

SECTION 08-01 Clutch/Pressure Plate

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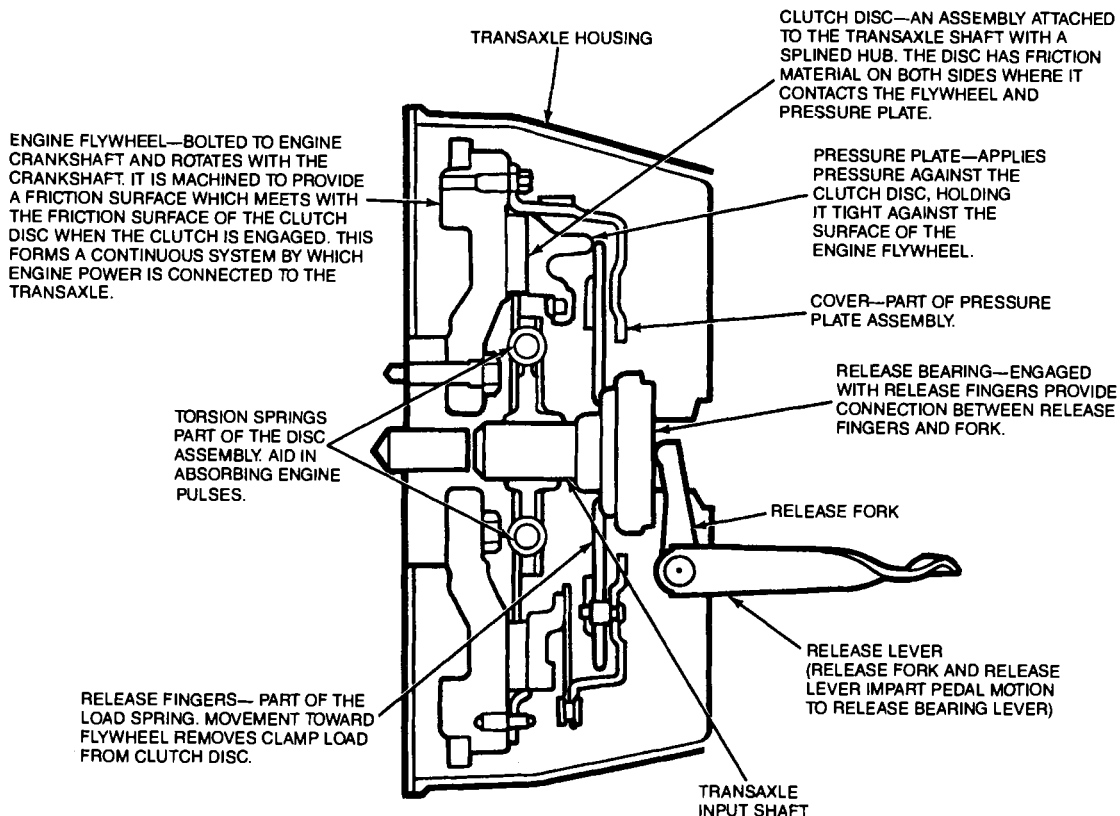
VEHICLE APPLICATION

Capri.

DESCRIPTION AND OPERATION

WARNING: BRAKE FLUID CONTAINS POLYGLYCOL ETHERS AND POLYGLYCOLS. AVOID CONTACT WITH EYES. WASH HANDS THOROUGHLY AFTER HANDLING. IF BRAKE FLUID CONTACTS EYES, FLUSH EYES WITH RUNNING WATER FOR 15 MINUTES. GET MEDICAL ATTENTION IF IRRITATION PERSISTS. IF TAKEN INTERNALLY, DRINK WATER AND INDUCE VOMITING. GET MEDICAL ATTENTION IMMEDIATELY.

The clutch is a single plate, dry disc-type friction plate with a diaphragm spring-type pressure plate.



C6951-B

DESCRIPTION AND OPERATION (Continued)

The clutch cover uses a flat, diaphragm spring with an asbestos and glass fiber clutch disc.

The clutch operating system on turbocharged vehicles consists of the release bearing, release fork, cable and pedal.

The clutch operating system on naturally aspirated engines consists of the release bearing, release fork, slave cylinder, fluid reservoir and pedal.

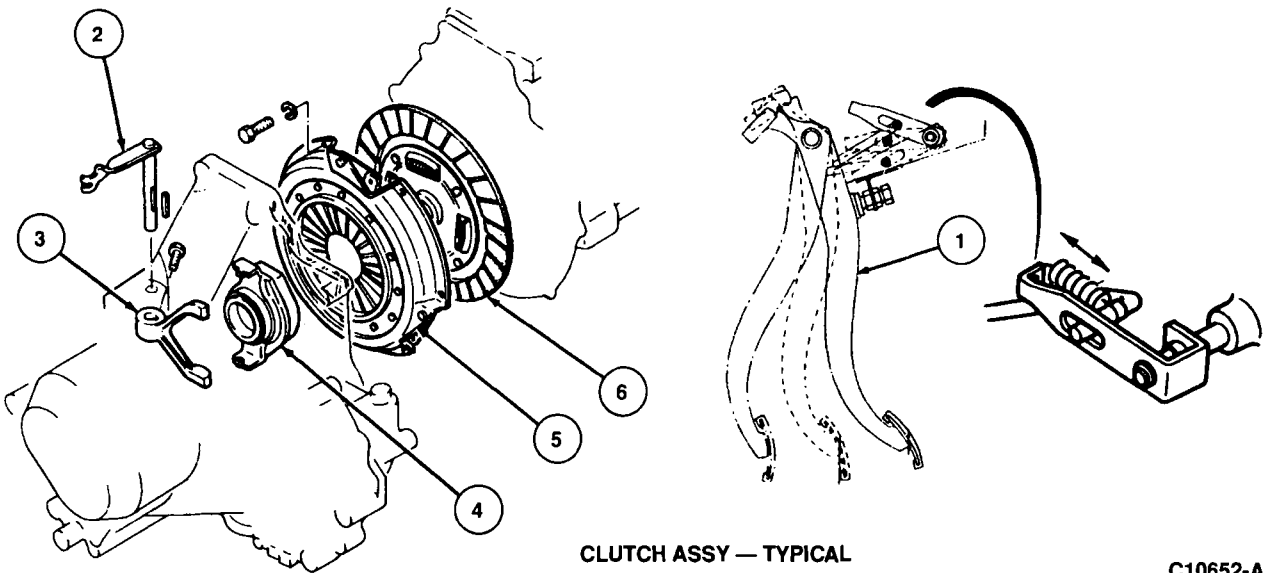
The diaphragm spring is located between two fulcrum rings, which are riveted to the clutch cover (part of the pressure plate assembly).

In the engaged position, the diaphragm spring holds the pressure plate against the clutch disc, so that the engine torque is transmitted to the input shaft of the transaxle. As the clutch pedal is depressed, the release bearing applies pressure on the diaphragm spring center, which is pressed toward the flywheel. The diaphragm spring tilts, thereby relieving the load on the pressure plate. At the same time, spring steel straps riveted to the clutch cover lift the pressure plate from the clutch disc, disengaging the engine drive from the transaxle, enabling the gears to be shifted. Torsion springs in the clutch disc help reduce disc drive vibration.

The clutch drives the transaxle input shaft through the splined hub. The input shaft is mounted in pre-lubed tapered roller bearings. These bearings are installed in the transaxle housing. The pilot bearing is located in the flywheel.

It is important that the engine-to-transaxle mounting bolts are evenly and securely tightened to prevent misalignment and poor mating of the housing surfaces.

Transaxle identification is determined by a serial number located on a plate attached to the clutch housing.



Item	Part Number	Description
1	—	Clutch Pedal
2	—	Release Lever
3	—	Release Fork
4	—	Release Bearing
5	—	Pressure Plate Assembly
6	—	Clutch Disc

Refer to Section 08-02 for information on clutch controls.

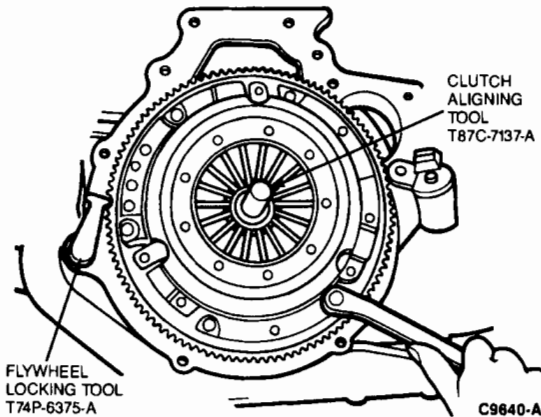
ADJUSTMENTS

Refer to Section 08-02.

REMOVAL AND INSTALLATION

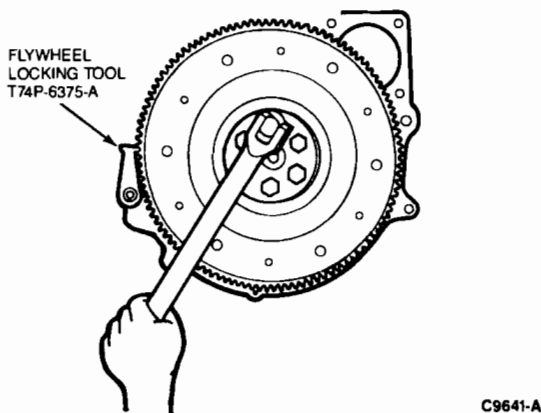
Clutch Pressure Plate, Disc and Flywheel**Removal**

1. Remove transaxle. Refer to Section 07-03A or 07-03B.
2. Install Flywheel Locking Tool T74P-6375-A or equivalent as shown in a transaxle mounting hole on the engine and engage the tooth of the locking tool into the flywheel ring gear.



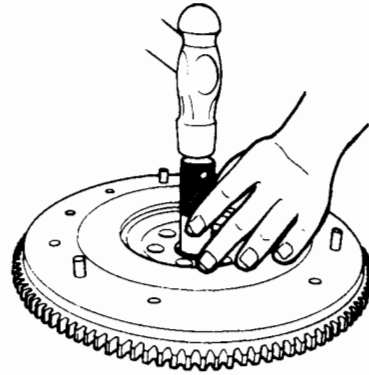
NOTE: To avoid dropping the disc when the bolts are removed from pressure plate, use Clutch Aligning Tool T87C-7137-A or equivalent.

3. Remove bolts attaching the pressure plate to the flywheel, and remove pressure plate assembly.
 4. Remove the clutch disc and clutch aligning tool.
- CAUTION:** Use care when removing the last bolt to prevent dropping flywheel.
5. With the flywheel locking tool still engaged, remove the flywheel mounting bolts and then remove flywheel.



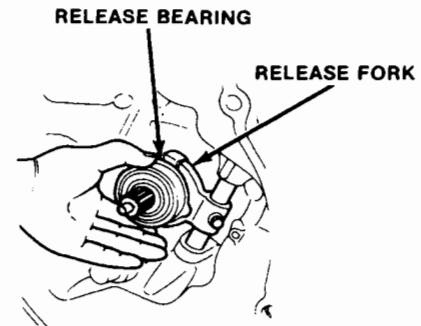
6. Inspect pilot bearing for excessive wear or scoring and replace if necessary, using a suitable drift and hammer as shown.

NOTE: Do not remove pilot bearing if it is not necessary.



C7471-A

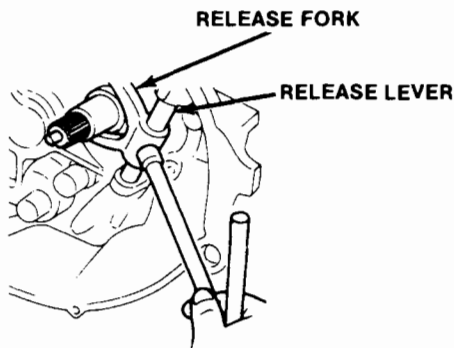
7. Remove the return spring from the release bearing lever and transaxle case.
8. Remove release bearing from transaxle input shaft.



9. Remove bolt attaching release fork to the release lever.

REMOVAL AND INSTALLATION (Continued)

- Slide the release lever shaft out through the top of the transaxle case approximately 76mm (3 inch). Remove release fork and set-key from the release lever shaft. Remove release lever from transaxle.



C7473-A

Inspection

Clutch Cover

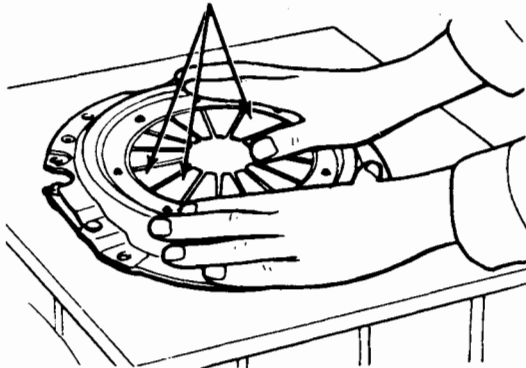
- Check pressure plate surface for scoring, cracks or discoloration.

NOTE: Minor scratches or discoloration should be removed with fine emery cloth.

- Check the diaphragm spring fingers for discoloration, scoring, broken or bent segments, and spring ends that are higher or lower than the rest.

NOTE: All spring ends must be in the same plane.

DIAPHRAGM SPRING FINGERS

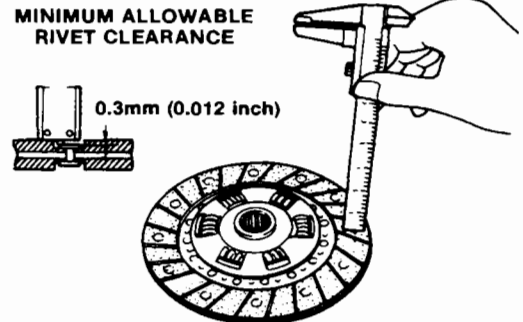


C7474-A

Clutch Disc

- Check lining surface for hardening or presence of oil.

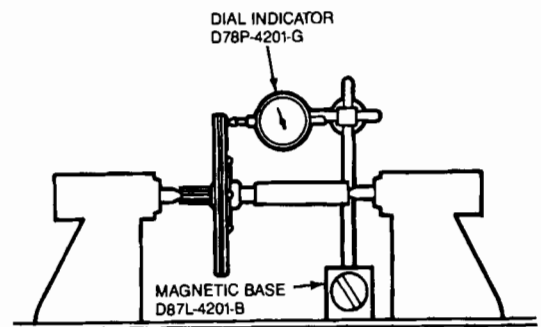
- Check for worn clutch disc lining. Measure the depth to the rivet heads with a vernier caliper.



C7475-A

NOTE: Use emery cloth to remove minor imperfections in the clutch lining surface.

- Check for loose clutch lining rivets.
- Check the run-out of the clutch disc. Lateral runout should not be more than 0.7mm (0.027 inch). Vertical runout should not be more than 1.0mm (0.039 inch). If either specification is exceeded, replace the clutch disc.



LATERAL RUNOUT LIMIT:
0.7mm (.0275 inch)

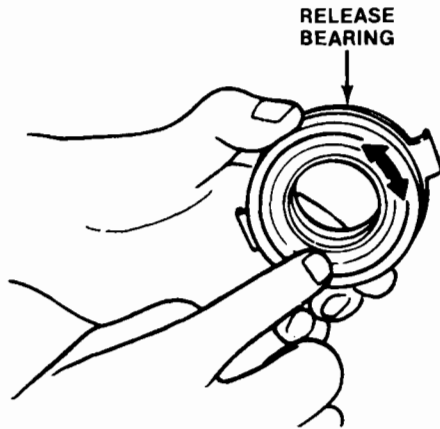
C8642-A

- Check for wear or rust on the splines. Remove any rust with emery cloth.

REMOVAL AND INSTALLATION (Continued)

Clutch Release Bearing

1. Turn the bearing in both directions and check for any binding or abnormal noise.

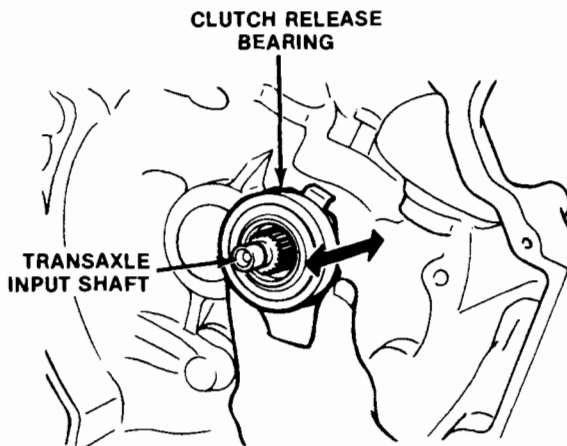


C7477-A

2. Check for worn or damaged release bearing fork contact surfaces.

CAUTION: The clutch release bearing is a sealed bearing and must not be immersed in any type of cleaning fluid.

3. Check the sliding condition of the bearing. Install the bearing on the transaxle input shaft and check for smooth movement.

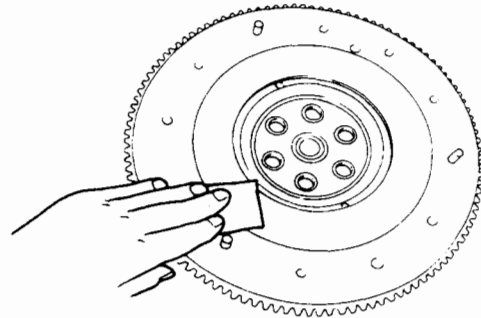


C7478-A

Flywheel

1. Check for surface marks, scoring or discoloration of clutch contact surface.

NOTE: Minor surface servicing / touch-ups can be made by cleaning with emery cloth.



C7479-A

2. The flywheel must be machined if scoring or discoloration is excessive. Do not exceed a machining cut of 0.5mm (0.020 inch).
3. Check for damaged or worn ring gear teeth. If necessary, replace ring gear as follows:

WARNING: AN EXPERIENCED ACETYLENE TORCH OPERATOR MUST PERFORM THIS OPERATION.

- a. Heat ring gear evenly with a torch, and then tap around gear with a suitable drift and hammer to remove gear from the flywheel.
- b. Support flywheel, ring gear side up, on a solid flat surface.

WARNING: TO AVOID PERSONAL INJURY, USE TONGS OR ASBESTOS GLOVES WHEN PLACING HEATED RING GEAR ON THE FLYWHEEL.

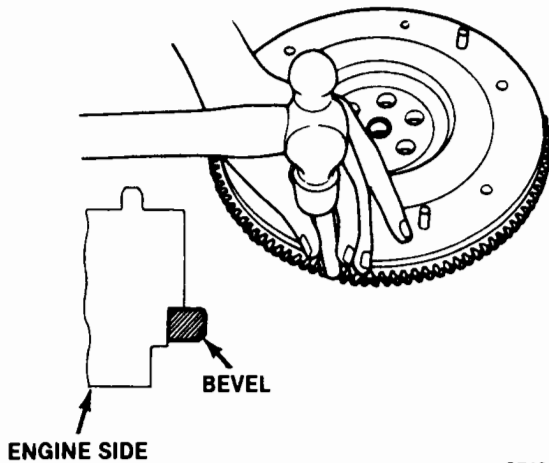
CAUTION: The beveled side of the ring gear must face toward the engine side.

NOTE: Do not, under any circumstances, heat the ring gear over 300°C (570°F); excessive heat may destroy the original heat treatment. Heat indicating "crayons" which are placed on the ring gear and melt at a predetermined temperature, may be obtained from most tool suppliers. Use of the "crayons" will ensure against overheating the ring gear.

- c. Place the new ring gear on a flat metal surface and heat ring gear uniformly with a torch. Keep torch moving around the gear to avoid hot spots.

REMOVAL AND INSTALLATION (Continued)

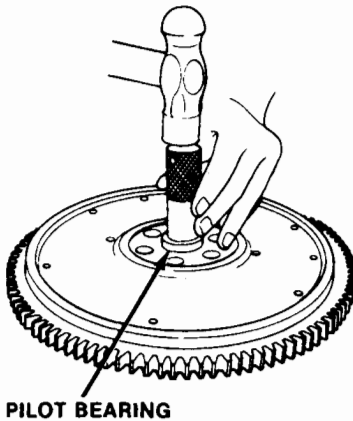
- d. Use a pair of tongs or asbestos gloves to place ring gear on the flywheel. If necessary, lightly tap ring gear on the flywheel.



C7480-A

Installation

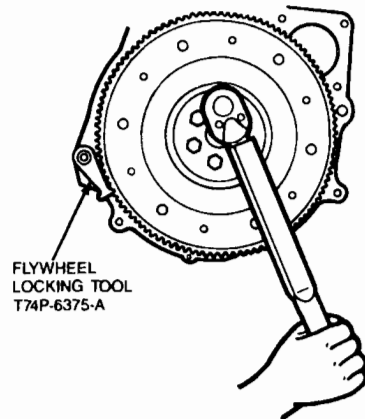
1. If removed, install the pilot bearing in the flywheel with a suitable drift and a hammer.



PILOT BEARING

C7481-A

2. Install the flywheel to the crankshaft with beveled ring gear facing the engine.
3. Install Flywheel Locking Tool T74P-6375-A or equivalent as shown, in a transaxle mounting hole on the engine and engage the tooth of the locking tool into the flywheel ring gear.

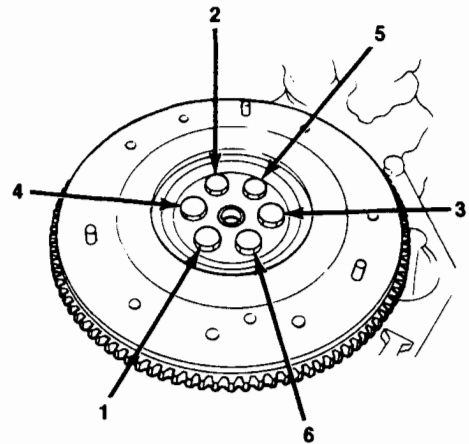
FLYWHEEL
LOCKING TOOL
T74P-6375-A

C9643-A

CAUTION: If re-installing flywheel bolts, clean threads to remove old sealant. Apply Stud and Bearing Mount Sealant E0AZ-19554-B (ESE-M4G167-A2) or equivalent to bolts. If old sealant cannot be removed, replace with new bolts.

4. Tighten flywheel retaining bolts using the sequence shown. Tighten to 96-103 N·m (71-75 lb-ft).

TORQUE SPECIFICATION:
96-103Nm (71-75 lb-ft)

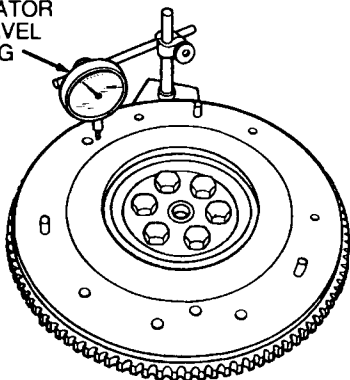


C7483-A

REMOVAL AND INSTALLATION (Continued)

5. Check flywheel runout as follows:
 - a. Set Dial Indicator 1 Inch Travel D78P-4201-G or equivalent, on the clutch disc contact surface, and then turn the flywheel to measure runout. Runout limit is 0.2mm (0.008 inch).

DIAL INDICATOR
1 INCH TRAVEL
D78P-4201-G

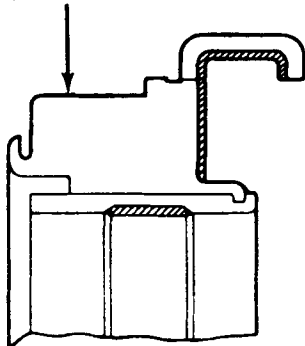


TOTAL INDICATED
RUNOUT (MAXIMUM)
0.2mm (0.008 INCH)

C9644-B

- b. If flywheel runout exceeds the limit, the flywheel surface must be machined.
6. Install release lever through the transaxle case and align groove in lever shaft and the groove in release fork with the set key.
7. Align release fork mounting bolt hole with hole in the release lever shaft.
8. Apply a coating of Stud and Bearing Mount Sealant E0AZ-19554-B or equivalent to the bolt. Install and tighten to 7.8-10.8 N·m (5.8-8.0 lb-ft).
9. Apply Premium Long-Life Grease C1AZ-19590-B (ESA-M1C75-B) or equivalent to the shaded areas of the release bearing as shown.

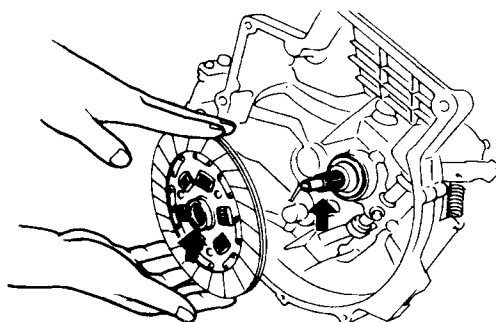
RELEASE BEARING



C7485-A

10. Install release bearing to clutch release fork.

11. Install the clutch release lever return spring to the transaxle case and release lever arm.
12. Clean the splines on the clutch disc and the transaxle input shaft and apply a small amount of Premium Long-Life Grease C1AZ-19590-B (ESA-M1C75-B) or equivalent to the clutch disc and input shaft splines. Use care to avoid getting grease on the clutch face.



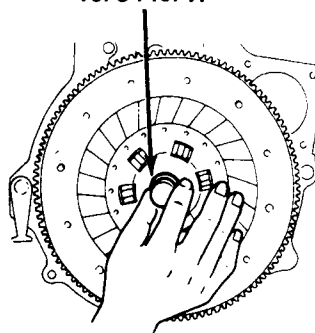
APPLY SMALL AMOUNT
OF CLUTCH GREASE
AS SHOWN BY ARROWS

C7486-A

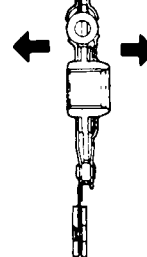
13. Install clutch disc using Clutch Aligning Tool T87C-7137-A or equivalent.

NOTE: Install clutch with the disc facing in the direction shown.

CLUTCH ALIGNING TOOL
T87C-7137-A



ENGINE SIDE TRANSAXLE SIDE

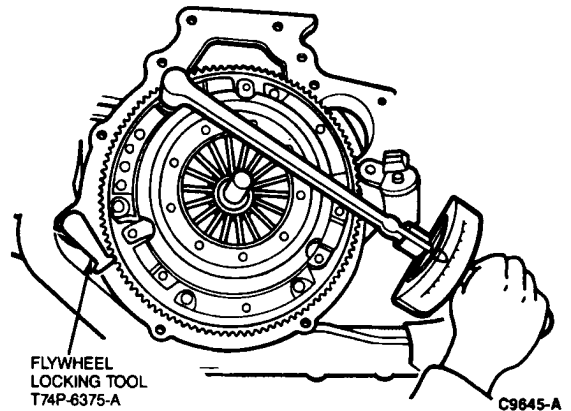


C7487-A

14. Install pressure plate assembly and bolts. Tighten bolts evenly in a diagonal sequence to 18-26 N·m (13-20 lb-ft). Use Flywheel Locking Tool T74P-6375-A or equivalent, to hold the flywheel while tightening the bolts.
15. Install transaxle. Refer to Section 07-03A or 07-03B.

REMOVAL AND INSTALLATION (Continued)

16. Adjust clutch pedal height. Refer to Section 08-02.

**SPECIFICATIONS****General Specifications**

Clutch Control Turbocharged Vehicles	Cable Actuated
Naturally Aspirated Vehicles	Hydraulic
Clutch Cover Type	Conventional
Clutch Cover Set Load	363 N 370 kg 814 lb
Clutch Cover	Flat Diaphragm Spring
Clutch Disc	Asbestos and Glass Fiber
Clutch Disc Outer Diameter	190mm (7.48 inches)
Clutch Disc Facing Inner Diameter	132 mm (5.20 inches)
Clutch Disc Thickness	3.5mm (0.14 inch)
Clutch Disc Spline Inner Diameter	20.11mm (0.792 inch)
Clutch Disc Number of Splines	20
Clutch Disc Thickness	8.4mm (0.33 inch)
Number of Torsion Springs	6
Clutch Pedal Type	Suspended
●Clutch Pedal Ratio	6.2:1
Clutch Pedal Full Stroke	145mm (5.71 inches)
Clutch Pedal Height Turbocharged Vehicles	214—219mm (8.4—8.6 inches)
Naturally Aspirated Vehicles	229—234mm (9.02—9.22 inches)

CC6910-A

SPECIFICATIONS (Continued)

TORQUE SPECIFICATIONS		
Description	N·m	Lb·Ft
Clutch Cover to Flywheel	18-26	13-20
Flywheel Retaining Bolts	96-103	71-75
Release Fork Mounting Bolt	7.8-10.8	5.8-8.0

SPECIAL SERVICE TOOLS

Tool Number	Description
T74P-6375-A	Flywheel Locking Tool
T87C-7137-A	Clutch Aligning Tool
D78P-4201-G	Dial Indicator 1 Inch Travel