control spring and the N-R control valve.

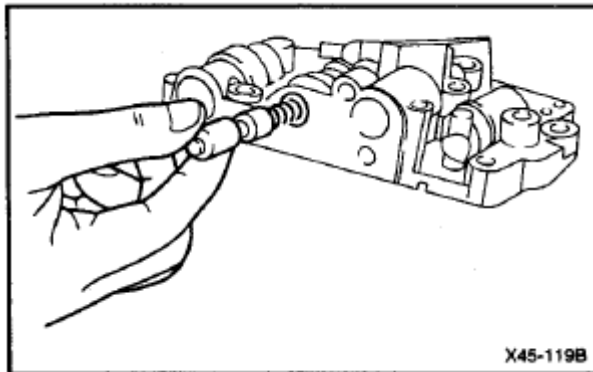


Fig. 222: Installing N-R Control Spring & N-R Control Valve
Courtesy of HYUNDAI MOTOR CO.

3. Install the reducing valve.

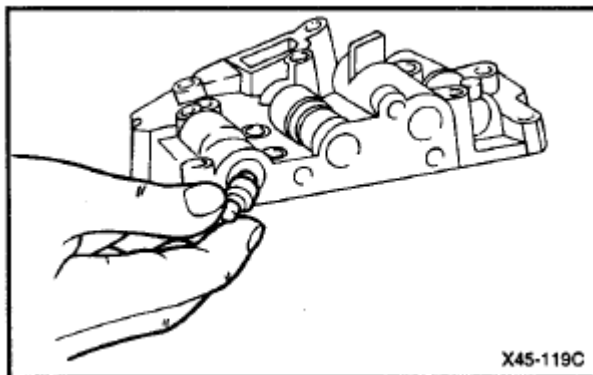


Fig. 223: Installing Reducing Valve
Courtesy of HYUNDAI MOTOR CO.

4. Install the reducing spring, adjustment screw, and end cover. Tighten the bolts to the specified torque.

Tightening torque: 4-6 Nm (40-60 kg.cm, 29-43 lb.ft)

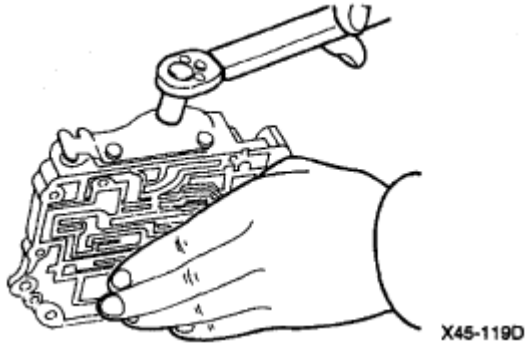


Fig. 224: Tightening Bolts To Specified Torque
Courtesy of HYUNDAI MOTOR CO.

5. Install the end clutch valve, end clutch spring, and end clutch plug. And then install the control switch valve.

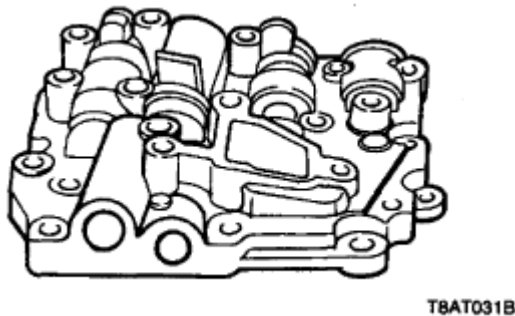


Fig. 225: Identifying Control Switch Valve
Courtesy of HYUNDAI MOTOR CO.

6. Install the shift-control valve and the high-low pressure valve to the upper valve body.

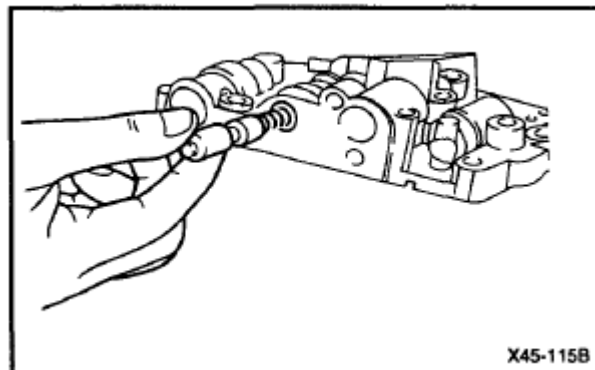


Fig. 226: Removing Shift-Control Valve & High-Low Pressure Valve
Courtesy of HYUNDAI MOTOR CO.

7. Install the shift-control plug.

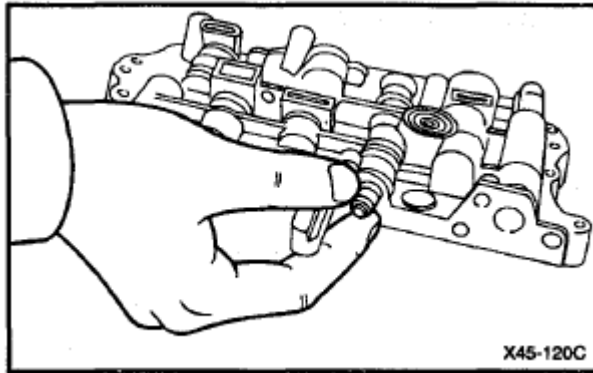


Fig. 227: Installing Shift-Control Plug
Courtesy of HYUNDAI MOTOR CO.

8. Install the 1 -2 shift valve and 1 -2 shift spring.

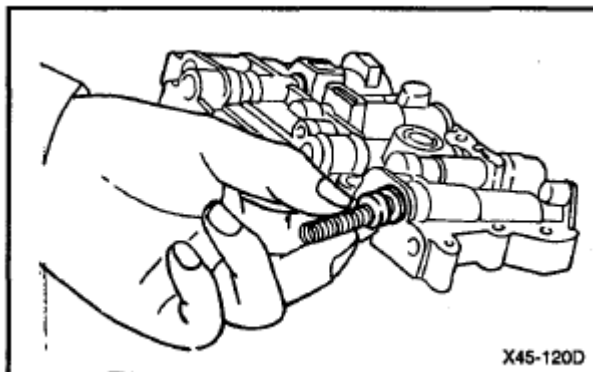


Fig. 228: Removing/Installing 1-2 Shift Spring & 1-2 Shift Valve
Courtesy of HYUNDAI MOTOR CO.

9. Install the rear end cover.

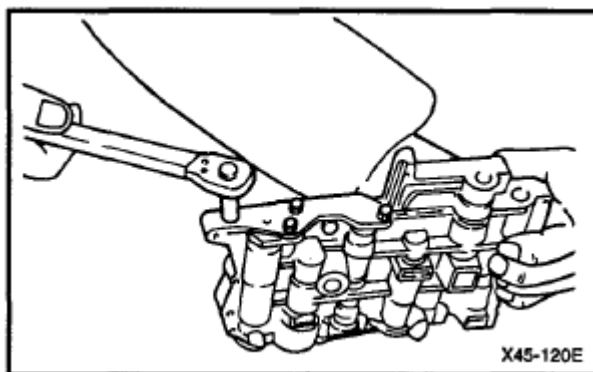


Fig. 229: Removing/Installing Rear End Cover
Courtesy of HYUNDAI MOTOR CO.

10. Install the pressure control valve and the pressure control sleeve.

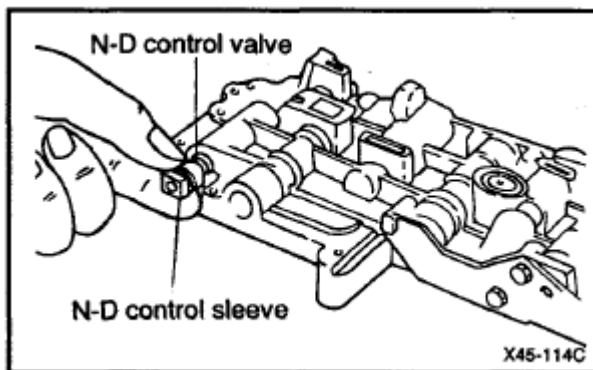


Fig. 230: Removing/Installing Pressure Control Sleeve & Pressure Control Valve
Courtesy of HYUNDAI MOTOR CO.

11. Install the 2-3/4-3 shift valve and the 2-3/4-3 shift spring.

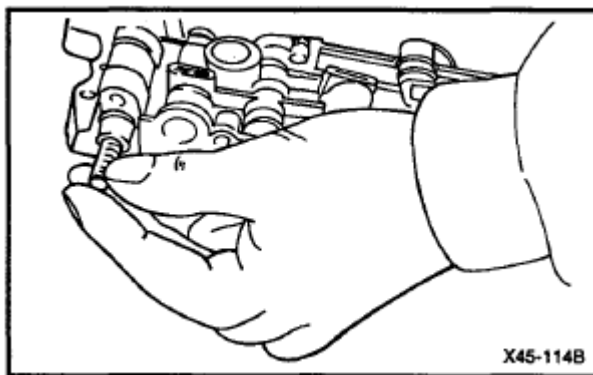


Fig. 231: Installing Shift Spring
Courtesy of HYUNDAI MOTOR CO.

12. Install the rear clutch exhaust spring and rear clutch exhaust valves.

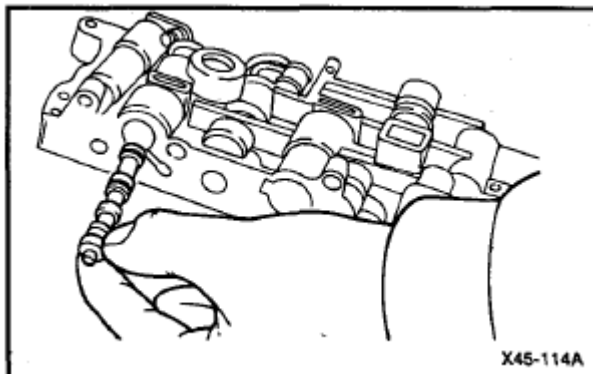


Fig. 232: Removing/Installing Rear Clutch Exhaust Spring & Rear Clutch Exhaust Valves
Courtesy of HYUNDAI MOTOR CO.

13. Install the shift-control plug and shift control spring.

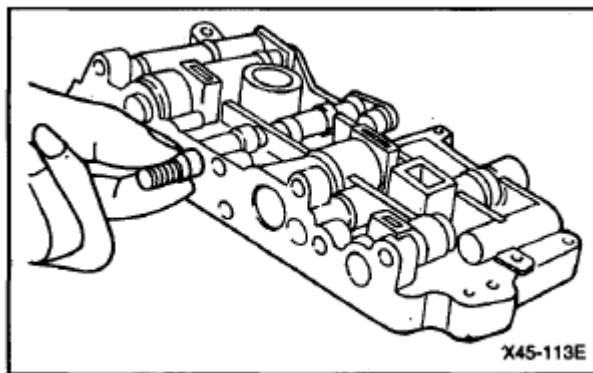


Fig. 233: Removing/Installing Shift-Control Plug & Shift Control Spring
Courtesy of HYUNDAI MOTOR CO.

14. Install the regulator valve and regulator spring.

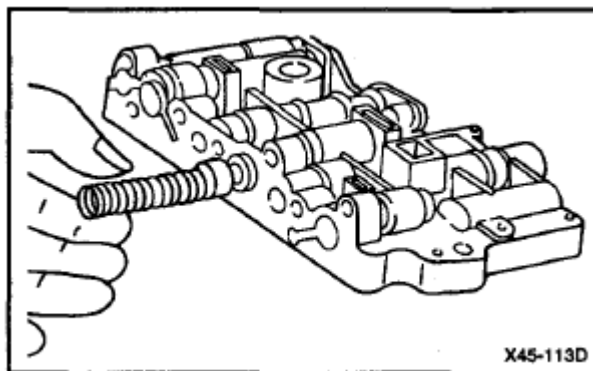


Fig. 234: Removing/Installing Regulator Valve & Regulator Spring
Courtesy of HYUNDAI MOTOR CO.

15. Install the torque converter control valve and torque converter control spring.

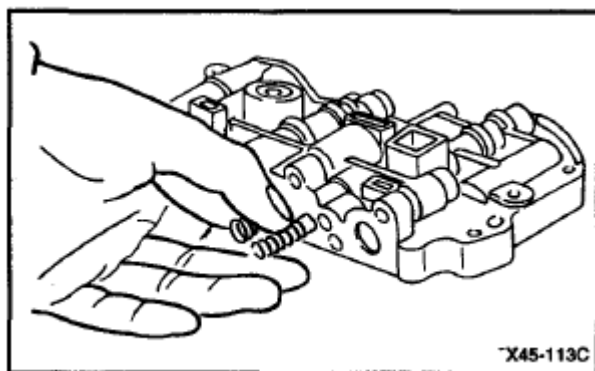


Fig. 235: Removing/Installing Torque Converter Control Valve & Torque Converter Control Spring
Courtesy of HYUNDAI MOTOR CO.

16. Install the pressure control valve and pressure control spring.

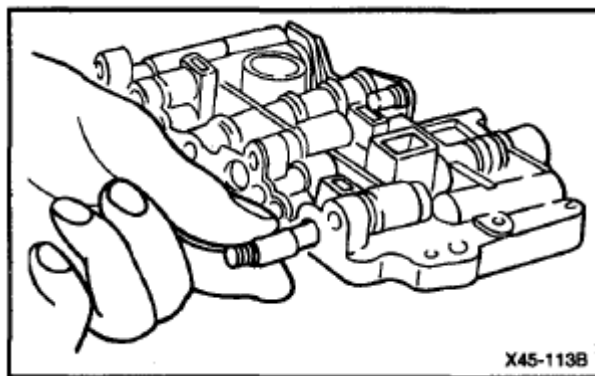
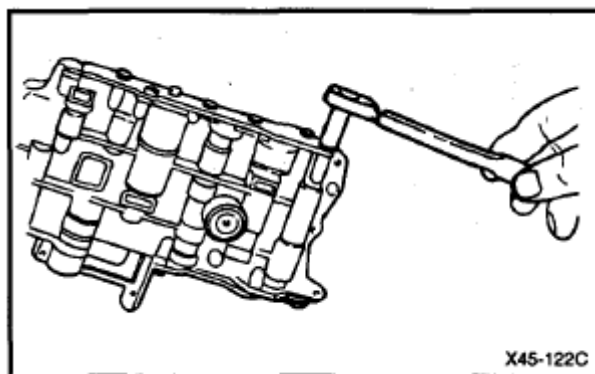


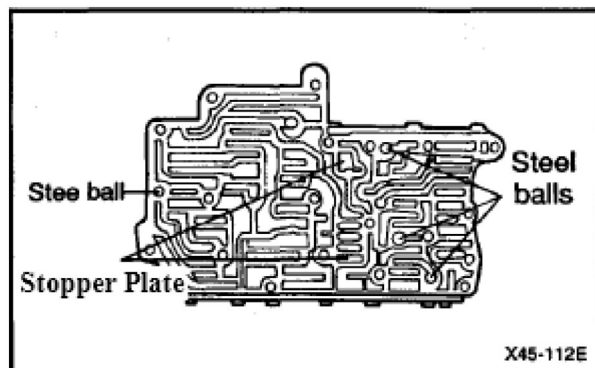
Fig. 236: Removing/Installing Pressure Control Spring & Pressure Control Valve
Courtesy of HYUNDAI MOTOR CO.

17. Install the adjustment screw and front end cover. Tighten the bolts to the specified torque.

**Fig. 237: Tightening Bolts**

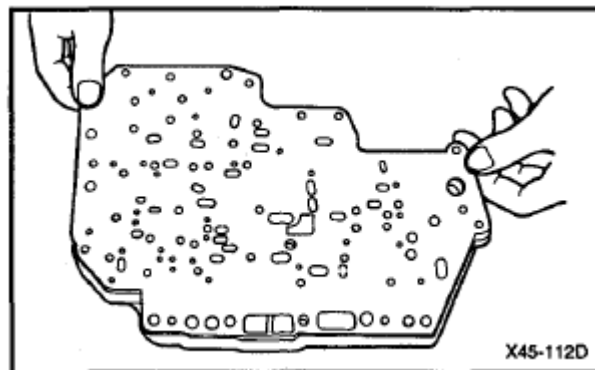
Courtesy of HYUNDAI MOTOR CO.

18. Install, in the upper valve body, the three steel balls, the teflon ball, two stopper plate and N-D plate.

**Fig. 238: Identifying Steel Balls & Stopper Plate**

Courtesy of HYUNDAI MOTOR CO.

19. Install the upper separating plate.

**Fig. 239: Identifying Upper Separating Plate**

Courtesy of HYUNDAI MOTOR CO.

20. Install the block.

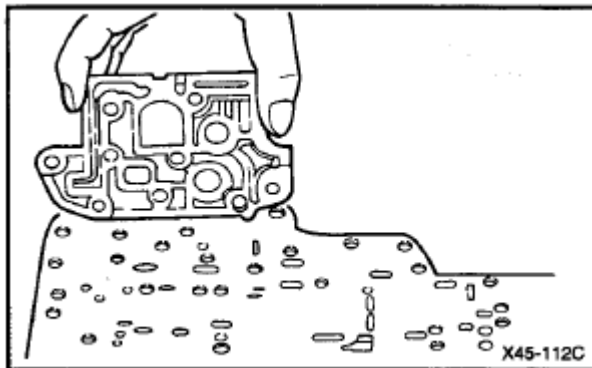


Fig. 240: Installing Block
Courtesy of HYUNDAI MOTOR CO.

21. Install the special tool (09456-21000). Then, securing the upper separating plate and the intermediate plate with the eight installation bolts, remove the special tool.

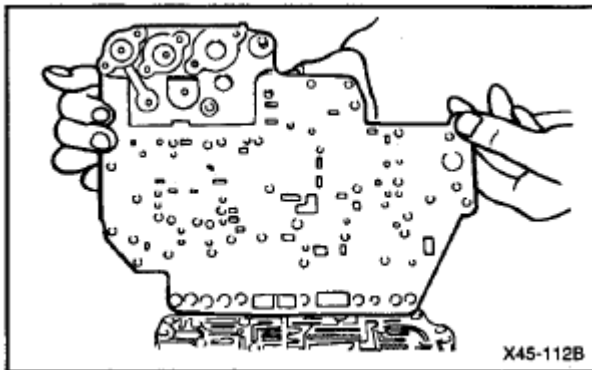


Fig. 241: Identifying Intermediate Plate
Courtesy of HYUNDAI MOTOR CO.

22. Install to the intermediate plate, the oil filter, the two steel balls, and the spring.

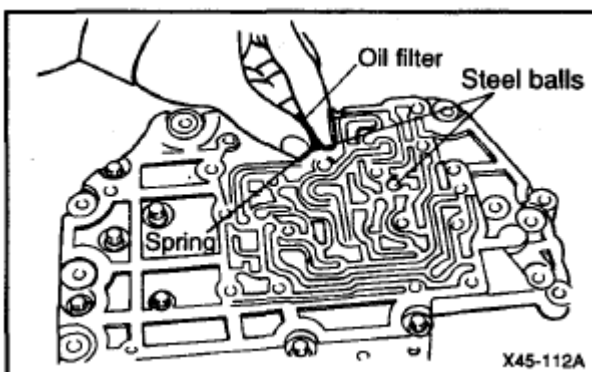


Fig. 242: Identifying Spring, Oil Filter, & Steel Balls On Intermediate Plate
Courtesy of HYUNDAI MOTOR CO.

23. Install the special tool (09456-21000) to the intermediate plate.

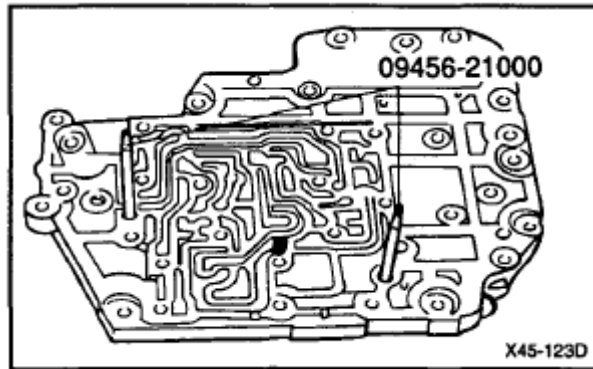


Fig. 243: Installing Special Tool To Intermediate Plate
Courtesy of HYUNDAI MOTOR CO.

24. Install the separating plate.

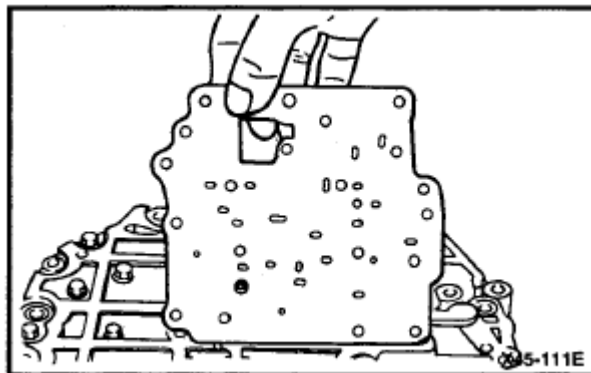
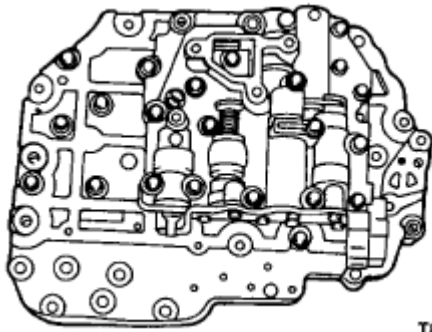


Fig. 244: Identifying Separating Plate
Courtesy of HYUNDAI MOTOR CO.

25. After securing the lower valve body using the 15 installation bolts, remove the special tool.



T8AT031A

Fig. 245: Identifying Lower Valve Body Bolts
Courtesy of HYUNDAI MOTOR CO.

26. Install the valve stopper and clamp.

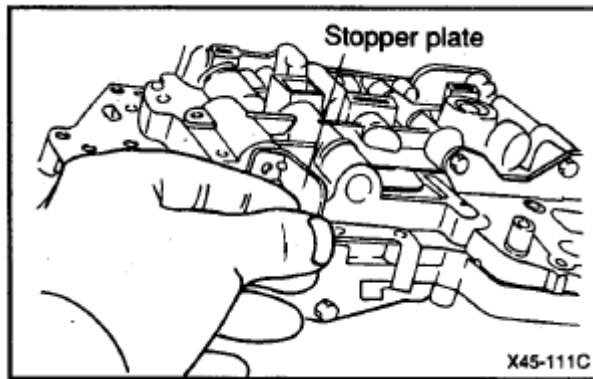


Fig. 246: Installing Stopper Plate
Courtesy of HYUNDAI MOTOR CO.

27. Install the manual valve.

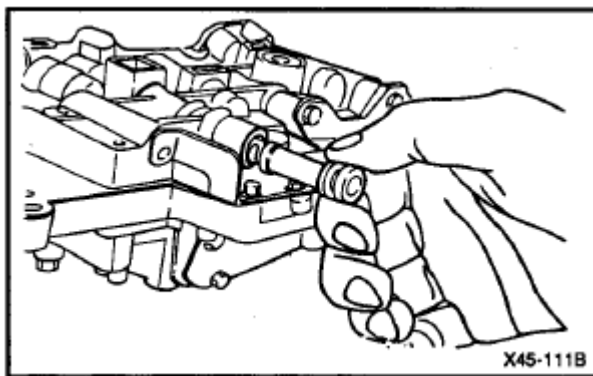


Fig. 247: Installing Manual Valve
Courtesy of HYUNDAI MOTOR CO.

28. Secure the four solenoid valves using the installation bolts.

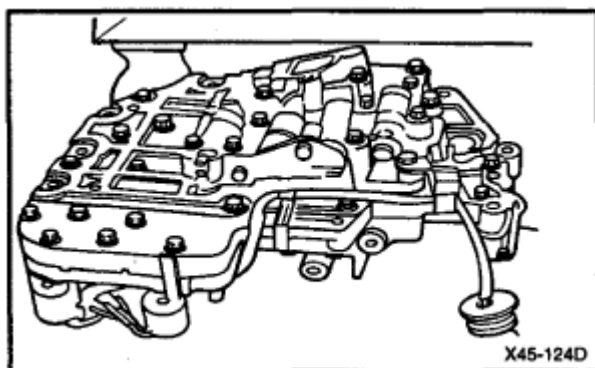


Fig. 248: Identifying Solenoid Valve Bolts
Courtesy of HYUNDAI MOTOR CO.

KICKDOWN SERVO

KICKDOWN SERVO

COMPONENTS

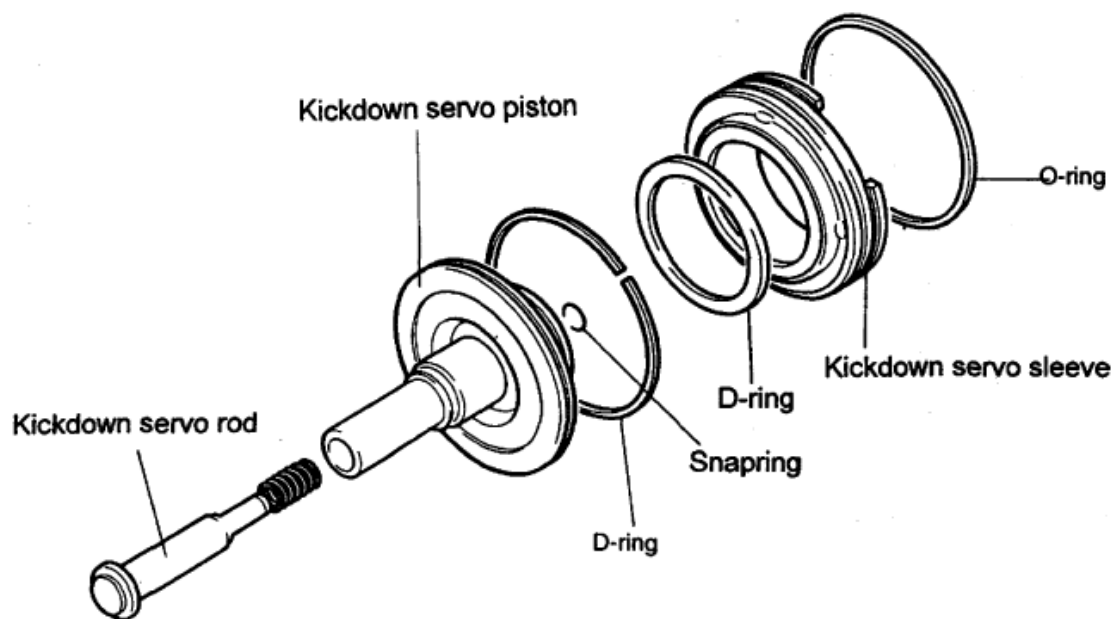


Fig. 249: Identifying Kickdown Servo Components
Courtesy of HYUNDAI MOTOR CO.

ASSEMBLY

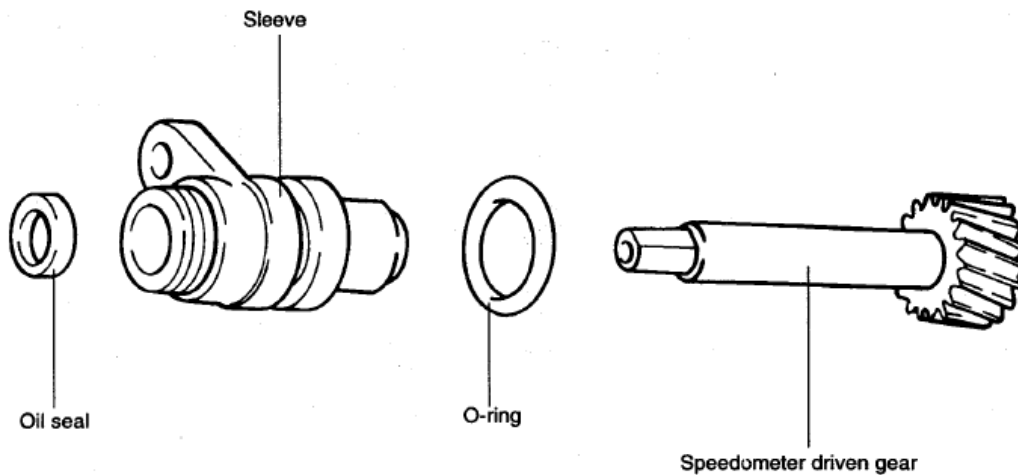
1. Install the rod and nut to the kickdown servo piston.
2. Install two new D-rings (one large and one small) around the circumference of the piston, and then apply a coating of ATF to the D-rings.

3. Install the kickdown servo piston in the sleeve.
4. Install a new O-ring around the circumference of the sleeve, and apply a coating of ATF to the O-ring.

SPEEDOMETER DRIVEN GEAR

SPEEDOMETER DRIVEN GEAR

COMPONENTS



A7MT048A

Fig. 250: Identifying Speedometer Driven Gear Components
Courtesy of HYUNDAI MOTOR CO.

ASSEMBLY

1. Install a new O-ring into the outer groove of the sleeve, and apply a coating of ATF to the outer circumference of the O-ring.

CAUTION: Insert carefully the speedometer driven gear into the transaxle housing not to disassemble the speedometer driven gear shaft.

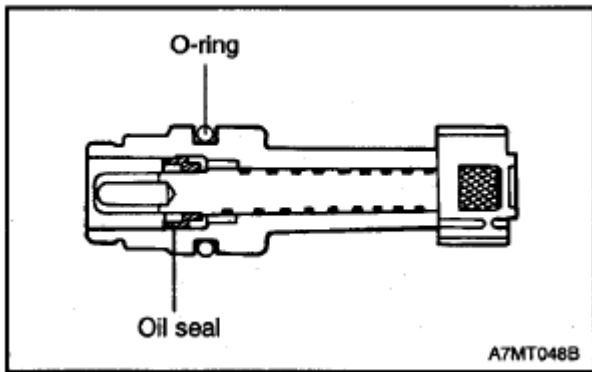


Fig. 251: Identifying O-Ring & Oil Seal
Courtesy of HYUNDAI MOTOR CO.