

INSTALLATION MANUAL: GReddy Honda S2000 2000-2008 AP1/ AP2 Tuner Turbo Kit – BASE version
Part Number: 11550050



Thank you for your purchase of this product. Please carefully read over the instructions prior to starting installation. We highly recommend this kit to be installed by a professional. No fabrication is required but some trimming may be required. We have made every effort to provide a thorough and accurate installation manual but if there are any questions or concerns especially in regards to torque specifications, please refer to OEM Honda S2000 Service Manual or contact us.

IMPORTANT NOTES:

1. This is a Tuner Kit, no upgrades are provided for fuel and ECU tuning. Do **NOT** attempt to run this kit without proper fuel upgrades and engine tuning. Catastrophic engine damage may occur.
 - A. We recommend 550cc or larger plug n play injectors. 550cc is the min. for actuator boost level. If you plan to increase boost, 650cc or larger is recommended.
 - B. Upgraded fuel pump is NOT required if running at actuator boost level ~10psi. We do recommend an upgraded 255LPH + in-tank fuel pump if you plan to increase boost level.
 - C. Hondata or similar 4 BAR MAP sensor is recommended if boosting over 10.5 psi. There are many factors that can increase boost pressure over base boost (actuator) including temperature, exhaust setup, etc.. that can affect boost pressure.
2. OEM oil filter can no longer be used as there are space constraints with the turbo kit. We recommend a GReddy 13901104 oil filter which is M20xP1.5, Dia: 65mm, Height: 65mm or similar sized filter.
3. This kit was tested with OEM radiator with OEM radiator fans. The driver side fan bracket does require slight trimming for clearance. Aftermarket radiator's that are thicker than OEM will not clear the charge pipe and non-OEM fans were not tested. If you are using an aftermarket radiator that is thicker than OEM, you will need to purchase a GReddy fan shroud/ dual fan kit which was designed to provide adequate clearance and ample cooling, PN 12053201, or mount the fans directly onto the radiator.

RECOMMENDED:

1. The OEM oil cooler will be removed during installation of this kit. We do recommend a GReddy oil filter relocation kit with internal thermostat and oil cooler. Pn 12058005
2. We recommend new spark plugs gapped to .019-0.026" depending on type and condition of ignition coils. You can also retain factory heat range spark plugs or go one heat range cooler.
3. Upgraded hold capacity or at minimum a new OEM clutch and disc

ITEM DESCRIPTION	QTY
1. TYPE-28 Tube and Fin Intercooler	1
2. Garrett GTX2876R GENII complete turbocharger	1
3. Stainless Cast Turbo Manifold, T-25 Turbo Flange	1
4. SUS304 3" Downpipe with additional O2 bung	1
5. SUS304 3" to OEM Style Donut Gasket Flange	1
6. Aluminum Charge Pipe A – 50mm charge pipe	1
7. Aluminum Charge Pipe B – 57mm charge pipe	1
8. Aluminum Charge Pipe C – 57mm charge pipe	1
9. Aluminum Charge Pipe D – 70mm charge pipe	1
10. Aluminum Intake Pipe – 76mm intake pipe	1
11. 80mm AIRINX M Air Filter Element (M)	1
12. Turbine outlet gasket	1
13. Turbine inlet gasket	1
14. Turbo return flange gasket	1
15. OEM Exhaust Manifold Gasket (HONDA PN: 18115-PCX-014)	1
16. 2-bolt 3" exhaust gasket	1
17. omitted	
18. 7/16-24 Restricted Banjo Bolt for Turbo Feed Line (for use with Ball-Bearing Turbos)	1
19. 11mm Crush Washers	3
20. -3AN, 22" High Pressure Turbo Oil Feed Line	1
21. 1/8NPT to -3AN Male adapter	1
22. 90degree 1/8PT male to 1/8PT male adapter	1
23. 1/8NPT 3-way adapter	1
24. -10AN Turbo Return Line	1
25. M14x1.5 to -10AN Male adapter	1
26. M14 Crush Washer	6
27. Turbo Return Tube	1
28. M14 Banjo Bolts	2
29. O2 Bung Plug	1
30. Oil Filter Adapter	1
31. M8 x 30mm Studs for Turbo to Downpipe	5
32. M8 x 35mm Studs for Turbo Manifold to Turbo	4
33. GReddy Performance Oil Filter, PN 13901104 (Dia: 65mm, Height: 65mm)	1
34. Coolant hose barb on Turbo	1
35. Coolant -6AN banjo on Turbo	1
36. Hose Reducer Barb	1
37. Silicone Coupler Straight, 50mm	1
38. Silicone Coupler Reducer, 50-57mm	1
39. Silicone Coupler Reducer, 57-60mm	2
40. Silicone Coupler Reducer, 57-70mm	1
41. Silicone Coupler Straight, 70mm	1
42. Silicone Coupler Straight, 76mm	1
43. Silicone Vacuum Line, 5mm x 40mm	1
44. Coolant Hose, 9mm (3/8") x 32mm	1
45. Coolant Hose, 13mm (1/2") x 16mm	1
46. Heat Insulator for Actuator, L= 70mm	1
47. Heat Wrap for heater hose, L= 2"x29"	1

ITEM DESCRIPTION	QTY
48. Hose Clamp, #6	2
49. Hose Clamp, #8	3
50. Hose Clamp #40, 52-76mm	3
51. Hose Clamp #36, 46-70mm	2
52. Hose Clamp #32, 40-64mm	7
53. Hose Clamp, #48, 65-89mm	2
54. Copper Exhaust Nuts, M8	9
55. Hose Barb, 1/8 PT to 5mm barb	1
56. M18 Banjo, -6AN	1
57. M18 Crush Washer	2
58. M18 Banjo Bolt	1
59. Steel Braided Coolant Hose, -6AN	1
60. Zip Ties:	
a. Stainless Steel	3
b. Plastic	5
61. Intercooler Support Bracket	1
62. Charge Pipe Support Bracket	1
63. Hex Bolt, M8x20mm	2
64. Vibration Mount, M6 stud	1
65. Rubber Grommet	1
66. Breather Hose, 13mm (1/2") x 73mm	1
67. Aluminum Air Diversion Panel	1
68. Hardware pack:	1
a. M6 Hex Bolt	x2
b. M6 Nut	x3
c. M8 Hex Bolt	x6
d. M8 Lock Washer	x2
e. M8 Nut	x4
f. M10 Hex Bolt	x2
g. M10 Serrated Nut	x2



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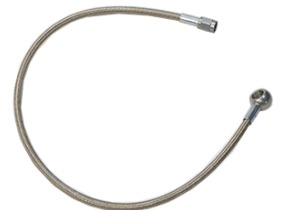
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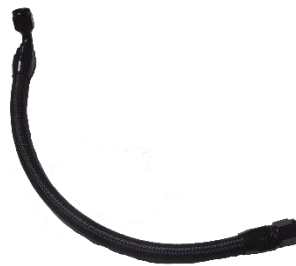
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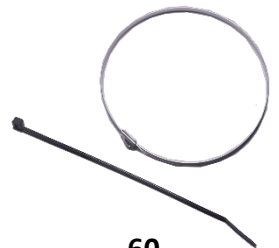
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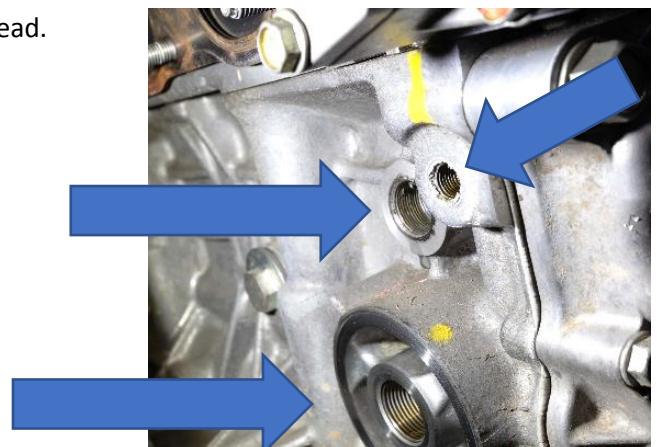
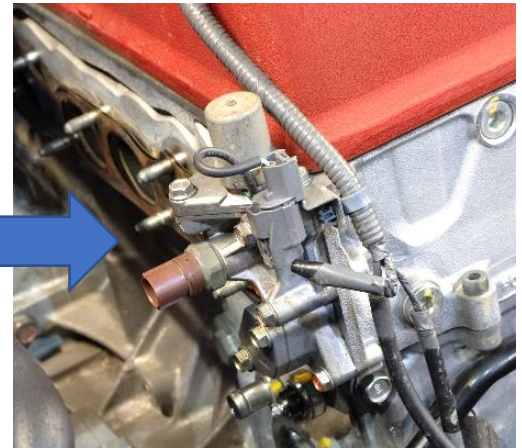
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Instructions for Installation of S2000 Tuner Kit

IMPORTANT: Highly recommended for professional installation. This is a TUNER KIT therefore once installed, proper fuel upgrades, ECU tuning and related parts are required before use of this kit.

May have some slight variances between different model years (shown is a 2007 AP2)

1. Disconnect battery terminals (we found install easier with the battery removed altogether)
2. Remove front bumper
3. Drain engine oil completely. Temporarily re-install OEM drain bolt, a new fitting will be installed later.
4. Remove oil filter
5. Drain engine coolant via the radiator drain plug
6. Remove the Oxygen sensor from the exhaust manifold. The Oxygen sensor in the catalytic converter can remain.
7. Remove M8 hardware connecting exhaust manifold to catalytic converter
8. Remove M10 bolt securing exhaust manifold to engine block bracket
9. Remove OEM intake box, intake tube and the two small metal brackets for the intake box, held in by single M6 bolt each.
10. Disconnect oil pressure sensor harness
11. Unplug VTEC Solenoid harness from VTEC solenoid
12. Remove three M6 bolts securing exhaust manifold heat shield to chassis. Loosen the bolt nearest firewall. This bolt does not need to be removed, the heatshield is slotted.
13. Remove four M8 bolts securing the upper heat shield to exhaust manifold
14. Remove seven M8 nuts securing exhaust manifold to cylinder head. Work from the nuts on the ends of the manifold and work your way to center.
15. Remove the exhaust manifold. It will drop out of the bottom
16. Remove the OEM exhaust manifold gasket (new OEM gasket is supplied)
17. Remove VTEC Solenoid by unbolting the three M6 bolts securing the solenoid to cylinder head
18. Remove OEM oil cooler. 30mm socket is required. Remove the OEM rubber hoses for the oil cooler from the engine block
19. Remove the oil cooler coolant line barb from cylinder head. Requires a 23mm deep socket.
20. Remove oil pressure sensor with 24mm socket



21. Disconnect radiator fan harness and remove the three M6 bolts securing radiator fan to radiator located in front of the throttle body, A/C fan. (Driver side fan on a LHD vehicle).
NOTE: Picture shows an aftermarket aluminum radiator but this kit will ONLY fit an OEM thickness radiator with OEM fans (trimmed as shown below). Many of the aftermarket aluminum radiators are thicker than stock and will have clearance issues with the turbo kit charge piping. IF using an aftermarket radiator thicker than stock, we recommend our FAN SHROUD KIT WITH SPAL FANS, pn 12053201.



22. Trim/ shave the radiator fan bracket as shown. This is to provide adequate clearance for the charge pipe.
NOTE: If using an aftermarket radiator that is thicker than stock, the OEM AC fan will not clear the charge piping due to the increased thickness of the radiator. In this situation, use GPP Fan Shroud for S2000, PN 12053201 or you can mount aftermarket fans directly to the radiator.
We tested the Mishimoto Dual Fan Shroud kit and it did NOT clear the charge piping.



23. Install four M8 x 35mm studs (ITEM #32) to turbo exhaust manifold (ITEM #3). Stud side with less threads inserts into the turbo manifold. Use double nut method if you do not have a stud installation tool. Torque to 13 ft-lbs. We do recommend a small dab of high-temp anti-seize compound on each stud.



24. The Garrett GTX turbo (ITEM #2) comes properly clocked from GPP. Verify all M8 compressor housing and exhaust housing bolts are tight.
25. Ensure Actuator adjustment rod nuts are tight and that there is no play on the actuator arm. The actuator door should be fully closed with no play.

26. Slip on heat insulation sleeve over actuator (ITEM #46).
27. Attach 5mm vacuum line (ITEM #43) onto actuator and secure with plastic zip tie (ITEM #60). Trim excess zip tie.



28. Install hose barb type turbo coolant fitting (ITEM #34) to the side of the turbo closest to actuator rod using supplied banjo bolt and crush washers (ITEM #26, #28). Barb fitting should have a crush washer on top and bottom of the fitting. Position the hose barb fitting so that it is pointed at 7o'clock if the exhaust manifold flange is a 12o'clock. Tighten banjo bolt to 28-30 ft-lbs



29. Loosely Install 6AN turbo coolant fitting (ITEM #35) to the opposite side of the turbo using supplied banjo bolt and crush washers (ITEM #26, #28). Fitting should have a crush washer on top and bottom of the fitting. You will later remove, attach 6AN hose, re-attach and torque this fitting in a later step.



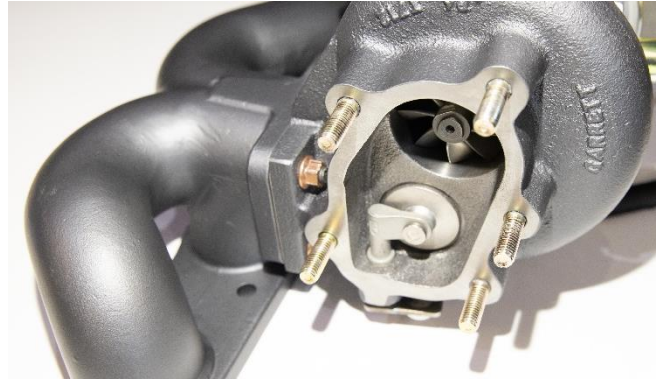
30. Slip on the 9mm coolant hose and secure with hose clamp (ITEM #44, 48)

31. Install oil return tube and supplied gasket (ITEM #14, #27). Secure using supplied M8x20mm hex bolts (ITEM #63) and lock washers (ITEM #68). Torque to 18-20 ft-lbs.



32. Install 4-bolt turbo gasket (ITEM #13)
33. Mate turbo to turbo exhaust manifold with supplied M8 exhaust manifold nuts (ITEM #54). Use of hi-temp anti-seize on the studs/ nut is highly recommended. Two of the four nuts will need to be "walked-on" as you secure the parts together. Torque to 18-20 ft-lbs.

34. Install the five M8 x 30mm studs (ITEM #31) to the turbo exhaust housing. The side of the stud with less threads inserts into turbo housing. Use of Hi-Temp anti-seize is recommended. Torque to 13 ft-lbs.



35. Apply Teflon Tape to all fittings as shown (ITEM #21, 22, 55) as well as OEM pressure sensor. If using Teflon Paste, apply before parts are threaded.



36. Secure 1/8PT, -3AN fitting to 3-way brass tee fitting (ITEM #21, 23).



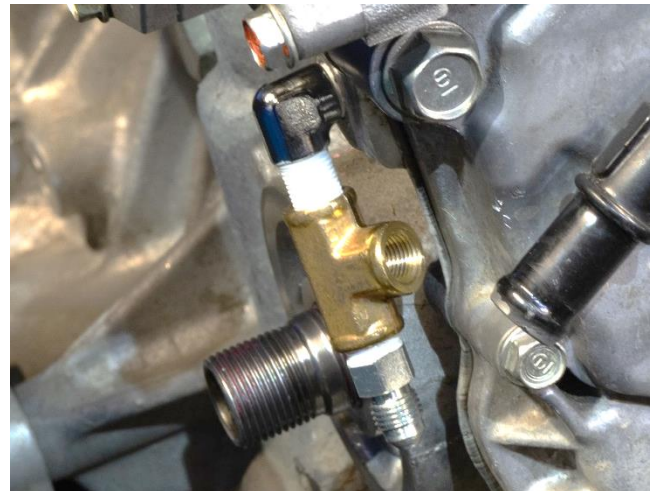
37. Install 90degree fitting (ITEM #22) to the engine block where the oil pressure sensor was. Set clocking/ orientation as shown in image.

***Taper side of the fitting goes into the engine block.**

****Be sure NOT to over tighten the fitting into the aluminum engine block.** If the correct clocking cannot be achieved, re-tape with more or less Teflon tape to aid with clocking position.

38. Thread 3-way tee fitting to 90degree fitting which was secured to the block in previous step.

***Make sure to support 90degree fitting when tightening the 3-way tee fitting**

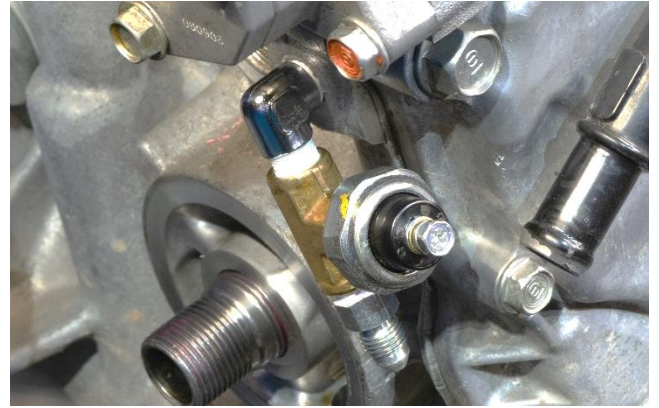


39. Install OEM pressure sensor to 3-way tee fitting.

***Make sure to support 3-way tee fitting when tightening the pressure sensor**

40. Install supplied male-male adapter to engine block (ITEM #30). Lube the thread. This should thread in by hand. Use a rag to cover the threads while tightening as threads may cut bare skin.

***DO NOT use pliers on threads.**



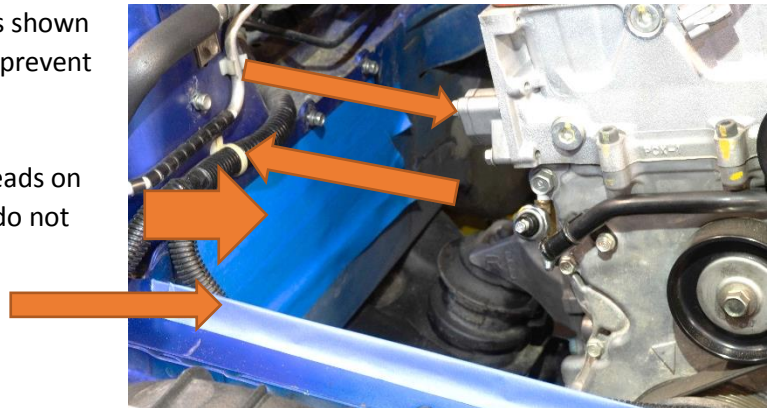
41. Install M18 Banjo/ -6AN adapter to engine block with included crush washers (ITEM #57, 58, 59). Clock banjo as shown in the photo. Torque banjo bolt to 40 ft-lbs.



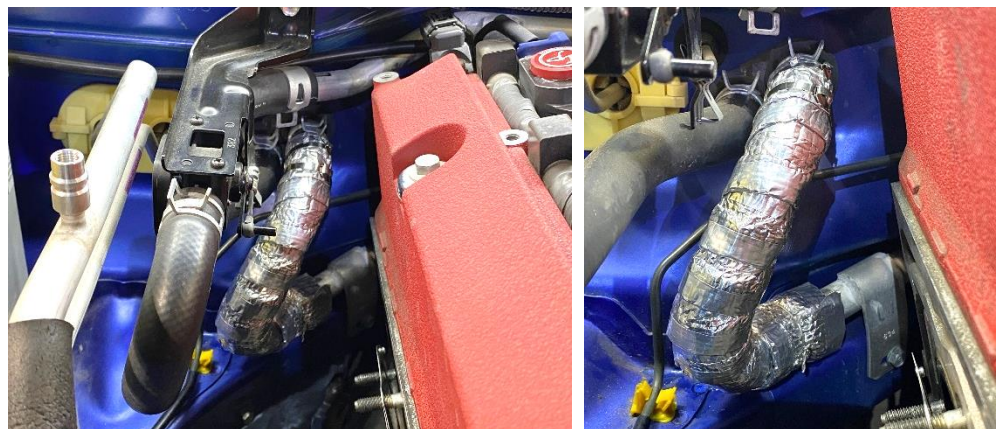
42. Connect 45degree hose end side of -6AN coolant hose (ITEM #59) to M18 Banjo. Tighten hose end, see APPENDIX A.

43. Use Blue tape or similar to tape off the areas as shown plus the wire loom and cam chain tensioner to prevent scratching/ damage when installing the turbo assembly.

We also recommend taping or capping the threads on the -10AN return fitting to ensure the threads do not get damaged.



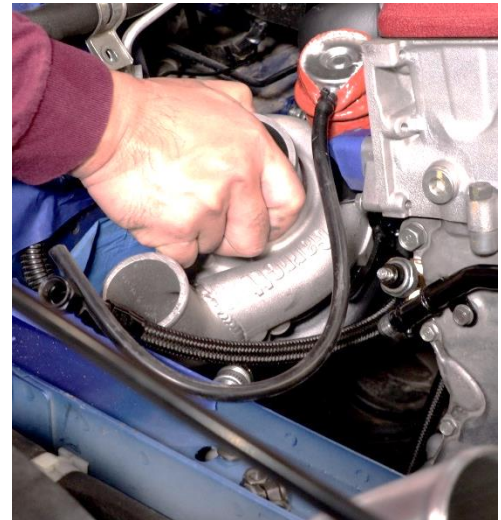
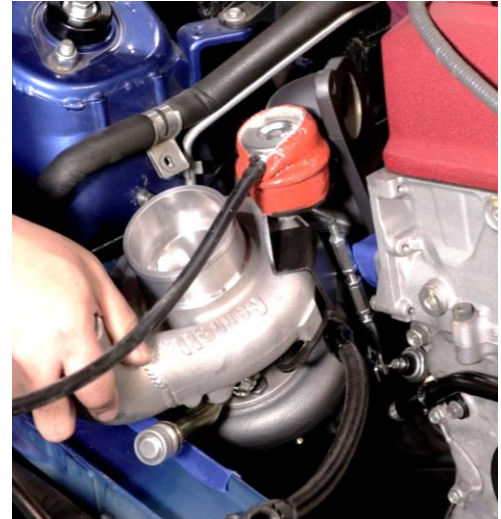
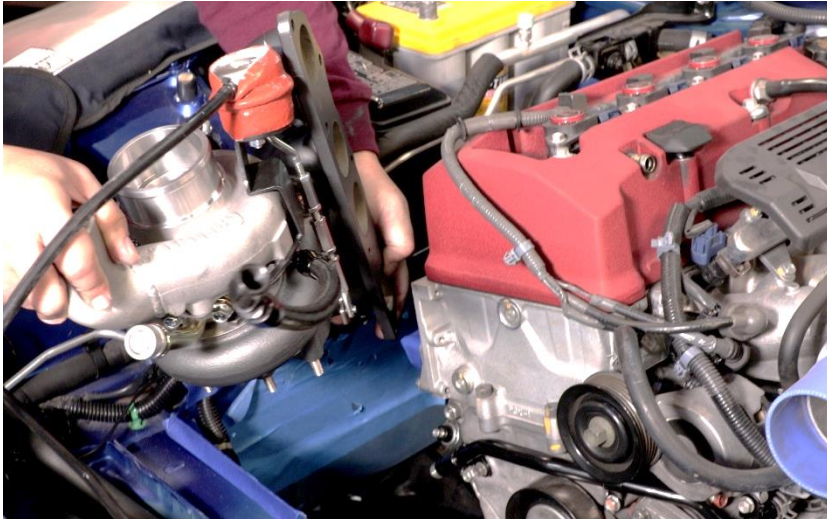
44. Use the supplied heat wrap (ITEM #47) to wrap the heater hose on the firewall above the downpipe. Use the supplied Stainless Steel Zip Ties to secure to the heater hose (ITEM #60).



45. Install new exhaust manifold gasket (ITEM #15). We recommend applying hi-temp anti-seize grease to the exhaust manifold studs located on the cylinder head.

46. Place at least three of the original OEM M8 exhaust manifold nuts near the cylinder head which are needed to secure turbo manifold/turbo to cylinder head. You will be re-using the OEM exhaust manifold nuts.
47. Carefully slide the turbo manifold/ turbo assembly into position to attach to cylinder head. There may be different ways to slide the assembly into position but this is the method we used.

BE CAREFUL not to damage any of the electrical wires running along the lower section of the shock tower.



48. Install turbo manifold/ turbo assembly to cylinder head. You will need to “walk-on” the top three nuts as the clearance is tight. Once all the M8 nuts are attached. Starting from the middle and working your way outwards, torque to 23 ft-lbs.
49. Attach the turbo feed line (ITEM 20) to the -3AN male adapter in step 39. Tighten hose end, see APPENDIX A.
***Make sure to support the fitting assembly coming off the block when tightening the -3AN hose end.**
50. Secure banjo side of the turbo feed line to the turbo using supplied crush washers and banjo bolt (ITEM #18, 19). You will be using THREE (3) crush washers in total. Two crush washers between turbo and feed line banjo, one crush washer between feed line banjo and banjo bolt.
Two crush washers are required to attain the correct clearance on the banjo bolt into the turbo.
 Torque to 18-20 ft-lbs
51. Connect the coolant line from the turbo to the smaller diameter end of the male-male hose barb (ITEM #36) using hose clamp (ITEM #48, 49). Using supplied ½” hose (ITEM #45) connect the larger diameter hose barb to OEM coolant hard pipe on the front of the engine. Use supplied hose clamps (ITEM #49) to secure the hose.



52. Attach the 6AN turbo coolant line from the engine block to the 6AN adapter on the turbo. There is little room to properly tighten the 6AN hose end to the adapter fitting on the turbo so tighten as best you can by hand THEN remove the banjo bolt holding the 6AN banjo to the turbo. Use a non-marring tool to hold the 6AN banjo and tighten the 6AN hose end to it while maintaining the clocking of the banjo. Tighten, see Appendix A. Now when you go to re-attach the banjo/ coolant line, the banjo should align flat with the turbo without twisting the line. If not, repeat until you can attach the banjo without twisting the coolant hose. Re-install the two crush washers, one on each side of the banjo, and re-attach to turbo with banjo bolt. Torque banjo bolt to 28-30 ft-lbs.
53. Remove the oil pan drain bolt. Install the provided -10AN to M14-1.5 fitting and crush washer (ITEM #25, 26). DO NOT over tighten as these are aluminum parts and not a steel OEM drain plug.
54. Install the -10AN braided turbo return line (ITEM #24). Straight AN fitting attaches to the hard-pipe coming off the turbo and the 45degree fitting attaches to the adapter on the oil pan. Tighten both -10AN hose ends, see Appendix A.
***When tightening the braided line to hard-pipe make sure to support the hard pipe and when tightening the braided line to drain plug adapter make sure to support the adapter.**



55. Install provided turbine outlet gasket (ITEM #12) and we recommend applying hi-temp anti-seize grease to the exhaust manifold studs coming off the turbo exhaust housing

56. Slip the downpipe onto the studs from the turbo hot side AND re-install Primary Oxygen Sensor to the bung located at the rear of the downpipe, torque to 33 ft-lbs.

NOTE: if you install the oxygen sensor after the downpipe is fully installed, it will be very difficult to get a wrench on the sensor.

57. Thread on the five M8 exhaust nuts (ITEM #54). In a criss-cross pattern tighten the nuts. Torque to 18-20 ft-lbs.

58. If you are installing to a factory layout exhaust system with 2.5" catalytic converter you will need to install the provided 3" to 2.5" stainless steel exhaust adapter (ITEM #5) with 3" 2-bolt exhaust gasket (ITEM #16), M10 bolts/nuts (ITEM #68), and re-use the OEM donut gasket.

IF installing this kit onto a vehicle using a non-OEM 2.5" catalytic, you may choose to connect directly to the 3" downpipe to avoid the reduction in piping size. Doing this may require custom fabrication based on what you are connecting the downpipe to.

59. Torque the M10 hardware connecting 3" downpipe to adapter to 40 ft-lbs.

60. Use OEM bolt, spring, nut hardware to secure adapter to catalytic converter. Torque to 25 ft-lbs.

61. The O2 bung closer to the turbo is designed for aftermarket wideband A/F sensor. If one is not being used, plug the bung with provided plug (ITEM #26, 29). We recommend hi-temp anti-seize for the threads of the plug and torque to 33 ft-lbs.

62. Install new GReddy oil filter (ITEM #33).

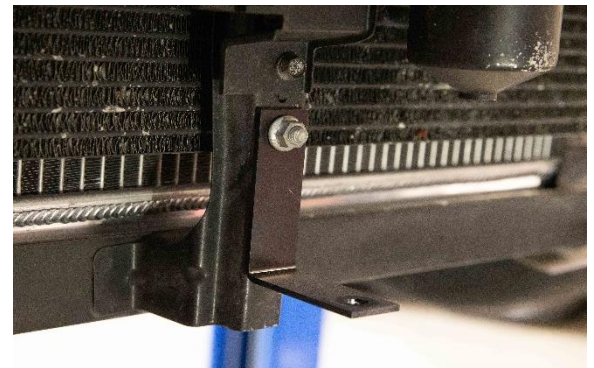
NOTE: OEM Honda Filter will not fit in allotted space as it is too tall

63. Re-install VTEC solenoid to cylinder head. Torque to 8.7 ft-lbs in a criss-cross pattern

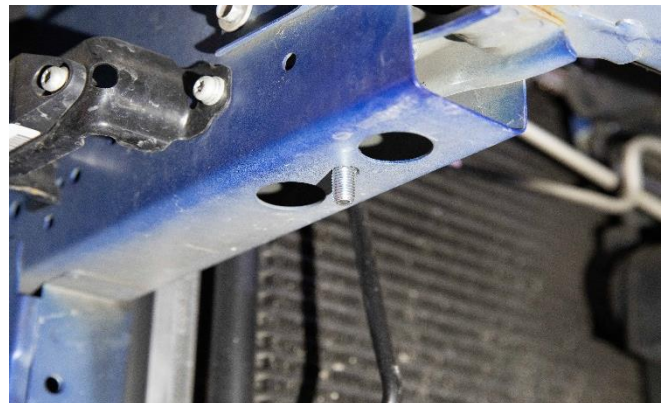
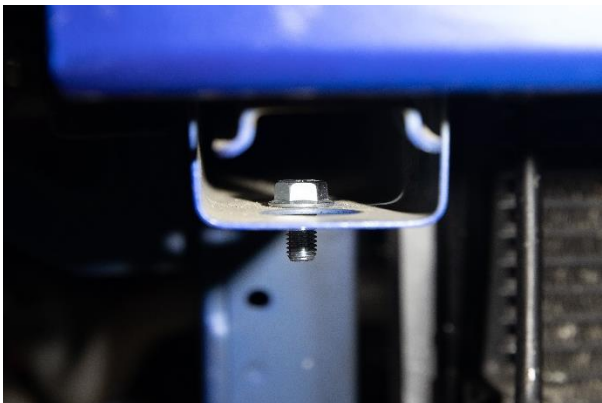
64. Plug in VTEC Solenoid harness

65. Connect oil pressure sensor harness to sensor

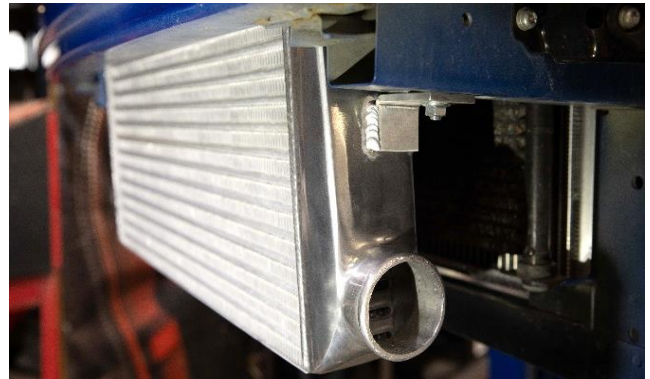
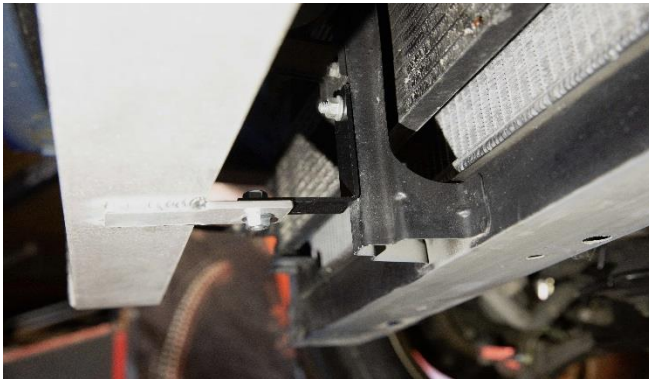
66. Install intercooler L bracket to chassis (ITEM #61) and secure with M6 nut (ITEM #68). There is an OEM stud off the radiator support. Longer leg of the bracket attaches to chassis. Shorter leg extends forward and will attach to bracket on intercooler.



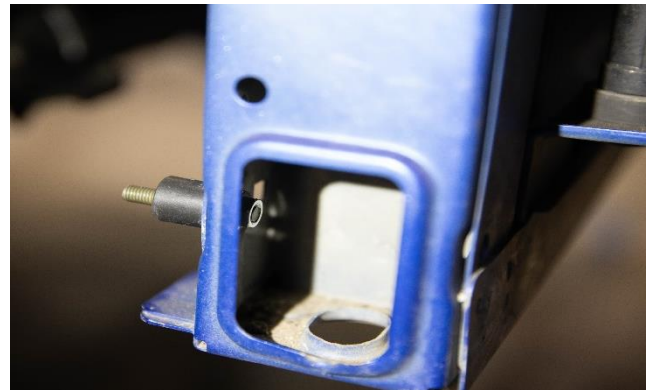
67. Slip one M8x16mm bolt into each side of the rail as shown (ITEM #68)



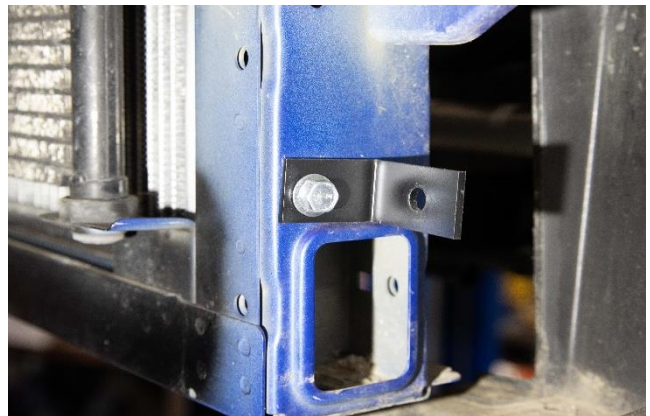
68. Prepare M8 nuts (ITEM #68)
69. Lift intercooler (ITEM #1) into place. Secure with two M8 nuts. Then secure the lower tab to bracket with M8 bolt/ nut (ITEM #68). Tighten all hardware.
- NOTE: You may need to push back the OEM A/C drier tank a few millimeters to gain clearance for the intercooler. This can be done by hand.**



70. Install charge pipe M6 vibration mount (ITEM #64) to radiator support on passenger side. Secure with M6 nut (ITEM #68). There is a pre-existing hole.



71. Install charge pipe L bracket (ITEM #62) to radiator support on driver side using M6 bolt (ITEM #68). There is a pre-existing threaded hole. Do not tighten until charge piping is installed.



72. Attach 5mm push-on fitting (ITEM #56) to charge pipe (ITEM #6) as shown. Teflon tape or paste should be applied to threads of the fitting



73. Slip on straight 50mm silicone coupler (ITEM #37) and two 40-64mm clamps (ITEM #52) to outlet elbow on the turbo.
74. Slide the straight side on the compressor housing outlet elbow of charge pipe (ITEM #6). Line up the vibration stud into the bracket on the charge pipe, thread on M6 nut (ITEM #68). *We suggest taping the charge pipe to protect from scratching during installation.



75. Attach the 5mm silicone hose (ITEM #43) from the actuator to the push on barb (ITEM #56). Secure with plastic zip tie (ITEM #60), trim excess.
76. Slip on 50-57mm silicone reducer coupler (ITEM #38) and two hose clamps (ITEM #51, 52) to 90degree charge pipe (ITEM #8). On the other end slip on 57-60mm silicone reducer (ITEM #39) with one 40-64mm and one 46-70mm hose clamp (ITEM #51, 52). Connect to charge pipe from turbo and intercooler



77. Tighten hose clamps and secure bracket to vibration stud with M6 nut (ITEM #66)
78. Slip on 57-60mm silicone reducer (ITEM #39) and 46-70mm (ITEM #51) to the outlet side of the intercooler.
79. Attach charge pipe (ITEM #7) to intercooler outlet. This pipes goes around and up behind the radiator fan.
80. Use provided M8 bolt and nut (ITEM #68) to attach L bracket to charge piping. Do not tighten yet until all pipes are connected and hose clamps tightened.
81. Slip on straight 70mm silicone coupler (ITEM #41) and two 52-76mm clamps (ITEM #50) to charge pipe (ITEM #9). *The side with the longer straight after the bend goes to the throttle body.*
Slip on 57-70mm silicone reducer (ITEM #40) with 46-70mm and 52-76mm clamps (ITEM #50, 51). Connect charge pipe (ITEM #9) to charge pipe (ITEM #7) first, then connect to throttle body.



82. Install M8 hardware (ITEM #68) to secure charge pipe to bracket from step 70. Tighten hose clamps.

- 83. Insert rubber grommet onto intake pipe (ITEM #10 and 65)
- 84. Remove OEM Intake Air Temperature sensor from OEM intake elbow. Install sensor into grommet on Intake Pipe.



- 85. Slip on straight 76mm silicone coupler (ITEM #42) with 65-89mm clamps (ITEM #53).



- 86. Slip on 13mm silicone breather hose with small hose clamp (ITEMS #49, 66). Re-use the OEM clamp to secure hose to valve cover
- 87. Tighten hardware securing charge pipes to brackets, steps 71 and 82.
- 88. Remove passenger side upper radiator bracket
- 89. Install aluminum air diversion panel and secure rear with provided M6 bolt (ITEMS #67, 68). There is a pre-existing threaded M6 hole on the frame going across the engine bay.



- 90. Re-install radiator bracket
- 91. Plug in air temp sensor and secure harness using plastic zip ties (ITEM #60)
- 92. Fill engine with new engine oil. OEM recommended oil viscosity is 10W30. We recommend this weight at the minimum or go with a slightly heavier weight oil but it really depends on vehicle usage, climate, etc...
- 93. Refill engine coolant and bleed system of air
- 94. Reinstall OEM heatshield with original hardware
- 95. Re-install and re-connect battery
- 96. Crank engine without fuel and ignition spark to feed the turbo oil before starting the engine. This can be done by unplugging the harness on each ignition coil, and removing the fuel pump fuse under the dash or unplugging each injector.
- 97. Start the engine and check for oil or coolant leaks. Re-check engine oil level, top off as needed
- 98. Double check that all charge pipes clamps and brackets are secure

99. Re-install front bumper. The center grill may require slight trimming where the grill nears the intercooler end tanks. Our AP2 test vehicle required shaving 3-4mm of the plastic grill.
100. Go to your engine tuner to have the engine tuned for the new turbo setup. **Failure to tune can cause catastrophic engine damage especially if you boost without the proper tune.**
101. After heat cycling the engine and turbo kit we recommend checking to make sure all hardware, AN hose ends, and hose clamps are tight.

Important!

- It is very important that you monitor the boost pressure, and make sure not to over boost. Over boosting can cause engine damage.
- GReddy Performance Products, Inc. is not responsible for any engine damage caused by over boosting (increased boost), modification to the kit, and/or misuse of the product. NO WARRANTY is offered.
- Since this is a tuner kit, and proper installation and use of this product can be guaranteed, NO WARRANTY is offered for this kit.

APPENDIX A – taken from XRP Product Catalog

TECHNICAL INFORMATION

STANDARD TORQUE LIMITS FOR HOSE AND TUBE COUPLING NUTS *Inch Pounds Shown

TUBE O.D.	HOSE SIZE	NUT HEX	A	B	C
1/4"	-4	9/16"	50-65	135-150	100-120
3/8"	-6	11/16"	110-125	270-300	210-250
1/2"	-8	7/8"	210-250	400-500	340-420
5/8"	-10	1"	300-350	650-700	400-480
3/4"	-12	1-1/4"	425-500	900-1000	725-850
1"	-16	1-1/2"	600-700	1200-1400	900-1150
1-1/4"	-20	2"	680-800	1200-1400	900-1150

$$\frac{\text{* Inch Pounds}}{12} = \text{Foot Pounds}$$

Over tightening of hose and tube coupling nuts will cause **thread and seal damage** and can result in **leakage**. Torque values are for threads lubricated with hydraulic fluid, 30 weight motor oil or antiseize compound.

KEY

- A** - Steel or aluminum flared fitting nuts and tube sleeves, AN818 and AN819: used on aluminum tube.
- B** - Steel or aluminum flared fitting nuts and tube sleeves, AN818 and AN819: used on steel tube.
- C** - Steel or aluminum flared fitting hose coupling nuts.

Where use of a torque wrench is not feasible, use a conventional wrench to tighten the coupling nuts. Tighten until a distinct increase in the torque is noted. Continue tightening an additional 1/6 of a turn. Back off the nut. Again, tighten until a distinct increase in the torque is noted. Continue tightening an additional 1/6 to 1/3 of a turn.

NOTE: One hex flat = 1/6 of a turn

