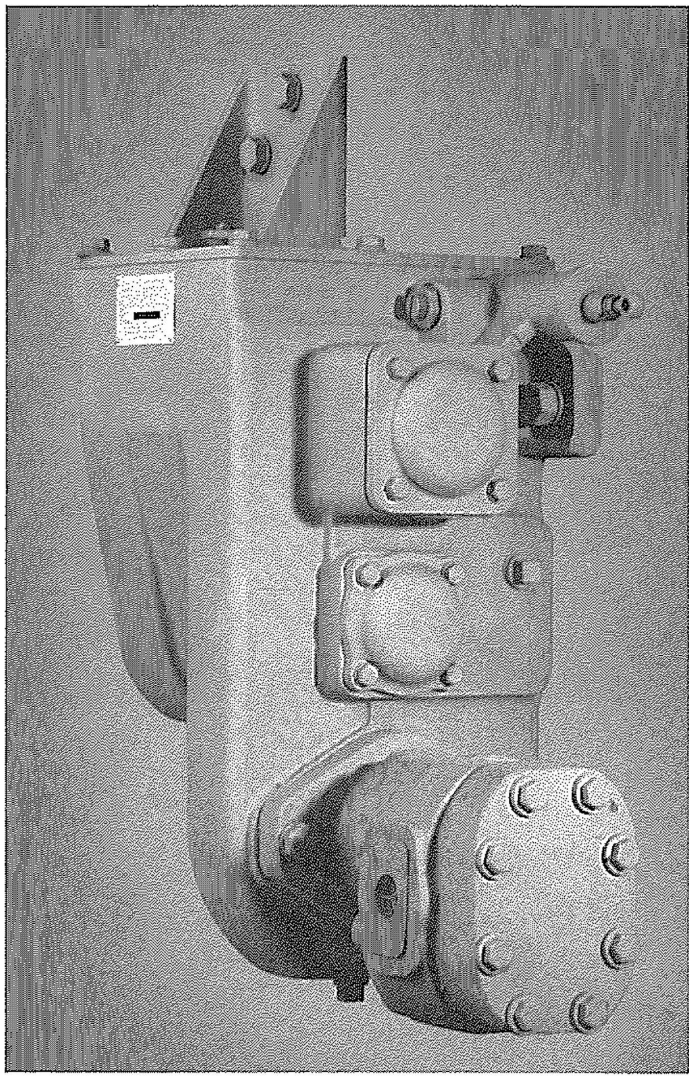
# MODEL 240-584
# THREE SPEED TRANSMISSION

# PARTS LISTS & ASSEMBLY DRAWINGS

(AT-8111)



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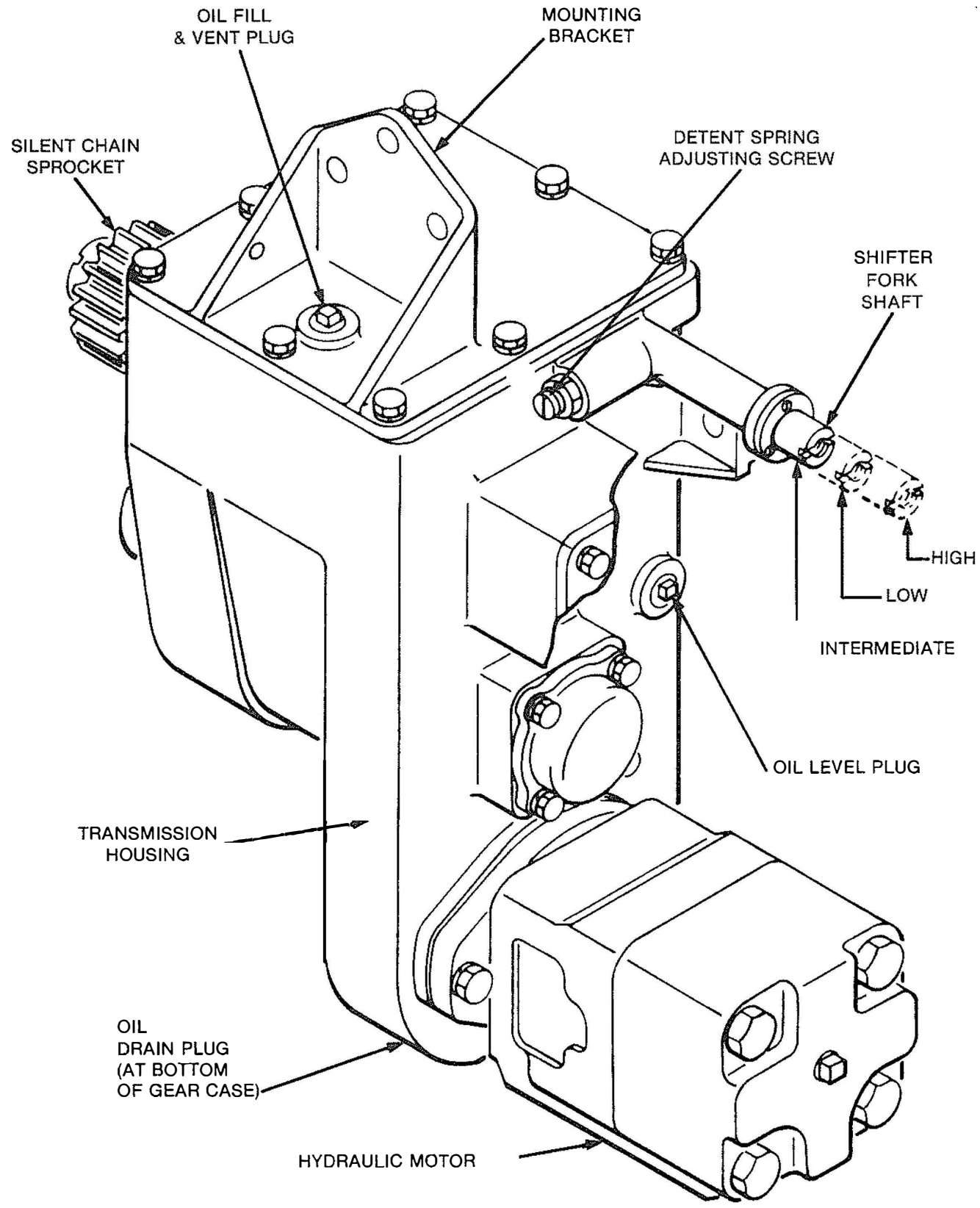
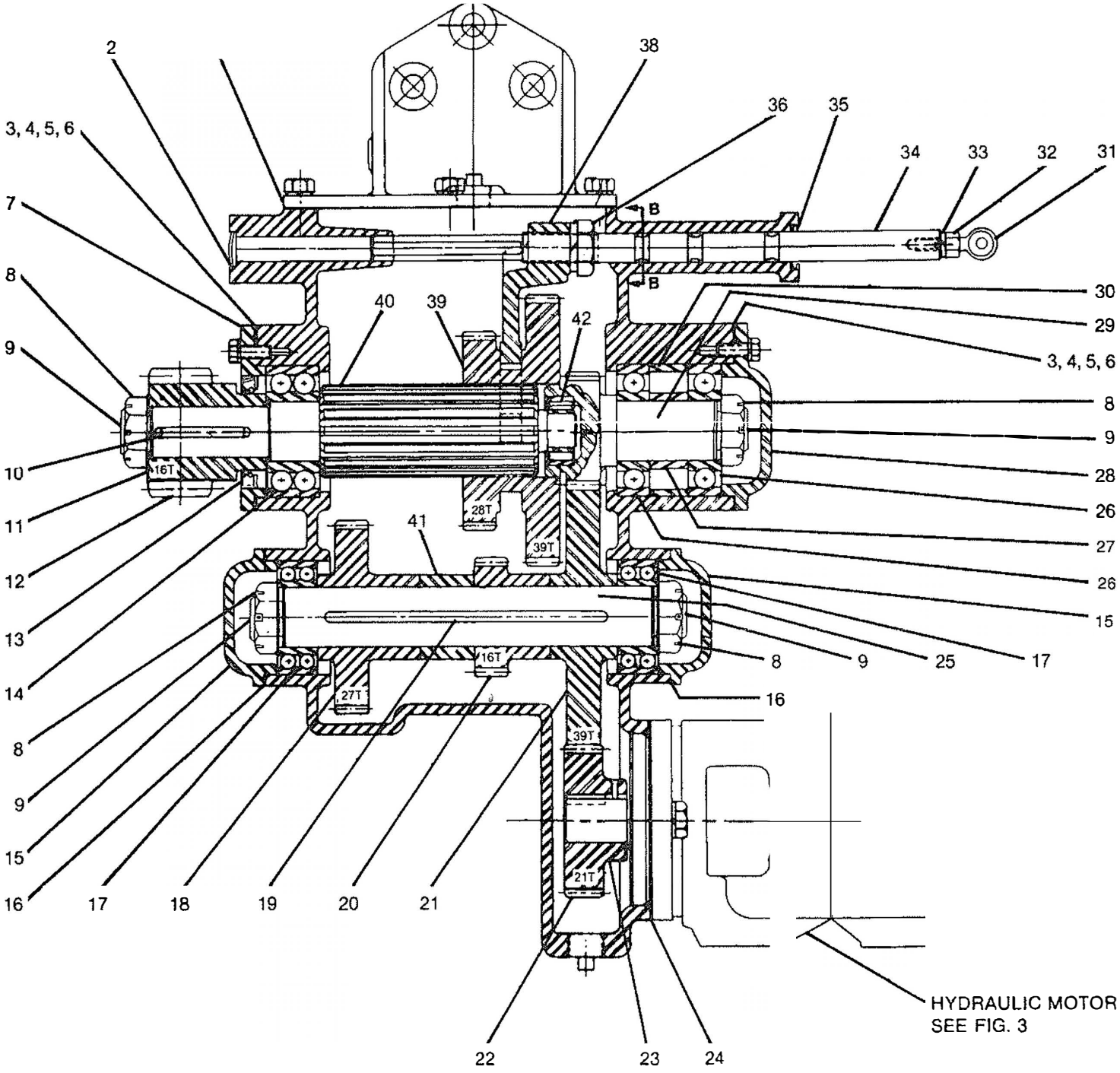



THREE SPEED TRANSMISSION
HYDRAULICALLY DRIVEN — MECHANICALLY SHIFTED

**FIG. 1 — GENERAL ARRANGEMENT**




# FIG. 2 – GENERAL ASSEMBLY PARTS DRAWING

## GENERAL ASSEMBLY PARTS LIST
## FIG. 2

| ITEM | PART NAME | PART NO. | QTY. |
|---|---|---|---|
| | Gasket | 16776 | |
| 2 | Plug | 16789 | 1 |
| 3 | Shim .0625 thk. | 16778 | A.R. |
| 4 | Shim .0312 thk. | 16779 | A.R. |
| 5 | Shim .0156 thk. | 16780 | A.R. |
| 6 | Shim .0101 thk. | 16781 | A.R. |
| 7 | Cap | 14983 | |
| 8 | Nut, Hex 1-1/4 - 18 | 16836 | 4 |
| 9 | Pin, Cotter 1/8 x 1-3/4 | 16726 | 4 |
| 10 | Key | 16633 | |
| 11 | Washer | 16773 | |
| 12 | Sprocket | 14984 | |
| 13 | Oil Seal | 16793 | |
| 14 | Bearing | 16784 | |
| 15 | Cap | 14980 | 2 |
| 16 | Shim .0200 thk. | 16771 | A.R. |
| | Shim .0150 thk. | 16772 | A.R. |
| 17 | Bearing | 16783 | 2 |
| 18 | Gear | 14985 | |
| 19 | Key | 16777 | |
| 20 | Gear | 14997 | |
| 21 | Gear | 14998 | |
| 22 | Gear | 14986 | |
| 23 | Screw, Set 5/16 - 18 x 3/4 | 16735 | |
| 24 | Gasket | 16775 | |
| 25 | Shaft | 14987 | |
| 26 | Bearing | 16782 | 2 |
| 27 | Spacer | 14989 | |
| 28 | Cap | 14988 | |
| 29 | Shaft | 14991 | |
| 30 | Spacer | 14990 | |
| 31 | Yoke End | 15868 | |
| 32 | Nut, Hex, Jam 3/8 - 24 UNF | 2807 | |
| 33 | Washer, Lock 3/8 | 16449 | |
| 34 | Shaft | 14992 | |
| 35 | Oil Seal | 16792 | |
| 36 | Nut, Hex, Jam 7/8 - 14 UNF | 16787 | 2 |
| 37 | | | |
| 38 | Fork | 14993 | |
| 39 | Gear | 14994 | |
| 40 | Shaft | 14995 | |
| 41 | Spacer | 14996 | |
| 42 | Bearing | 16785 | |
| | Chain, Silent (Not shown) | 16801 | |
| | Label, Gear Lube (Not shown) | 24572 | |

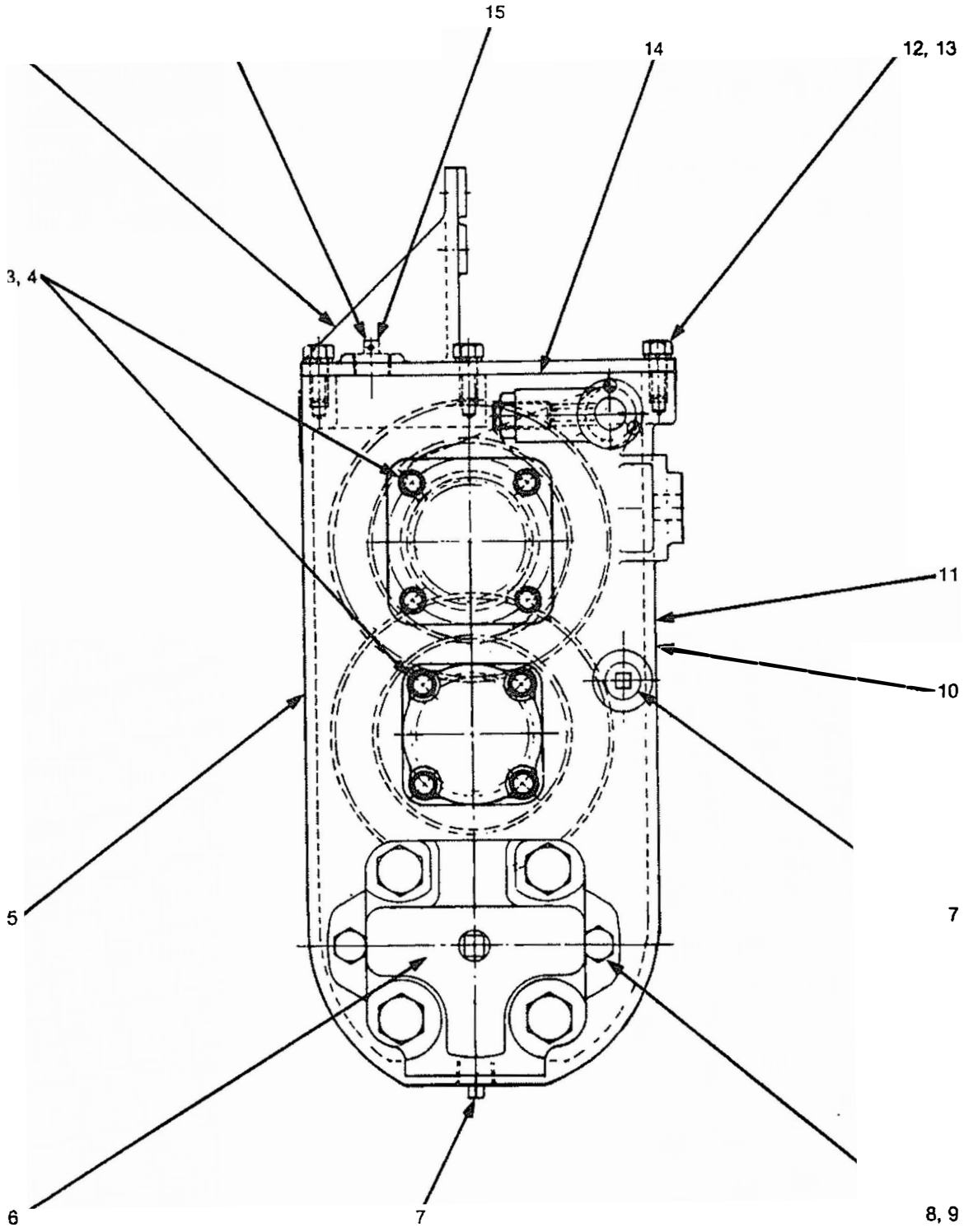
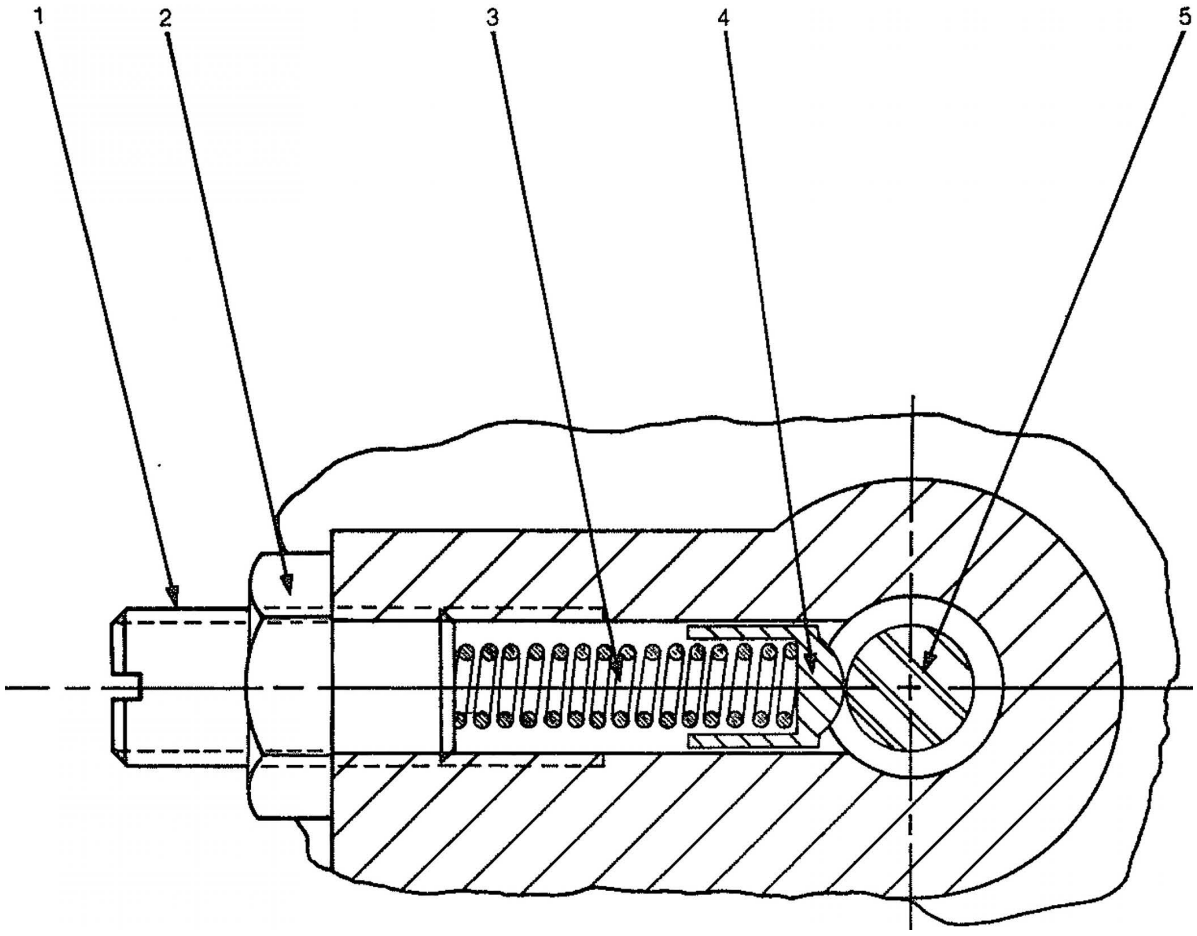



**FIG. 3 – GENERAL ASSEMBLY PARTS DRAWING**

## GENERAL ASSEMBLY PARTS LIST
## FIG. 3

| ITEM | PART NAME | PART NO. | QTY. |
|---|---|---|---|
| 1 | Plug, Fill | 15602 | |
| 2 | Cover | 15603 | |
| 3 | Screw, Cap 3/8 - 16 x 1 | 16713 | 16 |
| 4 | Washer, Lock 3/8 | 16449 | 16 |
| 5 | Housing | 14978 | |
| 6 | Motor | 16795 | 1 |
| 7 | Plug, Pipe 3/4 - 14 | 16628 | 2 |
| 8 | Screw, Cap 5/8 - 11 x 1-1/2 | 17535 | 2 |
| 9 | Washer, Lock 5/8 | 16686 | 2 |
| 10 | Plate, Caution (Not shown) | 25204 | 2 |
| 11 | Plate, Name (Not shown) | 16597 | 1 |
| 12 | Screw, Cap 1/2 - 13 x 1-1/4 | 16800 | 8 |
| 13 | Washer, Lock 1/2 | 9324 | 8 |
| 14 | Pin, Dowel 3/8 x 3/4 (Not shown) | 16788 | 2 |
| 15 | Fitting | 16627 | |




**SECTION B-B**
FIG. 2

# FIG. 4 — ADJUSTING SCREW PARTS DRAWING

## ADJUSTING SCREW PARTS LIST
## FIG. 4

| ITEM | PART NAME | PART NO. | QTY. |
|---|---|---|---|
| 1 | Screw, Adjusting | 14999 | |
| 2 | Nut, Hex 3/4 - 16 | 16799 | |
| 3 | Spring, Detent | 16774 | |
| 4 | Detent | 25130 | |
| 5 | Shaft | 14992 | |

GENERAL MACHINE PRODUCTS CO., INC.
TREVOSE, PA 19047

6/88

# MODEL 240-584
# HYDRO-MECHANICAL
# THREE SPEED TRANSMISSION

## INSTALLATION OPERATION MAINTENANCE

1.0 GENERAL

1.0.1 The Model 240-584 three speed transmission is a heavy duty gear box that is designed for use with a Model CD-22 or CD-28 continuous duty winch to obtain three winch line speeds and pull capacities.

2.0 DESCRIPTION

2.0.1 The transmission assembly is a winch accessory primarily comprised of a main housing, hydraulic motor, mechanical shift mechanism, stationary and sliding spur gears. Power is transmitted from the output shaft of the transmission to the winch input shaft by a 3/4" pitch x 2-1/2" wide, side guide, silent chain. A chain guard is furnished for purposes of safety.

3.0 OPERATION

3.0.1 The transmission can be shifted manually or automatically. The mechanical shift linkage is usually routed to the rear of the vehicle using a push/pull handle conveniently located under the body tailshelf, left of the pintle hook.

3.0.2 High production cable placing vehicles can be equipped for automatic remote shifting by using hydraulic, pneumatic or electric actuation controls. These controls are usually located conveniently in the rear area of the body or at the end of a pendent.

3.0.3 The shifter shaft is located at the top on the right side of the transmission housing. Movement of the shaft will give the following three speeds:

| | | |
|---|---|---|
| 1 | Intermediate - | shaft all the way in |
| | Ratio 2.3:1 of | the input speed |
| 2 | Low | shaft half way out |
| | Ratio 5.4:1 of | the input speed |
| 3 | High | shaft all the way out |
| | Ratio .91:1 of | the input speed |

3.0.4 It should be stressed that manual shifting allows the operator some degree of feel to determine if the gears have properly meshed. Automatic shifting of the gears affords the operator no feel and could prove to be damaging to the gears if they are not properly aligned.

3.0.5 When shifting to any one of the three positions, the winch drum rotation must be stopped. Shifting while the transmission gears are rotating will immediately or eventually lead to damaged gears and the inability to shift.

3.0.6 It is recommended that the transmission be operated in the highest speed range that will enable the load to be moved easily and smoothly. When possible, the proper speed ratio should be selected prior to starting the pull to prevent an inefficient start-stop operation.

3.0.7 When using the low speed range, extreme operational caution should be taken. In this ratio position the transmission can generate a pulling force beyond the safe working capacity of the winch. Such a condition can damage the winch, cause wire rope failure or injury to persons or property. Use the low gear with extreme caution for slow speed control only.

3.0.8 The Hydro-Mechanical transmission is designed to operate in a hydraulic system having a flow of 55 GPM and an operating pressure of 2000 P.S.I.

3.0.9 At the base of the transmission housing there is provision for mounting a direct coupled hydraulic motor. The Commercial Shearing model number is M37X998-BART-22-11. Transmission assemblies manufactured after June, 1979 are furnished with a Commercial Shearing motor only.

3.0.10 Because of the variation in specifications, the hydraulic control valve and automatic control assemblies are not furnished by General Machine Products.

4.0 INSTALLATION

4.0.1 Refer to drawing T15669 sheets 1 and 2.

5.0 LUBRICATION

5.0.1 Lubrication of the transmission is by means of oil bath, splash action. Care should be taken to maintain the correct oil level. When adding oil, it is recommended that the oil level plug, located on the side of the housing, be removed prior to adding the oil to prevent over filling. When adding or changing the lubricant use 80W140 oil or equal.

## 6.0 MAINTENANCE

6.0.1 Inspection of the transmission should be a continuing process. Particular attention should be given to unusual noise, oil leakage, excessive heat or difficulty in shifting.

6.0.2 Pulling at a given capacity, the hours of use, the geographic location and ambient temperature will dictate when oil should be added or completely drained and changed. It is recommended that the oil be checked during normal inspections or at least once a month; change the oil at least once a year.

6.0.3 Located near the shifter shaft is a detent spring adjusting screw. An adjustment can easily be made with a slight turn of the screw to enable the proper ease in shifting.

6.0.4 The output silent chain drive should also be checked periodically for proper lubrication and tension. Apply engine oil to the inside of the chain via a spray or brush. To adjust the chain for correct tension, depending on when the unit was manufactured, adjust the idler assembly or move the transmission as required in the elongated holes located in the mounting brackets. See drawing T15669.

## 7.0 IDENTIFICATION

7.0.1 On every hydraulically driven winch assembly there is a winch nameplate located on the top surface of the rear frame rail and a motor nameplate attached to the motor. To ensure correct service assistance, give the respective model and serial number to your local dealer or the factory.