

ENGINE CLUTCH

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DESCRIPTION

A single plate, dry disc type clutch is used on all Tempest cars with synchromesh transmissions. The clutch assembly consists of the clutch driven plate assembly, the clutch cover and pressure plate assembly, and the clutch release mechanism.

The driven plate for all three Tempest clutches (standard and heavy duty for 6 cylinder and one for V-8) differ from each other in plate size and damper spring calibration. The six cylinder standard clutch driven plate is 9.12 in diameter, the six cylinder heavy duty is 10.00 in diameter and the V-8 is 10.40 in diameter. Grooves on both sides of the clutch plate lining prevent the sticking of the plate to the flywheel and pressure plate due to vacuum between the members.

The driven plate incorporates a damper assembly in the hub to prevent the transmitting of torsional vibrations from engine to transmission.

The pressure plate for all three clutch assemblies is of the disc spring type. Fig. 6D-1. There is an overcenter effect inherent in the action of the disc spring itself. This eliminates the need for an overcenter spring.

Pressure plate spring pressure forces the driven plate against the flywheel, thereby coupling the engine to the transmission.

The clutch release mechanism consists of a ball thrust bearing, appropriate levers and linkage to manually control the action of the bearing. The ball thrust bearing is piloted on a tubular support. When

pressure is applied to the clutch pedal to release the clutch, the clutch fork pivots on its ball socket. The inner end then pushes the release bearing forward so that it presses against the inner ends of the clutch release levers, releasing the clutch (Fig. 6D-1). Pedal effort is transmitted by the pedal to the lever assembly and thence through the clutch fork.

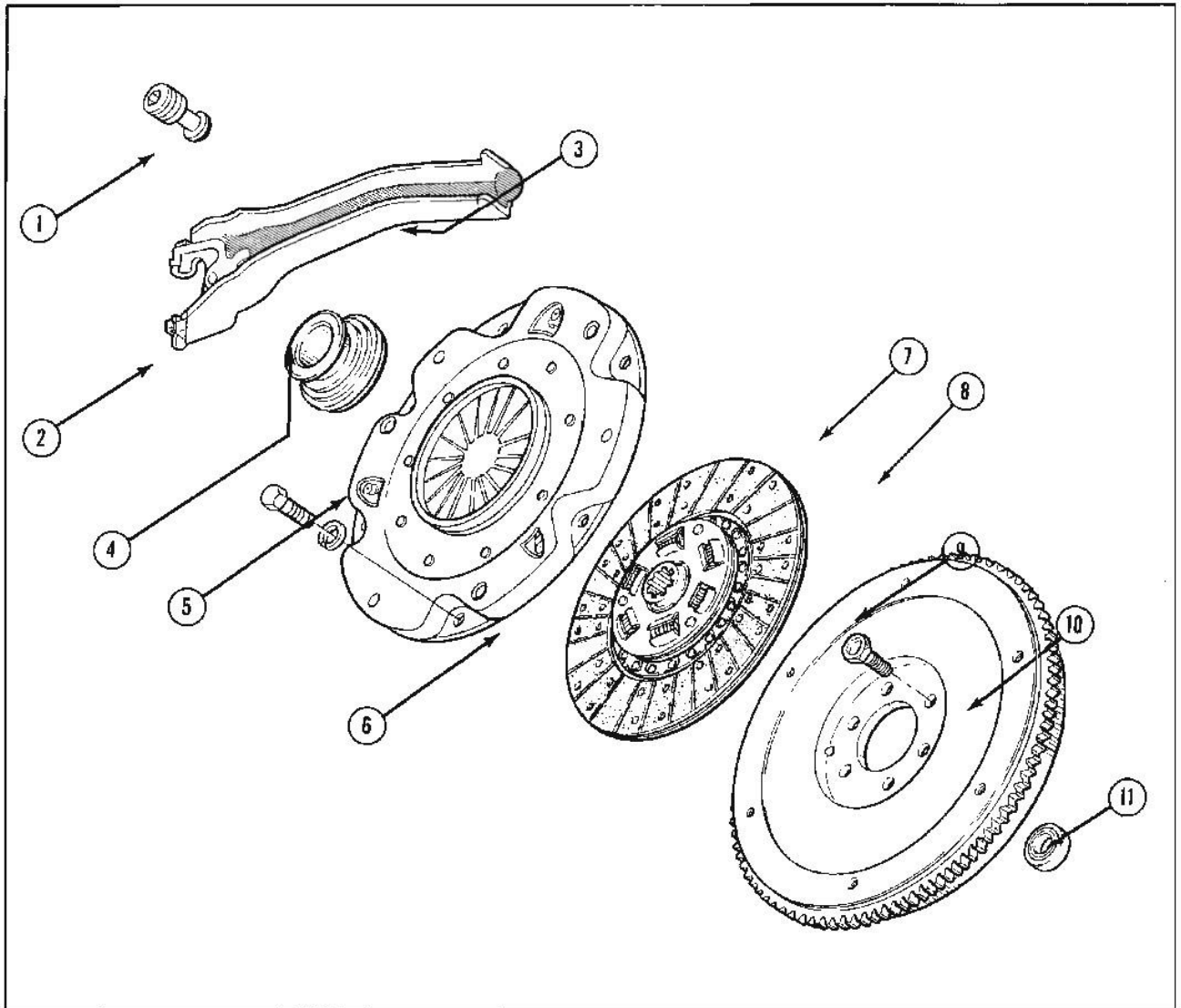
PERIODIC SERVICE

See "General Lubrication" Section.

CLUTCH PEDAL ADJUSTMENT

Wear on the clutch parts necessitates occasional lash adjustment. No other adjustment is made. Lash adjustment should be made as follows:

1. Unhook the linkage return spring.
2. With clutch pedal against stop: loosen lock nut sufficiently to allow the adjusting rod to be turned out of swivel (8 cyl.) or push rod (6 cyl.) and rearward against the clutch fork until the release bearing contacts pressure plate fingers lightly.
3. Rotate push rod into swivel or push rod 3-1/2 turns and tighten lock nut 8-12 lb. ft. torque.
4. Install return spring. Approximately 1" of lash should be at pedal.



- | | | |
|------------------------------------|---|----------------------------------|
| 1. Crankshaft Clutch Pilot Bearing | 5. Clutch Driven Plate (with facings) | 8. Clutch Cover to Flywheel Bolt |
| 2. Flywheel Ring Gear | 6. Clutch Cover and Pressure Plate Assembly | 9. Clutch Release Bearing |
| 3. Engine Flywheel | 7. Clutch Cover to Flywheel Bolt Washer | 10. Clutch Release Fork |
| 4. Flywheel to Crankshaft Bolt | | 11. Clutch Release Fork Ball |

Fig. 6D-1 Clutch and Flywheel Assy.—Exploded View

SERVICES & REPAIRS

CLUTCH CONTROL LINKAGE

REMOVE

1. Remove return spring.
2. Disconnect retainer from each end of intermediate rod.

3. Loosen nut and lockwasher from ball stud at frame and remove countershaft assembly.

REPLACE

1. Reverse removal steps. Tighten ball stud nuts 25-35 lb. ft. torque.
2. Adjust lash. See clutch adjustment under periodic service.

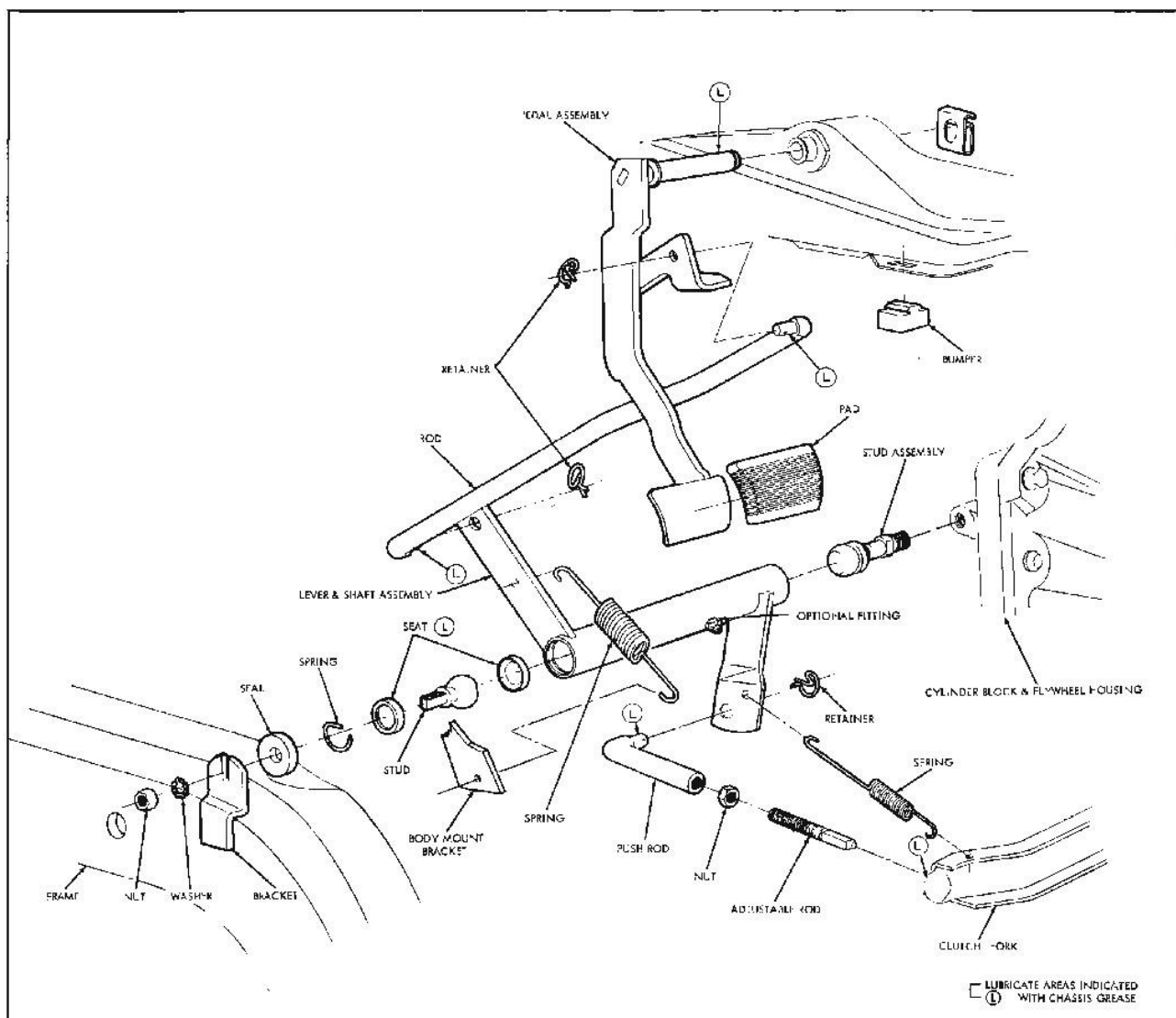


Fig. 6D-2 Clutch Control Linkage - 6 Cyl.

CLUTCH—REMOVE AND REPLACE**REMOVE**

1. Disconnect battery to starter lead at battery.
2. Remove propeller shaft and transmission. See TRANSMISSION SECTION. Exercise care to avoid damaging transmission front retainer (release bearing support) when transmission is pulled back to free main drive (clutch) gear from flywheel housing.
3. Remove release bearing through rear opening in clutch housing. Do not place bearing in any degreasing solvent, etc.
4. Remove return spring.
5. Remove starter.
6. Remove front flywheel housing shield.
7. Remove flywheel housing bolts and pull housing off of dowels.
8. Remove flywheel housing.
9. Mark clutch pressure plate cover and flywheel to insure reassembly in the same position as balanced at factory.
10. Loosen bolts holding clutch cover to flywheel one turn at a time until tension is relieved.

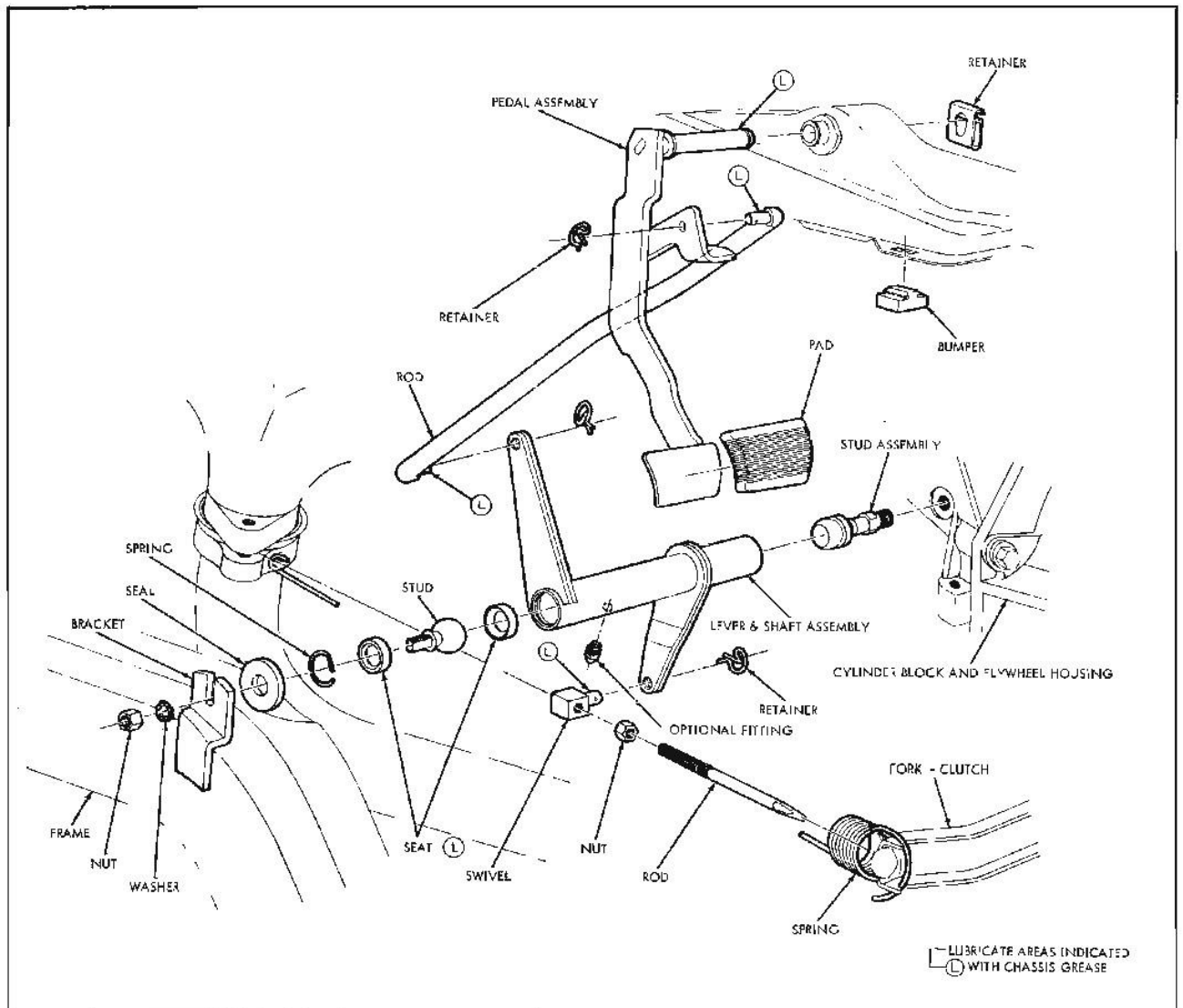


Fig. 6D-3 Clutch Control Linkage - 8 Cyl.

11. Remove all but top bolt and move clutch assembly away from flywheel at bottom so as to permit removal of clutch driven plate.

12. Remove remaining bolt to remove clutch cover plate assembly.

INSPECT

1. Inspect clutch driven plate for broken or distorted torsion springs, worn or loose facings, oil on facings, and damaged spline which could cause binding. If any of the above defects are present, replace driven plate with new assembly.

NOTE: Servicing of clutch driven plate must be by replacement of plate assembly only.

2. Inspect pressure plate and cover assembly to see that it is free of oil and grease. Check pressure plate for scores or cracked surface.

NOTE: Servicing of clutch driven plate or pressure plate and cover assembly must be made by replacement of assemblies only.

3. Examine transmission retainer carefully to be certain there are no burrs on outer surface which pilots clutch release bearing.

4. Try release bearing on transmission retainer to make sure no binding exists.

5. Check release bearing by placing thrust load on bearing by hand and turning bearing race. Replace if bearing feels rough or seems noisy when turning.

6. Clean flywheel face with carbon tetrachloride, sandpaper or steel wool. Inspect pilot bearing in crankshaft for roughness. NOTE: If necessary to replace, see Section 6, ENGINE MECHANICAL FOR REMOVAL AND REPLACEMENT OF PILOT BEARING.

REPLACE

1. Position clutch driven plate so long end of hub is in flywheel and install clutch driven plate and cover assembly on flywheel but do not tighten bolts (install lockwasher under each cover to flywheel bolt).

NOTE: Align marks placed on flywheel and on cover during disassembly.

2. Use a spare transmission main drive gear inserted in spline of clutch driven disc to move disc into correct alignment so pilot on end of drive gear will enter clutch pilot bearing. Tighten clutch cover and pressure plate to flywheel bolts one turn at a time until tight, then tighten to 25-35 lb. ft. torque. Remove spare main drive gear used to align clutch disc.

3. Lubricate surface of release fork fingers, which contact release bearing, sides of pressure plate lugs protruding through cover plate stamping, and the release fork ball fulcrum with high melting point wheel bearing lubricant and install release fork.

4. Apply a light coat of grease to inner diameter of clutch release bearing and fill recess in inner diameter of bearing.

5. Install clutch release bearing to fork in flywheel housing.

6. Apply a light coat of high melting point wheel bearing lubricant to full length of outer diameter of transmission release bearing support (retainer).

CAUTION: Do not overlubricate.

7. Install flywheel housing and tighten bolts to 30-45 lb. ft. torque.

8. Install transmission. See TRANSMISSION SECTION.

CAUTION: Use two transmission guide pins in upper holes in clutch housing.

9. Connect clutch linkage to release fork, Fig. 6D-2 (6 cyl.) or Fig. 6D-3 (8 cyl.).

10. Adjust pedal lash. See lash adjustment under Periodic Service.

SPECIFICATIONS

Pedal Lash - 3-1/2 turns of adjusting rod from zero lash position.

Disc Facings

Type	Single Plate Dry
Diameter of Disc	Std.- 9.12
	HD.-10.00
	V-8-10.40
Release Bearing	Sealed Ball Bearing
Number of Torsion Springs	6

TORQUE SPECIFICATIONS

	Lb. Ft.
Clutch Pressure Plate to Flywheel Bolts . .	20-35
Flywheel Housing to Engine Block Bolts. . .	30-45
Clutch Fork Rod Adjusting Lock Nut.	8-12
Transmission and Extension to Flywheel	
Housing Bolts	45-60
Countershaft Stud Assembly to Cylinder	
Block.	25-35
Countershaft Stud to Side Rail Nut.	25-35
	Lb. In.
Clutch Housing Cover to Flywheel Housing	
Screw.	55-70
Control Rod Bellows Retainer to Floor	
Pan Screw	10-15