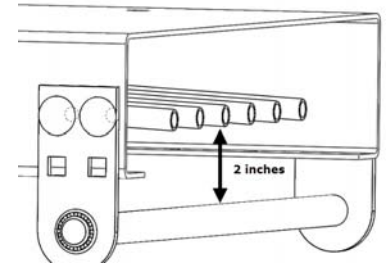


Setup Before you start

To install the actuator you will need 17 inches of clear space on the bottom side of the control station. We recommend mounting the actuator where the pivot point is closest to the center of the truck and on the passenger side of the vehicle.

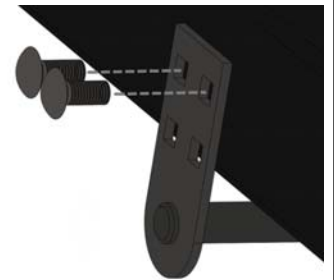
1 Locate the pivot rod mounting ears

Loosely assemble the pivot rod and ears using the retaining rings. Place them under the control station so the pivot rod has 2 inches of space between it and the valve lever control rods. Mark the location of the ear holes.



2 Attach the pivot rod mounting ears

Drill two holes per pivot rod mounting ear and use the included 7/16 carriage bolts, lock washer and nut to attach the ears to the control station side wall.



3 Attach the clevis to the Actuator

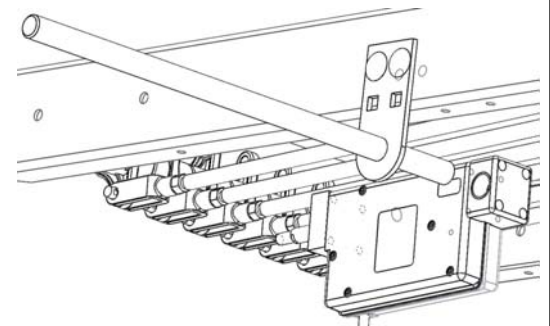
Thread the included 7/16 jam nut followed by the clevis onto the output rod of the actuator. Secure the jam nut against the base of the clevis.

IMPORTANT— when threading the clevis, do not allow the output rod of the actuator to rotate. Rotation of the output rod can damage internal actuator components.

4 Install the electric actuator(s)

Slide the pivot rod through the one of the pivot rod mounting ears, then through the pivot mount hole on the actuator. Note the actuator orientation, the actuator cable should be on the bottom of the actuator. Use the plastic spacers to center the actuator below the valve control rod you are connecting to. Slide the rod through the other mounting ear and secure using the retaining rings.

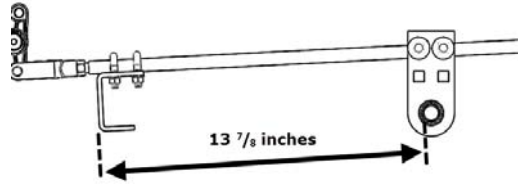
NOTE: Depending on the number of actuators and the width of your vehicles control station, you may need to cut some of the spacers to allow for proper fitting.



5

Locate and loosely attach the C-bracket to the control rod

From the edge of the pivot rod, measure a distance of $13 \frac{7}{8}$ inches towards the outside of the truck. This is where the back of the C-bracket will be. With the C-bracket opening facing the pivot rod, loosely mount the C-bracket to the control rod using the enclosed U-bolts, split lock washers and nuts. The C-bracket should be pointing straight down.



6

Attach the actuator to the C-bracket

On the actuator clevis, unclasp the clevis pin and pull the pin. Put one nylon washer on each side of the C-bracket mounting hole. Place the clevis pin back through the C-bracket mounting hole and the clevis and re-clasp. Tighten the C-bracket.



7

Manually test the system

With the wireless system turned off the valve handle should operate smoothly; excessive force is not required. Compare the movement of the handle to an adjacent, non-actuated handle if applicable. The up and down throw should be the same. If the throw has been shortened you will need to move the C-bracket (see step 5).

8

Connect the actuator to the Lodar controller

Connect the Deutsch connectors of the actuator and the Lodar controller.

9

Power up the system

With the Actus actuator plugged into the Lodar, and the Lodar being properly installed*, press the green button on the transmitter. You can now press one of the yellow function buttons to operate.

*See Lodar Wiring Instruction to ensure you have the Lodar wireless controller installed correctly

Troubleshooting the Actus Electric Actuator

The Actus electric actuator and Lodar controller have no serviceable parts inside. **Do not disassemble!** Please follow the steps below to troubleshoot your Actus actuator. **If any of the tests fail, contact your local dealer/distributor for additional troubleshooting information or replacement parts.**

- 1. Does the actuator move freely when unpowered?** With the wireless system turned off, the actuator should allow for smooth manual operating of the control valve handle; excessive force is not required.
- 2. Does the actuator clutch engage?** Disconnect the actuator from the Lodar. Connect the green wire (pin 3) to 12VDC and the white wire (pin 4) to ground. Once both wires are connected the clutch will engage, making the actuator rod output unable to move freely.
- 3. Does the actuator rod move in and out?** Disconnect the actuator from the Lodar. Connect the green wire (pin 3) to 12VDC and the white wire (pin 4) to ground. This will engage the clutch. Connect the red wire (pin 1) to 12VDC and the black wire (pin 2) to ground. The actuator will begin to extend. *Disconnect the red wire before the actuator reaches the end of the stroke. Now move the black wire (pin 2) to 12VDC and the red wire (pin 1) to ground. The actuator will begin to retract. Disconnect the red wire before the actuator reaches the end of the stroke. ***WARNING - BECAUSE THE LODAR CONTROLLER IS BEING BYPASSED, THE ACTUATOR WILL NOT STOP. LETTING THE ACTUATOR OVEREXTEND CAN CAUSE DAMAGE TO THE ACTUATOR**
- 4. Does the wireless controller function?** Check your Lodar Wiring Instructions for troubleshooting information.

ACTUS MANUFACTURING WARRANTY STATEMENT

Actus Manufacturing, Inc. (hereinafter referred to as Actus) warrants that the product will be free from defects in material and workmanship for a period of two (2) years from date of shipment, subject to the conditions and restrictions contained herein.

Actus further warrants all parts furnished under this warranty for a period which expires upon the termination of the warranty for the product on to which these parts are installed. All parts furnished outside of this warranty are warranted for a period of thirty (30) days from date of shipment.

This warranty does not apply to a product that has not been installed or maintained in accordance with Actus' instructions, been subjected to damage in an accident, abused or neglected during operation, repaired or modified by persons other than Actus, or failed to have normal maintenance.

This warranty covers only equipment and parts manufactured by Actus. All other components and accessories furnished with Actus product are sold only with the express warranty, if any, of the manufacturers thereof. ACTUS DISCLAIMS ALL EXPRESS, STATUTORY AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN AS EXPRESSLY PROVIDED HEREIN, AND IN PARTICULAR AS MAY OTHERWISE BE APPLICABLE TO USED PRODUCTS, ENGINES AND PARTS, V-BELTS, FILTERS, CABLES, LIGHT BULBS, FUSES, CARBON BRUSHES, ELECTRIC WIRES, AND HOSES. THE ONLY WARRANTY, IF ANY, APPLICABLE TO THE ATTACHMENTS DESCRIBED IN THE PREVIOUS SENTENCE SHALL BE THE WARRANTY OF THE MANUFACTURERS OF THE ATTACHMENTS.

The buyer expressly agrees that Actus' responsibility in respect to warranty claims is exclusively limited solely to repair or replacement, at Actus' option, of product found by Actus to be defective. Actus does not pay for labor charges, transportation charges, or any incidental or consequential damages connected with removal of a product deemed to be defective or with installation or replacement of repaired product. Further, Actus disclaims any liability for, any general, specific, incidental or consequential damages, including lost or duplicated time or expense, lost profits or any other damages accruing for any reason to the owner or user of any products sold by Actus, whether the claim is made in contract or in tort or under any warranty or in negligence or otherwise, even if Actus has been advised or might otherwise have reason to know of the possibility of such damages.

Actus reserves the right to make changes in its products without incurring any obligation to incorporate such improvements in any products previously sold or in service.

The terms and conditions of this warranty cannot be altered without the written consent of Actus.

This warranty does not apply to any product for which payment in full has not been received by Actus according to the terms under which the product has been invoiced. In addition, Actus will not honor any warranty claim from a customer whose account at Actus is not current according to Actus' payment terms.

Buyer may have seen advertisements or other seller literature or heard statements made during the sales presentation which suggest that the product being sold has qualities or characteristics that make it attractive. Even if seller made these statements deliberately, seller does not intend to incur legal liability for them unless they are included in this contract, and they are not part of this bargain in any way. Seller's agents have no authority to give warranties that exceed those listed in this contract and buyer is warned therefore to check this contract carefully to make sure it correctly reflects those terms that are important to the buyer. Except as otherwise provided in this document, there are no express or implied warranties, including without limitation warranties of title, merchantability, non-infringement or fitness for a particular purpose that are a part of this contract.

The foregoing warranty is exclusive and in lieu of all other express, statutory, and implied warranties including those of merchantability and fitness for any particular purpose. Buyer acknowledges that Seller has set its prices and agreed to sell its product to Buyer in reliance upon the limitations of liability and the disclaimers of warranties and damages set forth herein, and that the foregoing form an essential basis of the bargain between the parties.

Application of Warranty

To make a claim under this warranty, contact your equipment supplier giving a description of the product and request a Return Material Authorization (RMA) form. Please wait to return merchandise until you have authorization.

Pre-authorized product being returned, if found to be defective, and if all return freight charges have been prepaid or authorization to return freight collect is received, will be repair or replace the product, at our option, and return it to the customer.

In emergency cases where it becomes impractical to wait for warranty consideration, parts will be shipped on account to the customer pending warranty evaluation. Customers without an established account will be shipped parts on credit card, C.O.D. or cash in advance. Upon completion of the warranty evaluation, the customer will be reimbursed for the charges if the warranty covers the parts.