

BELL SYSTEM PRACTICES
Motor Vehicles and Construction
Apparatus

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L CONNECTING PINS

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1. GENERAL

1.01 The L Connecting Pin is a quick locking pin for use in construction apparatus such as derricks and derrick supports to assemble parts which must be disassembled for transportation or adjustment.

1.02 This practice covers the general operation and maintenance of the L type connecting pins.

1.03 These pins are provided in several diameters and of various nominal lengths.

2. PRECAUTIONS

2.01 Each time before a pin is used it should be given a visual inspection to determine its general condition.

2.02 When a pin has been placed in the assembly and locked in position it should always be given a check test by attempting to push the cross-bolt back into the body of the pin without applying pressure to the plunger.

2.03 When driving these pins into or out of an assembly the hammer blows should be relatively light and squarely on the end of the pin to avoid unnecessary battering of the ends of the pin.

2.04 If a pin should become filled with ice and it is necessary to hammer on the plunger or cross-bolt the blows should be relatively light in order to avoid damage.

2.05 When pins are removed they should be immediately placed in the truck instead of on the ground since they are easy to lose and may accumulate sufficient dirt to make cleaning necessary.

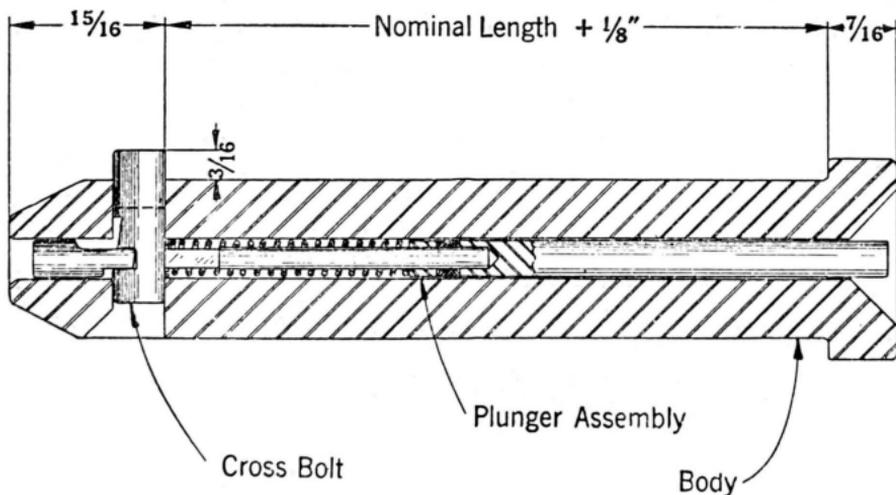
2.06 Never use a pin which has a broken spring or which is otherwise defective.

2.07 The L pin is for use only where the load to be held puts the pin in shear. It must not be used where there will be any load carried by the cross-bolt except that necessary to prevent the pin from coming out of its hole.

3. DESCRIPTION

3.01 The L Connecting Pin consists of a high strength steel body with a round head at one end and a tapered point at the other. Through the center of the pin is a hole carrying a spring loaded plunger. At right angles to this plunger and near the point of the pin is a hole carrying a cross-bolt.

3.02 The following figure shows a sectional view of the working parts of this pin, gives the names of the parts and certain basic dimensions.



3.03 The actual measured length of the pin from under the head to the near side of the cross-bolt is 1/8" longer than the nominal (or ordering) length. This is to provide working clearance and to compensate for variations. The nominal length of a pin should be approximately the same as the diameter of the tubing or part through which it is used. In referring to these pins the diameter and the nominal length are given, such as "L connecting pin 3/4 in. x 3-1/2 in."

4. OPERATION

4.01 Before a pin is placed in an assembly it should be given a general visual inspection to determine its condition and should not be used if defective.

4.02 These pins are used by placing them through the members to be assembled and locking the cross-bolt to hold the pin in this assembly, the primary load being taken directly on the body of the pin.

4.03 If these pins are placed in a vertical position it is desirable that they be placed with the heads up.

4.04 The pin when not locked may be driven into or out of an assembly even though the holes in the parts are not in perfect alignment.

4.05 The pin is locked by pushing the cross-bolt partially out of the body of the pin either with the finger or some of the commonly carried tools such as the handle tip of a pair of lineman's pliers, without any pressure being applied to the plunger.

4.06 After the pin is locked it should be checked by attempting to push the cross-bolt back into the pin without applying pressure to the plunger.

4.07 The pin is unlocked by pushing on the end of the plunger at the head end of the pin and holding pressure on it while the cross-bolt is pushed back into the body of the pin.

4.08 If a pin has been subject to hammering either to drive it into or out of the assembly it should be visually inspected for any possible damage resulting from this unusual operation.

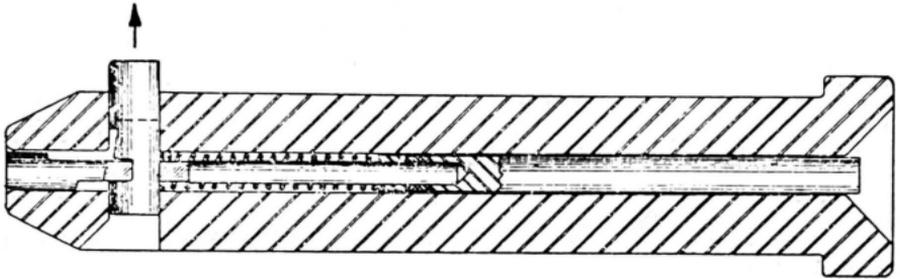
5. DISASSEMBLING

5.01 The working parts of the pin may be readily disassembled in the field without the use of special tools.

5.02 To disassemble the pin proceed as follows:

- (a) Push the cross-bolt to the locked position.

- (b) Press on the plunger at the head end of the pin.
- (c) Pull the cross-bolt completely out of the pin or push it out with some small object such as a nail or piece of wire.
- (d) Pull the plunger out of the body of the pin.



5.03 After removing the working parts of the pin place them in a container so that they will not be lost.

6. CLEANING

6.01 The plunger assembly and the cross-bolt can be cleaned by dipping them in a solvent such as kerosene or oil. They should then be wiped dry and the dirt removed.

6.02 The holes in the body of the pin can be cleaned by pushing a small piece of cloth saturated with a solvent through them.

6.03 After the parts have been cleaned with a solvent, the solvent should be wiped off so that it will not dilute any lubricants which may be used later.

7. LUBRICATION

7.01 These pins are treated with a rust inhibiting oil before they are shipped and should not require additional lubrication for some time.

7.02 After a pin has been disassembled and cleaned it should be lubricated with either a rust inhibiting oil or an automobile engine oil.

7.03 Where extreme sleet and ice conditions are encountered it may be found desirable to pack the space around the plunger and cross-bolt of these pins with a short fiber light cup grease to prevent excess water from entering.

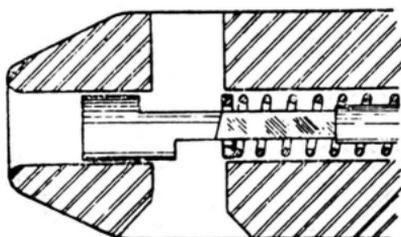
8. ASSEMBLING

8.01 The working parts of the L Connecting Pin can be readily assembled without the use of special tools.

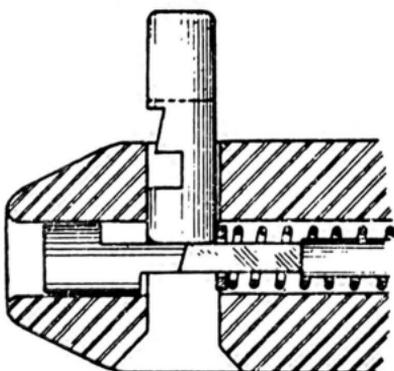
8.02 To assemble the pin proceed as follows:

(a) Hold the body of the pin in a horizontal position with the cross-bolt hole vertical and the countersunk end of this hole down.

(b) Place the plunger in the pin body so that the larger of the two flat areas at the end of the plunger is up and is directly under the cross-bolt hole.



(c) Place the cross-bolt in the top of the cross-bolt hole, slot end down, with the notches toward the point of the pin and the slot directly in line with the axis of the plunger.



(d) Hold pressure on the cross-bolt to hold it against the side of the plunger.

(e) Press on the plunger at the head end of the pin until the spring is compressed sufficiently to permit the cross-bolt to straddle the plunger and enter the hole.