



**ARCTIC CAT/YAMAHA TWO STROKE
PRO-CLIMB/ASCENDER CHASSIS**

**10203/10207 ACCESSORY TUNNEL COOLER
INSTALLATION INSTRUCTIONS**



PLEASE READ ALL THE WAY THROUGH THE INSTRUCTIONS AND DISCLAIMER first and make sure you understand each step and have a good overall understanding before starting. If for some reason you do not understand any of the steps, please consult someone who can help and/or call us and we will help you and clarify. It does require some tools and it is recommended to use the tools we have specified to perform the step with the best possible outcome. You may choose to print this manual at full size or 2-6 pages per sheet or view online.

THESE INSTRUCTIONS ARE IN FULL COLOR AND MAY BE BEST VIEWED ON A DIGITAL DEVICE

Disclaimer

MTNTK Performance has gone to great lengths to ensure this product works correctly as a performance enhancer for your sled. MTNTK Performance will not be held responsible for any injuries to persons or property while using this product. This product and the skill in which it is installed can affect engine performance and handling characteristics of the snowmobile. MTNTK Performance will not be held responsible for any unforeseen circumstances related to safety concerns when using this product. Failure to follow the instructions listed above carefully can result in personal injury and damage to the snowmobile. This modification can also result in loss of control and change handling characteristics of the snowmobile. Installer and or operator take all responsibilities for any adverse results or issues that may arise after installing this product. Do not install this product if you are unwilling to take the responsibility for any adverse effects from performing a modification of this caliber to your vehicle.

Parts List

- (1) Welded tunnel cooler assy
- (1) 1" Block off hose assy
- (1) 90 deg 1" hose with short leg
- (1) 1" Aluminum hose connector x 2.25" long
- (1) 90 deg 1" hose with pre-installed aluminum connector and crimp clamp
- (1) 55110 Angled silicone "T"
- (1) 34.6 Oetiker crimp clamp
- (2) 32-50mm Hose clamps
- (4) #16 Hose clamps
- (20) Long black 3/16" rivets
- (10) Short black 3/16" rivets
- (1) 5mm x 20 socket head bolt
- (1) 5mm nylock nut

Recommended additional parts and tools not provided

- Clear silicone
- 3/16" Drill bit and drill
- Masking Tape
- Rivet gun

**STEP 1****Remove Rear Suspension**

- Release track tension by loosening rear axle bolt, and loosening jam nut(s) and back tension screw(s) most of the way out(A,B)
- Loosen and remove 4 bolts holding suspension into tunnel. Rear bolts have a common shaft that can spin, alternately tightening each side and loosening the other can help unfreeze bolts with thread locker.
- Front bolts will require (on most models) a wrench on both the outside and inside of tunnel as it is an individual bolt on each side with corresponding threaded bushing for the scratchers or a locknut and washer depending on model.

**STEP 2****Remove Side Panels, Hood, Seat and Console**

- Completely remove side panels by unlatching quarter turn panel knobs. Remove hood by disconnecting electrical connector, removing the screw under the front bumper holding it into the air box (A), and removing (2) quarter turn dzus fasteners (B).
- Remove (8) screws holding console (C not all are shown). Disconnect tether connector (D). Pull out the start rope slowly and then the console can be set on top of the sled and you will not have to undo the pull start rope.

**STEP 3****Remove Seat and Rear Spar Tubes**

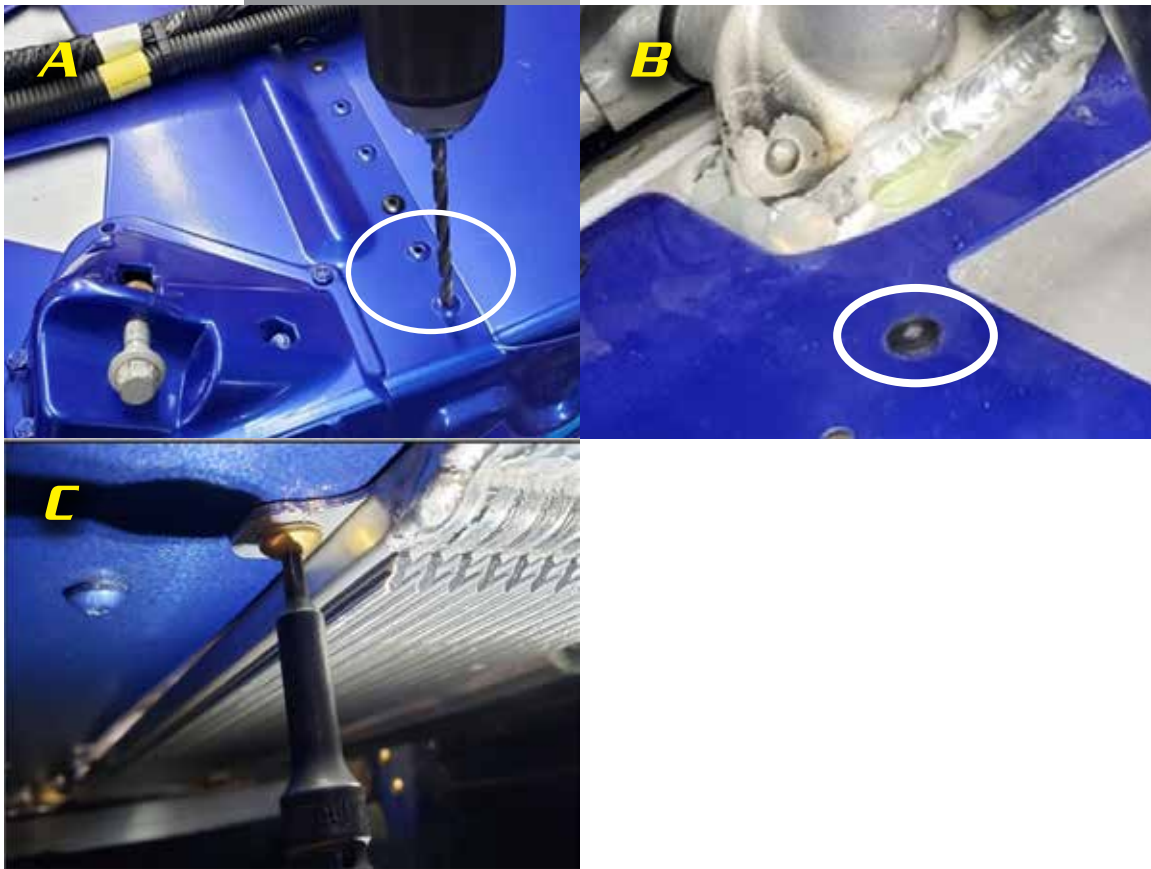
- Remove bolt holding seat (A), this varies with models
- Remove left and right rear spar tube fasteners(B,C). Inserts and nuts in both ends of the tubes will fall out (D). Grab and account for each one as you remove from the sled.

**STEP 4**

- Remove fuel tank by first disconnecting fuel line (A) press on buttons and wiggle it loose.
- Remove the tank vent (B).
- If your sled has electric start, remove the battery, and unthread the wires out of the fuel tank window a (C).
- Carefully pull tank back and ensure you have everything removed, lift tank and remove from sled (D).
- Drill out the rivets holding the taillight wire guide in the middle/back of the tunnel. Retain the wire guide for reassembly.

**STEP 5**

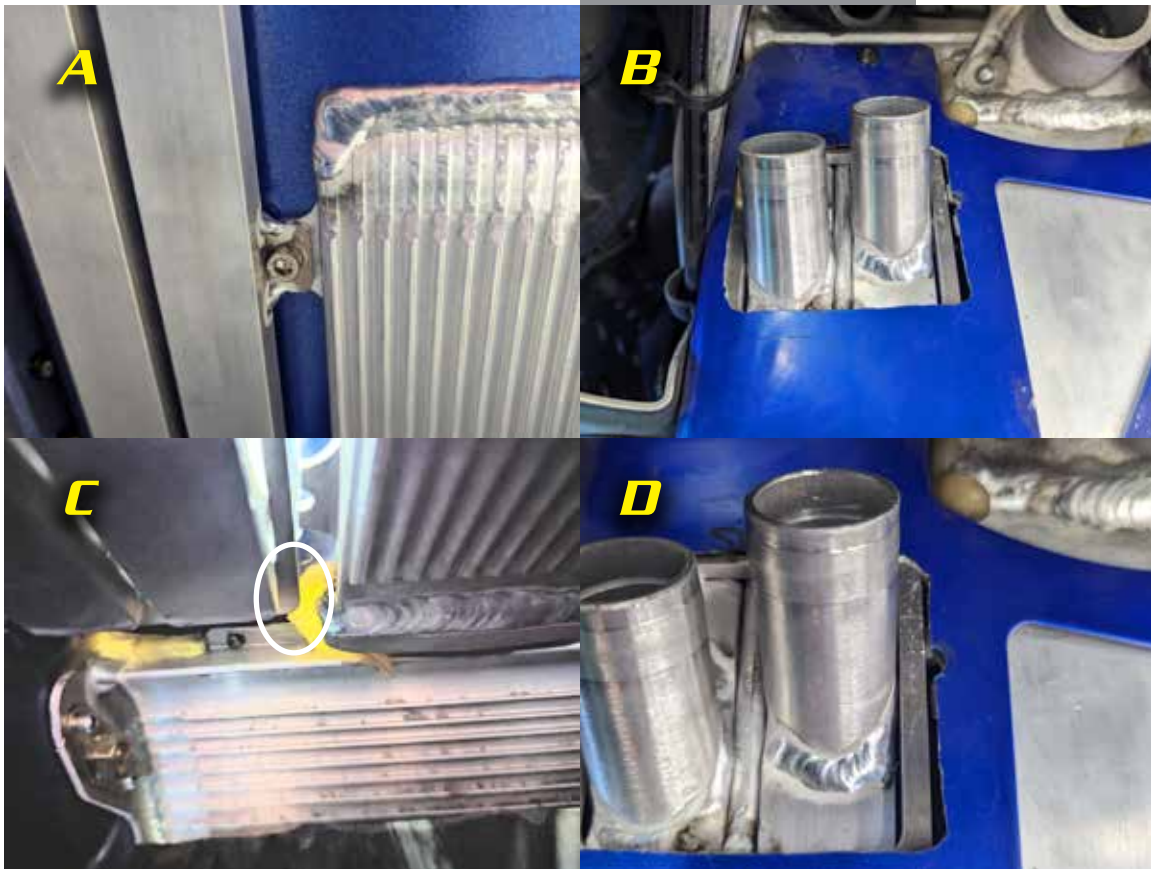
- Remove the drive belt with belt tool, then remove the belt tool from the clutch (A).
- Remove the center retaining bolt (B). DO NOT REINSTALL AT THIS TIME but take note about reinstallation, both the writing on the clutch and a sticker affixed to the clutch state reinstallation torque is 60ft/lbs. When reinstalling this bolt apply medium strength thread locker to it and properly torque to 60ft/lbs. This has been a known problem and if not properly torqued, the bolt will back out and the splines will strip. Read aloud “walk home or be towed by buddy” at this time.
- Remove outer sheave, accounting for spacer washer (C), then remove inner sheave.

**STEP 6**

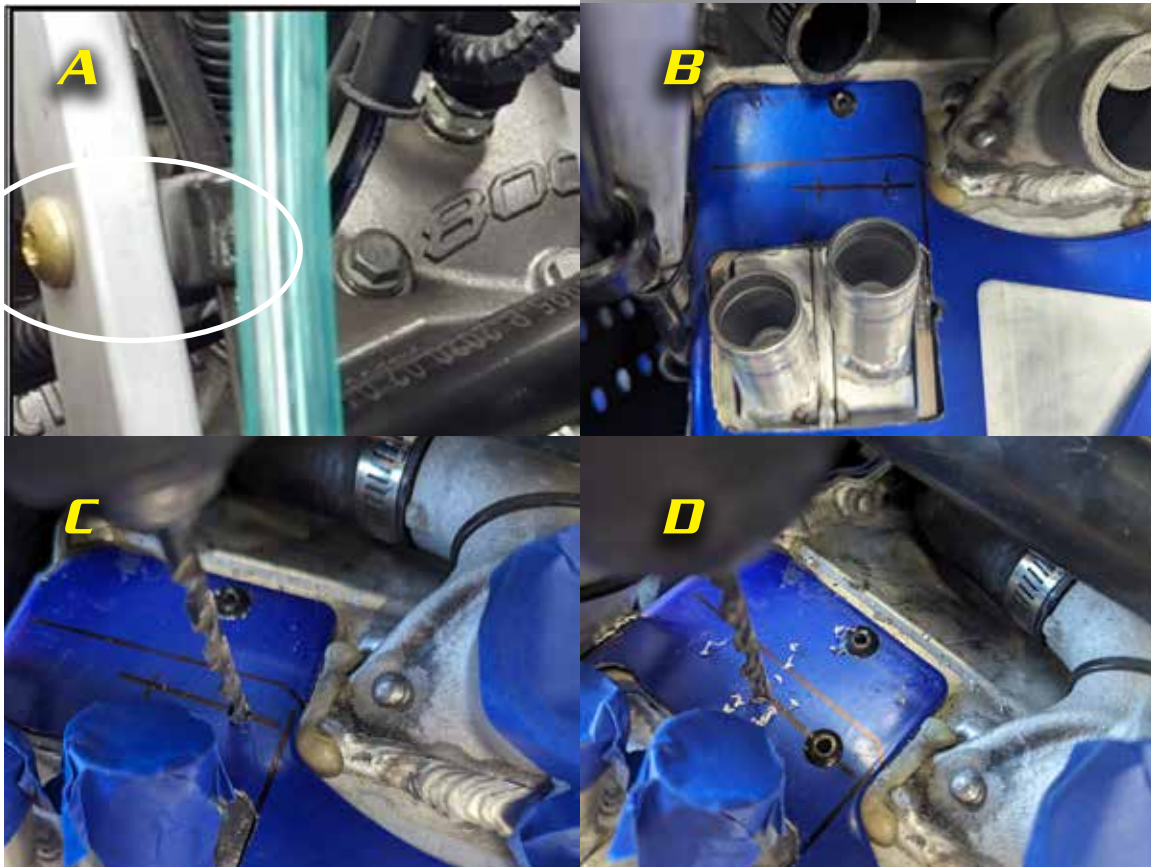
- Drill out the 2 leftmost rivets at the mid tunnel connection (A). These will not be replaced and will be left open to allow room for coolant tubes.
- Drill out the rivet shown (B) at the front of the tunnel and near the coolant bottle connection.
- Remove the Torx head screw on the left rear cooler mount. Remove the nylock nut from the structure tube mount pocket(C).

**STEP 7**

- Using the provided template, cut out the right hatched triangle in the PAPER TEMPLATE and align to the tunnel as shown (A). Tape template down to prevent movement.
- Center punch the (4) required holes to be drilled. Using a 3/16” Drill Bit, drill a pilot hole, then using a 1/2” Drill Bit, drill out your pilot hole.
- Cut out the remaining material to form the hole using a reciprocating saw or equivalent (B). This will cut through the front cooler mount tab. as shown (C). Debur the hole with a file.

**STEP 8**

- Insert the tunnel cooler in place. Align the mount tab with the hole we removed the bolt from in step 6c (A). The front seal plate around the hose connections should fit up tight to the tunnel. We have found silicone installed from the factory needs to be trimmed out sometimes (C). Also the cut off bracket shown in step 6C may need to be trimmed slightly, or the hole adjusted. After correcting any issues and if it all looks ok, temporarily install provided 5mm socket head screw and new nylock nut into hole and lightly fasten (but leave loose) to hold cooler in place. A prop stick to hold cooler up in back may be required.
- Align edge of seal plate with right side of access hole (D).

**STEP 9**

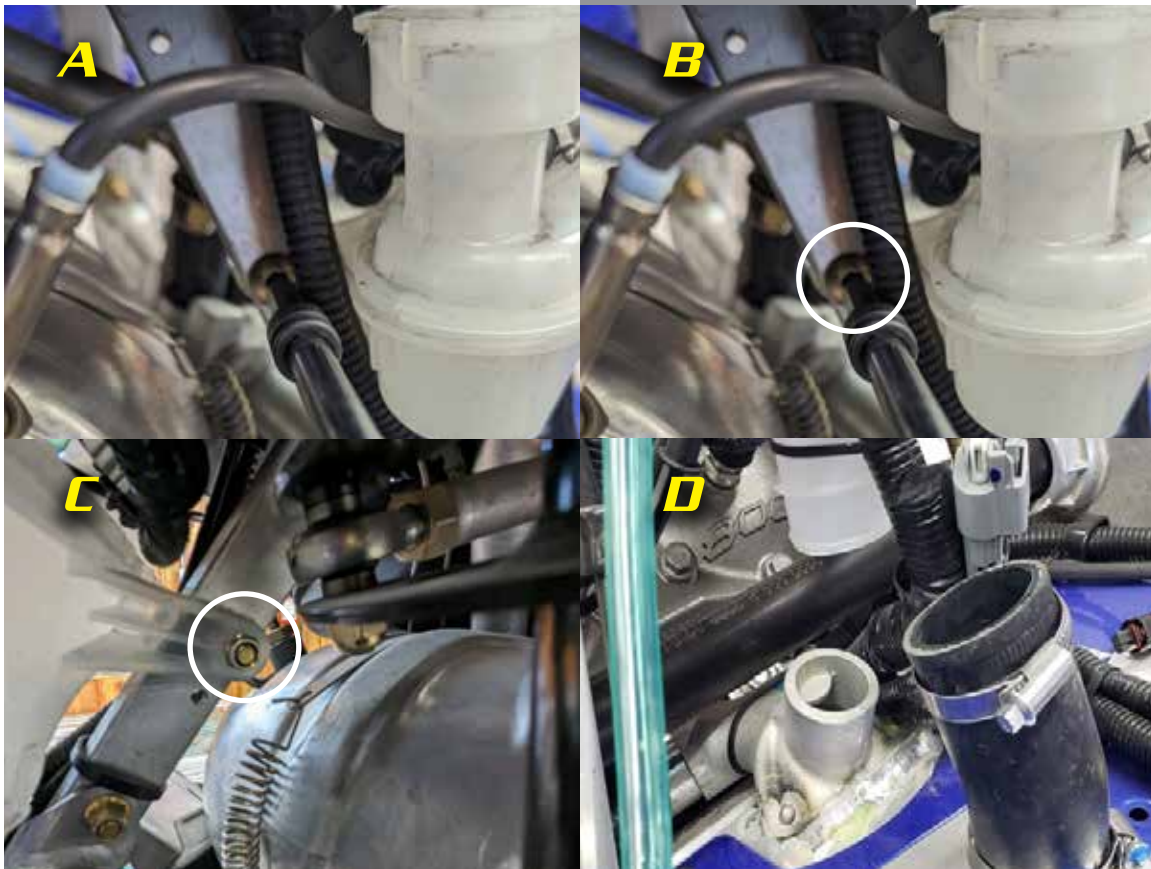
- Temporarily remove the bolt and nut retaining the “P” clamp holding the brake line. This is for clearance to drill and place rivets and will be reinstalled (A).
- Cover the fittings in the new cooler to prevent chips and shavings from entering the openings. (Coolant bottle has been removed for clarity to take pictures, but not required for installation.)
- Two LONG rivets need to be installed in the front tab area of seal plate. Placement is not critical but the location should allow you to drill and set a rivet. Determine a location that will allow both requirements without obstruction (B). Drill first rivet hole with 3/16” drill bit, insert rivet into hole as an alignment dowel. Set first rivet. Drill second rivet and set second rivet.

**STEP 10**

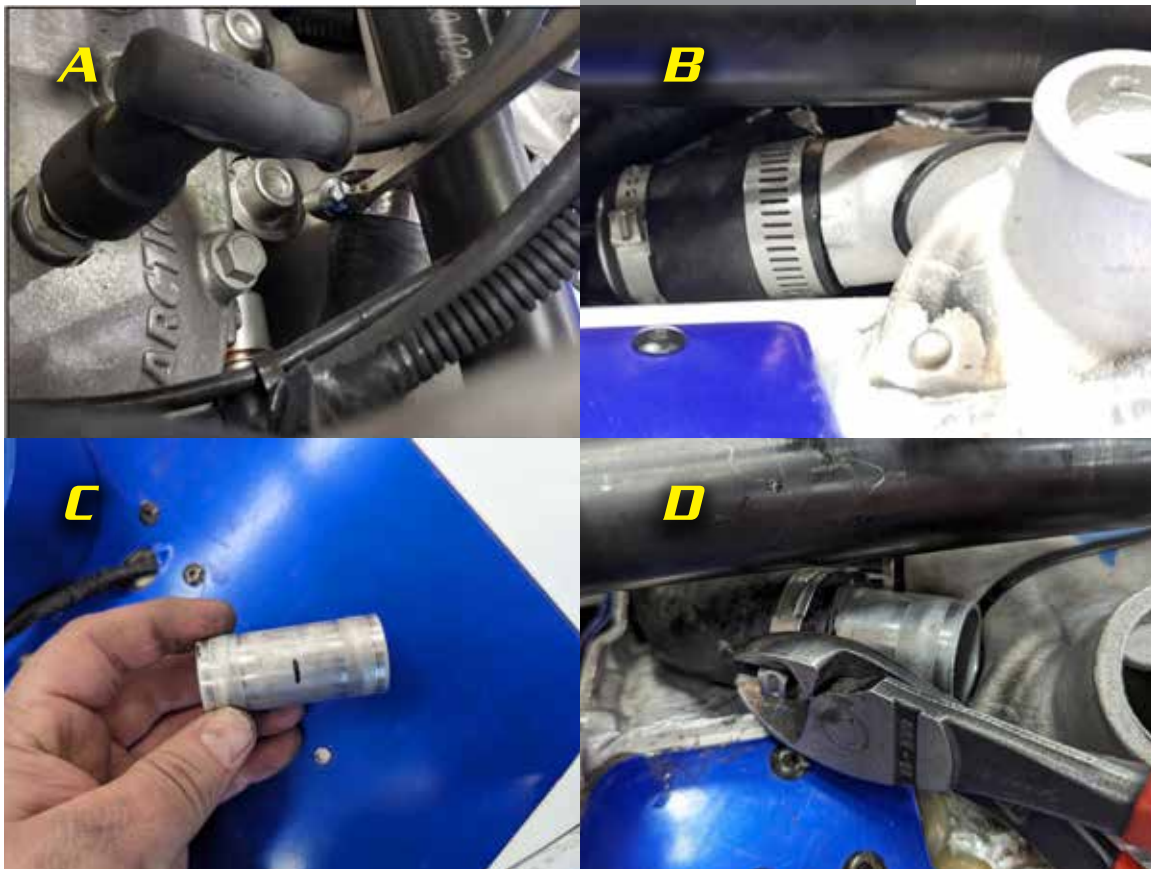
- After securing the front inspect the rear cooler fitment.
- Remove the screw installed in step 9A (A) and apply thread locking compound. Re-install bolt but do not fully tighten. Measure the cooler on each side and center it in the tunnel. Due to manufacturing/welding tolerance and potential shipping damage there may be slight adjustments such as flexing the cooler into place to center. This is normal and is not reason for concern. It may be necessary to use a clamp to ensure the cooler stays centered until a hole can be drilled and rivet set to hold in place. Protect the tunnel from scratches if using a clamp. Once you have the cooler centered and everything is good, tighten the screw (A).

**STEP 11**

- Install rivets in the outer rim of the cooler first. After verifying that the cooler is in the center of the tunnel place 4 SHORT rivets down each side.
- Using the same drill, from the top drill the rivet locations for the wire guide through the original holes in the tunnel.
- Next install the wire guide. Due to variance between models and lengths there are multiple solutions and this will require cutting the guide into 2 and in some instances 3 pieces. Take some time and plan it out before cutting. Support the wire guide at both ends with rivets and avoid leaving large gaps in the coverage of the wire. Once you have a plan, cut the pieces and using LONG rivets secure the wire guide and wire in place.

**STEP 12**

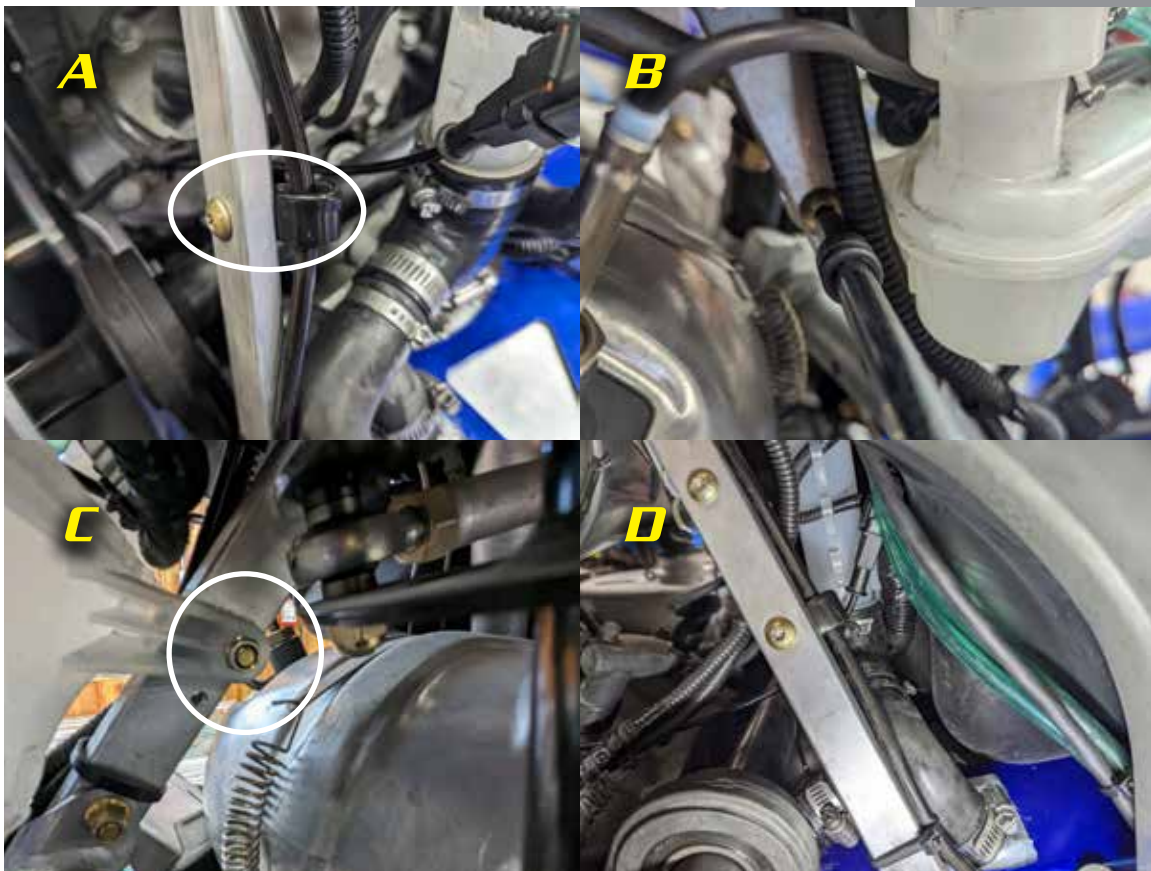
- Silicone can be applied to prevent snow around seal plate (A).
- Drain coolant by loosening a hose clamp and remove hose. A vacuum set up for liquid works best to catch it or use a large clean drain pan. Remove bolt holding coolant bottle to upper structure (B). It has a pocket that a nylock nut rests in (C). Take precautions to prevent losing nut into engine compartment.
- Loosen clamps and lift bottle out of lower hose. You don't have to completely remove the bottle, just lift enough to get lower hose out. This will prevent unhooking other hoses and wires. Remove the connector hose from the bottom of the coolant bottle (D). It will not be reused.

**STEP 13**

- Remove upper end of the coolant hose that comes from the engine water pump and goes to the upper heat exchanger by loosening clamp as shown (A). Do not remove the hose from the engine. Install included 1" plug assy onto the location and secure with clamp (B).
- Make a mark in the middle of the aluminum hose connector (C), install in hose you removed to the middle mark and install the oetiker crimp clamp to secure. This can be done easily with a pair of side cutter pliers. Put the crimp ear in a location that will provide the most clearance under the jackshaft (D).

**STEP 14**

- Using the provided 90 deg elbow with the short leg, connect the long leg to the previously installed aluminum connector and install the short side onto the right side cooler fitting with provided #16 hose clamps (A).
- Loosely install the silicone adapter hose with the bend on the bottom to the factory bottle connector and insert the bottle into the silicone, with the clamps. Position the clamps so they can be tightened and will not make contact with surrounding hoses and wires.
- Loosely install the provided 90 deg elbow with the pre-installed aluminum connector as shown with clamps. Once everything is in position(B), tighten all clamps and double check you have them all.

**STEP 15**

- Re-install the brake line “P” clamp with its corresponding bolt and nut (A), and the coolant bottle retaining bolt (B). Don’t overtighten as the bottle is only plastic and could deform or crack from excessive torque applied to the bolt (C).
- Test fit the fuel tank. Look at the front of the tank and look for any potential problems. Ensure nothing is touching the jackshaft and there is nothing preventing the fuel tank from being fully seated in its proper location.
- Remove the fuel tank and tie up wires, hoses and place everything in its proper place.

STEP 16

- Completely install fuel tank with fuel line and vent line. Fuel line can be difficult to install if seal ring inside the line has become dry. Wet the inside with gasoline and it will snap on easily.
- Reinstall the spar tubes, console, electric start wires and battery. take care to verify the tether and fuel pump wires are connected and secured if needed with a cable tie.
- Install seat, and hood. Verify that the intake is engaged into the front of the hood properly to prevent any possibility of snow getting into the intake.
- Install the driven clutch and belt. Torque bolt to 60ft/lbs. Reinstall the suspension. Properly tension the track. Check the track tension again after running the engine and test riding.
- Fill the sled with coolant. It will hold more than what was removed. We have found that elevating the front can help along with elevating the left side. Check that the throttle has normal operation and returns fully. Start the sled and continue filling the system as needed with the cap off. When the cooling system seems full, place the pressure cap on and elevate the rpm. Once the engine warms above 85 deg F then the thermostat will open and coolant will start flowing through both original and new cooler and you should feel it getting warm. It may take several cycles of heating and cooling before the system stops taking coolant.
- **DO NOT REMOVE THE PRESSURE CAP IF COOLING SYSTEM IS HOT!**

ARCTIC CAT/YAMAHA
10203/10207 TUNNEL COOLER
CUT TEMPLATE



PRINT TO ACTUAL SIZE

