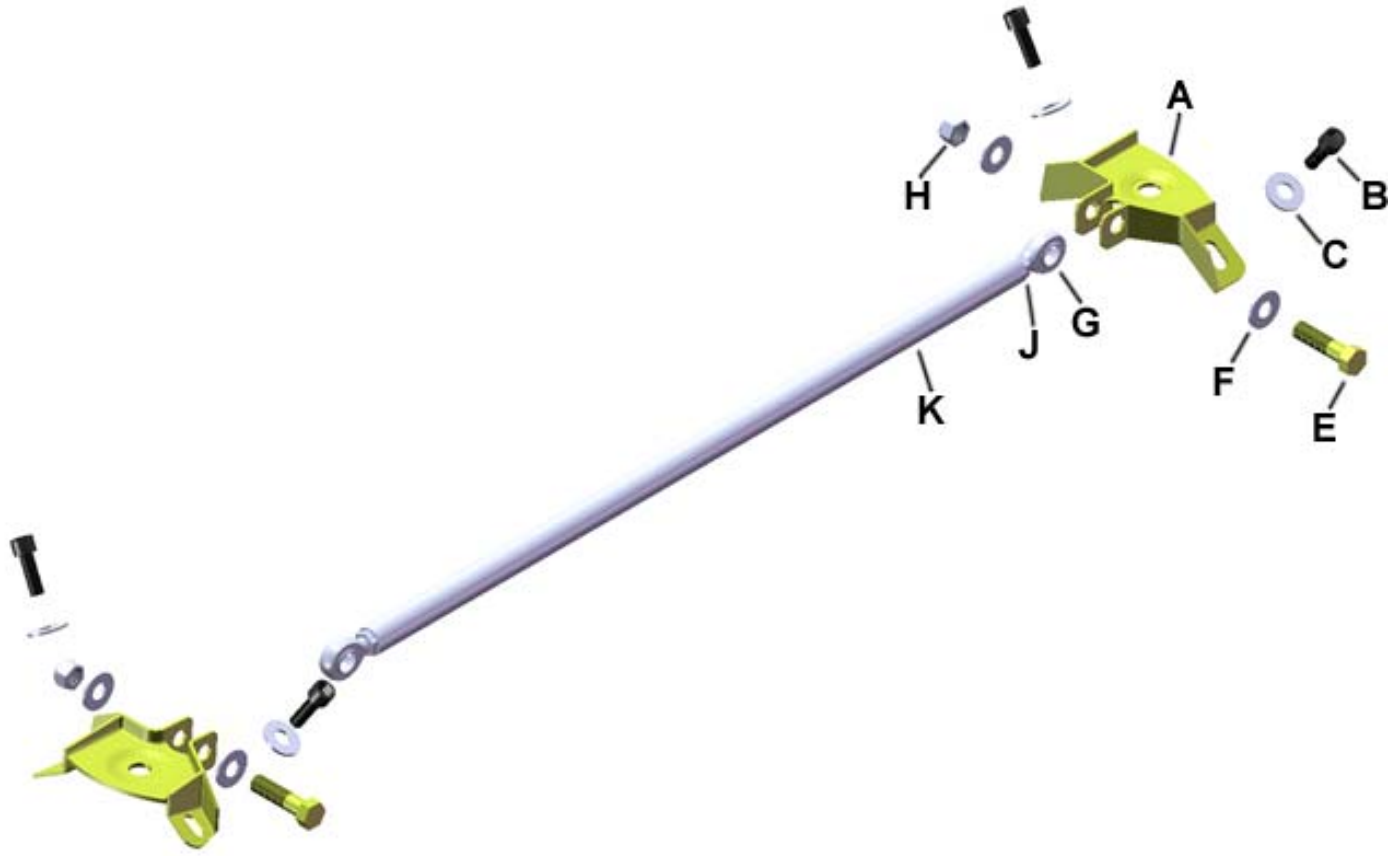
INSTALLATION INSTRUCTIONS FOR THE PORSCHE 911 FRONT STRUT BRACE CAMBERMEISTER 911 (1969-89)

911.1440100SP



INSTALLATION DIAGRAM

PARTS DESCRIPTION :

A. Bracket, left and right
B. Allen bolt, 10 x 30 mm. (4)
C. Hardened washer (4)
E. Hex bolt (2)
F. Flat washer (4)
G. Rod end, left and right
H. Nylstop nut (2)
J. Jam nut, left and right
K. Central rod
Optional spacers (2)

INSTALLATION INSTRUCTIONS FOR THE PORSCHE 911® FRONT STRUT BRACE

1. Read all instructions before starting work. This will save you time. If you have a car with non-factory strut mount rubber bushings (outlined in step #4), you will need a hacksaw and vise. The Cambermeister front strut brace cannot be fitted to the 1965-66 911's or 912's.

2. Do not jack up the front of the car. If the tires are off the ground, the shock stem could pull away from its location.

3. Remove the nut and tab washer from the top of the shock stem. Remove the large washer under the tab washer. This large washer will not be used with the Cambermeister bracket. There are three Allen bolts around the shock stem. First check that the outside rear bolt is tight, as it must be tight to prevent front suspension alignment change. Then remove the inside rear and front Allen bolts and the thin serrated washers under the bolts. Leave the large front spacer/washer. Clean the undercoating off the top of these large spacers/washers, as the brackets will mount atop them.

4. Inspect the rubber around the shock stem. The factory rubber mount is slightly dish-shaped, like the Cambermeister bracket. *If you have factory rubber shock bushings, go to instruction #5.*

Factory rubber shock bushings were sometimes replaced with two rubber grommets when replacement shocks were installed. These grommets alter the height of the rubber mount around the shock stem and would cause the hood of the car to hit the Cambermeister bracket. Remove the top grommet and the metal sleeve. You may find it necessary to raise the car and pull the shock stem down past the metal sleeve in order to remove those two pieces. (This will not change the alignment of the front suspension; realignment will not be necessary.) Cut off the top half of the top rubber grommet, right through the widest part of the grommet. You will find the grommet easier to cut if you use a lubricant like WD-40 or soapy water on the hacksaw blade. Cut off the same amount from the top of the metal sleeve as you have from the rubber grommet; be sure to make a good, square cut on the sleeve. Re-install the sleeve and rubber grommet. Make sure the beveled side of the grommet is on the bottom. Later in the installation, before you replace the tab washer, you may need to install the optional spacer on top of the Cambermeister bracket and under the ab washer. Proceed with instruction #5.

5. The next step is to install the Cambermeister strut brackets (A) over the shock stem. There is a separate left and right side bracket. (You may need to rotate the stem of the shock in order to get the keyway to align with the new top bracket). Protect the threads of the shock with several layers of tape, heavy cloth, or a strip of thin metal, and turn the stem with a pair of pliers. The mounting tabs on the Cambermeister bracket (A) sit on top of the large factory strut spacers/washers (where you removed the Allen bolts). Re-install the old tab washer. (If you cut the rubber grommet in instruction #4, first decide if you need to use the optional spacer, by checking for full thread engagement on the nut). Hand tighten the shock stem nut. Now thread in the new, longer Allen bolts (B) and special washers (C) until they are hand-tight; do not tighten yet. After both sides are installed, torque the shock nut to 60 ft./lbs. Bend up one edge of the tab washer to prevent the nut from turning. Now tighten the Allen bolts to 34 ft./lbs.

6. Assemble the centre rod. Thread the jam nuts (J) all the way up the rod ends (G). (Note: there is one left-hand and one right hand rod end). Thread the rod ends most of the way into the centre rod (K). The two rod ends should be threaded the same approximate number of turns into the central rod. Do not tighten the jam nuts.

7. Attach one rod end to one of the strut brackets, using the hardware (E/F/H). Tighten this end.

8. Slip the loose rod ends in between the “ears” of the other strut bracket. To adjust the central rod so the hardware can be attached, hold the loose rod end securely, and turn the central rod. This adjusts the length of the central rod. Check that the rod ends are threaded into the center rod approximately the same length at both ends. The final mounting bolt (E) should slide in easily so there is no preload on the center rod (see tech tip below). Install and tighten hardware (E/F/H).

9. Tighten the jam nuts and make sure that all nuts/bolts are tight. Hood clearance is tight on some cars. Place a small piece of clay or other deformable material on top of the forward edge of the Cambermeister bracket and gently close the hood. If you hood hits the Cambermeister brackets, you may need to file down the forward edge of these mounting brackets.

Why Cambermeister makes your 911® handle better.

After over a year of testing at Northern California tracks, autocrosses, and many road miles, we have found that the 911® front chassis “open U” design is actually much stronger than anyone had previously guessed. Our testing and measuring was done with tell-tale dial indicators that measured chassis deflection as close as one thousandth of an inch.

First, we found that deflection does not come from the shock towers collapsing inward. Rather, the cornering forces that pass through the chassis work to spread apart the shock towers. As you go through a corner, this tower expansion causes your front wheel camber to change from negative to positive; this is why you experience that mushy feeling as you try to negotiate a hard corner. The Cambermeister strut brace prevents both tower expansion and contraction, and keeps your Porsche on the proper cornering line.

Second, testing proved that most of the camber change and mushy feeling originates not from chassis movements, but from flexing in the soft rubber top shock mounts. In fact, over 85% of the car's camber change takes place here – not in chassis flex. The Cambermeister strut brace ties all of these chassis points together to prevent chassis and rubber deflection and to improve the handling power of your Porsche.

Tech Tip One:

The chassis of some 911's vary enough that it is difficult to adjust the front suspension to obtain any significant front negative camber. With the Cambermeister brace tying the two struts together, you can "tighten" the center rod to bring the tops of the struts together to get some additional negative camber. This is best done on an alignment rack so the alignment can be accurately checked.

Tech Tip Two:

The Cambermeister brace will greatly improve the handling of the front of your car. Do not be surprised if your Porsche now feels differently under hard cornering. You may find that after the installation of your Cambermeister you will want to make other suspension adjustments to further improve your 911's handling, and take advantage of the reduced camber change during hard cornering.

1 – If you have adjustable sway bars, adjust the front sway bar to a "harder" position (shortening the arm), or

2 – Adjust the rear sway bar to a "softer" position (lengthening the arm).

3 – If you are using front toe-out, you may want to reduce the amount.

You will find your car more responsive, with more immediate chassis feedback, and greater driver control.

Have fun and enjoy your new handling power!

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