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CASE IH

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Attachment for Model B-414 and 3414

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SPECIFICATIONS

Poppet Spring	
Free length	31/32 inch
Test length	3/4 inch
Test load	31.3 lbs.

Needle Bearing Installation Depth (beyond flush)	
Transmission driving shaft pilot bearing	5/8 inch
Transmission splined shaft pilot bearing	9/32 inch
Countershaft cluster gear bearings	1/16 inch
Reverse idler gear bearings	1/32 inch

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SPECIFICATIONS

General
Type Selective spur gear

No. of Speeds
Forward 8
Reverse 2

Lubricant Capacity 5 gal

Types of Bearings

Main Spline Shaft Front Needle roller
Main Spline Shaft Rear 2 tapered roller
Countershaft Front Single-row ball
Countershaft Rear Single-row ball
Drive Shaft and Gear Front Single-row ball
Drive Shaft and Gear Rear Single-row ball

Reverse Idler Shaft Diameters

Front 1.249 to 1.250 inches
Rear 991 to .992 inch
Countershaft Diameter 2.2492 to 2.2500 inches

Bushing Sizes

Reverse Idler Shaft Rear (Inside diameter) 993 to .995 inch
(after pressing into place)
Reverse Idler Shaft Front (Inside diameter) 1.251 to 1.253 inches
(after pressing into place)
Countershaft Gray Iron Bushing (Inside diameter) 2.2500 to 2.2512 inch

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Illust. 4. Checking preload of bevel gear bearings.

Add or remove shims as measurement shows to be required. Recheck the preload after changing the thickness of the shim pack. Once the required preload has been obtained, shims may be transferred from one bearing cage to the other without affecting the preload.

Preloading the Bevel Pinion Bearings

Preloading the bevel pinion bearings is described in Form GSS-1239, Transmission.

Adjusting Cone Center Depth

The mounting distance is controlled by shims positioned between the bevel pinion rear bearing cage and the transmission case mounting flange. The recommended mounting distance is etched on the machined toe end face of the pinion and represents the distance from this face to the center-line of the differential housing.

This distance can be measured from the machined toe end of the pinion to the machined outer diameter of the differential housing by using a parallel gage block as shown in Illust. 5.

For complete accuracy, the radius of the left-hand case should be determined. The average radius is 3.938 inches. The mounting distance with pinion and gear assembled will have to be calculated as follows.

Example: Recommended mounting distance marked on pinion is 4.425 inches. Radius of left-hand differential case is 3.938 inches. Therefore, the actual measurable distance will be $4.425 - 3.938 = 0.487$ inch.

The pinion should be assembled without the sliding gears and with a selection of shims between the bevel pinion rear bearing cage and the transmission case. Torque the retainer bolts.

Insert the parallel gage block as shown in Illust. 6. If the shim pack is too thick



Illust. 5. Setting gage block.



Illust. 6. Checking mounting distance.

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Blue Ribbon Service

Form GSS-1247

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Hitch and Auxiliary Hydraulic System

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Special Service Tools Required

FES 44-8	Control valve seat tool
FES 64-7-6	Hydraulic pump
FES 99-5	Adapter tee with gauge
FES 99-6	Needle valve
FES 113-1	Relief valve body socket w/drive pin
FES 113-2	Seat extractor
FES 113-3	Valve seat installer
FES 113-4	Non-return assembly sleeve

Refer to Farm and Industrial Equipment Service Tool
Manual, GSS-1251 for source and ordering procedure.

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NOTE: The regulator, piston and thermo relief valve, draft spool and position control spool cannot be serviced through the top cover. Refer to GSS-1312-C Servicing of the Complete Hitch, page 25.

NOTE: The thermo relief valve operates at 4000 to 6000 psi to provide relief of fluid trapped in the cylinder during transport or storage. Service by checking the spring against specifications, replacing O-ring and cleaning the passages.

GENERAL REASSEMBLY

1. Wipe foreign material from the outside of the draft plunger. Wedge a chisel between the draft plunger and bellcrank. See Illust. 18.

2. Connect the draft pushrod (A) to the draft link (B) as shown in Illust. 5, using a flat washer and 3/32" x 3/4" cotter pin.

3. Install the cross shaft, right side first, as shown in Illust. 7.

4. Connect the position link (A) to the position pivot (B) as shown in Illust. 6. Pivot links (A) and (B) down.

5. Install the two pivot studs finger tight in the cross shaft.

6. Slide the quadrant in and connect the draft control shaft to the draft link (B). Install the four capscrews in the quadrant support. See Illust. 5.

7. Connect the right hand position link, using the flat washer and 3/32" x 3/4" cotter pin. See Illust. 4. Tighten the pivot studs. Check linkage for freedom of operation.



Illust. 18. Draft plunger wedged in.

8. Refill the reservoir with Hy-tran to the proper level through the top cover opening.

9. Install the top cover with gasket. Reconnect the auxiliary valve tube and linkage disconnected during disassembly. Install the seat.

10. Remove the chisel, test gauge, hand pump and install the regulator filter and plug, and auxiliary outlet port plug.

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Check valve
End plug
FESM-186A

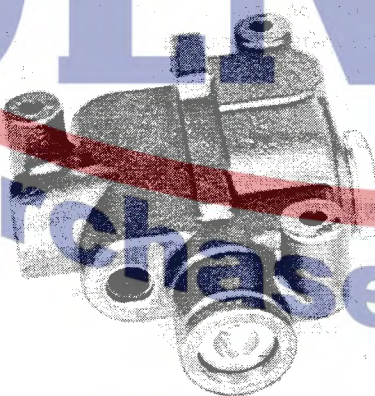
Illust. 49. Control valve disassembly.



Centering spring
Collar stop
Lock washer
Stop Washer
Screw
FESM-188

Illust. 51. Control valve disassembly.

7. Using a punch to hold the valve spool (26), remove the spring assembly screw (26), remove the spring assembly screw, centering spring lock washer, stop collar (4), centering spring (5), and stop washer (6) (Illust. 51).



End cap
Snap ring
FESM-187

Illust. 50. Control valve disassembly.



FES 57-3
Seal
FESM-189

Illust. 52. Control valve disassembly.

6. Remove the dust cover (1), snap ring (2) and end cap (3) from the valve bore (Illust. 50).

8. Push the spool into the housing from the top of the valve until the seal is exposed. Remove the top seal (Illust. 52).