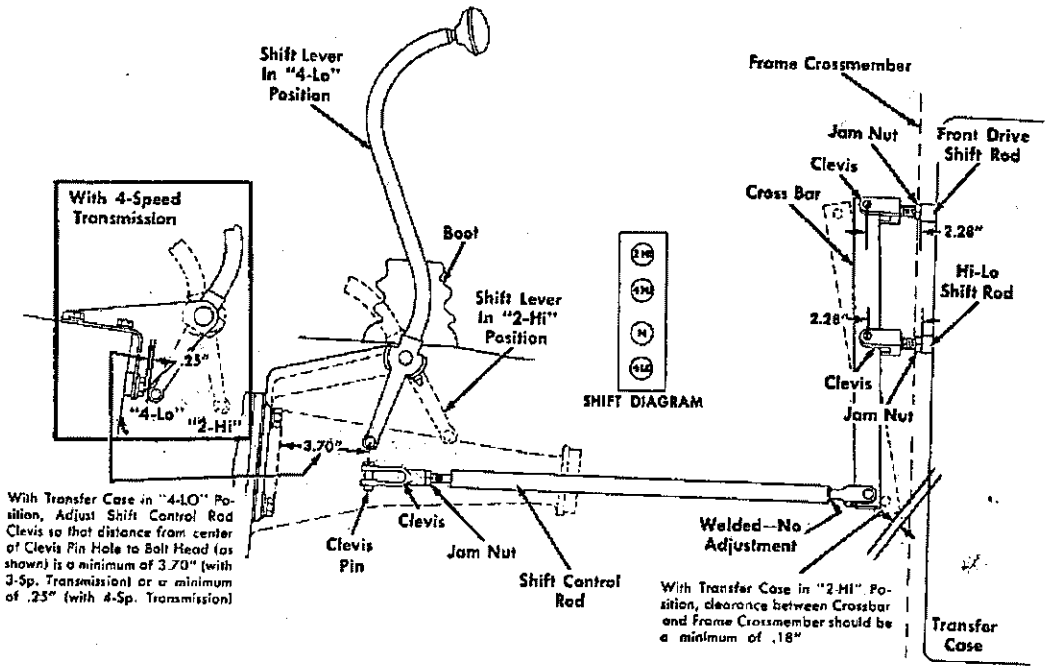


Shift and control rod adjustment (© G.M.C.)

rear bearing cap; then remove cap.

2. Remove cap screws attaching front bearing cap; then remove cap and shims. Attach shims to cap for reassembly.
3. Press or drive out input shaft toward front of case.
4. Remove direct drive gear, sliding gear and thrust washer from inside case.
5. Remove front bearing and washer. Remove other bearing from shaft.

Assembly

During assembly, it is important that all parts are cleaned and lubricated to prevent deterioration before unit is placed in service. Use new gaskets, oil seals, snap-rings and lock washers.

Input Shaft

1. Press front bearing onto shaft with shielded side of bearing toward shoulder on shaft.
Insert shaft through opening in front of case and as shaft is being moved into position, install sliding gear, washer, direct drive gear and washer. Install rear bearing on shaft with shielded side toward inside.
Install gasket and bearing cap at rear of case. Tighten cap screws securely.
At front of case, install bearing cap and shims. Use same thickness of shims as removed during disassembly.
Install U-joint yoke and nut. Tighten nut firmly and install cotter pin.

Rear Output Shaft

1. Press bearing cone onto rear output shaft.
2. Press or drive rear output shaft in case through shaft gear.
3. Press or drive bearing cup into case. Install bearing cap, using same thickness of shims that were removed. Tighten cap screws firmly.
4. At rear of shaft, press bearing cone onto shaft and bearing cup into case. Install speedometer drive gear.
5. Install new oil seal in bearing cap; then install gasket and cap with screws.
6. Install U-joint yoke and secure with nut. Tighten nut firmly and install cotter pin.
7. Check end play of shaft, using dial indicator. Remove or add adjusting shims as required until end play is as near zero as possible.

Front Output Shaft

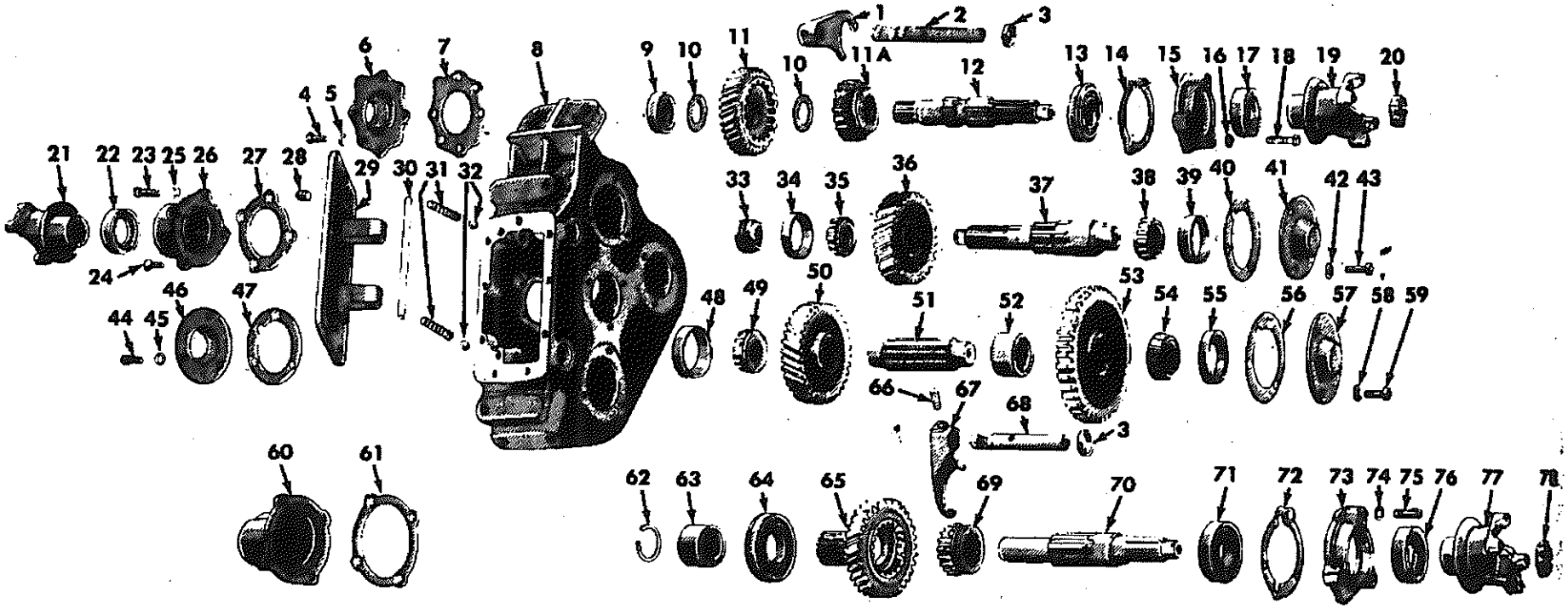
1. Place front output gear inside case; then install bearing over gear hub and into position in case.
2. Press bearing onto output shaft.
3. As output shaft is installed through opening in front of case, sliding gear must be located on shaft as shaft is pushed into its proper position.
4. Install new oil seal in bearing cap; then install gasket and cap with screws.
5. Install spacer on gear; then install snap-ring.
6. Install gasket and bearing cap. Secure with cap screws.
7. Install U-joint yoke and secure with nut. Tighten nut securely and install cotter pin.

Idler Shaft

1. Press bearing cone onto front end of idler shaft.
2. Start idler shaft into front side of case and install low speed gear, spacer, constant mesh gear and bearing cone as shaft is pushed into position.
3. Press bearing cups into case and over bearing cones.
4. At rear of case, install bearing cap and gasket with cap screws.
5. At front of case, install bearing cap and adjusting shims with cap bolts. NOTE: Make sure adjusting shims used are same thickness as shims removed.
6. Check end play of shaft, using dial indicator. Subtract or add adjusting shims as required until end play is as near to zero as possible.

Cover and Shift Rod

1. Install oil seals in case.
2. Push shift rods into case with caution, so as not to damage oil seals.
3. Install shift forks on respective shift rods. Install set screws attaching forks to rods. Twist safety wire around shift rods and then through hole in set screw.
4. Insert detent balls and springs into holes in case.
5. Slide interlock pin into bosses on inner surface of cover. Install gasket on case with sealing compound. Press end of cover down; then slide cover upward and press into position. Secure with cap screws.



Timken model 221 transfer case (© G.M.C.)

1 Shift fork
2 Shift rod
3 Oil seal
4 Cap screw
5 Lock washer
6 Bearing cap
7 Gasket
8 Transfer case
9 Bearing
10 Washer
11 Direct drive gear
11A Input shaft gear
12 Input shaft
13 Bearing
14 Adjusting shims
15 Bearing cap
16 Lock washer
17 Oil seal
18 Cap screw
19 U-Joint yoke
20 Nut
21 U-Joint yoke
22 Oil seal
23 Cap screw
24 Flat cap screw
25 Lock washer
26 Bearing cap
27 Gasket
28 Breather
29 Cover
30 Interlock pin
31 Spring
32 Detent ball
33 Speedometer gear
34 Bearing cup
35 Bearing cone
36 Rear output gear
37 Rear output shaft
38 Bearing cone
39 Bearing cup
40 Adjusting shims
41 Bearing Cap
42 Lock washer
43 Cap screw
44 Cap screw
45 Lock washer
46 Bearing cap
47 Gasket
48 Bearing cup
49 Bearing cone
50 Input shaft gear
51 Idler shaft
52 Spacer
53 Low speed gear
54 Bearing cone
55 Bearing cup
56 Adjusting shims
57 Bearing cap
58 Lock washer
59 Cap screw
60 Bearing cap
61 Gasket
62 Snap ring
33 Spacer
64 Bearing
65 Front output g
66 Set screw
67 Shift fork
68 Shift rod
69 Front sliding g
70 Front output sh
71 Bearing
72 Gasket
73 Bearing cap
74 Lock washer
75 Cap screw
76 Oil seal
77 U-Joint yoke
78 Nut