BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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All Area

POWER OPERATED HYDRAULIC POLE JACK

Contents

1. GENERAL

1.01 This is a new section that describes the Power Operated Hydraulic Pole Jack. It outlines the procedure for pulling poles and pole butts or moving poles.

1.02 This hydraulic jack is for use with trucks having hydraulic derricks and equipped with hydraulic outlets for connecting the jack hoses.

1.03 The jack is used principally to start or loosen a pole or pole butt when the pull would overload the derrick.

2. SAFETY PRECAUTIONS

2.01 When using the jack always be sure that the chain link seats properly in the chain locking ear and that the foundation is firm before applying pressure.

2.02 Be sure to keep the surplus chain from between the jack hose connections.

2.03 Always keep the caps and plugs in place on the respective truck, jack and hose couplings.

2.04 Keep the couplings clean, as dirt particles in a coupler will be forced into and damage the truck's hydraulic system.

2.05 The pressure on the jack must be released before uncoupling the hoses from the jack or the truck.

2.06 Remove the jack from the pole before lifting the pole from the hole with the derrick.

2.07 Do not permit the jack to tilt so that the load is shifted to the base "T" support. If this happens, stop the operation and rebuild the foundation. If the operation is allowed to continue the "T" support will be damaged and the lower pipe connection broken.

3. DESCRIPTION

3.01 The jack will handle loads up to 15 tons. The lifting power depends upon the pressure output of the truck's hydraulic system.

3.02 Generally, this pressure is regulated to around 1000 pounds per square inch. At this pressure the jack will lift about 28,000 pounds.

3.03 The jack has a double acting hydraulic ram or shaft with a chain-locking ear on top.

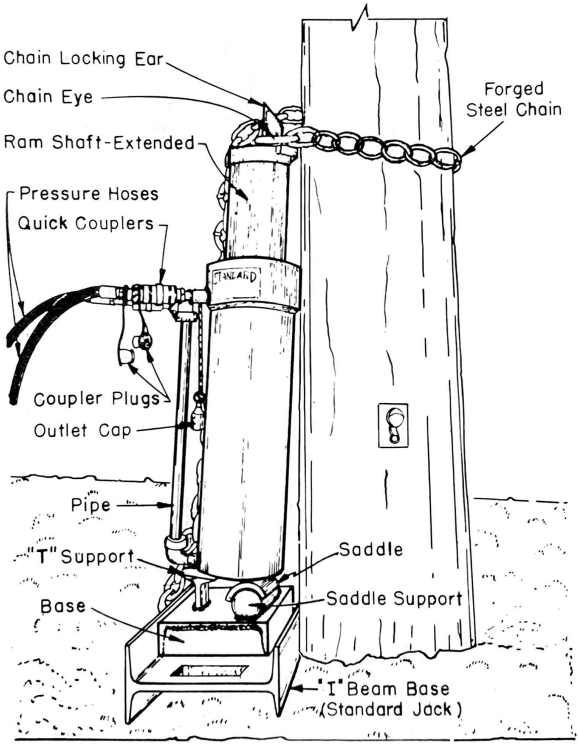
3.04 The base is detachable and has a saddle support to permit the jack saddle to tilt as the pole is raised or lowered.

3.05 The pipe supplies pressure fluid to the bottom of the jack from the hose connection. It is also the carrying handle.

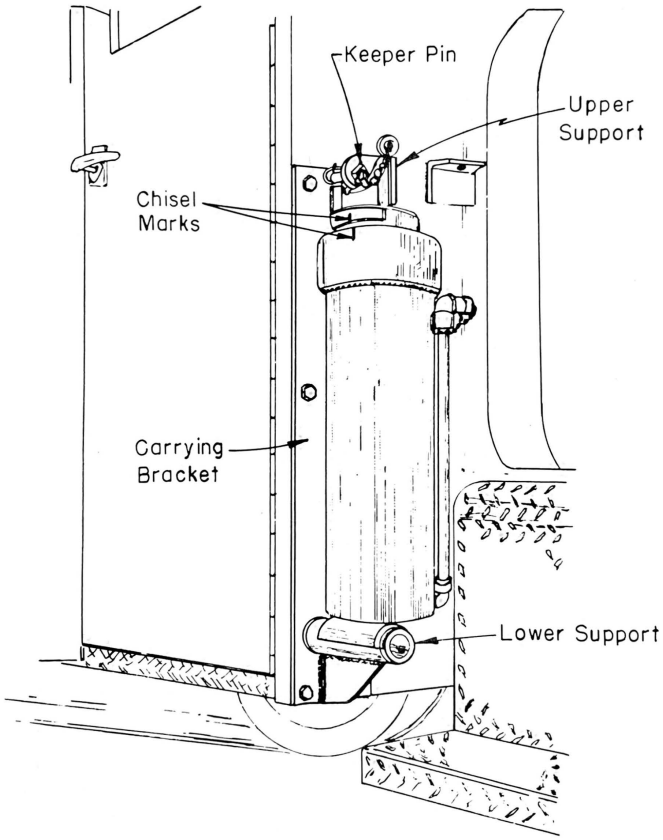
3.06 Two high pressure hoses are required for connecting the jack to the truck hydraulic outlets. Each hose is 15 feet long, filled with hydraulic fluid and has quick-couplers and rubber protector plugs at each end.

3.07 The jack uses a forged steel chain having a specially shaped eye that fits snugly over the ram's locking ear under the link of the chain around the pole.

3.08 Sketch - name of jack parts.



3.09 A special bracket is mounted on the truck in a convenient location for carrying the jack. The detachable base is stored in the truck bed. The sketch shows one way to mount the bracket on a truck.



4. OPERATION

4.01 When a jack is assigned to a truck, the cab controls should be checked for direction of jack operation and the hoses connected accordingly. Mark one truck and jack coupling to preserve the identity. Always connect the same hose to like markings. The ends of one hose may be marked with the same marking material.

4.02 Place a chisel mark on top of the ram shaft and near the edge of its housing collar. These marks coincide when the ram is in position to fit the truck carrying bracket. Position the ram as the pressure is being released, otherwise the ram cannot be turned.

4.03 Uneven or sloping surfaces at the pole should be smoothed and leveled.

4.04 When the ground around the pole is soft, planking or portions of crossarms may be required under the I beam base to provide a better foundation.

4.05 Set the jack on the firm foundation adjacent to the pole to be removed.

4.06 Connect the hoses to the truck and jack outlets.

4.07 Fit the chain eye over the jack ear and pass the chain around the pole in a plane as nearly opposite the jack ear as possible. Apply a clockwise twist to the chain to aid in tightening and to lessen the rolling action on the pole surface when the jack is operated.

4.08 Attach the derrick line to the pole for support and so that the removal operation can be continued and completed with the derrick after the jack has started the pole.

4.09 Have the cab operator move the control lever to apply pressure to the jack until the top of the stroke is reached. The ram will raise about 18 inches and the pole about 15 inches.

4.10 Between strokes hold the lifted pole with the derrick line if needed.

4.11 After each stroke release the jack pressure enough to loosen the chain.

4.12 Disconnect the chain link from the jack and lower the ram for another stroke.

4.13 Reattach the chain and repeat the lifting operations with the jack until the pole can be handled without overload to the derrick.

4.14 Remove the jack from the pole as soon as the derrick can handle the pole.

4.15 Completely release the pressure on the jack before uncoupling the hoses from the jack or the truck.

4.16 Uncouple the hoses from the jack and the truck one at a time. Place each plug and cap on the respective connectors as soon as the disconnect is made.

4.17 Form the hoses into small coils and store in a truck bin.

4.18 The bin must be free from sharp or pointed tools.

4.19 When the jack is used to move a pole, snub the bottom of the jack housing, under the pipe, to the base of the pole with a 3/4 or 1-inch manila rope. Use the smallest of these 2 sizes of rope that is standard in your area.

4.20 Slack off on the snub, as desired, to control the movement of the pole.

5. MAINTENANCE

5.01 When the jack is used in a dusty location, wipe the ram with a clean cloth as the pressure is released to remove any dirt.

5.02 If dirt gets into a coupler, clean it thoroughly before using it again.

5.03 Arrange with supplier for repairs.