

KARCEPTS

ENGINEERED SOLUTIONS



Installation Instructions for Part #: KR5B-FK-XX Karcepts Rear Sway Bar Kit for 2016+ Honda Civic

Specifically for track/autocross use, this sway bar kit offers zero compromises:

- Sway bar rate is adjusted with one wrench, in only a few minutes
- Rate adjustments are made with the vehicle on the ground, even at low ride heights
- 9 possible adjustment settings, maximizing tunability and overall range
- Billet aluminum arms optimized for strength and weight utilizing the latest FEA software
- Light weight, zero deflection solid sway bar mounts provided for precise feel
- Low friction, greasable, solid polymer bearings eliminate bushing bind
- Heat treated and plated steel alloy PTFE lined endlinks and all hardware included
- 25.4mm (1") diameter high-grade spring steel splined center section for consistent rates
- Center section available in 0.095" or 0.188" wall thickness

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Parts Included With FC/FK Rear Sway Bar Kit

DESCRIPTION	QTY
LEFT SOLID SWAY BAR MOUNT	1
RIGHT SOLID SWAY BAR MOUNT	1
M8X20 FLANGE BOLT	4
SPLINED SWAY BAR CENTER SECTION	1
CLAMP COLLAR	2
ANTI-SEIZE	1
LEFT SWAY BAR ARM	1
RIGHT SWAY BAR ARM	1
5/16-24 x 1-1/4" SOCKET HEAD CAP SCREW	2
FEMALE ENDLINK HALF W/ WRENCH FLAT STUD	2
3/8" THIN ENDLINK LOCK NUT	4
THREADED ROD	2
FEMALE ENDLINK HALF	2
LCA ENDLINK SPACER	4
3/8" FLANGE NUT	*4

* Only quantity of 2 needed for assembly. Quantity of 2 extra provided as spares.

Tools Required

Tape Measure

Torque Wrench (11 ft-lb to 30 ft-lb range)

Sockets - 12mm, 3/16" hex bit, 1/4" hex bit

9/16" Open End Wrench

9/16" Ratcheting Combination Wrench

Grease Gun

NLGI #2 Lithium Grease

Note: Read all instructions before attempting installation. If you do not believe you are qualified in performing the necessary installation, please find an experienced professional who can.

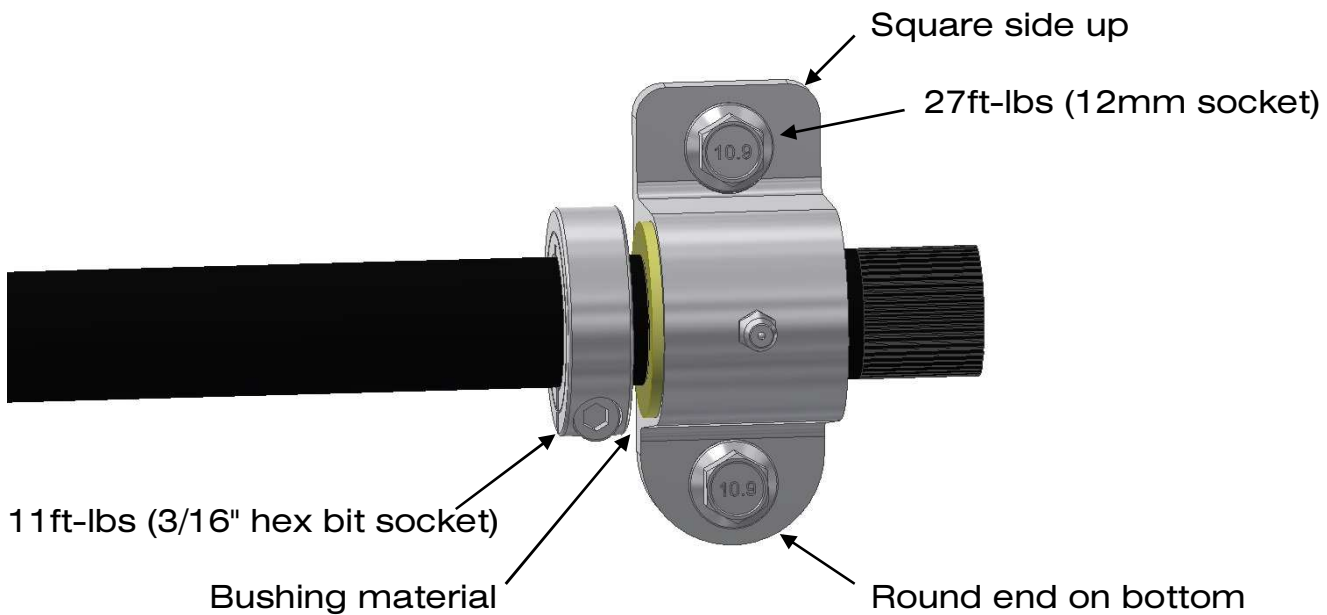
1. Solid Mount/Center Section Installation

A. Remove the OE sway bar, endlinks, and sway bar brackets from the vehicle. Retain the 2x endlink to lower control arm bolts; these will be re-used.

B. Slide clamp collars onto the center section first, leave set screws loose.

C. Slide sway bar mounts onto the center section with the protruded yellow bushing material facing inward (so that the side of the clamp collar and the bushing material of the mount will end up making contact).

D. Install the center section / sway bar mount assembly onto the vehicle with the 4x provided M8x20 flange bolts (do not re-use the factory bolts, they are too short) and torque to 27ft-lbs. Make sure to bolt the aluminum mounts to the crossmember in the correct orientation as shown below:



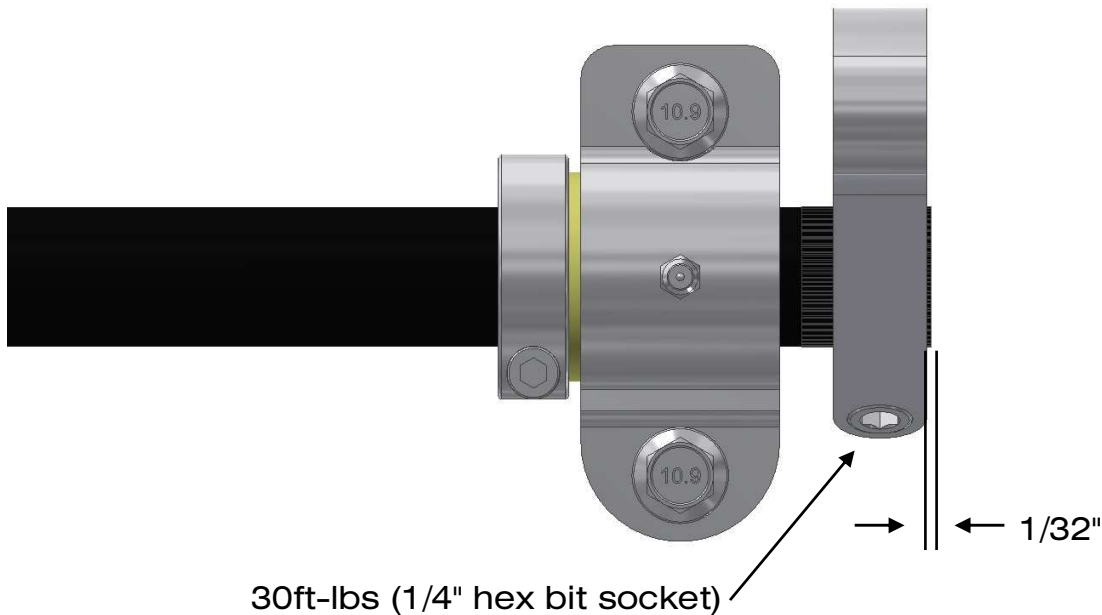
E. Center the bar by using a tape measure to compare how far the splined ends stick out from both the left and right sway bar mounts.

F. Butt clamp collars against the protruded bushing material on both the left and right sides. Torque clamp collar bolts to 11ft-lbs (132 in-lbs) with a 3/16" hex bit socket. Grab onto the center section and try to shift the bar side-to-side horizontally. The bar should not be able to knock back and forth. If there is any movement, re-position the clamp collars until any clearance is eliminated.

2. Sway Bar Arm Installation

A. Apply the provided anti-seize onto the splines of the sway bar arms. Coat every tooth of the splines liberally; any excess can be wiped away after install.

B. Slide the left and right sway bar arms over the splined ends of the center section, making sure to clock the arms to an exact mirror image of each other. Leave $1/32$ " of shaft protruding past the end of the arms. This is the optimal arm installation position. Use a $1/4$ " hex bit socket and torque the $5/16-24 \times 1-1/4$ " socket head cap screws to 30ft-lbs.



3. Endlink Length Setup

It is critical to set endlink lengths specific to the vehicle's ride height. If ride heights are changed, always re-adjust endlink lengths per the table below. Interpolate endlink lengths if necessary. Potential damage to the sway bar arms or endlinks may occur if endlink length is not set correctly. Additionally, proper endlink length guarantees full functionality of the quick adjustment feature of this sway bar kit.

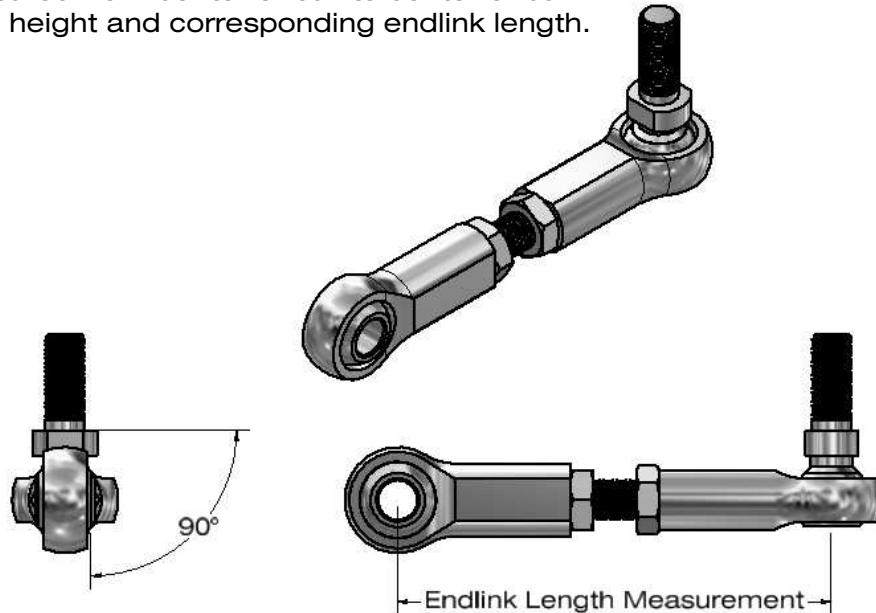
Use the below table to determine ideal endlink length for your ride height:

RIDE HEIGHT ^{*1}	ENDLINK LENGTH ^{*2}
13.25"	3.69"
13.50"	3.75"
13.75"	3.84"
14.00"	3.92"
14.25"	4.01"
14.50" ^{*3}	4.09" ^{*3}

^{*1} Ride height is measured from the center of the wheel hub to the bottom edge of the fender.

^{*2} Endlink length is measured from center of ball to center of ball.

^{*3} This is the factory ride height and corresponding endlink length.



Assemble left and right endlinks with the provided female endlink halves, threaded rods, and 3/8" thin lock nuts. Build assemblies so the endlink halves are exactly 90 degrees in relation to each other. Make certain the lock nuts are tightened securely to the endlink halves by using two 9/16" open end wrenches.

For proper quick adjustment functionality, the sway bar should have zero endlink preload when the car is at rest without a driver. If the chassis has been corner balanced, it is possible for the left and right side ride heights to be different values. If this is the case, set endlink lengths specific to the ride height on each side of the vehicle. These endlink lengths will be the initial setup point; however, other factors may dictate adjustments to endlink length for ideal quick adjustment functionality. Secondary adjustments to endlink lengths are covered in Section 6 (Quick Adjustment Troubleshooting).

4. Endlink Installation

Insert the LCA endlink spacers into the bottom endlink halves and insert the assemblies into the pockets of the lower control arms where the OE endlinks were previously installed. Re-use the factory LCA endlink bolts and torque to 30 ft-lbs.

Install the studded portion of the endlinks into the holes of the rear sway bar arms (start full soft, furthest distance away from the center section) and secure with the 3/8" flange nuts. Proper torque on this nut is 23 ft-lbs, but since this is the adjustment nut, it's impractical to assume you'll be using a torque wrench every time you make a sway bar change. Just tighten these nuts by feel approximately close to 23 ft-lbs. Plan to use a 9/16" ratcheting combination wrench on this nut for quickest adjustments when the vehicle is on the ground. Two extra 3/8" flange nuts are included as spares in case any get lost during adjustment.

5. Quick Adjustment Procedure

Reinstall the wheels/tires, and get the car back on the ground. Drive the vehicle for 500 miles (or one race event) to allow the bushings and endlinks time to free up. The car is now ready to test the Quick Adjustment Procedure.

The adjustment procedure of this sway bar kit should take no longer than 3 minutes to complete with adequate practice and knowledge of the product. Before attempting to make a sway bar adjustment quickly at the track or between autocross runs, we highly recommend spending a good hour practicing and gaining familiarity with the product/procedure. Follow the below steps exactly as provided. If trying to take any short-cuts with the procedure, you may cause yourself excess time or frustration.

1. Loosen and remove the adjustment nut on the back side of the left sway bar arm with a 9/16" ratcheting combination wrench. Set the nut aside and remove the stud of the endlink from the arm. If there is any difficulty removing the stud, skip to Step 2. Articulate the endlink around as required, and insert the stud of the endlink into the new desired hole position. Pay attention to the wrench flats on the endlink stud as well as the machined slot of the sway bar arm. The flats will need to lie within the slot of the sway bar arm. At this initial stage it can be common for the endlink stud to not want to install completely within the slot of a new hole location (pushing up or down on the sway bar arm itself can help seat the stud). If there is any difficulty seating the stud fully within the arm, just leave the stud sitting partially inserted into the new hole position. If able to seat the stud fully into the new hole/slot (7/16" of thread will protrude from the back of the arm), thread back on the adjustment nut, but leave the nut a few turns loose.
2. Loosen and remove the adjustment nut on the back side of the right sway bar arm. Since the left adjustment nut is loose, it should be extremely easy to remove and reposition the right endlink. If any difficulties, simply push up or down on the sway bar arm, and all should be free to reposition. If there are still problems removing the stud, skip to the Quick Adjustment Troubleshooting on the following page. Affix the right endlink stud into the new desired adjustment hole by making certain the wrench flats of the stud are seated fully into the machined slot of the arm. Reinstall the adjustment nut. If you were able to seat the left stud fully into the hole/slot of the left arm from Step 1, you may tighten the right adjustment nut completely; otherwise, leave the right nut a few turns loose.
3. If you were able to seat the left stud fully from Step 1, then your final step is to simply tighten down the left adjustment nut completely and you are done with the quick adjustment. Otherwise, you now need to complete the adjustment and seating of the left endlink stud into the new desired hole position (while the right nut is still loose). Reinstall the left adjustment nut and tighten completely. Now go back to tighten the right adjustment nut and you are done with the quick adjustment.

6. Quick Adjustment Troubleshooting

If following the Quick Adjustment Procedure, there should be no issues completing all 3 steps. If any difficulty with the procedure, this can mean one of a few things:

1. If the vehicle is sitting on extremely un-even pavement, there could be difficulties due to additional preload. It is very possible to perform the procedure on a sloped or inconsistent surface; but when too extreme, issues removing and installing the endlinks can occur. Reposition the vehicle on a more level surface and retry the procedure.
2. Double check to make certain left and right sway bar arms are clocked in sync with each other.
3. Double check to make certain the sway bar is centered properly.
4. Double check to make certain proper endlink lengths are used (Section 3).
5. If none of the above issues are at fault, then an additional endlink adjustment will be necessary. This can be due to differences in the suspension's eccentric alignment bolt positions between sides or can also be caused by an angular deviation tolerance between splined ends of the center section. To begin, first determine which endlink would need to be lengthened and which side would need to be shortened in order to remove the preload. On the link that would need to be shortened, crack loose on one of its middle lock nuts and shorten the link one full turn. Re-test the Procedure. If still difficult, move to the other side of the vehicle and lengthen that side's endlink one full turn. Re-test the Procedure. Keep adjusting and re-testing the Quick Adjustment Procedure until you are able to remove and reposition the links freely into and out of the arm holes. Alternate sides when adjusting the links in order to keep both links as close to the Section 3 table values as possible. To test thoroughly, it's best to make an adjustment, then test drive the vehicle briefly, stop the vehicle on a new area of pavement, and try again. It should not be necessary to deviate from the endlink length table values by more than 1/8" per side. Additionally, do not allow endlink lengths to pass the extremes of the table values (i.e. no endlink should be shorter than 3.69" or longer than 4.09"). It is highly recommended to perform endlink length adjustments with the vehicle on the ground in order to observe the corrections without unsettling the suspension.

Sway Bar Disclaimer:

Karcepts Sway Bars are designed for race purposes. Only solid, low friction polymer bearings are utilized in our sway bar kits. No rubber or soft polyurethane is used. Endlink construction is steel on steel (with only a Teflon liner between the ball and race of our endlinks). Additionally, Karcepts Sway Bars are of a 3 piece design, comprised of a NASCAR/Speedway style splined center section, with mating splined aluminum sway bar arms. Karcepts Sway Bars are also capable of stiffness levels far greater than OE, and almost always greater than any other aftermarket bar available. The above factors are why racers choose our products; however, if Karcepts Sway Bars are utilized for daily driving, additional NVH (noise, vibration, harshness) may be observed. Karcepts, Inc. tries to its fullest extent to minimize NVH as much as possible, even with such a rigid design. Few customers have ever claimed our bars add unwanted vibration or harshness. However, in some cases, noises have been reported. In general, most clicks, knocks, clanks, and squeaks can still be eliminated with proper maintenance.

Sway Bar Maintenance:

Below are maintenance procedures that may be helpful in resolving any undesired sway bar noises:

1. Verify everything is tight and installed exactly as specified in the Karcepts Installation Instructions. With such a solid design, any loose part can make all kinds of clatter. If the clamp collars have any gap between them and the mount bushings, the bar can shift side to side and make some sounds. Additionally, all torque specifications must be followed, especially on the sway bar arms and clamp collars. You must obtain the properly sized torque wrench(es) and hex bit socket(s) to install and maintain your Karcepts Sway Bar Kit.

2. The most common noise issue on a 3 piece bar is at the splined connections between the steel center section and the aluminum sway bar arms. The noise can sound like a metallic clicking, often confused with endlink noise. Other times it can make a knocking or clanking noise, so it is always best to address the splined connections first. Some bars and arms never encounter the issue, others may show up one time and need addressed, and yet a few may require a constant maintenance schedule. To eliminate sounds caused from the splined connections, loosen the sway bar clamping bolts, slide the arms off of the center section, rotate the center section within the mounts 60-90 degrees, re-lubricate the splines of the sway bar arms with a liberal amount of anti-seize, then re-install the arms onto the center section and torque bolts to the proper Karcepts supplied torque specifications.

3. For a creak or squeak type noise, apply a NLGI #2 lithium grease on the surfaces between the mount bushings and center section. Some Karcepts Sway Bar Mounts include grease fittings to make this task easier. WD-40 and PTFE sprays are not recommended on the sway bar mount bushings. If a squeak is still prevalent, try spraying the spherical endlink connections with lube to see if the noise goes away. An endlink squeak would be a rare instance on a Karcepts Sway Bar, but it may be possible.

Sway Bar Maintenance (continued...):

4. If driving slowly over a bumpy surface and some clatter is observed, that may likely be attributed to a small amount of endlink play. In most instances you can run the sway bar with endlink play for a long time and there will be no ill effects (other than possible sounds at low speeds). Endlink play is something that can develop over time. Endlinks ordinarily are going to be a wear item, especially when running stiff sway bar settings. Endlink wear can also be magnified if racing in classes that mandate soft factory springs. Karcepts, Inc. has spec'ed out the endlinks in all applications to achieve the greatest life possible, but endlink life will vary based on customer use. In general, you should be able to get at least 2 race seasons out of a set of supplied Karcepts Endlinks. However, extreme applications may require endlink replacement once a year. It is best to physically remove and inspect endlinks to determine if play has built up between the ball and race of an endlink. It may also be possible to spray the spherical connections with lube. If noises subside immediately, then endlink play is most likely the contributing factor.

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