



# TC35160 & TC35270 Operation Manual & Installation Instructions

Serial Number



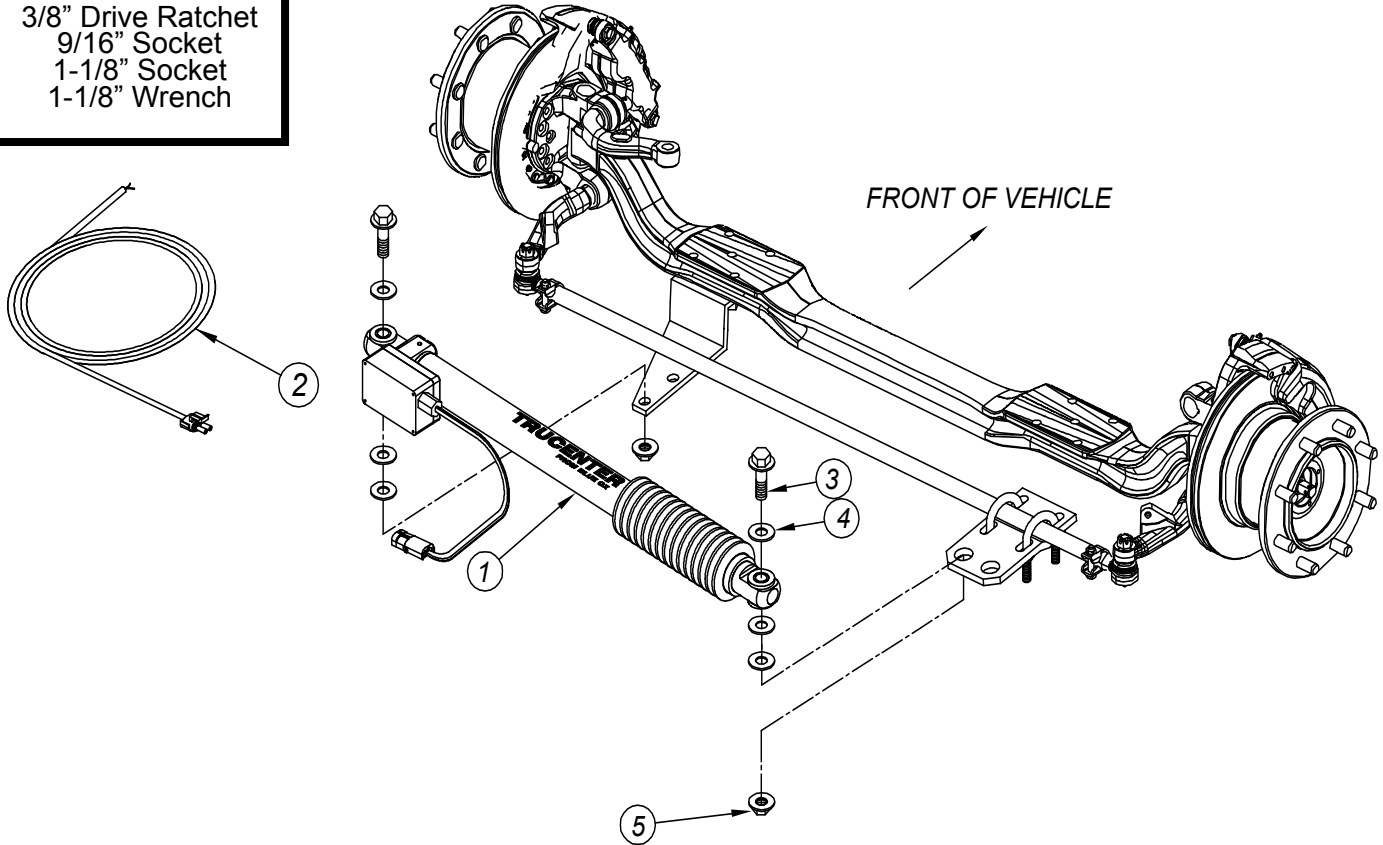
**Blue OX® One Year Limited Warranty**

# TC35160 & TC35270

## Operation Manual & Installation Instructions

### **Tools Required**

- 3/8" Drive Ratchet
- 9/16" Socket
- 1-1/8" Socket
- 1-1/8" Wrench



**NOTE:**

Chassis and bracket installation shown may vary slightly from your individual installation. TruCenter™ unit orientation shown may be rotated 180 degrees from your individual installation. Refer to the bracket kit instructions included with your application.

Item No.	Part No.	Description	Qty.
1.....	TC35160/TC35270.....	TruCenter™ Steering Control.....	1
2.....	62-3631.....	Weather Tight Cord.....	1
3.....	201-0847.....	3/4"-10 x 3-1/2" Hex Head Bolt, Grade 5.....	2
4.....	203-0007.....	3/4" Flat Washer, ZP (Req'd).....	8
5.....	202-0074.....	3/4"-10 Hex Flange Whiz Lock Nut.....	2

**IMPORTANT:**

Use only genuine factory replacement parts on your bracket kit. Do not substitute homemade or non-typical parts. If a bolt is lost or in need of replacement, for your safety and the preservation of your bracket kit, be sure to use a replacement bolt of the same grade. Repair parts may be ordered through your nearest Blue Ox dealer or distributor.

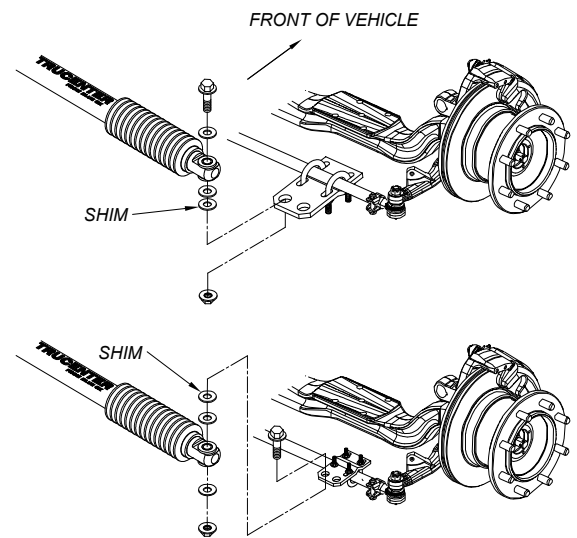
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Review the TruCenter™ application guide to verify that you have selected the proper TruCenter™ steering control system for your vehicle. Over or under-sizing the TruCenter™ may cause improper handling characteristics.

Install this unit using the proper TruCenter™ bracket kit for your vehicle (sold separately). This unit may also be installed on existing SAFE-T-PLUS™ brackets on your vehicle. Inspect your existing brackets for possible damage or wear before reusing with the TruCenter™.

**READ THESE AND THE MOUNTING BRACKET INSTRUCTIONS COMPLETELY BEFORE STARTING THIS INSTALLATION.**

1. Before installing, verify the TruCenter™ unit is still in adjustment from the factory by ensuring the distance from center to center of the TruCenter mounting points is approximately 35". If this is not the case, continue installation then refer to realigning the TruCenter™.
2. Ensure the vehicle's front wheels are straight ahead before starting installation. The vehicle must be at normal ride height, (i.e., air bags filled to normal driving height). Do not use jacks or levelers. Install the TruCenter™ with the adjustable end (solenoid end) mounted to the anchor bracket. Mount the other end on the tie-rod bracket. Location of the tie-rod bracket must be adjusted to fit the TruCenter™. **See the instructions that came with the mounting brackets for proper location of brackets.**



**Figure 1**

**NOTE:** The TruCenter™ is meant to be mounted parallel with and in back of the tie rod. It may be necessary to use shims between the tie rod bracket and the TruCenter™ unit (see Figure 1). Shimming the TruCenter™ unit in this fashion allows clearance and keeps it from binding.

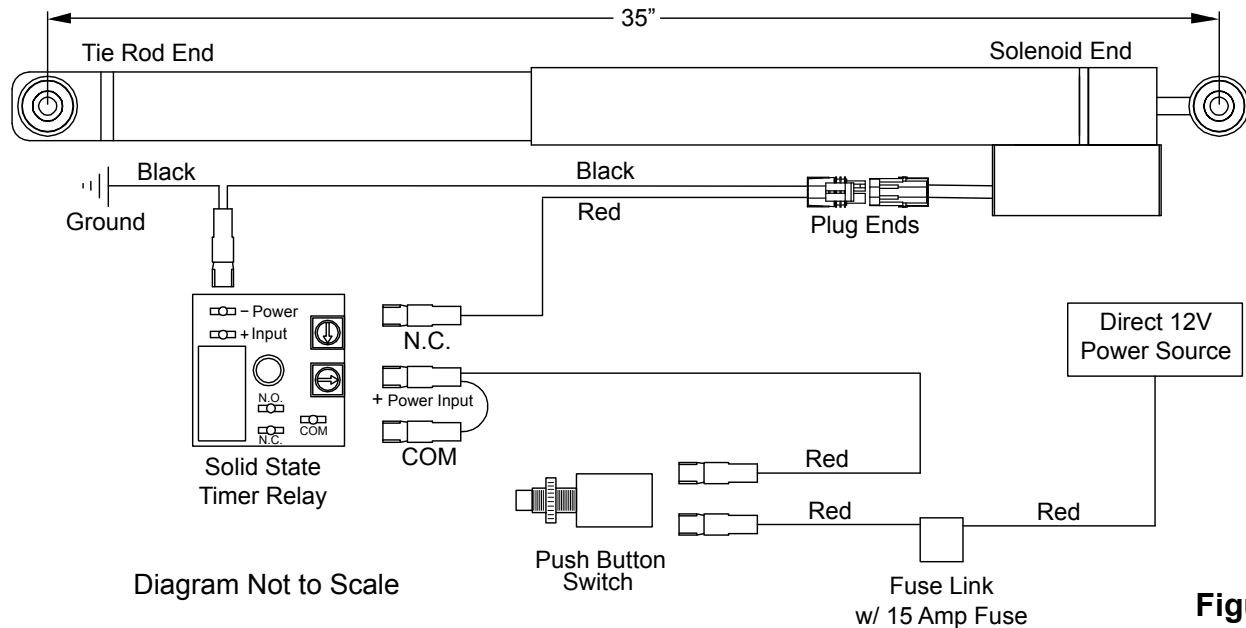
3. See wiring diagram and instructions A thru E on page 4 for proper wiring of the TruCenter™ unit.
4. After installing the TruCenter™ unit, turn the steering wheel to both the right and left extremes to ensure the motor home's structure does not interfere with any of the TruCenter™ components and that the TruCenter™ unit in no way limits the turning capabilities of the motor home. Next, dump the air from air bags and check that the motor home's structure does not rest on any part of the TruCenter™ components

**NOTE:** This is easiest done with two people, one turns the steering wheel while the other observes the moving components.

**Verify the fit so that under no circumstances the steering or suspension movement is limited.**

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## TruCenter Wiring Diagram



1. Locate a convenient place on the dash or side control panel to mount the push button switch. The switch should be in a location easily accessed by the driver. Place the small TruCenter™ decal next to the switch (room permitting) for identification.
2. Locate a convenient location (out of sight) close to where the switch will be installed. Mount the solid-state timer relay at this location using a zip tie or 1/4" self-tapping screw. If mounting the relay with a screw, be aware of what you are drilling into. Next, TruCenter™ cord from the solenoid up to the relay mounting location. Cut the wire to length. Crimp a 16 ga female terminal connector to the red wire and plug into the N.C. terminal on the relay.  
**CAUTION:** Leave enough slack in the wire to allow for axle movement.
3. Identify a suitable ground location. Using the extra black wire from the excess cord, run a wire from the grounding location to the black wire from the solenoid. Crimp a 12 ga female terminal connector on both black wires and plug into the relay. Attach the ground wire to grounding location.
4. Using the extra red wire from the cord and the in-line fuse link, tie into a 12-volt power source. Connect the opposite end onto one side of the switch. Using the remaining red wire, run a wire from the open terminal of the switch to the positive power input. Create a small pigtail from the end of the power input wire to the COM terminal on the relay. Using a 12 ga female terminal connector on both wires together and plug into the relay.
5. Insert the 15-amp fuse into the link. Lastly, test the solenoid by supplying power, bumping the switch and listening for the "click".

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## Realigning Center the TruCenter™

**NOTE:** One person can re-align the TruCenter™, but it is easier with at least two people.

After installation is complete, realign the TruCenter™ as follows: While depressing the dash-mounted button, make trim adjustment with the steering wheel, either right or left, until the center to center distance of the mounting holes is 35" (See Figure 2).

After the 35" center to center distance is obtained, loosen the tie rod bracket u-bolts (See Figure 1). Center and align the front wheels, assuring that the tie rod bracket slides along the tie rod and that the center to center distance of the mounting holes remains at 35 inches, then tighten the tie rod bracket u-bolts.

## Operating Instructions

With these TruCenter™ models, (TC35270 & TC35160) the operator has the ability to adjust the length or center point of the TruCenter™ unit. If the vehicle tends to pull to one side, the operator needs to push the TruCenter™ switch and hold it in while turning the steering wheel in the direction that makes the vehicle follow a straight path. Then, release the switch. For example, if encountering a high crosswind, depress the switch while correcting the vehicle's course by turning the steering wheel into the wind. Only turn the steering wheel enough to make the vehicle follow a straight path down the road. When the wind stops push the button, steer the coach so it is going straight and release the button.

### **CAUTION:**

The switch activates a solenoid that, if activated too long, causes permanent damage to the solenoid. **The timer relay is properly set at the factory and the switch on it should not be altered. Altering standard factory setting will cause improper function of TruCenter™ and/or permanent damage to the solenoid.**

Although a timer relay is installed to protect the solenoid, we recommend **NOT** activating the solenoid for periods longer than 5 to 10 seconds at a time. It is better to make multiple, fine adjustments than to hold the switch and try to align in one, time-consuming operation.

**NOTE:** The adjustment button only allows the adjustment to be made with the steering wheel. It activates an adjustable gas spring, but the actual adjustment must be made by manually turning the steering wheel to the desired position.

**DEALER or INSTALLER:**  
**Be certain the user receives the  
instruction sheets for their products.**

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**RV Straight Axle Alignment  
With a TruCenter™**

There are three alignment settings that are adjustable with your RV. Caster, Camber, and Tow In!

- Caster will cause a pull right or left, but will not cause tire wear.
- Camber will cause tire wear, but will not cause a pull.
- Tow In will cause tire wear, but will not cause a pull.

Most customers think that if their coach doesn't pull one way or the other it is aligned properly. Not so! There are a lot of shops that only set the Tow In because they don't have the equipment to bend, or shim the axle! This will not fix the problem if the camber is out of spec. The axle will need to be bent.

**These are the common practices to acquire proper alignment:**

- To adjust the caster you must install tapered shims between the axle and the spring or air bag support.
- To adjust the camber you must bend the axle.
- To adjust the Tow In you must loosen the tie rod ends and turn the tie rod in or out.

The TruCenter will not affect the alignment on any coach but it can make the alignment last longer as it will absorb the shock when a chuck hole or a curb is hit. The TruCenter™ will not change the alignment.

**Note to Alignment Technician concerning the Pre-alignment Procedure for the RV's with TruCenter™ application:**

1. With a TruCenter™ on the RV the Alignment Technician should first make sure the TruCenter™ is centered.
2. Technician must remove the two small U-bolts that hold the TruCenter™ to the tie rod.
3. Strap the TruCenter™ up out of the way with zip ties.
4. Align the RV to spec.
5. Reinstall the TruCenter™ on the tie rod with the U-bolts.
6. The TruCenter™ will need to be centered. The Technician will need to adjust the TruCenter™ 35" center to center between the two (2) ¾"-10 bolts. Have someone in the RV turn steering wheel while the Technician measures the required 35 inches. When the measurement is confirmed, press the TruCenter™ control button in the RV and then release the button.
7. Loosen the u-bolts from the TruCenter™ so that it can slide on the tie rod.
8. Steer the front wheels so they are straight forward and reinstall the TruCenter™ onto the tie rod with the u-bolts.

**CAUTION:**

The TruCenter™ must be centered at 35" between the two (2) ¾"-10 bolts. Failure to do this could cause an accident, injury or death.

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Blue Ox® is committed to providing you with exceptional customer care throughout your lifetime with our products. Our team is here to assist you with any questions you may have regarding the performance of your product. Simply call (402) 385-3051 and you can speak with our technical service team.

Additionally, please visit our website to see which rallies our Destination America team will be attending. For a nominal fee, our service technician will service your towing system to ensure it's in proper working condition. Also, as a commitment to our customers, should you visit our factory, you can stay at our full service Blue Ox® campground at no charge along with enjoying a factory tour.

Again, thank you for being our customer and for the confidence you have shown in the performance of our products. It is because of customers like you we enjoy the success we have today.

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