

## SECTION 6B

# CLUTCH

The 1964 clutch assembly, used on the Corvair vehicles, is of bent finger diaphragm design mounted on a

step faced flywheel (fig. 1).

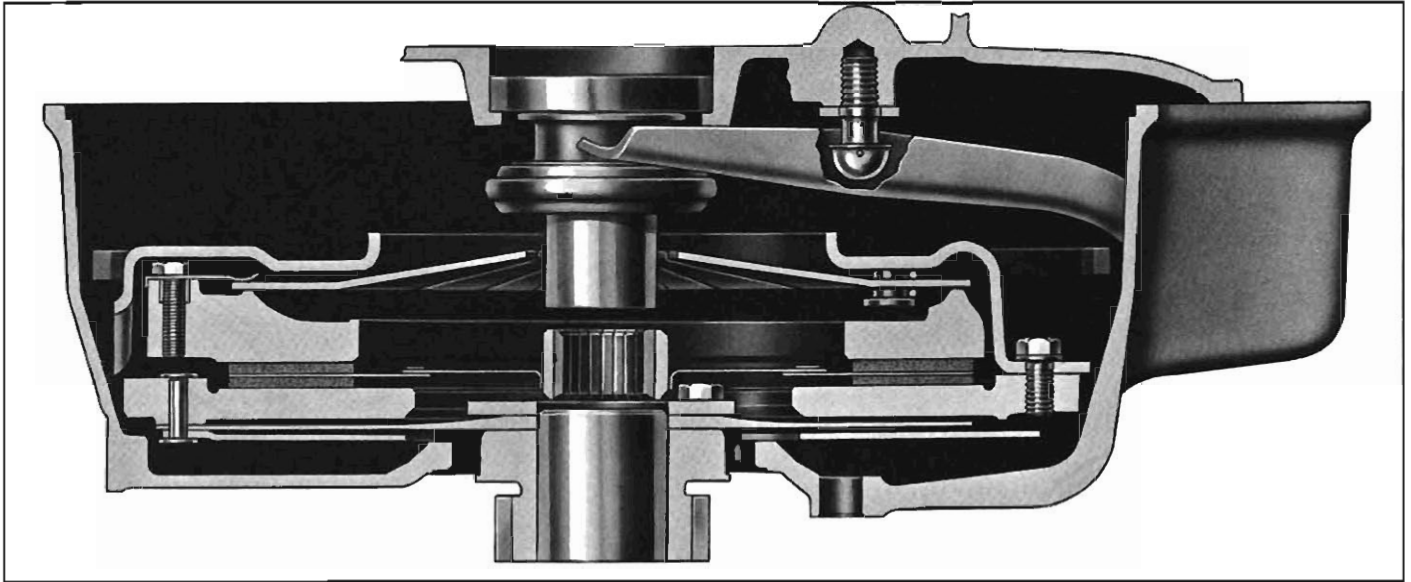


Fig. 1—Clutch Cross-Section

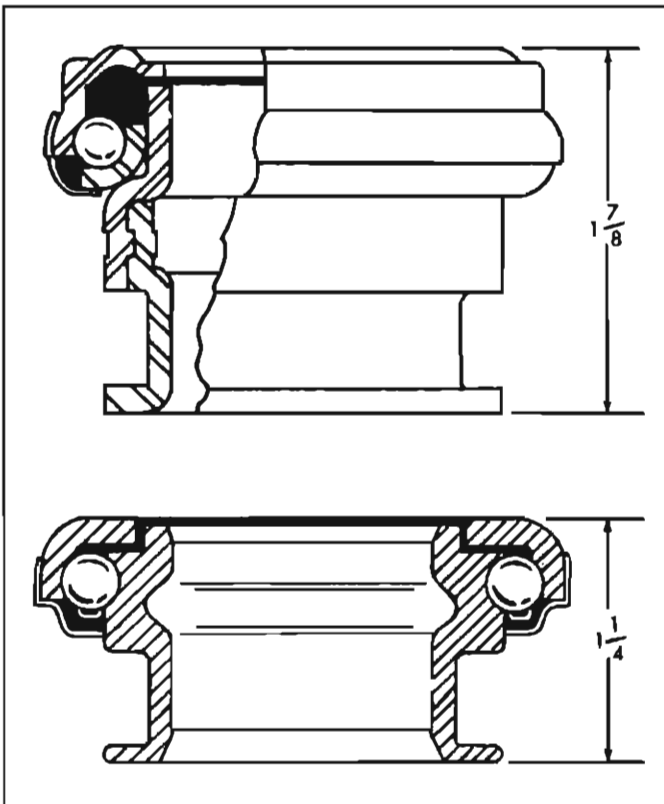


Fig. 2—Release Bearing Comparison

A shorter throwout bearing (fig. 2) and fork ball stud are used with the bent finger clutch. Only the short ball stud is available in service with a spacer to be used when extra length is needed. Use of the longer throwout bearing (flat finger type) will cause inability

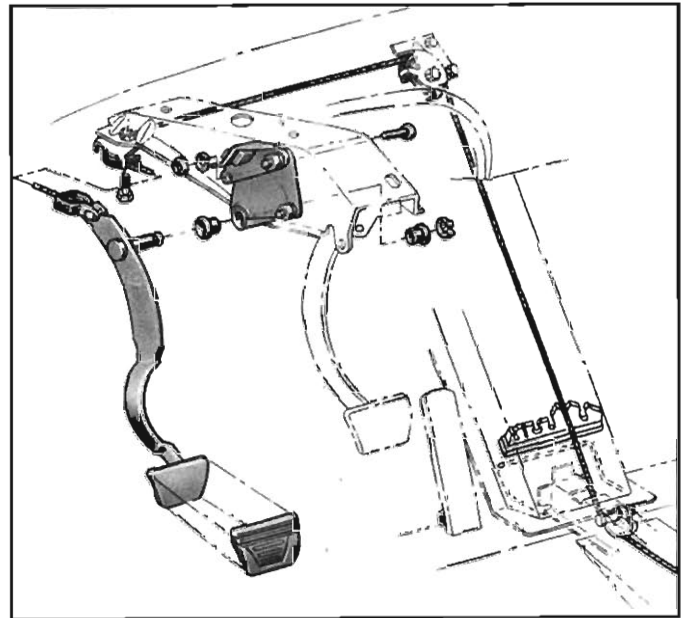


Fig. 3—Clutch Pedal Linkage

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to obtain free pedal travel, resulting in slippage and rapid clutch wear if incorrectly used on bent finger clutch assemblies.

The (passenger type) clutch pedal mounting bracket is revised (1962-1964) and no overcenter assist spring

is used (fig. 3).

The R-10 rear clutch linkage (fig. 4) is changed (1963 and 1964) to eliminate the idler lever and reposition the rear of the control cable housing through the transmission support.

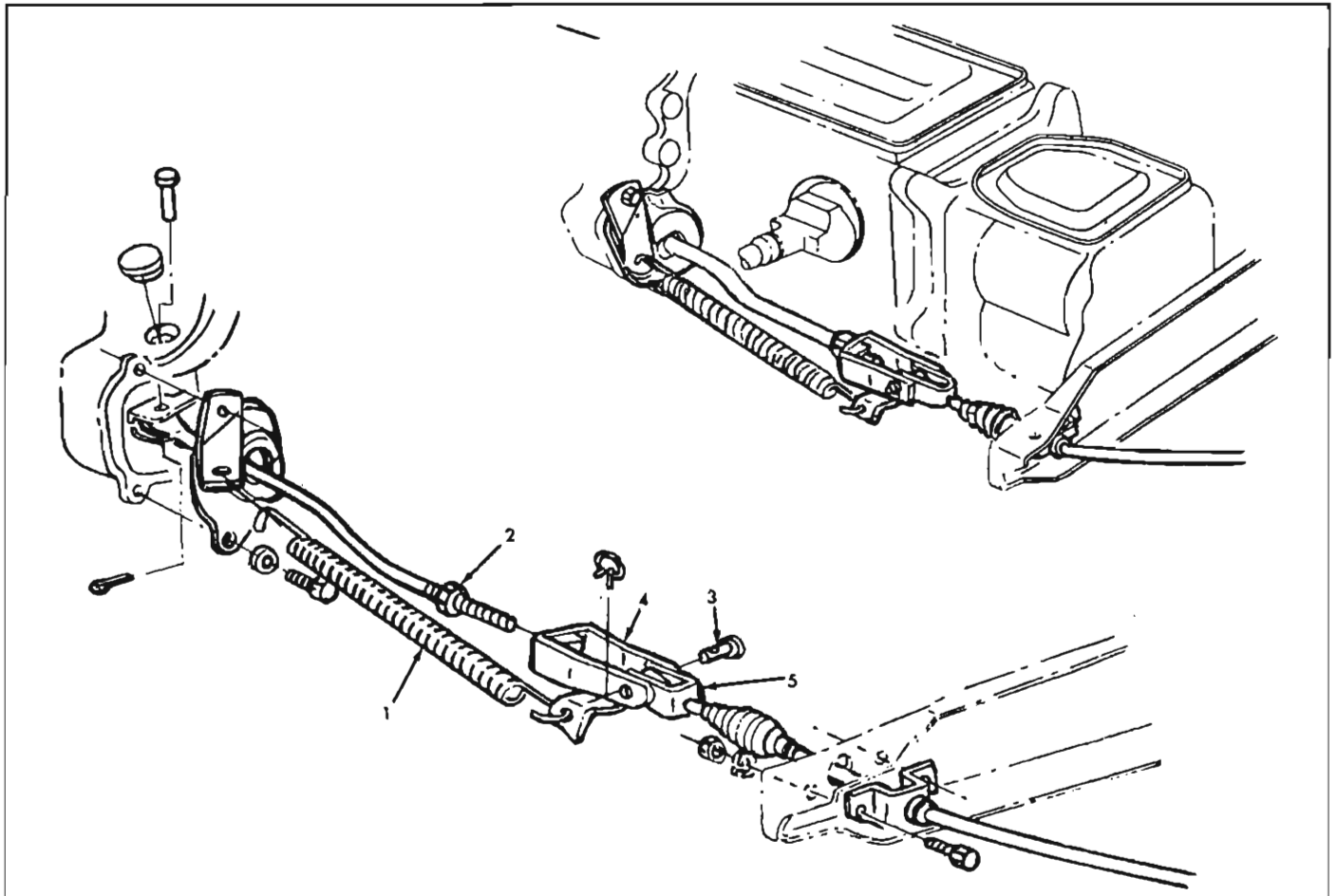


Fig. 4—Clutch Linkage (R-10)

## SERVICE OPERATIONS

Service procedures are essentially the same as written in the 1961 Corvair Shop Manual but the linkage adjustments differ as follows:

### CLUTCH LINKAGE ADJUSTMENT (except R-10)

The clutch pedal free travel should be  $\frac{3}{4}$ " to  $1\frac{1}{4}$ " measured at the pedal before the release bearing engages the diaphragm spring.

1. Check the clutch control cable engagement at pedal and in each pulley.
2. Disconnect clutch fork pull rod swivel from cross-shaft lever.
3. Check the clearance between the cross-shaft out-board (fork pull rod) lever and the transmission mount bracket. This clearance should be  $\frac{1}{2}$ " to  $\frac{5}{8}$ ". If necessary, disconnect return spring and adjust control cable clevis as needed, then tighten lock nut and re-install return spring.
4. Pull clutch fork pull rod until slack is taken up at clutch fork (release bearing touching diaphragm fingers), and turn swivel to align with hole in cross shaft lever.
5. Back off swivel (lengthen pull rod) three complete turns then connect swivel to cross shaft lever and install retainer clip.

**CLUTCH LINKAGE ADJUSTMENT****(R-10 Models) Figure 4**

1. Check front end clutch controls for (a) location of bumper stop, (b) front return spring hooked up and operation, and (c) front cable housing clamp tight.
2. Disconnect rear clutch return spring (1) and loosen clutch pull rod clevis lock nut (2).
3. Disconnect clutch fork pull rod from control cable by removing clevis pin (3).
4. Pull rearward on cable clevis (5) to insure all slack is out of system from clevis forward.
5. Pull forward on clutch fork pull rod until release bearing touches diaphragm fingers.
6. With cable and rod held in this position, adjust pull rod clevis (4) to align pin holes with pin holes in cable clevis, then back-off (lengthen pull rod) clevis  $3\frac{1}{2}$  turns and tighten lock nut.
7. Install clevis pin through clevises and spring retainer and install pin retainer clip.
8. Install pull rod return spring and check pedal free travel ( $\frac{3}{4}$ " to  $1\frac{1}{4}$ ").

## TROUBLES AND REMEDIES

### Symptoms and Probable Cause

### Probable Remedy

#### Fails to Release (Pedal pressed to floor—shift lever does not move freely in and out of reverse gear)

- a. Improper linkage adjustment (excessive lash).
- b. Improper pedal travel.
- c. Loose or broken cross shaft lever.
- d. Worn pilot area on clutch release bearing shaft.
- e. Faulty driven disc.
- f. Fork off ball stud.
- g. Clutch disc hub binding on clutch gear spline.
- h. Control cable off pulleys or pulley broken.

- a. Adjust linkage.
- b. Trim bumper stop and adjust linkage.
- c. Tighten or replace ball studs or replace cross shaft.
- d. Replace shaft.
- e. Replace disc.
- f. Install properly and lubricate fingers at throwout bearing.
- g. Repair or replace clutch gear shaft.
- h. Install cable properly or replace pulley.

#### Slipping

- a. Improper adjustment (no lash).
- b. Oil soaked driven disc.
- c. Facing torn from disc or worn into rivets.
- d. Warped pressure plate or flywheel.
- e. Driven plate not seated in.
- f. Driven plate overheated.

- a. Adjust linkage.
- b. Install new disc and correct oil leak at its source.
- c. Replace disc.
- d. Replace same.
- e. Make 20-50 normal starts.
- f. Allow to cool—Check lash.

#### Grabbing

- a. Oil on facing or burned or glazed facings.
- b. Burned or smeared resin on flywheel or pressure plate.
- c. Linkage worn, broken or improperly installed.
- d. Loose engine mountings.
- e. Warped pressure plate or flywheel.

- a. Install new disc.
- b. Replace or repair as needed.
- c. Tighten or replace mountings.
- d. Replace pressure plate or flywheel.
- e. Sand off if superficial, replace burned or heat checked parts.

#### Rattling—Transmission Click

- a. Oil in driven plate damper.
- b. Throwout fork loose on ball stud or in bearing groove.
- c. Driven plate damper spring failure.

- a. Replace driven disc.
- b. Check ball stud and retaining spring and replace if necessary.
- c. Replace driven disc.

#### Throwout Bearing Noise with Clutch Fully Engaged

- a. Improper adjustment (no lash).
- b. Throwout bearing binding on pilot shaft.
- c. Insufficient tension between clutch fork spring and ball stud.
- d. Fork improperly installed.
- e. Weak linkage return spring.

- a. Adjust linkage.
- b. Clean, relubricate, check for burrs, nicks, etc.
- c. Replace fork.
- d. Install properly.
- e. Replace spring.

#### Noisy

- a. Worn throwout bearing.
- b. Fork off ball stud (Heavy clicking).

- a. Replace bearing.
- b. Install properly and lubricate fork fingers at bearing.

#### High Pedal Effort

- a. Bind in linkage or cable and pulleys.
- b. Linkage out of adjustment.
- c. Clutch bearing pilot shaft gauged.

- a. Lubricate and free up linkage and/or pulleys.
- b. Adjust.
- c. Replace.