HUDSON CLUTCH ADJUSTMENT

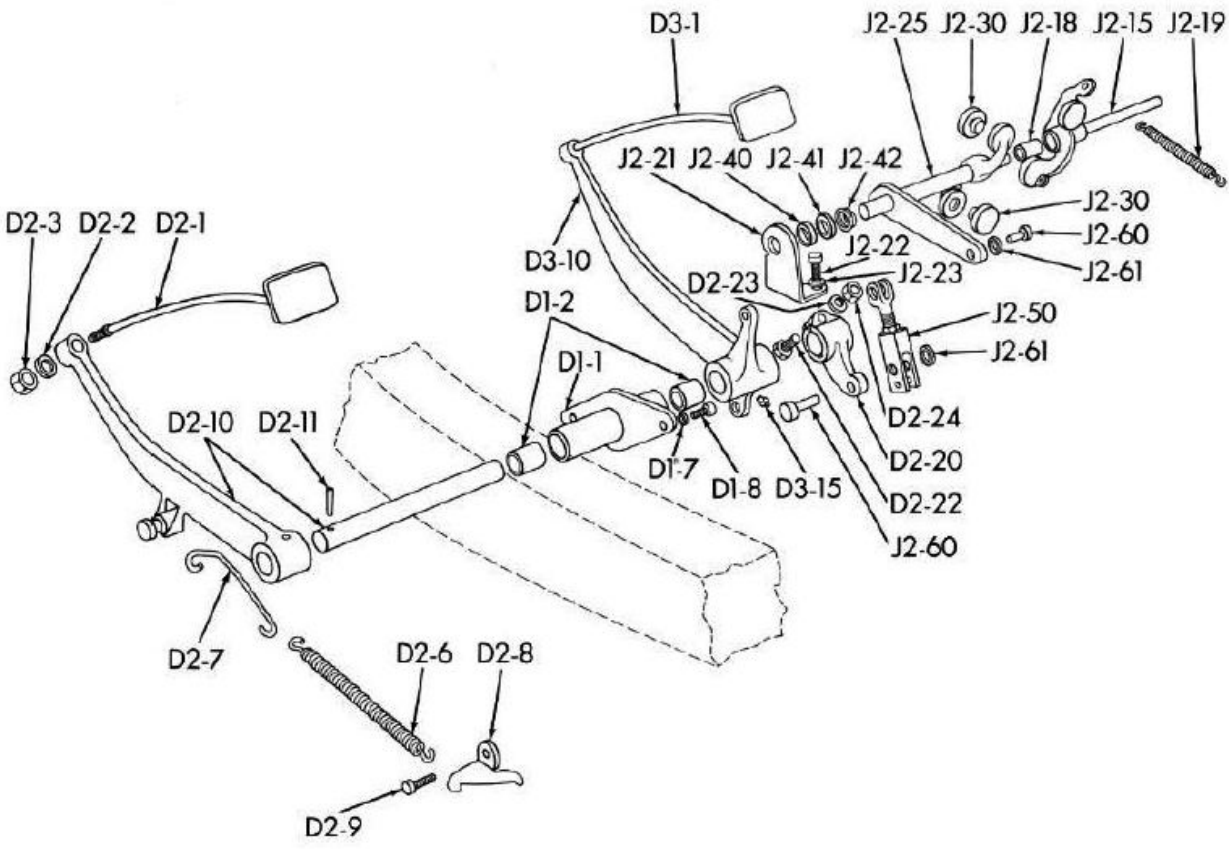
Mechanical Linkage factors

Please note changes can be unique to the vehicle, but there are some changes related to time and use which are contained in this document. The Hudson Mechanical Procedures Manual provides adjustment instructions.

As your Hudson ages so do the mechanical pieces that operate and create clearances necessary to make your clutch operate smoothly. Those who own Stepdown Hudsons (1948-1954) are caring for a vehicle that in the year 2019 can be as old as 71 or as young as 65. A lot of changes have taken place in your car over that time frame. Even if it was stored there will be changes from factory specifications have occurred.

First of all realize that your clutch mechanical linkage has had thousands of movements throughout its life. The wear and tear effects on the linkage can sometimes be seen and at other times it is hidden within the physical confines of a piece of the vehicle. You might have noticed that the rubber pad on your clutch pedal is worn, but have you taken this cue and wondered if the linkage connected to the pedal was worn too?

The pedal is connected via mechanical linkage designed with metal on metal bearing surfaces. ***No, bearing, no grease zerk, just metal on metal***. The following diagram shows that linkage.



Item J2-21 is a bearing point for item J2-25 which is connected to the bell housing via J2-15 to operate the clutch throw out bearing. J2-21 and J2-25 are tightly held to each other by the pressure exerted on them by the clutch counter spring D2-6. This pressure is sufficient to cause significant wear on both the bearing hole in J2-121 as well as the J2-25 shaft that rides in that bearing hole. This should be inspected for wear on each clutch service and repaired as required. Adjusting a clutch with damage at these points will be difficult at best and will definitely distort the clearances desired.

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Wear on J2-21 and J2-25 is shown in the following pictures. The out of round wear on J2-21 was repaired by welding the hole and re-boring to an ID that would accept an OILITE bearing pressed into the mount hole. The ID of the OILITE bearing was selected to match the repaired OD of J2-25 repaired shaft end. The shaft on J2-25 was welded and ground back to the proper OD.

Pressure from shaft riding on the fixed mount has worn the mounting hole oblong

Fixed mount has worn a grove into the shaft

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OILITE BEARING INSTALLED IN FIXED MOUNT J2-21

Cross shaft J2-25 repaired with weld and ground back to proper ID

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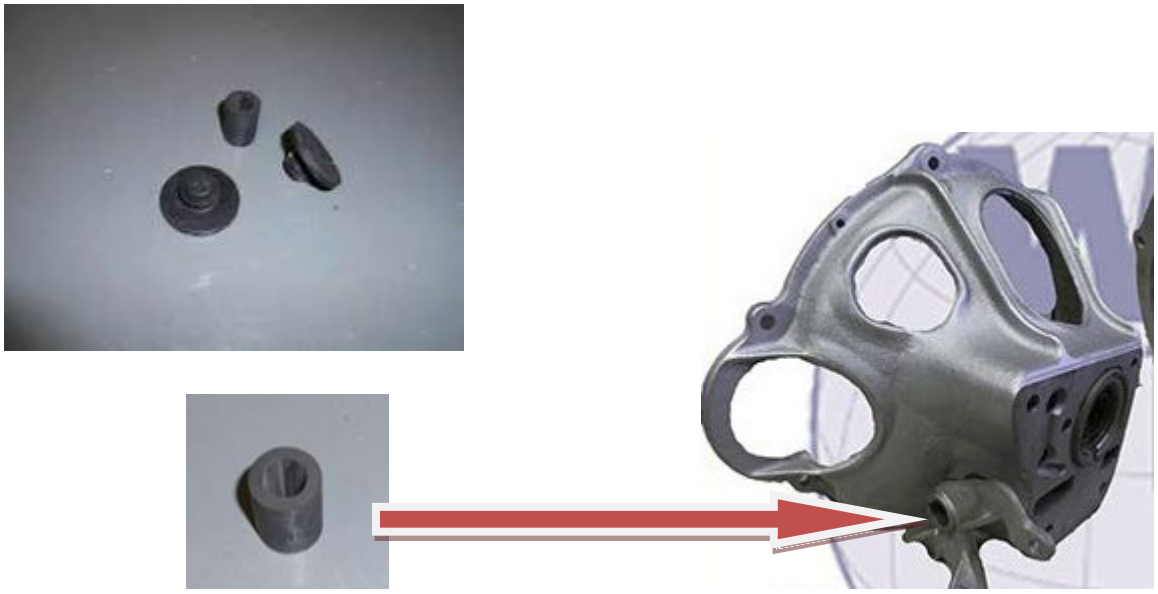
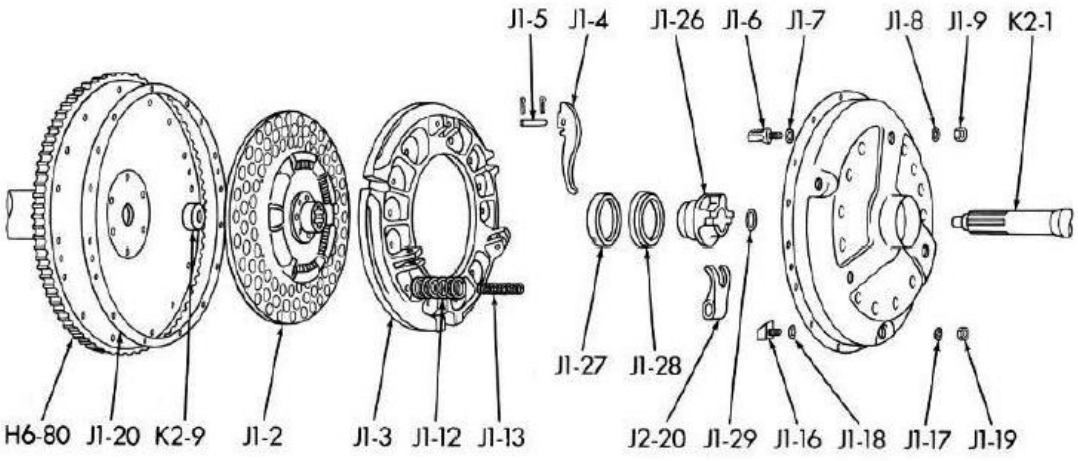
The cross shaft linkage J2-15 mounts one set of the clutch cross shaft pads and the bell housing end of that linkage has a hole into which the rubber bushing J2-18 is inserted. That rubber bushing supports the other end of J2-25 . If these rubber components (including J2-30) are worn or as is usually the case failed, they need to be replaced to obtain clearances required to properly attain factory clutch adjustments. Wildrick Restorations offers a cushion kit which includes rubber components J2-18 and J2-30. In the following diagram the arrow points to where the rubber bushing mounted on the end of J2-25 is inserted. This rubber bushing around one end of J2-25 linkage and the fixed mounting hole on the other end along with new J2-30 cushions "SET The static linkage adjustment. Without all of these mounting points being correct the linkage adjustment will be difficult if not impossible to correctly accomplish .



Item J2-15 in the diagram above is attached to the bell housing with a set of mounting pins. This shaft bears a huge amount of force when the clutch pedal is engaged. It is responsible for operating the mount J2-20 that locates the clutch throw out bearing. The shaft is supported in the bell housing with bushings that when worn-out cause J2-20 to improperly operate the throw out bearing.



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The red arrows point to the area in the bell housing shown in the attached picture where the bushings that support throw out bearing shaft J2-15 are located.

Aside from these mechanical linkages the bell housing itself is prone to cracking. Discovering the cracks necessitates removal from the vehicle, through cleaning and inspection. Repair or replacement of the bell housing is a necessity prior to reinstallation.

There are many other maintenance and service actions that go into assuring the HUDSON fluid clutch operation is smooth**.**

Clutch chatter solution suggestions by Doug Wildrick 317-862-4171

DON'T FORGET THE FLUID IN THE CLUTCH The fingers on pressure plate must be correct height, from top of the cover, with the new disc installed. This measurement should be no more than 1.450, and the fingers should be set at .010-MAX ., variations between them. If this isn't done correct, the clutch will probably chatter.

Following items to check for clutch chatter (other than pressure plate and clutch Disc)

1. Check for cracked bell housing (usually passenger side of bell housing starting at cross shaft)
2. Input shaft excessively worn at pilot bearing end.
3. Input shaft (twisted and/or excessively loose-front transmission bearing excessively loose
4. Clutch cross over shaft bushings (usually worn excessively)
5. Alignment of transmission with engine (bell housing bolt up surface free of dirt)
6. Back of block cleaned and dowels secured in place.
7. Engine and transmission mounts are good and solid. (not soft-very important for proper clutch operation.
8. Flywheel resurfaced correctly and torqued at correct specs with clean flange on crank and flywheel. Use soft setting Permatex and seal flywheel to crank flange (thin coat)
9. Throw out bearing fork not worn (what did old throw ought bearing look like-worn spots in bearing housing)
10. Engine tune (is it running properly)

Above items are not necessarily in order-each vehicle is different!

Thanks to Wildrick Restorations for use of several pictures used in this document.

Doug Wildrick has shared a listing of actions that every HET owner should complete Find those recommendations on my Clutch page at https://hudsonrestoration1948-54.com/