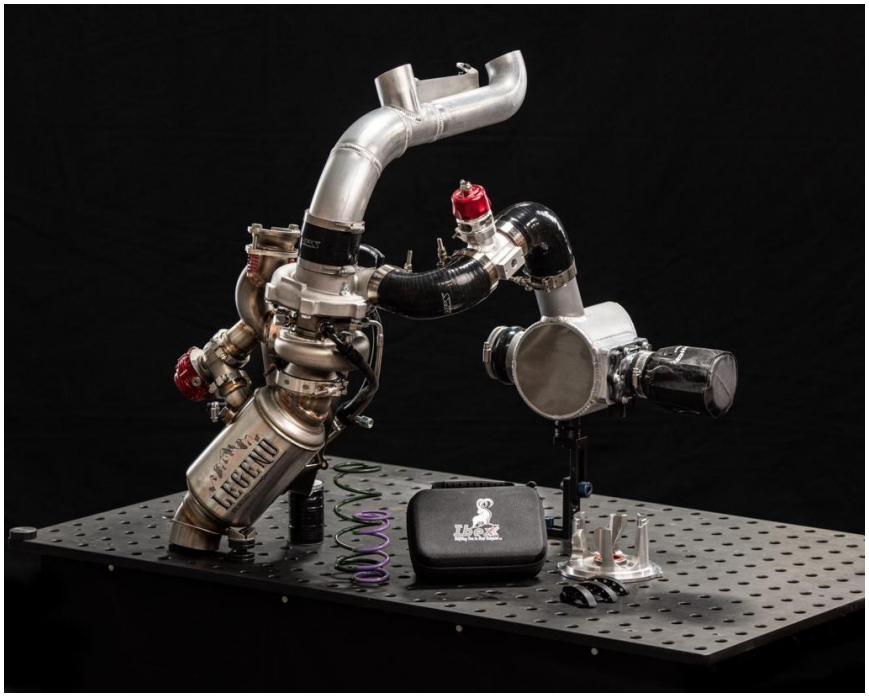
SOLID LEGEND TURBO INSTALLATION
2018-2023 C-Tec



*****WARNING**** THIS KIT REQUIRES STOCK ENGINE COMPONENTS, SUCH AS BORE SIZE, COMPRESSION RATIO, HEAD AND PIPE. IF YOU HAVE AFTERMARKET PARTS, THE TUNING WILL NOT BE CORRECT AND WILL CAUSE ENGINE FAILURE..**

BEFORE STARTING THE TEAR DOWN OF YOUR SLED AND THE INSTALLATION OF THE KIT, PLEASE REVIEW THE PACKING LIST AND ENSURE THAT YOU HAVE ALL OF THE COMPONENTS. IF YOU ARE MISSING ANY ITEMS CONTACT US IMMEDIATELY.

1. Remove side panels and hood from machine and set aside.

2. Remove pipe and muffler. The pipe sensor requires a 17mm wrench.

3. Remove the heat deflector. Remove the two T25 Torx screws and the 10mm nut that secure it to the sled. Remove the nut plate from the deflector and install it on the plastic piece as shown.



4. Remove the heat shield covering the ECU by removing the two T25 Torx screws. Then remove the ECU by removing the two 8mm bolts. Set ECU aside.


5. Do not remove the y-pipe from the engine. If you choose to remove the y-pipe you MUST replace the gaskets. Adding silicone to the gaskets will not hold the pressure added by the turbo.

6. Remove the cross brace using a 10mm and 13mm socket. Once the bolts and nuts are removed, set aside. Be sure not to lose the inserts in the ends of the brace. It is best to remove them and set aside. You can also loosen the steering post by removing the two 10mm nuts and bushing. This will allow you to move the steering post out of the way to create more room for the cross brace to be moved. Now, carefully move the cross brace out of the way by holding onto the left (clutch side) of the brace and rotating it upwards. The brace will slide out between the down brace and steering post and will stay in position without removing the servo motor or the power valve cables. Be cautious not to be overzealous when doing this, as you may damage the cables or servo motor.

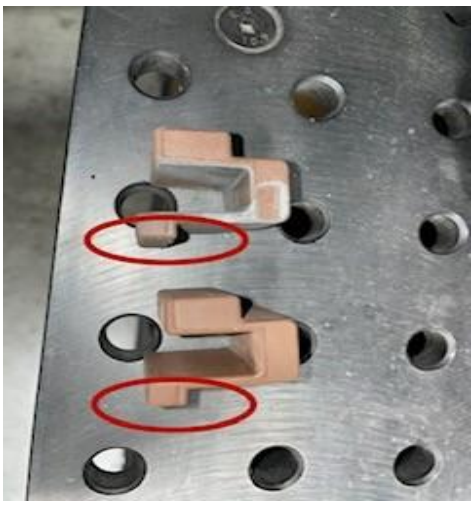
7. Remove the idle air control solenoid from the air box by removing the two T30 Torx screws and the two hoses. Remove the hoses from the throttle body and the IAC, you will not need to reinstall them. Remove the o-ring as well. Unplug the stock T-Map sensor.

8. Remove the stock air box. Loosen the clamps on the throttle body and slide the air box out towards the front of the sled. Once the air box is off of the throttle body remove the rubber portion of the air box from the plastic portion by peeling it apart. Remove the front rubber seal from the bulk head by carefully peeling it off. It is held on by RTV and will come off if you take your time. You will not need the rubber seal for install. Next, remove the throttle body from the reed cages and set throttle body in the belly of the sled.

9. Next, loosen the two clamps that are securing the main wire harness to the voltage regulator and pull the harness until it stops on the bottom clamp. The harness will only move 1/4 – 1/2 of an inch. Do not pull on the harness with a lot of force. It slides very easy if the clamps are loose enough. Once harness is moved, tighten the clamps.

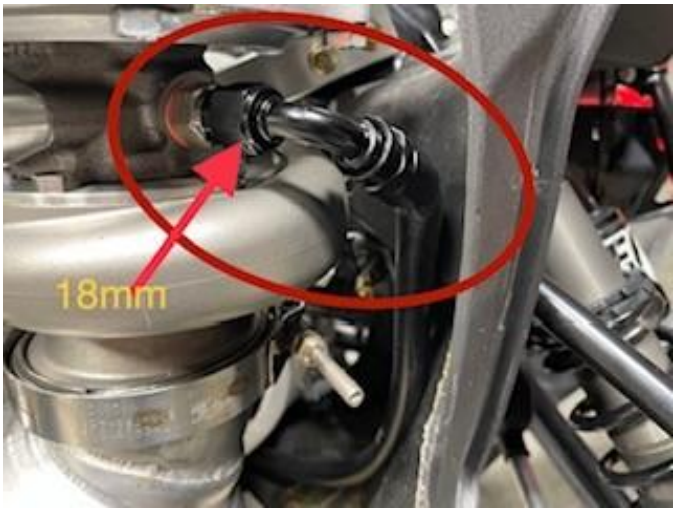
10. Before removing the coolant line from the throttle body, if you have a line clamp it is suggested that you clamp the lines to reduce the amount of coolant loss from the system. A pair of vice grips also work (just be cautious not to over clamp the lines as they could be cut). Remove the line from the throttle body on the right (mag) side. Do not lose the clamp as you will need this for the installation.

11. Install the turbo assembly into the sled. You will need to use all three stock rubber isolators from the stock muffler. You will need to trim the two brown isolators in order for them to properly fit into the turbo bracket. To trim the rubber take a razor blade and trim the side flush.



12. Install the coolant lines from the turbo to the throttle body and existing coolant hose. The coolant hose on the turbo that has the stainless splice attached will connect to the existing

coolant hose on the mag side tha . When you install this line, run the line behind the throttle position sensor. There is an unused wire tie that is connected to the mag side reed block. Use this wire tie to secure the coolant line out of the way. The remaining coolant line from the turbo will connect directly to the throttle body. Use the supplied hose clamp to secure the line. It may be required to adjust the coolant line on the turbo to ensure that it clears the body and is not kinked. Use and 18mm wrench to loosen the fitting and adjust as necessary.

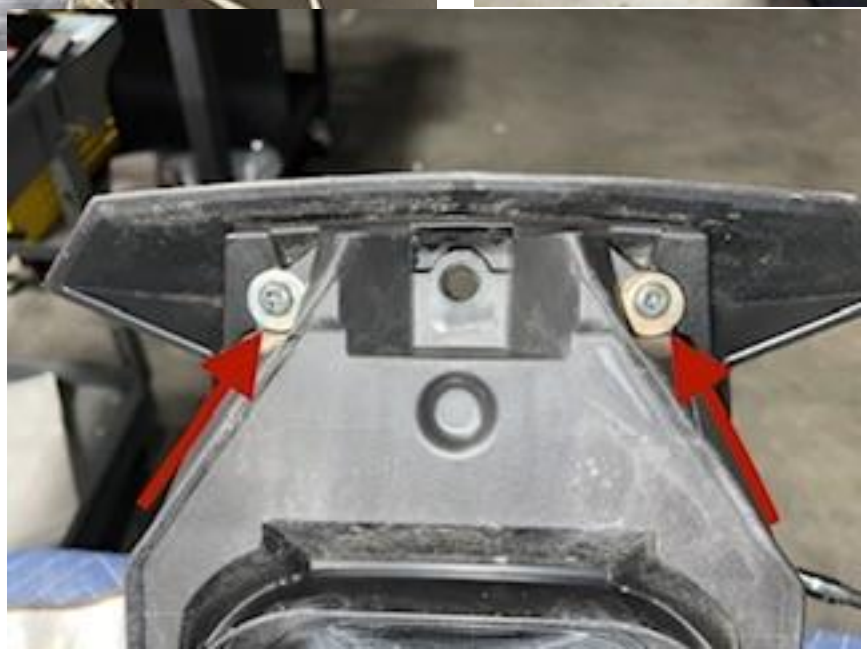


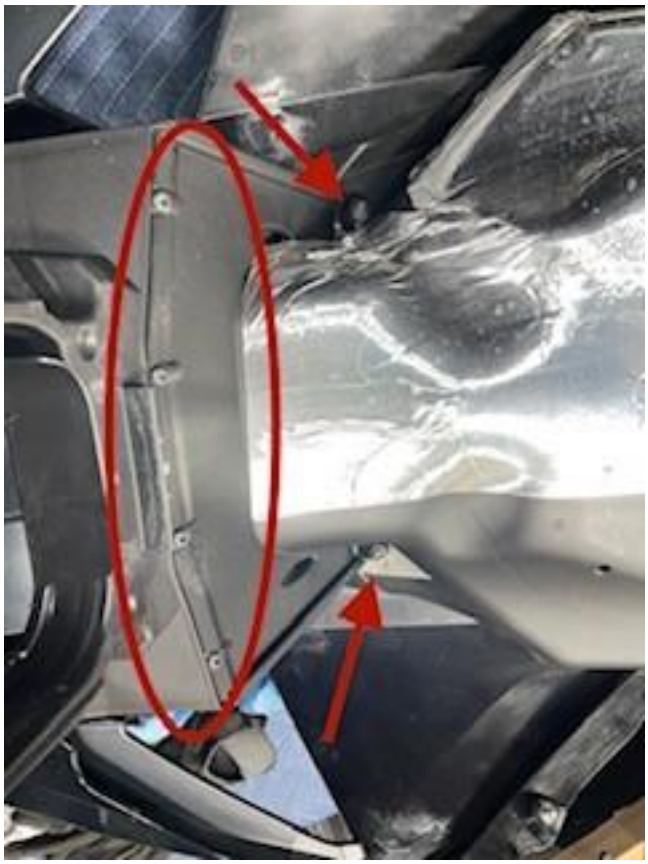
13. Install the charge box. Make sure that the throttle body is laying in the belly of the sled. Once the charge box is fitted into the engine bay, install throttle body into reed cages and tighten the clamps. ***The picture shows the y-pipe removed, but you can fit the charge box in without removing the y-pipe. You MUST replace the gaskets if you remove the y-pipe.** ****IMPORTANT**** When installing the throttle body to the reed cages and the throttle body to the charge box, **DO NOT PUT OIL ON THE HUMP CONNECTORS.** This will make the throttle body prone to sliding off under high boost and cause a boost leak. However, it is recommended to lubricate the hump connectors with saliva, as they do fit snug. Install the hump connectors to the throttle body first. Orient the clamps as pictured. Next, slide the charge box into the hump connectors. You may have to reach inside the charge box from the front where the reed cage mounts and assist the hump connectors over the lip of the charge box. Install the clamps as shown. ****Make sure the clamps are tight** Loose clamps will cause a boost leak.**

14. Install the bypass valve in the front of the charge box. The supplied bolts are installed in the charge box and will need to be removed. When installing the bypass valve in the charge box, install the brass nipple on the bottom. Install the supplied inner ring into the bypass valve. Install the air filter onto the bypass valve. Make sure that you install the Outerwear onto the filter before installing.

15. Install the reed cage in the front of the charge box. The reed cage and reed valve assembly are the same as the stock components on your sled. The reed petals are already installed and are ready to be placed into the reed cage. They simple slide into the groove in the cage and will only fit together one way. Once the reed valve assembly is installed, install the black PVC spacer into the opening of the reed valve as shown below. This will keep the opening from collapsing when the filter is installed. Before installing the filter onto the reed cage assembly, install the pre-filter on the outside of the filter as shown. Then install the filter and tighten the clamp.

16. Reinstall the cross brace. If you loosened the steering post, you must reinstall that before installing the cross brace.
17. Disassemble the hood completely. There are several "hidden" screws when disassembling the hood. If the pieces of the hood don't separate with ease, you probably haven't removed all of the screws. See Pictures for screw locations.





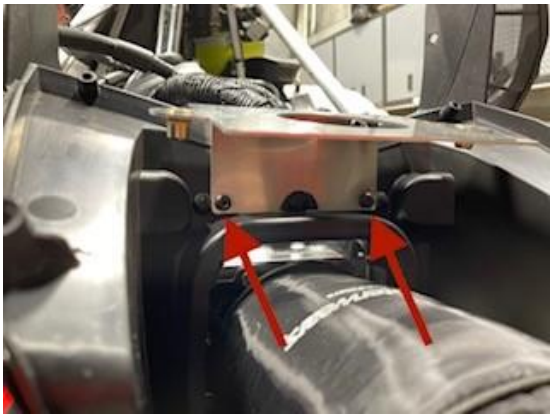

T30 Torx


T30 Torx

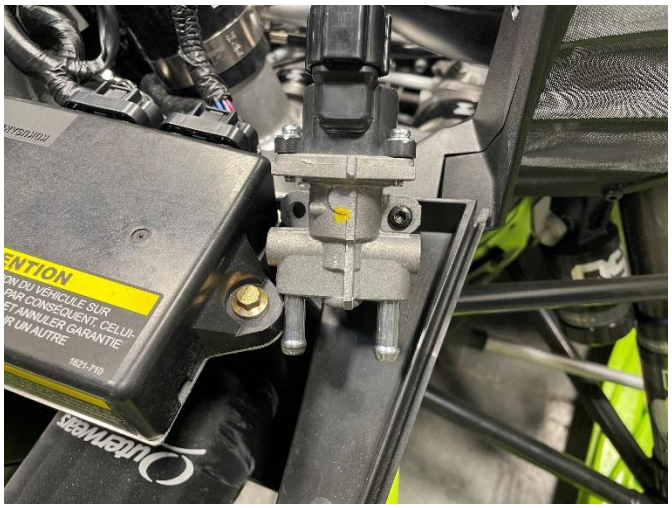

T25 Torx

18. Install the nose piece of the hood onto the bulkhead. There are four dimples in the nose piece that line up perfectly with four holes in the bulkhead. Use four of the screws that were removed from the intake plenum to secure the nose piece to the bulkhead. This is done with ease if you have an impact drill. If you don't have one, you can do it by hand. It may be necessary to drill out the dimples first if you don't have an impact drill.

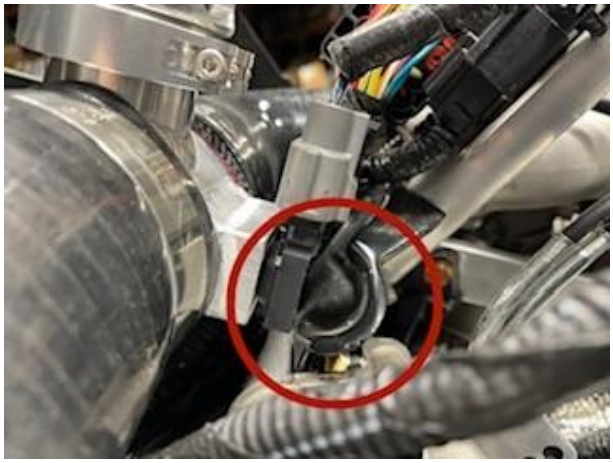
19. Install the ECU mounting plate to the nose piece using the top two screws of the nose piece that you just installed. Install the ECU to plate using the stock ECU mounting bolts.



20. Install the IAC to the plastic nose piece as shown using an extra hood screw.



21. Install the charge tube/blow off valve. The Larger elbow connects to the charge box. The smaller elbow connects to the turbo. Install the supplied T-Map sensor into the charge tube with the plug oriented up. You will need to relocate a plug that is tied to the harness. See attached pictures. Cut the tie and flip the plug up and secure it to bracket with the supplied zip tie. When the charge tube is installed, be sure that the map sensor clears the chassis. If it doesn't, simply rotate the charge tube towards the front of the sled.



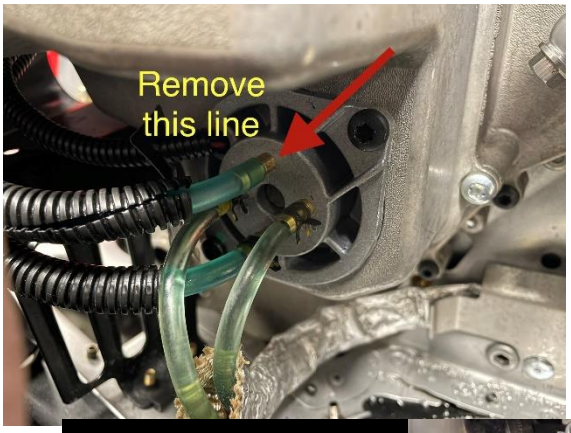
22. Install the supplied vacuum lines from the blow off valve to the vacuum ports on the throttle body.

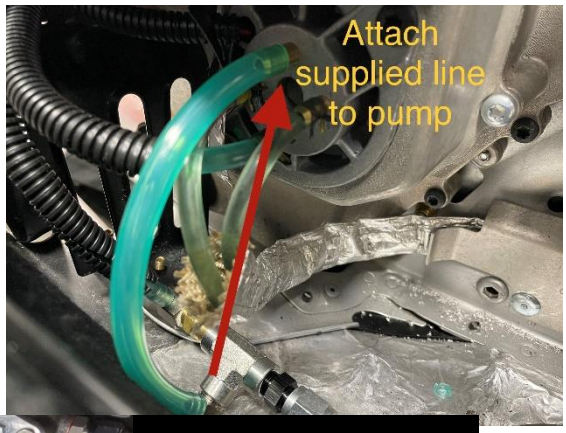
23. Remove spark plugs and gap to .020. It is recommended to install a new set of plugs at this time.
24. Install the pipe with the supplied springs. It is recommended that you use a heavy duty spring tool to install these springs. ****DO NOT USE THE FACTORY SPRINGS ON THE PIPE**** Install the pipe clamp from the pipe to the turbo inlet. Tighten the bolts until the die springs have tension on them. Do not completely compress the die springs.

25. Install the intake tube onto the hood. Make sure the lip of the rubber connectors seal on the intake. It may take some finesse to get them seated properly. ****DO NOT PUT OIL ON THE RUBBER SEALS****

26. Reassemble the instrument cluster and windshield on the hood. You will not use the large plastic air plenum that was removed. Install hood onto sled.
27. Install the oil line. Connect the stainless braided oil line to the turbo inlet, but do not tighten yet. Look at the oil pump. There are 4 oil lines that come off the pump fittings. Remove the top oil line from the oil pump. This line connects to the open barbed fitting that is supplied on the oil T that is connected to the stainless line. Before installing the line to the pump, use the supplied syringe and fill it with oil. You will need to fill the oil lines with oil before starting the sled. Once

you have prefilled the lines, install the oil line to the pump. Make sure that all of the oil hoses have a clamp on them. If you are running a belt drive, the process is the same, however, the pump may be oriented differently.





Once you have the oil hoses secured to the pump and the supplied components, make sure the braided line fittings are tight at the turbo inlet as well at the “T” side where the oil hoses connect. They should have been loose to accommodate for the oil line installation to the pump. Make sure the supply line from the pump to the turbo T is not kinked. See the picture that says, “attach supplied line to pump”. That line should have a nice radius to it like pictured.

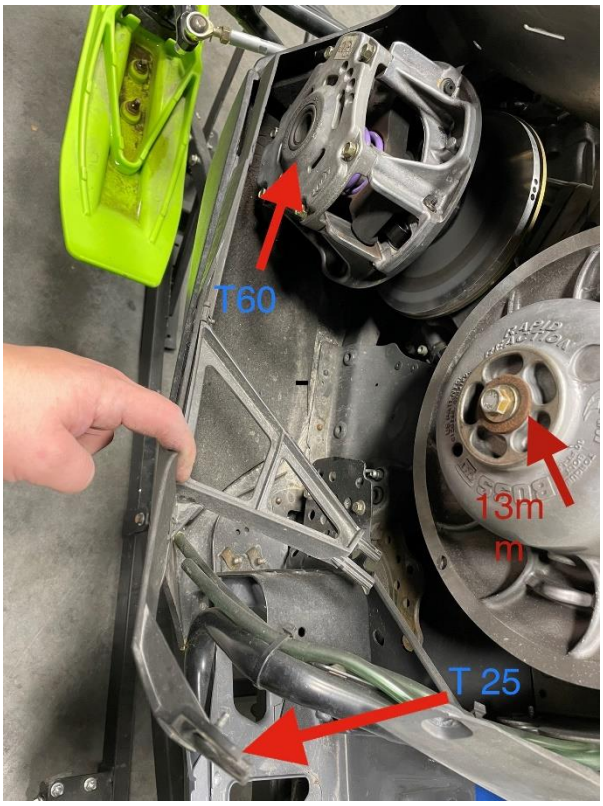
28. Remove the clutches. Start by removing the T25 screw that holds the lower panel on and pull the panel out. You will notice that there is a brace that slides into the bracket on the brake caliper. Pull the panel out until that brace slides out. This will make it easier to get the primary clutch off. Remove the 13mm bolt that holds the secondary clutch onto the jackshaft. Set the bolt and washer aside. When you separate the secondary sheaves, there will be at least one

shim in between the sheaves. Set this shim aside as it is critical to install for proper clutch alignment. Then remove the inner sheave. Using a T60, remove the bolt that holds the primary clutch onto the crankshaft. It works best to use an impact to do this. It can be done if you have a tool to hold the clutch from spinning and using hand tools. Once the bolt is removed, use a clutch puller to remove the primary clutch from the crankshaft. These can sometimes be stuck on and require some extra effort to remove. Once the primary clutch is removed, use a clutch compressor to remove the outer cover of the clutch to access the weights and spring. Note the orientation of the cover, as they are balanced. Remove the old spring and the weights. As for loading the weights, that will be determined by how much boost and what elevation you are riding. The wastegate is fitted with a 5lb spring so we will give a recommendation based on that setting.

29. Loading the weights for TEAM Clutch: Load the magnet 3,3,2. Add the long set screw and thread in until the screw end is flush with the threads.

30. Loading the weights for Adapt Clutch: Load the magnets 3,3. Add the long set screw and bottom out in the weight, then add a tungsten and small screw behind it.

    This will be a good starting point. You will have to make weight changes based on elevation and boost settings. We recommend leaving the tip of the weight lighter. Your target RMP is 8400-8500. Once the weights are loaded, install them into the clutch along with the supplied spring and reinstall the cover. Reinstall the primary clutch onto the crankshaft and torque the bolt to 51 ft-lb of torque. Next, using a secondary clutch compressor, disassemble the stock helix. We recommend heating the four T27 or (T30 2022 and newer) bolts to loosen the Loctite. Remove the stock helix and spring. Install the supplied spring and helix and torque the bolts to 120 in-lb. Make sure to put blue Loctite on the four bolts before installing. Install the inner sheave onto the jackshaft, install shim, then install outer sheave. Torque the bolt for the secondary clutch to 60 ft-lb. Using the factory secondary clutch compressor bolt, install into secondary clutch to compress the spring so you can install the drive belt. Install the drive belt onto the primary clutch first, then into the secondary. Remove the factory tool from the clutch. You will notice that the belt will be sitting low in the secondary clutch. Elevate the track off of the ground and rotate the clutch until the belt is riding about 1/8 inch out of the top of the secondary clutches. Make sure that when you install the drive belt the arrows are pointing towards the front of the sled. Reinstall the lower side panel brace into the brake caliper bracket and install the T25 screw.


T60
13m
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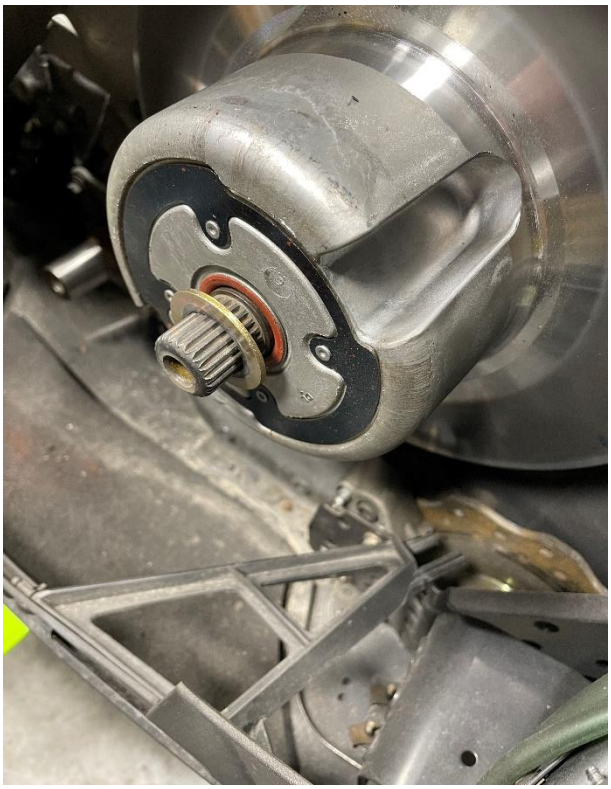
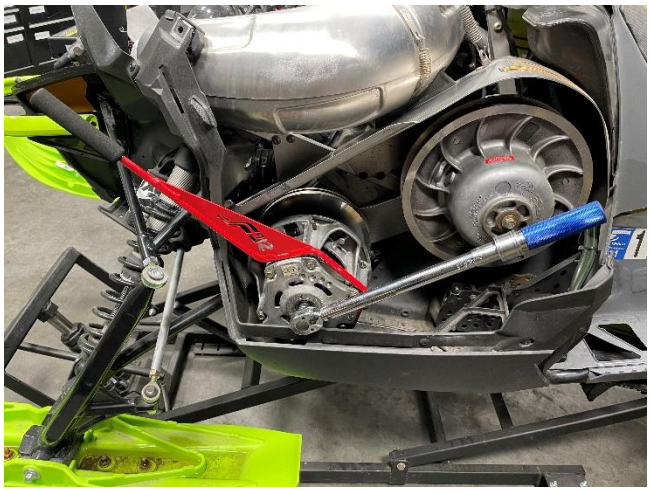
T 25



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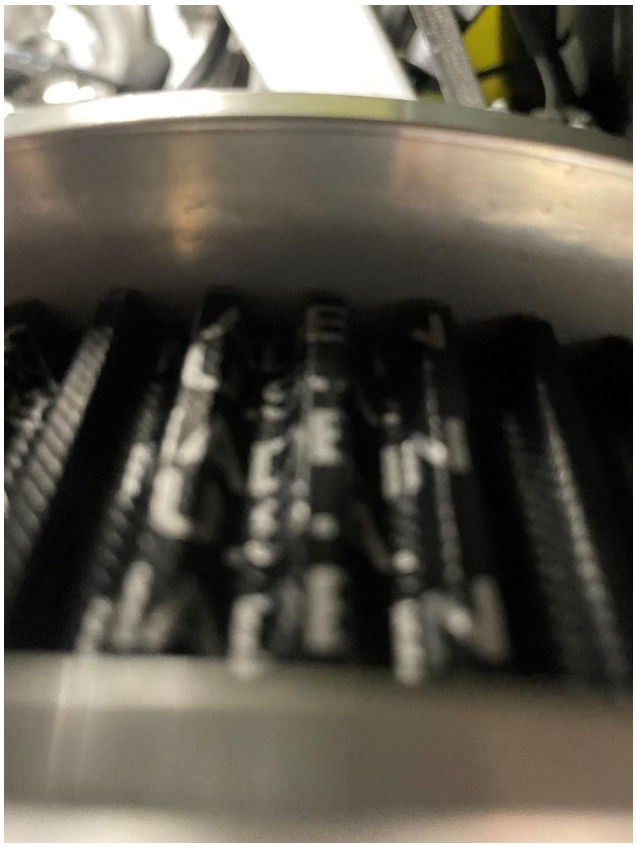


ATTENTION
TORQUE RETENTION
BOLT TO 60 FT-LBS

31. Flashing the ECU- **NOTE** To flash the ECU you will need a Windows based PC. MacBook will not work. You will also need a strong Wi-Fi signal. Before flashing the ECU with the supplied Torque Link flashing device, you will need to create an account. Go to c3.torquelink.com and create an account. You will need to reach out to us and let us know what email address you used to create the account so a license can be issued to you. Once you have an account created and a license issued, you will need to download the Flash App from c3.torquelink.com. When you log in, it will be on the home page for you to download. Download and install the program. Once installed, you will log in using the same account credentials that you created your account with. Once logged in, read the terms of service and click agree if you agree with them. Before attempting to flash the ECU, ensure that your key is off, kill switch is down and tether is removed. Using the supplied cable, connect it to the diagnostic port. The port is located on the right side of the sled near the rear of the oil tank. Connect the other end to the flash device. Next connect the USB from the flash device to your computer. Lastly, connect the supplied 110v power cable to flashing device. Once everything is connected, click connect. A progress bar will start to load. If it fails to connect, try unplugging the device and plugging back in. Ensure that you have 110v power supply connected. Once the device is connected, it will automatically read the ECU to determine what ECU you have and it will show you a list of available tunes to you. Due to tunes being updated frequently, contact Tyler at Solid to determine what tune you should flash. Once the tune has been selected, click flash ecu. A progress bar will start. If the tune fails to flash, ensure that you have a strong Wi-Fi connection, ensure that all the cable connections are secure and retry. If problems persist, reach out to us and we can help you diagnose. Once flash is successful, disconnect the cables. You are now ready to ride!