

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G93.100.1
Issue 1, May, 1958
AT&T Co Standard

POLE TRAILERS
GENERAL

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1. GENERAL

1.01 This section describes the P3T, P8T, MP and HP Pole Trailers and the PCP Combination Cable Reel and Pole Trailer, and provides instructions on their operation and maintenance.

1.02 The information in Sections G93.100.2, "Pole Trailers—Equipment" and G93.100.3, "Pole Trailers—Loading and Binding" shall be considered as supplementary to the information in this section.

2. SAFETY PRECAUTIONS

2.01 Before using a trailer inspect it to be sure that all parts are in their proper places and in safe working condition.

2.02 Make certain that any required safety equipment, such as flags, flares, safety switches, etc., which might be required are on hand, are in serviceable condition, and are used as required.

2.03 After coupling a trailer to a truck, make certain that the latch on the towing hook is closed and locked, and that the safety rope, or ropes if more than one is required, is properly connected. Also, if the trailer is equipped with electric brakes and a safety breakaway switch, make sure that the electric jumper cable, and the chain for the safety breakaway switch, are properly connected.

2.04 Always chock the fronts of both trailer wheels before disconnecting a trailer from the truck and, if there is a steep downgrade toward the rear which might cause the uncoupled trailer to be insecure in that direction, chock the wheels at the rear also.

2.05 See that there are no obstructions which might damage any fenders or other equipment before tilting the trailer. Also, if there are fender flaps, fold them over the fenders before tilting.

2.06 Each day, before using the trailer for the first time, test the electric brake system.

2.07 Before using the trailer, see that the tires are in good condition and properly inflated as covered in Paragraph 8.02.

2.08 When parking the trailer, be sure that it is in a secure and safe position and, if it appears necessary for safety reasons, see that the wheels are chocked.

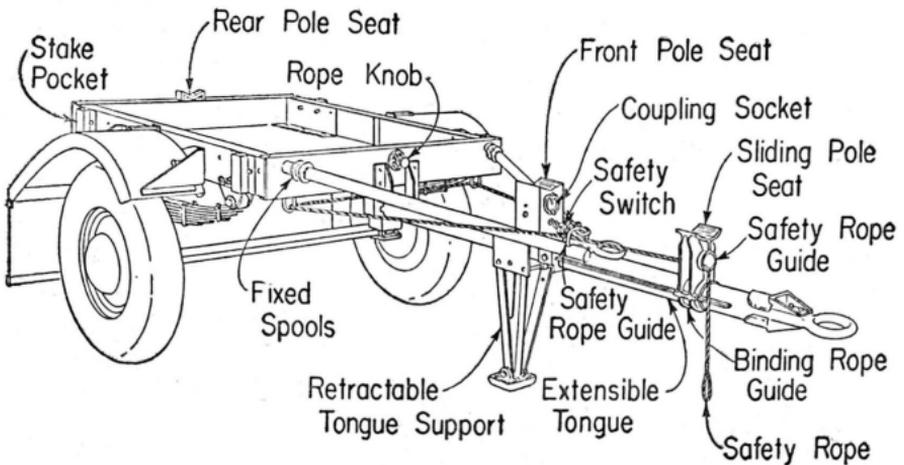
2.09 Be sure that the tongue support is secured in its raised position before towing the trailer.

2.10 Be sure that the load is bound securely before towing the trailer. After traveling a short distance, stop and examine the bindings, tightening them if necessary. When traveling watch the trailer as much as is practicable. Whenever any unsatisfactory condition develops, stop promptly and make the necessary corrections.

3. DESCRIPTION OF TRAILERS

3.01 **All Pole Trailers** covered in this section are single-axle, balanced load-type trailers, with pneumatic tires, and with the exception of the PCP, have semi-elliptic leaf springs between the axles and trailer body. The PCP trailer has quarter-elliptic springs and coil helper springs.

3.02 P3T Pole Trailer



P3T TRAILER

This trailer is a light duty combination pole and general utility trailer with single wheels. It has a box body for carrying materials, a pole seat at front and rear, fixed spools on the diagonal tongue braces to serve as pads for the rope of a portable pole binder, a rope knob for anchoring the portable pole binder rope, and a retractable tongue support for holding the tongue in a raised position. It has a safety rope (in some cases two), and safety rope guides. In addition, the trailer may be equipped with any of the following:

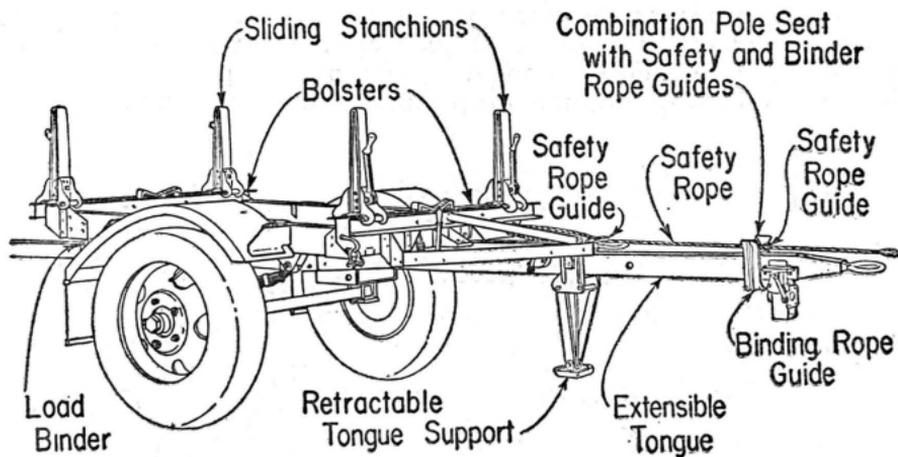
- (a) Front and rear king pole binders for securing a king pole to the pole seats.
- (b) A load binder and two rope knobs at the rear for binding the pole load at the rear of the trailer body. (A portable pole binder is used at the front.)
- (c) Fenders and Flaps; removable to prevent their being damaged when loading and unloading poles.
- (d) Short stakes to prevent poles from rolling off the trailer when the load binders are slacked off. The stakes are retractable so that they can be brought down flush with the top of the body.
- (e) Electric brake system with either a four or six-conductor coupling socket for a jumper cable for connecting the electric system on the trailer to that of the truck.
- (f) Reflectors, stop and tail lights, license plate bracket and turn signals.

(g) Electric safety breakaway system for automatically applying the trailer brakes in case the trailer accidentally breaks away from the truck.

(h) Extensible tongue with a sliding pole seat near its front end. The seat has guides for the safety rope and the rope of a portable load binder. The sliding feature permits positioning the seat to conform to the lengths of poles carried. If the trailer is equipped with electric brakes, the extensible tongue is provided with two jumper cable supports for supporting the long span of electric jumper cable required when the tongue is extended. The extensible tongue eliminates the need for a king pole and a separate drawbar.

Note: On early type trailers with electric brakes and extensible tongues there is a coupling socket near the front end of the extensible tongue which is electrically connected through the interior of the tongue to contacts which automatically establish connections with the trailer electric braking and lighting systems for each tongue position.

3.03 P8T Pole Trailer



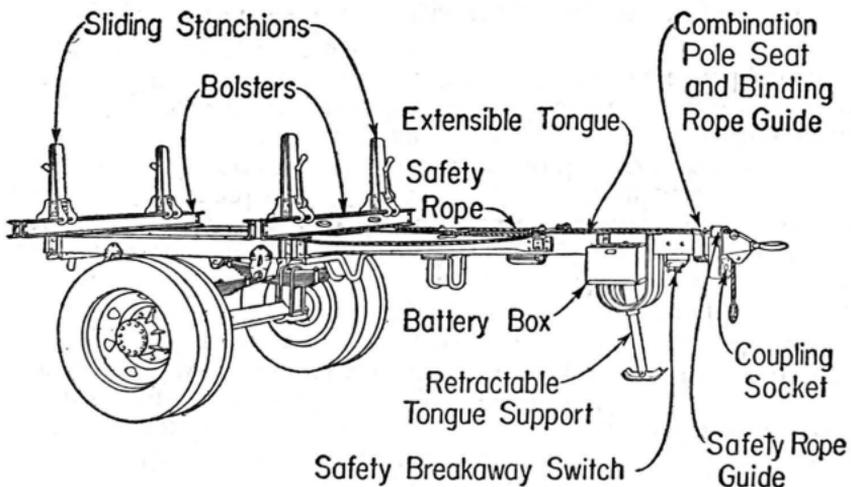
P8T TRAILER

This trailer is a medium duty combination pole and general utility trailer with single wheels. It has a box body for carrying materials. At each end of the body are steel channels to serve as bearers (called bolsters) for the poles. Each bolster has a pole seat for a king pole. It has a safety rope (in some cases two) and a safety rope guide. It is provided with a retractable tongue support for holding the tongue in a raised position when the trailer is not coupled to a towing truck. In

addition, the trailer may be equipped with the following options :

- (a) King pole binder at the front of the body for securing a king pole to the front pole seat.
- (b) A load binder with rope knobs at the rear of the body for binding a load of poles to the body at the rear. (A portable pole binder is used at the front.)
- (c) Fenders and Flaps; removable to prevent their being damaged when loading and unloading poles.
- (d) Four sliding stanchions to serve as stakes for containing the poles on the bolsters.
- (e) Removable wood side panels in order to provide a deeper box body.
- (f) Electric brake and lighting systems as described for the P3T Trailer.
- (g) Extensible tongue with or without a sliding pole seat near its front end. The seat has guides for the safety rope and for the rope of a portable pole binder. The sliding feature permits positioning the pole seat to conform to the lengths of poles carried. If the trailer is equipped with electric brakes, the extensible tongue is equipped with a coupling socket which might have a safety breakaway switch near its front end connected through the interior of the tongue to contacts for automatically establishing connections with the trailer braking and lighting systems for each position of the tongue. The extensible tongue eliminates the need for a king pole and a separate drawbar.

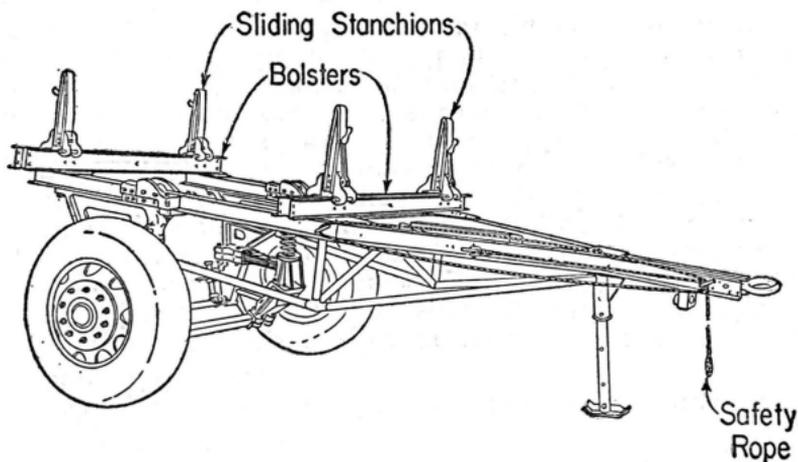
3.04 MP and HP Pole Trailers



MP & HP TRAILER

These two models of dual wheel trailers are practically the same in size, appearance and design features and differ only as to strength, tire size, and load carrying capacity. They each have an extensible tongue with a retractable tongue support, a combination pole seat and guide near the front end of the trailer body. Two steel channel bolsters across the trailer frame are provided for supporting the poles and four sliding stanchions are provided for containing them. A load binding winch and rope knob are provided on the back of the rear bolster for securing the load at the rear. (A portable pole binder is used at the front.) If the trailer is equipped with electric brakes and a safety breakaway system, there is either a four or a six-conductor jumper cable coupling socket on the front end of the extensible tongue and a safety breakaway switch which are connected through the interior of the tongue to contacts which automatically connect with the trailer braking and lighting systems for each tongue position.

3.05 PCP Combination Cable Reel and Pole Trailer



PCP TRAILER
CONVERTED FOR POLES

This trailer is basically a cable reel trailer which, as covered in Section G93.200.1, "Cable Reel Trailers," may be converted to serve as a pole trailer. The conversion equipment includes four sliding stanchions for containing the pole load on the trailer, but since it has no extensible tongue it requires the use of a king pole. Also, since the conversion equipment is not provided with king pole or load binders, portable pole binders

are required to secure the pole load. Like the MP and HP trailers it is equipped with a long safety rope (in some cases two) and may have electric brake and lighting systems, as described for the other pole trailers.

4. LOAD CAPACITIES

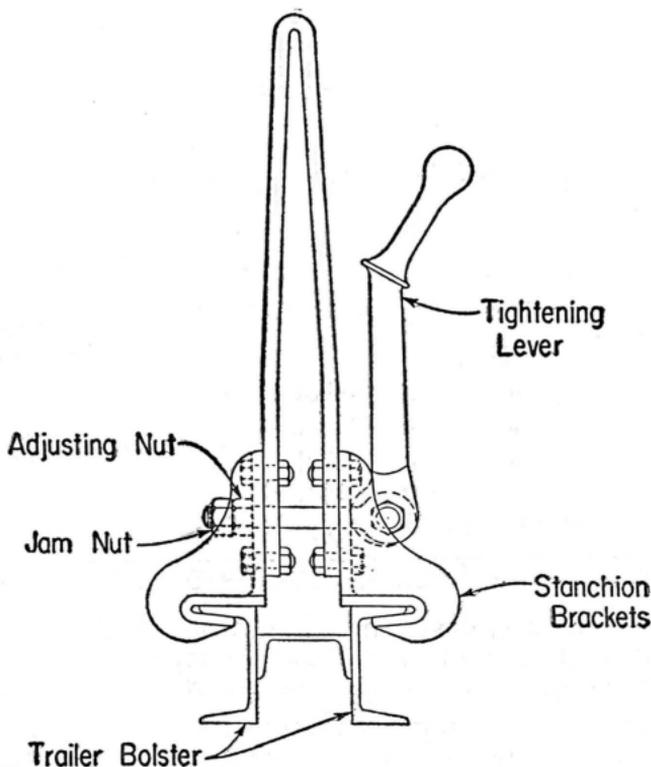
4.01 The permissible maximum gross vehicle weight of a trailer will depend upon the load rating of its tires and the allowable tire overload permitted by the motor vehicle regulations in effect in the locality in which the trailer is used. Whenever information is required on the weight of the empty trailer and its permissible maximum gross vehicle weight, and this is not shown on the trailer or its certificate of registration, consult the Company Supervisor of Motor Vehicles. The maximum permissible pay load of the trailer will be the difference between its permissible maximum gross vehicle weight, determined as indicated above, and the weight of the empty trailer.

4.02 The nominal gross vehicle weight ratings of the pole trailers, provided they are equipped with tires which will permit carrying these loads, are as follows:

<u>Trailer</u>	<u>Rated Gross Vehicle Weight of Trailer (see 4.01)</u>
P3T	4,000 lbs maximum
P8T	10,000 " "
MP	16,500 " "
HP	24,000 " "
PCP	12,000 " "

5. SLIDING STANCHIONS

5.01 The P8T, MP and HP trailers and the converted PCP trailer are provided with sliding stanchions to contain the pole load on the trailer.



SLIDING STANCHION

5.02 The stanchions are clamped to the flanges of the channels which serve as the pole carrying bolsters on the trailer. The stanchions must be clamped securely in order to hold. Since there is some variation in channels, the stanchion clamps are adjustable.

5.03 Adjust the stanchion so that it is just possible to manually force the tightening lever into its vertical position when the stanchion is on the bolster. If this can be done too easily, the stanchion will not be clamped securely. When this is the case, back off the 3/4" jam nut, and take up on the adjusting nut until it is just possible to force the lever

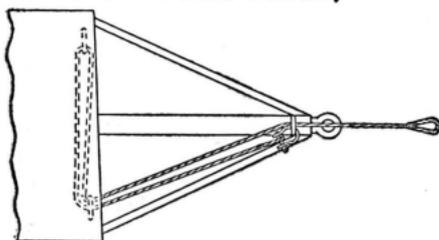
from a horizontal into a vertical position, and then tighten the jam nut against the adjusting nut. When the lever is in the horizontal position the spring action of the inverted V shaped member causes the stanchion brackets to move apart thus permitting the stanchion to be slid along the bolster.

5.04 Apply a light coating of oil on the threads of the adjusting bolt nuts and clamping lever cams in order to facilitate performing the above-mentioned operations.

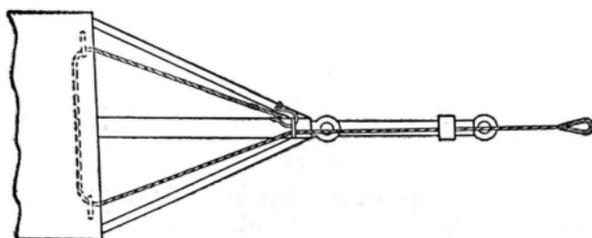
6. CONNECTIONS

6.01 **Safety Rope.** The purpose of this rope is to prevent the trailer from completely parting from the towing truck in the event that the trailer tongue should accidentally become uncoupled from the truck while traveling. The safety rope should be adjusted to its proper length. This is done by threading its eye end through the various shackles and loops on the trailer so that the eye end extends approximately 8 to 16 inches beyond the drawbar eye. The following diagram shows how the safety rope may be adjusted for different positions of the extensible tongue. If the trailer is not equipped with an extensible tongue it is, of course, necessary to use a king pole and drawbar. The king pole should be placed on the trailer so that the end of the safety rope will be about in the same position with respect to the drawbar towing eye as it would be with the towing eye of an extensible tongue. Attach the eye of the safety rope to the shackle on the BU towing hook bracket. A long safety rope should be supported along its length in order to prevent it from sagging to the ground.

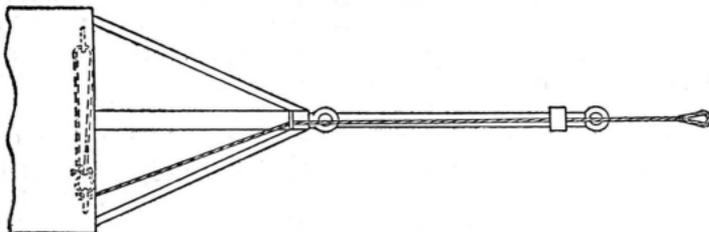
TYPICAL SAFETY ROPE POSITIONS (P3T Trailer Shown)



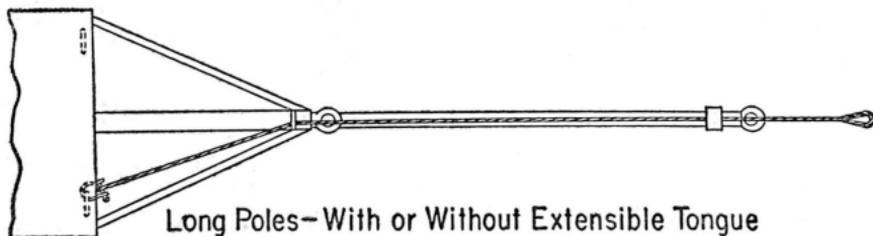
Without Extensible Tongue—No Poles



With Extensible Tongue—No Poles



Short Poles—With or Without Extensible Tongue



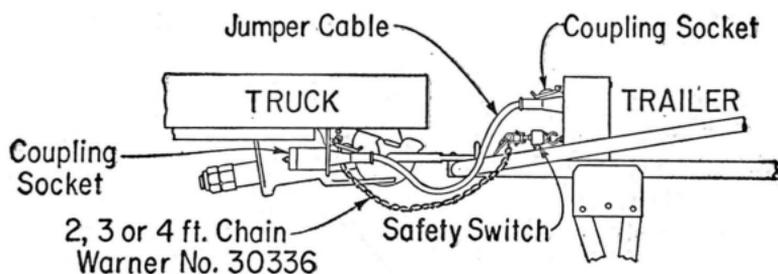
Long Poles—With or Without Extensible Tongue

6.02 **Electrical Connections.** The electrical connections between a truck and trailer are made with a jumper cable, the ends of which are plugged into the coupling sockets on the trailer and truck. Jumper cables, either four or six-con-

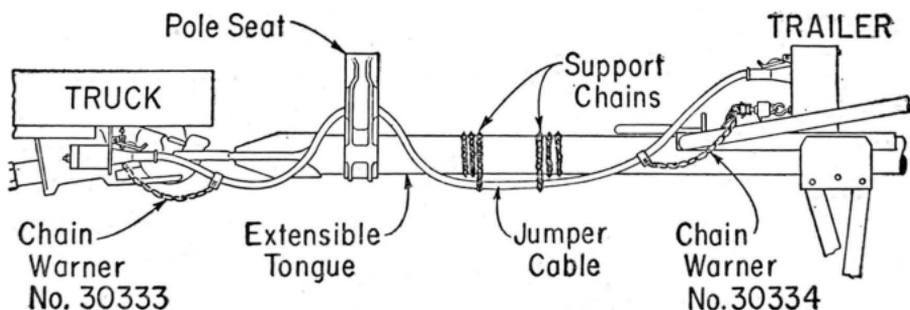
ductor are available in 2, 3, 4, 6, 8, and 10-foot lengths. When the distance between the coupling sockets on the trailer and truck is too great to permit the use of a single jumper cable, two or more may be connected in series by means of a double end socket. When the jumper cable used is long it should be supported along its length to prevent excessive sag. Jumper cable support chains are supplied on the extensible tongue of the P3T pole trailer to facilitate supporting the cable. Similar supports should be employed on trailers without an extensible tongue or where supports are not provided.

6.03 The following figures show how the jumper cables are used. One figure shows a close coupled truck and trailer as would be the case when no poles are carried. Another figure shows the trailer with an extensible tongue with the tongue extended as would be the case when carrying poles. The arrangement would be similar if a king pole were used in place of the extensible tongue. A third figure shows how two jumper cables may be connected when one of sufficient length is not available.

TYPICAL ELECTRICAL CONNECTIONS
(Safety Rope not shown)

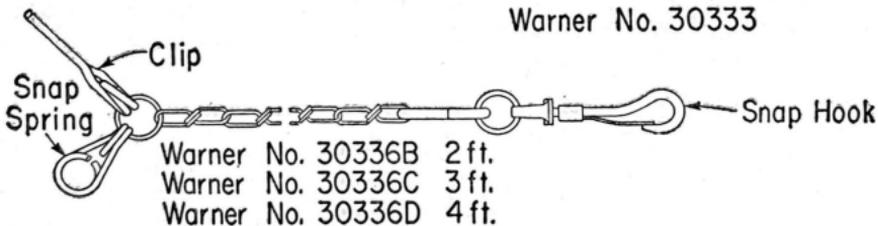
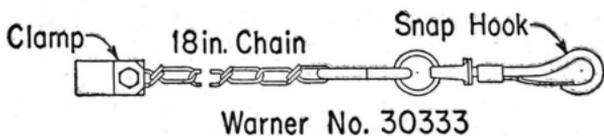
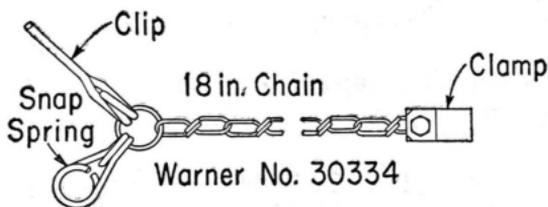
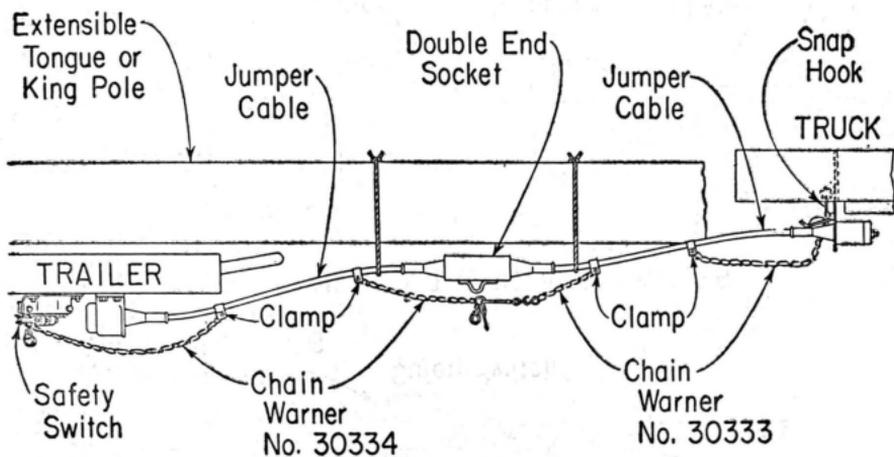


CLOSE COUPLED TRUCK AND TRAILER



EXTENSIBLE TONGUE OR KING POLE
(One Continuous Jumper Cable)

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



6.04 **Safety Switch Connections.** If the trailer is equipped with a safety breakaway switch, connect the switch to the truck by means of a chain. The purpose of the safety breakaway switch and chain is to automatically apply the trailer brakes in the event that the trailer should accidentally become uncoupled from the truck while traveling. If, in such an event, the trailer brakes are not applied, the trailer might crash into the rear of the truck when the truck slows down or stops, or run off to the side. The length of the chain with respect to the safety rope should be short enough so that when the trailer accidentally becomes disengaged from the truck while traveling the chain will pull the safety switch on the trailer into the "ON" position before all the slack in the safety rope is taken up as the truck and trailer separate. The chain must, of course, be free so as to be able to pull the safety switch when necessary.

6.05 Safety Chains 2, 3 and 4 feet long are available with a snap hook at one end and a clip and a snap spring at the other end.

6.06 The clip or snap spring is used for attaching the chain to the safety switch, depending upon the type of switch on the trailer. The snap hook is used for attaching the chain to the truck. When the distance between the trailer and truck is considerable and a separate safety switch chain is to be used a very long chain would, of course, be required. In order to obviate the need for long safety chains, 18" chains have been made available for attachment near the ends of the jumper cable. As shown in the preceding figures, these chains have a hose-type clamp at one end and a clip and a snap spring at the other. When a double end socket is used it is necessary to bridge this connection with a safety chain or chains as shown, since the jumper cable serves as part of the chain. The total slack of cable and chains should be as little as possible, since the combination serves in lieu of a safety chain and the same considerations as to length and freedom of action mentioned in 6.04 apply.

7. TESTING BRAKE SYSTEM

7.01 To test the electric brakes and controls, first apply the brakes by means of the hand controller in the cab, if there is one, and attempt to tow the trailer. Both trailer wheels should lock. Then, if the brakes can be operated by the brake pedal in the truck cab, release the brakes, tow the trailer at a speed of about 5 mph and apply the truck brakes. Both trailer wheels should operate.

7.02 On a trailer equipped with a safety breakaway system, test the system by pulling the safety switch chain. It should be possible to pull the switch into its "ON" position before the chain disengages from the switch. On a lever-type safety switch the switch is in the "ON" position when the lever is toward the front of the trailer. On a plunger-type switch the switch is "ON" when the plunger is pulled out. With the safety switch in the "ON" position attempt to tow the trailer. The brakes should lock the trailer wheels. Be sure to push the switch in the "OFF" position after completing the test.

7.03 Never leave a safety breakaway switch on for more than about 30 seconds as otherwise the battery on the trailer will be run down.

8. MAINTENANCE

8.01 Report immediately, in accordance with local routines and instructions, any defects which can not be promptly cared for on the job.

8.02 Examine the tires for condition and inflate, if necessary, before using the trailer. Inflate tires to the pressure marked on the tire. If there is no marking and the required inflation pressure is not known, consult the Company Motor Vehicle Supervisor for the correct inflation pressure.

8.03 Protect movable bolts, bolt threads and pins from rusting with a light coating of oil or grease.

8.04 Keep all nuts and bolts drawn up tight.

8.05 Keep reflectors, tail and stop lights, turn signals, electric brakes and associated equipment in serviceable condition.

8.06 Inspect trailer members for any defects, such as fractures. Do not use a trailer with defective members.

8.07 A motor vehicle mechanic should inspect the trailer for necessary adjustments, repairs, repainting and lubrication at intervals of twelve months or less.

8.08 The battery for the electric safety breakaway braking system should be in good working condition whenever the trailer is in use. A battery in poor condition should be replaced. Any of the following batteries may be used:

Eveready Hot Shot #1461

Bright Star Vita-Spark #146

General Dry Battery #641

Ray-O-Vac #641