



DCR 6061 Crank Strap Kit with DCR Main Studs

Tools Needed- 3/16" & 1/8" Allen Socket, 5/8" Deep Socket, Ft/lbs or Inch/lbs Torque Wrenches

If you are using the DCR Windage Tray Kit specified with Crank Strap Kit, take notes on its assembly as shipped from DCR so you know where everything goes upon re-assembly. Disassemble Windage tray kit and make note of assembly.

Remove oil pan, pickup tube and balance shafts assembly. Remove all (10) stock crank main bolts. Remove all brass tip set screws from DCR 6061 Crank Straps. There are (4) identical straps numbered 1-4 and one different strap #5. There are (2) short main studs for the #5 crank strap which will be the rear strap towards transmission.

Before proceeding to install you will need a 1/4-20 tap to tap about 6 threads into the balance shaft oil supply hole at the front of the block and main #1. Tap threads, clean out hole with brake clean/carb cleaner using Teflon tape or paste or anaerobic sealer on threads of supplied 1/4-20 set screw in tapped hole and tighten to hand tight or 70 inch pounds.

Using the short main studs with 20w50 motor oil (on all threads, washers and between washers and head of nuts), place studs through holes of strap #5 Torque studs into block to 8 foot pounds. Use (2) of the 7/16" black washers and with (2) of the 7/16" black nuts, align strap #5 into bedplate next to transmission side of bedplate with the flat side of strap #5 facing passenger side of engine and finger tighten at this point. The radius side of strap #5 will be toward the transmission side of bedplate. Note when you install the short main studs, do not bottom them out in the block- install enough so you can completely torque the nut onto the stud. If you do not have enough stud for the nut, then you need to back the stud out to achieve full thread engagement for the nut.

Using (2) of the long main studs with 20w50 motor oil (on all threads, washers, and between washers and head of nuts), place studs through strap #4 Torque studs into block to 8 foot pounds. Use (2) of the 7/16" black washers and with (2) of the 7/16" extended nuts (hex side toward washer and strap), align strap #4 into bedplate in position #4 (in next position beside #5). These straps can be facing either direction as long as the number is facing down and the ribbed side engaged into bedplate. Finger tighten at this point.

Using (2) of the long main studs with 20w50 motor oil (on all threads, washers, and between washers and head of nuts), place studs through strap #3 Torque studs into block to 8 foot pounds. Use (2) of the 7/16" black washers and with (2) of the 7/16" black nuts, align strap #3 into bedplate in position #3 (in next position beside #4). These straps can be facing either direction as long as the number is facing down and the ribbed side engaged into bedplate. Finger tighten at this point.

Using (2) of the long main studs with 20w50 motor oil (on all threads, washers, and between washers and head of nuts), place studs through strap #2 Torque studs into block to 8 foot pounds. Use (2) of the 7/16" black washers and with (2) of the 7/16" extended nuts (hex side toward washer and strap), align strap #2 into bedplate in position #2 (in next position beside #3). These straps can be facing either direction as long as the number is facing down and the ribbed side engaged into bedplate. Finger tighten at this point.

Using (2) of the long main studs with 20w50 motor oil (on all threads, washers, and between washers and head nuts), place studs through strap #1 Torque studs into block to 8 foot pounds. Use (2) of the 7/16" black washers and with (2) of the 7/16" black nuts, align strap #1 into bedplate in position #1 (in next position beside #2). These straps can be facing either direction as long as the number is facing down and the ribbed side engaged into bedplate. Finger tighten at this point.

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With all straps now installed and 20w50 motor oil (on all threads, washers and between washers and head of bolts), start in the middle at strap #3 and torque all strap black nuts including extended nuts to 30 foot pounds, proceed to strap #2 with 30 foot pounds, proceed to strap #4 with 30 foot pounds, proceed to strap #1 with 30 foot pounds and finally strap #5 to 30 foot pounds.

Repeat above sequence to all strap bolts are at 40 foot pounds.

Repeat above sequence again until all strap bolts are at FINAL torque spec at 55 foot pounds. MAX 55 Foot Pounds- DO NOT OVER TIGHTEN AS THIS WILL DISTORT BLOCK AND MAIN JOURNALS!!!!

Now install supplied brass tip set screws with brass tip toward bedplate into all straps and torque to 8 foot pounds or 96 inch pounds MAX. Now install supplied locking set screws on top of brass tip set screws into strap and torque to 8 foot pounds or 96 inch pounds- DO NOT OVER TIGHTEN!!!

MAKE SURE YOU HAVE PLUGGED BALANCE SHAFT OIL SUPPLY HOLE NEXT TO STRAP #1 WITH SUPPLIED ¼-20 SET SCREW USING A ¼-20 TAPPING (6) THREADS INTO HOLE!

Look back at your personal assembly notes on Windage Tray Kit specified for Crank Strap Kit and begin installing onto engine. Crank Scrapper installs first on front side of engine (radiator side) with angle cut of scrapper facing toward strap #5 with no washers and cut outs (for connecting rods to pass through) of scrapper facing toward crankshaft. Scrapper sits directly on top of the extended main nuts with no washers in between scrapper and main nuts. Using some kind of grease to hold (2) gold washers into position on studs on other side of engine (rear side) and place Windage tray next with angle cut of tray toward strap #5 and bent ends facing up towards crankshaft. Just to be clear- the scrapper will be between extended nuts and tray on front side and washers between extended nuts and tray on rear side. While holding all of this into place, put baffle onto studs in line with strap #2 with baffle being closest to timing belt of engine. With (2) 7/16" bolts and gold washers hand tighten at this point. Using the (2) remaining 7/16" bolts and remaining (2) gold washers, place onto studs on strap #4 and hand tighten at this point. Once everything is aligned torque to 30 foot pounds.

Make sure to reinstall your DCR Pick Up Tube with O.E. O-Ring and torque 200 inch pounds or 16 foot pounds. Install Oil Pan with gasket to O.E. Specifications which is 105 inch pounds or 9 foot pounds.

Fill Engine with the appropriate 6 ½ quarts of oil depending on whether you have the DCR Big Filter Kit or not.

IF YOU HAVE A QUESTION- DO NOT GUESS OR ASSUME- CONTACT DCR ONLY FOR ANSWERS!!!

DOUBLE CHECK EVERYTHING TO BE SURE THAT YOU'RE DONE.

IF YOU NEED ANY ASSISTANCE EMAIL US AT; jennifer@darrellcoxracing.com or call us at 517-369-9636.