BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G93.250.1
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E CABLE LASHER
INSTALLATION

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1. GENERAL

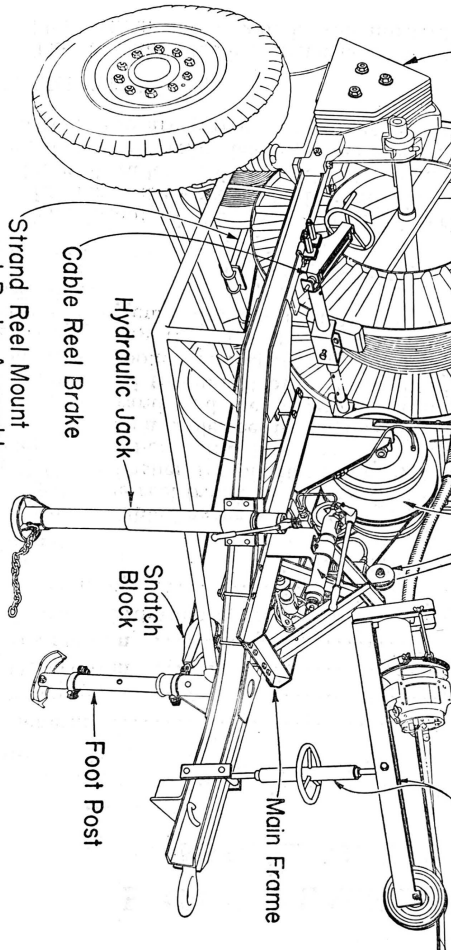
1.01 The E Cable Lasher is used in conjunction with a standard cable reel trailer of the PWD, PCP or PWCP type and a C Cable Lasher for placing cable by the method known as prelashing. When using this method, a C Cable Lasher is held stationary on a cable reel trailer loaded with a reel of cable and a reel of strand, and the cable and strand lashed together as they are pulled through it by a winch line into cable height position on the poles. The apparatus for holding the C Cable Lasher, controlling the cable reel, supporting and controlling the strand reel, tensioning the strand, etc., is known as the E Cable Lasher.

2. SCOPE

2.01 The intent of this section is to describe the E Cable Lasher and to provide information on how to install it on a cable reel trailer. A description of the additional apparatus required such as the cable leader, cable blocks, etc., and instructions on their use are provided in other sections.

3. DESCRIPTION

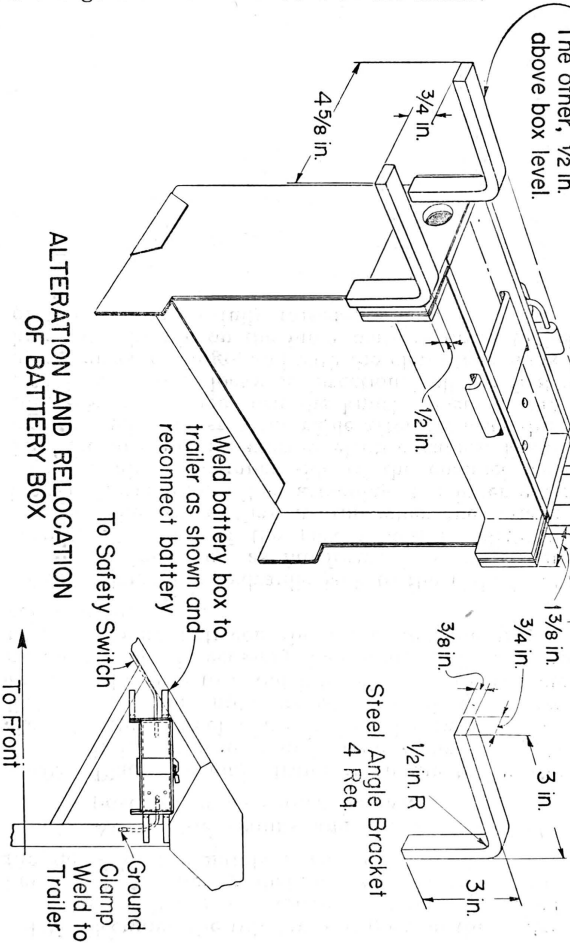
3.01 The E Cable Lasher consists of a number of assemblies which are shown in the illustrations that follow.



4. INSTALLATION

4.01 Refer to the following illustrations and mount the various assemblies in the order in which they are mentioned in the text.

4.02 If the trailer is equipped with an electric brake battery box located inside the frame of the trailer tongue parallel to the diagonal brace it may be relocated as shown below. This will obviate the need for shifting the E Cable Lasher later when replacing a battery. The parts required for making the change are not furnished with the lasher.



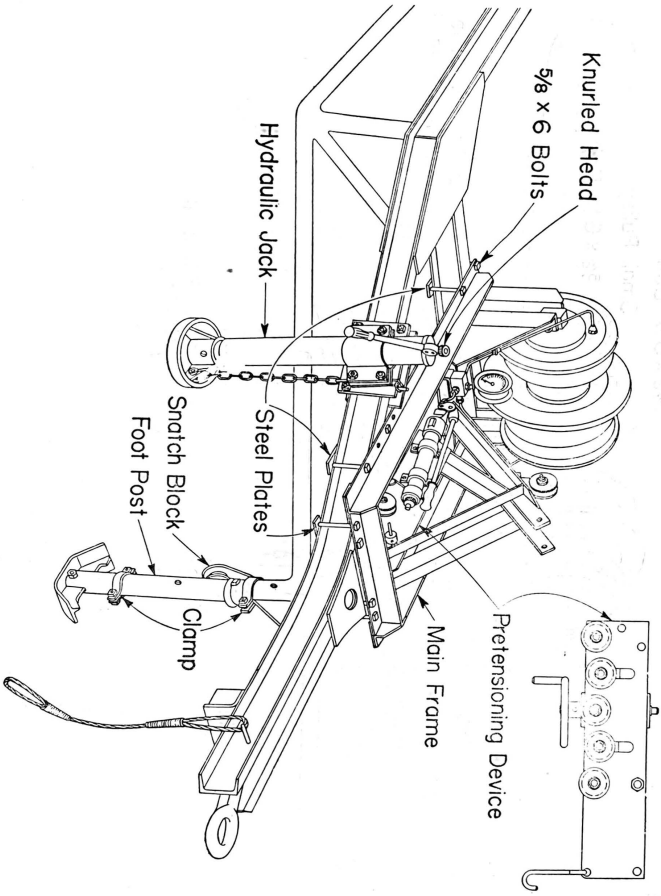
4.03 Remove the tubular foot post on the trailer and replace it with the new longer foot post furnished. Adjust the height of the newly installed foot post so that the trailer tongue is approximately horizontal.

4.04 Attach the clamps and the snatch block to the foot post holder as shown below.

4.05 Place the main frame upon the trailer tongue so that it is centered sidewise and secure it in place with the six 3/8" thick steel plates using the twelve 5/8" x 6" bolts, lock washers and nuts furnished, as shown below. In placing the bolts be sure to avoid interference with any electric cables on the trailer. If necessary, loosen and pull slack into the cable, pass the bolts between the cable and the trailer frame and refasten the cable.

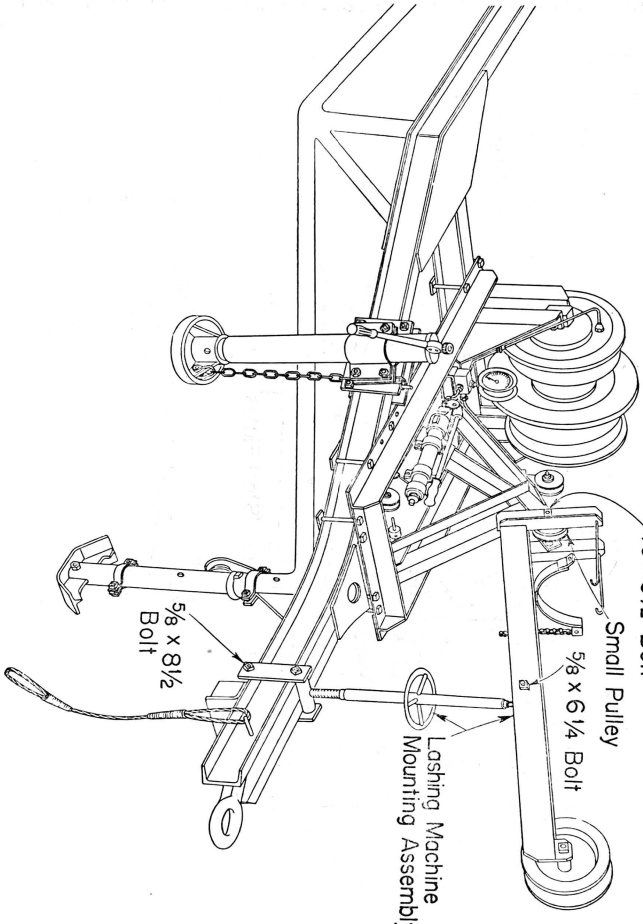
4.06 Clamp the hydraulic jack to the right-hand side of the trailer frame as far forward as the lasher frame will permit. The foot of the jack should be slightly nearer the front of the trailer than its top when the tongue is approximately horizontal. When attaching, the inner plate should be placed against the inner side of the channel frame member. If there are any interfering electric cables, loosen them and pull in slack. Refasten the cable after securing the plate. After the jack is attached turn the knurled head at the top of the jack in a counterclockwise direction, pull the foot of the jack up as far as it will go, and with the chain taut, hook the nearest link onto the pin on the inner plate in order to hold the foot of the jack in its fully raised position.

4.07 Secure the Pretensioning Device Assembly to the Main Frame with the bolts, nuts and washers furnished.



4.08 Remove the 5/8" x 5-1/2" bolt, sleeve and small pulley from the Lashing Machine Mounting Assembly. See that the pulley bearing is packed with cup grease. Place the pulley in the opening at the top of the Main Frame Assembly

and pass the sleeve through it in order to hold it in place. Then connect the Lashing Machine Mounting Assembly to the Main Frame Assembly as shown in the figure below.

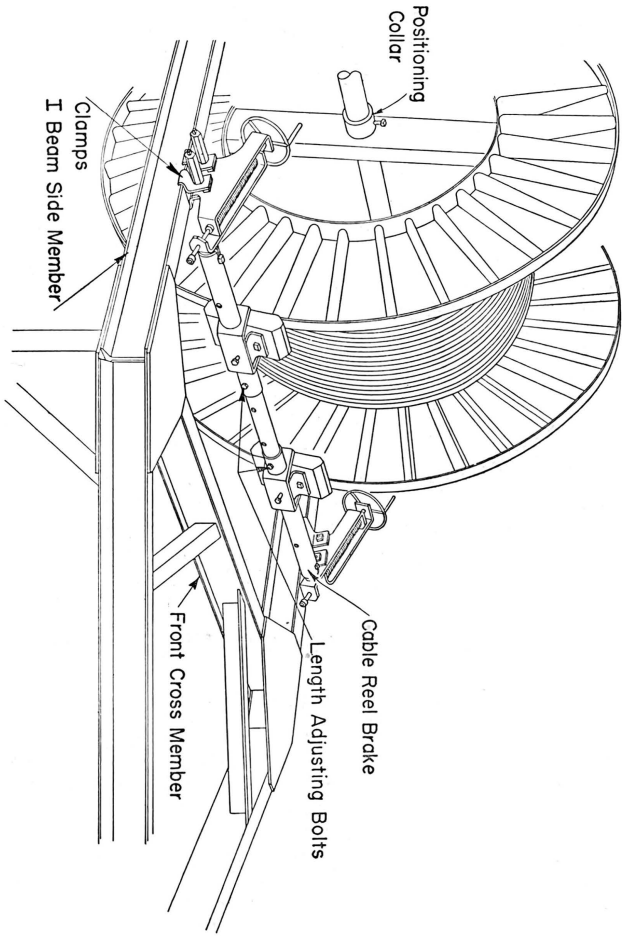


4.09 Attach the Frame Assembly using the four 1/4" x 3/4" bolts, lock washers and nuts furnished, as shown below.

Frame Assembly
Two 1/4 x 3/4 Bolts
Cable Guide Assembly
1/4 x 1 1/8 Cap Screw

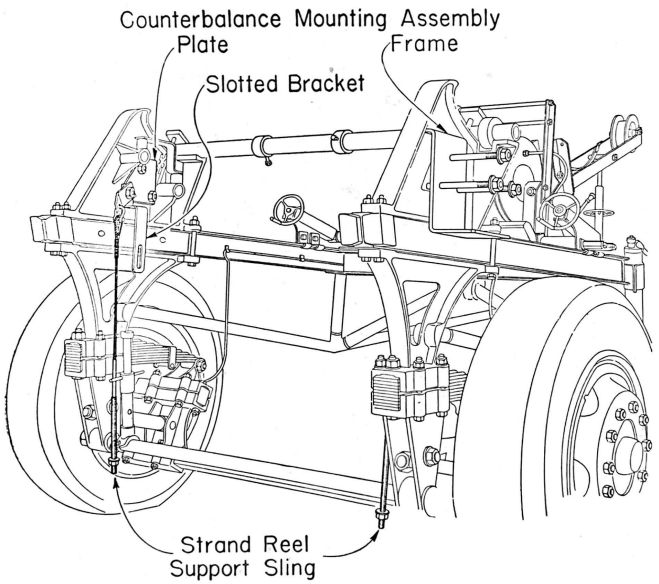
4.10 Pass the Cable Guide Assembly through the Frame Assembly and attach it to the Lashing Machine Mounting Assembly as shown above, using the two 1/4" x 1-1/8" cap screws furnished.

4.11 Attach the cable reel brake as shown below. To do this, first attach the two clamps to the I-Beam side members of the trailer so that they are equidistant from the front cross-member. Then slide the brake shoes over the ends of the telescopic tube, remove the two length-adjusting bolts and adjust the length of the tube so that its ends can be slipped over the horns on the clamps. The slotted ends of the tube should register with the bolts on the horns. Then adjust the telescopic tube so that the length adjusting holes register, pass the two length-adjusting bolts through them and secure in place with nuts. The brake shoes are positioned later when the cable reel is in place.



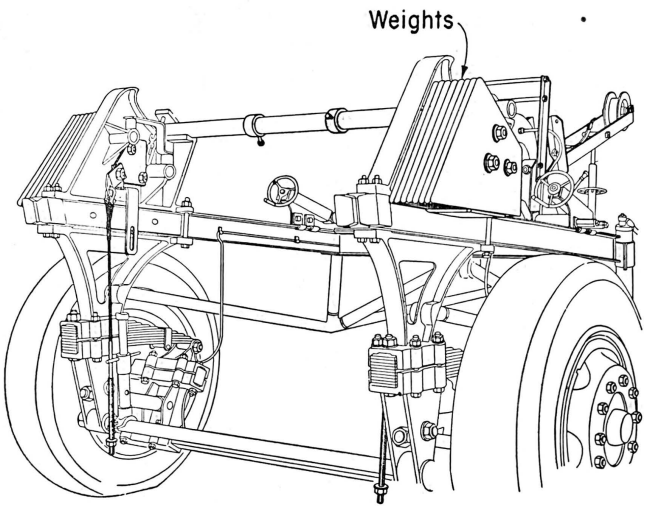
4.12 Remove the cable reel spindle bar from the trailer, slide the two positioning collars onto the spindle bar, as shown above, lock them in place with the 1/2" diameter x 1" long set screws furnished and restore the spindle bar to its normal place on the trailer. These collars are for use later in positioning the cable reel on the spindle as shown.

4.13 Place one of the frames of the Counter Balance Mounting Assembly against the outer side of one of the saddle castings on the trailer so that its wider flange is at the bottom and so that the ends of the short bolts associated with it protrude through the opening in the casting as shown below. Place the plate with the three 7/8" diameter holes on the inner side of the casting so that the three holes register with the three bolts in the frame. Place the slotted bracket and the bent washer on the end of the Strand Reel Support Sling over the end of the rear-most of the three bolts and then secure these and the Counter Balance Mounting Assembly in place with the lock washers and nuts furnished, as shown below. Mount the Counter Balance Assembly for the other side of the trailer in the same manner.

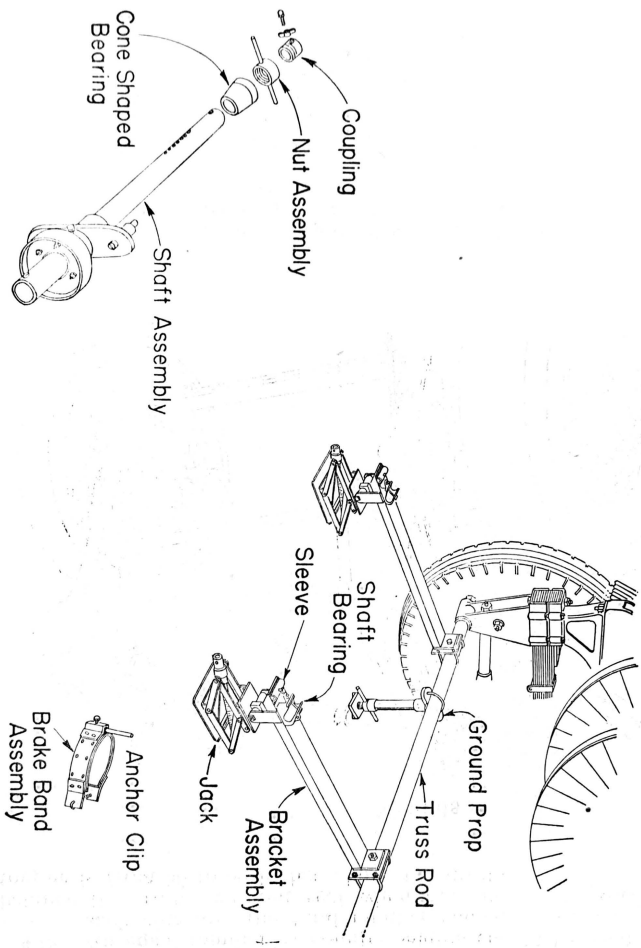


4.14 Slide the required number of counterweights over the protruding bolts of the Counter Balance Mounting Assembly and secure them in place with the lock washers and nuts furnished as shown below.

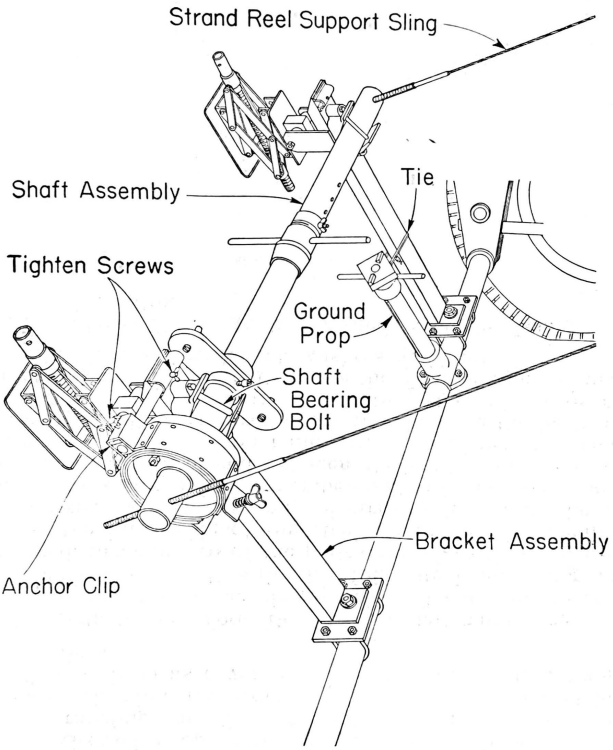
4.15 An equal number of counterweights should be used on each side and the total number should be such as to balance the trailer without reel when the end of the towing tongue is from 50 to 60 inches above the ground.



4.16 Slide the trailer ground prop to one side and connect the two bracket assemblies to the truss rod at the rear of the trailer as shown below.



4.17 Slide the cone shaped bearing, the nut assembly, and the coupling shown above onto the shaft assembly. Place the coupling so that the screw with the wing nut registers with one of the holes in the shaft, secure the coupling to the shaft with the screw and tighten its wing nut. Place this assembly in the bearings on the two bracket assemblies and lock it in position with the Shaft Bearing Bolts furnished as shown below.

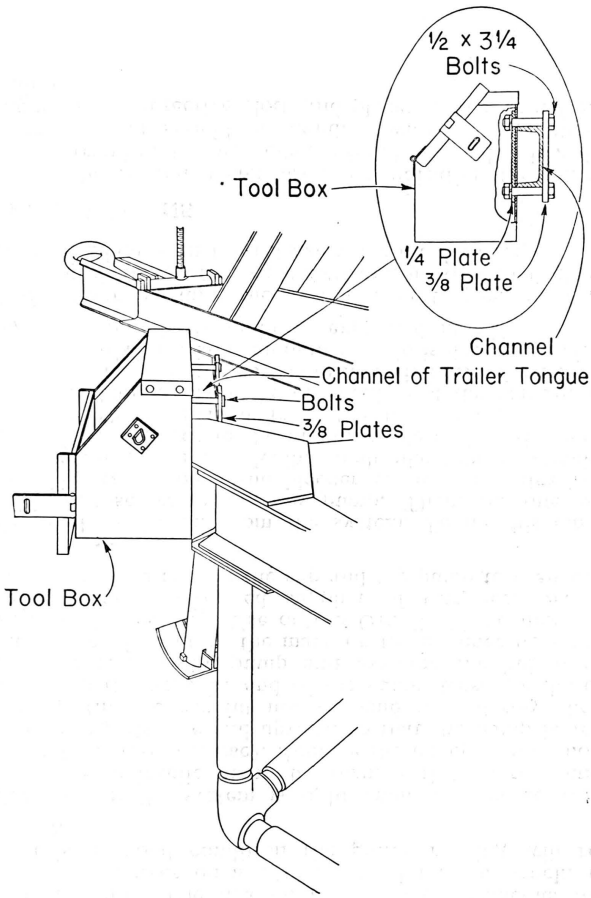


4.18 Place the brake band assembly over the brake drum on the shaft so that the 5/8" diameter rod extending from the anchor clip on the Brake Band Assembly is in the sleeve at the top of jack as shown above. Secure the rod with the screws.

4.19 With the jacks adjusted to their lowest position, raise the combined Bracket and Shaft Assemblies, pass the ends of the Strand Reel Support Sling through the end holes of the Shaft Assembly and secure in raised position with washers and nuts on the ends of the slings as shown above. Tie the Ground Prop to the Bracket Assembly with marline. (When traveling the Shaft Assembly is removed and carried on the truck while the Bracket Assemblies are secured in the traveling position as covered in a section of the G52 group of the practices.)

4.20 Attach the Tool Box to the left-hand side of the trailer tongue as shown below. To do this insert the four bolts associated with the four steel mounting plates furnished, through two of the plates and place these two plates against the inner side of the steel channel frame member of the tongue. If there are any electric cables along the inner side of the channel frame member pull sufficient slack so that the plates can be placed between the cable and the channel. Place the Tool Box against the outer side of the steel channel so that the bolts pass through the four holes in the back of the Tool Box. Then place the other two steel plates over the protruding ends of the bolts inside the Tool Box and secure the assembly in place with lock washers and nuts.

4.21 Place all the tools funished with the lasher in the Tool Box.



5. TESTING HYDRAULIC SYSTEM

5.01 Close the release valve on the hydraulic pump of the lasher by turning the knurled knob to the right (clockwise) as far as it will go.

5.02 Build up the pressure in the hydraulic system by operating the pump handle until the gauge reads 3000. Examine the hydraulic piping system for leaks and tighten connections or replace parts where necessary. Replacement parts may be obtained at any authorized supplier of Chrysler, DeSoto or Dodge parts. All fittings are the inverted flared type for 1/4 inch tubing. The flexible tubing is the same as for the front wheel brakes on a 1949 Dodge 1-1/2 ton truck. If the system is in good condition the gauge reading will remain constant.

5.03 When the system is tight open the release valve on the hydraulic pump by turning the knurled knob to the left (counterclockwise). Remove the clamps which hold the pump and tip its free end upward so that the pump is vertical. In doing this be careful not to bend too sharply the tube attached to the opposite end of the pump. Unscrew the cap at the upper end of the pump and examine the height of the fluid. It should be up to the mark on the cylinder near the top. Add fluid if necessary. Use only"MOPAR" brake fluid obtainable from any authorized supplier of Chrysler, DeSoto or Dodge parts and restore the cap and the pump to their original positions.

5.04 Bleed the air from the system. To do this close the release valve on the pump. Then, on one of the hydraulic brakes, open the bleeder valve. This valve is close to the point where the flexible hydraulic tube is attached to the brake. Now operate the pump handle and when there is a continuous flow of fluid from the bleeder close the valve. The pump handle should be operated until the valve is closed in order to prevent air from entering. Similarly bleed the other brake. If any appreciable amount of fluid is drained in bleeding, check the fluid level again as explained in 5.03.

5.05 After bleeding the system operate the pump handle until the gauge reads 3000 and make a final check for tightness. Then open the release valve on the pump.

6. PRECAUTIONS

6.01 The Strand Meter used for indicating the amount of strand and cable pulled through the lasher is a delicate instrument and should be handled with care. It should be wrapped in a protective cloth and placed in the Tool Box until required.

6.02 When removing the E Cable Lasher from the trailer, remove the various assemblies in the reverse order of that followed in mounting. This will result in removing the weight on the rear of the trailer first and prevent any tendency for the trailer to tip over.

6.03 For traveling, remove the Shaft Assembly including the brake from the Strand Reel Mount at the rear of the trailer and fasten the Bracket Assemblies to the Slotted Brackets with the bolts furnished. To do this, pass the bolts through the Sleeves on the Bracket Assemblies and the slots in the Slotted Brackets. Carry the Shaft Assembly with the brake on the towing trucks.