

## INTERNATIONAL HARVESTER

## DESCRIPTION

Three types of clutches are used in International Harvester vehicles. Auburn clutches are distinguished by the open cover design. Borg & Beck clutches have a full, or closed, cover and three release fingers. Diaphragm Spring type clutches also have a closed cover, but are distinguished by a dish shaped diaphragm spring which is slotted, thus creating multiple release fingers. Removal and installation of all three types of clutches is similar. Clutch actuation is accomplished through hydraulic system on Motor Home, and Mutli-Stop chassis. All Scout II models incorporate a mechanical clutch release system.

## REMOVAL &amp; INSTALLATION

## CLUTCH

**Removal & Installation** — Raise and support vehicle under frame, and remove transmission. See appropriate article in *MANUAL TRANSMISSION SERVICING* Section. Remove flywheel underpan (if equipped). Disconnect clutch linkage at clutch fork, and remove clutch fork, clutch release bearing, and bearing sleeve from vehicle. Remove clutch housing from vehicle. Mark clutch assembly and flywheel for reassembly reference and remove clutch cover-to-flywheel attaching bolts. Remove clutch cover assembly and clutch disc from vehicle. To install, clean flywheel surface and clutch assembly, and reverse removal procedure. Tighten clutch bolts evenly and alternately.

## CLUTCH MASTER CYLINDER

**Removal & Installation** — Remove clutch pedal return spring, and disconnect master cylinder push rod at clutch pedal. Disconnect master cylinder-to-slave cylinder hydraulic line at master cylinder, and remove master cylinder attaching bolts. Remove master cylinder from vehicle. Remove master cylinder cover, and drain fluid from cylinder. To install, reverse removal procedure, and bleed system. See *Hydraulic System Bleeding*.

## CLUTCH SLAVE CYLINDER

**Removal & Installation** — Clean outside of cylinder thoroughly and disconnect hydraulic line at slave cylinder. Remove slave cylinder attaching bolt(s), and remove slave cylinder from vehicle. To install, reverse removal procedure, and bleed system. See *Hydraulic System Bleeding*.

## OVERHAUL

## CLUTCH MASTER CYLINDER

**Disassembly & Reassembly** — With master cylinder removed from vehicle, remove dust boot, retainer ring, and piston stop. Remove push rod, piston, and piston spring from cylinder bore, and inspect cylinder bore for damage. If excessive scoring or pitting is apparent, manufacturer recommends replacement of cylinder. To reassemble, reverse disassembly procedure, using new rubber parts.

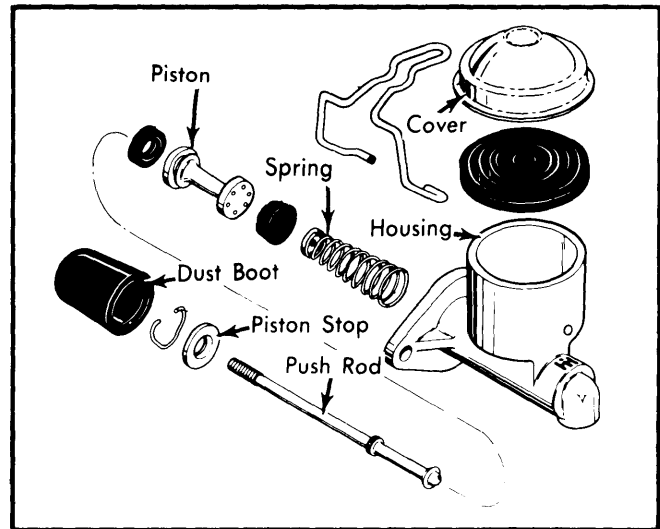


Fig. 1 Exploded View of Clutch Master Cylinder

## CLUTCH SLAVE CYLINDER

**Disassembly & Reassembly** — With slave cylinder removed from vehicle, remove dust boot, push rod, and piston retainer ring. Remove piston and cup from cylinder bore. Inspect cylinder for signs of excessive wear or damage. If excessive scoring or pitting is apparent, manufacturer recommends replacement of cylinder. To reassemble cylinder, reverse disassembly procedure using new rubber parts.

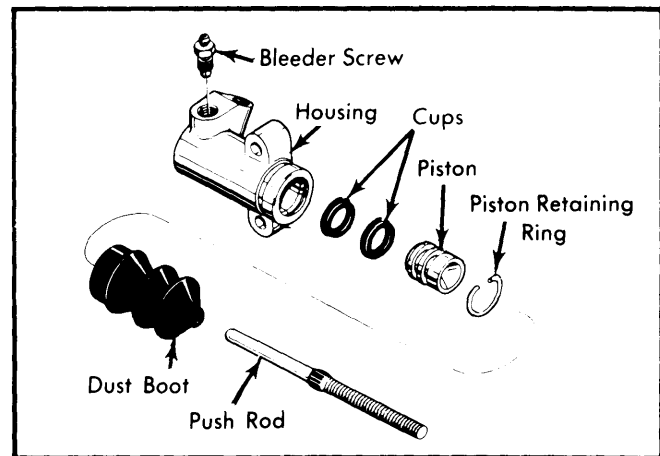


Fig. 2 Exploded View of Clutch Slave Cylinder

## ADJUSTMENT

## CLUTCH PEDAL HEIGHT

Clutch pedal height is distance from floorboard of vehicle to top surface of clutch pedal pad when pedal is in fully returned position, as measured at 90° to floorboard. Pedal height is accomplished by moving pedal stop bracket under instrument panel. Pedal height measurement should be 9" on all Scout II models and 7¾" on all others.

## INTERNATIONAL HARVESTER (Cont.)

### CLUTCH FREEPLAY

**Mechanical Linkage** — Freeplay is clearance between release bearing and clutch fingers with clutch engaged and pedal in full returned position. To adjust, disconnect return spring. Loosen nut on rod assembly. Hold pedal against stop. Adjust clutch rod until there is zero clearance between release bearing sleeve and clutch forks. Now lengthen rod two turns. This will obtain correct clearance. Tighten nut on rod and reconnect return spring.

### HYDRAULIC SYSTEM BLEEDING

Clean bleeder screw on slave cylinder, and attach bleeder hose to screw. Submerge free end of bleeder hose in jar  $\frac{1}{2}$  full of clean brake fluid. Pressurize clutch master cylinder, and open and close bleeder screw at four second intervals, until no air appears in fluid running from bleeder hose.

**Hydraulic Linkage** — From inside cab, adjust length of clutch master cylinder push rod to obtain clutch pedal free travel of  $\frac{1}{4}$ ".

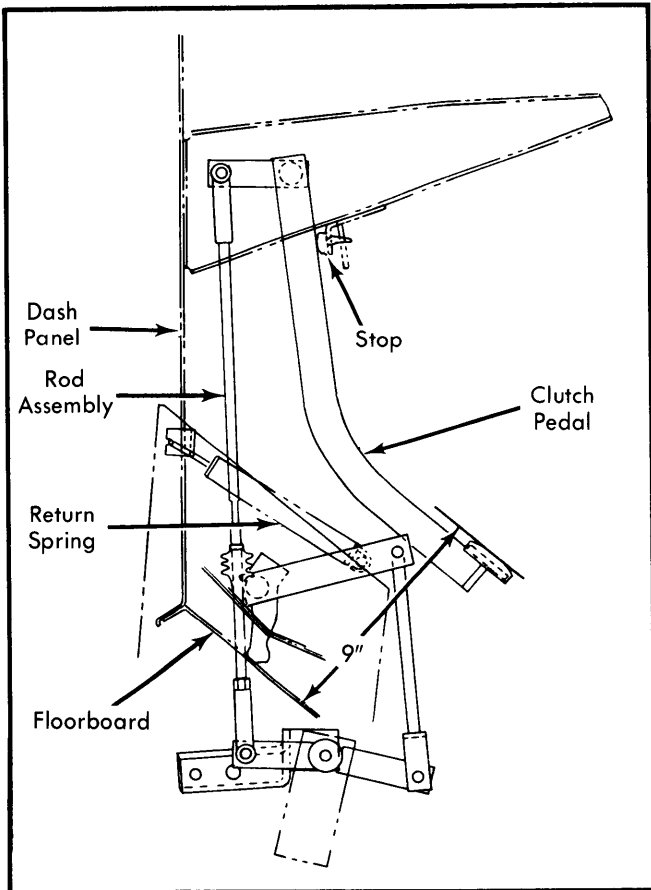


Fig. 3 Scout II 4-Cylinder and V8 Clutch Linkage

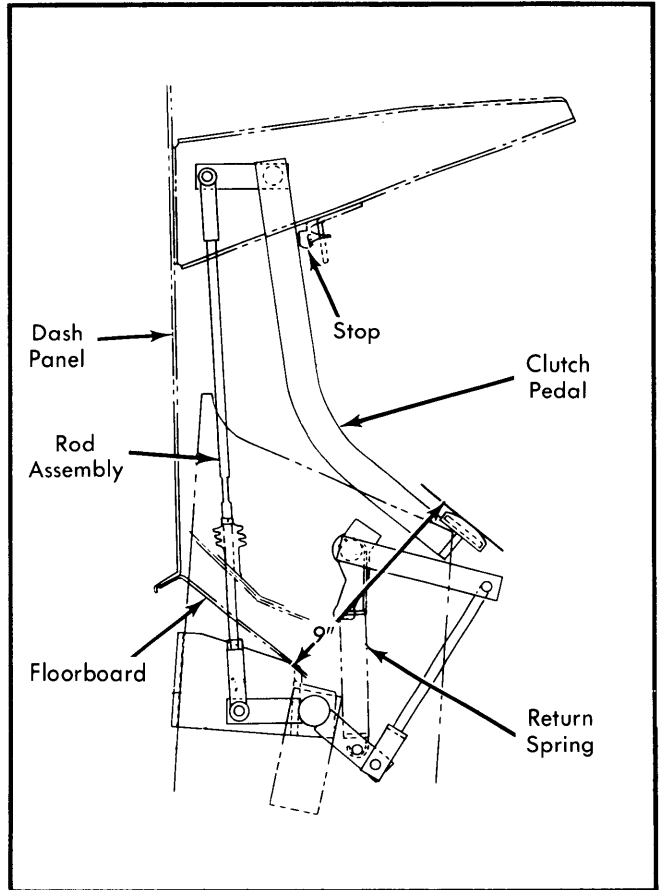


Fig. 4 Scout II 6-Cylinder Clutch Linkage