

Clutch Adjustment Procedure

For Medium and Heavy Duty Trucks with Mechanical Release Systems only.

Background

North American truck clutches require the release bearing to move the clutch levers or diaphragm fingers a minimum of ½" for correct functioning. This means that a gap of at least ½" must be present between the rear face of the clutch release bearing and the front of the transmission or the clutch brake (if so equipped). With normal service wear, this gap will grow larger. Trucks with mechanical release systems use "freeplay" at the top of the clutch pedal stroke as a signal to indicate when a clutch adjustment is necessary. This freeplay also ensures that the full clamping load of the clutch is applied to the clutch disc and it allows clearance to absorb in-service dynamic movement between the truck's chassis, powertrain and cab. With normal service wear, clutch pedal freeplay will become shorter.

Valeo diaphragm spring clutches will provide the correct clutch clamping load over the full lifetime of the clutch without internal clutch cover assembly adjustment, but the release bearing assembly must be continually lengthened in order to maintain correct clutch pedal freeplay and to maintain clutch brake function (if so equipped).

Adjustment Procedure

Figure 1 depicts what a typical Medium or Heavy Duty Valeo clutch installation looks like when correctly adjusted. As previously described, the clutch pedal freeplay will become shorter as the clutch normally wears in service and the gap behind the release bearing will grow longer. Service adjustments are triggered when the freeplay has shrunk to one half of its newly adjusted value (see Figure 2).

When an adjustment becomes necessary, proceed as follows:

1. Loosen the locknut and rotate the adjuster ring to achieve the proper amount of release bearing travel clearance (see Figures 1 and 2).

Clutch Adjustment Procedure (Continued ...)

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- **Non-synchronized transmissions with a clutch brake:**
Rotate the adjuster ring to gain 1/2" clearance between the release bearing and clutch brake.
- **Synchronized transmissions without a clutch brake:**
Rotate the adjuster ring to gain 3/4" clearance between the release bearing and transmission input bearing cover.

2. Tighten the locknut against the release bearing coupler.
3. Check the freeplay gap between the release yoke and the release bearing wear pads. It should be 1/8" (see Figure 1). If the gap is wrong, see vehicle shop manual for the correct method to adjust the truck release linkage in order to obtain a 1/8" gap.
4. On transmissions equipped with a clutch brake, verify clutch brake engagement at bottom 1" or less of clutch pedal travel. This can be done by testing for retention of a 0.010" feeler gage or a business card (see Figure 3). If improper, verify 1/2" gap and refer to vehicle manufacturer's manual for proper pedal height adjustment.
5. If correct clutch functioning is not restored after adjustment, follow the shop manual procedures to correctly set up each release system element to ensure proper system proper system operation.
6. Use two fingers and a tape measure to determine "newly adjusted" pedal freeplay. Record this value. It will be different for each truck and normally be in the range of 1 1/4" to 3" (see Figure 4). When the clutch freeplay shrinks to one half of this value in service, it is time for an adjustment.
7. If correct clutch function is not restored after an adjustment, contact your dealer's service department or call Valeo at **(888) 71-VALEO** for technical assistance.



Clutch Adjustment Procedure **(Continued ...)**

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NOTES

Prolonged operation of a vehicle without correct freeplay can damage the clutch, flywheel, release bearing or truck clutch release system. Such damage is not covered under the vehicle or clutch warranty.

DO use a proactive plan to evaluate clutch pedal freeplay whenever the truck is undergoing routine service such as oil changes or chassis lubrication.

DO NOT rely on driver's feedback as a means of initiating clutch adjustments.

DO NOT allow drivers to readjust clutch pedal freeplay to suit their individual tastes.

Clutch Adjustment Procedure (Continued ...)

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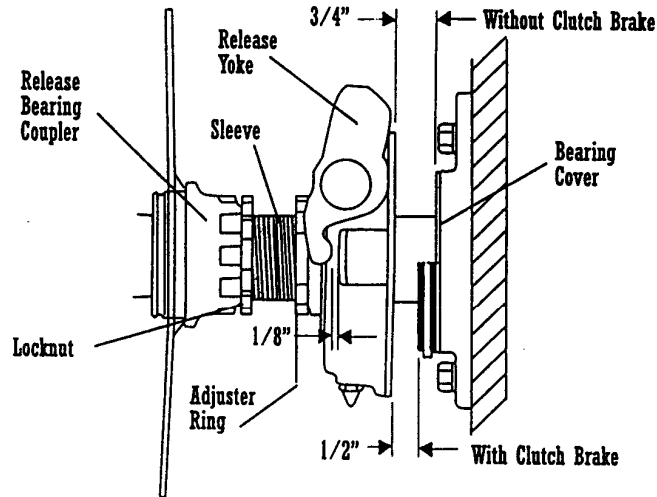


Figure 1

NEWLY ADJUSTED

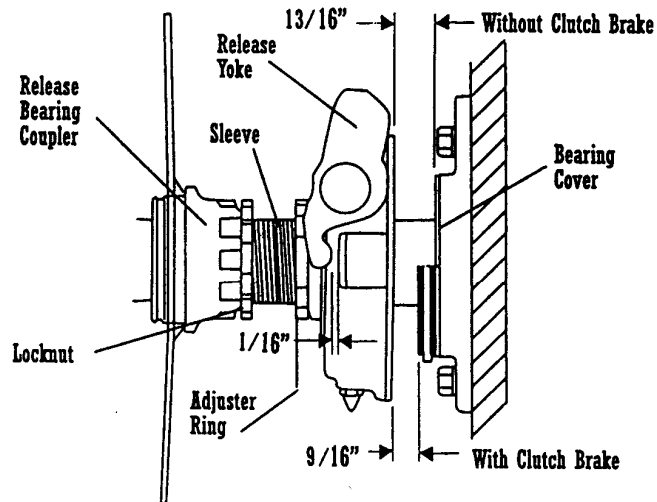


Figure 2

HALF FREEPLAY POINT - READY FOR ADJUSTMENT

**Medium or Heavy Duty Truck Pull Type Clutch Installation
With or Without a Clutch Brake
for
Mechanical Clutch Release Systems With Freeplay**

Clutch Adjustment Procedure (Continued ...)

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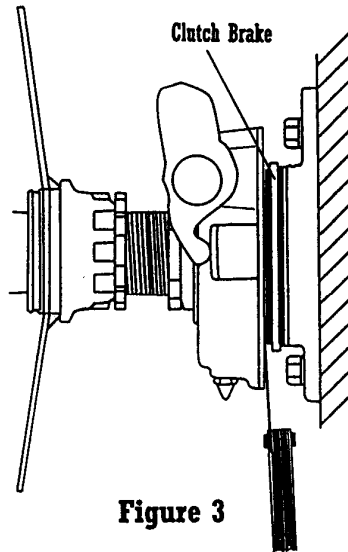


Figure 3

CLUTCH BRAKE ENGAGEMENT CHECK

**Medium or Heavy Duty Truck Pull Type Clutch Installation
With Clutch Brake**

**Release Bearing Should Securely Hold a
.010" Feeler Gage (or Business Card)
When Clutch Pedal is Pushed to a Point
1/2" to 1" Above the Floor**

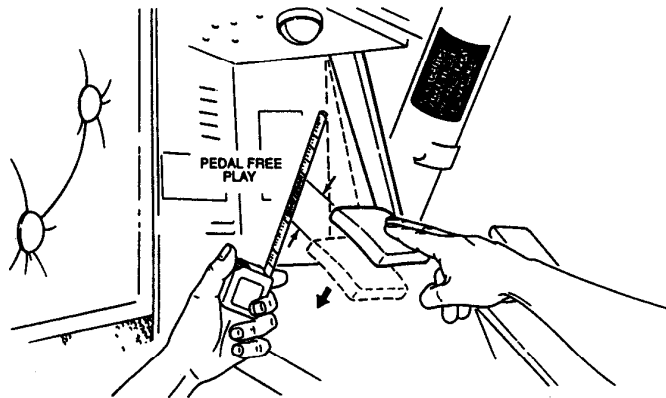


Figure 4

CHECKING CLUTCH PEDAL FREEPLAY

**Medium or Heavy Duty Trucks
with
Mechanical Clutch Release Systems With Freeplay**