

**POLE TRAILERS**  
**GENERAL**

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**1. GENERAL**

1.01 This section describes the single-axle, balanced-load type pole trailers used in the Bell System to transport poles to and from work locations. Information is also given on the available optional equipment as well as the required inspections and maintenance routines for the trailer and its safety systems.

1.02 This section is reissued to include the MP and HP Trailers, the Eagle 8000 Trailer, and the Baker Models P-MD and P-HD Trailers. Since this is a general revision and update, arrows normally used to indicate changes have been omitted.

- 2.03 Do not load the trailer beyond its rated load capacity.
- 2.04 Poles shall be loaded and fastened as outlined in Section 621-200-203, Loading and Binding of Poles on Pole Trailers.
- 2.05 Always chock the front of both trailer wheels before disconnecting the trailer from the towing vehicle. If there is a downgrade, chock both wheels on the downhill side before uncoupling the trailer.
- 2.06 Visually inspect the tires for under inflation and defects. Inflate to proper pressure as required.

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**2.07** Before moving a trailer, be certain the tongue support is raised and secured. Secure handles, stanchions, cables, and ropes before moving the trailer over the road.

**2.08** After coupling the trailer to the towing vehicle, be certain that the latch of the towing hook is closed and locked and that the safety ropes are properly connected. Make sure the electric jumper cable is properly connected. Be sure sufficient slack is provided in the electrical cable, safety chains, and hydraulic or electric breakaway cables to permit turns to be made. Support excess slack with the holders, if provided, or with drive rings placed in the poles.

**2.09** When towing a loaded pole trailer, continually observe the load and stop immediately if the load shifts, the binders loosen, or any other unsatisfactory condition develops.

**2.10** After towing a loaded pole trailer for several miles, stop and examine the binders for security; retighten if necessary.

**2.11** Display lights, flags, and reflectors on the end and sides of the pole load as required by state, local, or company work practices.

**2.12** Do not use the winch line from the truck-mounted winch to bind a load of poles. Also, do not use the winch line as a safety rope.

**2.13** Poles must be loaded so that 10 percent of the total weight is acting vertically downward on the towing hook.

**3. DESCRIPTION OF TRAILERS**

**3.01** All the pole trailers described in this section are single-axle, balanced-load type trailers with pneumatic tires and semielliptic leaf springs.

**3.02 P3T Trailer:**

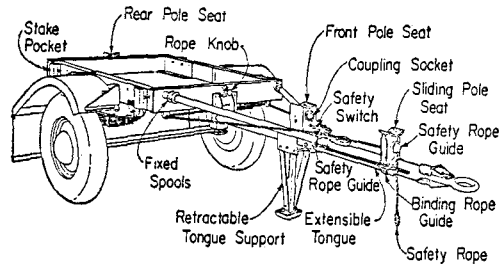
(a) The P3T Trailer (see Fig. 1) is a light-duty combination cargo and pole trailer. The box-type body is approximately 45 inches wide by 60 inches long. Standard equipment includes electric brakes and a breakaway system for automatically applying the trailer brakes in the case of an accidental truck-trailer separation while moving. Accessories include reflectors, stop and tail lamps, turn signals, a license plate

bracket (standard on late models), a safety rope and guides, a retractable tongue support, fixed rope spools on the diagonal tongue braces that serve as pads for the rope of a portable pole binder, and a rope knob for anchoring the binder rope.

(b) The P3T Trailer may be equipped with the following optional equipment:

- (1) Front and rear King Pole binders for securing the King Pole to the pole seats.
- (2) Load binder and rope knobs attached to the rear framework for binding the pole.
- (3) Portable pole binder for securing the poles at the front.
- (4) Short stake assembly to prevent poles from rolling off the trailer when the load binders are slacked off. The stakes are retractable and can be dropped down flush with the top of the body.
- (5) Fenders and fender flaps.
- (6) Extensible tongue and a sliding pole seat.

The pole seat is equipped with guides for the safety rope and the binder rope. The adjustable pole seat permits placing the seat to suit the various lengths of poles carried. The extensible tongue is provided with jumper cable supports for supporting the cable when the tongue is extended. The tongue, when extended, increases the length of the trailer approximately 9 feet and eliminates the need for a King Pole and drawbar when hauling poles up to 35 feet long.



**Fig. 1—P3T Pole Trailer**

### 3.03 P8T Trailer:

(a) The P8T Trailer (see Fig. 2) is a medium-duty combination cargo and pole trailer. It is equipped with a box-type cargo box approximately 4 feet wide by 6 feet long. At each end of the body are steel channel bearers (bolsters) for seating the King Pole. Standard equipment includes electric brakes, a breakaway system, reflectors, stop and tail lamps, turn signals, and a license plate bracket (standard on late models). The trailer has a safety rope, safety rope guides, and a retractable tongue support.

(b) The P8T Trailer may be equipped with the following optional equipment:

- (1) Sliding stanchions for containing the poles on the trailer.
- (2) Load binder with two rope knobs at the rear of the trailer body for pole binding.
- (3) Portable pole binder for securing the pole load at the front of the trailer.
- (4) Fenders and fender flaps.
- (5) Extensible tongue with or without a load binder rope guide and a sliding pole seat. The pole seat has guides for the safety rope and the rope binder. The adjustable pole seat permits positioning the seat to suit the various lengths of poles carried. The tongue, when extended, increases the length of the trailer 10 feet and eliminates the need for a King Pole and drawbar when hauling poles up to 40 feet long.

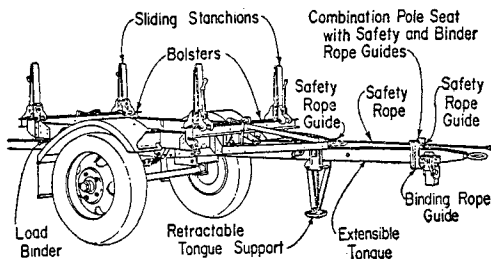


Fig. 2—P8T Pole Trailer

### 3.04 MP and HP Pole Trailers:

(a) The MP and HP Pole Trailers (see Fig. 3) are similar in dimensions and appearance. They differ mainly in tire size and tongue construction so as to increase the load capacity for the HP Trailer. Standard equipment includes electric brakes, a breakaway system, reflectors, stop and tail lamps, turn signals, and a license plate bracket (standard on all late models). Other standard equipment includes stationary bolsters with sliding stanchions, a safety rope, safety rope guides, and dual wheels for added capacity and stability. Both trailers are equipped with extensible tongues that make it possible to increase the overall length. Measured from the center line of the axle to the end of the towing eye, the trailer is 8 feet 3 inches with the tongue retracted and 20 feet 3 inches with the tongue extended.

(b) The MP and HP Trailers can be fitted with the following optional equipment:

- (1) Load binder and rope knobs at the rear of the trailer for binding pole loads
- (2) Front and rear King Pole binders for securing the King Pole to the pole seats
- (3) Portable pole binder for securing the pole load at the front of the trailer.

### 3.05 Eagle Pole Trailer—Model 8000:

(a) The Model 8000 Eagle Pole Trailer (see Fig. 4) is similar to the MP Pole Trailer. It has a fixed tongue that measures 17 feet from the front of the trailer bed to the center of the towing eye. Single wheels of smaller diameter lower the overall height of the trailer to facilitate loading.

(b) The trailer is equipped with electric brakes and accessories or it may be furnished with hydraulic surge brakes that eliminate the need for connections to the towing vehicle. Either brake system is equipped with a breakaway feature. The adjustable crank-type tongue stand can be pivoted to provide road clearance for traveling. Four sliding stanchions and a metal floor between the side frames and front and rear bolsters are standard.

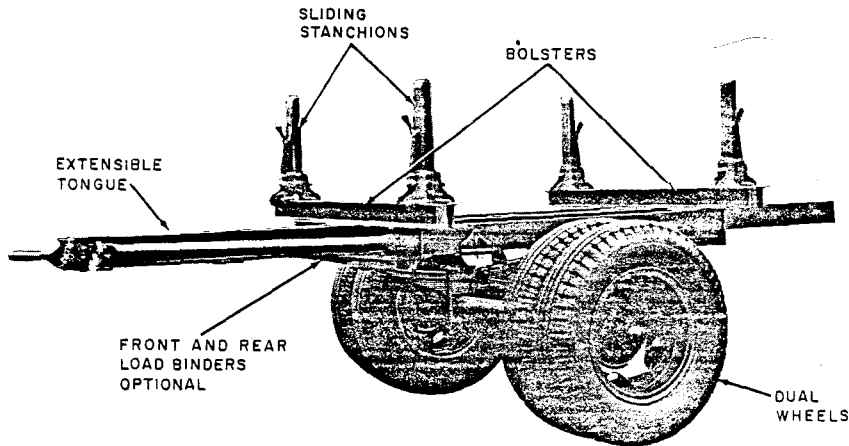


Fig. 3—MP and HP Pole Trailer

(c) The tongue is equipped with a permanently mounted pole cradle located near the towing eye and two safety chains. The trailer is equipped with side reflectors, double stop and tail lights, directional signals, and a socket for attaching to the towing vehicle electrical system.

### 3.06 Baker Model P-MD:

(a) The Baker Model P-MD Trailer (see Fig. 5) is a medium-duty, fixed-tongue pole trailer. Standard equipment includes front and rear bolsters that support four removable steel tube stanchions. Each bolster has a pole seat and spring-type hold-downs for binding the King Pole. The trailer is equipped with electric brakes, a breakaway system, stop and tail lamps, directional signals, and a safety rope.

(b) The Baker Model P-MD Trailer can be equipped with the following optional equipment:

- (1) Steel box that fits between the bolsters to convert to a cargo trailer
- (2) Load binders and rope knobs for binding the pole load

(3) Folding tongue support

(4) Fenders and fender flaps

(5) Extensible tongue that increases the overall length of the trailer from 9 feet 3 inches with the tongue retracted to approximately 18 feet measured from the rear bolster to the end of the towing eye with the tongue extended.

### 3.07 Baker Model P-HD:

(a) The Baker Model P-HD Trailer (see Fig. 6) is a heavy-duty, dual-wheel, extensible-tongue pole trailer. The extensible tongue extends the length of the trailer to approximately 20 feet measured from the center of the axle to the end of the towing eye. The tongue is equipped with a folding support at the front and two safety chains.

(b) Standard equipment includes front and rear bolsters, four sliding stanchions, and front and rear load binders with rope knobs. The trailer is equipped with electric brakes and a breakaway system with accessories, stop and tail lamps, and directional signals.

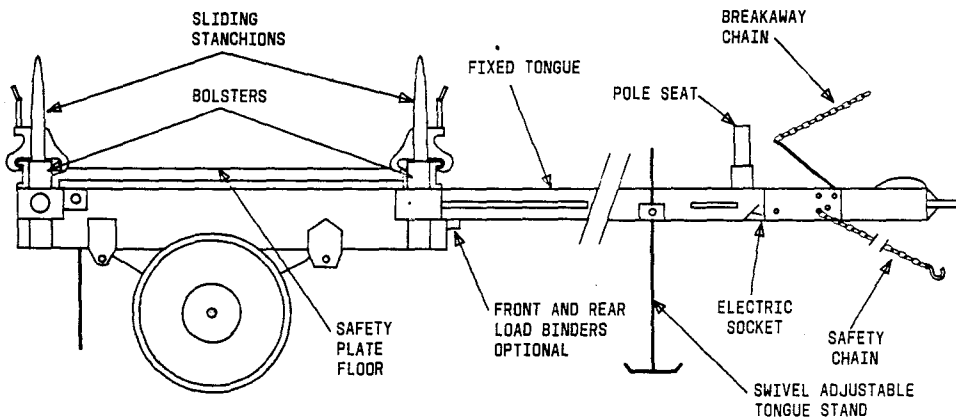


Fig. 4—Model 8000 Eagle Pole Trailer

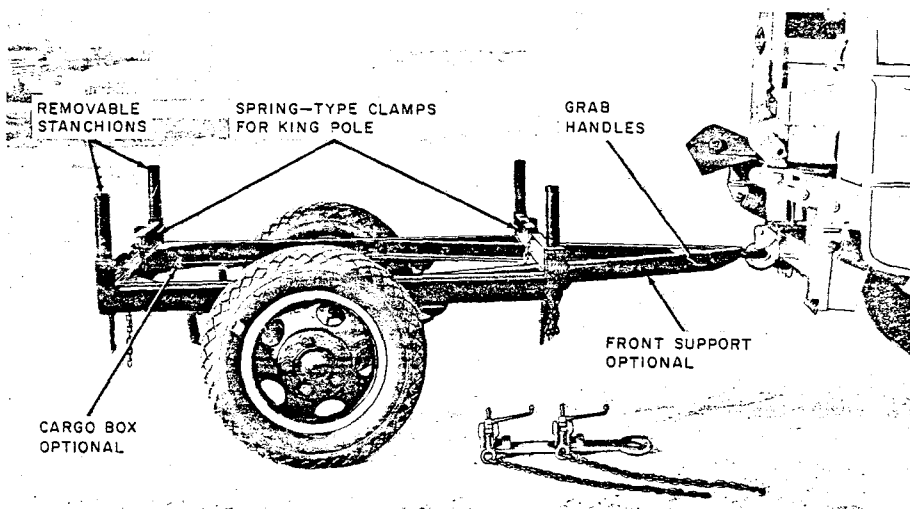


Fig. 5—Baker Model P-MD Pole Trailer

4. LOAD CAPACITIES

4.01 Table A shows the approximate unladen weight, the payload for the trailer, and the tire size supplied by the manufacturer as standard

equipment for the payload rating. Any change in tire size may vary the payload and weight values.

4.02 The maximum number of poles that can be loaded on a pole trailer can be determined by referring to the pole weight tables in Section

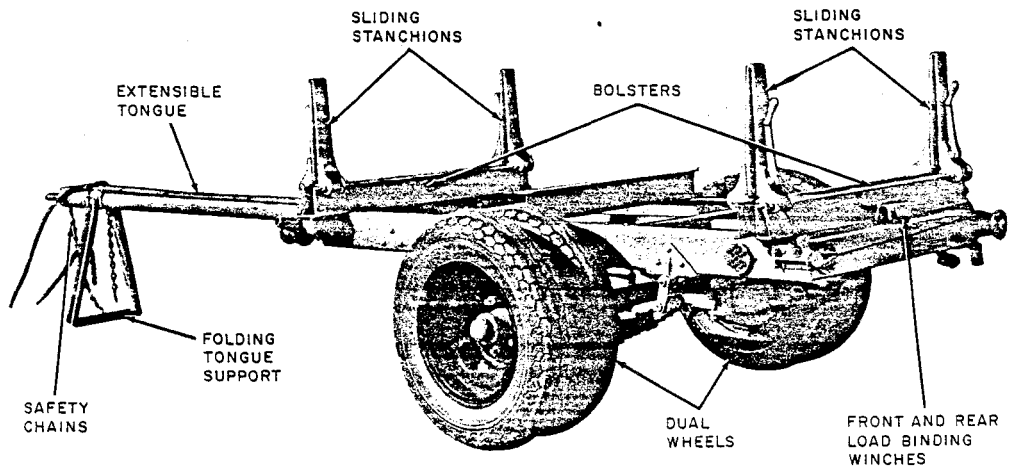


Fig. 6—Baker Model P-HD Pole Trailer

TABLE A

TRAILER	UNLADEN TRAILER WEIGHT IN POUNDS	PAYLOAD IN POUNDS	STANDARD TIRE SIZE
P3T	1000	3000	700-15
Baker Model P-MD	1000	4000	750-20
MP	2000	6000	750-20
P8T	1500	6000	825-20
Eagle Model 8000	2000	8000	14-17.5
HP	3000	10,000	825-20
Baker Model P-HP	2000	10,000	825-20

621-020-111, Dimensions and Weights of New Poles and Reinforcing Stubs.

## 5. SAFETY CHAINS AND SAFETY ROPES

5.01 Safety chains or ropes prevent the trailer from completely parting from the towing

vehicle in the event of accidental separation. The proper method of attaching the safety chains or ropes to the towing vehicle is outlined in Section 649-210-105, Towing Hooks.

5.02 On trailers with extensible tongues, one end of the safety rope is attached to the

bed of the trailer. The other end is adjusted by threading it through the various eyes and shackles provided on the trailer.

**5.03** On trailers not equipped with extensible tongues, a King Pole and drawbar are used. The King Pole is placed on the trailer so that the safety rope is in the same position with respect to the drawbar towing eye as it would be with the towing eye of an extensible tongue trailer.

**5.04** The safety rope should be supported along its entire length as required to prevent contacting the ground.

## 6. ELECTRICAL CONNECTIONS

**6.01** The electrical connections between the truck and trailer for the directional signals, stop and tail lamps, and the electric brakes are made with a jumper cable. The ends of the 4- or 6-conductor cable are plugged into the coupling sockets on the trailer and towing vehicle. Jumper cables are available in 4-, 6-, and 25-foot lengths.

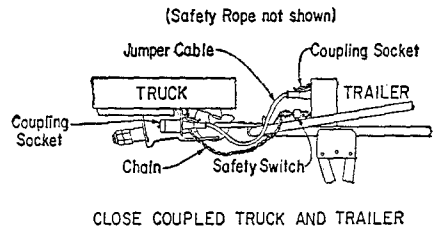
**6.02** When the distance between the sockets on the trailer and towing vehicle is too great to permit the use of a single jumper cable, two or more may be connected in series by means of a double-ended socket. Longer length cables should be tied at appropriate intervals to prevent excessive sag. Jumper cable support chains may be supplied for this purpose on extensible tongue trailers.

**6.03** Figure 7 shows jumper cables used on:

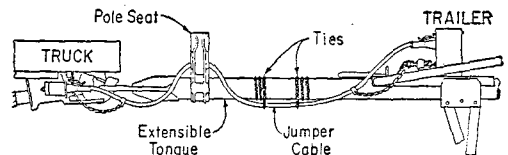
- (a) Close-coupled trailer without a pole
- (b) Trailer with extensible tongue or King Pole:
  - (1) Rigged with a continuous jumper cable
  - (2) Rigged with two jumper cables and a double-ended socket.

## 7. SAFETY SWITCH CONNECTIONS

**7.01** The trailer will be equipped with a safety breakaway system. The actuating mechanism, whether hydraulic or electric, is connected to the towing vehicle by means of a stainless steel cable or a chain. The purpose of the breakaway system is to automatically apply the trailer brakes in the event that the trailer accidentally becomes uncoupled



CLOSE COUPLED TRUCK AND TRAILER



EXTENSIBLE TONGUE OR KING POLE  
(One Continuous Jumper Cable)

TYPICAL ELECTRICAL CONNECTIONS  
USING DOUBLE END SOCKET  
(Safety Rope not shown)

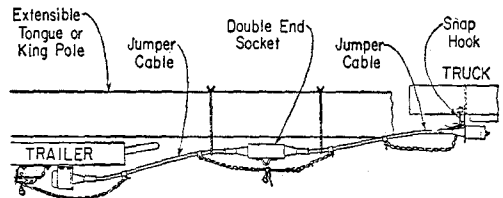


Fig. 7—Typical Electrical Connections

from the towing vehicle while traveling. The chain or cable should be of such length as to operate the safety brakes before the slack in the safety ropes is taken up.

**7.02** Safety switch chains for use with electric brakes are available in 30-inch and 25-foot lengths. The chain is made with a snap at one end and a clip and snap spring at the other end. The clip or snap spring is used for attaching the chain to the safety switch; the snap hook attaches to the towing vehicle. Chains may be coupled together if longer lengths are required.

**7.03** Hydraulic breakaway levers are spring loaded and require a substantial pull to operate.

Connections to the towing vehicle are made with aircraft-type stainless steel wire rope or chain. S clips at both ends are used for attaching to the eye arm on the trailer and to the towing vehicle. Chain or wire rope suitable for hydraulic breakaway systems is available in various lengths from the manufacturer of the brake system.

### 3. TRAILER BRAKE SYSTEMS

3.01 Pole trailers may be equipped with electric brakes or hydraulically activated surge brakes.

(a) Electric brakes consist of electromagnetic operated brake bands activated by a hand or hydraulic controller in the towing vehicle. Electrical brake connections from the trailer to the towing vehicle are made through the 4- or 6-conductor cable as described in Part 6. Trailers with electric brake systems are equipped with a safety breakaway switch. The safety breakaway switch, if operated, by a separation of the trailer from the towing vehicle, applies local battery to the trailer brakes which stops the trailer.

(b) Conventional hydraulic surge brakes do not require electric or hydraulic connections for brake operation to the towing vehicle. Surge brakes are internal drum-type hydraulic brakes operated by a master cylinder coupled to the trailer tongue. A mechanical link transmits towing eye movement to the master cylinder, making braking effort directly proportional to the deceleration of the towing vehicle. A stainless steel cable or chain connects the hydraulic cylinder to the towing vehicle and automatically applies the trailer brakes in case of an accidental truck-trailer separation.

### 9. TESTING TRAILER BRAKES

9.01 Trailer brakes and controls shall be tested each time a trailer is coupled to the towing vehicle. When used on public highways, the loaded trailer and truck must be able to stop within a 10-foot distance from a speed of 10 miles per hour. Test as follows:

(a) If the trailer has electric brakes, set load controls and test as outlined in Section 649-040-100, Electric Brake Controls.

(b) On a hard level dry paved surface, free of loose material, mark off a distance of 10 feet.

(c) Approach the marks at a speed of 10 miles per hour and apply the brakes.

(d) The brakes must be applied so the stopping distance is measured from the point at which movement of the pedal or control begins.

(e) If the truck-trailer combination does not stop within the 10-foot distance, report the condition to the Motor Vehicle Department (or qualified mechanic).

9.02 Test the breakaway system of an unloaded or loaded trailer as follows:

(a) With the trailer coupled to the towing vehicle, operate the breakaway switch or lever by manually pulling the rope or chain.

(b) The wheels of an empty trailer should lock and slide when pulled by the truck; the wheels of a loaded trailer may or may not lock and slide, but the trailer should be difficult to move from the resistance of the operated brakes.

9.03 After completing the test, restore the switch or lever to normal. Electric breakaway switches left operated for more than 4 or 5 seconds can discharge the battery.

9.04 The battery should be tested periodically with a voltmeter. If the voltage drop is more than 15 percent, replace the battery with a suitable replacement such as Eveready #1463-12 or Ray-O-Vac #922-12 12-volt batteries or equivalent.

9.05 Do not use any trailer with defective brake systems. Notify the Motor Vehicle Department (or qualified mechanic) of all unsafe brake conditions.

### 10. INSPECTION AND MAINTENANCE

10.01 The pole trailer and its associated equipment must be inspected as specified below. The items listed should be checked at the frequency shown. Local practices may vary somewhat from the suggested routines.



**10.02 Driver Responsibility—Daily:**

- (a) Inspect the trailer to see that all required safety systems, such as lights, reflectors, flags, and safety ropes, are in serviceable condition.
- (b) Inspect the trailer for obvious structural defects, such as loose bolts, loose rivets, broken or cracked frame members, cracked welds, worn eye, or loose mounting.
- (c) Visually inspect tires for under inflation or defects.
- (d) Test the trailer brakes and safety breakaway system.
- (e) The load must not exceed trailer capacity.
- (f) Make sure trailer is loaded correctly and load is properly secured.
- (g) Be certain safety ropes or chains, electrical cables, and breakaway switches are properly connected.

**10.03 Qualified Mechanic—Weekly:**

- (a) Inspect tires for defects; check pressure and inflate if necessary.
- (b) Inspect wheels and rims for damage.

**10.04 Qualified Mechanic—Monthly:**

- (a) Inspect reflectors, lights, and turn signals.

- (b) Inspect towing eye for wear as outlined in Section 649-210-105.
- (c) Inspect safety chains and points of attachment on the trailer.
- (d) Check electrical cable and connector for damage.
- (e) Test trailer battery; replace if necessary (see 9.04).
- (f) Lubricate trailer as required.
- (g) Inspect and refill hydraulic system as required.

**10.05 Qualified Mechanic—Annually:**

- (a) Inspect all critical welds and frame members for cracks or structural defects.
- (b) Check wheels, rims, tires, and springs.
- (c) Inspect condition of electrical wiring.
- (d) Inspect brake linings and drums; repair or replace as required.
- (e) Repack wheel bearings as required.
- (f) Inspect and refill hydraulic brake system as required (surge brakes).