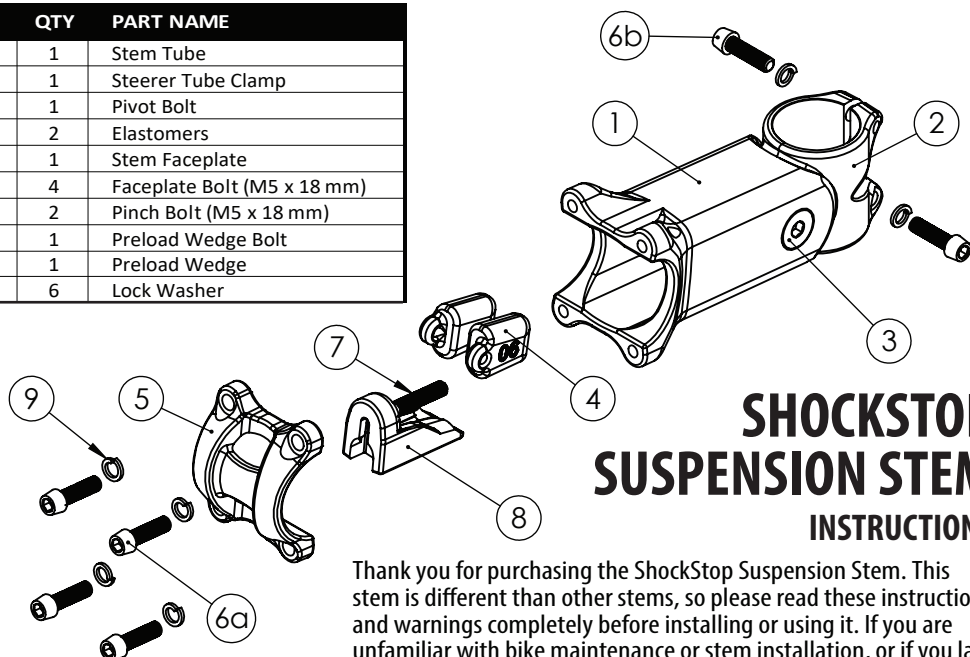


#	QTY	PART NAME
1	1	Stem Tube
2	1	Steerer Tube Clamp
3	1	Pivot Bolt
4	2	Elastomers
5	1	Stem Faceplate
6a	4	Faceplate Bolt (M5 x 18 mm)
6b	2	Pinch Bolt (M5 x 18 mm)
7	1	Preload Wedge Bolt
8	1	Preload Wedge
9	6	Lock Washer



SHOCKSTOP SUSPENSION STEM INSTRUCTIONS

Thank you for purchasing the ShockStop Suspension Stem. This stem is different than other stems, so please read these instructions and warnings completely before installing or using it. If you are unfamiliar with bike maintenance or stem installation, or if you lack the required tools, please visit your local bike shop or contact Redshift Sports customer service for assistance. Improper installation or use may void the product's warranty policy and may lead to serious injury or death.

BEFORE YOU BEGIN

Before you begin installation, take note of your current stem's installed orientation and position on the steerer tube. Most stems can be installed in either the positive or negative orientation in order to adjust the amount of rise. Headset spacers can also be placed above or below the stem to change its position along the steerer tube.

COMPATIBILITY

- The ShockStop is compatible with drop handlebar and flat handlebar setups. The ShockStop is not compatible with swept back or "cruiser" style handlebars.
- The ShockStop is designed for use on threadless headsets with 1-1/8" steerer tubes. It may be used with smaller steerer tube diameters by using an appropriate shim.
- If your bike has a quill stem, you will need to install a quill-stem adapter (not included) to use the ShockStop.

TOOLS YOU'LL NEED

- 4mm hex wrench, 3mm hex wrench, torque wrench, bicycle grease.

REMOVE YOUR EXISTING STEM

Note: This section describes the removal process for a typical threadless stem. If your bike has a quill stem, you will need to install a quill stem adapter (not included) after removing the stem.

1. Unscrew and remove the faceplate bolts and remove the faceplate to separate the handlebar. You can let the handlebar hang in front of the bike or rest on the front wheel.
2. Loosen the 2 pinch-bolts on your stem's steerer tube clamp.
3. Unscrew and remove the top cap of the steerer tube.
4. Slide the stem off the steerer tube (along with any spacers that are above the stem).

ATTACH THE SHOCKSTOP TO YOUR BICYCLE

The 6 degree ShockStop can be installed in either the +6 degree or -6 degree orientation. In the +6 degree orientation, the words "Torque, 5.0 N-m" will face upward near the front of the stem tube. In the -6 degree orientation, the words "+/-6 deg, XX mm" will face upward near the front of the stem tube (where XX is the length of your stem). The +30 degree ShockStop should only be installed in the +30 orientation.

***ATTENTION:** The 6 degree ShockStop stem ships with elastomers installed in the +6 degree orientation. If you flip the stem to the -6 degree orientation, after attaching it to your bicycle you will need to remove and reinstall the elastomer(s) and preload wedge so that the elastomers are positioned above the support, as shown in steps 9-14 below.

5. Loosen the two pinch bolts (#6b), and slide the ShockStop steerer tube clamp (#2) onto the steerer tube in the appropriate orientation (+ or -). Position your bicycle's headset spacers above or below the stem, as desired.
6. Make sure that the top headset spacer (or top of the stem if all spacers are positioned below the stem) is slightly above (about 2-3mm) the top of the steerer tube.
7. Very lightly tighten the 2 pinch bolts (#6b) on the ShockStop in order to keep it from easily sliding back and forth on the steerer tube.
8. Lightly screw the top cap onto the steerer tube until it begins to tighten.

ADJUST ELASTOMER STIFFNESS

WARNING! The ShockStop **MUST BE INSTALLED ON YOUR BIKE WHEN INSTALLING THE PRELOAD WEDGE BOLT (step 13)**. This is required so that you can apply downward force to the stem to slightly compress the elastomers while inserting the preload bolt. Failure to apply downward force while installing the preload bolt (#7) may cause the bolt to **PERMANENTLY DAMAGE** the threaded hole in the steerer tube clamp (#2) rendering the stem **UNUSABLE**.

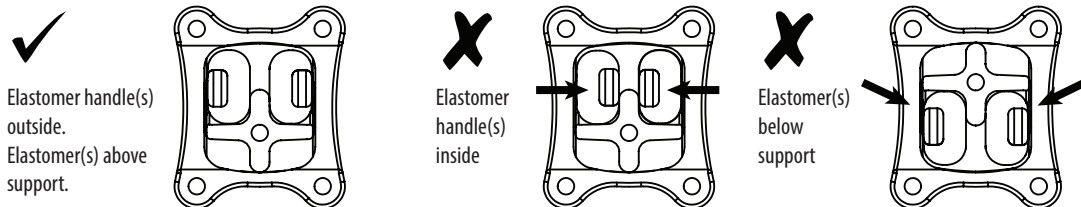
9. Using a 4mm hex wrench, loosen and remove the four faceplate bolts (#6a) and remove the faceplate (#5) and handlebar (if installed).
10. Using a 3mm hex wrench, loosen and completely remove the preload bolt (#7) and wedge (#8). The bolt will require about 32 turns to fully remove the wedge. The bolt will remain captured in the wedge.
11. Pull upward on the stem and remove the elastomer(s) (#4) from inside the stem. You may need to use the small end of your hex wrench to hook the handle of the elastomer to pull it out.
12. Select an elastomer combination from the chart on the following page and insert the appropriate elastomer(s) into one or both of the upper elastomer pockets. It may help to push the stem tube (#1) to the top of its travel while inserting the elastomers. Be sure to insert the elastomers (#4) in the orientation shown below (handle towards the outside), so as not to interfere with the preload wedge (#8) installation.

⚠ WARNING

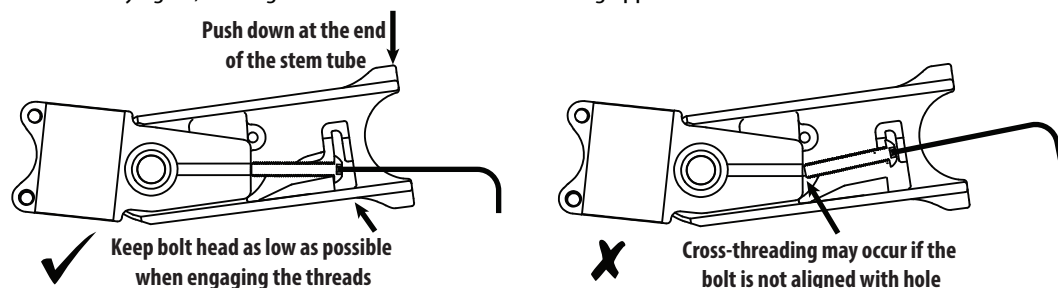
- Failure to follow these instructions and warnings may result in malfunction or breakage of this component, possibly causing serious injury or death.
- Always use a torque wrench when installing or adjusting fasteners, and always tighten to Redshift torque specifications (or the bike manufacturer's torque specification). Periodically check all fasteners for tightness using a torque wrench, since fasteners can loosen under the influence of road vibration.

- Periodically clean and inspect all surfaces of this component for hairline cracks or signs of damage. If you find any cracks or damage, immediately cease using the part and contact Redshift Sports customer service.
- Using the ShockStop stem can affect a bicycle's handling characteristics. Following installation, practice using the ShockStop at low speed in a safe area to get used to the bicycle's responsiveness and steering.
- This stem is intended for use only on paved or unpaved roads. Off-road use may lead to slippage or breakage of the component, possibly causing serious injury or death.

WARNING! The ShockStop **MUST BE INSTALLED ON YOUR BIKE WHEN INSTALLING THE PRELOAD WEDGE BOLT (step 13)**. This is required so that you can apply downward force to the stem to slightly compress the elastomers while inserting the preload bolt. Failure to apply downward force while installing the preload bolt (#7) may cause the bolt to **PERMANENTLY DAMAGE** the threaded hole in the steerer tube clamp (#2) rendering the stem **UNUSABLE**.



13. **SEE WARNING ABOVE!** To install the preload wedge (#8), apply downward force to the end of the stem tube (see left figure below), and align the captured preload bolt (#7) with the threaded hole at the center of the cross inside the stem tube (#1). Keeping the bolt head as low and centered as possible, begin turning the preload bolt (#7). If you encounter significant resistance in the first turn or two, unscrew the bolt and try again, making sure that downward force is being applied to the end of the stem tube.



14. Approximately 32 turns are required to fully seat the preload wedge (#8). After about 5 turns, the preload bolt (#7) will require increasing torque to turn as the elastomers are compressed. Be sure to fully seat the preload wedge (#8) by applying 2.5 N-m of torque. Over-tightening may damage the preload wedge. If you are riding in very aggressive conditions (such as gravel or cobblestone), apply non-permanent thread locker (such as blue Loctite) to the threads of the bolt (#7) to ensure the preload wedge (#8) maintains its position.

INSTALL HANDLEBAR AND FACEPLATE

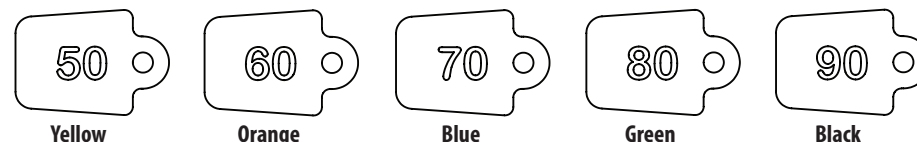
15. Apply grease to the four faceplate bolts (#6a) and ensure that a lockwasher (#9) is beneath the head of each bolt.
16. Center of the handlebar in the stem and install the stem faceplate (#5) by lightly tightening the four faceplate bolts (#6a).
17. Ensure that the gap between the faceplate (#5) and the stem tube (#1) is roughly equal above and below the handlebar.
18. Rotate the handlebar to the desired angle.
19. Tighten the four faceplate bolts (#6a) gradually (1/4 turn at a time) in an X-pattern to a torque of 5.0 N-m.

TIGHTEN THE HEADSET

Note: Refer to your bike's user manual for guidance on tightening the headset and checking for play.

20. With the bike on the ground and able to roll, check the headset tightness by holding the front wheel brake with one hand and placing the other hand at the top of the headset. Rock forward and back and feel for any movement of the steerer tube relative to the headset.
21. If you can feel motion, loosen the pinch bolts (#6b) on the ShockStop, tighten the top cap (approx. ¼ turn), and re-tighten the pinch bolts (#6b).
22. Repeat Steps 20 and 21 until there is no longer any rocking movement felt at the top of the headset during Step 20. Afterwards, check that the steering freely moves left and right with no sense of friction. If it is too tight, loosen the two pinch bolts (#6b) and the top cap and go back to Step 20.
23. Once the headset is properly tightened, torque the 2 pinch bolts (#6b) on the ShockStop to 5.0 N-m.

SELECTING ELASTOMERS



The ShockStop can be used with one or two elastomers of varying stiffness in order to tune the feel of the suspension. Each elastomer has a number marking on the side, and higher numbers correspond to a stiffer feel. Below, you'll find charts that show various elastomer configurations ranked in order of effective stiffness. There are many factors that can affect what feels right for a given rider, including rider weight, rider position, handlebar geometry (drop vs flat), stem length, riding style, and expected road conditions. Because of this, the charts below should be used as a starting point. Once you have tried the Shockstop, you may wish to change the elastomer combination to fit your preferred ride feel.

Drop Handlebars



Rider Weight		Elastomer 1	Elastomer 2
lbs	kg		
< 115	< 52	60	50
115 - 135	52 - 61	70	50
135 - 155	61 - 70	70	60
155 - 185	70 - 84	80	50
185 - 205	84 - 93	80	70
> 205	> 93	90	50

Flat Handlebars



Rider Weight		Elastomer 1	Elastomer 2
lbs	kg		
< 135	< 61	50	none
135 - 185	61 - 84	60	none
185 - 215	84 - 98	70	none
> 215	> 98	60	50

Notes:

- In configurations where Elastomer 2 is "none", do not install a 2nd elastomer (leave it empty).
- There will be a slight "breaking-in" or softening of the suspension feel during the first ride(s) as the elastomers settle into place.
- Additional combinations are possible. For a full chart of possible elastomer combinations, visit www.redshiftsports.com

QUESTIONS?

If you encounter any issues while using the ShockStop, please visit www.redshiftsports.com for the most up to date instructions and answers to frequently asked questions. You can also contact us directly at support@redshiftsports.com or via phone at +1 484-696-4254.

WARRANTY

Redshift Sports LLC warrants that this product is free from defects in material and workmanship for one year from the date of original retail purchase. This warranty applies to the original retail purchaser only, and is not transferable to any subsequent purchaser(s). At their discretion, Redshift Sports will repair or replace the defective product with the same model (or an equivalent model if an identical model is unavailable). This warranty does not cover components that are damaged due to improper installation, improper adjustment, poor maintenance, crashes, abuse, modification, misuse, or other conditions deemed abnormal or excessive by Redshift Sports LLC.

All warranty returns must be accompanied by a Return Authorization Number (RA#) and dated proof-of-purchase. You can obtain an RA# by submitting a warranty claim at www.redshiftsports.com or by emailing returns@redshiftsports.com.