



BoonDocker

PERFORMANCE

**2018 Arctic Cat 8000 (Ascender)
SideKick Turbo Installation Instructions**



'18 Arctic Cat 8000 SideKick

Proper fuel is CRITICAL

This turbo kit has been validated using a 50/50 fuel mix (50%: 91-octane, 50% Av-gas, 100LL). Using a mix of 50%: 91-octane and 50%: Race Gas-110 is also acceptable. Using lower octane than a 50/50 mix may result in motor failure.

GAS STATION NOTE: On blended pumps (where more than one grade of fuel comes from the same hose), that apparatus (hose and the blending pumps) may contain up to, or in excess of two (2) gallons of low-octane fuel. The first 2 gallons of fuel from any blended pump should not be put into a high-performance machine.

'18 Arctic Cat 8000 SideKick



1. Unbox and organize the contents of your kit.



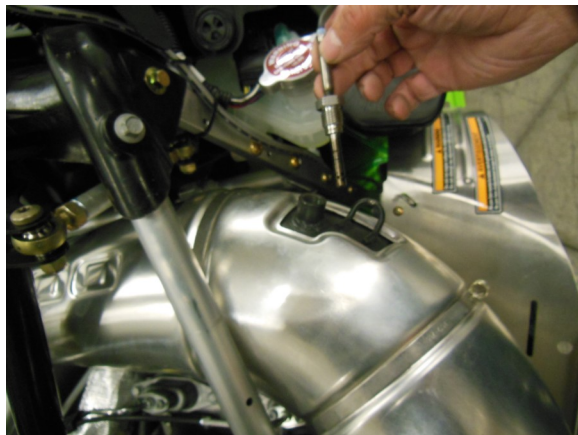
2. Remove both side panels.



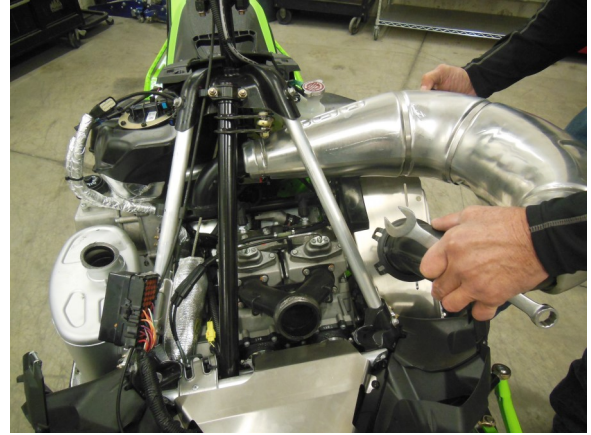
3. Using a Torx driver, remove the nose-cone hardware, and remove the nose-cone assembly.



4. Release clips, unplug gauge and remove hood.



5. Remove pipe-temp-sensor from stock exhaust pipe.



6. Remove ALL pipe springs and remove pipe from chassis.

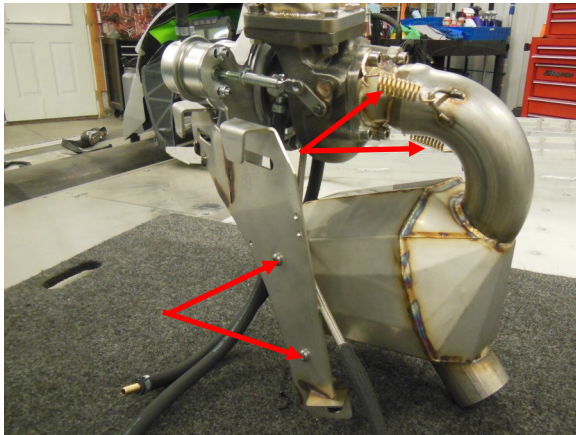
'18 Arctic Cat 8000 SideKick



7. Remove stock silencer.



8. Remove and save the (3) rubber mounting dampeners for future use.



9. Unwrap pre-installed lines from turbo. Silicone muffler to turbo, install two springs attaching muffler to turbo. Install and tighten two screws attaching muffler to mounting bracket



10. Install rubber mounting dampeners on turbo/muffler bracket as shown



11. Slide turbo/muffler assembly into chassis. Align on cross-member



12. Route coolant lines around the front of the motor as shown. Install hold down spring as shown.

'18 Arctic Cat 8000 SideKick



13. Route oil line as shown. Secure to cross-member with zip-tie



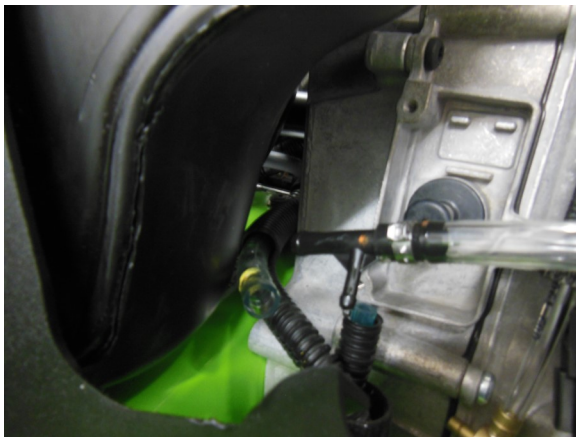
14. Pull back the tubing protector to expose the factory return oil line. Cut the clamp and remove the line from tank.



15. Install SUPPLIED block-off tubing and secure with clamp.



16. Cut Oetiker clamps from factory barb as shown.

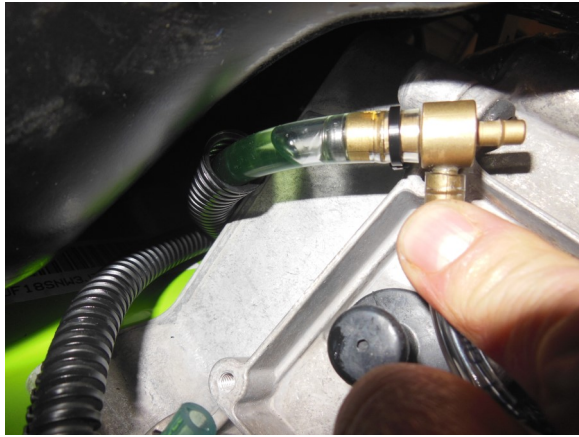


17. Remove factory plastic T and remaining tube as shown. Note: remaining tube was previously connected to oil reservoir



18. Install supplied restrictor plug into the longer oil line which routes to the engine.

'18 Arctic Cat 8000 SideKick



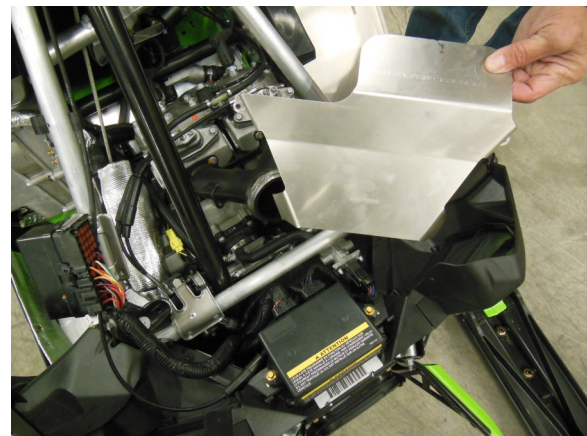
19. Connect supplied oil-line T as shown, just behind the orifice plug. and secure with zip-ties. Note: This "T" is supplied from BoonDocker, already connected to the turbo assembly.



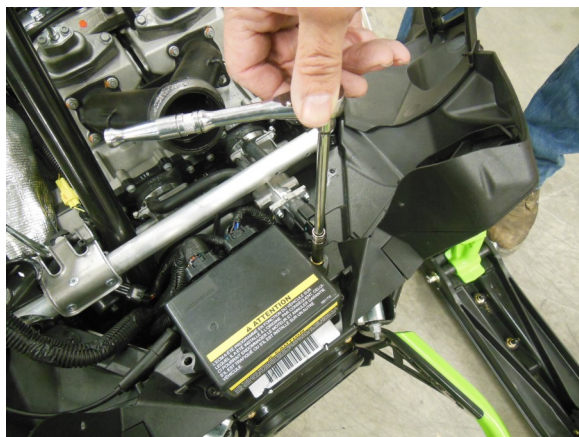
20. Using a syringe, pre-fill the oil feed lines using 2-stroke oil. Note: this line may gravity drain and may not remain full.



21. Connect remaining open barb on "T" to oil pump feed line. Secure with zip ties as shown.



22. Remove factory heat shield from chassis.

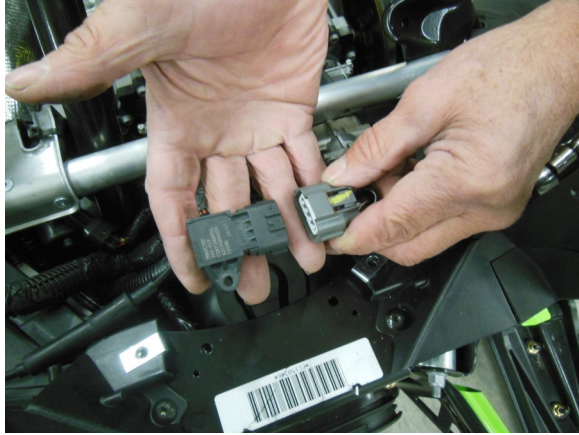


23. Unbolt factory ECU and unplug factory wiring harness.

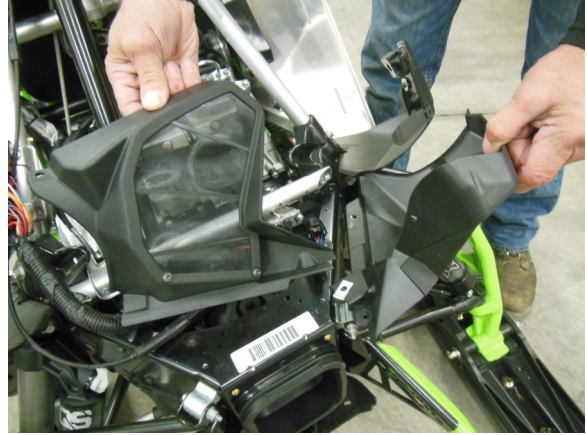


24. Remove factory ECU

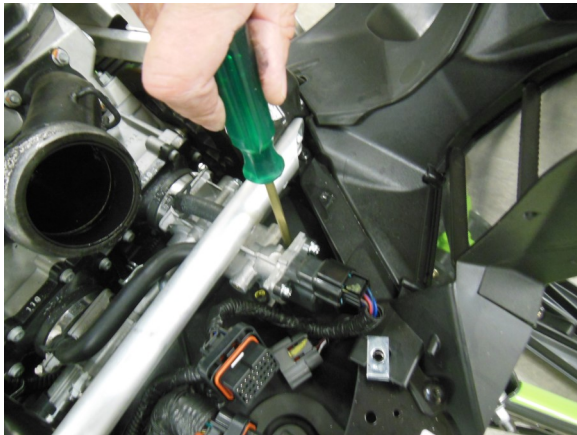
'18 Arctic Cat 8000 SideKick



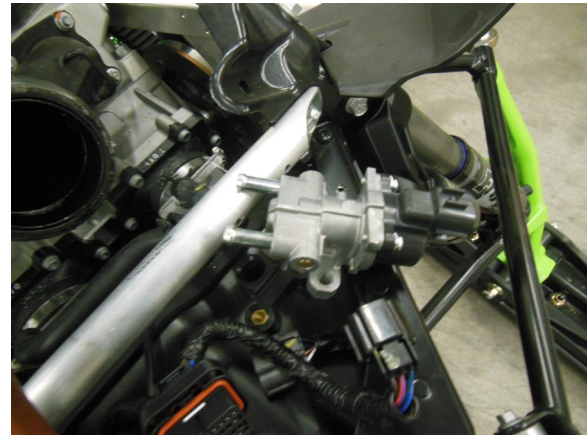
25. Unplug and remove factory MAP sensor from the stock air box.



26. Remove left and right side vents



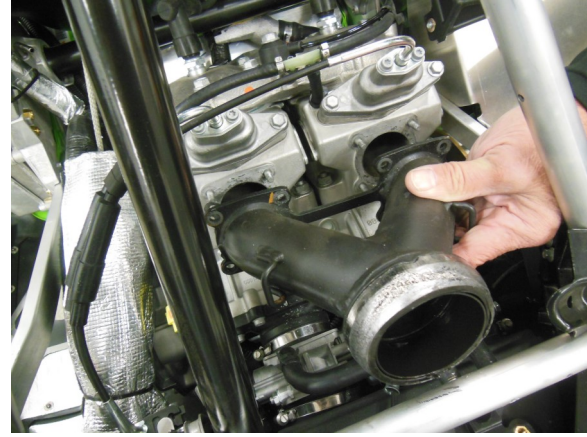
27. Unbolt the idle air control (IAC) unit



28. Remove hoses from IAC supply and unplug/remove the IAC assembly for future use.

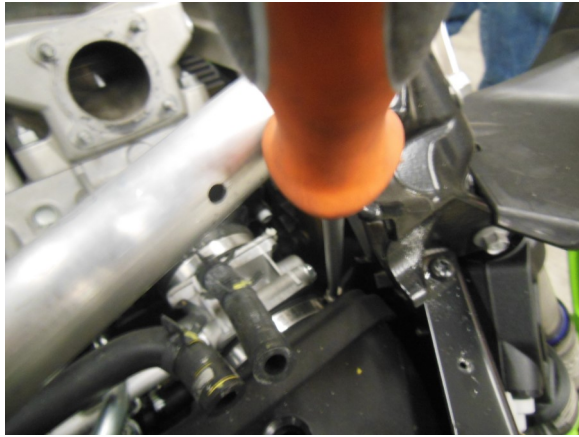


29. Unbolt cross-member and rotate counter-clockwise for additional working space.

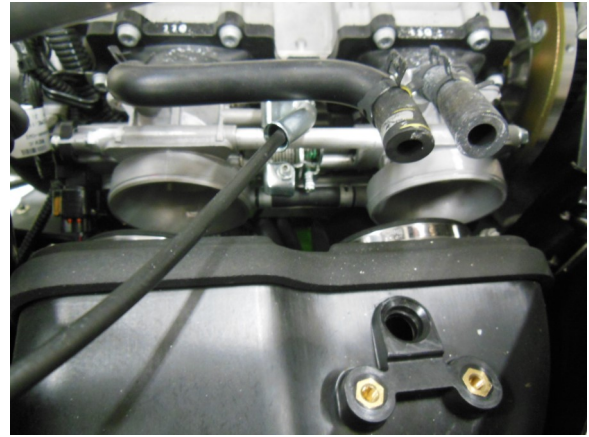


30. Unbolt and remove Y-pipe

'18 Arctic Cat 8000 SideKick



31. Loosen hose clamps securing airbox to throttle bodies (both sides)



32. Slide airbox forward to disconnect from throttle bodies.



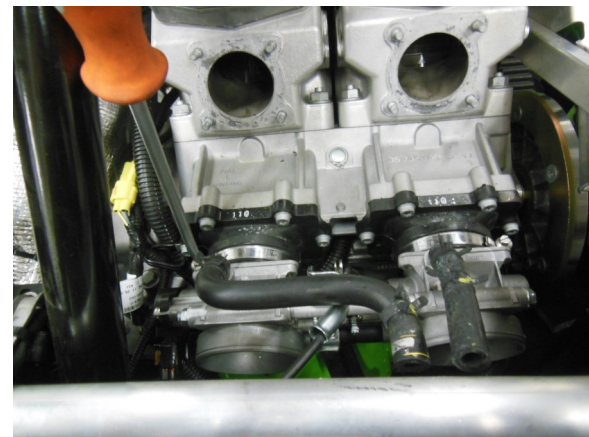
33. Loosen hose clamps securing throttle bodies to engine block, and slide forward and lay throttle bodies below airbox



34. Remove airbox cover from airbox assembly.

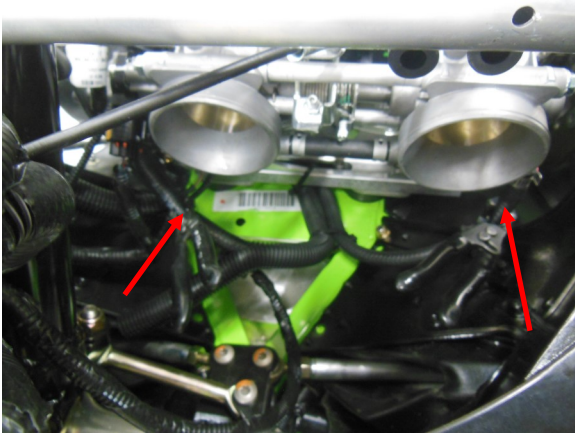


35. Remove and discard remaining airbox assembly.

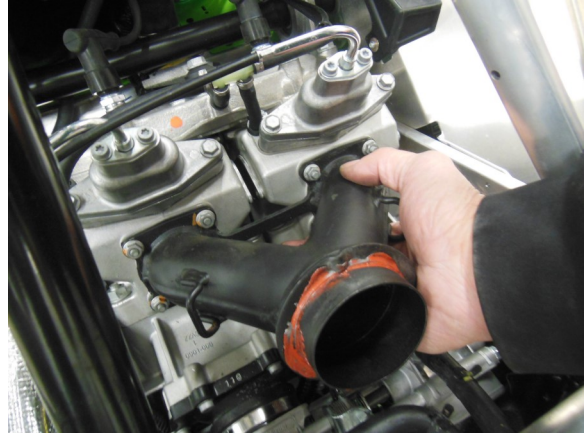


36. Reinstall throttle bodies to engine block and secure using stock clamps.

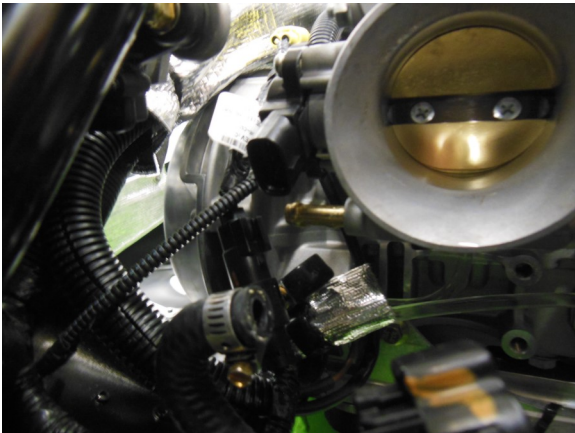
'18 Arctic Cat 8000 SideKick



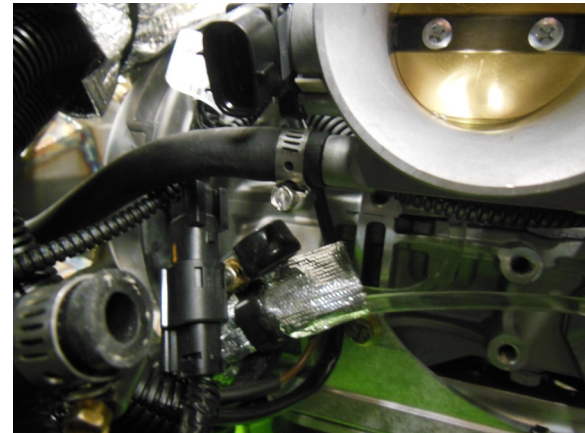
37. Pinch off coolant lines that go through throttle bodies as shown, BOTH SIDES



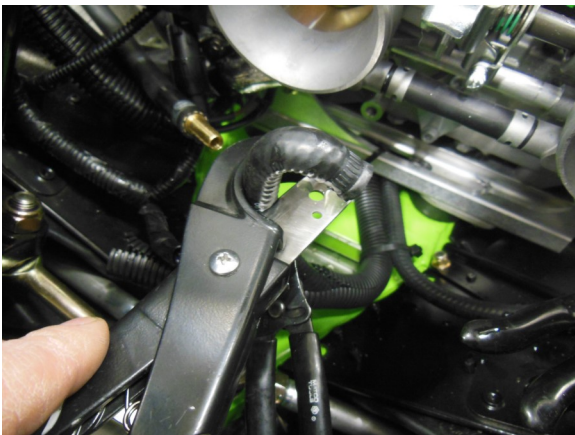
38. Reinstall stock Y-pipe



39. Remove factory coolant line from MAG-side throttle body



40. Install coolant line from BD turbo (use inner water line, pre-installed from BD on turbo assembly) to the MAG-side throttle body and secure with hose clamp.



41. Using hose cutters, remove the factory bend in the water line (2" below bend) that previously was attached to the MAG-side throttle body. Note barb coming from outer coolant line.



42. Connect previously cut hose to open barb from previous step. Secure with hose clamp.

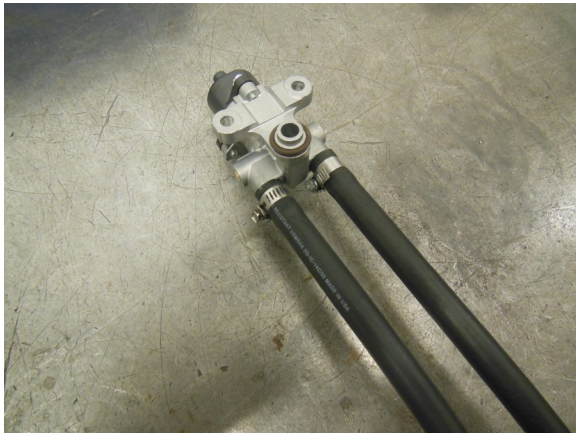
'18 Arctic Cat 8000 SideKick



43. Slide convoluted tubing back into place to protect coolant line.



44. Secure coolant lines as shown. Zip tie to spring mounting tab. Verify routing to prevent heat penetration and friction chafing. **DO NOT** overtighten zip-tie.



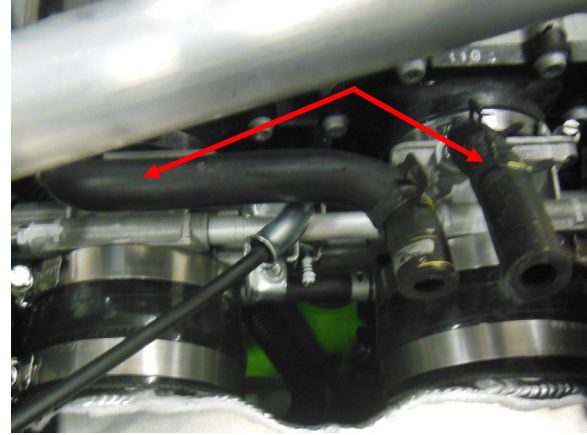
45. Install supplied rubber tubing onto the IAC, using supplied clamps.



46. Install the IAC module, previously removed from airbox. SEAT the O-ring first, and hold in-place while then attaching with supplied screws. Tighten bolts to secure IAC.

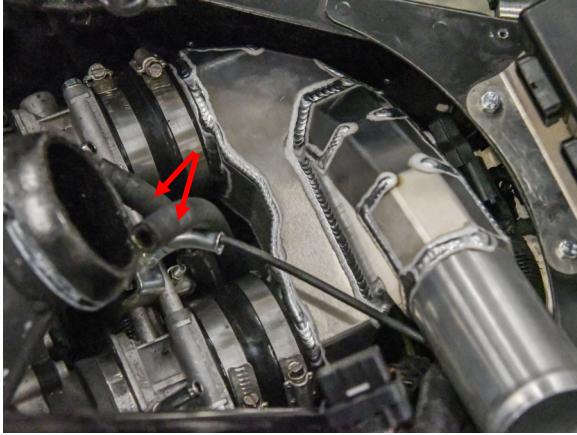


47. Install supplied intake boots to throttle bodies. Install hose clamps as shown. Secure to throttle bodies and tighten clamps.



48. Remove factory IAC tubing.

'18 Arctic Cat 8000 SideKick



49. Carefully manipulate airbox into place, as shown. Take note of routing for rubber hoses coming from IAC module. Tighten hose clamps to secure airbox to throttle bodies.



50. Install IAC lines to throttle bodies, as shown. Secure with supplied hose clamps.



51. Install ECU relocation bracket as shown, using supplied hardware.



52. Install ECU onto relocation bracket using factory bolts



53. Reinstall cross-member



54. Fuse box needs to be relocated by rotating. Detach fuse box from mounting bracket.

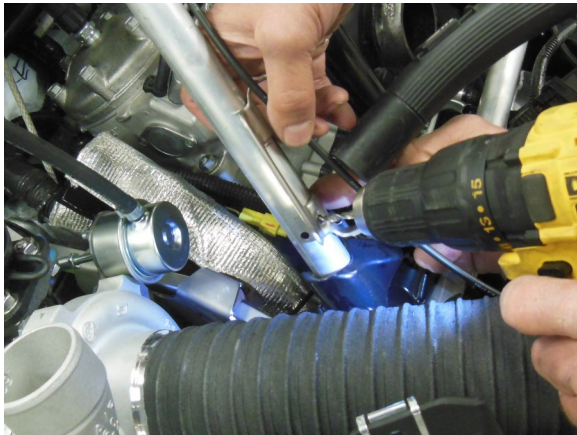
'18 Arctic Cat 8000 SideKick



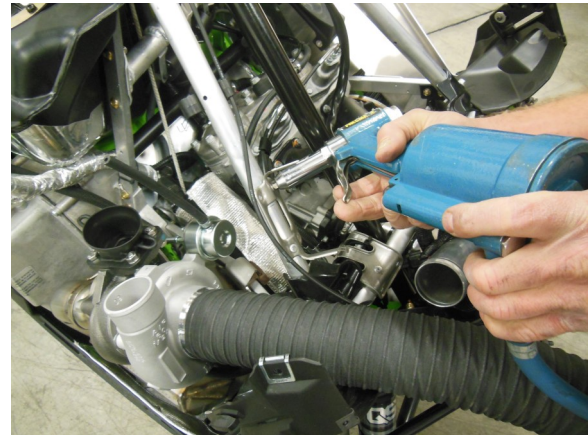
55. Temporarily install cold air intake hose to turbo to prevent debris from entering turbo.



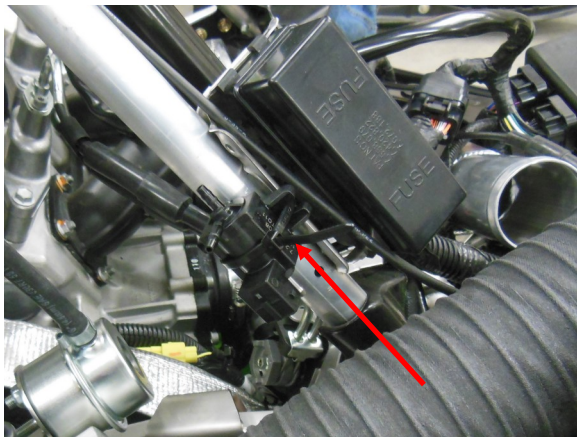
56. Drill out rivets holding mounting bracket to overstructure. Use a vacuum to ensure metal shavings don't get into engine systems



57. Rotate mounting bracket as shown (90-degrees, keeping the bracket at the same height as factory)



58. Install rivets to secure mounting bracket to new holes.

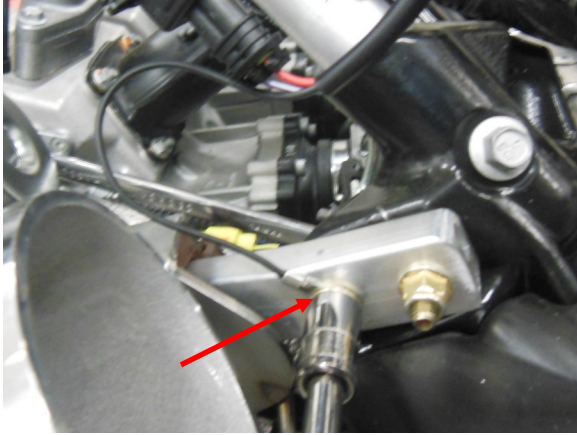


59. Reinstall fuse block. Install and secure boost solenoid as shown.

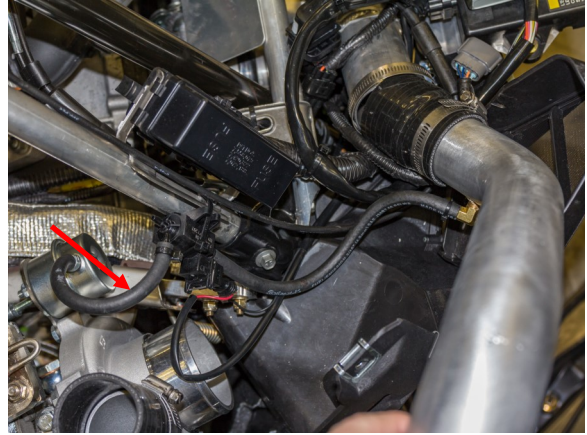


60. Remove cold-air intake hose. Attach BD wiring harness to boost solenoid.

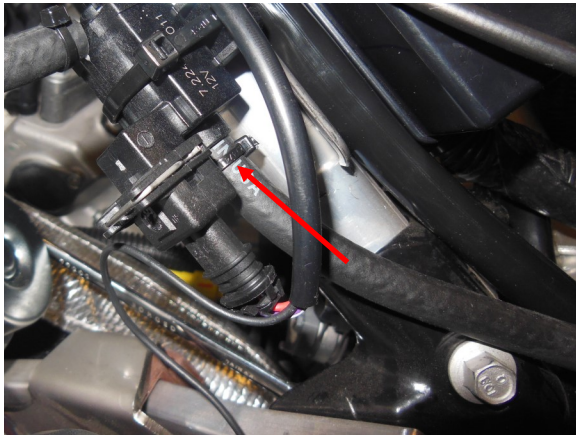
'18 Arctic Cat 8000 SideKick



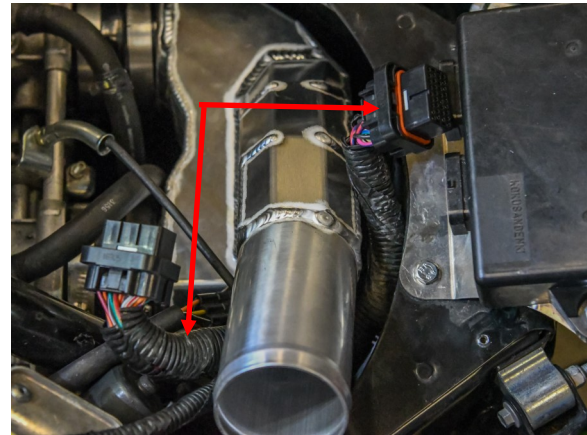
61. Attach ground wire from BD harness, as shown.



62. Install rubber hose from turbo actuator to boost solenoid and secure with zip-tie.
Note: charge tube is not yet connected to airbox.
Note: The UPPER barb should be left vacant



63. Install tubing for boost reference line from charge tube to boost solenoid. Leave the charge tube laying loose on motor, for now. Secure hose with zip tie. (see #62 for additional view)



64. Route factory ECU connectors as shown.
Plug in connector nearest to ECU, listen for snap to verify connection.

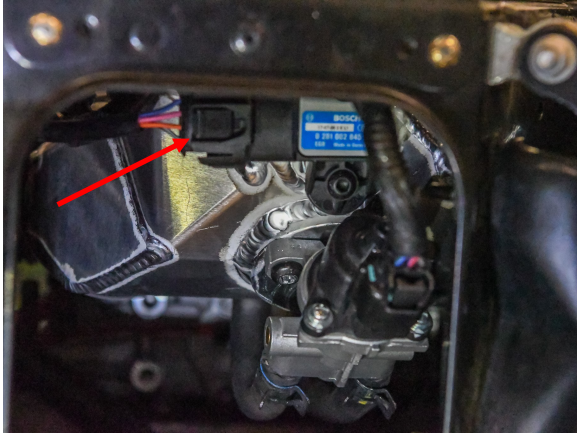


65. Route BD wiring harness as shown. Plug in BoonDocker harness to factory connector and ECU module.

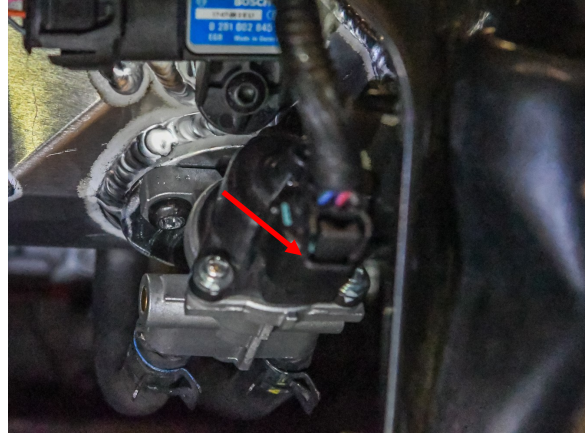


66. Route TBAP harness under air-box, down to nose-cone area.

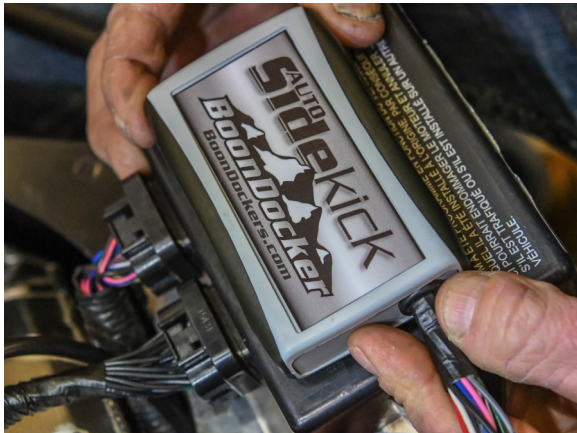
'18 Arctic Cat 8000 SideKick



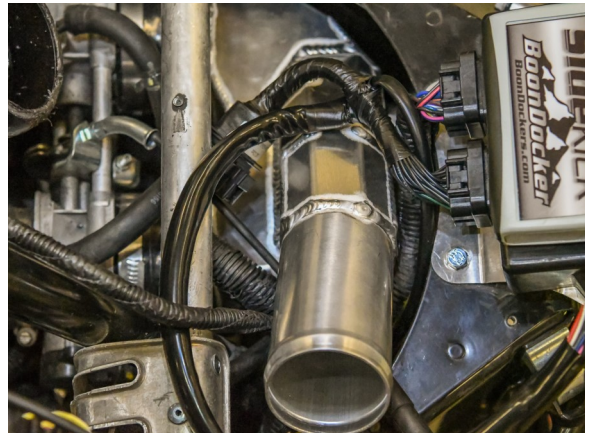
67. Attach TBAP harness to TBAP sensor on air box (work through nose cone for easy access).



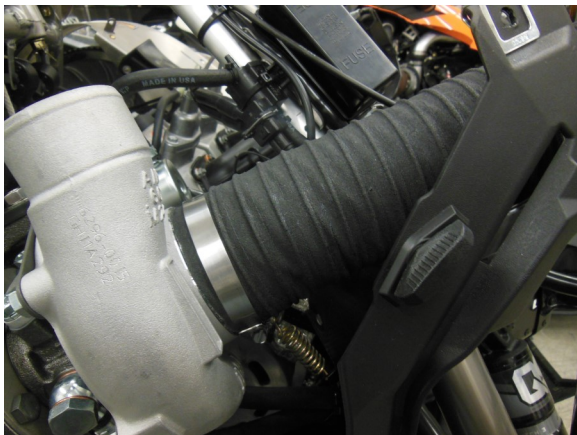
68. Route and install factory harness for IAC module (on airbox, work through nose cone for easy access).



69. Install BD control box as shown. Be sure to use HEAT to activate the glue on the Velcro that will affix to ECU.



70. Verify wire routing as shown. Secure with zip ties.



71. Reinstall cold-air intake hose with clamp. Take note of clamp orientation. Tighten clamp to secure.

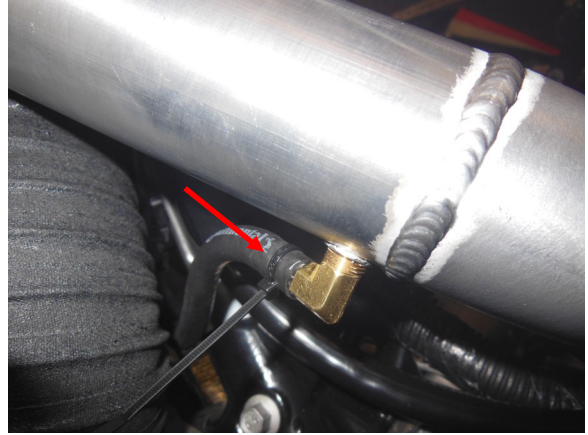


72. Install silicon coupler between air box and charge tube as shown. Take note of hose clamp orientation. Tighten clamps to secure.

'18 Arctic Cat 8000 SideKick



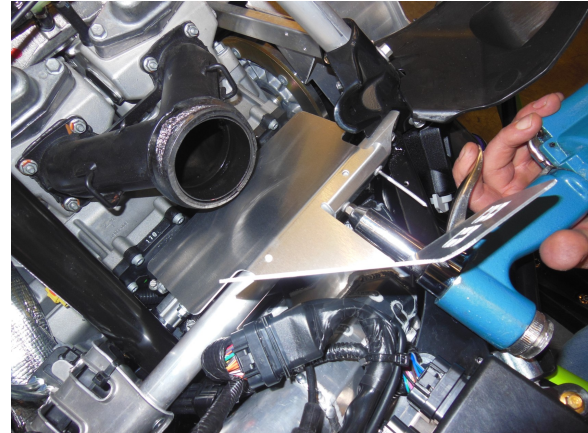
73. Route intake hose as shown. Install charge tube to turbo. Note hose clamp orientation. Tighten hose clamps. Note: boost hose may come pre-attached to fitting/charge tube.



74. Attach boost reference line and secure with zip-tie. NOTE: your kit may come with this line pre-installed. Verify zip-tie.



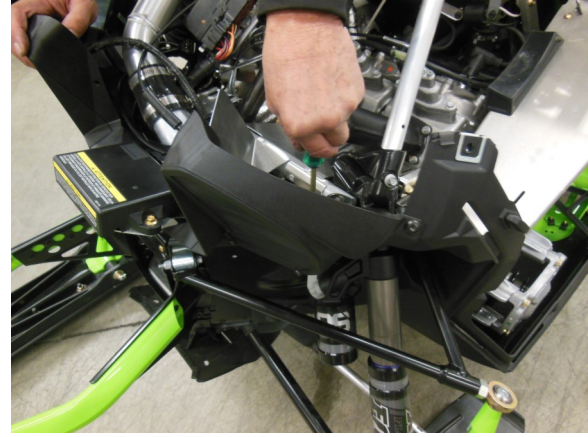
75. Reinstall factory vent shroud



76. Install heat shield using supplied rivets. These two rivets will use a stock hole in the cross-member.



77. Drill out holes on top of heat shield and install rivets to secure heat shield.



78. Reinstall PTO side vent shroud, using factory hardware.

'18 Arctic Cat 8000 SideKick



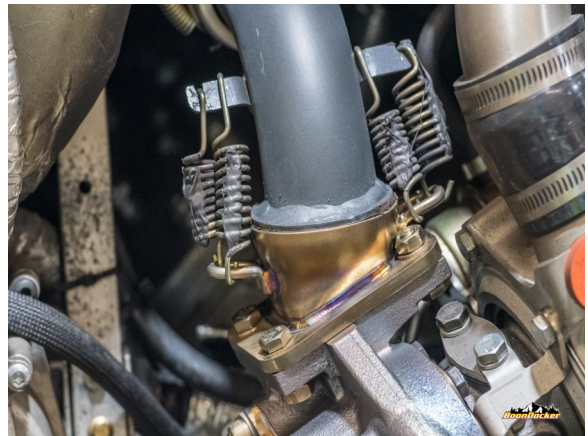
79. VERY IMPORTANT: Inspect graph-oil donut for damage. Replace as needed. Note: The above donut shows damage (wires showing) and should be replaced.



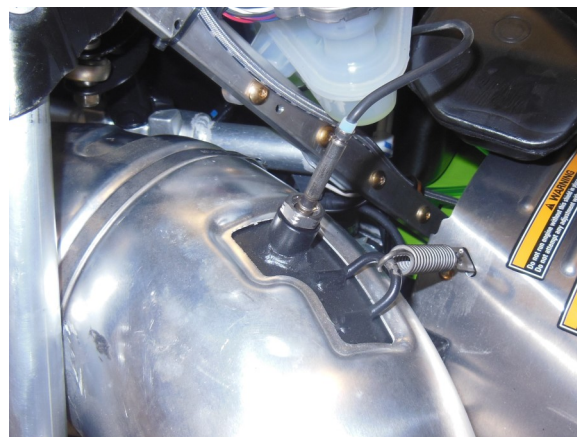
80. Drill 1/8" hole centered in pipe flange before installing pipe onto y-pipe (see step 81 for hole location). Use silicon on the inner rim of the pipe to create a good seal to Y-pipe.



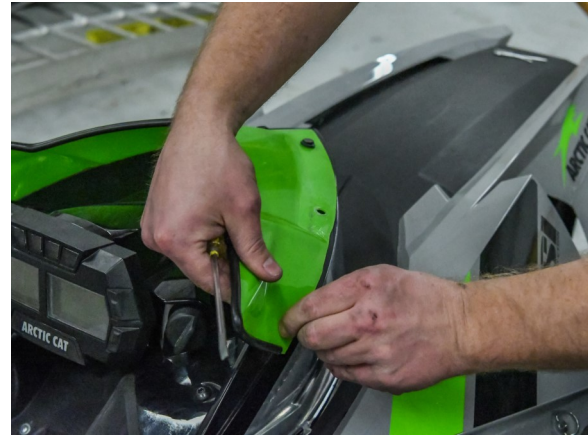
81. Install SUPPLIED (short) springs as shown, replacing 4 stock springs at each corner and adding 2 springs in the middle (6 springs total).



82. Install donut inside collector and place pipe into collector. Install SUPPLIED springs to fasten pipe to turbo assembly. Position long and short springs as shown



83. Reinstall and tighten pipe-temp sensor and attach pipe-retainer spring.



84. Remove windshield from hood.

'18 Arctic Cat 8000 SideKick



85. Disassemble hood



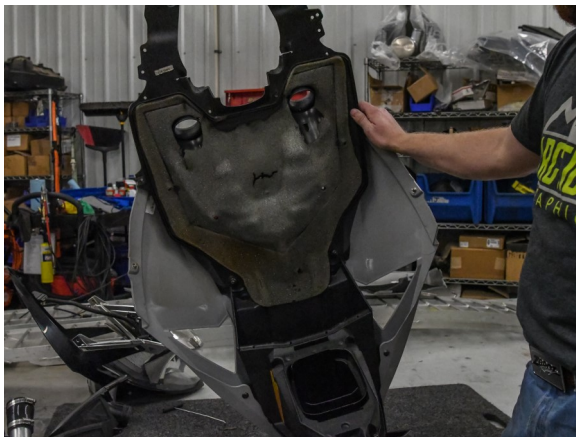
86. Disassemble gauge cluster



87. Remove venting for further hood disassembly



88. Disconnect wire harness from hood assembly



89. Disassemble and remove factory intake plenum, leaving the hood as shown.



90. Use supplied hardware to attach BD cold air intake plenum to hood. Line up 4 holes in Plenum with existing holes in the hood.

'18 Arctic Cat 8000 SideKick



91. Attach nuts to short bolts and tighten.



92. Install and tighten supplied hardware to secure BD intake plenum to hood.



93. Install factory TBAP sensor onto BD air intake plenum with supplied self-tapping screws



94. Re-assemble vents using factory hardware.



95. Reassemble gauge console using factory hardware.



96. Reassemble hood

'18 Arctic Cat 8000 SideKick



97. Reassemble hood



98. Reattach windshield



99. Reinstall hood on chassis, install BD intake hose to BD intake planum. Note hose clamp position.



100. Install TBAP harness to TBAP sensor.
Note: Some pieces have been removed to take this photo, not necessary for the installation of this harness.



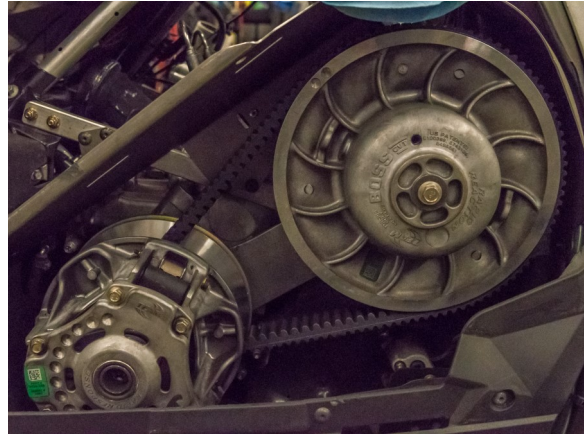
101. Reinstall nose cone

INTENTIONALLY LEFT BLANK

'18 Arctic Cat 8000 SideKick



102. Install supplied weights and springs per Arctic Cat instructions.



103. Verify belt tension and seating.



104. NOTE: some riders prefer a higher engagement. You can remove the above shim and install J13-74 gram weights to adjust your engagement.



105. Reinstall side panels