

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G92.360.1
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AT&T Co Standard

PM FRAME

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1. GENERAL

1.01 This section covers the inspection, assembly and lubrication of the PM frame. The use of the frame is described in Sections of the G21 group of Practices.

1.02 This section replaces Section J6.144.

1.03 By the use of the PM frame and either a T, M or MA type derrick a pole can be pulled out of the ground and held steady without temporary guying, while the construction truck moves the pole to its new position. The pole is lowered into the new hole by the same equipment.

1.04 The PM frame should not be used with the HCT 45 earth boring machine derrick or the front mounted derrick.

1.05 When using the frame with the T type derrick, the derrick shall be equipped as follows:

- (a) The upper section of the derrick main leg shall be of the heavy type, i.e., having only one tubing insert within it at the lower end. If the upper section of the derrick

main leg has two thin tubing inserts, it is of the light type and should not be used.

(b) The rigid type front brace shall be used. This brace attaches to the winch housing instead of to the floor of the truck.

(c) The long type prop extension is required. This extension has two sleeve spacers and is 10 feet long instead of 7 feet, which is the length of the older type short prop extension.

1.06 The PM frame can be used with the M and the MA type derricks without any special equipment. However, these derricks must be operated in the truck position and the poles pulled out of the ground with a pole jack or another truck equipped with a derrick in the ground position.

2. SAFETY PRECAUTIONS

2.01 Inspect all parts of the frame in accordance with Part 4 before attaching to the truck.

2.02 When assembling the head section into the frame or adjusting the length, always hold the collar so that the fingers can not be caught between it and the cage.

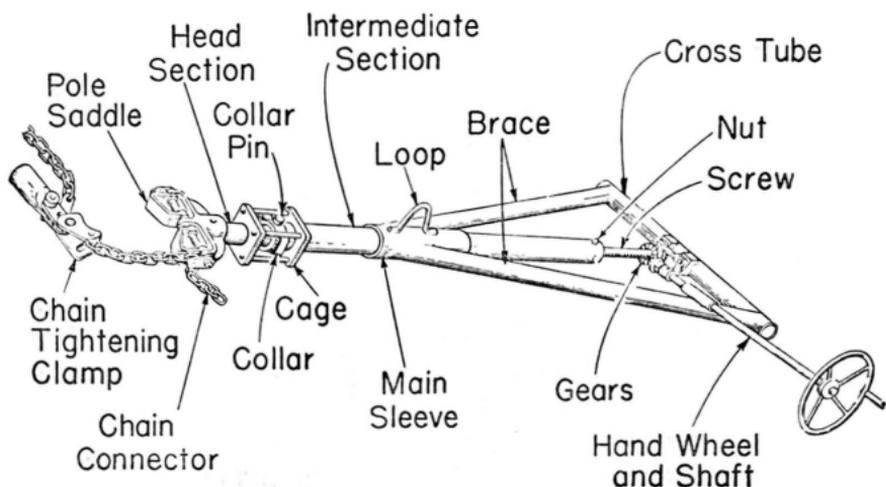
2.03 When attaching the frame to a truck do not grasp the spindle near the end of the cross tube of the frame or the spindle castings on the truck body as the skin of the hands may be pinched at these points.

2.04 After the frame has been attached to the truck, make sure that the spindle pin is through the spindle and its supporting casting and that the collar pin is in position and locked in the head collar section.

2.05 Exercise care in positioning the pole saddle and chain tightening clamp to prevent injury to the hands.

3. NAMES OF PARTS

3.01 The following figure shows the various parts of the frame.



4. INSPECTION

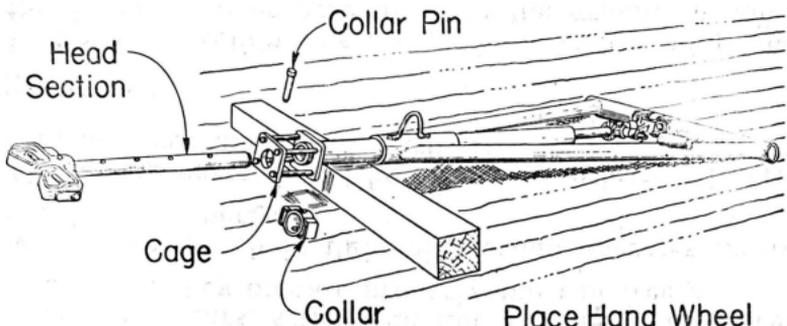
- 4.01 Check the tubing members for bends, flat spots, cracks and other evidence of defects that may make the frame unsuitable for use.
- 4.02 Check the gears, screw and nut and the hand-wheel to see that they operate properly and run freely.
- 4.03 Make sure the chain tightening clamp operates freely and locks properly.
- 4.04 All moving parts should be properly lubricated. Lubricate in accordance with Part 11.

5. ASSEMBLING

5.01 If the head section was removed for transporting and the frame is to be assembled on the ground, a small block, such as a guard arm, should be placed under the main sleeve as shown in the following figure.

5.02 Assemble the head section into the frame as shown below.

ASSEMBLY OF HEAD SECTION INTO FRAME (SEE PARAGRAPH 2.02)



- (1) Place Collar in Cage with pin hole vertical.
- (2) Insert tube of head section through collar and into frame. Insert pin through collar from top at desired location and lock it in place.

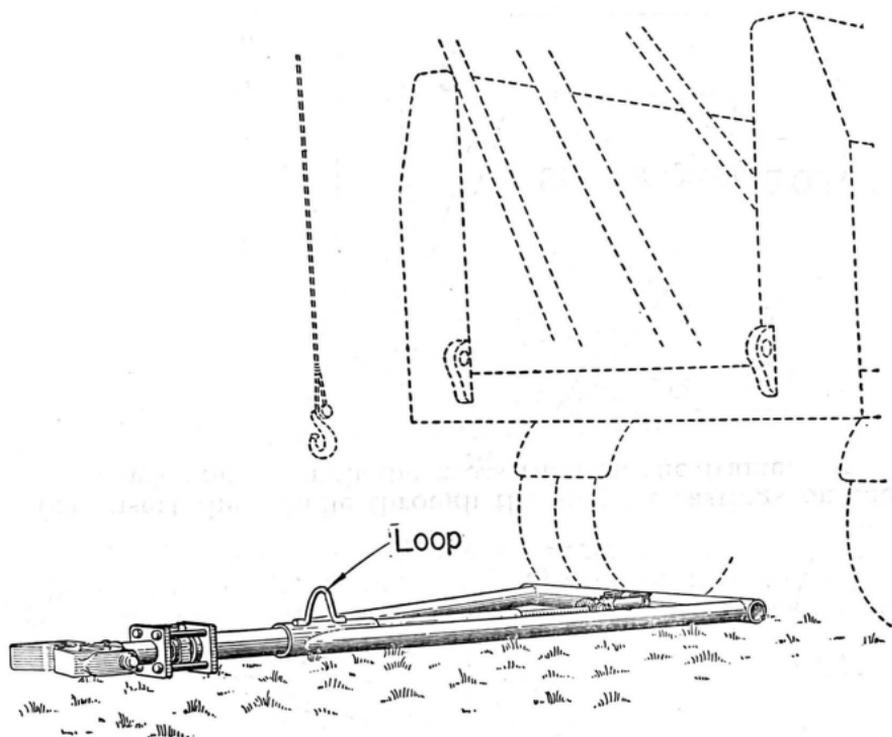
Place Hand Wheel and Shaft after Frame is attached to truck.

THE ABOVE INFORMATION IS FOR INFORMATION ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSE.

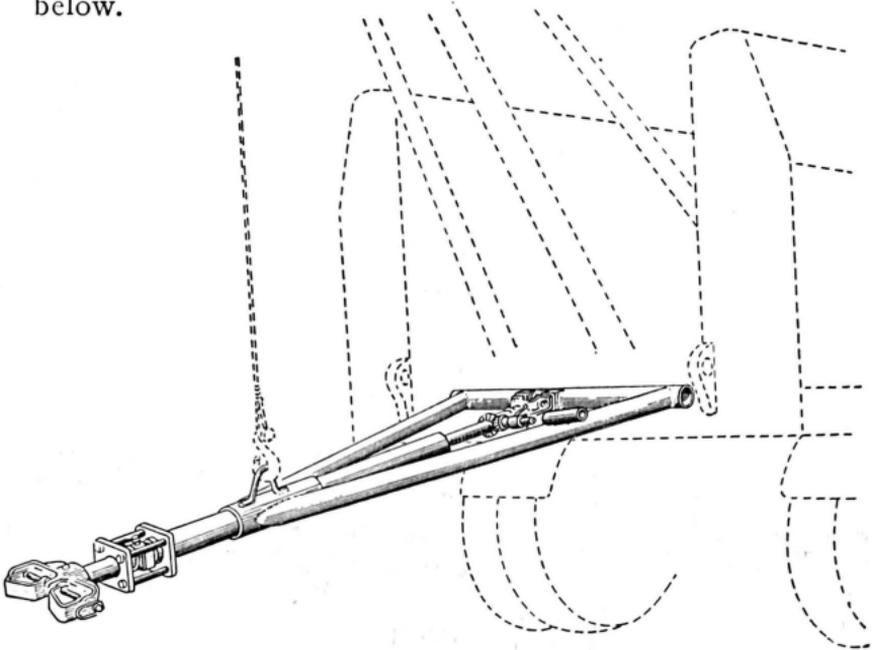
6. ATTACHING TO THE TRUCK

6.01 Attach the frame to the truck as follows:

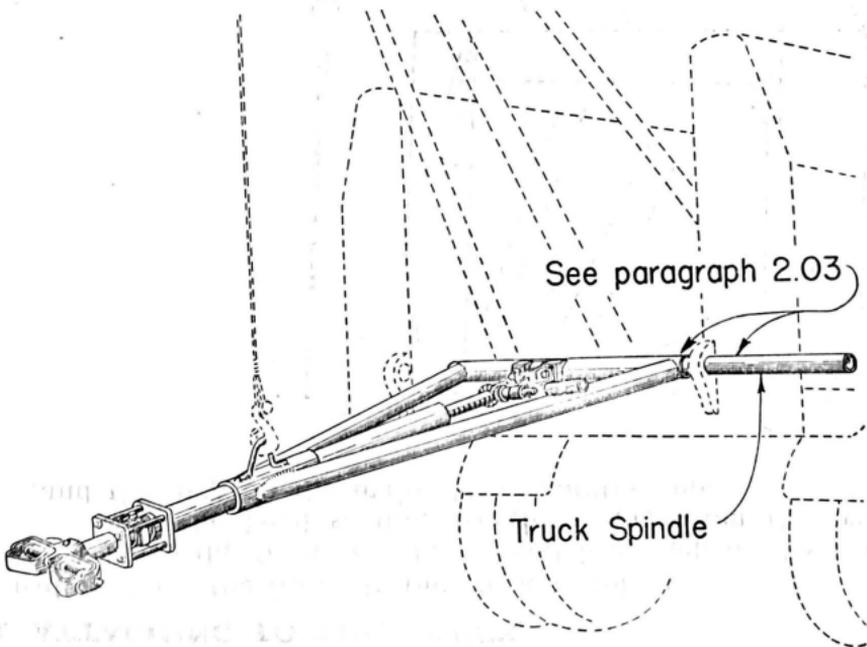
- (a) Place the frame on the ground just back of the truck with the head section pointing away from the truck and the loop on the main sleeve pointing up.



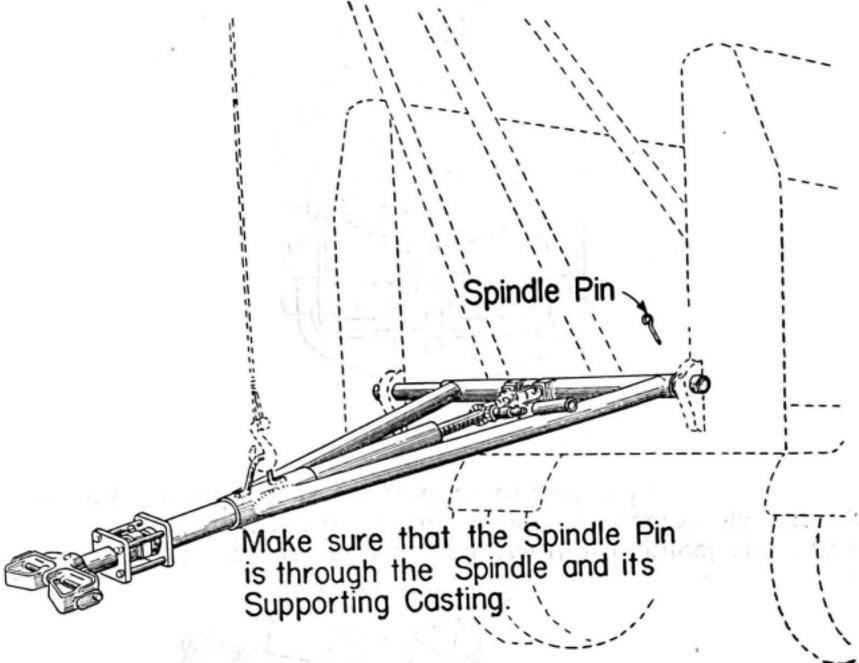
(b) Attach the winch line to the PM frame and take up on the winch line to raise the frame to the position shown below.



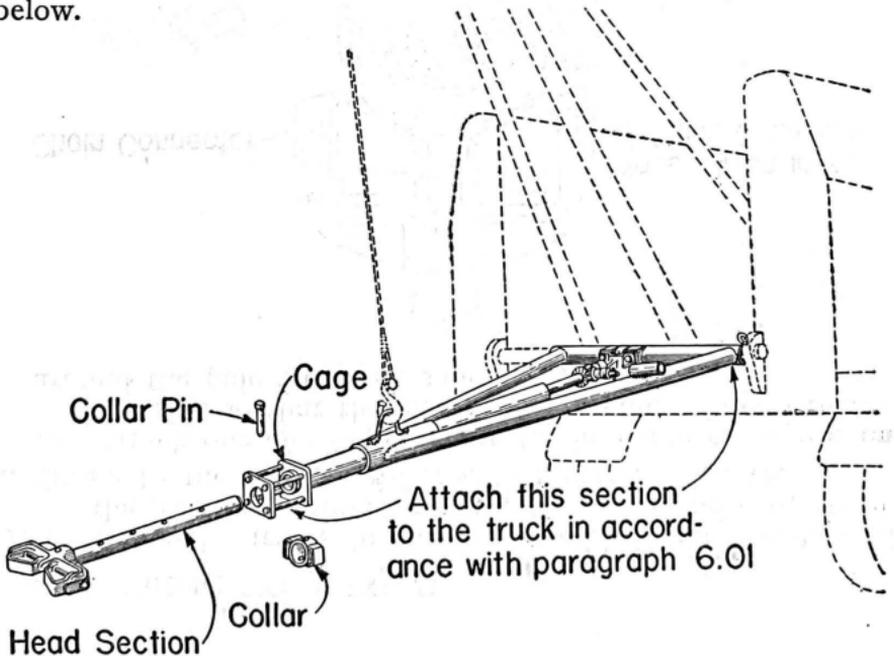
(c) Insert the spindle through the support castings on the truck and through the cross tube on the frame.



- (d) After the spindle is in position place the spindle pin through the spindle and its supporting casting.



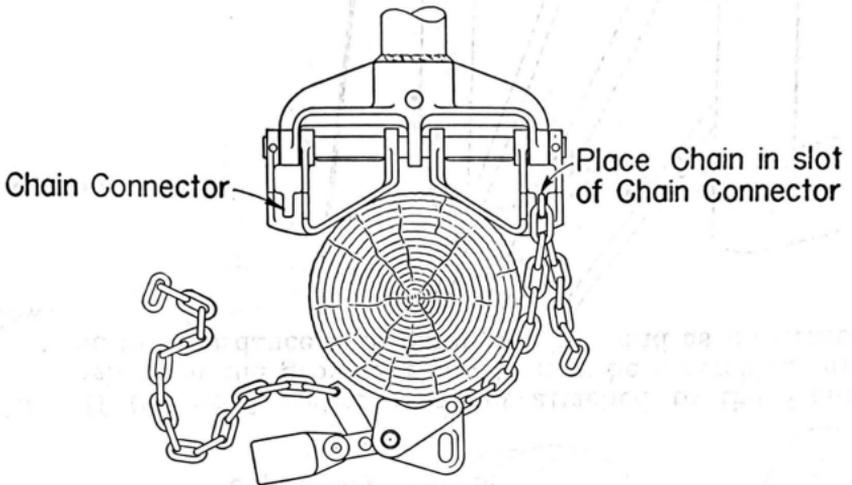
6.02 If the head section was not attached to the frame when on the ground it should now be assembled into the frame in accordance with paragraph 5.02 and as illustrated below.



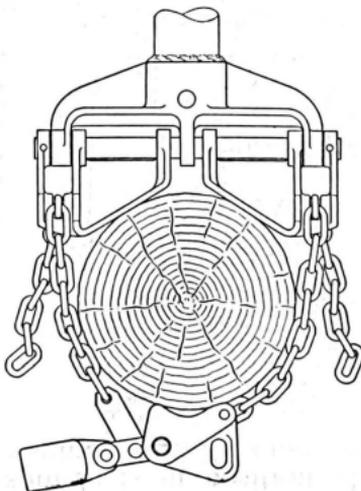
7. ATTACHING TO A POLE

7.01 After the frame has been assembled and attached to the truck as outlined in paragraphs 5.02 and 6.01, attach the frame to the pole as follows. See paragraph 2.05.

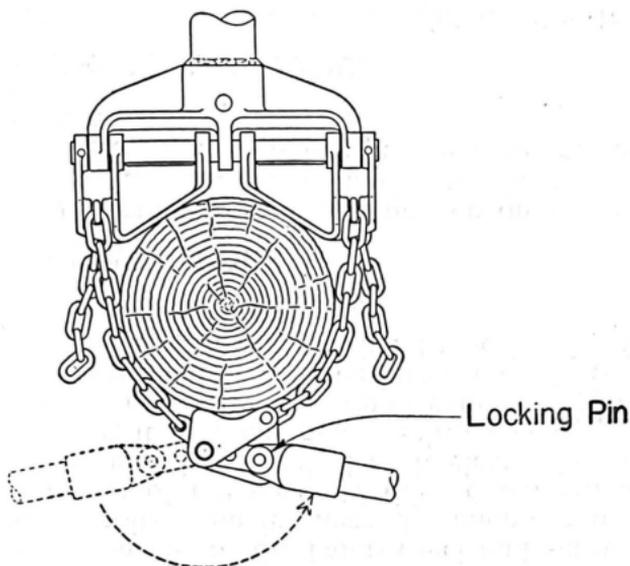
- (a) Attach one end of the chain to the chain connector on one side so that the clamp is at a point about halfway around the pole from the saddle.



- (b) With the clamp in the open position connect the other end of the chain to the other connector as tightly around the pole as is convenient to fasten it.



- (c) Place the clamp handle in the clamp and operate the handle through an arc of 180° as shown below.



- (d) Be sure that the locking pin of the clamp snaps down into the locked position. Check this by attempting to swing the handle back toward the unlocked position.

7.02 The frame must be securely attached to the pole before any attempt is made to pull the pole so that if it should break at the ground line during the pulling operation the pole and its load will still be firmly held. If the chain is not tight enough, release the clamp by pulling up on the locking pin and swinging the handle to the released position. Take up one link on the chain and reset the clamp.

8. ADJUSTMENT

8.01 There are two points at which the length of the frame may be adjusted as follows:

- (a) At the head section collar, by removing the pin and moving the head section until the hole in the collar is in alignment with one of the other holes in the head section tube.
- (b) At the base of the intermediate tube by means of the screw operated by the hand-wheel.

8.02 The adjustment at the head section collar is used to make the frame the proper length for the particular derrick arrangement being used. The adjusting screw is used to change the length of the frame, if necessary, during the pole raising and lowering operation. This adjustment prevents binding of the pole against the sides of the hole as the outer frame end moves through an arc while the pole rises in a straight line. The adjustment also permits the pole to be accurately placed over a hole and lowered into it even if the truck can not be stopped at the exact location. The frame can be used to push or pull on the butt of the pole to counteract any pull created by the aerial plant when the pole is moved out of line.

8.03 To adjust the frame to the proper length after the derrick is in position proceed as follows:

- (a) Operate the hand-wheel, turning it counterclockwise to shorten the frame and clockwise to extend it until about 12" of the screw are exposed. This will permit a 12-inch adjustment either toward or away from the truck.
- (b) Adjust the effective length of the head section by means of the collar until the pole saddle is approximately under the derrick sheave when the collar is at the midpoint of its travel in the retaining cage.

8.04 In normal operations the length of the frame should be adjusted by means of the hand-wheel and screw so that the head section collar remains near the midpoint of its travel during the pulling of the pole. By this adjustment any movement of the pole butt is controlled as it clears the hole. In some cases, however, it may be found desirable to push or pull on the butt of the pole with the frame while the pole is being pulled out of the ground or lowered into a hole. This can be done by adjusting the length with the hand-wheel and screw until the desired position is secured.

9. DETACHING FROM A POLE

9.01 To detach the frame from a pole pull up on the locking pin and swing the clamp handle to the unlocked position. Either or both of the chains can then be removed from the chain connectors. See Part 7.

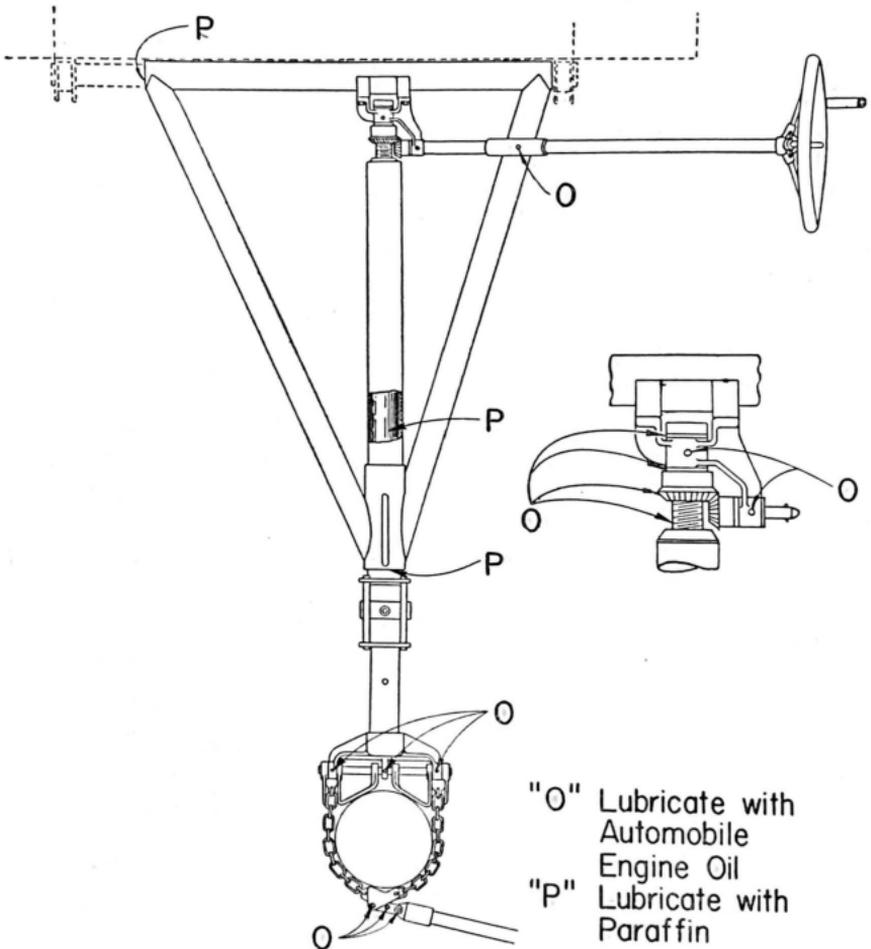
10. DETACHING FROM THE TRUCK

10.01 Remove the hand-wheel and then detach the frame from the truck in a reverse manner from that outlined in paragraph 6.01.

11. LUBRICATION

11.01 Lubricant is required at several points on the frame as shown in the figure below. Any good grade of engine oil is satisfactory.

11.02 Lubricate the tubing members and the spindle bar as required by rubbing with a block of paraffin.



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