



Skidoo 800 Rev Turbo Kit

Instructions For Install

1. Remove stock pipe and muffler.
2. Drain coolant from engine.
3. Remove stock air box and carburetors. Disconnect waterlines from carbs. These will now be used to cool turbo center housing and will no longer be connected to carbs.
4. Remove top caps from carbs and float bowls.
5. Drill 5/32 hole in the top caps in the center next to the slide stops (view from bottom) and tap with 10-32 tap. (Note- Use a small amount of cutting oil on tap for cleaner threads).
6. Using a small amount of loctite install 1/8" hose barbs in carb tops.
7. Drill and tap float bowls for power jet fittings using same 5/32 drill bit and 10-32 tap. (Note- Drill so that exit lines are between carbs). Carb bowls have a flat area above the bottom plug, this area is best to install the fittings. Install 1/8" hose barbs using loctite. Drill one in each bowl.
8. Remove DPM pintle valve assembly from line running up from T between carbs and plug the line. Unplug valve assembly from DPM and set aside.
9. Remove stock fuel pump and plug pulse line to engine, mount electric pump in front of tank outlet facing driven clutch. Position and rivet to tunnel, using the 90 degree angle hose from stock fuel line. (You'll have to cut a piece to length.) Connect tank to inlet side of electric pump. Fuel pump comes with mounting straps and self tapping screws.
10. Rivet the fuel pressure regulator to cross brace above engine as shown in picture (A).
 - A. Route fuel line from fuel pump outlet to pressure regulator fitting facing clutches. It is necessary to drill a small hole and zip tie the hose to the bulkhead. It may then be zip tied to the upright bar and routed to the pressure reg. (Note- Be sure that it cannot come in contact with rotating parts i.e. jack shaft or driven clutch.)
 - B. Connect the fitting on the opposite side of pressure reg. to the carb fuel line.
 - C. The small upper fitting now facing forward will be connected to the fuel pressure gauge.
 - D. The lower 1/8" fitting will be connected to a pressure fitting on top of the air box. This causes the fuel pressure to stay 3lbs above boost pressure.
 - E. Drill 1/2" hole in the fuel tank just in front of the seat on clutch side below fuel tank cap. Push rubber grommet into hole. Then push tank fitting into grommet. This fitting connects to the return line from the pressure regulator. NOTE: The return line is the one pointing straight up. NOTE 2: With a small amount of air pressure into the tank it will blow the chips out as you drill.
11. Now is a good time to change the head if you have an H-O. Cranking compression must not exceed 130lbs on the head used with the turbo.
12. Mount oil tank and Pump.
 - A. The oil pump should be mounted in front of the chain case on the flat part of the aluminum on the floor. Use 6 mm allen head bolts and lock nuts to mount. Drill

holes near edge of bracket on oil pump, and then in the aluminum and through the belly pan. Run wires through void in the bottom of the oil pump.

- B. Position oil tank as shown in Picture B. Oil tank top should be level and should be bolted to the footrest in the rear and aluminum floor pan in the front. Use aluminum spacers with 1/4" bolts and lock nuts to mount.
 - C. Connect oil feed line from the front lower fitting to the inlet side of oil pump. Cut a piece of 1/8" poly line to length. Zip tie oil lines on pump and tank.
13. Examine the sealing ring at the end of the Y pipe if it is chafed or gouged, replace with a new one. Coat the sealing ring with 12-11 sealer and install the turbo pipe. Bolt the muffler assembly to the turbo, by first coating surface with 12-11, then torque bolts to 25' lbs.
 14. Position turbo assembly in sled, install aluminum sealing ring in recess in the turbo, coat ring with 12-11 and bolt to the pipe torque bolts to 25' lbs.
 15. Run oil pressure line to brass "T" which is also attached to stainless steel line. The oil pressure sensor is installed also in other end of "T". Attach swivel end of stainless steel line to fitting on the top of the turbo charger.
 16. Attach oil drain line from bottom of turbo to upper line on front of the tank, using short piece of 1/4" in. Black line and 2 8-12 mm clamps.
 17. Using long 1/4" black line, attach one end to the 1/4" fitting on turbo and route to fitting on head that used to feed the carburetor. Then attach 5/16" line to other fitting on turbo and route to the open fitting on coolant reservoir.
 18. It's time to reassemble the carbs we recommend 4 jet sizes richer than a non DPM 800.

Example: We run 320 main in our MXZ 800 (non DPM). We installed 360's in the turbo sled. This was a DPM sled which had 400 mains. The engine will run richer with 360's than the 400's as the DPM is removed.

19. Reinstall carb bowls, attach 2 lengths of 1/8" line to the fittings, long enough to reach power jets on the air box. Install air box to carbs, position and tighten clamps well.
20. Install carbs on engine, be sure to tighten clamps, The turbo pressure will push carbs right out of the carb boots if they are not tight.
21. Connect 1/8" hose from air box to tops of carbs. Connect carb vent lines to air box (there are 7 fittings on the box you have used 4). 1 line will connect to pressure regulator, 1 line to waste gate module and 1 line to boost gauge. You have now used all 7 fittings. Be sure these lines are not easy to pull off. If they are, either change the line or clamp them well.
22. You can now install the cross-over tube from the turbo to the air box. We have left the 90 degree elbow a little long on both ends. Test first then trim to fit and clamp in place. Blue silicone hose is used on the turbo. Push hose all the way down on turbo, and clamp well. Push crossover tube all the way into the blue hose and clamp well. Connect a spring (short) from spring tab to cross-over tube. Twist the 90 degree hose on the top of air box to align tube well and clamp the hose.
23. We have found that under pressure the rubber diaphragm on the rave valves tend to blow off their connections. To correct this we remove the rave valves disassemble them, and clean all parts well. Remove the retaining spring. Use aircraft tie wire. Wrap it 2 times around the diaphragm where the spring was and twist it tight. Reinstall the spring to hold it in place. Install the plastic plate to the rave valve, tighten until snug. (Don't get crazy,

you can break the end of out of the plastic nut.) Make sure everything is aligned, exhaust pressure hole to bottom to match hole in cylinder. And the word top on the valve toward top side of the cylinder. Push the plastic plate into the diaphragm, and use tie wire to secure.

24. You can now install the Fuel pressure and boost gauges we installed them in the two cut out places below the tach and speedometer. (Note both gauges say boost, you may want to write fuel on the face of one.) Run a line from the fuel pressure regulator to the fuel pressure gauge. Run a line from the air box to the boost gage. Drill a ½" hole between tach and speedometer. And install oil pressure warning light. Drill a ½" hole in flat area across from the choke lever and install switch for pumps.

WIRING INSTRUCTIONS

- Mount battery in box on top of oil tank and secure with long zip ties. Mount so that the terminals are closest to the chain case. Connect black wire labeled "Battery-" to negative terminal. Connect other end labeled "oil pump ground" to chain case cover, bolt in front of oil tank. Attach yellow wire "Battery +" to positive terminal on battery. Run wire in stock wiring harness behind the brake disc and in between oil tank and fuel tank. Attach opposite end "switch" to switch placed adjacent the choke lever. It does not matter which terminal you attach it to. Attach yellow wire also labeled "switch" to other terminal. On the Rev there is a small wire loom with two wires in it that doesn't connect to anything, located above the air box. One of these wires is red with a yellow tracer that was intended to power other accessories on the sled. Plug this wire onto the short yellow labeled "red/yellow accessories wire". Opposite end of yellow wire will attach to positive terminal on the fuel pump. There are three wires with eyes on them that will mount to the same terminal. Zip tie these wires to cross brace together with the fuel line to pump. Run black wire labeled "fuel pump ground" from negative terminal to foot box bolt behind driven clutch to ground. Zip tie in place. Run red wire labeled "oil pump" along jack shaft housing and then follow coolant hoses next to the oil tank. Connect red and black wires to oil pump wires. The black wire will go to the same place as the battery ground. The other red wire from fuel pump will run up the cross brace to the warning light in the dash. Again it doesn't matter which wire is attached to which terminal. Run black wire from warning light to oil pressure sensor on turbo. Use zip ties to attach to cross-over tube.

25. Install 18" Long vent lines to oil tank. Pour 1qt of turbo diesel oil into 1 vent line.
26. Turn switch on you should see the red light on the dash light up. It should go out in 10 to 15 seconds. If not turn off switch. Pull pressure line off turbo and turn switch back on until oil comes up the line, and re-attach line. With the switch on you should also see PSI on the fuel pressure gauge.

WARNING- DO NOT RUN YOUR SLED WITH THE RED LIGHT ON, TURBO DAMAGE WILL RESULT EVERY TIME.

Last Step- Install cold air intake to turbo, using short curved piece of hose. This hose also will need to be tested and then trimmed to fit. Intake tube should run close to chain case and angle up at the rear. It is necessary to cut a hole in the rear panel. We recommend cutting the upper outside warning sticker out 1st, then enlarge to match the air intake.

TESTING-

Lift rear of sled with a reliable test stand. Start engine (red light should now go off instantly), warm up engine. With a quick throttle stab you should see fuel and boost rise. Usually it will only hit 5 to 7 PSI before the engine hits the rev-limiter. Verify that the fuel pressure is always 3 PSI above the boost pressure. Remember to turn electric switch on or the battery will not charge if left off. We recommend that someone watch into the engine compartment to look for fuel leaks while you test.

TUNING-

We recommend you start with the power jets about 2.25 turns open. This should be plenty rich ours runs well at 1.5 turns open @ 8000'.

CLUTCHING-

IF you are using the stock ramps, it will be necessary to add 5 to 6 grams of weight to each roller pin. You are looking for a shift speed of 8200 RPM.

OTHER RANDOM NOTES-

1. Your turbo should be set at a default of 9 PSI. Some are slightly different, we've seen 8.5 to 10 PSI. The turbo boost can be adjusted, but we recommend you get it running well before you play the boost games.
2. If you take off for your ride, and it feels like its about to run, but falls on its face and runs low boost, you have an intake leak. Check carbs, air box connection etc. We have even found a split reed cover.
3. If you start up a hill and it runs great but slowly loses RPM you are too rich.