Big Block Chevy Supercharged Wraptor (Procharger)

Thank you for your purchase from CVF Racing!

Please note that installation is the same for all finishes, your part numbers *may* have different prefixes based on what finish you chose ("B-" for Black, "C-" for Clear, "BD" for Black Diamond).

Our tech lines are available Monday-Friday from 8-5 PM CST at 651-356-8593 or support@cvfracing.com

Torque Specs:

#8 Socket Cap Screw: 48 in-LBS

#10 Socket Cap Screw: 70 in– LBS

M8 Socket Cap Screw: 28.6 ft-lbs

1/4-20 Button Head Screw: 167 in-lbs

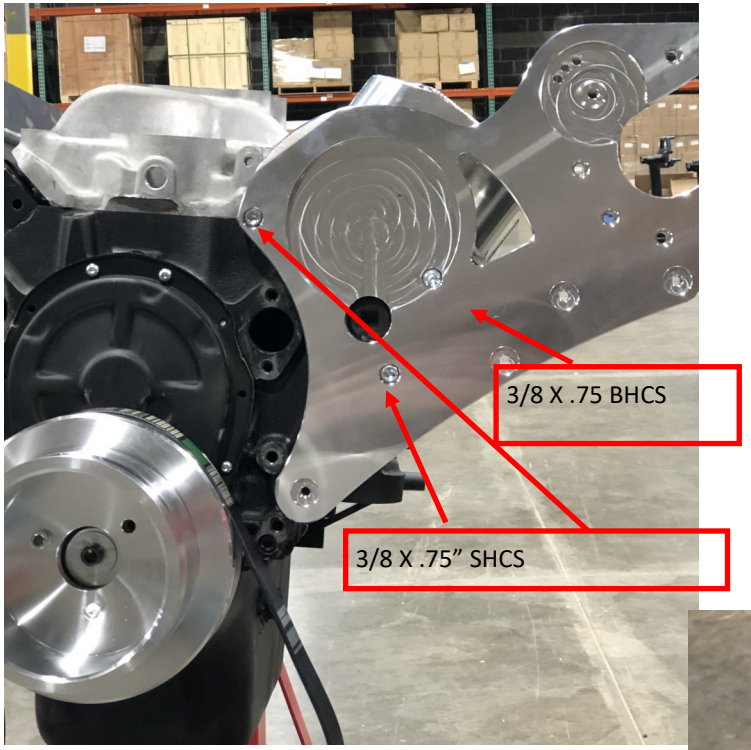
5/16-18 Socket Cap Screw (Coarse): 28.6 ft-lbs

5/16-24 Socket Cap Screw (Fine): 31.8 ft-lbs

3/8-16 Socket Cap Screw: 51 ft-lbs

3/8-16 Button Head Screw: 29 ft-lbs

Product	QUANTITY
3/8-16 X 2.75 SHCS	1
3/8-16 X 3.0 BHCS	1
3/8-16 X 2.5 HHS	5
3/8 SAE Washer	6
3/8-16 X .468 Lock Nut	3
M8-1.25 X 25MM SHCS	3
M8-1.25 X 40MM SHCS	2
3/8-16 X 5.75 SHCS	4
6257722-400 (4” SPACER”	4
3/8-16 THIN LOCK NUT	5
3/8-16 X 3.5 SHCS	1
3/8-16 X 0.75 SHCS	2
3/8-16 X 0.75 BHCS	1
3/8-16 X 1.25 SHCS	1
5/16-18 X 1.25 SHCS	5
1007722-500 (.5” SPACER)	6
TOTAL	**50**



1. Begin by installing the Procharger plate (454-WR-PC). You will use (2) 3/8 X 1.25" SHCS and (1) 3/8 X .75" BHCS. These can be tightened to spec once all 3 bolts are started.

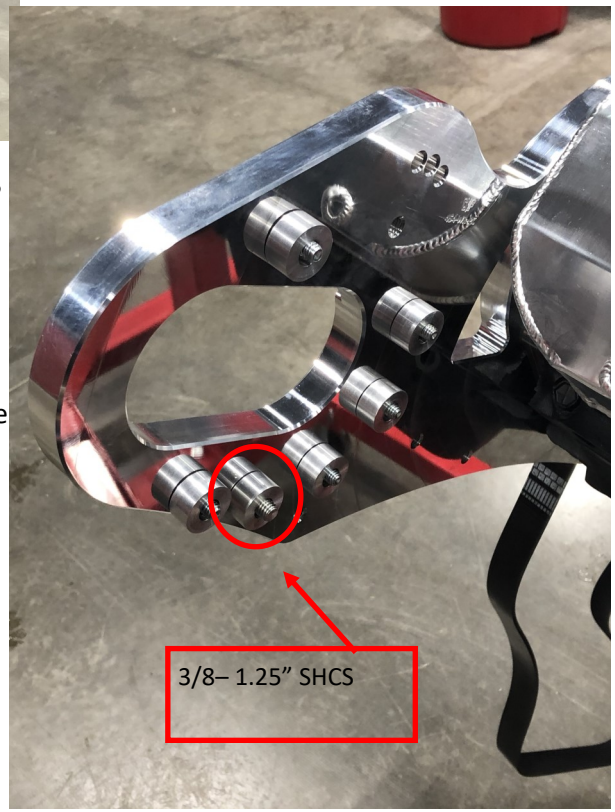
Mechanic's Tip! Most 454's came with 3/8" holes, but some did come with 7/16. This bracket is designed for 3/8, but is counter-bored for 7/16. A quick drilling will let this work for a 7/16" block!

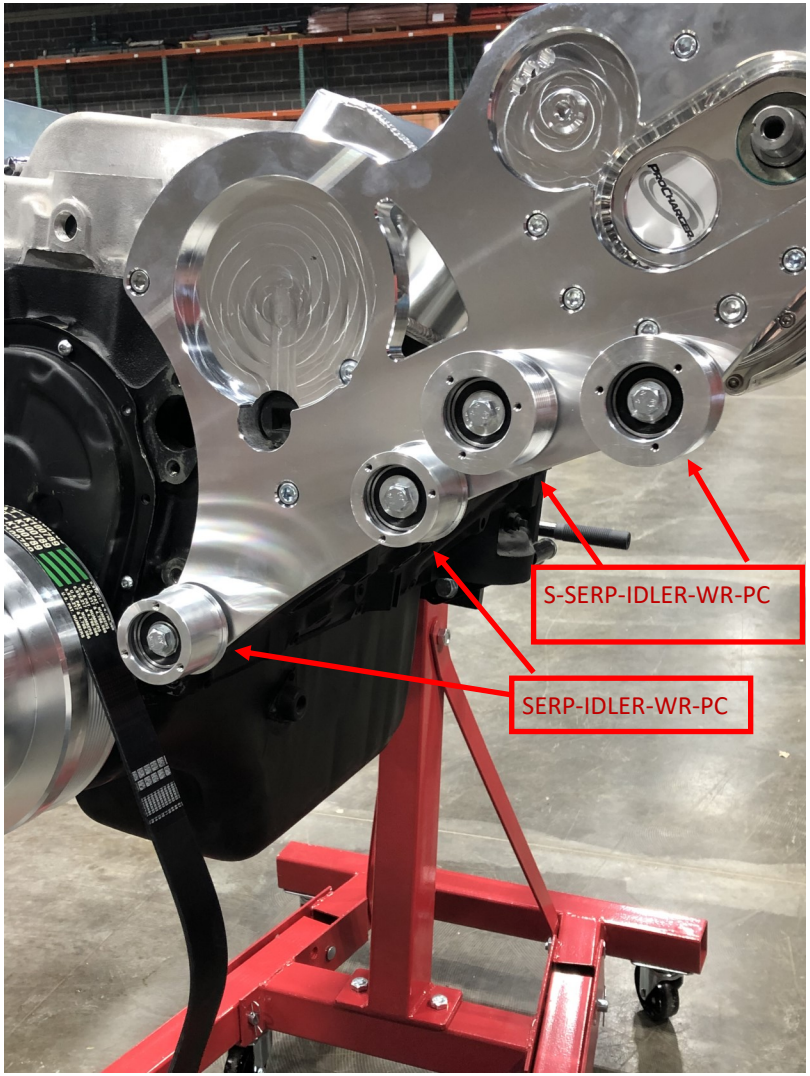
2. Install the crank pulley (S-BBCS2CR-10) using (3) 3/8 X 1" SHCS. These bolts are located inside of the crank pulley box. Once all 3 bolts are started, they can be tight-ened.

3. Install the Procharger unit using (5) 5/16 X 1.25" SHCS and one 3/8 –1.25" SHCS. All bolts will use a 1" X .5" Spacer on the back of the plate. The 3/8" Bolt is high-lighted on the image to the right.

Begin by threading a few threads on the top to ensure proper alignment. Do the same with a bottom bolt. Once you have proper alignment, you can start the rest of the bolts before finally tightening them all.

Mechanic's Tip! Never completely tighten bolts until a part is completely aligned!





4. Install the idlers! The Supercharger aspect of this kit uses a 10 rib belt, so we want to be sure we use the 10 ribbed idlers at this step. You will be using part numbers (SERP-IDLER-WR-PC) AND (S-SERP-IDLER-WR-PC). All idlers will attach with 3/8 X 2.5" HHS with a 3/8" SAE Washer. Secure with a thin lock nut behind the bracket.

Mechanic's Tip! Leave the covers off of the idlers until you get the belt routed!

5. We are now going to install the large tensioner (TENSIONER-KIT-10) using 3/8 X 3.5" SHCS and a 3/8" SAE Washer. Secure it to the plate using the final thin lock nut. Note that there are 3 possible holes you can use. The further left you go, the more extreme your tension is going to be. We always recommend the tightest belt possible, but it does come down to personal preference. All 3 options will work. Torque to 45.0 +/- 4.5Nm

Mechanic's Tip! Securing the tensioner does get very tricky. We recommend using a small piece of tape on your wrench to hold the locknut until you can get it started.

6. Lastly we need to install the Procharger Pulley (S-PC10BLOW-472). The pulley uses standard keyway and also extra security from a bolt and thick washer supplied by Procharger. Start by lining up the key-way, press on, insert the keyway, and finally secure with the bolts supplied by Procharger (Gold in color).

Mechanic's Tip! For maximum power this pulley is designed at a very strict tolerance, you may need to tap with a rubber mallet.

7. Route the 10 rib belt supplied with your kit (K100789) as seen in the image to the route. The idler with the thick yellow arrow will be the final piece you route. This step may be easier with someone to help pull the tensioner back, but can be done alone.

Mechanic's Tip! Now is a good time to place the caps on these idlers as they become difficult to reach as we proceed. All can be reached at the end if you want to avoid any chance at scratching.

This marks the completion of the Supercharger stage of the process! If you are adding the Procharger to a previous Wraptor purchase, changes to your current set up will be noted in Blue

Updates to previous 454-WRAPTOR Installs

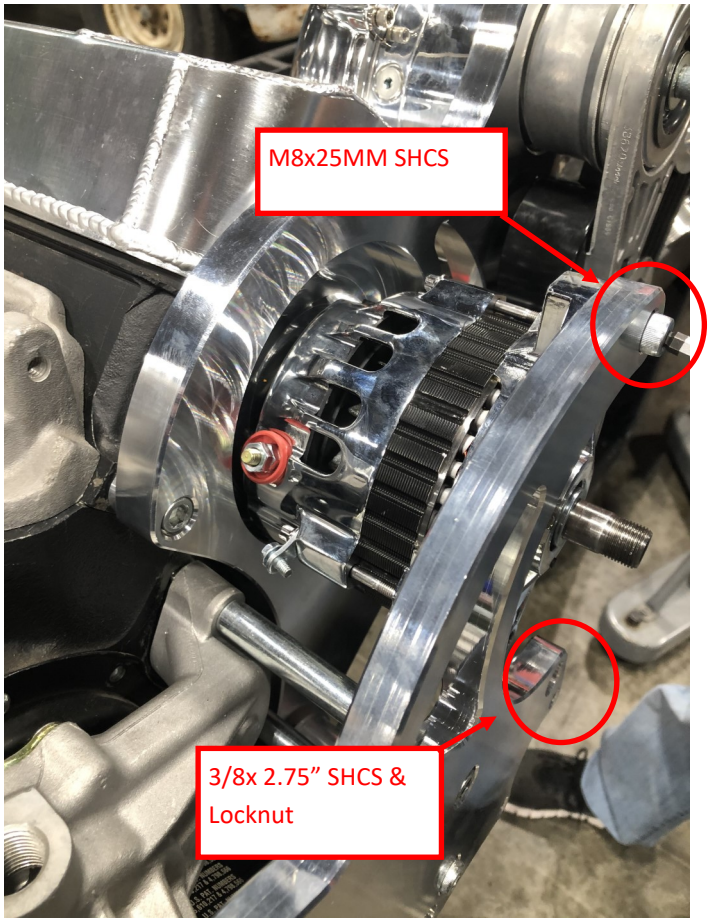
S-SBCS1WP-WR —> S-SBCS1WP-WR-PC (Water Pump Pulley)

7517722-348 —> 6257722-400 Spacer (WP to Bracket)

S-SBCS1CR-WR —> S-BBCS2CR-10 (Crank, already completed)

8. Mount the water pump (BBCS-WP-R) and the main bracket (454-WR-S) to the block using (4) 3/8” by 5.25” SHCS and the (4) 6257722-400 Spacers. The water pump is only held on by these bolts so both need to be installed at the same time. Start all 4 bolts but do NOT tighten completely. You will need some give to Let the alternator be installed.

Mechanic’s Tip! You may want to set a towel on the crank pulley as the bracket may sit on it temporarily during the process.

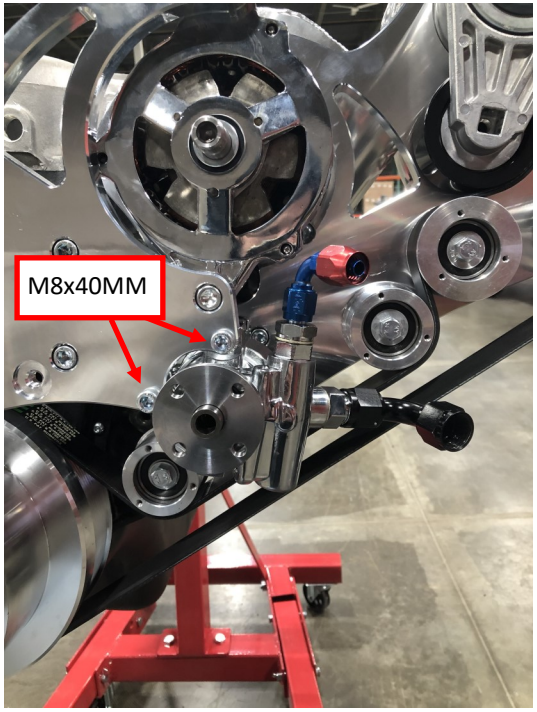


9. Install the alternator (CS130-1WIRE-140A). You will want to remove the stock steel fan and alternator pulley before continuing.

We recommend keeping your positive terminal towards the center of your engine as seen in the picture to the left. To install use one of the M8 X 25MM Bolts to secure the alternator to the top of the bracket. The bottom will use a standard 3/8 X 2.75” SHCS and a 3/8” locknut to secure it. Once both bolts are in place, you may tighten them. Do not install the fan or alternator pulley yet!

You can now go back and fully secure the water pump and main bracket to your block.

Mechanic’s Tip! All CVF alternators are 1 Wire. Directions for wiring your alternator should be included in the alternator box or can be found on our website! We also sell High Amp Wiring Kits on our website Part Number **30700** if you do not feel comfortable with a 1 wire installation.



10. Install your power steering pump (GM-TYPE2-PUMP) or (KRC-PUMP and HYDRO-BRACKET-KIT-WR for hydroboost applications). The power steering pump is secured with both M8 X 40MM bolts.

Mechanic's Tip! We highly recommend 90 degree A/N fittings to avoid your power steering lines coming near the supercharger belt.

11. Install the AC Compressor (PEANUT-7B10-134A-C-8RIB) for AC applications or (AC-DELETE) if you are running only power steering.

You will use the final two metric bolts provided to install the AC Compressor. Use the 25MM bolts.

Mechanic's Tip! (AC-CAP-LS) is your cover for the compressor, hold off with installing it until you finish the kit to avoid damaging it!

12. Install the tensioner (TENSIONER-KIT). You will use the 3/8 X 3" BHCS and a 3/8" Locknut. Again, it is recommended to keep the cap on the side until the belt is routed.

13. Install the final idler to the main bracket (SERP-IDLER-WR). You will use a 3/8 X 2.5 HHS, 3/8 SAE Washer, and a lock nut to secure on the backside. Save the cap until you have the belt routed.

14. Install the power steering pulley (S-LS11PS) using the provided fine thread bolts. Start all 4 bolts before fully tightening.

15. Install the water pump pulley (S-SBCS1WP-WR-PC) using the provided bolts. Start all 4 bolts before tightening completely. You can leave the cap off for now. If you are running a mechanical fan you will not use the cap and will instead attach (FAN-SPACER-WR). This step is required for conversion kits!

16. Slide on the alternator fan (ALTFAN-LS), leave the pulley off for now.

17. Route the belt (K080774) as seen in the image to the right. This may be easier with an extra set of hands but can be done alone. Use the alternator pulley (S-SBC1ALT) as leverage to pull the belt up to the alternator. This can be done with the power steering pulley as well.

18. Complete your install by attaching the decorative caps and covers! (AIR-FITTING-90) is your 90 degree ac line adapter.

19. "REMOTE-PS-RES" is your remote power steering reservoir. Installation instructions can be found in that box. Bleeding instructions can be found in this packet.

Power Steering Bleeding Instructions

IMPORTANT - *It is very important to follow these instructions and procedures entirely. Failure to do so could result in voiding of warranty and severe damage to the power steering pump.*

Do not start the engine until the entire bleed process is completed and there are no air bubbles present in the reservoir
If using a remote reservoir, the fittings on the bottom of the reservoir should be above the fittings on the power steering pump
If using a hydro boost system, follow the bleeding instructions from the manufacturer
Use only quality power steering fluid, preferably synthetic or one that is specially formulated for race applications
Do not reduce the return side of the pump if using a remote reservoir. Combination of line ID and fitting couplings should not be smaller than 3/8"

Inspection

Carefully inspect the power steering system plumbing and ensure that all hoses are free and clear from touching any other part of the vehicle, i.e., not resting on the frame rail or gearbox, etc. Also check that all the fittings are mated correctly and tight

Bleeding Process

IMPORTANT - Please re-read the section above before beginning the bleeding process

Raise the front wheels off the ground and place the vehicle on jack stands
Turn the steering wheel all the way to the left
Add power steering fluid to the cold fluid level on the dipstick or to ¼" below the thread line on the remote reservoir. Leave the cap off the reservoir
With the aid of another person one person watch the fluid level in the reservoir while the other very slowly turns the steering wheel from lock to lock a minimum of 20 times. There is no way to circumvent and speed this up. Rushing it will only require repeating the process.
If the fluid level has not dropped or there are any air bubbles still present this means that there is still air in the system. A rise in fluid level is also indicative of air trapped in the system. Continue to cycle back and forth until there are no air bubbles present and fluid level remains constant. This may take up to 40 or 50 cycles.
Once the fluid remains level and there are no air bubbles present, proceed to disabling the vehicle ignition system and crank the engine for 3-4 revolutions.
If the fluid level changes or air bubbles become visible repeat Step 4. Continue until there are no changes in fluid level or air bubbles.

Install reservoir cap

Return the vehicle to the ground and let the car sit at idle for 2-3 minutes while cycling the steering in both directions. At this point you should have smooth operation of the power steering and no noise from the power steering pump. The fluid should be clear and free of any bubbles or foam and the level should remain constant.