Kwik Trap
Installation Instructions

Attention Dealers: Please give this manual to the customer when the product is delivered.

Call 800-535-9545 | www.aeroindustries.com
Indianapolis, IN | Omaha, NE | Streetsboro OH
## Installation Directory

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## Trailer Configurations

*The Kwik-Trap Opener is designed for use on various makes and models of grain trailers. Some original equipment manufacturers (OEM) trailers may need to be modified to ensure efficient operation of the Kwik-Trap.*

### Preparation

*Unpack box(es) and layout all parts. Check to ensure you have all components necessary to install on trailer.*

**NOTE:** To ensure correct mounting, double check that you have the right mounting brackets for the trailer you are installing. Variations in trailer manufacturing may require Aero to produce different mounting brackets for different trailers.

## Tools Required for Installation

<table>
<thead>
<tr>
<th>Tools Required for Installation</th>
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</thead>
<tbody>
<tr>
<td>Marker or Felt Pen</td>
</tr>
<tr>
<td>Tape Measure</td>
</tr>
<tr>
<td>Black Electrical Tape</td>
</tr>
<tr>
<td>Awl</td>
</tr>
<tr>
<td>Hammer</td>
</tr>
<tr>
<td>Electric or Air Drill</td>
</tr>
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</table>
Explanation of Safety Messages

⚠️ DANGER: Risk of death or serious injury to operator or bystander will result.
⚠️ WARNING: Risk of death or serious injury to operator or bystander could result.
⚠️ CAUTION: Risk of injury to operator or bystander could result.
NOTICE: Risk of product or vehicle being damaged.
NOTE: Contains information critical to the installation or operation of this product.

Safety Messages

⚠️ DANGER: Read this entire manual before installing this product. Read all labels before operating.
⚠️ DANGER: Make sure trailer is chocked securely and will not move while installing, repairing or operating Kwik Trap.
⚠️ DANGER: DO NOT operate Kwik Trap while you or a bystander is near or underneath trailer.
⚠️ WARNING: Be sure that your working platform is secure as you work on the truck. Use OHSA approved ladders or scaffolding to work above ground level.
⚠️ WARNING: Always wear safety glasses during installation and operation.
⚠️ WARNING: Be aware of pinch points, keep hands and clothing away from moving parts.
⚠️ CAUTION: Keep all clothing clear of moving parts.
NOTICE: Make sure marker light is off before moving trailer.
Step 1

Install Pump Box Assembly

<table>
<thead>
<tr>
<th>Index</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pump Box Assembly</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Hinge 12&quot; Long</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Varies Aluminum Brackets</td>
<td>Varies</td>
</tr>
</tbody>
</table>

**NOTE:** Pump box assembly contains all pump hardware and is pre-wired for easy installation.

**NOTE:** Ensure that mounting location does not interfere with pre-mounted wiring plugs or hydraulic fittings.

**NOTE:** Allow for adequate room to run power wire into hole on the back of the pump box. In some cases it may be beneficial to install power wire into pump assembly box before mounting box. See STEP 1-5

1) **See Figure 1.** On passenger side of trailer between the two hoppers and close to the front hopper locate a position to mount the pump box assembly (1) between hoppers with the box door facing the rear of the trailer. Leave approximately 6" between edge of box and passenger side rail of trailer to allow easy access to and operation of the bypass valves and for ease of running hydraulic lines along the side of trailer.

2) Use the hinge (2) to find the desired angle where the pump box assembly (1) will be mounted level and fully supported on the top at the front and on the back at the bottom.

3) **See Figure 2.** The top hinge (2) will be bolted to trailer and then the hinge bolted on the top and towards front of the pump box to match angle of knock rail. In most installations, the pump box can be mounted using hinge only. If needed the 12" x 12" piece of aluminum (3) can be sized and bolted to the hinge and then bolting to top of the box.

4) The bottom hinge (2) will be bolted to trailer and the hinge bolted to the back at the bottom of the pump box so that the pump box is level. A piece of aluminum may be need to extend the hinge out to the box.
Step 2a
Assembly Motor, Motor Coupler, and Motor Mounting Bracket

<table>
<thead>
<tr>
<th>Index</th>
<th>Description</th>
<th>Qty</th>
<th>Index</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bracket Motor Mount</td>
<td>1</td>
<td>4</td>
<td>1/4&quot; Spring Pin</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Hydraulic Motor</td>
<td>1</td>
<td>5</td>
<td>5/16 Bolt</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Motor Coupler</td>
<td>1</td>
<td>6</td>
<td>5/16 Nut</td>
<td>2</td>
</tr>
</tbody>
</table>

NOTE: Variations in trailer manufacturing may require Aero to produce different brackets for different trailers. To ensure correct mounting, double check that you have the right mounting brackets for the trailer you are installing.

NOTE: Once the motor assembly is installed shims may be required for shafts to align properly for smooth operation.

1) Find motor mounting bracket (1) sent for your trailer and verify that it will work.

2) See Figure 3. Attach the motor mounting bracket (1) to the hydraulic motor (2) using the bolts supplied with the motor. The ports on the motor will be facing up and the chamfer on the bracket will be on the bottom.

3) Remove the plastic protector from the motor shaft being careful not to lose the key. Align the key on the motor with the slot on the motor coupler (3) and slide it onto the motor shaft. Lightly tighten the set screws to hold the coupler in place.

Step 2b
Install Motor Assembly to Timpte Trailer

1) On passenger side of trailer, remove the two nuts holding the bearing block of the hopper door drive shaft.

NOTE: It is possible that the bolts holding the bearing block could fall out, causing the bearing block and hopper door drive shaft to fall out of alignment. In this instance, reinstall by making sure to align the sprocket and gear rack square (in same tooth as driver’s side) to the hopper door. Reinstall mounting bolts and hand tighten nuts. Go to driver’s side of trailer and manually operate hopper door crank to ensure smooth operation of door movement before installing motor. If the door operates smoothly, proceed with installing motor.

2) See Figure 3. Orient the motor assembly (1) with the ports for the hydraulic fittings facing up and slide the coupler onto the hopper door drive shaft stub. Mark the location of the mounting holes. Remove assembly and drill holes in bracket.

Figure 3
3) Slide the coupler back onto the shaft and align the two mounting bolts with the mounting bracket holes, making sure to not let the bearing block bolts fall out. Reinstall and tighten nuts.

3) Adjust the motor coupler (3) so there is at least a 1/2" of shaft into the coupler and drill a 1/4" hole through the motor coupler and the drive shaft.

4) Install 1/4" spring pin (2) through coupler and shaft and tighten the set screws on the motor coupler (3).

5) Manually operate hopper door crank while watching the hydraulic motor to ensure that there is no twisting of the bracket or binding of the gear rack and drive shaft. (Some realignment and shimming of the motor may be necessary if this occurs).

6) Repeat above steps for second hopper.

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**Step 2c**

Install Motor Assembly to Wilson Trailer

1) On the passenger side of trailer, slide motor coupler onto the hopper door drive shaft. Clamp motor mounting bracket (part of motor assembly) onto knock rail of hopper and drill for 5/16 bolt.

2) Install motor mounting bracket to knock rail using 5/16 bolts (3) and 5/16 lock nuts (4).

3) Drill a 1/4" hole through the motor coupler and the drive shaft.

4) Install 1/4" spring pin (2) through coupler and shaft.

5) Manually operate hopper door crank while watching the hydraulic motor to ensure that there is no twisting of the bracket or binding of the gear rack and drive shaft. (Some realignment and shimming of the motor may be necessary if this occurs).

6) Repeat above steps for second hopper.
**Step 3**

**Installing Hydraulic Lines**

1) Locate the rear set of hydraulic lines (1), which are marked as such. Start with the rear motor assembly and install the two adapter fittings (3) into the ports of the motor assembly. Attach the end of the hydraulic lines with the 45 degree JIC fittings to the adapter fitting (3) on the motor. Point the bend in the direction that you will be routing the hydraulic lines.

2) **See Figure 4 & 5.** Run the lines over and down the corner of the hopper, fastening lines to the knock rails with hose clamps (3).

**NOTE:** If there is excess hydraulic line, find a location near the ball valves on the pump box to coil up the excess and secure. Make sure that you still have enough line to attach to the ball valve.

3) **See Figure 6.** Install the line attached to the font motor port and attach to the fitting on the left of the ball valve marked rear and the line attached to the rear motor port and attach to the fitting on the right of the ball valve marked rear.

4) Locate the front set of hydraulic lines (2), which are marked and repeat STEPS 3-1 through 3-2 for the front motor assembly.

5) **See Figure 6.** Install the line attached to the font motor port and attach to the fitting on the right of the ball valve marked front and the line attached to the rear motor port and attach to the fitting on the left of the ball valve marked front.

**NOTE:** If either motor does not turn in the correct direction, switch the hydraulic lines on the ball valve of the motor that is not rotating in the correct direction.

**NOTE:** The Kwik Trap is shipped with the ball valves in bypass mode. Before operating rotate valves to 90 degrees so hydraulic fluid will flow to the motors.

6) Before operating you must fill with hydraulic fluid. It will take up to 1 gallon of hydraulic fluid to fill system. System will bleed itself.

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**Index Description Qty**

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<thead>
<tr>
<th>Index</th>
<th>Rear Hydraulic Lines</th>
<th>Qty</th>
<th>Adapter Fitting</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Front Hydraulic Lines</td>
<td>2</td>
<td>4</td>
<td>Varies</td>
</tr>
<tr>
<td>4</td>
<td>Hose Clamps</td>
<td>Varies</td>
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</tbody>
</table>
Step 4
Installing Limit Switches

NOTE: Front and rear wiring harnesses have limit switches pre-wired and are marked.

NOTE: The supplied limit switch brackets may not work for some applications. Brackets may need to be fabricated and they should be steel and at least 7 GA.

1) See Figures 7 & 8. On the front hopper, make sure the hopper door is fully closed. Find a location on the driver’s side to mount door limit switch bracket (1) and a limit switch so the door bracket will strike the limit switch. Install door limit switch bracket (1) to hopper door.

2) On the front wiring harness, find the limit switch with the orange wire, this will be for door closed. Install the limit switch so the bracket will actuate the limit switch. The limit switch must travel approximately 1/4" to actuate.

3) Open the front hopper door completely. Install the other limit switch, which is door open, so the bracket will actuate the limit switch.

4) Run the single orange wire out to the side of the trailer. This wire is used for the marker light. When the marker light is on, it indicates to the driver that the hopper door is open and will only go off when door is completely closed.

5) Install a marker light where the orange wire has been routed to the side of the trailer. Attach the orange wire to the marker light. The trailer will be grounded to the battery and the marker light is grounded to the trailer.

6) Route the front wiring harness to the pump box so that the wires will not interfere with the operation of the trailer. Use hose clamps where possible. If there is excess wire, find a location near the receptacles on the pump box and coil up the excess and secure. Make sure that you still have enough line to insert the plug into the receptacle.

7) Plug wiring harness into receptacle marked front on top of the box.

8) Locate the rear wiring harness (2) and repeat STEPS 4-1 through 4-6.

9) Plug wiring harness into receptacle marked rear on top of the box.
Step 5
Install Operating Switch

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<thead>
<tr>
<th>Index</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Operating Switch</td>
<td>1</td>
</tr>
</tbody>
</table>

1) The operating switch, find a location near the center of the trailer to mount and attach it to the trailer.

2) Route wiring harness to the pump box so that the wires will not interfere with the operation of the trailer. Use hose clamps where possible. If there is excess wire, find a location near the receptacles on the pump box and coil up the excess and secure. Make sure that you still have enough line to insert the plug into the receptacle.

3) Plug wiring harness into the middle receptacle marked switch on top of the box.
**Step 6**

**Wiring the Truck**

**Tractor**

1) Run 2 pieces 20 feet of red wire (1) from the battery to the rear of truck. Mark one piece of wire with electrical tape on both ends and use for ground.

2) Attach plug single pole 2 GA (3) to the end of the red wire. Attach the wire marked for ground to the outer grounding terminal of the same plug.

3) Connect the red wire to the positive terminal and the ground wire to the negative terminal on the battery. Find a location for the circuit breakers two 40 AMP assembled (2) install on the red wire. Make sure to protect the circuit breaker assembly from shorting out.

**Trailer**

4) Find a location for the receptacle single pole 2 GA (4) and drill a 2” diameter hole. Install receptacle on front of trailer.

5) **See Figure 9.** Run a red wire from receptacle on front of trailer along the passenger side of the trailer (in outer corner frame if possible) into hole on the back of the pump box.

6) **See Figure 10.** Crimp the #2 x 3/8 ring terminal (5) to the red wire. Connect the wire for the poser and the small red wire coming from the remote box (on the driver’s side of pump box) to the big terminal on pump solenoid (right hand stud with nothing wired on).

7) Plug truck into the receptacle on the trailer and test the Kwik Trap system to ensure proper operation. Refer to the Kwik Trap Operation section on the next page for instructions.

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<tr>
<td>1</td>
<td>Red Wire 2 GA</td>
<td>40 Ft</td>
</tr>
<tr>
<td>2</td>
<td>Circuit Breaker (2) 40 AMP Assy</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Plug Single Pole 2 GA</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Receptacle Single Pole 2 GA</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Ring Terminal #2 x 3/8</td>
<td>3</td>
</tr>
</tbody>
</table>
Kwik Trap Operation

NOTE: Read all safety messages before operating the Kwik Trap system.

Remote Operation

1) Push OPEN button on the remote. Marker light will come on while door is open.
2) Push CLOSE button on remote. When marker light goes off door will be shut. Make sure marker light is off before moving trailer.

Switch Operation

1) The Switch is mounted on the driver side of the trailer. Make sure you and any bystanders are clear of the trailer before operating. Open or Close either hopper door with labeled switch.
2) When hopper doors are closed and marker lights are off release switch.

Manual Crank Operation

1) Turn the ball valve to the bypass mode for each hopper that will be operated manually.
2) Crank door open or closed per trailer manufacturers operation manual.