



## PH45 PINTLE HOOK



### **Installation Instructions and Owner's Guide for Model PH45**

Contains important safety information. This manual must be delivered to the vehicle owner.

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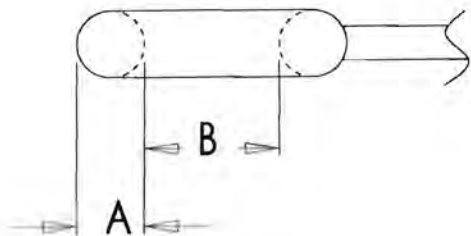
**SPECIFICATIONS: (LOAD CAPACITIES)**

Max Gross Trailer Weight:.....	90,000 lbs.
Max Vertical Load:.....	18,000 lbs.
Drawbar Cross Section:.....	1.25" to 1.62"
Drawbar I.D.:.....	2-3/8" to 3"
Unit Weight:.....	21.3 lbs.

**DRAWBAR SIZE:**

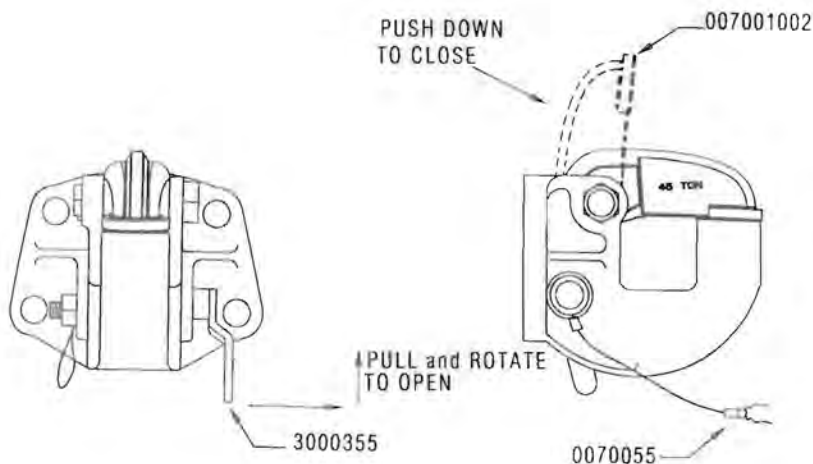
It is important to match drawbar size to the pintle hook.

1. It will allow proper clearance for turning, and uneven surfaces.
2. It will prevent binding of the mating parts.
3. It will prevent excessive movement of the drawbar in the pintle hook, and premature wear of the drawbar.



A = Cross Section 1-1/4" To 1-5/8"

B = Inside Diameter 2-3/8" To 3"



**OPERATION:**

1. To open the PH45 pintle hook, first disconnect the pawl lock clip (0070055). Then pull the pawl lever (3000355) away from the hook and then in a clockwise direction.
2. This will open the jaw (3000504). To close the jaw, simply push down on the jaw and it will automatically lock into the closed position.
3. To completely lock the PH45 pintle hook in the closed position, reconnect the pawl lock clip. Never tow a load without completing this step.

**WARNING:**

The pintle rating is based on the pintle locking handle being fully engaged in the locked position. Towing a ring equipped load without the pintle locking handle fully engaged in the locking position, greatly reduces the load capacity and can result in a loss of the towed load.

**GROSS TRAILER WEIGHT:**

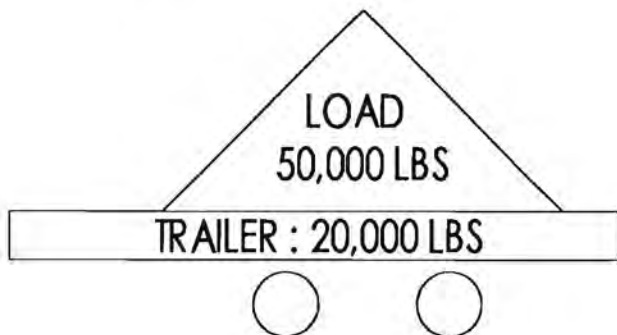
Gross Trailer Weight is the weight of the empty trailer plus the load.

Example:

Empty trailer:.....20,000 lbs.

Load:.....50,000 lbs.

Gross Trailer Weight = .....70,000 lbs.



Never exceed the rated capacities of towing devices. For off road usage, use with a swivel type drawbar and reduce capacity by 25%.

**VERTICAL LOAD:**

Vertical Load should be at least 10% of the Gross Trailer Weight.

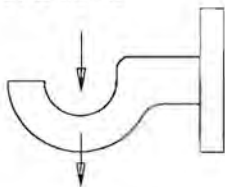
1. This will help stabilize the drawbar in the pintle hook.
2. It will help directional control on cornering.
3. It will minimize the sawing effect of the drawbar during speed changes. Thus preventing premature drawbar and pintle hook wear.

Vertical load in excess of 20% of Gross Trailer Weight should be avoided.

1. It will prematurely wear the bottom of the pintle hook.
2. It will prematurely wear the bottom side of the drawbar.

Never exceed the rated vertical capacity of towing devices. For off road usage, use with a swivel type drawbar and reduce capacity by 25%.

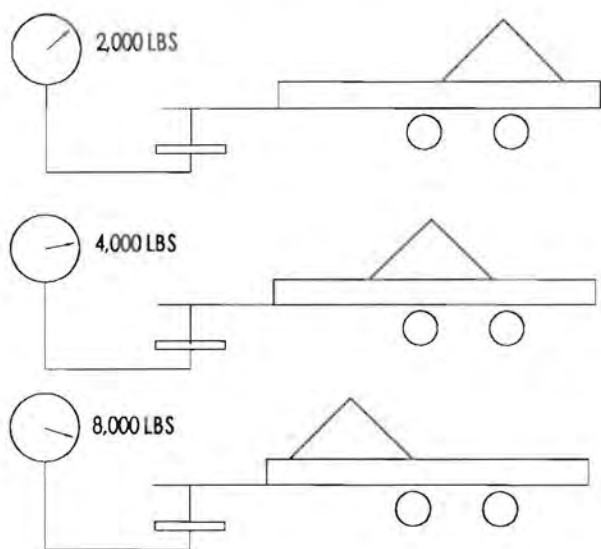
VERTICAL LOAD



For PH45 Vertical Load minimum is 9,000 lbs and maximum is 18,000 lbs.

Vertical load is measured at the drawbar of a rigid tongue trailer. Excessive vertical load is the number one cause of towing device failures. Overloading the towing device just once, can cause fatigue failure even if all future loads are within the specifications of the device.

How placement of load affects vertical loading:



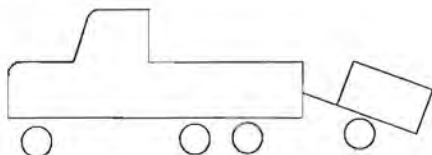
**MOUNTING HEIGHT:**

The pintle hook should be mounted at a height that results in the trailer being close to level.

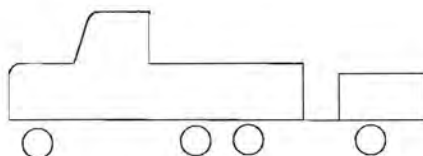
Mismatches in height cause:

1. Changes in vertical load.
2. Changes in vehicle handling.
3. Premature wear of towing devices.

Improper mounting height:



Proper Mounting height:



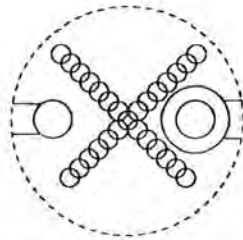
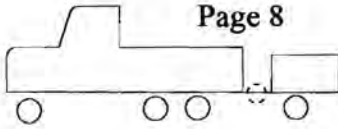


**SAFETY CHAINS:**

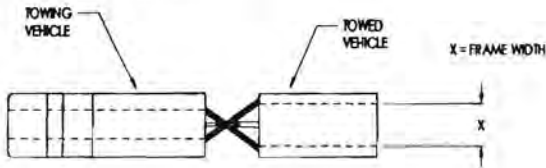
1. Safety chains are an important part of the coupling system.
2. Safety chains keep the towed and towing vehicle together in the event of a coupling failure.
3. Safety chains control the direction of travel of the towed vehicle in the event of a coupling failure.

**PROPER INSTALLATION OF SAFETY CHAINS:**

1. Chains must have an ultimate strength in excess of the gross weight of the vehicle being towed.
2. Safety chains must be connected in a manner that prevents the trailer tongue from falling to the ground in the event it fails or becomes detached.
3. Safety chains must not be attached to the pintle hook mounting bolts.
4. Safety chains must have no more slack than is required to allow the vehicle to turn properly.
5. Safety chains should be attached to the towing and towed vehicle at points that are close to the respective frame widths. This will help the towed vehicle to track properly while stopping in the event of a coupler failure.

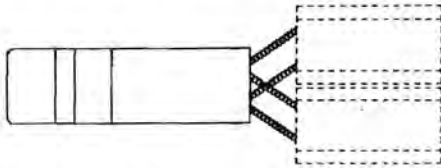


SAFETY CHAINS  
CROSSED TO  
SUPPORT  
DRAWBAR



Correct anchor points.

The chains will equalize pull and help center the towed vehicle during stopping.

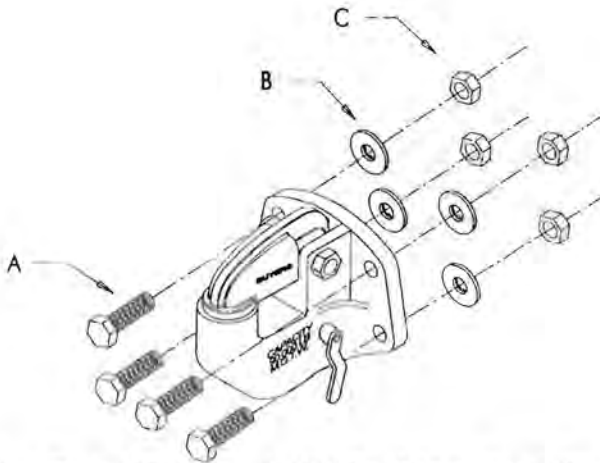


Incorrect anchor points.

The towed vehicle has lost directional control and can weave from side to side.

**MOUNTING SURFACE:**

1. Must be able to support the rated capacity of the pintle hook.
2. Must have adequate vertical and drawbar strength in accordance with the requirements of SAEJ849 and SAEJ847 Type I and Type II.
3. Must be flat and parallel with mounting surface of the pintle hook.
4. All mounting hardware must be Grade 8.
5. Bolts must extend at least two full threads beyond the end of the nuts when properly fastened.
6. Use hardened flatwashers and Grade C locknuts.
7. Torquing of fasteners is perhaps the most overlooked step in the proper mounting of the pintle hook. Undertorquing can result in fastener loosening and movement between the pintle hook and the mounting surface. The accompanying impact forces can cause fastener failure. Overtorquing can cause fastener elongation and loosening by exceeding the fasteners yield point. Unequal torque will load the fasteners at different values. The highest loaded fastener will be overloaded and can elongate, loosen, and possibly fail. Torque fasteners to manufacturers recommendations. Do not use pintle hook with missing or improperly torqued fasteners.



A = Four 3/4" - 10 x 3-1/2" Gr. 8 Hex Head Cap Screws

B = Four 3/4" Gr. 8 Hardened Washers

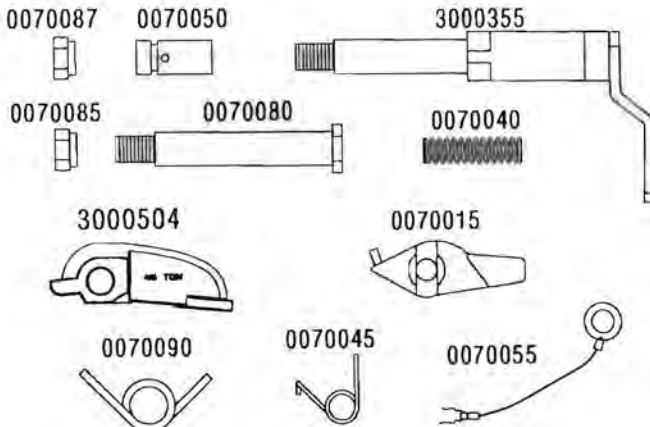
C = Four 3/4" Gr. C Locknuts

Above are contained in Buyers optional Mounting Kit 8530.

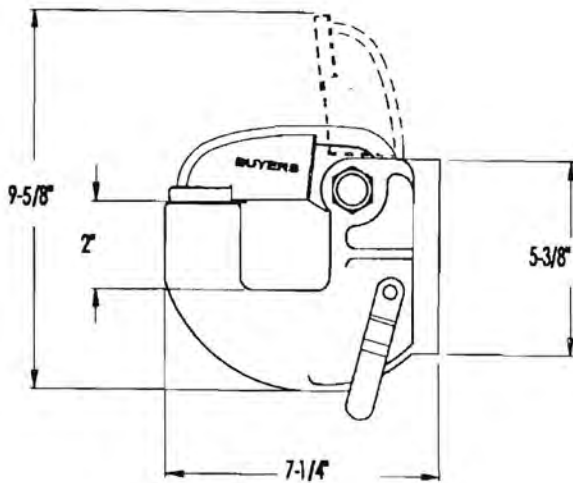
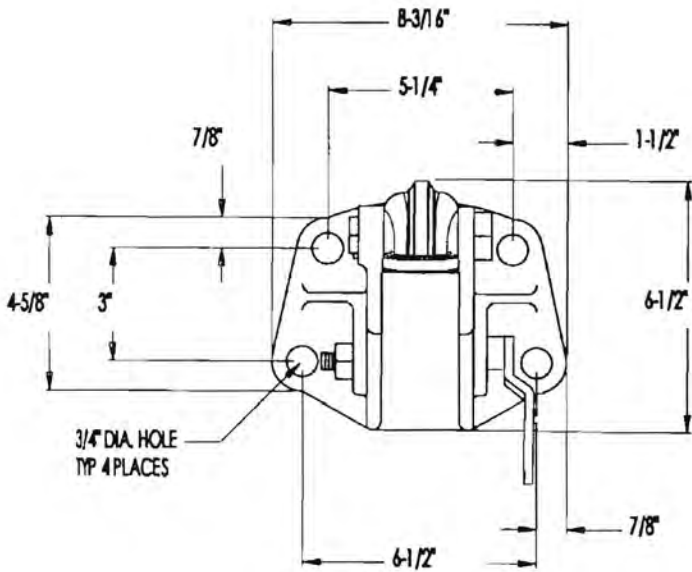
### MAINTENANCE:

Pintle Hooks should be inspected, cleaned, and lubricated at 60 day intervals. Parts showing excessive wear should be immediately replaced. Replace any towing component when 1/8" of wear is visible. Welding of pintle hooks to repair or resurface is forbidden. If the pintle hook has been subject to binding, jackknifing, overloading, or other abuse, immediate inspection should be conducted.

### INTERNAL PARTS LIST



**PH45 DIMENSIONS:**



Check out the collection of trailer hitches and towing we offer.