

SERVICE BULLETIN



Group:300

Number: SB-312-002

Date: 4/16/91

CHASSIS: All with Spicer
Clutches

CLUTCH ADJUSTMENT-SPICER 14 AND 15 1/2 INCH ANGLE SPRING CLUTCHES

The following conditions are required to assure optimum performance from Spicer Angle Spring and Easy Pedal™ Angle Spring clutches:

1. The clutch release bearing must travel $\frac{1}{2}$ to $\frac{5}{16}$ inch so the driven discs will release completely and avoid clutch drag.
2. There should be $1\frac{1}{4} \pm \frac{1}{4}$ inch of clutch free pedal in the cab to assure the recommended $\frac{1}{4}$ inch of clearance between the clutch release yoke and the release bearing wear pads (free travel).
3. Clutch brake squeeze must take place within the last $\frac{1}{2}$ to 1 inch of clutch pedal travel to assure that the transmission input shaft rotation can be stopped while the vehicle is stationary.

Through normal use the friction surfaces of the clutch will wear and cause an increase in release bearing travel. This becomes evident to the driver as a decrease in clutch free pedal. When free pedal decreases to $\frac{1}{2}$ inch, clutch adjustment becomes necessary.

ADJUSTMENT PROCEDURES:

NOTE

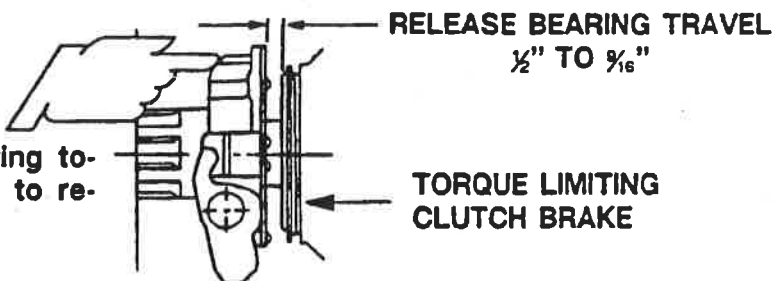
Adjustment procedures must be performed in the sequence given.

1. MEASURE RELEASE BEARING TRAVEL:

Release bearing travel is the distance between the rear face of the release bearing and the clutch brake. (Refer to the figure below.) To check the release bearing travel, place a suitable $\frac{1}{2}$ inch gauge between the release bearing and the clutch brake and measure the gap. On chassis built prior to 1991, it is necessary to remove any play from the release bearing by pushing it toward the clutch brake.

Pre 1991 models:

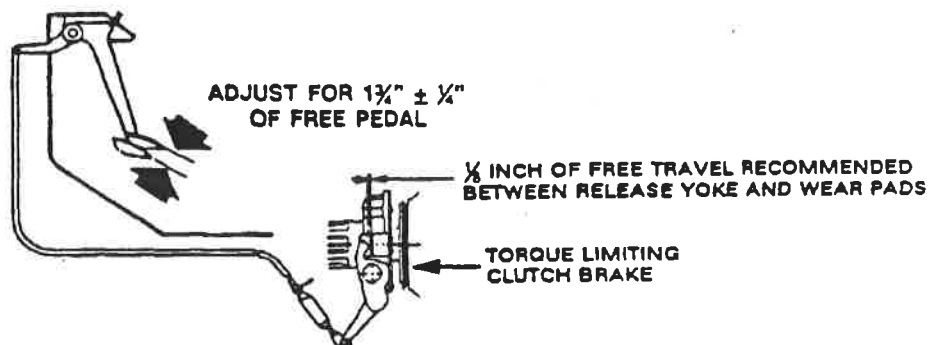
Push release bearing toward clutch brake to remove play.



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2. CHECK CLUTCH FREE PEDAL:

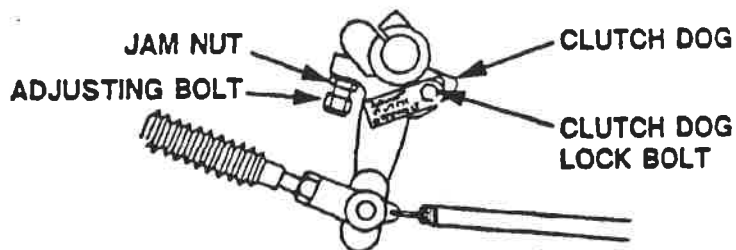
After the release bearing travel has been set to $\frac{1}{2}$ inch, measure for sufficient clutch free pedal. Free pedal should be $1\frac{1}{4} \pm \frac{1}{4}$ inches to insure the recommended $\frac{1}{8}$ inch of clearance between the clutch release yoke and the release bearing wear pads.



If free pedal is not within specifications, adjust as follows:

NOTE

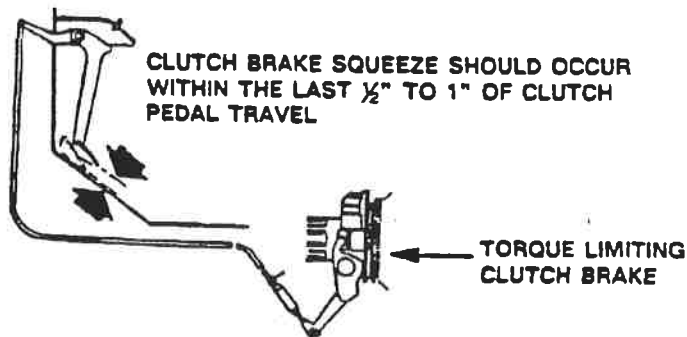
Adjustments to the external linkage are seldom necessary and should only be made to compensate for wear in the linkage assembly or release mechanism. NEVER attempt to adjust the external linkage to compensate for wear of the clutch friction surfaces. Release bearing travel must be set BEFORE adjusting free pedal.



- A. Loosen the clutch dog lock bolt.
- B. Loosen the jam nut on the clutch dog adjusting bolt.
- C. If free pedal is less than $1\frac{1}{4}$ inch, increase by turning the clutch dog adjusting bolt counterclockwise.
- D. If free pedal is more than 2 inches, decrease by turning the clutch dog adjusting bolt clockwise.
- E. When free pedal has been set, tighten the adjusting bolt jam nut and the clutch dog lock bolt, and recheck free pedal.

3. CHECK CLUTCH BRAKE SQUEEZE:

Clutch brake squeeze should begin within the last $\frac{1}{2}$ to 1 inch of clutch pedal travel.



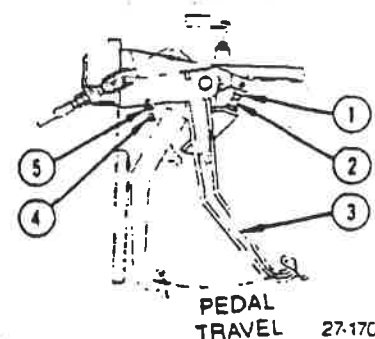
Check distance at which clutch brake squeeze occurs as follows:

- Insert a 0.010 inch feeler gauge between the rear face of the clutch release bearing and the clutch brake.
- Fully depress the clutch pedal.
- Slowly release the clutch pedal.
- Stop releasing the pedal when the feeler gauge can be pulled from between the release bearing and the clutch brake.
- Measure to see if the pedal is within the last $\frac{1}{2}$ to 1 inch of pedal travel.

If clutch brake squeeze is not within specifications, adjust as follows:

MODELS WITH ADJUSTABLE PEDAL STOPS (R,RD,RB,RM,RW,DM,DMM,MR,MH):

- Loosen the jam nut on the lower pedal stop bolt.
- If clutch brake squeeze takes place with more than 1 inch of remaining pedal travel, decrease by turning the lower pedal stop bolt counterclockwise.
- If clutch brake squeeze begins with less than $\frac{1}{2}$ inch of remaining pedal travel, increase by turning the lower pedal stop bolt clockwise.
- Tighten the adjusting bolt jam nut and recheck the adjustment.



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|------------------|-----------------|
| ① JAM NUT | ④ ADJUSTING NUT |
| ② ADJUSTING BOLT | ⑤ JAM NUT |
| ③ CLUTCH PEDAL | |

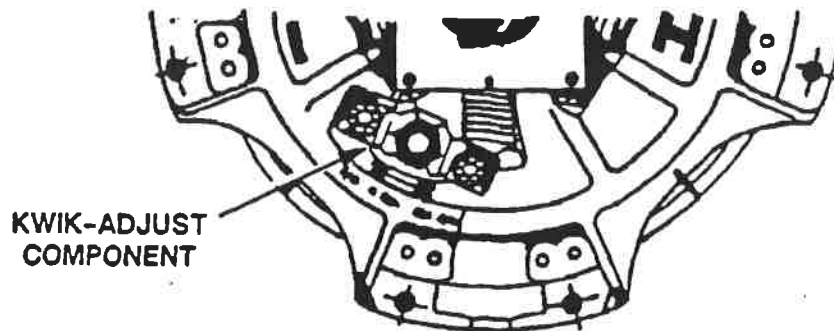
MODELS WITHOUT ADJUSTABLE PEDAL STOPS (CH,CL):

If the clutch release bearing travel and the clutch free pedal have been set properly, clutch brake squeeze will occur 1 to $\frac{1}{2}$ inch before the pedal contacts the lower pedal stop.

MANUAL ADJUST WITH "KWIK-ADJUST™" DEVICE

NOTE

Vehicles built after 1/1/91 will be equipped with Spicer Angle Spring Easy Pedal clutches utilizing the "Kwik-Adjust" component. Adjustment procedures are the same however, as for clutches equipped with a lockstrap.



- A. Insert a $\frac{3}{8}$ inch socket (12 point) or $\frac{3}{8}$ inch box wrench through the inspection hole and over the square headed bolt on the "Kwik-Adjust" adjusting tab.

NOTE

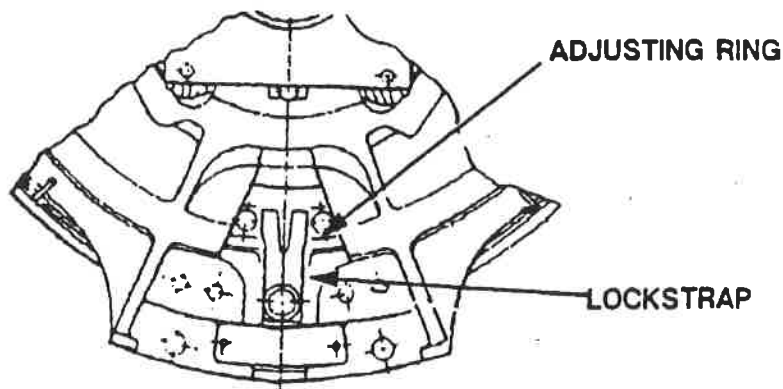
The clutch pedal must be fully depressed before attempting to turn the adjusting nut.

- B. Depress and turn the adjusting bolt to obtain the specified $\frac{1}{2}$ inch of clearance between the rear face of the release bearing and the clutch brake. Turning the bolt clockwise moves the release bearing toward the transmission (decreasing release bearing travel); counterclockwise moves the release bearing toward the engine (increasing release bearing travel).
- C. The "Kwik-Adjust" will re-engage at each quarter turn and the square headed bolt will align with the flat edge of the bracket. Make sure the "Kwik-Adjust" component re-engages.

If release bearing travel is not within specifications, adjust as follows:

MANUAL ADJUST WITH LOCKSTRAP

A. Remove the lockstrap.



B. Using tool J-36216, turn the adjusting ring to obtain the specified $\frac{1}{2}$ inch of clearance between the rear face of the release bearing and the clutch brake. Turning the ring clockwise moves the release bearing toward the transmission (decreasing release bearing travel); counterclockwise moves the release bearing toward the engine (increasing release bearing travel).

NOTE

The clutch pedal must be fully depressed before attempting to turn the adjusting ring.

SERVICE HINT

If tool J-36216 is not available, a large screwdriver may be used to turn the adjusting ring by reinstalling the lockstrap bolt and using it as a fulcrum.

C. When the release bearing travel has been set, reinstall the lockstrap.