

S-WORKS RUBYMAC WEDGE INSTALLATION GUIDE

THIS BRIEF INSTALLATION GUIDE CONTAINS IMPORTANT INFORMATION.
PLEASE READ CAREFULLY AND STORE IN A SAFE PLACE.

Congratulations! The Specialized S-Works Rubymac handlebar/stem system you have chosen is among the finest of advanced composite products available in cycling. Carbon fiber is a very special material that requires particular care during assembly, storage and riding. This installation guide contains instructions and warnings, plus torque specifications, to be used in conjunction with the owner's manuals and instruction guides supplied with your bicycle.

Please read the following instructions. If you have any doubt regarding your mechanical ability and/or installation of this product, visit your local authorized dealer. Specialized recommends that the handlebar/stem be installed using a torque wrench, by a qualified mechanic.

Please read the following Warnings. Because the failure to follow any Warning may result in a catastrophic failure of the handlebar, resulting in serious personal injury or death, this phrase may not be repeated in connection with each Warning.

Bicycle assembly is a complicated task which requires training and experience. Do not attempt installation of any component if you do not have experience and training as a bicycle mechanic. Reference should also be made to Barnett's or some other comprehensive bicycle manual.

INTERFACE BETWEEN THE STEM AND THE STEERER TUBE

The S-Works Rubymac Wedge requires that the fork's steerer tube follows a tolerance range of **28.50mm to 28.65mm**. If the steerer tube tolerances are outside of this range, the fork is not compatible with the Rubymac Wedge.



Proper fit between the steerer tube and the stem is crucial to performance and safety. Incorrect sizing interface can result in handlebar slippage or failure.

PREPARING THE STEM AND FORK

Before installing the handlebar/stem, ensure that the clamping interface surfaces between the stem and the fork are clean of any grease. Apply grease to bolt threads and wedge contact surfaces only (see fig.4 & 6).

Do not apply grease to carbon surfaces! Applying grease reduces the friction that is critical to proper stem/handlebar grip.

NOTE: Do not cut fork steerer tube until final stem height is determined, after following assembly steps (fig.4-8).

Once stem height is determined, install the Specialized steerer tube expander plug (supplied with the handlebar) into the top of the steerer tube. Only use the Specialized 48mm Long Expander Plug, it is designed specifically to maximize internal support for the Rubymac wedge system when torqued. Do not torque expander plug above fork manufacturer's recommended torque spec.

CHOOSING THE RIGHT STEM ANGLE

The S-Works Rubymac Wedge handlebar/stem system uses a shim and wedge assembly, which allows for multiple stem angle options. The nominal position of the stem is +3°. There are 5 angle options available, using a system of shims, wedges and spacers. Determine the desired stem angle, then assemble the required wedge hardware parts to achieve the correct angle (0° parts pre-assembled in bag):

COMMON PARTS

1 x Upper Outer Wedge
1 x Lower Outer Wedge
1 x Wedge Bolt

0° PARTS

1 x 0° Inner Wedge (*Silver*)
1 x 0° Shim (*Silver*)
1 x 0° Spacer
1 x 0° Centered Top Cap Washer

0° SETUP (Fig.1):

+3° stem angle

1 x Alloy Preload Bolt
1 x Top Cap Rubber Plug
1 x Alloy Steerer Tube Plug

2° PARTS

1 x 2° Inner Wedge (*Coffee*)
1 x 2° Shim (*Coffee*)
1 x 2° Spacer
1 x 2-4° Angled Top Cap Washer

2° SETUP (Fig.2):

(+) setting: +5° stem angle
(-) setting: +1° stem angle

4° PARTS (Black)

1 x 4° Inner Wedge (*Black*)
1 x 4° Shim (*Black*)
1 x 4° Spacer
1 x 2-4° Angled Top Cap Washer

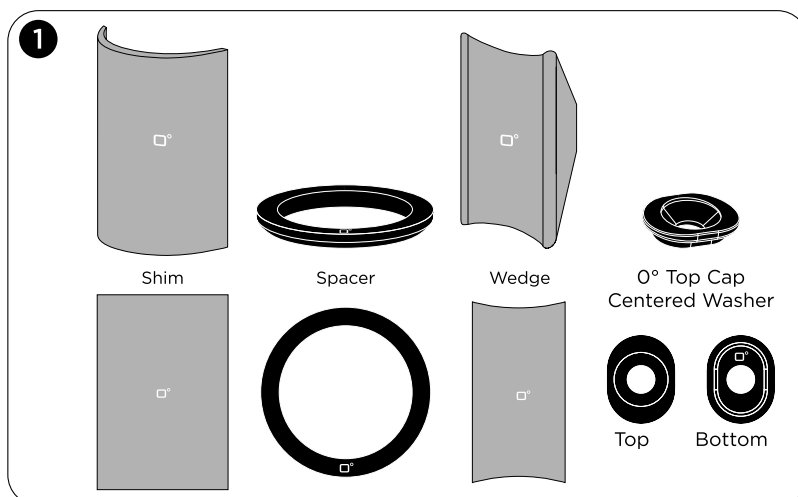
4° SETUP (Fig.3):

(+) setting: +7° stem angle
(-) setting: -1° stem angle

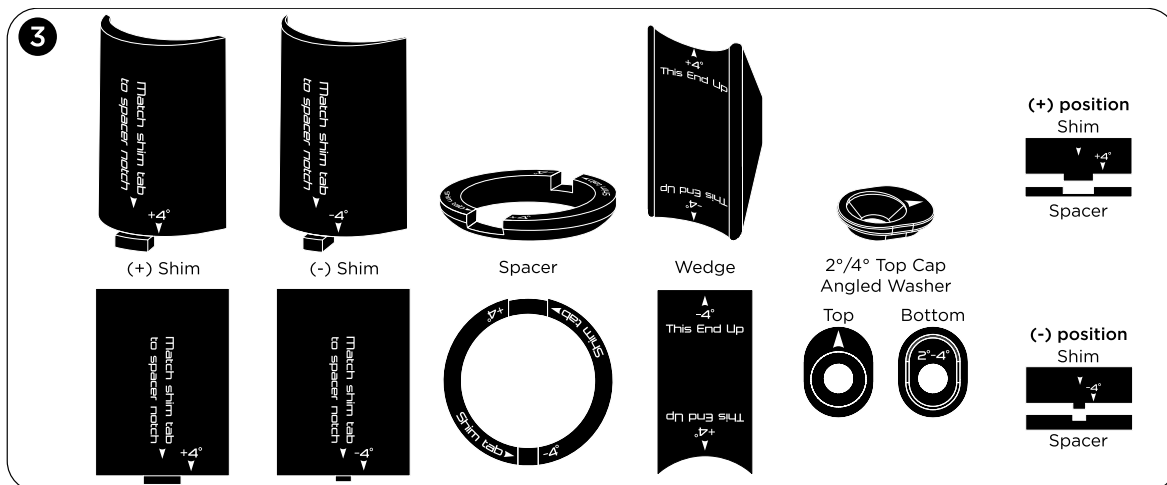
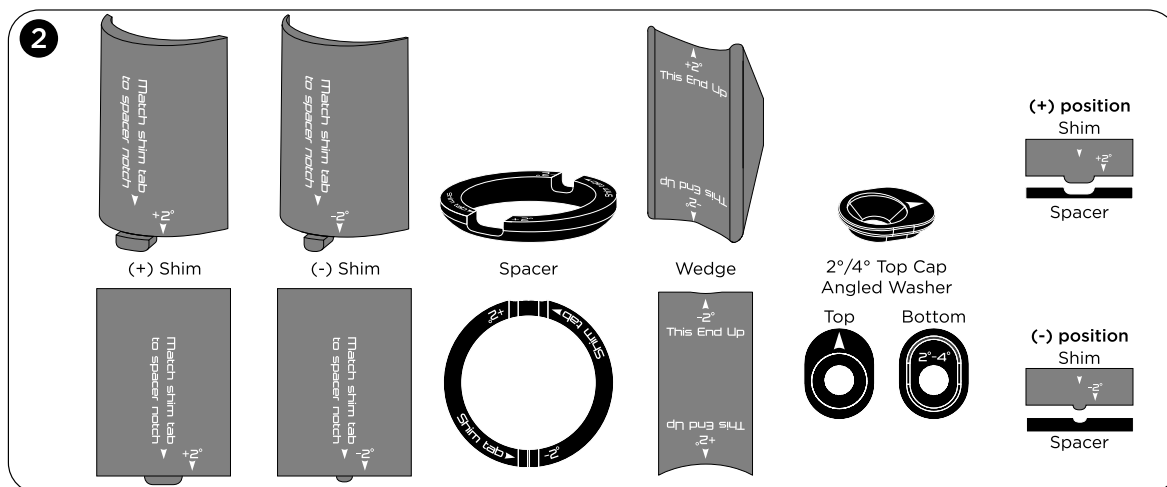


Do not use different angle parts together. Mismatched hardware can result in unevenly distributed loads on the stem and headset parts, which can lead to failure, causing serious injury or death.

0° WEDGE HARDWARE OPTIONS

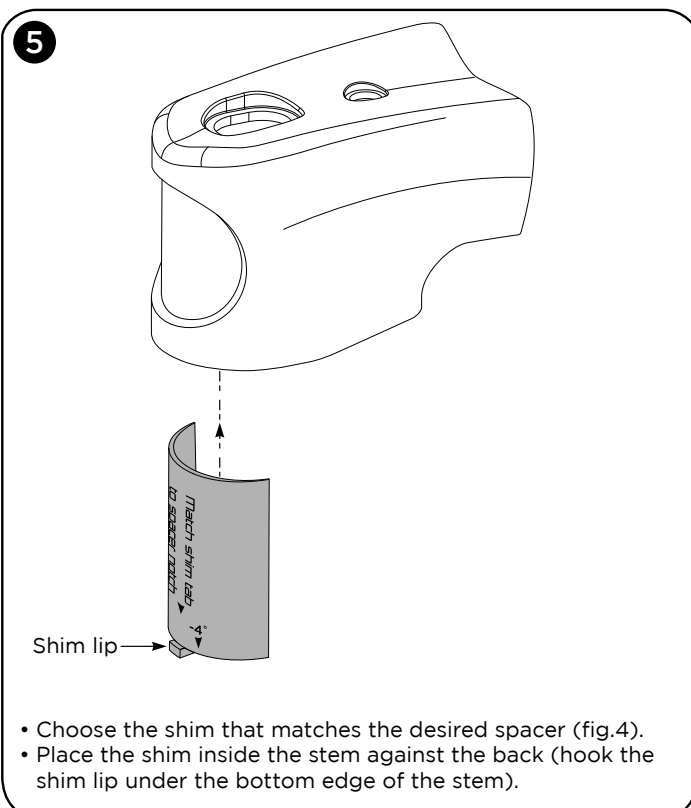
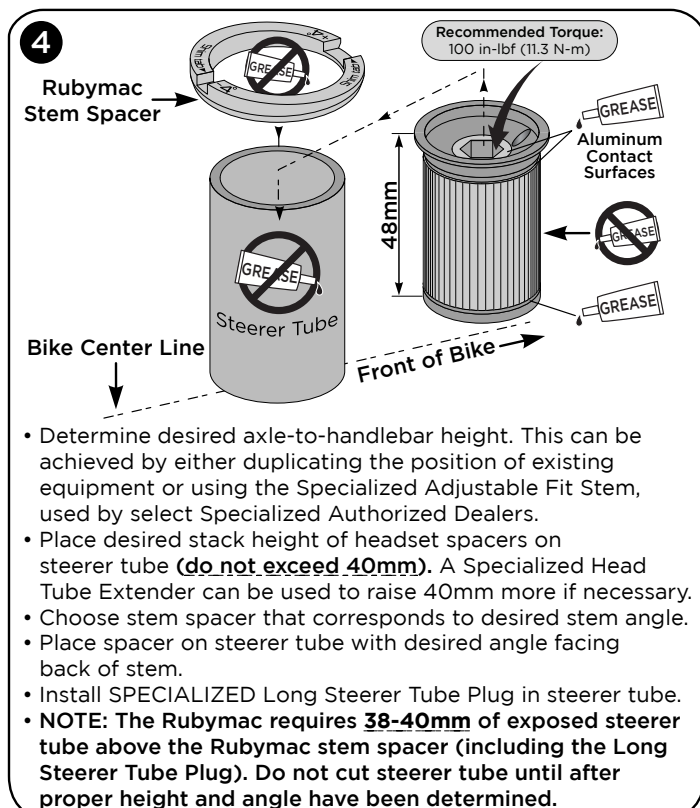


2° & 4° ANGLED WEDGE HARDWARE OPTIONS



WARNING! Ensure that the shim tab fits the spacer notch!

INSTALLING THE WEDGE HARDWARE



6

1. Upper Outer Wedge ➤

2. Inner Wedge ➤

3. Lower Outer Wedge ➤

- Grease contact surfaces between #1, #2 and #3 wedge parts.
- Place #2 between #1 and #3 wedges, with desired angle etching on #2 pointing upward.
- Loosely thread together three wedge parts.

7

Shim lip

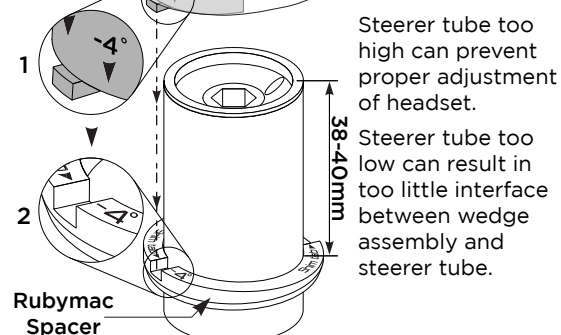
- Install wedge assembly in stem, Allen Key head and upper wedge facing up.

NOTE: The wedge assembly needs to be held in place from below with fingers while being installed on the steerer tube.

0° WEDGE HARDWARE SETUP NOTE:

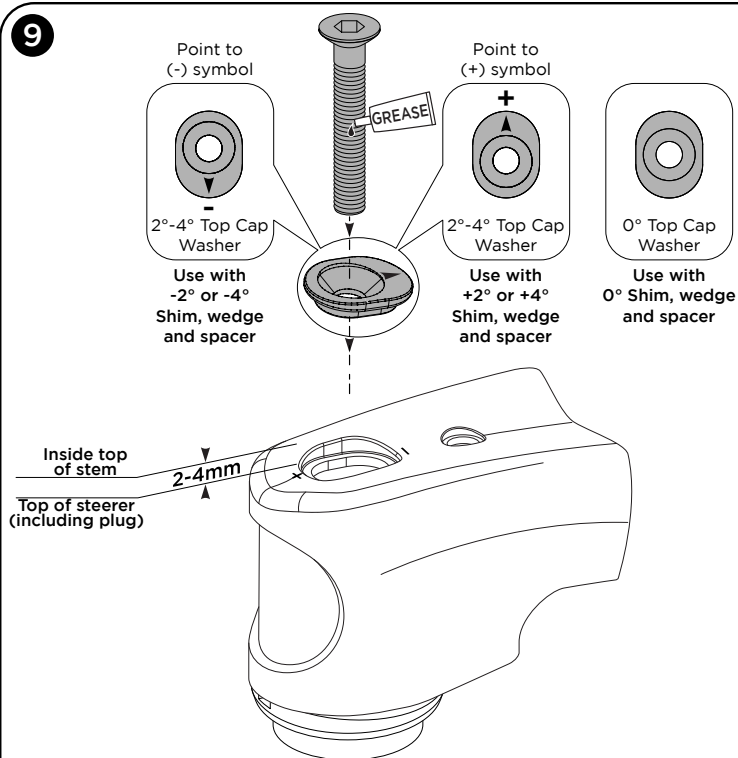
With no angles or matching tabs and notches, positioning orientation is not important for the 0° hardware. Follow the same basic assembly steps as for angled hardware (fig.4 through 5).

8



- Make sure steerer tube extends above Rubymac spacer by **38-40mm** (including expander plug).
- Place stem, shim and wedge system on steerer tube, then fit shim tab (1) in spacer notch (2).
- **NOTE: Improperly position spacer can result in uneven loads, which can result in failure.**
- Tighten wedge assembly lightly, enough to snug the stem and align the parts correctly.
- Verify stem height and angle, adjust angle and/or spacer stack height if necessary.

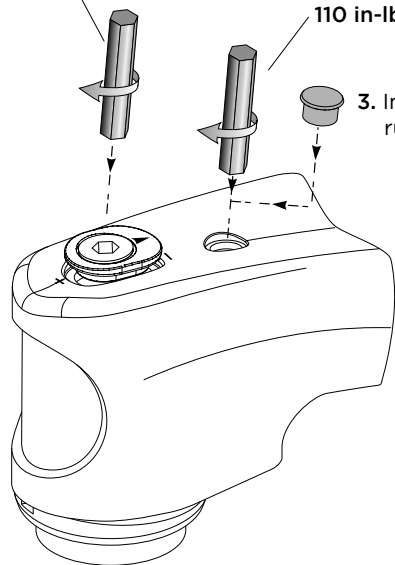
9



- If necessary to cut steerer tube, remove steerer tube plug and cut steerer tube to **38-40mm** above Rubymac Spacer (see fork instruction guide for additional cutting info). This will leave room for headset adjustment and plug.
- Reinstall steerer tube plug.
- Install top cap washer and aluminum pre-load bolt.
- If using angled hardware, point top cap washer to +/- symbol on top cap that matches chosen shim/spacer/wedge angle.

10

1. Preload headset bearings
2. Tighten wedge assembly. Recommended Torque: 110 in-lbf (12.4 N*m)



3. Install wedge bolt rubber plug

NOTE: Do not apply more pressure to pre-load bolt than necessary to eliminate headset bearing play. Excessive pressure can damage the headset bearings.

NOTE: Verify wedge bolt torque after first few rides to ensure that the wedge system is fully seated.



Failure to follow the torque specifications in this installation guide will void your warranty, but most importantly may result in damage to the handlebar/stem system which may not be visible. If the component is damaged, this can result in loss of structural integrity. To ensure the best assembly possible and to prevent any damage to the components, follow all torque specifications.



Recommended torques in this guide are specific for this Specialized product. Consult the owners manual for the mating component's recommended torque. Always use the lower torque recommendation.



ADDITIONAL WARNINGS

Failure to follow these instructions may result in a catastrophic failure of the component while riding, which may result in serious personal injury or death.

Any deep scratches or gouges in the handlebar can weaken the handlebar resulting in failure, causing serious personal injury or death.

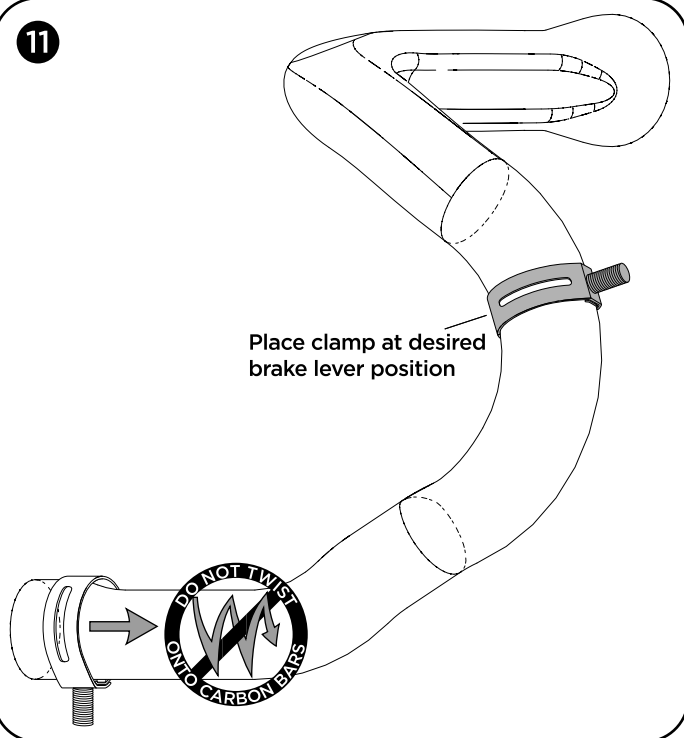
Damage to composite is difficult to visually identify. If the external composite surface is dented, frayed, gouged, deeply scratched, fractured, chipped or otherwise damaged, the component should be replaced. If a handlebar has suffered a crash or impact, even if no damage is visible, Specialized or an authorized Specialized dealer should inspect the product.

Specialized composite handlebars are made to be lightweight, and are not suitable for all riders and all possible uses. If the rider is approaching 250 pounds in weight (i.e., 240 pounds, etc.), Specialized recommends against use of this handlebar. Failure to follow this warning may result in a catastrophic failure of the handlebar, causing serious personal injury or death.

For your safety, Specialized recommends this product be replaced after 3 years of use.

For additional information and warranty provisions, please visit www.specialized.com

11



Place clamp at desired brake lever position

INSTALLING THE BRAKE LEVERS

1. Remove clamp band from brake lever assembly. Remove any burrs from the inside edge of the band using a fine grit sand paper.
 2. With the metal band clamp removed from the brake lever, install the metal band clamp on the handlebar. Place the band in your desired brake lever location. (See fig.10)
- Note:** Do NOT twist the band to install on the drops. This can result in damage to the composite surface, which can render the handlebar unsafe.
3. Install the brake lever on the metal band clamp. Adjust the left and right levers so that they are even and at the desired height.
 4. Tighten the lever clamp bolt.
Recommended torque is 70 in-lbf (7.9 N-m). Check your brake lever owner's manual for recommended torque settings.