Tru Hitch®

Manufacturers of Patented Truck Trailering Lifts

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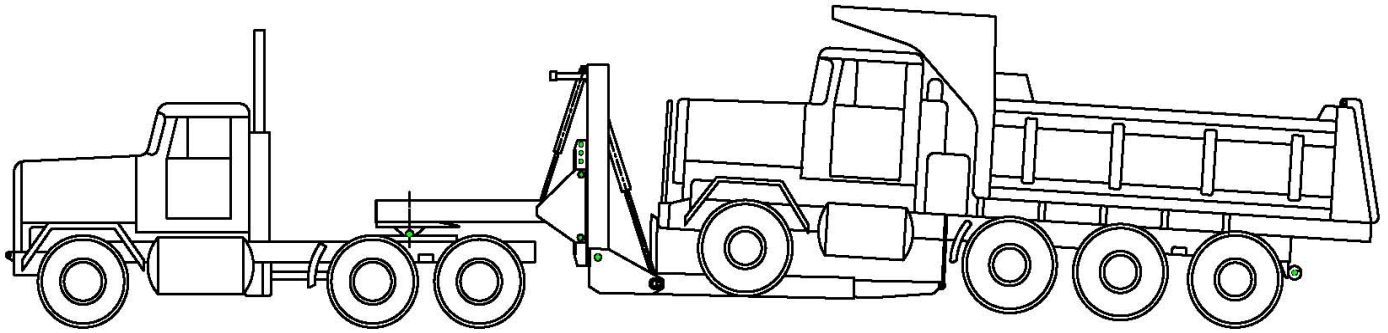
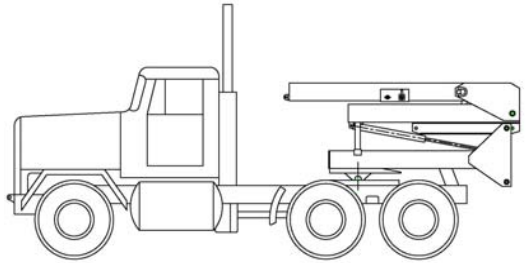


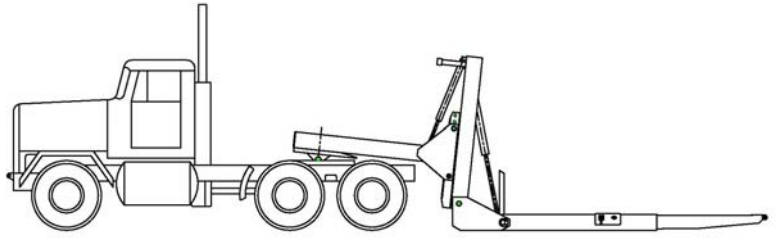
1

Read All Instructions Before Operating

Tru-Hitch Model 250M A2 Specifications

Gross Lift Capacity	32,000 lbs
Trailering Capacity	120,000 lbs
Hitch Weight With Attachments	8000 lbs
Hydraulic Operating Pressure	3000 psi





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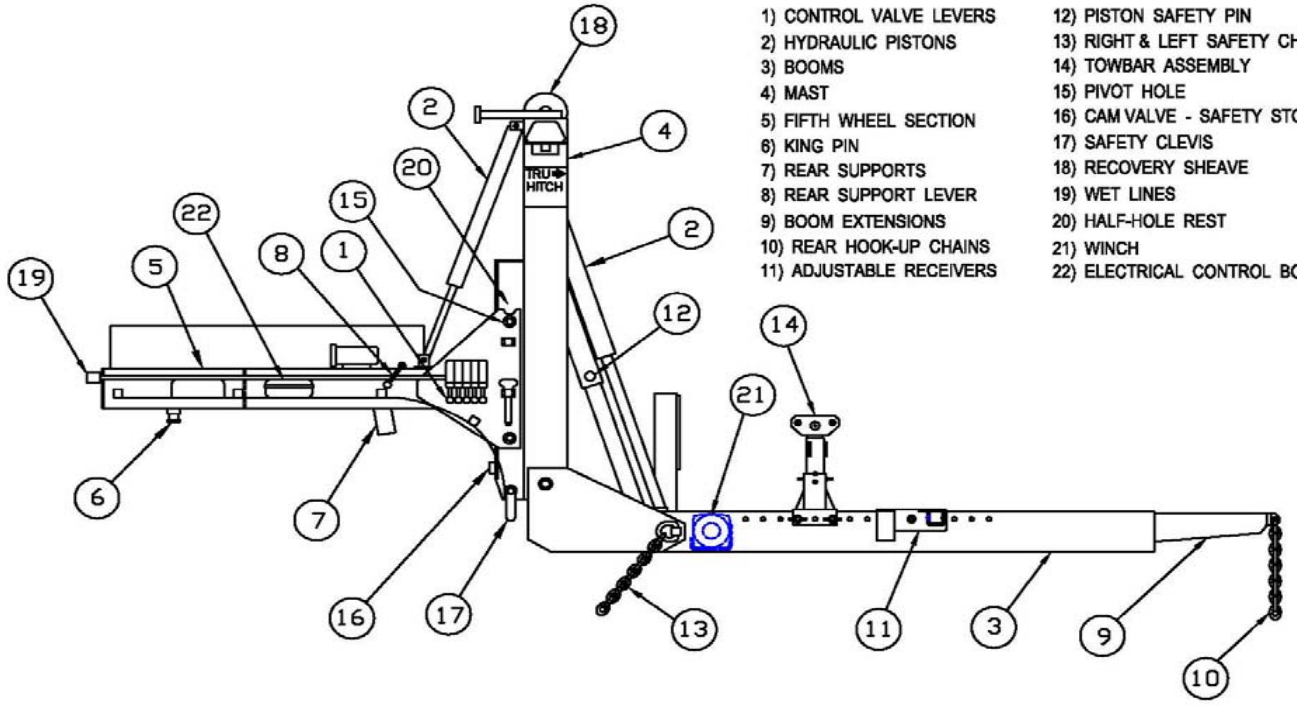

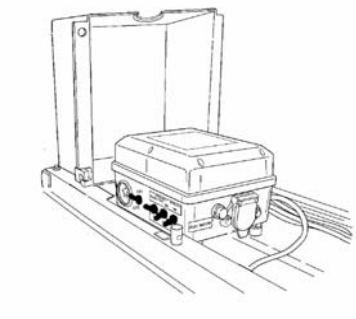

FIGURE 2 – Electric Control Box

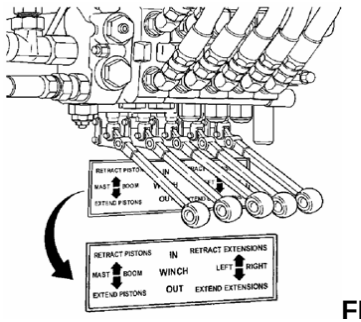

FIGURE 3- Levers

QUICK REFERENCE OPERATING INSTRUCTIONS
TABLE OF CONTENTS

THIS IS FOR REFERENCE ONLY- REFER TO THE PROPER TM FOR COMPLETE OPERATING INSTRUCTIONS

II. Operating Procedure

1. **Coupling the Tru-Hitch to a Prime Mover**
    a. **Starting position**
    b. **Coupling the Tru-Hitch to a prime mover fifth wheel**
    c. **Electrical Hookup**
    d. **Connection of wetlines (if equipped)**

2. **Procedure to Transport the Tru-Hitch without a load**
    a. **Engaging the rear transport legs**
    b. **Folding the Tru-Hitch for transporting**

3. **Procedure for loading a truck onto the Tru-Hitch**
    a. **Positioning prime mover for hookup**
    b. **Unfolding the Tru-Hitch to the tow position.**
    c. **Attaching the Tru-Hitch to the truck being towed**

5

4. **Use to the Towbar Assembly**

5. **Options for rear hookup chains**

6. **Kingpin installation**

7. **Unfolding Tru-Hitch from shipping configuration**

III. Safety Precautions

I. Principle of Operation

1. Refer to Figure 1 for the part names of the Tru- Hitch – FWTRD

2. The hydraulic valve control levers (1) activate the hydraulic pistons (2) so that if, for instance, the Boom lever is pressed down (Extend), the pistons extend and the angle between the boom and the mast (boom angle) is increased. If the lever is pushed up (Retract), the pistons retract and the boom angle is

6

decreased. When the weight of a truck is resting on the boom, the effect of increasing boom angle raises the end of the truck resting on the boom. The effect of decreasing boom angle is to lower the end of the truck resting on the boom. These raising/lowering effects occur due to the pivoting action of the Tru-Hitch. Operators should become familiar with the extension and retraction action of the hydraulic pistons before using the Tru-Hitch to transport a truck.

II. Operating Procedures

1. Coupling the Tru- Hitch to a Prime Mover

a. The operating instructions assume that the Tru-Hitch is set on the ground with the boom extended at a right angle to the mast section as shown in figure 1. Set the voltage selector to 12 volt, turn the power on at the electric control box (figure 2) and set the second switch to “electric”. Depress the motor control button and use the valve control lever (figure 3) to raise or lower the fifth wheel section by extending or retracting the mast to bring the

king pin level with the fifth wheel of the prime mover. (If mast is fully retracted and king pin is not level then retract boom so that the prime mover fifth wheel can begin to engage the fifth wheel section.) Back the prime mover under the Tru-Hitch until the king pin slides onto the fifth wheel. Boom Extend if necessary to level the fifth wheel section and continue backing under until the fifth wheel engages the king pin and locks. Carefully double check to make sure the king pin is completely and properly latched.

b. If operating on electric, switch voltage selector to 24 volt and plug the NATO (IVEC) cable between the prime mover and the Tru-Hitch. Route the cable so that it does not get caught in the prime movers wheels when backing under the truck to be towed. Make sure that electric control box (figure 2) power switch is “on” and second switch is set to “electric”.

c. If connecting to wetlines, position the Tru-Hitch so that the mast is fully retracted in its track and 90 degrees to the booms.

Fully extend the boom extensions and then connect the wetlines*. *Be sure that the PTO is off before connecting or disconnecting the wetlines*. The Tru-Hitch should always be brought back to this configuration before disconnecting the wetlines so as to keep hydraulic fluid levels consistent between the prime mover and the Tru-Hitch. Set the second switch of the electric control box (figure 2) to “wetline”. Engage the PTO of the prime mover.

2. Procedure to transport the Tru-Hitch without a load

a. Using the valve control lever (figure 3), **BOOM EXTEND** until the fifth wheel section lifts sufficiently to allow the rear supports (7) to be lowered down over the prime movers after-frame. To lower the supports, rotate the rear support lever (8) clockwise until the supports lower and lock into position.

Using the valve control lever**, BOOM RETRACT** until the rear supports are supporting the fifth wheel section.

b. To fold the hitch for transport, first remove the safety clevises (17) at the bottom of the mast section. CAUTION: The safety clevises should only be removed when folding or unfolding the Tru-Hitch.

Using the valve control levers, **BOOM EXTENSION RETRACT** if necessary to fully retract the extensions (9).

Then using the valve control levers, **BOOM RETRACT** until the booms (3) are in a full vertical position.

Using the valve control levers, **MAST EXTEND** to line up the arrows on the mast with the pivot hole(15) and insert pins in both sides of the mast.

Then using the valve control lever, **MAST RETRACT** to fold the mast down onto the fifth wheel section. Remove the pins.

Using the valve control levers, **MAST EXTEND** to line up the second set of arrows with the pivot pin hole. Reinstall safety clevises (17) in mast and cross chain to through the clevises to the rear of the prime mover.

Using the valve control levers, **MAST RETRACT** to tension the safety chains. The Tru-Hitch is now ready for transport.

3. Procedure to load a truck onto the Tru-Hitch

a. Once the Tru-Hitch is attached to the prime mover, position the prime mover so that the booms can be backed straight under the truck to be transported, or so that the truck can be winched straight over the booms.

b. Remove the safety chains and clevises from the mast section and, using the valve control levers, **MAST RETRACT** to line up the arrows with the pivot pin holes. Insert the 1 ¼ inch pins.

Using the valve control levers, **MAST EXTEND** until the mast is vertical and the pivot pin tension is released. Remove the pivot pins.

Using the valve control levers, **MAST RETRACT** to engage the mast fully in the track. Reinstall the safety clevises.

Using the valve control levers, **BOOM EXTEND** to bring the booms parallel to the ground.

c. Adjust mast if necessary to bring the booms low enough to the ground to be backed under the truck to be towed. Check for any obstructions that may interfere with positioning booms under the truck to be towed.

Place the receivers (11) in the hole setting that allows the wheel stop to contact the wheels on the towed vehicle while keeping clearance between

the front of the towed vehicle and the bumper stops on the Tru-Hitch. Be sure to engage all of the pins that hold the receivers on the booms.

Carefully back the Tru-Hitch under the truck until the wheel stops contact the wheels on the towed vehicle. If necessary the winch (21) on the Tru-Hitch can be used to pull a truck over the booms when backing under is not practical.

Using the valve control levers, **EXTEND** the extensions to the points where rear hook-up chains will be fastened to the truck.

Using the valve control levers, **BOOM EXTEND** until the rear supports clear the after-frame of the prime mover and can be raised by turning the handle counter- clockwise. Note: The boom may raise the truck slightly when positioning to raise the support legs. Make sure to secure the truck being towed from rolling by chocking the wheels.

Now using the valve control levers, **BOOM RETRACT** to bring the extensions as close to rear chain up point as possible without interfering with components under the truck other than the axle.

Attach the rear hookup chains over the frame, to the frame hooks, or another location of adequate strength. Take up as much slack as possible. This will allow for the most tow height possible.

NEVER wrap chains around individual frame flanges or cross member flanges.

Using the valve control levers, **BOOM EXTEND** until the rear hookup chains (10) are tensioned. Make sure that the boom does not interfere with any other part of the truck to be transported other than at the axle.

Tow bar assemblies can now be attached if being used.
(refer to section 4)

Using the valve control levers, **BOOM EXTEND** until the fifth wheel section is level with the prime mover frame and desired towing height is reached.

Insert a the safety pin (12) in the boom lock and using the valve control levers **BOOM RETRACT** until pin is tight. Note: Weight should remain held by hydraulic pistons.

If additional ground clearance is necessary at the axle being lifted, using the valve control levers**, MAST EXTEND** to raise the mast section.
When desired height is reached, Place left and right lock pins in the mast using the half hole rest (20). Using the valve control levers, **MAST RETRACT** until the pins are tight.

Attach left and right safety chains (13) to hold the truck to be towed forward against either tire stops or Towbar assemblies Additional chains may be added as needed to hold the truck securely to the boom.

Hook up proper lighting and brakes Transport as a semi-trailer conforming to all laws and using all safety measures that apply to tractor-trailer operations.

4. Use of the Towbar Assembly

The Towbar Assembly can be installed on the booms by engaging four screwed locking pins into the first five sets of holes on the booms. The towbar assembly base and top section are built with a 1” offset that can be reversed to allow installation into front or rear tie downs ranging in width from 31” – 37”. Once the towbar assembly is positioned under the tie down of the truck to be towed, with the booms resting on the ground, lift the top section of the towbar assembly and install the appropriate clevis pin.

Install a ¾” pin through the top section at the desired height setting so that as the booms are lifted the pin will rest in the notch provided at the top of the base of the lower hole in the towbar assembly. A second ¾” pin should be installed through a lower hole in the towbar assembly base in the opposite direction.

5. Rear Hookup Chains

There are a variety of ways to secure the boom extensions to the truck being towed. The most common is to engage two “C” type frame hooks by rotating them inside the bottom frame flange. Then using the ½” chains fasten clevises on the frame hooks to clevises at the end of the boom extensions. When the top of the truck frame is accessible a chain can be looped over the top of both sides of the truck frame and hooked into the left and right extension. A chain can also be hooked into the top flange of the truck frame and down to the extension.

Always be sure that the distance between where the load rests and the rear hookup chain is fastened, is at least ¼ of the distance from the king pin on the Tru-Hitch to the center of the rear axle(s) of the truck in tow.

6. Kingpin Installation

The rear hole is the standard setting and should be used in all applications except where additional swing clearance is needed. The 2” or 3 ½” kingpin should be installed and hand tightened until the closest slot in the castle nut aligns with the lock pinhole in the kingpin. Then, tighten with the kingpin wrench 120 degrees to line up with the lock pinhole.

7. Procedure to unfold a Tru-Hitch from Shipping Configuration

This procedure assumes that the Tru-Hitch is resting on its booms and folded

so that the kingpin is on top. The oil reservoir breather should be open and the extensions extended. Using the valve control levers, **MAST RETRACT** until the pivot hole lines up with the arrows.

Install both pivot pins and using the valve control levers, **MAST EXTEND** until the fifth wheel section is vertical. In this position close the bottom breather and open the top reservoir breather. Remove both pivot pins and using the valve control levers, **MAST RETRACT** at least 12 inches. Now using the valve control levers, **BOOM EXTEND** to bring the fifth wheel section horizontal.

III. Safety Precautions

1. Operate Tru-Hitch only after you read and understand all operating instructions.
2. Hook and unhook the Tru-Hitch on a level surface with the prime mover, Tru-Hitch and truck in tow all in a straight line together.
3. Chock the wheels of the truck being loaded

4. Always double check the fifth wheel coupling after hooking up to the Tru-Hitch
5. Never travel with the booms in the vertical position
6. Check for obstructions before backing under truck to be towed
7. The distance between the lift point and the rear hookup must be at least ¼ of the distance of the kingpin to axle remaining on the ground of towed truck.
8. Never secure rear hookup chains around individual frame flanges.
9. Never transport a truck with rear support legs in lowered position.
10. Engage piston safety pins and load them to support heavy loads.
11. Front safety chains must hold vehicle being transported in a locked position.
12. Always couple the prime mover brakes and lighting to truck being towed.
13. Always have safety clevises installed in mast section.