



Atwood

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Installation, Operation, and Maintenance Instructions

32,000 lbs Mini 5th-Wheel Hitch H-32 and SA-32

Gooseneck Stems for Mini 5th-Wheel Hitch

Retractable King Pin P-32 and Bed Plate BP-32

- INSTALLATION
- OPERATION
- MAINTENANCE

The Atwood Mini 5th-Wheel Hitch, Stem, Bed Plate and Retractable King Pin Coupling System is ideal for your gooseneck trailer and truck. This manual provides for the installation, operation, and maintenance of these products.

Mini 5th Wheel Hitch H-32 and SA-32

WARNINGS:

1. Know the trailer weight and added load weight. DO NOT exceed 32,000 lbs. capacity.
2. Use only SAE 2" king pin size as indicated on hitch.
3. Caution should be taken not to damage hitch when backing up truck during coupling.
4. Should problems or questions arise, contact your dealer, the trailer manufacturer, or Atwood's Consumer Service Dept.

• INSTALLATION

NOTE: Read installation instruction COMPLETELY before beginning installation.

1. Hitch, when purchased without stem, is completely assembled and ready for welding to the gooseneck stem of the trailer. Refer to Figure 1 or Figure 2 for aid in the installation.
2. Place the top of the hitch against the bottom edge of the gooseneck stem with the king pin opening facing in the forward direction.
3. Center the stem on the hitch.
4. Weld stem to hitch. Use a 5/16" fillet weld. Use No. E6011 AWS welding rod (5/16" diameter). Machine amps (AC or DCRP) at 160-180 amps with 50 volts.
5. Weld gussets (to be supplied by installer) to top of hitch and sides of the gooseneck stem. This will support stress on the stem.

Mini 5th Wheel Hitch H-32 and SA-32

• INSTALLATION continued

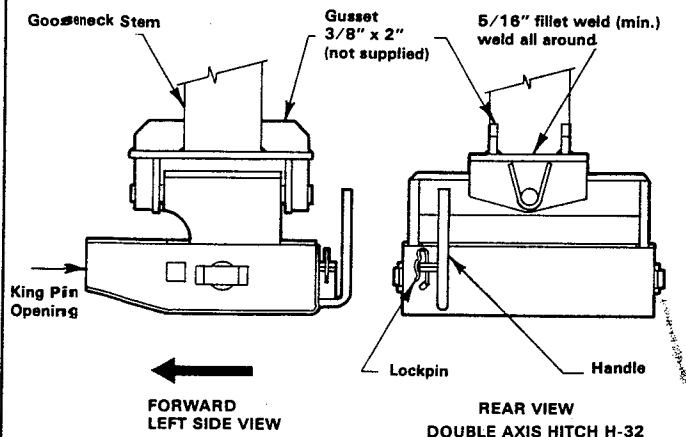


Figure 1

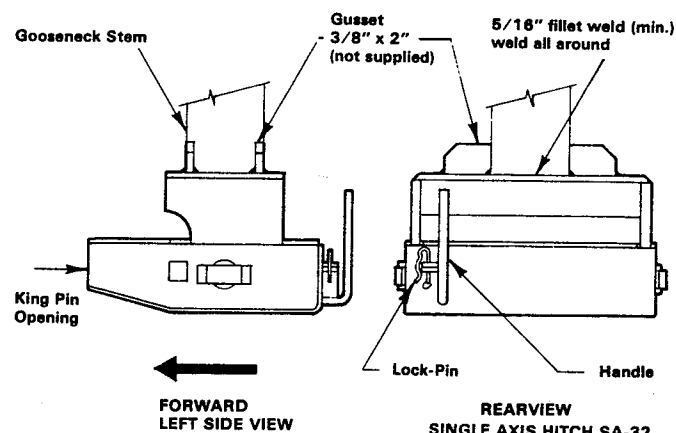


Figure 2

• OPERATION

The mini 5th wheel hitch is intended for use with Atwood retracting king pin or other equivalent SAE 2" diameter king pins.

Coupling Procedure

1. Place wheel chocks on both sides of the trailer wheels.
2. Adjust trailer jacks until the 5th wheel hitch is at the right height for hooking to the king pin.
3. Lower the tailgate of the truck.
4. If the 5th wheel hitch is locked in the closed position (See Figure 3), remove the lock pin and turn the handle counterclockwise (to the left) to the full open position (See Figure 4). Then return the handle to the original closed position. DO NOT replace lock pin until hitch is connected to king pin. The 5th wheel hitch will now latch when king pin is fully in place. (See following steps)

5. Line up truck and trailer so that 5th wheel hitch will accept the king pin.
6. Back truck slowly into trailer until the king pin engages 5th wheel hitch. Hitch will latch when the king pin has completely engaged the hitch. The bottom of 5th wheel hitch must contact king pin plate. This allows for proper hook-up to the king pin.
7. Set truck brakes so that slight pressure is kept against king pin.
8. Visually check hitch to see if hitch is completely latched by looking into the king pin opening. A fluorescent red dot will be visible on the latch plate if hitch is not locked, (see Figure 5) and steps 6 & 7 must be repeated.

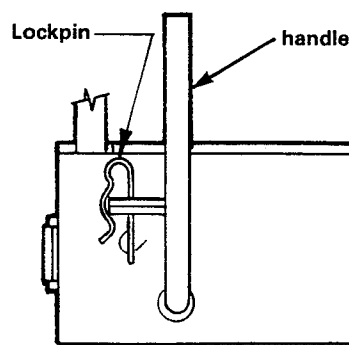


Figure 3 LOCK AND COUPLING POSITION

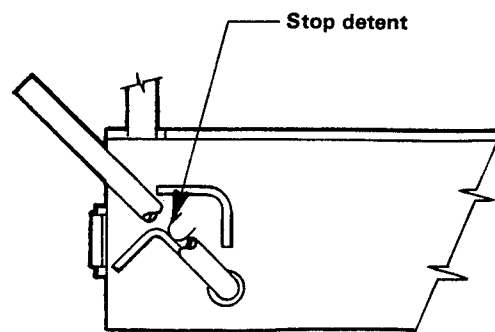


Figure 4 UNCOUPLING POSITION

Mini 5th Wheel Hitch H-32 and SA-32

• OPERATION continued

9. Lock pin must be placed through handle and locking tab. (see Figure 3)

IMPORTANT:

As an added safety check to assure hitch is securely latched, release truck brakes, apply trailer brakes and try to pull forward slowly. If truck will not move, the hitch is latched and trailer is ready to tow.

10. Connect power line and breakaway switch between truck and trailer (see trailer manufacturer's instruction).
11. Completely raise trailer jacks. Pick up and store wheel chocks.

Uncoupling Procedure

1. Place wheel chocks on both sides of the trailer wheels.

2. Lower trailer jacks. If on soft ground, place additional supports under the jack feet to prevent jack feet from settling into the ground.
3. Lower the tailgate of the truck.
4. Disconnect powerline and breakaway switch line between the truck and trailer.
5. Remove lock pin and turn handle counterclockwise (to the left) to the uncoupling position. (See Figure 4)
6. Drive truck slowly from the trailer.

• MAINTENANCE

1. Clean and lubricate surface of hitch with wheel bearing grease to minimize wear and provide easier turning. Perform this lubrication monthly.
2. Clean and lubricate all moving parts with SAE 30 oil at least every 6 months.
3. Before each trip, check all moving parts of hitch for ease of movement. Inspect and replace any parts showing wear or damage.

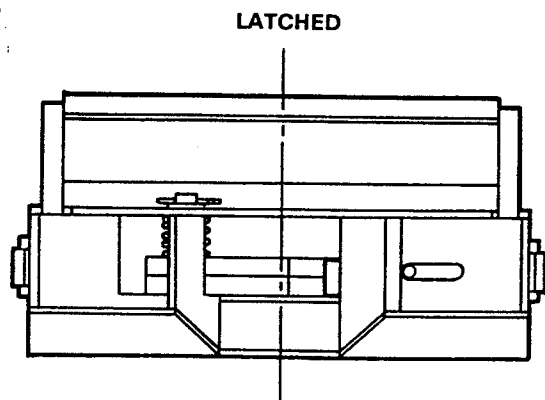
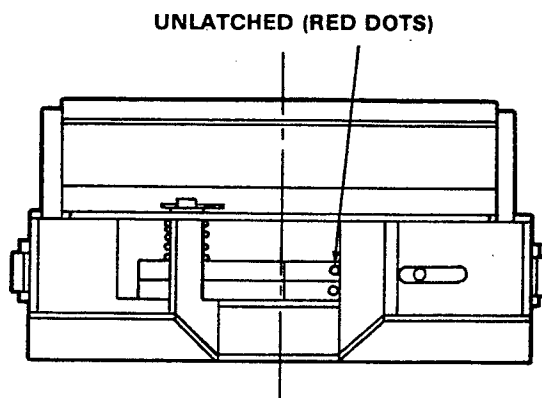


Figure 5



DO NOT TOW TRAILER WITH THE RED DOTS SHOWING.

Gooseneck Stems for Mini 5th Wheel Hitch H-32

Gooseneck Stems

Atwood furnishes 2 types of stems, screw adjustable and drop-tube.

WARNINGS:

1. Know the trailer weight and added load weight. DO NOT exceed the capacity of the coupler, hitch, or stem, whichever is lower.
2. Should any problems or questions arise, contact your dealer, the trailer manufacturer, or Atwood's Consumer Service Department.

NOTE: Refer to Figure 6 and Figure 7 when welding the outside tube of the adjustable or fixed gooseneck stem to the trailer frame. You MUST make 5/16" fillet welds. Use No. E6011 AWS welding rod, 5/16" in diameter. Set the machine amps (AC or DCRP) at 160-180 amps with 50 volts. Read the following instructions COMPLETELY before starting installation.

• INSTALLATION

1. Attach the stem to the gooseneck trailer frame by welding. (See Figure 6 and 7) Make 5/16" fillet weld on the top and bottom of the side plates. Be sure to weld both sides of the plates.
2. Weld the top and bottom areas where the trailer frame meets the gooseneck stem. Use 5/16" fillet welds.
3. Weld the entire length of the side plates where they meet the trailer frame. Be sure to do both sides. Use 5/16" fillet welds.
4. Weld four 3/8" thick gussets in place as shown.

Figure 6

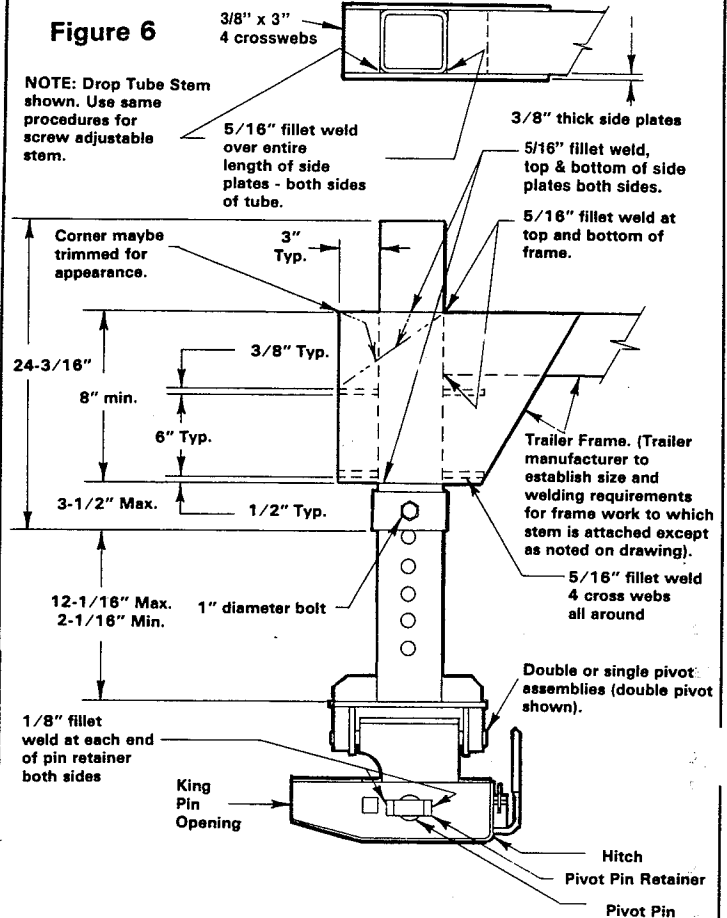
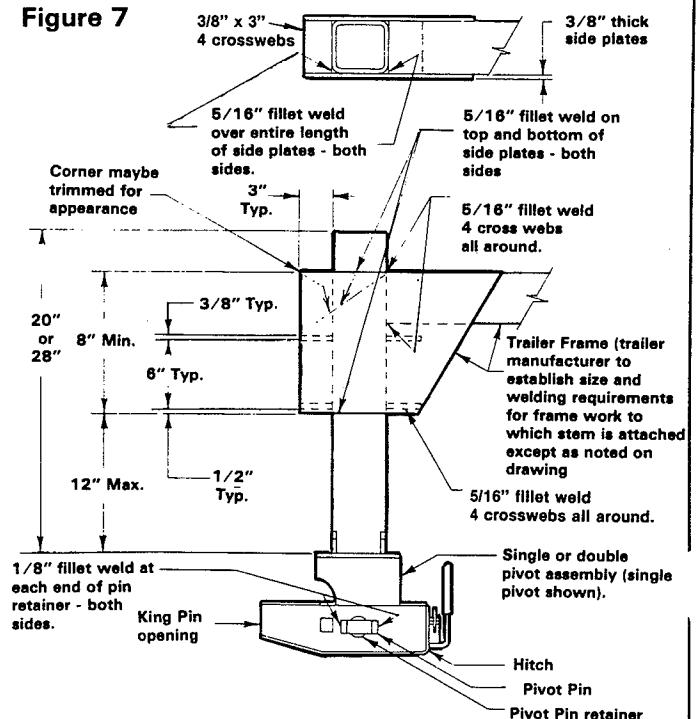


Figure 7



Gooseneck Stems for Mini 5th Wheel Hitch H-32

• INSTALLATION continued

NOTE: If the gooseneck stem has been purchased with the Mini 5th wheel hitch attached, you must complete the assembly. Follow instructions below.

5. Place the legs of the pivot assembly into the top of the hitch. (See Figure 8)
6. Line up the holes in the pivot assembly legs with the holes in the sides of the hitch.
7. Insert the pivot pins. The heads of the pivot pins must touch the sides of the Mini 5th wheel hitch.
8. Place the pivot pin retainers over the heads of the pivot pins (See Figures 5 and 6). Weld each end of the retainer to the hitch. Use a 1/8" fillet weld over the entire length of the end. Use No. E6011 AWS welding rod, 1/8" diameter. Set machine amps (AC OR DCRP) at 105-115 amps, with 18-22 volts.

• OPERATION

Drop-Tube Stem

1. Put the drop-tube stem in the proper position before connecting it to the hitch ball in the pick-up truck bed. This will allow level towing of the trailer. Adjustments can be made every 2" up to 10" maximum.
2. Adjust the stem so your truck trailer combination are in a correct level towing position. To adjust the stem, remove the 1" diameter bolt from the stem. Raise or lower the stem as needed.
3. Replace the bolt and nut. Tighten the nut to 100 ft/lbs. torque.

Adjustable (Screw) Stem

1. The adjustable (screw) stem is adjustable over a 10" length. This stem can level the trailer before or after hook-up is made to the king pin in the pick-up truck bed.
2. To raise the trailer, lift the adjustable stem handle and turn it counterclockwise (to the right).
3. To lower the trailer, lift the adjustable stem handle and turn it clockwise (to the left).

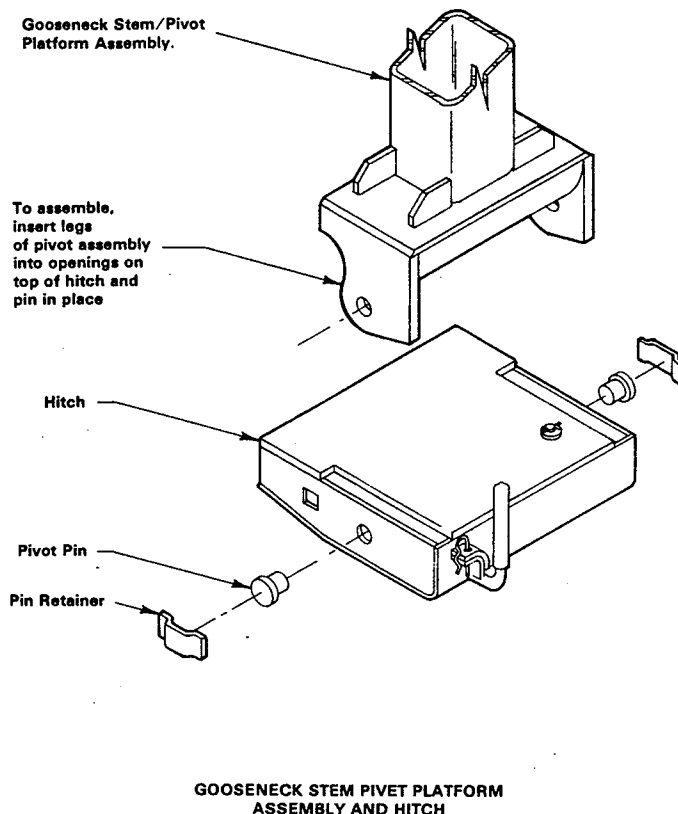


Figure 8

• MAINTENANCE

Drop-tube stem

No maintenance is required for either the drop-tube stem or fixed stem.

Adjustable (screw) Stem

1. Chock the trailer wheels on level ground, and disconnect the hitch from the king pin.
2. Lubricate the adjustable stem. To do this, extend the coupler as far as possible. Squirt SAE 30 oil into the top of the stem where the screw extends out of the top.
3. After oiling, completely retract the stem, and reposition it as described under "operation".

NOTE: For maintenance of the Mini 5th Wheel Hitch, refer to the maintenance instructions for the Mini 5th Wheel Hitch, page 3.

2" Retractable King Pin P-32 and Bed Plate BP-32

WARNINGS:

1. Know the trailer weight and the added load weight. DO NOT exceed the 32,000 lb rating as indicated on the king pin assembly
2. DO NOT exceed the truck manufacturer's recommended maximum trailer weight or payload capacity.
3. Use only a 5th wheel hitch designed to accept an SAE 2" king pin.
4. Should problems or questions arise, contact your dealer, the trailer manufacturer, or Atwood's Consumer Service Department.

NOTE: Read the following installation instructions COMPLETELY through before beginning your installation. These instructions are for mounting the retractable king pin in the bed of the pick-up truck. For installation in larger trucks, contact the vehicle manufacturer and Atwood Mobile Products for recommendations. In either case, DO NOT exceed the rated towing capacities of the towing vehicle.

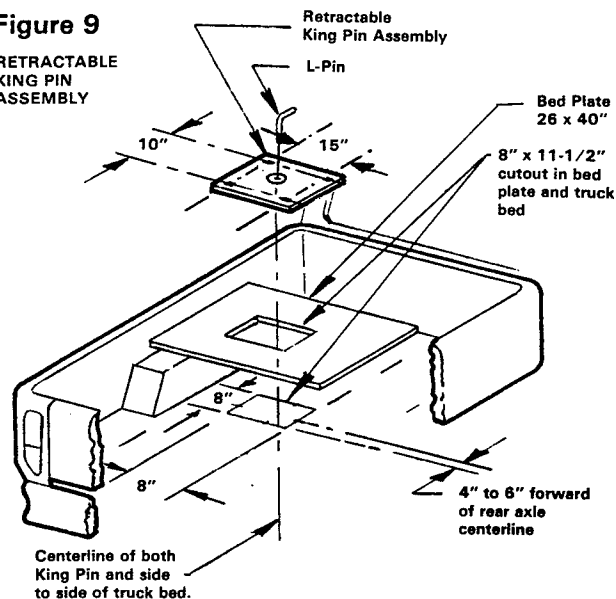
• INSTALLATION

Mounting Location and Truck Bed Floor Cutout

1. Proper mounting location for the retractable king pin assembly is the area centered between sides of truck bed floor, 4-6" in front of rear axle centerline. This mounting location allows for proper weight distribution between truck axles.

Figure 9

RETRACTABLE KING PIN ASSEMBLY



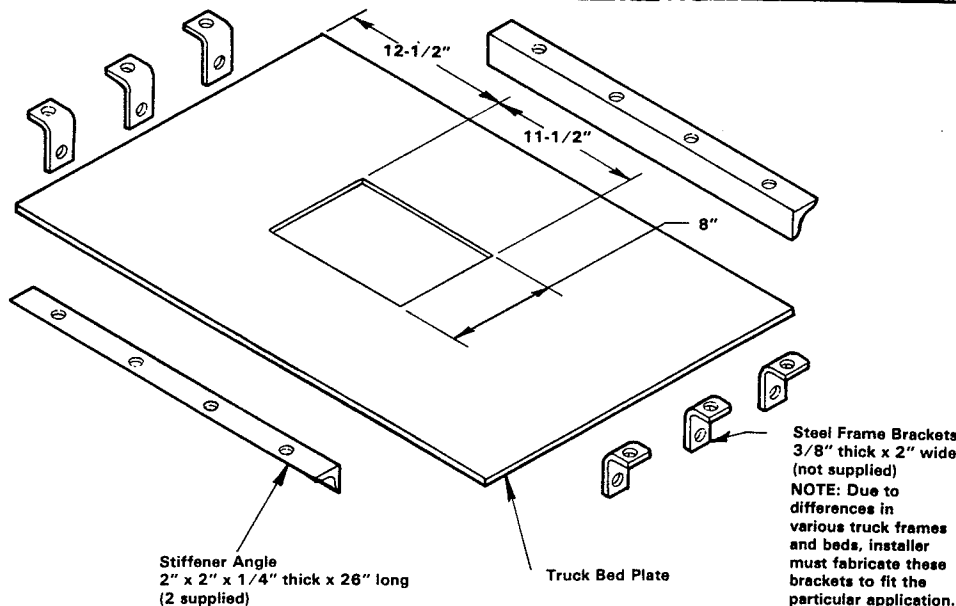
2. Mark the area of the bed floor where the CENTER of the king pin will be when installed.
3. Plan for 8" x 8" cutout to be used in installation of the folding hitch ball. Refer to Figure 9 to double check the proper location of the 8" x 8" cutout. This allows for flush mounting of the retractable king pin assembly.

CAUTION: Before making cutouts or drilling holes in truck bed, check for important truck parts. DO NOT cut gas lines, brake lines, electrical wiring, etc.

Avoid truck cross-members. If a cross-member interferes with mounting, move the assembly front or back to clear the cross-member. The center of the king pin must be 4" - 6" in front of axle centerline.

Figure 10

TRUCK BED PLATE STIFFENER ANGLE (2) AND STEEL FRAME BRACKETS



2" Retractable King Pin P-32 and Bed Plate BP-32

• INSTALLATION continued

4. The 8" x 8" cutout should be centered on the pick up truck bed floor.

NOTE: The mounting location of the retractable king pin must allow for proper clearance between the truck and trailer when making turns of up to 90°.

5. Make 8" x 8" cutout on floor of truck bed.

Bed Plate

To adequately transfer towing forces to the truck, the retractable king pin must be mounted to a 26" x 40" x 3/8" thick bed plate.

1. Center bed plate in bed of pick-up truck.
2. Center cutout in bed plate over 8" x 8" cutout in truck bed.

NOTE: Bed plate must be structural quality, hot-rolled steel plate that meets ASTM A-36 steel specifications. Installer may purchase bed plate with ready made cutout from Atwood, Model BP-32. The Atwood bed plate comes with a pre-cut 8-1/2" x 11" hole for use with other Atwood products. This has no adverse effect on king pin installation. Installer may make his own bed plate, but material must conform to ASTM A-36 steel specifications.

Attaching Retractable King Pin Assembly

1. Place the retractable king pin assembly into the hole in the bed plate and pick-up truck bed floor (See Figure 9).
2. Drill 4 holes (21/32", .656" diameter) through bed plate and through truck bed to secure retractable king pin assembly to bed plate. Use the holes in the base of the retractable king pin as a drill guide.
3. Bolt the retractable king pin assembly to the bed plate and the truck bed. Use 4 SAE Grade 5, 5/8" carriage bolts, nuts, and lockwashers (supplied). Use flat washers on the underside of the truck bed to help distribute the load evenly.
4. Tighten all nuts to 110 ft/lbs. torque

Attaching Stiffener Angles

NOTE: Two stiffener angles are supplied with the Atwood Bed Plate to reduce any flexing of the bed plate/truck bed that may occur during towing. The stiffener angles also add extra strength to your towing system. The installer may make his own angles from 2" x 2" x 1/4" thick steel bar that meets the ASTM A-36 steel specifications.

1. Position the 2 stiffener angles to the underside of the truck bed so bolts will pass through truck bed and bed plate.

NOTE: It may be necessary to shift the stiffener angles front or back to clear any truck bed cross members.

2. Drill holes at the front and rear end areas of the bed plate to mount the 2 stiffener angles. Use the 4 pre-punched holes in the stiffener angles as a guide for drilling. Holes must be 17/32" (.531") diameter.
3. Secure each stiffener angle to the underside of the truck bed with 4, SAE Grade 5, 1/2" diameter bolts, nuts and lockwashers (supplied).
4. Torque all nuts to 60 ft/lbs.

Attaching Steel Frame Brackets

NOTE: The bed plate must also be secured to the truck frame. This allows for adequate transfer of forces produced during towing. To mount the bed plate to the truck frame, you must make 6, 2" wide x 3/8" thick steel brackets (3 brackets are required for each end) to fit your particular truck. See Figure 10 & 11.

2" Retractable King Pin P-32 and Bed Plate BP-32

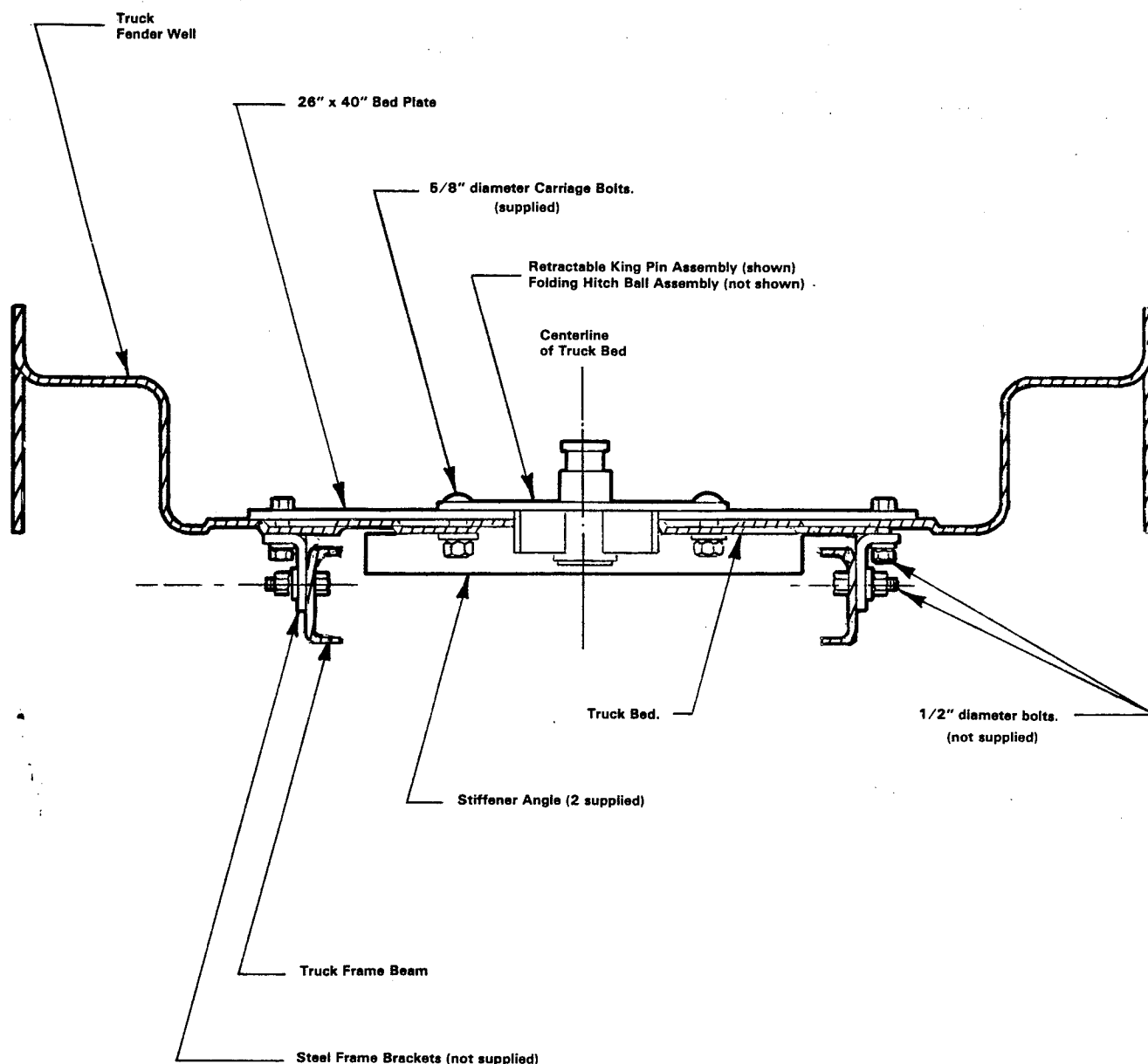
• INSTALLATION continued

Attaching Steel Frame Brackets

1. Refer to the cross-sectional view in Figure 11. Note that the tops of the steel brackets fit flush against the underside of the truck bed. Also note that the inside of the steel brackets fit flush against the truck frame. They MUST fit this way for proper installation.
2. Position the steel frame brackets along each side

of the truck frame beam. Clear any cross member or other parts that get in the way. Drill $17/32"$ (.531) diameter holes through truck bed and bed plate.

3. Secure the steel frame brackets to the truck bed and bed plate with SAE Grade 5, $1/2"$ diameter bolts, nuts, and lockwashers. This hardware is not supplied.



Cross Sectional View of the Retractable King Pin

Figure 11

2" Retractable King Pin P-32 and Bed Plate BP- 32

• INSTALLATION continued

4. Drill $17/32"$ (.531") diameter holes through the lower leg of the steel brackets and truck frame beam. (See Figure 11) The holes should be positioned in the vertical center of the truck frame beam.
5. Secure the steel brackets to the truck frame beam with SAE Grade 5, $1/2"$ diameter bolts, nuts, and lockwashers. This hardware is not supplied.

WARNING: DO NOT WELD STEEL FRAME BRACKETS TO TRUCK FRAME. Welding will not provide the structural strength needed for towing.

6. Tighten all bolts to 60 ft/lbs. torque.

Completing the Installation

After finishing the above installation, follow these steps:

1. Connect the trailer to the towing vehicle (See mini 5th wheel hitch operation on page 2) . Check to see that the up-down position of the coupler provides at least 6" of clearance between the bottom of the trailer's overhang and the top of the pick-up bed sides.
2. Check to see there is enough clearance between the lower front of the trailer and the corners of the pick up bed/bumper. This will insure enough room during turns.

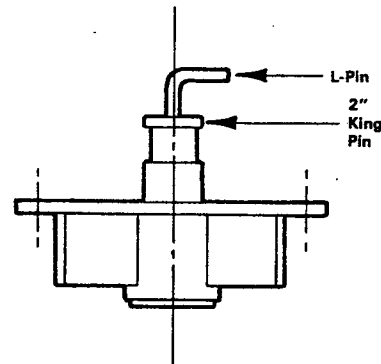
Take a few minutes and double check your installation. Your system is now ready for use.

• OPERATION

1. To raise king pin into coupling position, screw the provided L-pin into hole in top of king pin and lift until pin is all the way out. A shallow $1/8"$ wide groove will be visible above surface of plate when king pin is fully raised.

2. Remove and store the L-pin when not in use. King pin will remain in raised position for coupling or until manually pushed in by operator.
3. To retract the king pin, step down on top of the pin until it is flush with the plate.

Figure 12



RETRACTABLE KING PIN ASSEMBLY

• MAINTENANCE

1. The surface of the king pin plate and the 5th wheel that makes any kind of contact must be kept clean of dirt and other foreign matter. This will minimize wear between the two surfaces.
2. Coat the surface of king pin plate before first time use and monthly thereafter with wheel bearing grease. This will prevent wear and corrosion.
3. Check monthly for any looseness or excessive wear that may occur from loose nuts and bolts. Assure that the bolts/nuts are properly tightened.
4. With king pin in down position, clean lower surface of king pin diameter and lubricate with SAE 30 oil at least every 6 months.