Chevy LSX ATI 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

Bill of Materials

Product	QUANTITY
3/8-16 X .468 LOCK NUT	3
3/8-16 THIN LOCK NUT	3
3/8-16 X 1.25 SHCS	1
3/8-16 X 0.75 BHCS	2
3/8-16 X 0.75 SHCS	3
3/8-16 X 2.5 HHS	4
3/8-16 X 2.5 SHCS	7
3/8-16 X 3.5 SHCS	1
3/8 SAE WASHER	5
5/16-18 X 1.25 SHCS	5
7517722-160 (1.6” spacer)	7
1007722-500 (.5” spacer)	6
3/8-16 X 2.75 SHCS	1
3/8-16 X 3.0 BHCS	1
M8-1.25 X 25MM SHCS	3
M8-1.25 X 40MM SHCS	2
M8-1.25 X 150MM SHCS	6
7507722-256 (2.56” spacer)	6
TOTAL	**66**

Before beginning the installation, remove all current accessories, pulleys, brackets, and water pump. Use thread chaser to remove any debris that can cause a hassle when mounting the new water pump.

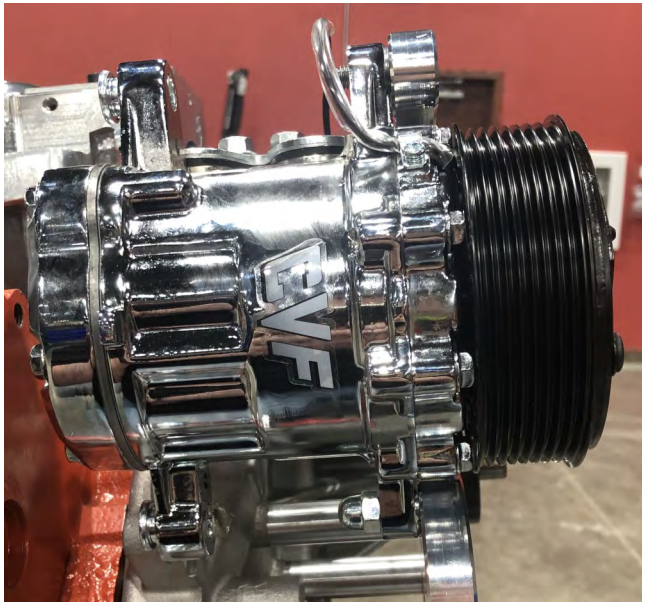
1. Remove your old balancer and attach the new ATI Super Damper (not provided). Instructions for doing this should be provided with your damper.

2. Attach the water pump (LS1-WP) and the main Wraptor plate (LSX-WR). It is recommended to "assemble" this off of the vehicle with bolts and spacers and lift the entire assembly into the vehicle at one time. You will use (6) M8 X 150MM SHCS and (6) 2.56" spacers.

Mechanic's Tip! From here forward, never tighten bolts until all bolts needed to secure a part are started.

3. Working from left to right, install the Peanut Compressor (or AC-DELETE for PS/ALT only apps) to the top left opening of the Wraptor Plate (LSX-WR). You may attach the 90 degree fitting at this time or wait until you run your AC Lines (AIR-FITTING-90). Use (2) M8 X 25 MM SHCS.

Steps 1 &2



Mechanics Tip!

It is highly recommended to keep all your decorative caps and covers off until the very end!

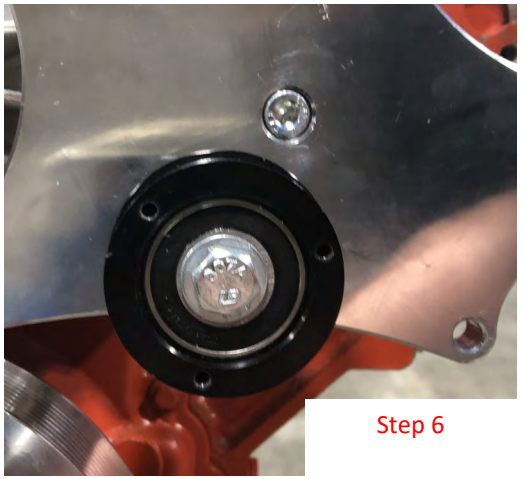
- "AC-CAP-LS"
- WP Pulley Cap
- Tensioner Covers
- Idler Caps
- Blower Caps
- Alternator Pulley Cap

Step 4

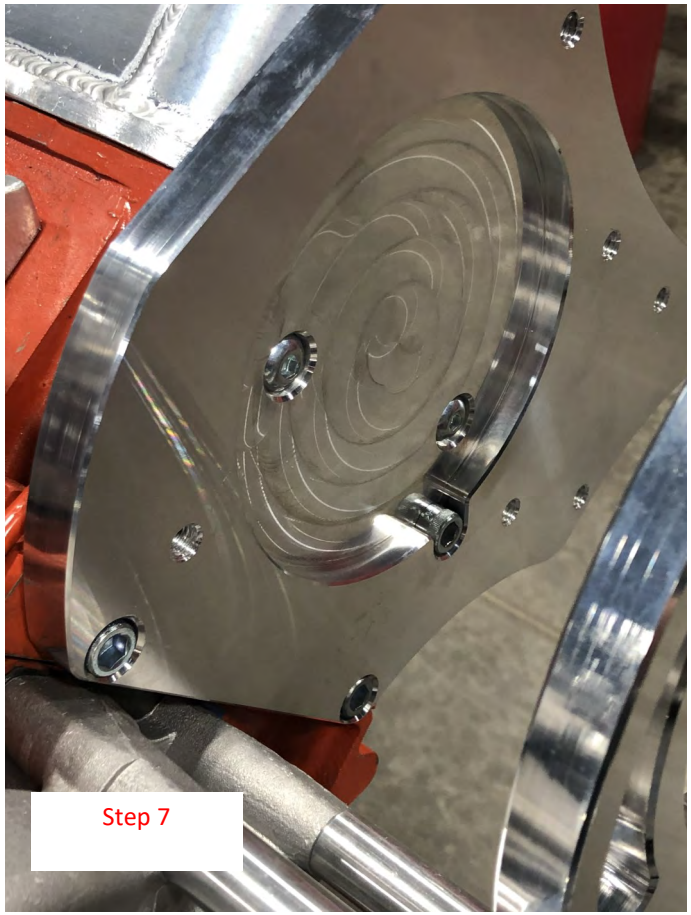
4. Attach the 8 ribbed tensioner (TENSIONER-KIT) to the Wraptor Plate. You will use a 3/8 X 3” BHCS through the tensioner and secure it on the back by a 3/8” locknut.
5. Attach the crank pulley (S-LS12CR-PC-ATI) onto your ATI Damper using the provided hardware. The system will run completely off of this crank pulley, no grooves on your damper will be used. After this step, your setup should look like the image below.

Step 5

6. On the right side of your bracket, we are going to install the first idler pulley (SERP-IDLER-WR). It will fit into the counter sink and attaches use 3/8 X 2.5 HHS, a washer, and is secured behind the bracket using a 3/8” Locknut.



Step 6



Step 7

7. Attach the rear support plate to the block (LSXM-WR-PC-R) using (2) 3/8 X .75” BHCS and (3) 3/8 X .75” SHCS as seen in the image to the left.

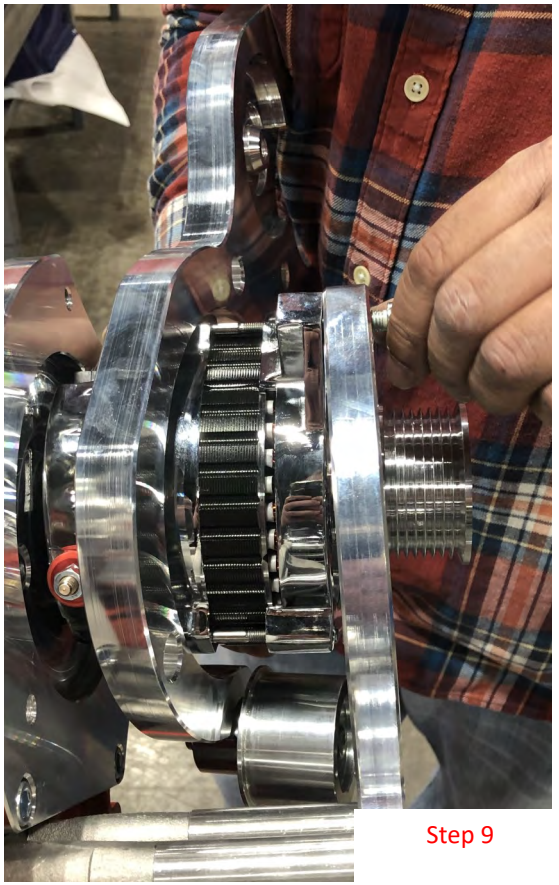
Mechanic’s Tip! Use a ball end hex key or Allen Wrench to tighten these bolts as they can be hard to reach.

8. Attach (SERP-IDLER-WR-PC) to the front of the front Procharger plate as seen in the image below. This will be impossible to do once the plate is mounted to the system. Once again you will use 3/8 X 2.5” HHS, a washer, and secure it on the backside with a THIN locknut.

Step 8

Mechanics Tip! It is highly recommended to drape a rag over the rear support plate to avoid scratching in the next step. Wrapping the alternator in a thin rag is also recommended.

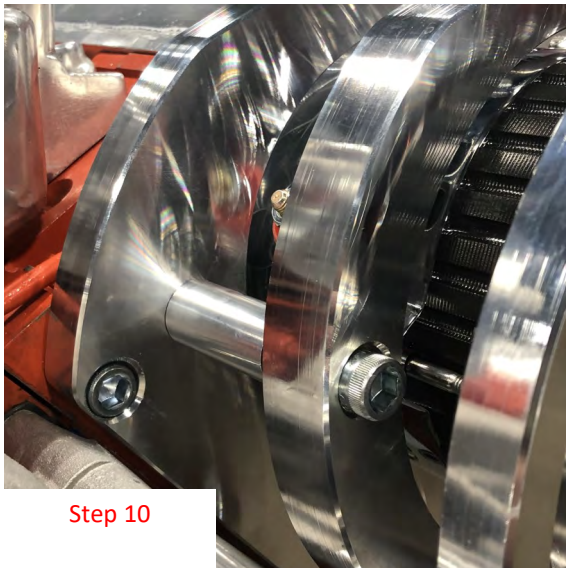
9. Attach the alternator (CS130-1WIRE-140A) and the Front Procharger plate (LSXM-WR-PC-F) to the system. This is done at the same time as seen in the image to the right. Slip the alternator in the large opening on the Procharger plate and lift both pieces into the system. While holding it there, secure the alternator to its opening in the main Wraptor plate (LSX-WR) using an M8 X 25MM bolt in the top mounting hole. Once it is started, the Procharger plate can just hang off of the alternator for the time being. Finish moutning the alternator with 3/8 X 2.75” SHCS.



Step 9

Step 10

10. Starting at the left side, begin inserting 3/8 SHCS X 2.75 and 1.6” spacers. You will use 7 of them. Get all started before fully tightening. The image will show you which locations will be using these bolts and spacers. The furthest left bolt is actually tightened through the cutout on the main Wraptor plate (LSX-WR).



Step 10

11. Attach the Procharger unit to the front plate using 3/8 and 5/16 1.25” bolts. Insert all of these into the plate with a .5” inch spacer on the back before adding the Procharger unit. Notice there is only one ⅜ bolt used to attach the unit. Once you have these inserted, add the Procharger unit and begin securing the unit to the bracket.

Step 11

12. Attach the 10 rib tensioner (TENSIONER-KIT-10) to the open space to the left of the procharger unit. Use the middle position to mount your tensioner. Use a 3/8 X 3.5" SHCS bolt. A nut will need to be attached to the rear of the tensioner. This is very tricky, but highly recommended to fully secure the tensioner. Using tape on a wrench to hold the nut while you tighten the bolt tends to work.

Step 13

Step 14

Step 12

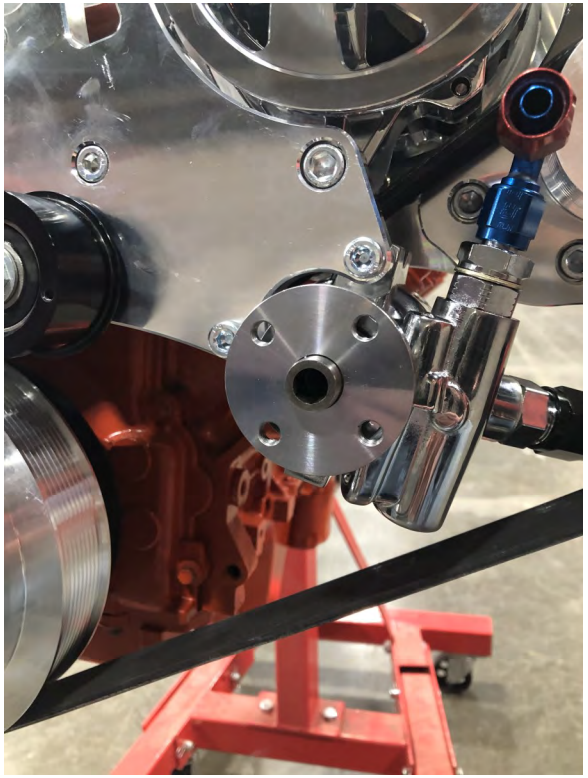
13. Attach the two ribbed idlers to the front of the main Procharger plate as seen in the image. (top left). You will use (2) 3/8 X 2.5 HHS, a washer, and secure on the back with a THIN locknut.

14. Using a woodruff key along with the bolt and washer supplied by Procharger, attach the PC10 Blower pulley to the Procharger unit.

15. Route the 10 rib belt onto the system. Belt Routing can be found on the last page of this instruction manual. Using a breaker bar to pull the tensioner towards the water pump will allow you to route the belt easily.

16. Attach the Power steering pump using the (2) M8 X 40MM SHCS (GM-TYPE2-PUMP).

Mechanics Tip! Use 90 degree fittings to run your power steering lines away from the belts.



17. Attach the power steering pulley (S-LS11PS) to the power steering pump using the supplied hardware.

18. Attach the water pump pulley (S-LSA1WP-R) to the water pump using the supplied bolts.

19. Install the billet alternator fan (ALTFAN-LS) and alternator pulley (S-SBC1ALT)

19. Route your 8 rib belt to the system (K080797 for AC Applications, K080708 for ALT/ACO). Pull the tensioner towards the fender to allow easy routing. Belt Routing configurations can be found at the end of this packet.

Belt Routing

ACO HERE

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.