AT-8490 CABLE TAKE-UP DRIVE

DESCRIPTION AND USE

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1. GENERAL

1.01 The AT-8490 Cable Take-up Drive utilizes a hydraulic motor, a helical gear reducer, a drive chain, and reel drive to drive a cable reel that is mounted on a hydraulic loading cable reel trailer. The unit is intended for use in removing aerial and underground cable and storing it on a cable reel.

1.02 The AT-8490 Cable Take-up Drive can be mounted on a TRUCO or McCABE POWERS hydraulic loading cable reel trailer. When mounted, the take-up drive is operated from the truck hydraulic system at the pole puller outlet. For vehicles not fitted for a pole puller, the truck hydraulic derrick system may be used if a valve is added. The take-up drive is designed to operate from a hydraulic system that delivers oil at a rate of 12 to 15 gpm at a pressure between 1800 and 2000 psi.

1.03 The take-up drive can be used with all large steel reels, up to and including the No. 420 reel, and will develop 5000 pounds pull on the bare reel head of a No. 417 reel.

1.04 The applicable sections in the Bell System Practices pertaining to hydraulic loading cable reel trailers shall be supplementary to this section.

2. DESCRIPTION

2.01 The AT-8490 Cable Take-up Drive (Fig. 1) includes an AT-8490 L1A Cable Take-up Drive and either an AT-8490 L2A Drive Mounting or an AT-8490 L3A Drive Mounting.

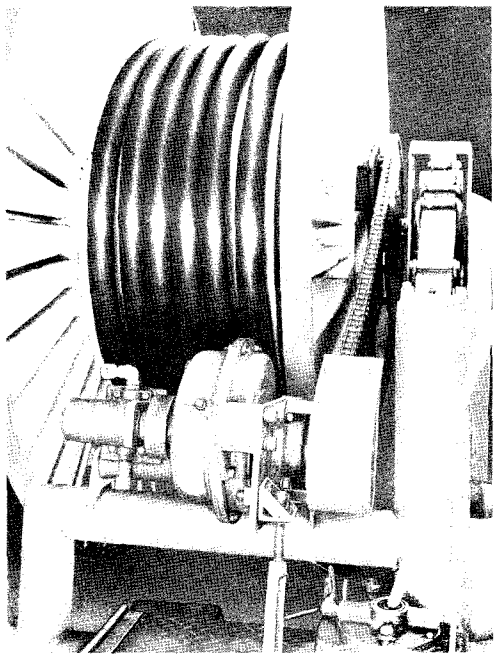

Fig. 1—AT-8490 Cable Take-up Drive

2.02 The AT-8490 L1A Cable Take-up Drive consists of a reel drive sprocket, a drive chain, a chain guard, a helical gear reducer, a hydraulic motor, a flexible coupling, and a frame. The L1A unit is portable and can be removed from one trailer and assembled to any other trailer that is

equipped with either an L2A or L3A Drive Mounting. The complete L1A unit has a total weight of approximately 260 pounds with the chain weighing approximately 20 pounds and the reel drive sprocket weighing approximately 105 pounds.

2.03 The AT-8490 L2A Drive Mounting consists of a locking bar, two lugs, a mounting frame, and a pin and bracket assembly. Two AT-8497 L1A Cable Reel Spacers (Fig. 2) are provided for locating the cable reel on the spindle. The L2A mounting is permanently installed to provide for mounting the L1A drive unit on TRUCO cable reel trailers.

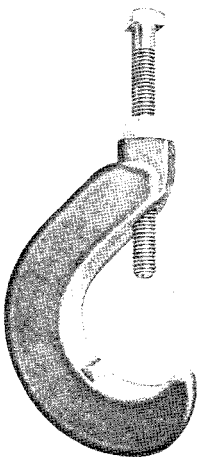

Fig. 2—AT-8497 L1A Cable Reel Spacer

2.04 The AT-8490 L3A Drive Mounting consists of a locking bar, two lugs, two gussets, and a pin and bracket assembly. Two AT-8497 L1A Cable Reel Spacers are provided for locating the cable reel on the spindle. The L2A mounting is permanently installed to provide for mounting the L1A drive unit on McCABE POWERS cable reel trailers.

3. PRECAUTIONS

3.01 The drive unit and the sprocket are heavy. They should be picked up properly and handled with care to avoid injury to personnel or damage to the equipment. When handling the chain, avoid dragging it on the ground. The chain and sprocket should be kept free of dirt and grit.

3.02 When the drive unit is not in use, the dust plugs and dust caps provided should be used to protect the hydraulic couplings. Before attaching the flexible connector hoses, be sure the couplings are clean.

3.03 Before using the drive unit, check the hoses for signs of leaks or damage. Damaged or leaking hoses should be replaced.

3.04 When loading a reel, position the sprocket on the spindle so it will not be subject to damage by striking the trailer.

3.05 Do not attempt to level the cable while winding it on a reel. If the cable requires leveling, stop the pull, obtain slack, and level the cable manually. Do not restart the pull until all persons are clear of the reel. Never reach into the reel while it is in motion.

3.06 ***Do not overload cable reels.*** Refer to Division 626 for cable and reel weight information.

4. USE

4.01 To prepare for removing cable, position an empty reel at the rear of the trailer and fit the spindle into the center holes in the reel spokes. Place the sprocket (Fig. 3) on the spindle bar so the reel spoke will engage the sprocket. Lock the sprocket to the reel spoke with two connecting pins. Place the chain on the sprocket to engage the sprocket teeth in the chain links as shown in Fig. 4. Load the reel on the trailer.

4.02 Remove the pin from the torque arm (Fig. 5) and tilt the drive unit toward the cable reel to allow the chain to be placed on the drive sprocket under the chain guard. Return the drive unit to its original position and replace the pin. Be sure the sprocket on the drive unit is aligned with the large sprocket on the cable reel. They may be aligned by sliding the reel on the spindle bar. After the reel has been positioned, lock it in place with the two cable reel spacers provided with the Drive Mounting.

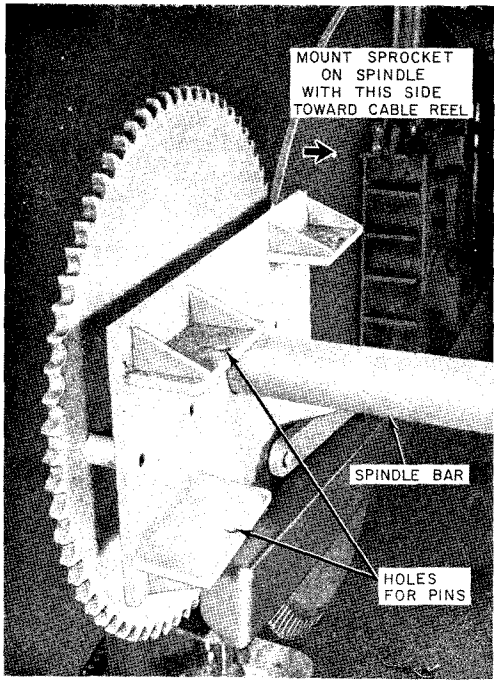

Fig. 3—Reel Drive (sprocket)

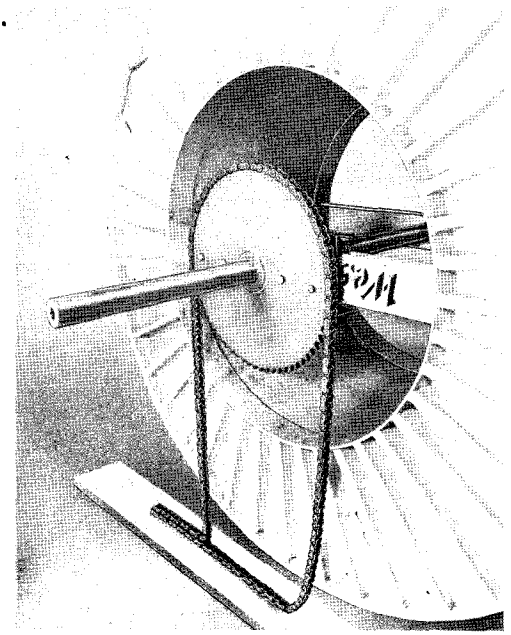

Fig. 4—Chain in Place on Sprocket

4.03 Connect the flexible hoses to the truck hydraulic system outlets and to the couplings on the drive unit.

REMOVING UNDERGROUND CABLE

4.04 Position the trailer within a distance of 5 feet from the manhole or pullbox. Set the ground props and place wheel chocks. Set quadrant blocks, sheaves, manhole frame, etc, as necessary in the manhole. To start the pull, attach a suitable pulling line to the end of the cable and either use the winch line on the towing vehicle to pull sufficient slack or take two or three turns of the pulling line around the cable reel and use the reel as a capstan to pull the end of the cable clear of the manhole or pullbox. Generally, cable being removed from old duct runs must be broken loose with the winch line.

4.05 Detach the pulling line (pulling line may be left in place on cable reel if pulling line can be scrapped) and attach the end of the cable to the cable reel to complete the pull.

REMOVING AERIAL CABLE

4.06 To remove aerial cable, first remove the cable terminals. Where conditions permit, lower the cable and strand to the ground where it can then be gathered simultaneously onto the cable reel. When removing cable and strand from private property or other locations where it cannot be lowered to the ground, place cable blocks at pole locations along the removal route to support the strand and cable during removal. When using this method it may be necessary to maintain tension on the far end of the cable to prevent whipping or extreme sagging.

REMOVING AND REPLACING THE DRIVE UNIT

4.07 To remove the drive unit from a trailer, first remove the pin from the torque arm and then remove the cotter pin from the outboard

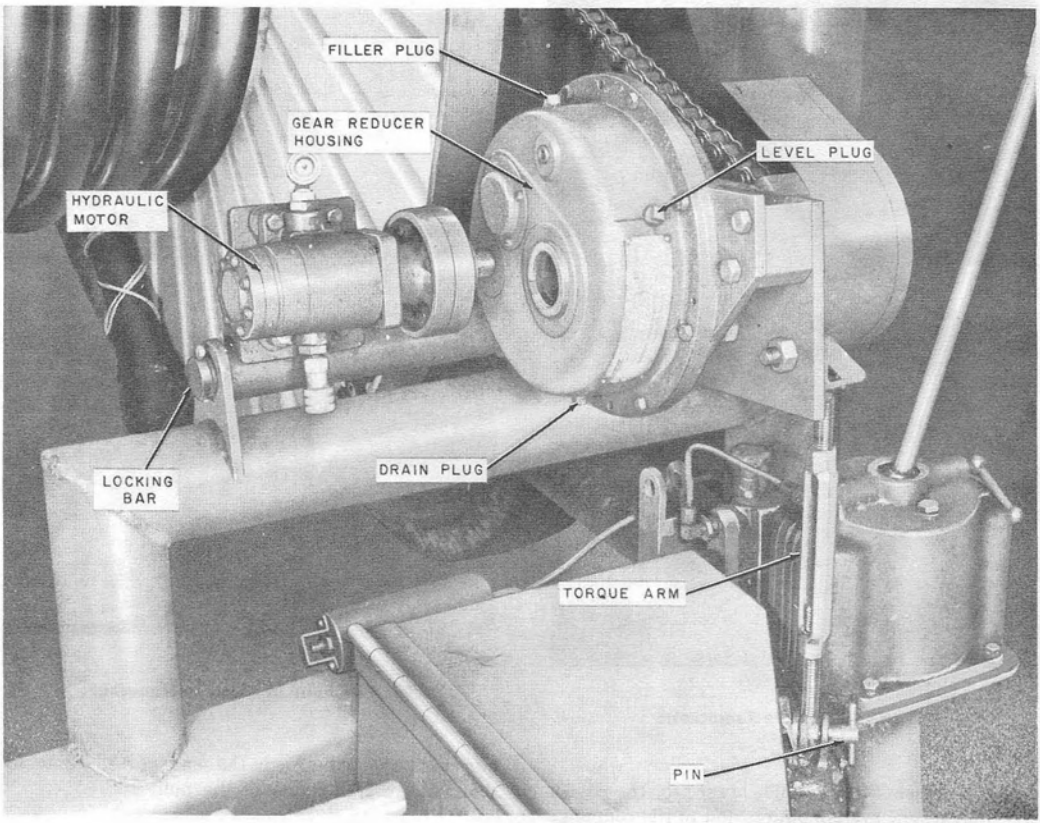

Fig. 5—Cable Take-up Drive Unit

end of the locking bar (109 steel line wire may be used instead of a cotter pin). Support the drive unit and from the inboard side withdraw the locking bar. To replace the unit, reverse the procedure. Install a new piece of 109 steel line wire in place of the cotter pin in the outboard end of the locking bar.

5. MAINTENANCE

5.01 Inspection of the cable take-up drive should be a continuous process during operation of the equipment. The operator should be alert to detect overheating, excessive leakage, and the condition of the equipment in general.

5.02 The proper lubricant level must be maintained in the gear reducer housing. To check the lubricant level, remove the level plug in the side of the housing. The lubricant in the housing should be kept to the height of the level plug. To add lubricant, remove the filler plug in the housing and add SAE90 mild noncorrosive, extreme pressure gear lubricant, as required, to fill the housing to the proper level. The level plug should always be removed before adding lubricant to prevent overfilling.

Drain the lubricant from the housing and replace with new lubricant at least once each year.

5.03 Grease the bearing (one fitting) on the outboard side of the housing with multipurpose chassis grease at least once each six months.

5.04 Lubricate the drive chain with CITGO (Cities Service) Anti-Corrode 100 or a good grade of engine oil as required. Periodically apply a light coating of oil to the threads of the torque arm to protect from rusting.