

## SECTION 6B

# CLUTCH

### CONTENTS OF THIS SECTION

	<i>Page</i>
Corvaire—500, 700 and 900 Series.....	6B-1
Corvaire 95 and Greenbrier—1200 Series.....	6B-7

## CORVAIR—500, 700 AND 900 SERIES

### INDEX

	<i>Page</i>		<i>Page</i>
General Description.....	6B-1	Installation in the Vehicle.....	6B-5
Maintenance and Adjustments.....	6B-2	Clutch Pedal Assist Spring Removal and Installation.....	6B-5
Clutch Linkage Adjustment.....	6B-2	Clutch Pedal and Sleeve Bushing Removal.....	6B-5
Service Operations.....	6B-2	Installation.....	6B-6
Clutch Assembly.....	6B-2	Clutch Cable and Pulley Assembly Removal.....	6B-6
Removal from the Vehicle.....	6B-2	Installation.....	6B-6
Disassembly.....	6B-3	Clutch Lever Control Cable Cross-Shaft Removal.....	6B-6
Inspection.....	6B-3	Installation.....	6B-6
Repairs.....	6B-3	Specifications.....	6B-10
Pilot Bearing.....	6B-3	Special Tools.....	6B-11
Assembly.....	6B-4		
Installation to the Engine.....	6B-4		

## GENERAL DESCRIPTION

A diaphragm spring clutch is used with the standard transmission. The clutch consists of two basic assemblies.

The clutch is attached at the front of the engine to the flywheel and is completely enclosed by the flywheel housing (fig. 6B-1). The driven disc is solid mounted. The input shaft from the clutch to the transmission is flexible torsionally; thus eliminating the need for springs in the clutch disc.

The clutch is operated with a conventional clutch

fork, except that it is shorter and operates by pulling instead of pushing. The clutch fork engages the throw-out bearing which is piloted on the axle housing (fig. 6B-4). A clutch lever control rod (6) (fig. 6B-9) is attached to the end of the clutch fork and to the clutch lever control cable cross shaft (1) (fig. 6B-9).

One end of the clutch lever control cable cross shaft, is attached to the cross-member and the other end to the body. Three pulleys are used to route the cable from the front to the rear.

## MAINTENANCE AND ADJUSTMENTS

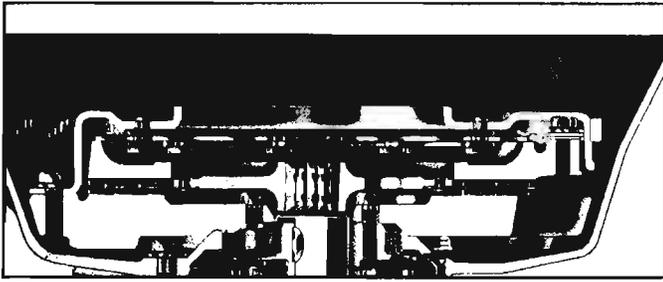


Fig. 6B-1—Clutch Cross-Section

### CLUTCH LINKAGE ADJUSTMENT

Refer to Figures 6B-2 and 6B-3

The pedal should have at least  $\frac{3}{4}$ " travel before the clutch release bearing engages the diaphragm spring. Check clutch control cable and make sure that it is well anchored, at the clutch pedal (13) (fig. 6B-8) and engaged in each pulley.

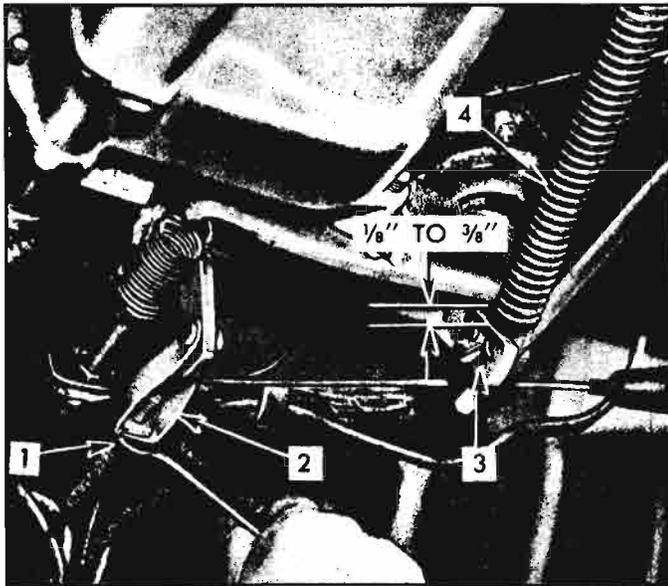


Fig. 6B-2—Adjusting Clutch Cable

- |                 |   |
|-----------------|---|
| 1. Locking Nut  | 3. Control Cross-Shaft, Out-Board Lever |
| 2. Cable Clevis | 4. Return Spring                        |

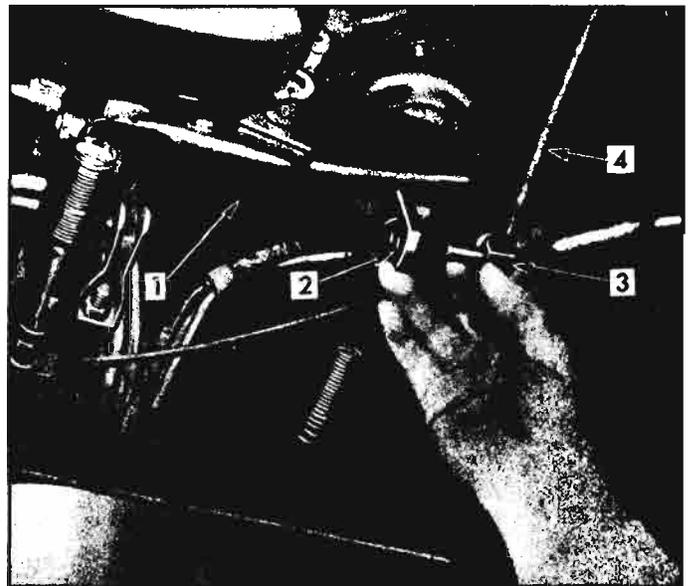


Fig. 6B-3—Adjusting Clutch Fork Pull Rod

- |  |                                |
|--|--------------------------------|
| 1. Control Cross-Shaft Assembly        | 3. Clutch Fork Pull Rod Swivel |
| 2. Control Cross-Shaft Out-Board Lever | 4. Clutch Fork Pull Rod        |

1. Attach return spring (4) (fig. 6B-2) to the clutch lever control cable cross shaft, outboard lever lower hole (3) (fig. 6B-2).

**NOTE:** Clutch fork pull rod must be disconnected from cross shaft lever.

2. Adjust clevis swivel (2) (fig. 6B-2) until the outboard lever (3), on the clutch lever control cable cross shaft has a clearance of  $\frac{1}{8}$ " to  $\frac{3}{8}$ " as shown in Figure 6B-2.
3. Manually pull the clutch fork pull rod (4) (fig. 6B-3) until slack is taken up at clutch fork. (The clutch release bearing touching clutch diaphragm fingers.)
4. With the clutch fork pull rod in this position, align swivel (3) (fig. 6B-3) with the upper hole of the outboard lever (2). Back off swivel (3), three complete turns and assemble to lever (2) (fig. 6B-3) with retaining clip.

## SERVICE OPERATIONS

### CLUTCH ASSEMBLY

#### Removal from Vehicle

1. Remove engine, axle and transmission assembly as outlined in "Power Train," Section 6.
2. Remove transmission and axle assembly from en-

gine assembly as outlined in "Power Train," Section 6 under "Separation of Power Train Major Components."

3. The clutch fork, ball stud and clutch release bearing is removed with the axle housing as shown in Figure 6B-4.

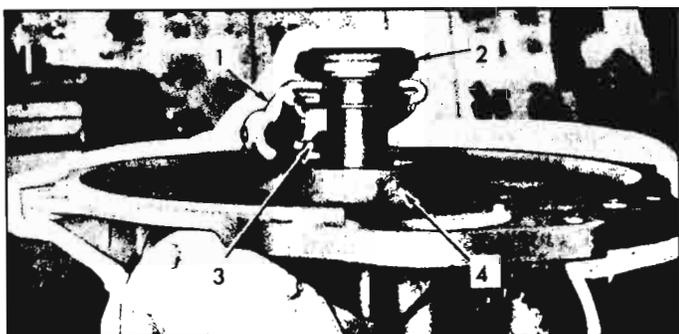


Fig. 6B-4—Removing Clutch Release Bearing

- |                    |                 |
|--------------------|-----------------|
| 1. Clutch Fork     | 3. Ball Stud    |
| 2. Release Bearing | 4. Axle Housing |

4. Disconnect clutch fork from ball stud, and remove the clutch release bearing from the clutch release shaft.
5. Install Tool J-5824 to support the clutch assembly during removal.
6. Loosen the six clutch attaching bolts shown in Figure 6B-5, one turn at a time, until clutch diaphragm spring pressure is released.
7. Remove Tool J-5824 and remove clutch assembly from the engine.

#### Disassembly

1. Remove three drive-strap to pressure plate bolts and retracting springs (fig. 6B-6) and remove pressure plate from clutch cover.

**NOTE:** When disassembling, identify position of pressure plate and cover. This marking will enable proper alignment during assembly.

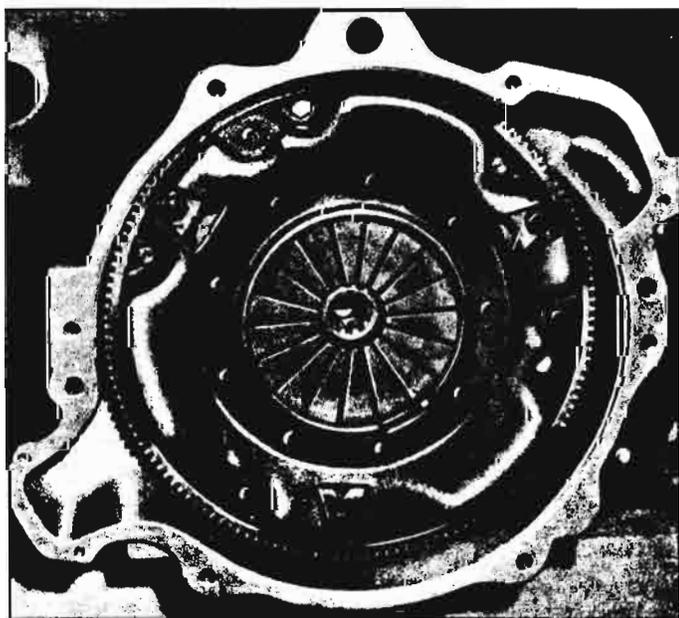


Fig. 6B-5—Clutch Assembly Installed

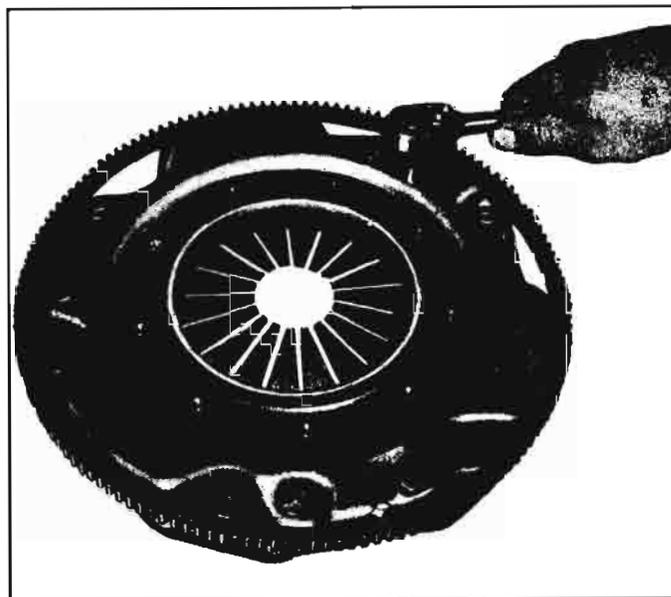


Fig. 6B-6—Removing Drive-Strap Bolts

2. The clutch diaphragm spring and two pivot rings are riveted to the clutch cover. Spring, rings and cover should be inspected for excessive wear or damage and if defective, it will be necessary to replace the complete cover assembly.

#### Inspection

1. Wash all parts, except clutch release bearing, in cleaning solvent.

**NOTE:** The clutch release bearing is permanently packed with lubricant and should not be soaked in cleaning solvent as this may dissolve the lubricant.

2. Inspect pressure plate and flywheel for scores on the contact surfaces. Use a straight-edge and check for flatness of contact surfaces.
3. Check drive-straps for looseness at the clutch cover rivets and evidence of looseness at pressure plate bolt holes.
4. Check clutch release bearing for roughness and free fit on the sleeve of the axle clutch gear bushing retainer.
5. Inspect clutch disc for worn, loose or oil soaked facings, loose rivets or riding.
6. Examine splines in hub and make sure they slide freely on splines of clutch shaft. If splines are worn, the clutch disc or clutch gear shaft should be replaced as necessary.

#### Repairs

##### Pilot Bearing

The clutch pilot bearing is an oil impregnated type bearing pressed into the crankshaft. This bearing requires attention only when the clutch is removed from

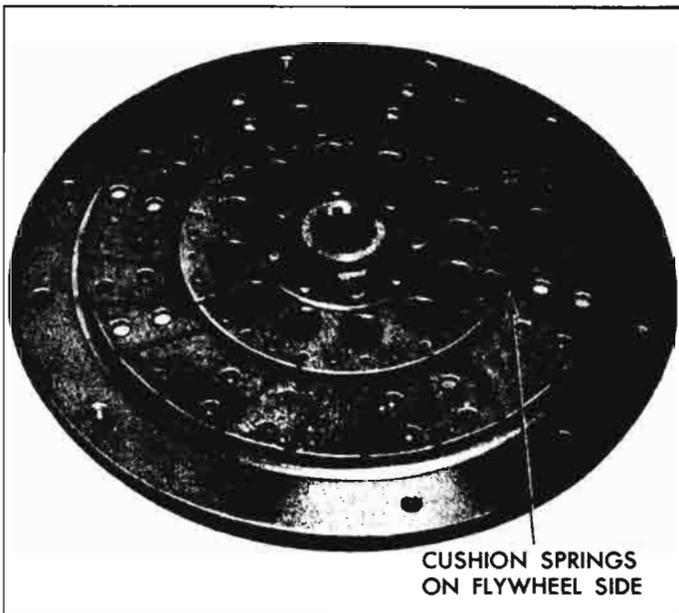


Fig. 6B-7—Clutch Disc Installed

the vehicle, at which time it should be cleaned and inspected for excessive wear or damage and should be replaced if necessary. To remove, install Tool J-1448 and remove bearing from crankshaft. In replacing this

bearing, use Tool J-1522. Place bearing on pilot of tool with radius in bore of bearing next to shoulder on tool and drive into crankshaft.

**Assembly**

1. Install the pressure plate in the cover assembly, lining up identifying marks on pressure plate and the cover.
2. Install pressure plate retracting springs and drive-strap to pressure plate bolts and lockwashers and tighten to 15-20 ft. lbs. torque. The clutch is now ready to be installed on the engine.

**Installation to the Engine**

1. Install clutch disc so that cushion springs are located on the flywheel side of the driven plate hub, as shown in Figure 6B-7.
2. Install pressure plate and cover assembly and support them with Tool J-5824.
3. Install bolts and lockwashers (fig. 6B-5) in every other hole in cover assembly first, and pull down gradually until tight. Then install remaining 3 bolts.
4. Remove clutch pilot Tool J-5824.
5. Pack clutch fork ball seat with a small amount of high melting point grease.

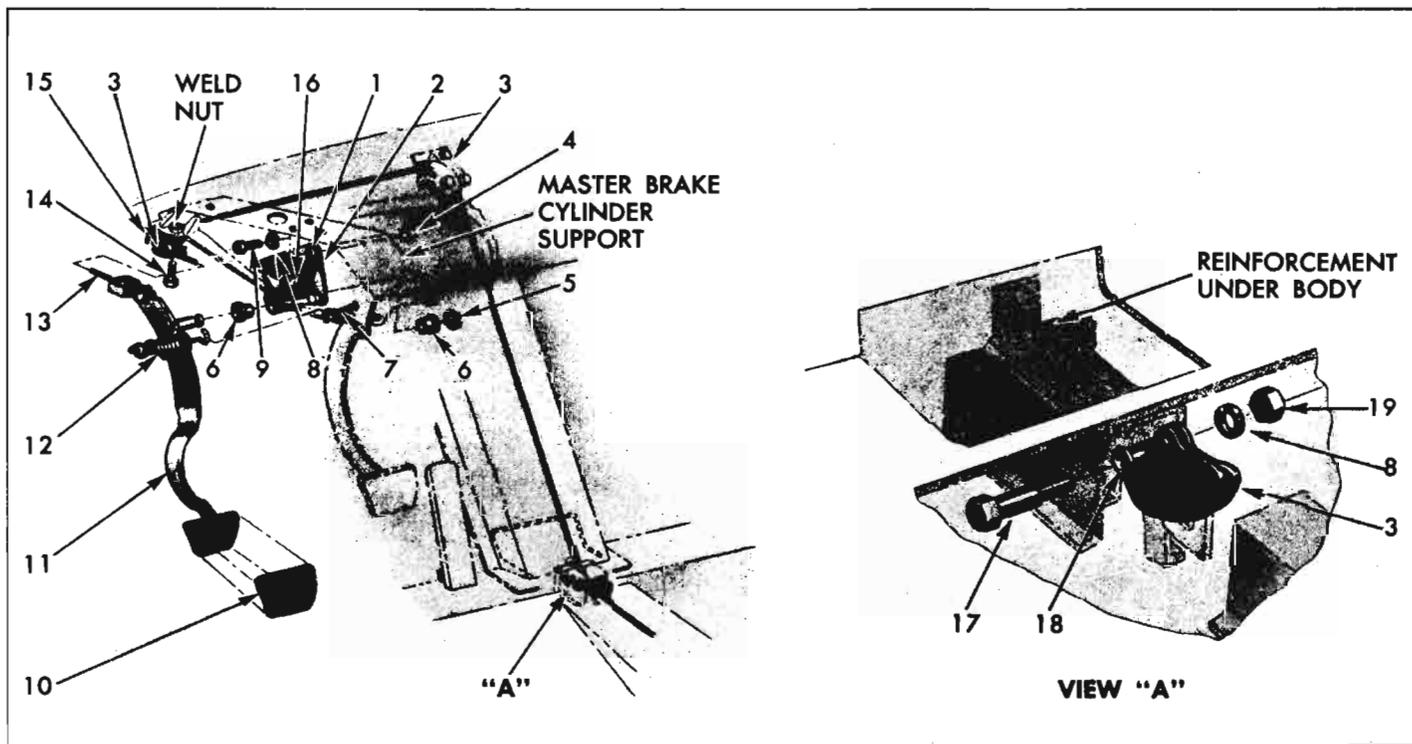


Fig. 6B-8—Clutch Pedal and Cable Exploded

- |                               |                                    |                                |                           |
|-------------------------------|------------------------------------|--------------------------------|---------------------------|
| 1. Clutch Bumper Bracket      | 6. Bushing                         | 11. Clutch Pedal Assy.         | 16. Pedal Bumper          |
| 2. Clutch Pedal Support Assy. | 7. Clutch Pedal Assist Spring Hook | 12. Clutch Pedal Assist Spring | 17. Pulley Retaining Bolt |
| 3. Clutch Cable Pulley        | 8. Lockwasher                      | 13. Cable Assembly             | 18. Pulley Spacer         |
| 4. Nut                        | 9. Bolt                            | 14. Bolt                       | 19. Nut                   |
| 5. Retainer—Snap Ring         | 10. Pedal Cover Pad                | 15. Pulley Cable Guide         |                           |

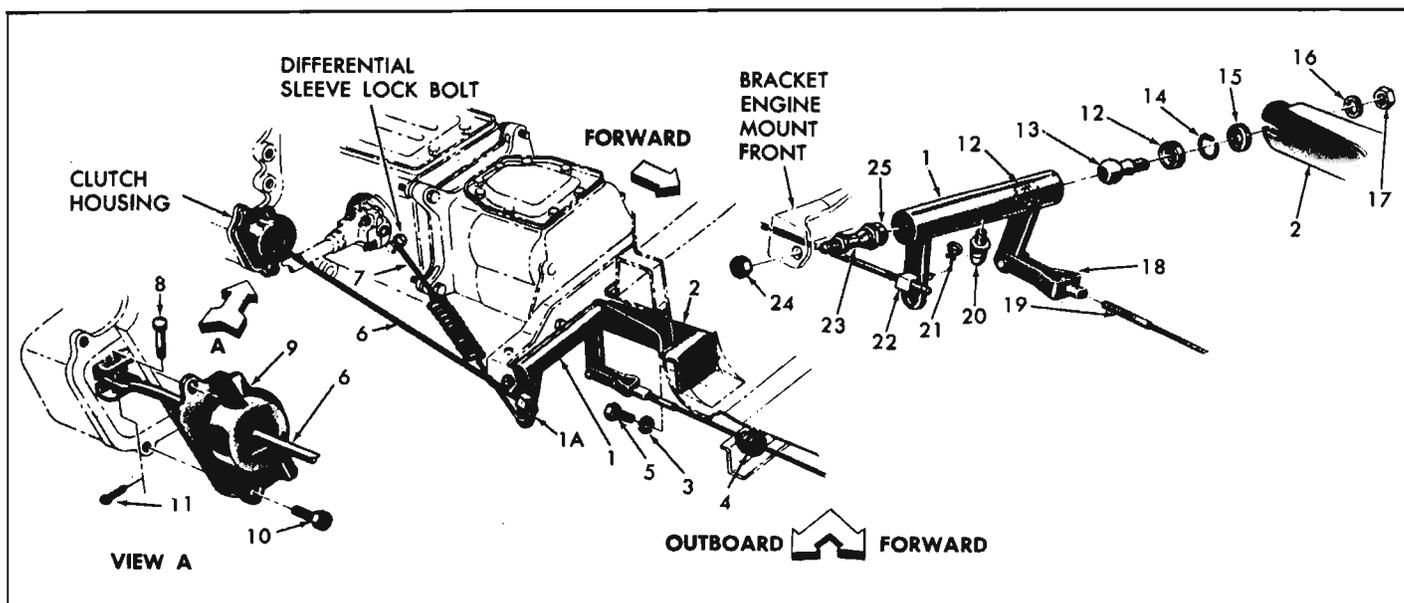


Fig. 6B-9—Clutch Linkage Exploded

- |   |                       |                     |  |
|---|-----------------------|---------------------|--|
| 1. Clutch Lever Control Cable Cross-Shaft | 7. Return Spring      | 14. Retainer Spring | 21. Cotter Key   |
| 2. Shaft Mounting Bracket                 | 8. Clevis Pin         | 15. Flat Washer     | 22. Swivel   |
| 3. Lockwasher                             | 9. Dust Seal Assembly | 16. Lockwasher      | 23. Ball Stud  |
| 4. Cable Seal                             | 10. Bolt              | 17. Nut             | 24. Lock Nut   |
| 5. Bolt                                   | 11. Cotter Pin        | 18. Clevis Assembly | 25. Items to be Lubricated before assembly with Lubriplate |
| 6. Clutch Fork Pull Rod                   | 12. Ball Stud Seat    | 19. Control Cable   |  |
|   | 13. Ball Stud         | 20. Lube Fitting    |  |

6. Lubricate the recess on the inside of the clutch release bearing collar and coat the fork groove with a small amount of graphite grease.

**CAUTION:** Be careful not to use too much lubricant.

7. Install clutch fork on the clutch fork ball and the clutch release bearing on the axle housing.

8. Install axle housing and transmission as outlined in Section 6, under "Assembly of Power Train Major Components".

**NOTE:** Be sure fork is properly seated on ball stud.

#### Installation in the Vehicle

Refer to Section 6 "Installation of Power Train to Vehicle."

### CLUTCH PEDAL ASSIST SPRING

#### Removal and Installation

1. Remove the retaining bolts from the emergency hand brake (fig. 6B-10).
2. Depress the clutch pedal (to relieve some of the spring force).
3. Using a pair of brake spring pliers, positioned as shown in Figure 6B-10, unhook the clutch pedal assist spring.
4. To replace clutch pedal assist spring, install one end of the assist spring into clutch pedal bracket.
5. Hook one end of brake spring pliers, on the emergency brake mounting hole and the other at the end of the spring.

6. Depress clutch pedal while squeezing the pliers to hook spring in place.

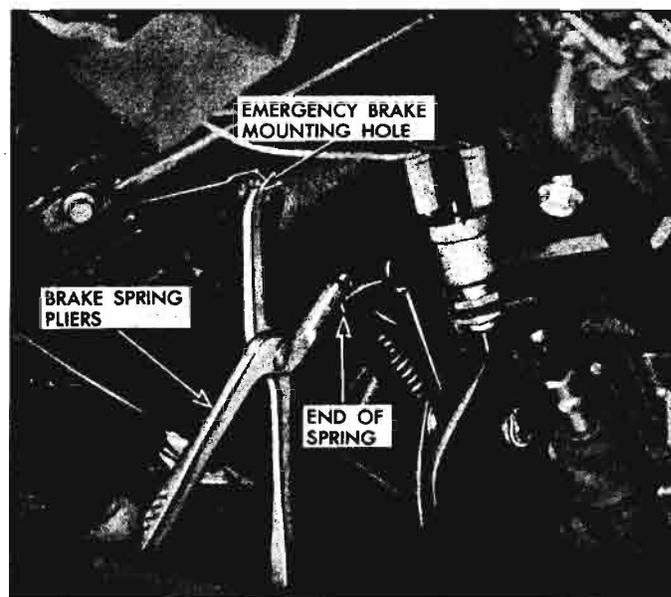


Fig. 6B-10—Clutch Pedal Assist Spring—Removal and Installation

### CLUTCH PEDAL AND SLEEVE BUSHING

#### Removal

1. Remove clutch pedal assist spring as outlined under "Clutch Pedal Assist Spring."
2. Remove snap ring (5) (fig. 6B-8) from clutch pedal shaft.

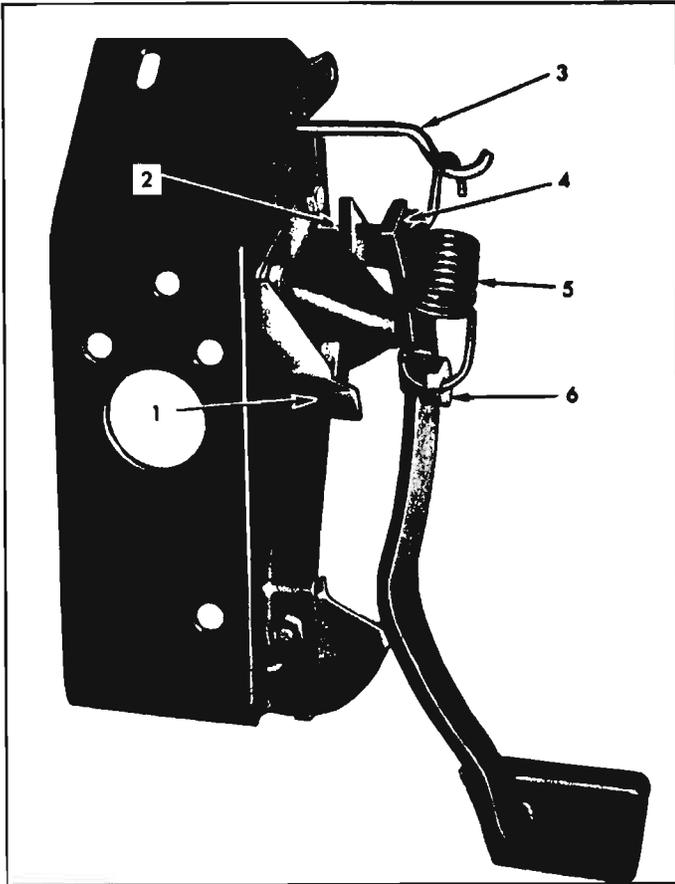


Fig. 6B-11—Clutch Pedal Components

- |                              |                                       |
|------------------------------|---------------------------------------|
| 1. Bumper                    | 4. Clutch Pedal Cable Retainer Hook   |
| 2. Pedal Stop                | 5. Clutch Pedal Assist Spring         |
| 3. Clutch Assist Spring Hook | 6. Clutch Pedal Assist Spring Bracket |

- Remove three retaining bolts from the bumper support bracket, and the clutch pedal shaft support bushing assembly.
- Remove clutch pedal shaft from support assembly (2) (fig. 6B-8).

**NOTE:** It is not necessary to remove the clutch pedal support assembly (2) (fig. 6B-8) when master cylinder brake support is removed from the vehicle as a unit.

- Check nylon sleeve bushings for wear and damage and replace if necessary.

#### Installation

- If master brake cylinder support is mounted in vehicle, then install clutch pedal shaft in clutch shaft support, using a little lubriplate on the nylon sleeve bushings.
- Install snap ring on clutch pedal shaft.
- Bolt clutch pedal bumper support and clutch shaft support, to the master brake cylinder support as shown in Figure 6B-11.
- Install the clutch pedal assist spring and cable assembly as previously outlined.
- Adjust clutch linkage as outlined under, "Clutch Linkage Adjustment."

## CLUTCH CABLE AND PULLEY ASSEMBLY

### Removal and Installation

- Remove return spring from the clutch lever control cable cross-shaft.
- Remove cotter key from swivel on clutch pull rod and remove swivel from clutch cross-shaft lever (fig. 6B-9).
- Remove cable clevis assembly at the inboard lever of the clutch cross-shaft.
- Remove body tunnel, front and rear cover access to cables.
- Remove retaining nut, bolt (17) and pulley spacer (18) (fig. 6B-8) from clutch pulley. Remove pulley and spacer from parking brake bracket.
- Remove parking brake and clutch pulley assembly from dash and toe panel.
- Unhook cable from clutch pedal and remove complete cable assembly.
- To install cable and pulley assemblies, reverse the above steps and adjust clutch as outlined under, "Clutch Linkage Adjustment."

## CLUTCH LEVER CONTROL CABLE CROSS-SHAFT

### Removal

Refer to Figure 6B-9

- Remove return spring (7). Remove the clutch pull rod swivel cotter key and swivel from the clutch lever control cross-shaft.
- Loosen nut (19) at clevis assembly (18) and remove clevis from clutch cross-shaft lever.
- Remove locknut (17) lockwasher (16) and flat washer (15) from shaft mounting bracket (2) attached to the body.
- Remove the ball stud and seat retainer spring (14) and remove the ball stud seat (12) and ball stud (13).
- Remove clutch lever control cable cross-shaft from ball stud mounted on the engine-front mounting bracket.

### Installation

Refer to Figure 6B-9

- Lubricate ball stud (23) attached to engine front mounting bracket with a suitable chassis lubricant.
- Lubricate ball stud (13). Install clutch lever control cable cross-shaft on ball stud (23) insert ball stud (13) ball stud seat (12) and retainer spring (14).

**NOTE:** Torque nut (24) on ball stud 45-50 ft. lbs.

- Place threaded end of ball stud (13) into slot on shaft mounting bracket (2) and tighten nut (17) on ball stud (13), 12-15 in. lbs.

**NOTE:** Position ball stud (13) in slot, all the way forward.

- Install return spring (7) and hook up cable clevis (18). Adjust clutch as outlined under "Clutch Linkage Adjustment."

# CORVAIR 95 AND GREENBRIER-1200 SERIES

## INDEX

	<i>Page</i>		<i>Page</i>
General Description.....	6B-7	Removal and Installation.....	6B- 9
Maintenance and Adjustments.....	6B-7	Clutch Pull Rod.....	6B- 9
Clutch Linkage Adjustment.....	6B-7	Removal and Installation.....	6B- 9
Service Operations.....	6B-8	Troubles and Remedies.....	6B-10
Clutch Pedal Assembly.....	6B-8	Specifications.....	6B-10
Removal and Installation.....	6B-8	Special Tools.....	6B-11
Clutch Cable Assembly.....	6B-9		

## GENERAL DESCRIPTION

A diaphragm spring clutch is used with the standard transmission. The clutch consists of two basic assemblies.

The clutch is attached at the front of the engine to the flywheel and is completely enclosed by the flywheel housing (fig. 6B-1). The driven disc is solid mounted. The input shaft from the clutch to the transmission is flexible torsionally; thus eliminating the need for springs in the clutch disc.

The clutch is operated with a conventional clutch fork, except that it is shorter and operates by pulling instead of pushing. The clutch fork engages the throw out bearing which is piloted on the axle housing (fig. 6B-4). A clutch lever control rod (22) (fig. 6B-12) is

attached to the end of the clutch fork and to the clutch control lever cable clevis (19) (fig. 6B-12). One end of the clutch control idler lever (9) (fig. 6B-12) is attached to a bracket mounted to the engine front mounting bracket, and the other end to a clevis attached to the cable assembly. Five cable retaining clamps are used to route the cable assembly from the front to the rear.

The Service Information and Procedures outlined for Corvaire 500, 700 and 900 models also apply in general to Corvaire 95 and Greenbrier-1200 Series, except for "Maintenance and Adjustments" and "Service Operations" outlined below.

## MAINTENANCE AND ADJUSTMENTS

### CLUTCH LINKAGE ADJUSTMENT

(Refer to Figures 6B-12 and 6B-13)

1. Before starting actual adjustment, check front end of the clutch controls for the following:
  - a. Proper location of pedal bumper.
  - b. Front return spring hooked up and operating properly.
  - c. Front cable clamp properly installed and tightened.

**NOTE:** The pedal should have at least  $\frac{1}{4}$ " travel before the clutch release bearing engages the diaphragm.

2. Disconnect rear clutch return spring (4).

**NOTE:** Front clutch return spring is to remain operative in order that pedal bumper is in contact with toe board (fig. 6B-13).

3. Remove retainer clip (20), clevis pin and flat washer from clutch control idler lever, and remove rear cable clevis (18).

4. Allow clutch fork pull rod idler lever (22) to hang free. (Use as a guide to maintain correct line of action of cable clevis.)
5. Pull rearward on cable clevis to insure that all slack is removed from that point forward.
6. Manually pull the clutch fork pull rod (22) (fig. 6B-12) until slack is taken up at clutch fork. (The clutch release bearing touching clutch diaphragm fingers.)
7. With the cable clevis held in position (step 5), and with pull rod (22) in position described in Step 6, adjust pull rod clevis (19) to align holes in both clevis.
8. With this position of the pull rod clevis (22) established, unscrew clevis (22)  $3\frac{1}{2}$  turns, lengthening rod by  $\frac{5}{32}$ ".
9. Tighten pull rod clevis jam nut (21). Line up holes in cable clevis, pull rod clevis and clutch fork pull rod idler lever (6). Insert clevis pin and retainer clip.
10. Install clutch return spring.

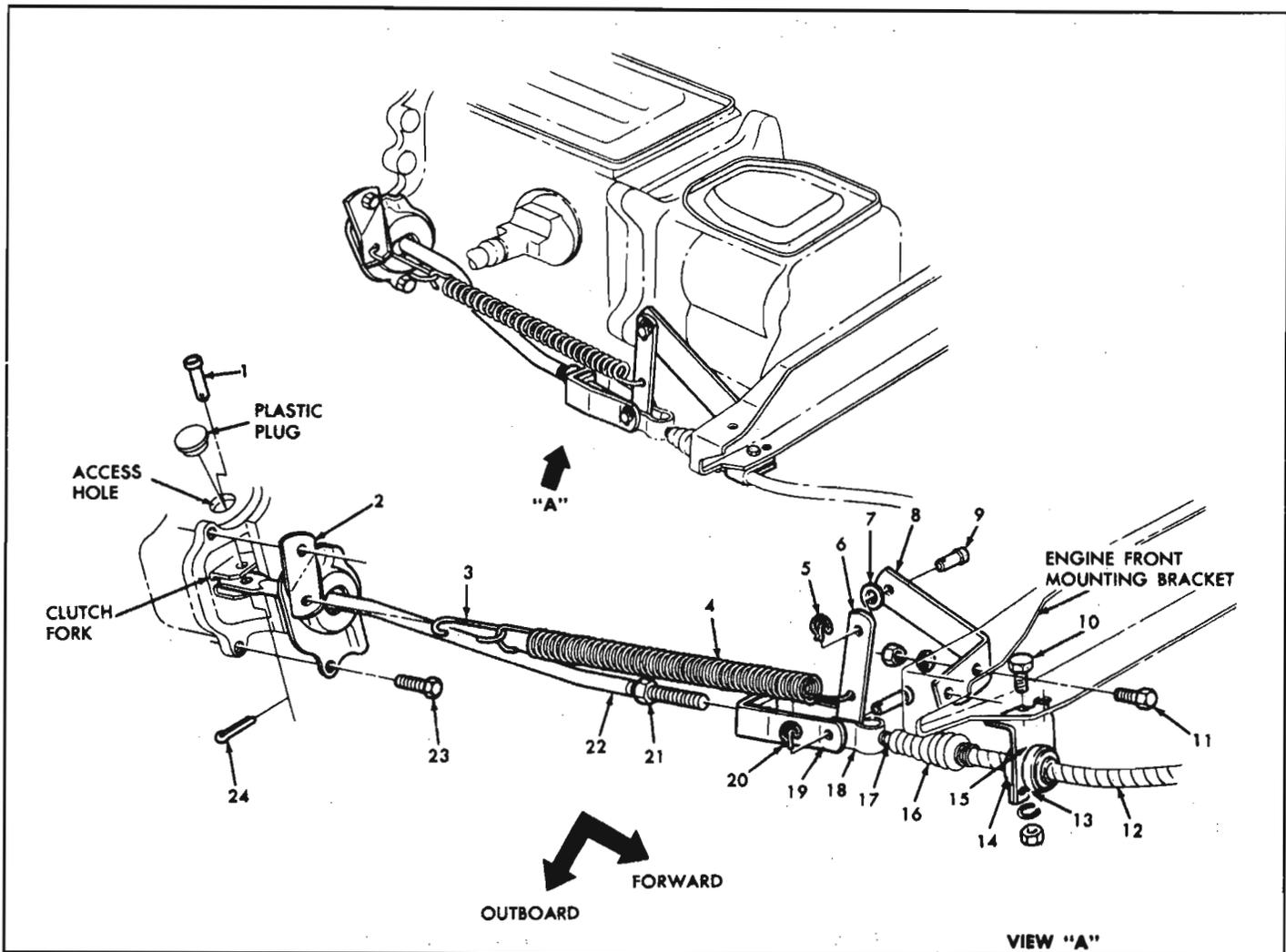


Fig. 6B-12—Clutch Linkage

- |                                   |                                   |                      |                            |
|-----------------------------------|-----------------------------------|----------------------|----------------------------|
| 1. Clevis Pin                     | 7. Plain Washer                   | 13. Retainer Strap   | 19. Clutch Pull Rod Clevis |
| 2. Seal Assembly                  | 8. Idler Lever Bracket            | 14. Rubber Bushing   | 20. Retainer Clip          |
| 3. Clutch Return Spring Extension | 9. Clevis Pin                     | 15. Mounting Bracket | 21. Nut                    |
| 4. Clutch Return Spring           | 10. Bolt                          | 16. Dust Boot        | 22. Clutch Fork Pull Rod   |
| 5. Retainer Clip                  | 11. Bolt                          | 17. Clevis Pin       | 23. Bolt                   |
| 6. Idler Lever                    | 12. Clutch Control Cable Assembly | 18. Cable Clevis     | 24. Cotter Pin             |

## SERVICE OPERATIONS

### CLUTCH PEDAL ASSEMBLY

#### Removal and Installation

(Refer to Figure 6B-13)

1. Remove nut and lockwasher from bolt (12) and remove bolt joining the upper and lower clutch pedal.
2. Remove upper pedal assembly. Unhook return spring at lower clutch pedal.
3. Remove retainer clip (16) and clevis pin (17) from cable assembly swivel.

4. Remove retainer bolt from clutch pedal shaft retainer (6). Remove lubrication fitting from clutch pedal shaft.
5. Remove clutch pedal shaft from clutch pedal and remove clutch pedal.
6. To install, reverse the above removal procedures.

### CLUTCH CABLE ASSEMBLY

#### Removal and Installation

1. Remove retainer clip from each end of clutch cable clevis (20) (fig. 6B-12) and (16) (fig. 6B-13).

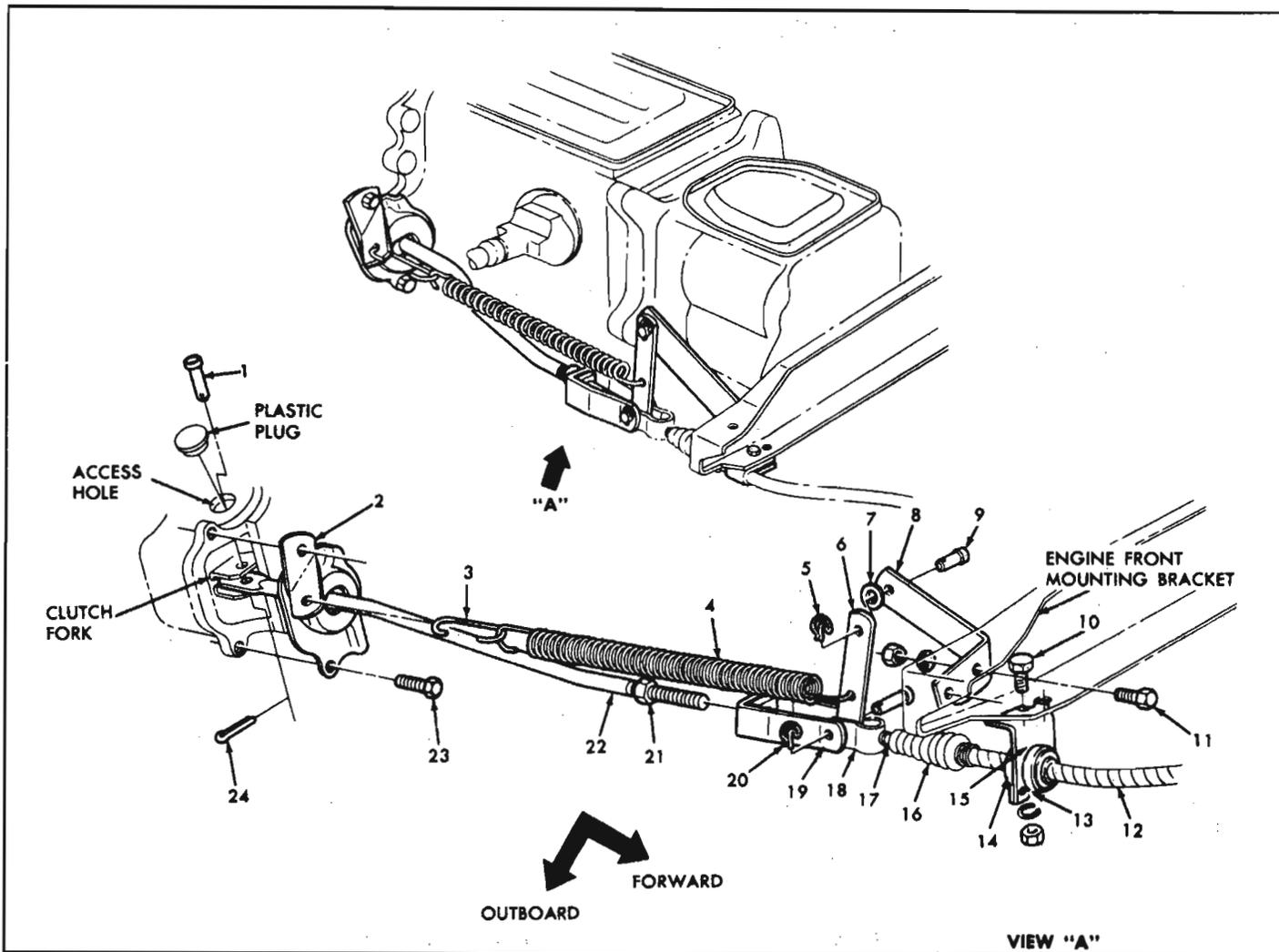


Fig. 6B-12—Clutch Linkage

- |                                   |                                   |                      |                            |
|-----------------------------------|-----------------------------------|----------------------|----------------------------|
| 1. Clevis Pin                     | 7. Plain Washer                   | 13. Retainer Strap   | 19. Clutch Pull Rod Clevis |
| 2. Seal Assembly                  | 8. Idler Lever Bracket            | 14. Rubber Bushing   | 20. Retainer Clip          |
| 3. Clutch Return Spring Extension | 9. Clevis Pin                     | 15. Mounting Bracket | 21. Nut                    |
| 4. Clutch Return Spring           | 10. Bolt                          | 16. Dust Boot        | 22. Clutch Fork Pull Rod   |
| 5. Retainer Clip                  | 11. Bolt                          | 17. Clevis Pin       | 23. Bolt                   |
| 6. Idler Lever                    | 12. Clutch Control Cable Assembly | 18. Cable Clevis     | 24. Cotter Pin             |

## SERVICE OPERATIONS

### CLUTCH PEDAL ASSEMBLY

#### Removal and Installation

(Refer to Figure 6B-13)

1. Remove nut and lockwasher from bolt (12) and remove bolt joining the upper and lower clutch pedal.
2. Remove upper pedal assembly. Unhook return spring at lower clutch pedal.
3. Remove retainer clip (16) and clevis pin (17) from cable assembly swivel.

4. Remove retainer bolt from clutch pedal shaft retainer (6). Remove lubrication fitting from clutch pedal shaft.
5. Remove clutch pedal shaft from clutch pedal and remove clutch pedal.
6. To install, reverse the above removal procedures.

### CLUTCH CABLE ASSEMBLY

#### Removal and Installation

1. Remove retainer clip from each end of clutch cable clevis (20) (fig. 6B-12) and (16) (fig. 6B-13).

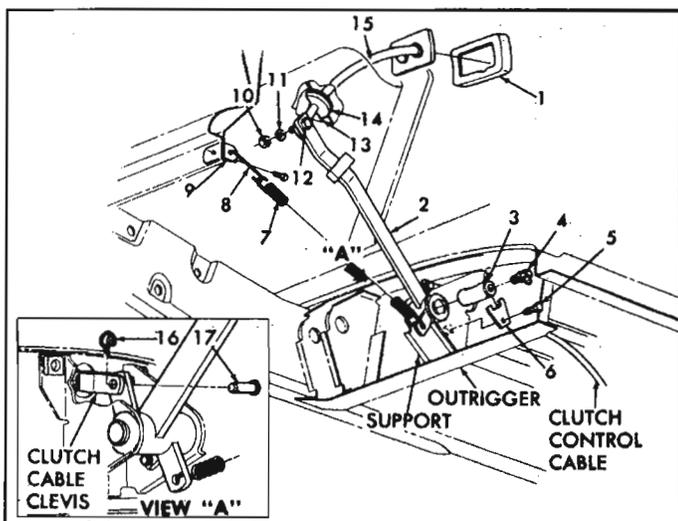


Fig. 6B-13—Clutch Pedal and Linkage

- |                                |                          |
|--------------------------------|--------------------------|
| 1. Rubber Pedal Cover          | 10. Nut                  |
| 2. Lower Pedal Assembly        | 11. Lockwasher           |
| 3. Shaft                       | 12. Bolt                 |
| 4. Lubrication Fitting         | 13. Seal                 |
| 5. Bolt                        | 14. Seal                 |
| 6. Clutch Pedal Shaft Retainer | 15. Upper Pedal Assembly |
| 7. Return Spring               | 16. Retainer Clip        |
| 8. Return Spring Extension     | 17. Clevis Pin           |
| 9. Bracket                     |                          |

2. Remove retaining bolts at four cable clamps and two screws at strap (13) (fig. 6B-12).
3. Remove cable assembly with clamps attached by threading through underbody.
4. To install, reverse the above removal procedure.

## CLUTCH PULL ROD

### Removal and Installation

1. Remove return spring (4) (fig. 12) from clutch control idler lever.
2. Remove retainer clip and clevis pin from clutch pull rod clevis.
3. Remove dust seal assembly retaining screws. Slide dust seal assembly away on clutch pull rod.
4. Remove retainer clip at clutch pull rod clevis pin. Remove plastic plug (fig. 6B-12) at top of clutch housing and remove clevis pin (1) (fig. 6B-12).
5. Remove clutch pull rod.
6. To install, reverse the above procedure and adjust clutch linkage as outlined under "Clutch Linkage Adjustment."

## TROUBLES AND REMEDIES

Symptom and Probable Cause	Probable Remedy
<b>Slipping</b>	
a. Improper adjustment	a. Adjust clutch linkage
b. Oil soaked	b. Install new disc
c. Worn splines on clutch gear	c. Replace clutch gear shaft
d. Facing torn loose from disc	d. Install new disc
e. Warped pressure plate of flywheel	e. Replace pressure plate or flywheel
f. Weak diaphragm spring	f. Replace cover assembly
<b>Grabbing</b>	
a. Oil on facing or burned or glazed facings	a. Install new disc
b. Worn splines on clutch gear	b. Replace clutch gear shaft
c. Loose engine mountings	c. Tighten or replace mountings
d. Warped pressure plate or flywheel	d. Replace pressure plate or flywheel
<b>Rattling</b>	
a. Weak retracting springs	a. Replace springs
b. Throwout fork loose on ball stud or in bearing groove	b. Check ball stud and retaining spring and replace if necessary
<b>Release Bearing Spinning with Clutch Fully Engaged</b>	
a. Improper adjustment	a. Adjust clutch linkage
b. Release bearing binding on axle release bearing shaft	b. Clean, relubricate, check for burrs, nicks, etc.
c. Insufficient tension between clutch fork spring and ball stud	c. Replace fork
<b>Noisy</b>	
a. Worn release bearing	a. Replace bearing
<b>Pedal Tension</b>	
a. Clutch pedal not contacting rubber stop bumper	a. Adjust clutch linkage
b. Clutch lever compressing rubber stop bumper	b. Adjust clutch linkage
c. Pedal low	c. Cable adjustment
d. Pedal effort high	d. Check for binding of pulleys, and other pivot points. Check linkage for proper adjustment
<b>Insufficient Clutch Release</b>	
a. Improper lash adjustment	a. Adjust linkage
b. Clutch fork pull rod movement	*b. Check clutch fork pull rod movement. Must be .825" minimum with full clutch pedal travel. If less than .825" check linkage for total pedal travel (5.6"), broken pulleys, supports, etc. If more than .825" remove clutch and check for failed material.
	‡c. See "Clutch Linkage Adjustment," Step 8.

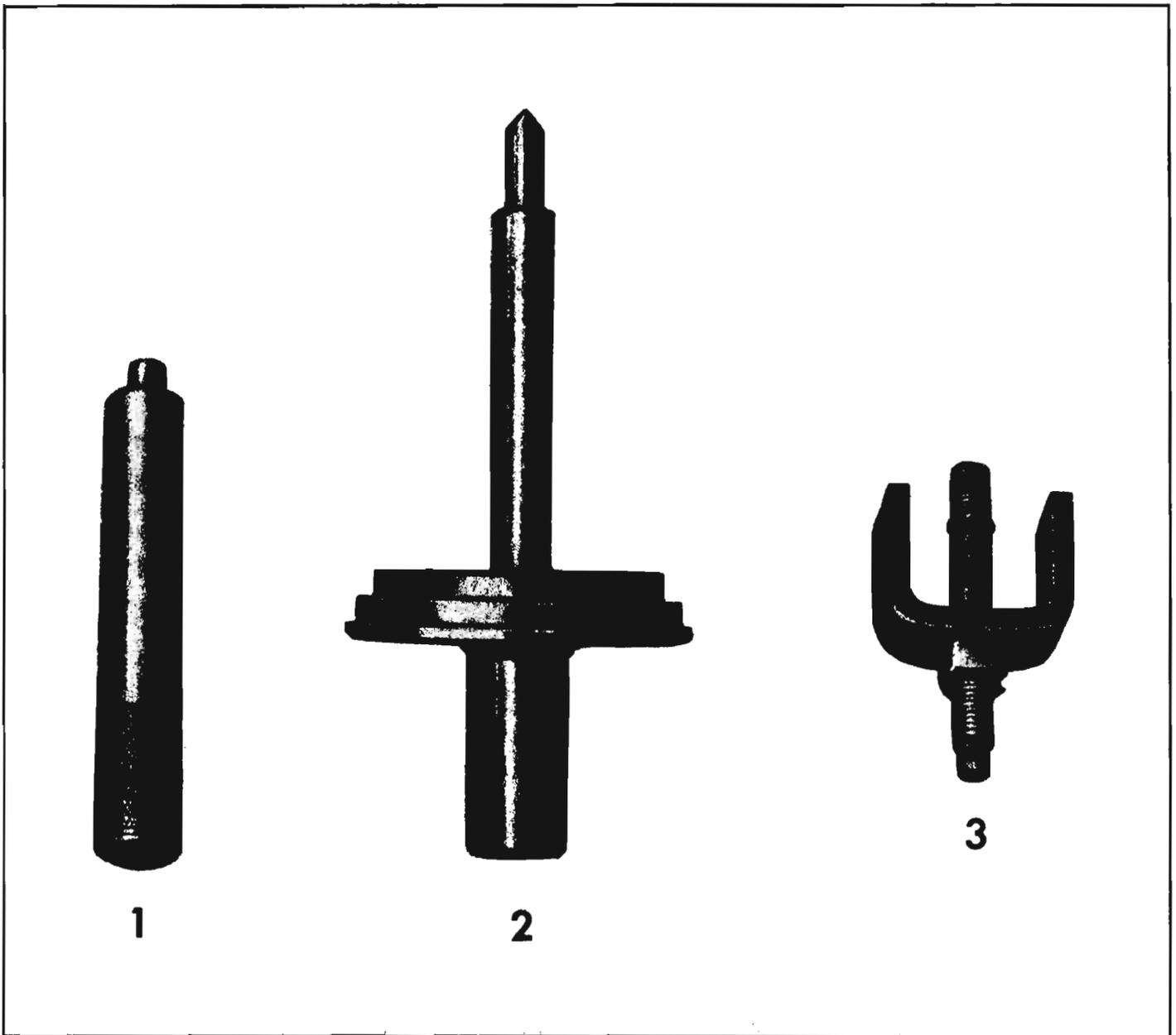
\*500, 700 and 900 Models.

‡R-1205, 1206, 1244 and 1254 Models.

## SPECIFICATIONS

Refer to Section 12 for Clutch Specifications.

# SPECIAL TOOLS



1

2

3

Fig. 6B-14—Clutch Special Tools

1. J-1522 Pilot Bearing Driver

2. J-5824 Clutch Pilot Tool

3. J-1448 Pilot Bearing Puller

## TROUBLES AND REMEDIES

Symptom and Probable Cause	Probable Remedy
<b>Slipping</b>	
a. Improper adjustment	a. Adjust clutch linkage
b. Oil soaked	b. Install new disc
c. Worn splines on clutch gear	c. Replace clutch gear shaft
d. Facing torn loose from disc	d. Install new disc
e. Warped pressure plate of flywheel	e. Replace pressure plate or flywheel
f. Weak diaphragm spring	f. Replace cover assembly
<b>Grabbing</b>	
a. Oil on facing or burned or glazed facings	a. Install new disc
b. Worn splines on clutch gear	b. Replace clutch gear shaft
c. Loose engine mountings	c. Tighten or replace mountings
d. Warped pressure plate or flywheel	d. Replace pressure plate or flywheel
<b>Rattling</b>	
a. Weak retracting springs	a. Replace springs
b. Throwout fork loose on ball stud or in bearing groove	b. Check ball stud and retaining spring and replace if necessary
<b>Release Bearing Spinning with Clutch Fully Engaged</b>	
a. Improper adjustment	a. Adjust clutch linkage
b. Release bearing binding on axle release bearing shaft	b. Clean, relubricate, check for burrs, nicks, etc.
c. Insufficient tension between clutch fork spring and ball stud	c. Replace fork
<b>Noisy</b>	
a. Worn release bearing	a. Replace bearing
<b>Pedal Tension</b>	
a. Clutch pedal not contacting rubber stop bumper	a. Adjust clutch linkage
b. Clutch lever compressing rubber stop bumper	b. Adjust clutch linkage
c. Pedal low	c. Cable adjustment
d. Pedal effort high	d. Check for binding of pulleys, and other pivot points. Check linkage for proper adjustment
<b>Insufficient Clutch Release</b>	
a. Improper lash adjustment	a. Adjust linkage
b. Clutch fork pull rod movement	*b. Check clutch fork pull rod movement. Must be .825" minimum with full clutch pedal travel. If less than .825" check linkage for total pedal travel (5.6"), broken pulleys, supports, etc. If more than .825" remove clutch and check for failed material.
	‡c. See "Clutch Linkage Adjustment," Step 8.

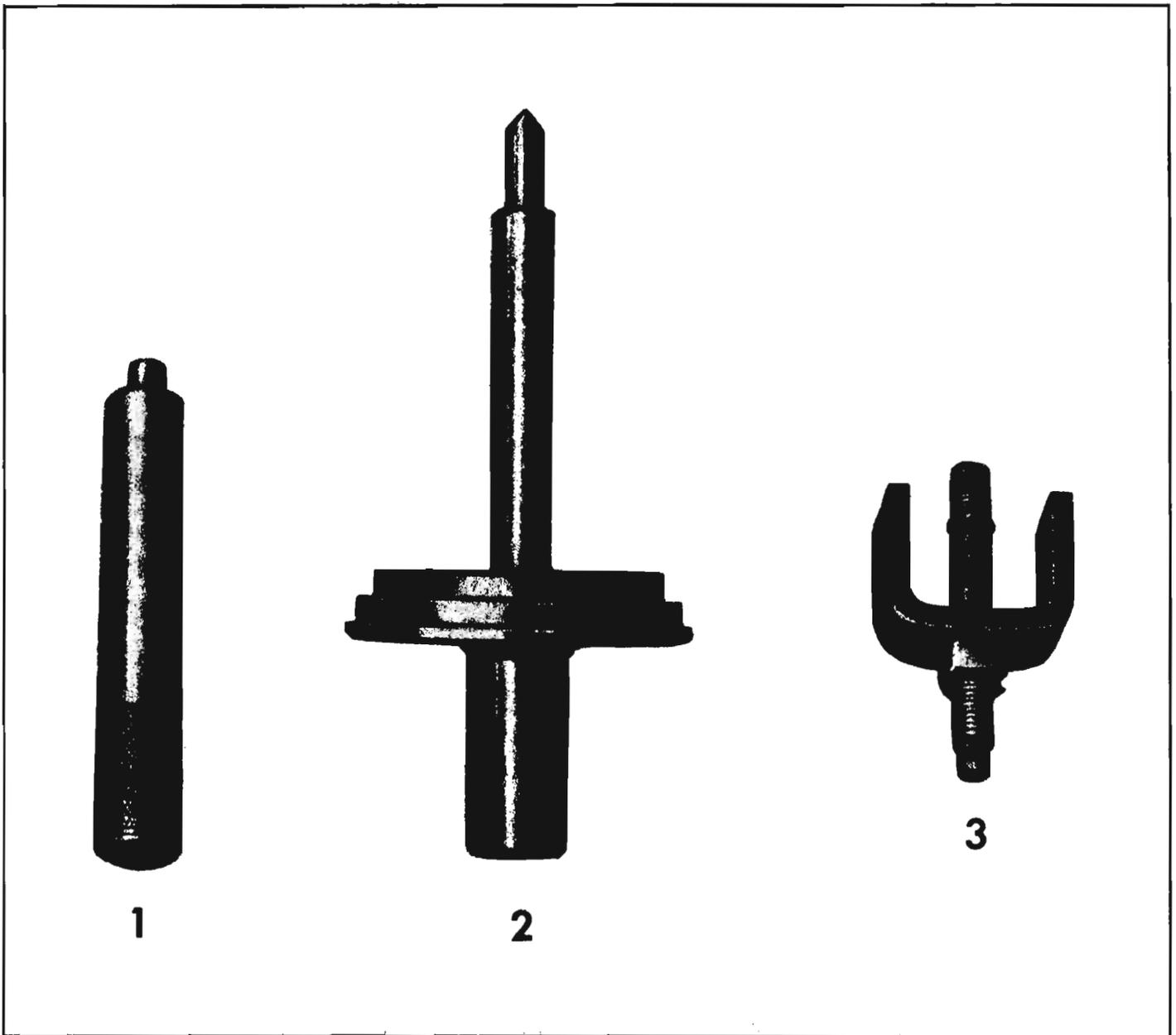
\*500, 700 and 900 Models.

‡R-1205, 1206, 1244 and 1254 Models.

## SPECIFICATIONS

Refer to Section 12 for Clutch Specifications.

# SPECIAL TOOLS



1

2

3

Fig. 6B-14—Clutch Special Tools

1. J-1522 Pilot Bearing Driver

2. J-5824 Clutch Pilot Tool

3. J-1448 Pilot Bearing Puller