

Installation Instructions for: SS200-S2RV Trim Unit

Note: U-Bolt is not included in kit unless specified when order is placed.

Warning: Never service air canister/lines without draining air pressure first.

This product is intended for a **2018** and up **S2RV** chassis and allows the Safe-T-Plus hydraulic steering control unit to be installed with on-the-fly control of the center point. The Trim Unit bolts to the 41-230 Safe-T-Plus device (**sold separately**) and the motorhome's front axle (taking the place of the F-105K4 mounting kit) allowing the driver to adjust the steering center point at the flip of a switch from the cab.

Item Number	Item Description	Quantity
1	S2RV Bracket	1
2	208 Tie Rod Bracket	1
3	14 AWG Black Wire	15 ft.
4	1/4" Air Line	30 ft.
5	1/4" Split Loom	5 ft
6	Sleeve/Bolt Assembly	1
7	Air Chamber	1
8	Brass Plunger	1
9	6" Zip Ties	4
10	1/8" NPT x 1/4" Tube Straight Fitting	3
11	3/8 to1/4 Tee	1
12	Fuse Holder	1
13	10A Fuse	1
14	Adapter ¼" Air Hose to ¼" NPT Straight	1
15	Adapter ¼" Air Hose to ¼" NPT Elbow	1
16	3/8" to 1/4" NPT Adapter	1
17	7/16" Lock Washer	4
18	7/16" Fine Thread Nuts	4
19	Blue Scotch Lock Connector – 16-14 AWG	1
20	Blue Nylon Butt Connector – 16-14 AWG	2
21	1⁄4" Stud Ring Terminal 16-14 AWG #8	2
22	1/4" Stud Ring Terminal 16-14 AWG	1
23	Toggle Switch	1
24	K-4 3/8"x2" U-bolts with Flange Nuts	2
25	7/16"x1-3/4" Round Top U-bolts	2
26	Air Solenoid Valve	1
27	³¼"x2" Flat Washer	2
28	7/16" Coarse Lock Nut and Washer	2
29	Grommet (Not pictured in parts layout)	1
30*	U-Bolt UB750D ¾ x 4 x 10" *Not Included Unless Requested*	1



Preparation

Move the coach to a level, flat surface, with the wheels pointed straight ahead. It may be necessary to use a pit or ramps to gain clearance. Be sure to use wheel chocks and set the parking brake.

Axle Mount Assembly Installation

Check axle U-bolts on passenger side for adequate amount of remaining thread for the additional S2RV bracket (you will need an extra ½" of threads to re-use existing U-bolts). If you do not have enough remaining thread then on the passenger side of the front axle, remove the two nuts on the rear U-bolt, remove the U-bolt, and replace with the new ¾ x 4 x 10" U-bolt (Item 30) *Not included unless specified when ordered*. Install the S2RV Bracket (Item 1) as shown in Figure 2, with the diagonal cut edge of the bracket facing outboard. Use the new ¾"x2" Flat Washers (Item 27) and new ¾" U-Bolt Nuts (Item 30). Torque to 200 ft. lbs.

Note: If you have a Davis TruTrac Front Trac Bar then the trac bar bracket will mount above the S2RV trim unit bracket as shown in *Figure 2*.



Place Brass Plunger (Item 8) on push rod of Air Chamber (Item 7) and install on Sleeve/Bolt Assembly (Item 6) using two 7/16" Coarse Lock Nut and Washer (Item 28). Make sure that the brass plunger aligns with machined slot on bolt slide area.

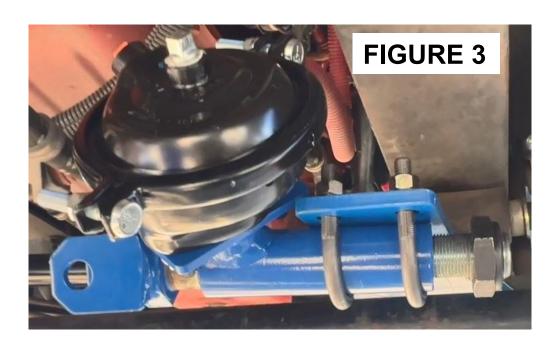
Note: bolt slide can be installed two different directions. End with mounting ears for 41-230 Safe-T-Plus cylinder should point toward drivers side to mount the Safe-T-Plus cylinder. Tighten 7/16" nuts 35-40 ft. lbs.

Install Sleeve/Bolt Assembly to S2RV Bracket using the two 7/16"x1-3/4" Round Top U-bolts (Item 25), Lock Washers (Item 17) and 7/16" Fine Thread Nuts (Item 18). Use the four holes in the S2RV Bracket and loosely install so the assembly can be rotated for best clearance (refer to *Figure 3* for positioning). Once in position tighten U-bolt nuts 40-45 ft. lbs. Tighten large nut at the end of Sleeve/Bolt Assembly so that at least three threads protrude through the nylock nut.

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Be sure that the Bolt slides freely within the Sleeve and there is sufficient clearance around all moving parts with steering turned lock to lock.

If necessary, the U-bolts holding the Sleeve/Bolt Assembly to the Axle Bracket can be loosened to allow the Sleeve/Bolt Assembly to be rotated to provide better clearance. You may also slightly loosen canister strap bolts to turn it to gain extra clearance. Be sure to torque bolts again in either of these cases.



Safe-T-Plus Cylinder Installation

Use one ¾" bolt, nut and washer (included with 41-230 Safe-T-Plus Cylinder) to mount the Cylinder to the ears on the Sleeve/Bolt Assembly. Leave bolt loose for now.

Loosely install **208** Tie Rod Bracket (Item 2) on tie rod using K-4 3/8"x2" U-bolts with Flange Nuts (Item 24). Use the other ¾" bolt, nut and washer included with the 41-230 Cylinder to loosely mount the Cylinder to the Tie Rod Bracket. Refer to *Figure 4* below. Ensure that the cylinder is positioned such that the bolt has approximately equal travel within the sleeve in either direction.

Tighten the ¾" bolt to 80-90 ft-lb to fasten the Cylinder to the Sleeve/Bolt Assembly. Tighten the U-bolts on the Tie Rod Bracket to 20 ft-lb. Finally, tighten the other ¾" bolt to 80-90 ft-lb to fasten the Cylinder to the Tie Rod Bracket.

Note: if the coach already has a Safe-T-Plus installed, the existing Cylinder and 208 Tie Rod Bracket can be used but the Tie Rod Bracket will need to be relocated to provide equal travel of the Bolt in either direction within the Sleeve.



Important: With Cylinder installed, again check to confirm there is sufficient clearance around all moving parts with steering turned from lock to lock, accounting for suspension travel, with coach at ride height. If Cylinder scrapes or binds at any point, review instructions and make necessary corrections by rotating Tie Rod Bracket and/or Sleeve/Bolt Assembly to obtain necessary clearance.

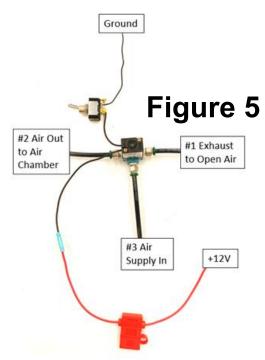
Plumbing Trim Unit

Install one 1/8" NPT x ¼" Tube Straight Fitting (Item 10) into Port #2 of the Air Solenoid Valve (Item 26). Run ¼"Air Line (Item 4) from Air Chamber on axle to the air supply location and connect to Port #2 on the Air Solenoid Valve — refer to

Figure 5 below. Take care to fully seat hose in quick connect.

Secure airline routed to Air Chamber, ensuring that the line does not interfere with any moving parts and is not exposed to excessive heat from the exhaust/turbo/etc.. Leave sufficient slack in the air line for suspension travel at the Air Chamber Use 1/4" Split Loom (Item 5) for any possible rub points. Cut air line with air line cutter, taking care that the line is cut straight and clean.

Using 3/8" to ¼" NPT Adapter (Item 16) and Adapter ¼" Air Hose to ¼" NPT Elbow (Item 15) or Adapter ¼" Air Hose to ¼" NPT Straight (Item 14) to attach airline to port on Air Chamber and tighten brass sleeve. Either the elbow or the straight fitting can be used to provide the best routing.

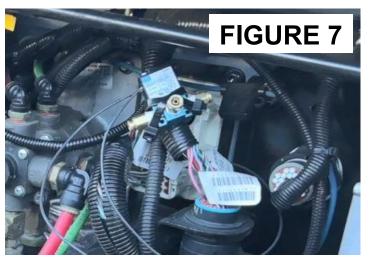


Find the 3/8" air supply you would like to tap into. In this case the yellow line under the hood shown in Figure 6 is what we used (Note: not all vehicles will be the same). Cut the 3/8 line and use the 3/8 to ¼ Tee" (Item 11) to connect and feed new 1/4 line to Port #3 on Solenoid Valve from air tank supply (first cleaning line with solvent and using your airline cutter). Use the 1/8" NPT x 1/4" Tube Straight Fitting (Item 10) to connect the new 1/4" line to port #3.

Thread the remaining 1/8" NPT x 1/4" Tube Straight Fitting (Item 10) to Port #1 on the Air Solenoid Valve. Run a third length of 1/4" air line from Port #1 of the Solenoid Valve to exhaust under the coach.

Secure the Solenoid Valve within the engine compartment using the provided **6" Zip Ties (Item 9)**. Example shown in **Figure 7**.



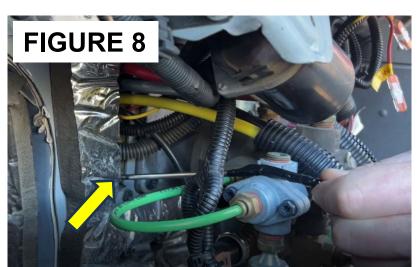


Switch Mounting Preparation

Locate entry point to feed wires to the drivers' seat area of the coach (i.e., a wire harness hole going through the firewall, drilling through firewall, ext...). Example location provided in **Figure 8** (keep in mind not all vehicles will be the same and you may find a better location).

Note: If drilling new hole through firewall use included grommet for protection (Item 29).

Locate desired switch location in dash, left arm rest, or cab area to fit Toggle Switch (Item 23). Check with the customer to confirm the desired location. Example from a S2RV shown in Figure 9.





Wiring Trim Unit

Find area to feed **14 AWG Black Wire (Item 3)** from the dash switch location to one wire on the Solenoid Valve. Use one of the two **Blue Nylon Butt Connector – 16-14 AWG (Item 20)** to connect the wire to the solenoid valve. Connect the other end of the wire to one post on the **Toggle Switch (Item 23)** using one of the **%" Ring Connectors #8 (Item 21)**.

Locate keyed source of 12V power near Solenoid Valve. Connect power through the **Fuse Holder** (Item 12) with 10A Fuse (Item 13) to the other wire of the Solenoid Valve using the other Blue Nylon Butt Connector (Item 20) and the Blue Scotch Lock Connector (Item 19) – refer to *Figure 5* plumbing diagram.

Ground the other post on the Toggle Switch, using the single ¼" Stud Ring Terminal (Item 22), 14 AWG Wire, and the other Spade Connector.

Mounting Switch

Install switch as desired. Note that switch is normally in "Off" position, as power to the solenoid ("On") releases the clamp and allows the trim to be adjusted.

Test Unit

Start coach and build air to normal operating pressure. Shut coach off and check all fittings to ensure no air leaks. Check switch function verifying that the Air Chamber/Plunger assembly applies and releases pressure on the Sleeve Bolt shaft.

User Instructions

When driving coach on a straight stretch of road, notice if the coach pulls either direction. If it does flip switch to "On" position and turn steering wheel slightly in opposite direction of pull, then release pressure on switch to return to "Off" position to re-lock.

Please make sure to visit **SuperSteerParts.com** and fill out your warranty registration.

Your comments are greatly appreciated. Please feel free to contact SuperSteer® at 888-898-3281 or e-mail at sales@supersteerparts.com

LIMITED LIFETIME SUPERSTEER WARRANTY

1. WARRANTY

1a. WARRANTY OF CONFORMITY AT TIME OF SALE

SUPERSTEER warrants that at the time of sale of this product it will be free from defects in material and manufacture and will conform to SUPERSTEER'S specifications for the product.

1b. CONDITIONAL LIMITED LIFETIME WARRANTY

2. In addition to the preceding time-of-sale warranty, if the product registration form at https://supersteerparts.com/warranty-registration is completely and accurately filled out within thirty (30) days of purchase, SUPERSTEER will provide a Limited Lifetime warranty that after sale the product will remain in good working order, PROVIDED THAT the product is installed and maintained in accordance with SUPERSTEER'S instructions and is not subjected to: (a) alteration or unauthorized repairs or repairs by anyone other than a SUPERSTEER -authorized service center, (b) misuse, abuse, commercial use, or improper maintenance, (c) Acts of God (including without limitation hurricanes, tornadoes, floods, or other severe weather or natural phenomena), (d) failures due to products not supplied by SUPERSTEER, or (e) other treatments, uses, or installations for which the product was not intended. This warranty extends only to the first retail purchaser-consumer of the product and is not transferable.

3. DISCLAIMER OF OTHER WARRANTIES

The preceding warranties are the exclusive and sole express warranties given by SUPERSTEER. They supersede any prior, contrary or additional representations, whether oral or written. No agent, representative, dealer, or employee has the authority to alter or increase the obligations or limitations of this warranty. Any implied warranties, including the WARRANTY OF MERCHANTABILITY and any WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, are limited in duration to thirty days or the term of the applicable express warranty provided above, whichever is longer. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

4. EXCLUSIVE REMEDY FOR ANY NONCONFORMITIES

If during the applicable Warranty Period, the product does not conform to the preceding Warranties, notify SUPERSTEER as provided below, and within a reasonable time SUPERSTEER will provide, at its option, one of the following: (1) replacement components for any nonconforming or defective product or components or (2) the percentage of the purchase price for the nonconforming product equal to the percentage of the Warranty Period remaining when SUPERSTEER is notified of the nonconformity. SUPERSTEER will, at its option, (a) use new and/or reconditioned parts in performing warranty repairs and making replacement products, (b) use parts or products of original or improved design in the repair or replacement. If SUPERSTEER repairs or replaces a product, its warranty continues for the remaining portion of the original Warranty Period or 60 days from the date of the return shipment to the customer, whichever is greater. All replaced products and all parts removed from repaired products become the property of SUPERSTEER. SUPERSTEER will not provide, and will not be liable for, labor, costs of removal or reinstallation of components, disposal, shipping, freight, taxes, or other incidental charges.

4. DISCLAIMER OF INCIDENTAL AND CONSEQUENTIAL DAMAGES

For any breach of warranty, the Owner must telephone SUPERSTEER at 1-888-898-3281 within thirty (30) days after discovering the nonconformity. Do not return any product without first calling SUPERSTEER and getting a return authorization number. Returned products must include the return authorization number and a copy of the original invoice, bill or other proof of the date of purchase. The date of purchase must coincide with the original warranty registration card on file. SUPERSTEER will authorize (a) shipment of the product to SUPERSTEER or (b) repair or replacement at the nearest warranty service center—in both cases with shipping at your expense. Do not purchase replacement parts or pay for repair labor—you will not be reimbursed. Compliance with the requirements of this paragraph is a condition to coverage under the Warranty: if these requirements are not complied with, SUPERSTEER will have no obligation to provide any remedy for any breach of warranty.

5. DISCLAIMER OF INCIDENTAL AND CONSEQUENTIAL DAMAGES

IN NO EVENT SHALL SUPERSTEER BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM NONDELIVERY OR FROM THE USE, MISUSE OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCT.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

6. APPLICABLE LAW

This Warranty will be interpreted, construed, and enforced in all respects in accordance with the laws of the State of Oregon, without reference to its choice of law rules. The U.N. Convention on Contracts for the International Sale of Goods will not apply to this Warranty.

7. SEVERABILITY

If any provision of this warranty is found to be invalid or unenforceable, then the remainder shall have full force and effect, and the invalid provision shall be partially enforced to the maximum extent permitted by law to effectuate the purpose of the agreement.

8. ADDRESS FOR NOTICES TO SUPERSTEER

SuperSteer, 458 Redwood Hwy, Grants Pass Oregon 97527

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.