



# PTUNING

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## COMPETITION TURBO SYSTEM

### INSTALLATION MANUAL

#### PTUNING Competition Turbo System

2000-2009 Honda S2000

(AP1 / AP2 / AP2 DBW)

Part#: PTP-TBK-30305 (GT3076R), PTP-TBK-30310 (GTX-3076R),

PTP-TBK-30320 (GT3582R), PTP-TBK-30325 (GTX-3582R)



**READ THIS FIRST:** Please read the entire installation manual before proceeding. Engine and/or turbocharger damage may occur if any component within these instructions is improperly installed. This installation should only be performed by a trained specialist who is familiar with the automobile's mechanical, electrical and fuel management system. Performance Tuning, Inc (PTUNING) or any of its distributors cannot be held responsible for damages as a result of negligent or improper installation. This turbocharger system can be installed using common tools and automotive procedures. If in doubt, please contact PTUNING's technical support staff at 703-257-1728, between the hours of 10:00AM and 5:00PM EST, Monday through Friday.

Remove the turbocharger system from its packaging and inspect for any obvious physical damage. All kit components are thoroughly inspected and carefully packaged prior to shipment from the factory. If any shipping damage is evident, contact your supplier and request that they process a claim with the shipper involved. Be sure to review the parts list on page four to verify that you have all necessary system components to proceed. If any components in the parts list are missing, contact PTUNING's customer service staff.

Although this turbocharger system has been designed to retain many of the factory emissions controls, it is not CARB legal in California and therefore recommended for "off road" use only. In other states, check local laws regarding aftermarket modification to emission controlled vehicles.

The use of premium grade gasoline (93 octane or higher) is required with this kit. We highly recommend the use of NGK Iridium spark plugs (PTUNING Part#: PTNGKBKR8EIX) that is one-step colder than factory.

Although this turbocharger system can be purchased as a full kit with fueling components (ecu, injectors, boost controller), final calibration of the base map for your specific vehicle and local atmospheric conditions must be performed by a professional tuner before attempting to drive the vehicle under boost.

The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. PTUNING reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

**SAFETY REQUIREMENTS:** It is recommended to follow these precautions.

- Always wear safety glasses & gloves.
- Turn the ignition switch to the OFF position & disconnect the battery.
- Always use properly rated jack stands when working under the vehicle.
- Prevent unexpected vehicle movement by using wheel chocks and/or parking brake.
- Operate the vehicle only in well ventilated areas.
- Do not smoke or use flammable items near or around the vehicle's fuel system.
- Keep hands, clothing and other objects away from moving parts when engine is running.

**SUPPLIES:** It is recommended to have the following items before beginning installation.

- Honda factory service manual, for your model year Honda S2000.

- A large table or bench, and plenty of adjacent available workspace.
- Standard selection of automotive tools, primarily metric sizes.
- Electrical wire cutting/crimping tool.
- Utility knife
- Electrical tape.
- An assortment of zip ties.
- Heat gun
- Die grinder
- The ability to securely lift the vehicle at least a few feet off the ground.
- NPT thread sealant.
- Replacement engine oil and oil filter.
- Replacement factory exhaust manifold gasket (included in kit).

**TORQUE RECOMMENDATION:** When removing and re-installing factory fasteners, refer to the Honda service manual for torque values. When installing fasteners included in this kit, refer to the following chart:

FASTENER SIZE	TORQUE (FOOT POUND)
6mm	12
8mm	22
10mm	28
12mm	40
NPT fittings	2-3 turn past finger tight

**TURBOCHARGER SYSTEM PARTS LIST (Included with Part#: PTP-TBK-30305, PTP-TBK-30310, PTP-TBK-30320, PTP-TBK-30325):**

<b>PACKAGE PART #:</b>	<b>PART #:</b>	<b>Qty/Kit</b>	<b>DESCRIPTION</b>
PTP-PKG-30000-1	PTP-TBM-30000	1	PTUNING Full 304SS Equal-Length V-Band Turbo Manifold (Turbosmart 45mm WG V-band Flange)
	PTP-CLP-90100	1	Tial Turbine Inlet V-band Clamp (GT30/GT35)
	PTP-CLP-90101	1	Tial Turbine Outlet V-band Clamp (GT30/GT35)
	PTP-EXH-30009	1	Polished 304SS Turbo Manifold Heat Shield (S2000)
PTP-PKG-30000-2	PTP-DNP-30000	1	3" 304SS Polished V-band Downpipe (w/ Recirculated WG Flange)
PTP-PKG-30000-3A (Standard)	PTP-WGD-30001	1	1.75" 304SS Polished DTA WG Dump Tube (Standard)
	PTP-ADP-30017-1	1	304SS WG Inlet Block-off V-band Flange for Downpipe (TS45WG)
	PTTS-0504-3005	1	TSWG45 1.75" WG Outlet V-band Clamp (w/ Nut and Bolt)
PTP-PKG-30000-3B (Optional)	PTP-WGD-30002	1	1.75" 304SS Polished Recirculated WG Dump Tube (Optional)
	PTTS-0504-3005	1	Turbosmart 45mm WG Outlet V-band Clamp (w/ Nut and Bolt)
PTP-PKG-30000-4-R2	PTP-ENG-30100-1	1	Billet Aluminum Passenger Side Motor Mount (Use w/ Turbo Kit)
	PTP-ENG-30100-2	1	Billet Aluminum Motor Mount C-Clamp
	PTP-ENG-30100-3	1	Steel Motor Mount Bushing Sleeve (yellow zinc plated)
	PTP-ENG-30105-50A	2	Urethane Motor Mount Insert (Yellow, 50A)
	PTP-ENG-30011	1	Passenger Side Motor Mount Bracket Rev 2 (Black) (Use w/ Turbo Kit)
	PTP-ENG-30011-HS	1	Extreme Temp Motor Mount Heat Shield
	PTP-FAS-90009-16	2	M6 -1.0 x 16mm Hex Flange Bolt (JIS Class 10.9) (Zinc) (for motor mount heat shield)
	PTP-FAS-90019	4	M8 x 1.25 x 30mm Socket Head Cap Screw (Class 12.9, Zinc-plated)
	PTP-FAS-90020	2	M12 x 1.75 x 70mm Flanged Hex Head Cap Screw (Class 10.9, Zinc Plated)
	PTP-FAS-90021	2	M12 x 1.75 Flanged Nut Serrated (Class 10.9, Zinc-plated)
	PTP-FAS-90022	3	M10 x 1.25 x 30mm Flanged Hex Head Cap Screw (Class 10.9, Yellow Zinc-plated)
	PTP-FAS-90023	1	M10 x 1.25 x 30mm Socket Button Head Screw (Class 10.9, Zinc-plated)

	PTP-FAS-90024	1	M10 x 20mm OD High-strength Steel Flat Washer (1.8mm-2.2mm Thick, Zinc-plated)
	PTP-FAS-90025	1	M10 x 1.5 Flanged Nut Serrated (Class 10.9, Zinc-plated)
	PTP-FAS-90026	1	M10 x 1.5 x 100mm Hex Head Cap Screw (Class 10.9, Yellow Zinc-plated)
PTP-PKG-30000-5	PTP-ADP-30020	1	Turbo Oil Pump/Intercooler Mounting Bracket (Black Powder Coating)
	PTP-ADP-30021	1	Air Pump/Intercooler Mounting Bracket (Black Powder Coating)
	PTP-ADP-30005	1	A/C Dryer Canister Bracket (Black Powder Coating)
	PTP-HSE-90041	1	1/4" ID x 2" Rubber Hose (for Protecting Lower A/C Dryer Line from Abrasion)
	PTP-CLP-90010	2	2.25" 304SS Worm-drive Hose Clamp (1/2" Band)
	PTP-FAS-90027-90	4	M8 x 1.25 x 90mm Hex Head Cap Screw, Partially Threaded (Class 10.9, Yellow Zinc-plated)
	PTP-FAS-90028	4	M8 x 24mm OD Extra Large Steel Flat Washer (1.8mm-2.2mm Thick, Zinc-plated)
	PTP-FAS-90029	4	M8 x 1.25 Nylon-insert Flanged Lock Nut (Class 8, Zinc-plated)
	PTP-FAS-90030	2	M8 x 1.25 x 16mm Flanged Hex Head Cap Screw (Class 8.8, Zinc-plated)
	PTP-FAS-90031	4	M8 x 1.25 x 20mm Flanged Hex Head Cap Screw (Class 8.8, Zinc-plated)
	PTP-FAS-90032	6	M8 x 1.25 Flanged Nut Serrated (Class 10.9, Zinc-plated)
PTP-PKG-30000-6A (3076,3576)	PTP-CLP-9418A-0238	1	2.00" 304SS T-bolt Clamp w/Floating Bridge
(GT,GTX3076,3071,3576) (Option 1)	PTP-CLP-9419J-0288	6	2.50" 304SS T-bolt Clamp w/Floating Bridge
	PTP-CLP-9419J-0312	5	2.75" 304SS T-bolt Clamp w/Floating Bridge
	PTP-CLP-9419J-0350	2	3.00" 304SS T-bolt Clamp w/Floating Bridge
	PTP-CLP-9418A-0450	2	4.00" 304SS T-bolt Clamp w/Floating Bridge
	PTP-HSE-90004	1	2.00" / 2.50" ID x 3" Long, 4-Ply Silicone Reducer (Gloss Black)
	PTP-HSE-90027	1	2.50" / 3.00" ID x 3" Long, 4 Ply Silicone Reducer (Gloss Black)
	PTP-HSE-90028	1	2.75" / 3.00" ID x 3" Long, 4 Ply Silicone Reducer (Gloss Black)
	PTP-HSE-90002	1	2.50" ID x 2" X 2" 45 Degree, 4-Ply Silicone Hose (Gloss Black)
	PTP-HSE-90044	1	2.50" ID x 3" Long, 4-Ply Silicone Straight Hose (Gloss Black)
	PTP-HSE-90026	2	2.75" ID x 3" Long, 4-Ply Silicone Straight Hose (Gloss Black)
	PTP-HSE-90029	1	4.00" ID x 3" Long, ID 4 Ply Silicone Straight Hose (Gloss Black)

PTP-PKG-30000-6B (3582)	PTP-CLP-9419J-0288	7	2.50" 304SS T-bolt Clamp w/Floating Bridge
(GT,GTX3582) (Option 2)	PTP-CLP-9419J-0312	5	2.75" 304SS T-bolt Clamp w/Floating Bridge
	PTP-CLP-9419J-0350	2	3.00" 304SS T-bolt Clamp w/Floating Bridge
	PTP-CLP-9418A-0450	2	4.00" 304SS T-bolt Clamp w/Floating Bridge
	PTP-HSE-90027	1	2.50" / 3.00" ID x 3" Long, 4 Ply Silicone Reducer (Gloss Black)
	PTP-HSE-90028	1	2.75" / 3.00" ID x 3" Long, 4 Ply Silicone Reducer (Gloss Black)
	PTP-HSE-90002	1	2.50" ID x 2" X 2" 45 Degree, 4-Ply Silicone Hose (Gloss Black)
	PTP-HSE-90044	2	2.50" ID x 3" Long, 4-Ply Silicone Straight Hose (Gloss Black)
	PTP-HSE-90026	2	2.75" ID x 3" Long, 4-Ply Silicone Straight Hose (Gloss Black)
	PTP-HSE-90029	1	4.00" ID x 3" Long, ID 4 Ply Silicone Straight Hose (Gloss Black)
PTP-PKG-30000-7	PTP-INC-30001	1	Front Mount Intercooler (31"W x 11"H x 3"D, 3.0" Inlet/Outlet)
PTP-PKG-30000-8	PTP-HSE-90046-96	1	1/4" ID x 96"L PTUNING High-Temp Silicone Vacuum Hose (for WG & BOV)
	PTP-FTG-90011	1	1/8" NPT x 1/4" Barbed Hose Adaptor (Nickel-plated) (for I/C Piping #1 Bung to Wastegate)
	PTP-FTG-90021	1	3/8" x 1/4" x 3/8" Nickel-plated Single-barbed Reducing Tee Vacuum Fitting (for BOV)
	PTP-CLP-90011-11	4	11mm Spring Hose Clamp (Dacromet Finish) (for WG & BOV vacuum line)
	PTP-CLP-90011-17	2	17mm Spring Hose Clamp (Dacromet Finish) (for brake booster tee vacuum line)
	PTP-HWR-90010-12	1	ThermalShield Heat Shielding Tube 5/8" ID x 12"L (for WG vacuum line)
PTP-PKG-30000-9	PTP-FTR-90001	1	2.00"D x 1.5" L x 5/8" ID K&N Crankcase Filter (Rubber Top)
	PTP-HSE-90007	1	5/8" ID x 3"L Crankcase Vent Hose (for breather filter) (Gates Safety Strip Heater Hose)
	PTP-CLP-90005	2	29/32" 304SS Worm-drive Hose Clamp (5/16" Band)
PTP-PKG-30000-10	PTP-HSE-90025	1	-4AN Female-to-Female, 90 to straight, SS Braided Oil Feed Line, 24" Long (1/4 hose)
	PTP-FTG-90006	1	1/8" NPT Male to -4AN Male Fitting (steel) (oil feed on cylinder head)
	PTP-FTG-90007	1	1/8" NPT Female Union Tee Fitting (Nickel-Plated brass) (oil feed on cylinder head)

	PTP-FTG-90008	1	1/8" NPT Male to 1/8" BSP Male Hex Nipple (Nickel-plated Brass) (oil feed on cylinder head)
PTP-PKG-30000-11-R2	PTP-HSE-15007-25	2	PTFE Teflon SS braided line 14mm Banjo to -6AN female crimped ends, 25" Long (3/8 hose) (BLACK PVC COVER)
	PTP-HSE-15008-15	1	5/16" x 15" Gates Safety Stripe Heater Hose
	PTP-HSE-15008-25	1	5/16" x 25" Gates Safety Stripe Heater Hose
	PTP-FTG-90071-65	2	-6AN Male Flare x 5/16" Single Barb Fitting (Aluminum)
	PTP-FTG-90026	2	14mm x 1.5 x 25mm Long Banjo Bolt (Steel) (Zinc-plated)
	PTP-GSK-90004-14	4	14mm Copper Crush Washer
	PTP-CLP-90011-14	4	14mm Spring Hose Clamp (Dacromet Finish)
	PTP-HWR-90015-12	2	ThermalShield Heat Shielding Tube 3/4" ID x 12"L
PTP-PKG-30000-12 (Package not included with optional oil cooler upgrade)	PTP-FTG-90024-BLK	1	-8AN Tee w/Female on Branch (Black)
	PTP-FTG-90025	1	-8AN x 14mm x 1.50 Metric Adaptor (Zinc-plated) (Oil Drain)
	PTP-GSK-90003	1	-6AN (14mm) Dowty Seal
	PTP-HSE-90033	1	-8AN x 7" LW Braided Turbo Oil Return Line (-8AN Straight x -8AN 180 Degree) (from Turbo to Tee Fitting) (Line 1 of 3)
	PTP-HSE-90034	1	-8AN x 32" LW Braided Oil Pump Line (-8AN 180 Degree x -8AN 120 Degree) (from Tee Fitting to Oil Pump) (Line 2 of 3)
	PTP-HSE-90040	1	-8AN x 42" LW Braided Oil Pump Line (-8AN 90 Degree Forged x -8AN 180 Degree) (from Oil Pump to Timing Cover) (Line 3 of 3)
PTP-PKG-30000-13	PTP-HSE-90032	1	1/2" Rubber Coolant Bypass Hose (U Bend)
	PTP-ADP-30022	1	Honda Oil Filter Adaptor Union
PTP-PKG-30000-14	PTP-ADP-30014	1	304SS Intake Pipe Mounting Bracket (Mount to Timing Cover)
	PTP-FAS-90001	2	1" x 6mm Vibra-mount
	PTP-FAS-90011	2	1/8" x 7.5" Nylon Cable Tie (Black) (for securing wastegate vacuum line)
	PTP-FAS-90031	1	M8 x 1.25 x 20mm Flanged Hex Head Cap Screw (Class 8.8, Zinc-plated)
	PTP-FAS-90032	1	M8 x 1.25 Flanged Nut Serrated (Class 10.9, Zinc-plated)
PTP-PKG-30000-15-R1	PTP-ELE-30000-R2	1	Sealed Dual Relay Harness/Connector (Pre-wired with plug for turbo oil pump) (GT150 Male Plug)
	PTP-ELE-90011-20	1	Blade Type ATO/ATC Fuse (20 amp Yellow, 12V) (For fuse holder on oil scavenge pump relay harness)

	PTP-ELE-90004	2	Sealed Skirted Mini Relay (20/40amp, SPDT)
	PTP-ELE-90004-BR	2	Skirted Mini Relay Mounting Bracket (Installed on Relay)
	PTP-FAS-90011	4	1/8" x 7.5" Nylon Cable Tie (Black)
	PTP-FAS-90009-12	1	M6 -1.0 x 12mm Hex Flange Bolt (JIS Class 10.9) (Zinc)
PTP-PKG-30000-16-R1	PTP-FTG-90020	1	-8AN x 14mm x 1.25 Union Fitting (Steel) (Zinc-plated) (timing cover)
	PTP-GSK-90003	1	-6AN (14mm) Dowty Seal
	PTP-FTG-90022-SIL	2	-8AN x 3/8" NPT Male Union Fitting (Aluminum) (Silver)
	PTP-FAS-90009-25	4	M6 -1.0 x 25mm Hex Flange Bolt (JIS Class 10.9) (Zinc)
	PTP-FAS-90091-18	4	M6 x 18mm OD Extra Large Steel Flat Washer (Zinc-plated)
	PTP-FAS-90010	4	M6 x 1.0 Nylon-insert Lock Nut (Zinc-plated)
PTP-PKG-30000-17	PTP-ADP-90010-REV1	1	-8AN Billet Aluminum Male Oil Return Flange w/O-ring (GT/GTX/T25)
	PTP-GSK-90006-ORG	1	Oil Return Flange Viton O-ring
	PTP-FAS-90037	2	M8 x 1.25 x 20mm Socket Head Cap Screw (Class 12.9, Zinc-Aluminum-Coated)
	PTP-FAS-90041-M8	2	M8 x 14.8mm OD Split Lock Steel Washer (Zinc-Plated) (Turbo Oil Return)
PTP-PKG-30000-18	PTP-ADP-90012	1	Billet Aluminum IAT Sensor Plug (use w/ PTUNING S2000 Turbo Kit, S2000 AP2 IAT Sensor)
	PTP-GSK-90005	1	IAT Sensor Plug O-Ring (Red-Orange)
	PTP-FAS-90039	3	M4 x 0.7 x 6mm Button Head Socket Cap Screw (18-8 Stainless Steel)
PTP-PKG-30000-19	PTP-FAN-90004	1	SPAL 14" Curved Blade High Performance Fan (12V, Pull)
PTP-PKG-30000-20A	PTP-ADP-30010	1	Fan Mounting Bracket - Top (Aluminum, Black Powder Coating)
	PTP-ADP-30012	1	Fan Mounting Bracket - Bottom (Aluminum, Black Powder Coating)
	PTP-FAN-90005	4	SPAL Fan Mounting Feet (Nylon)
	PTP-FAS-90031	2	M8 x 1.25 x 20mm Flanged Hex Head Cap Screw (Class 8.8, Zinc-plated)
	PTP-FAS-90032	2	M8 x 1.25 Flanged Nut Serrated (Class 10.9, Zinc-plated)
	PTP-FAS-90009-16	7	M6 -1.0 x 20mm Hex Flange Bolt (JIS Class 10.9) (Zinc)
PTP-PKG-30000-20B	PTP-ELE-30002	1	Sealed Relay Harness/Connector (Pre-wired with plug for SPAL High Performance Fan)
	PTP-ELE-30002-B	1	Relay Harness Female Plug with 6" Pigtail
	PTP-ELE-90004	1	Sealed Skirted Mini Relay (20/40amp, SPDT)

	PTP-ELE-90004-BR	1	Skirted Mini Relay Mounting Bracket
	PTP-ELE-90007	4	Heat Shrinkable Electrical Butt Connector (Blue, 14 gauge) (for fan wire)
	PTP-ELE-90011	2	Blade Type ATO ATC Fuse (40 amp Amber, 12V) (use for SPAL Fan Relay Fuse Holder)
	PTP-ELE-90006-24	1	1/4" ID x 24" Nylon Corrugated Wiring Loom (Black/Gray Stripe)
	PTP-ELE-90003-24	1	0.35" ID x 24" Long Plastic Wiring Loom (Black/Gray Stripe)
	PTP-FAS-90009-16	1	M6 -1.0 x 16mm Hex Flange Bolt (JIS Class 10.9) (Zinc) (for grounding strap)
	PTP-FAS-90011	2	1/8" x 7.5" Nylon Cable Tie (Black)
PTP-PKG-30000-21-R1	PTP-INT-90001	1	PTUNING Blue SuperNano 3.5"x5.25"x6" Cone Filter w/ 4" Inlet (includes Worm-drive Clamp)
PTP-PKG-30000-22-R1	PTP-ELE-90100-R1	1	Exa-Pump Electric Oil Scavenge Pump (Pre-wired, 12V DC) (GT150 Female Plug) (modified mounting bracket to clear mounting bolt)
PTP-PKG-30000-23	PTTS-0204-1002-S2K	1	Turbosmart Race-Port BOV (PTUNING-Spec 22 In/Hg Spring, Black)
PTP-PKG-30000-24	PTTS-0553-1002-S2K	1	Turbomart GEN-V Hyper-Gate 45mm WG (PTUNING-Spec for S2000, Black)
PTP-PKG-30000-25	PTP-ADP-90020-225	1	V-band Boost Regulator Disc (2.25" ID, 304SS)
PTP-PKG-30000-26	PTP-ADP-90021	1	-4AN Male x 7/16-24 Male Inverted Male Oil Feed Restrictor Fitting (w/ Restrictor Hole) *** Preassembled on Turbo ***
(Turbo Option)	PTTIAL_LOCK_TABS	1	Tial Locking Tab for Tial V-band Turbine Housing with 6mm Bolts (Pack of 3) *** Preassembled on Turbo ***
	PTP-TRG-30305	1	Garrett GT3076R, Tial SS V-band HSG .82 A/R (PTUNING S2K System)
	PTP-TRG-30310	1	Garrett GTX-3076R Gen II, Tial SS V-band HSG .82 A/R (PTUNING S2K System)
	PTP-TRG-30320	1	Garrett GT3582R, Tial SS V-band HSG .82 A/R (PTUNING S2K System)
	PTP-TRG-30325	1	Garrett GTX-3582R Gen II, Tial SS V-band HSG .82 A/R (PTUNING S2K System)
	PTP-TRG-30330	1	Garrett GTX-3576R Gen II, Tial SS V-band HSG .82 A/R (PTUNING S2K System)
	<Turbo Not Included>		
	<Custom Turbo Specified>		

PTP-PKG-30000-27 (Optional)	PTP-ENG-90006	1	Setrab Oil Cooler (15 Row M22F 310mm)
	PTP-ENG-90007	1	Mocal Oil Thermostat (-8AN Hi-Temp, 95C, 203F)
	PTP-ENG-90006-BRK	1	Oil Cooler Mounting Bracket (Mount Directly to Setrab 15 Row Oil Cooler) (Black Powder Coating)
	PTP-ADP-30008	1	Oil Cooler Vertical Mounting Bracket (Black Powder Coating)
	PTP-ADP-30007	1	Oil Thermostat Mounting Bracket (Black Powder Coating)
	PTP-FTG-90023-BLK	2	-8AN x M22 Fitting (Oil Cooler Adaptor) (Black)
	PTP-FTG-90024-BLK	1	-8AN Tee w/Female on Branch (Black)
	PTP-FTG-90025	1	-8AN x 14mm x 1.50 Metric Adaptor (Zinc-plated) (Oil Drain)
	PTP-GSK-90003	1	-6AN (14mm) Dowty Seal
	PTP-HSE-90033	1	-8AN x 7" LW Braided Turbo Oil Return Line (-8AN Straight x -8AN 180 Degree) (from Turbo to Tee Fitting) (Line 1 of 3)
	PTP-HSE-90034	1	-8AN x 32" LW Braided Oil Pump Line (-8AN 180 Degree x -8AN 120 Degree) (from Tee Fitting to Oil Pump) (Line 2 of 3)
	PTP-HSE-90035	1	-8AN x 53" LW Braided Oil Cooler Line (-8AN Straight x -8AN Forged 90 Degree) (from Oil Thermostat to Timing Cover) (Line 3 of 3)
	PTP-HSE-90036	1	-8AN x 6.5" LW Braided Oil Cooler Line (-8AN Straight x -8AN Straight) (from Oil Thermostat to Oil Pump) (Line 4 of 6)
	PTP-HSE-90037	1	-8AN x 15" LW Braided Oil Cooler Line (-8AN Straight x -8AN 90 Degree) (from Oil Thermostat to Oil Cooler Top Port) (Line 5 of 6)
	PTP-HSE-90038	1	-8AN x 8" LW Braided Oil Cooler Line (-8AN Straight x -8AN Straight) (from Oil Thermostat to Oil Cooler Bottom Port) (Line 6 of 6)
	PTP-FAS-90030	8	M8 x 1.25 x 16mm Flanged Hex Head Cap Screw (Class 8.8, Zinc-plated)
	PTP-FAS-90032	8	M8 x 1.25 Flanged Nut Serrated (Class 10.9, Zinc-plated)
PTP-ICP-30001	PTP-ICP-30001-P	1	2.5" 6061 Aluminum I/C Piping #1 (w/ 1/8" NPT weld bung) (1 of 6) (Polished)
(Color Option)	PTP-ICP-30001-B	1	2.5" 6061 Aluminum I/C Piping #1 (w/ 1/8" NPT weld bung) (1 of 6) (Black)
	PTP-ICP-30001-R	1	2.5" 6061 Aluminum I/C Piping #1 (w/ 1/8" NPT weld bung) (1 of 6) (Red)
PTP-ICP-30002	PTP-ICP-30002-P	1	2.5" 6061 Aluminum I/C Piping #2 (w/BOV flange) (2 of 6) (Polished)

(Color Option)	PTP-ICP-30002-B	1	2.5" 6061 Aluminum I/C Piping #2 (w/BOV flange) (2 of 6) (Black)
	PTP-ICP-30002-R	1	2.5" 6061 Aluminum I/C Piping #2 (w/BOV flange) (2 of 6) (Red)
PTP-ICP-30003	PTP-ICP-30003-P	1	2.5" 6061 Aluminum I/C Piping #3 (Lower PS) (3 of 6) (Polished)
(Color Option)	PTP-ICP-30003-B	1	2.5" 6061 Aluminum I/C Piping #3 (Lower PS) (3 of 6) (Black)
	PTP-ICP-30003-R	1	2.5" 6061 Aluminum I/C Piping #3 (Lower PS) (3 of 6) (Red)
PTP-ICP-30004	PTP-ICP-30004-P	1	2.75" 6061 Aluminum I/C Piping #4 (Lower DS) (4 of 6) (Polished)
(Color Option)	PTP-ICP-30004-B	1	2.75" 6061 Aluminum I/C Piping #4 (Lower DS) (4 of 6) (Black)
	PTP-ICP-30004-R	1	2.75" 6061 Aluminum I/C Piping #4 (Lower DS) (4 of 6) (Red)
PTP-ICP-30005-R1	PTP-MS-C-10000	1	PTUNING Aluminum Name Plate (PTUNING Competition Turbo System)
(Color Option)	PTP-ICP-30005-P	1	2.75" 6061 Aluminum I/C Piping #5 (Upper w/IAT flange) (5 of 6) (Polished)
	PTP-ICP-30005-B	1	2.75" 6061 Aluminum I/C Piping #5 (Upper w/IAT flange) (5 of 6) (Black)
	PTP-ICP-30005-R	1	2.75" 6061 Aluminum I/C Piping #5 (Upper w/IAT flange) (5 of 6) (Red)
PTP-ICP-30006	PTP-ICP-30006-P	1	4" 6061 Aluminum Intake Piping #6 (6 of 6) (Polished)
(Color Option)	PTP-ICP-30006-B	1	4" 6061 Aluminum Intake Piping #6 (6 of 6) (Black)
	PTP-ICP-30006-R	1	4" 6061 Aluminum Intake Piping #6 (6 of 6) (Red)
PTP-MAN-30000	PTP-MAN-30000	1	PTUNING S2000 Turbo System Installation Manual

PTP-PKG-30000-1



PTP-PKG-30000-2



PTP-PKG-30000-3A (Standard)



PTP-PKG-30000-3B (Optional)



PTP-PKG-30000-4



PTP-PKG-30000-5



PTP-PKG-30000-6



PTP-PKG-30000-7



PTP-PKG-30000-8



PTP-PKG-30000-9



PTP-PKG-30000-10



PTP-PKG-30000-11



PTP-PKG-30000-12



PTP-PKG-30000-13



PTP-PKG-30000-14



PTP-PKG-30000-15



PTP-PKG-30000-16



PTP-PKG-30000-17



PTP-PKG-30000-18



PTP-PKG-30000-19



PTP-PKG-30000-20



PTP-PKG-30000-21



PTP-PKG-30000-22



PTP-PKG-30000-23



PTP-PKG-30000-24



PTP-PKG-30000-25



PTP-PKG-30000-26



PTP-PKG-30000-27 (Optional)



PTP-PKG-30000-28 (Optional)



PTP-ICP-30001



PTP-ICP-30002



PTP-ICP-30003



PTP-ICP-30004



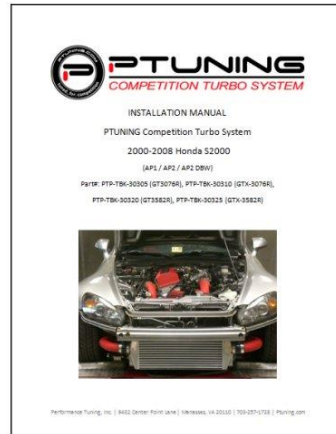
PTP-ICP-30005



PTP-ICP-30006

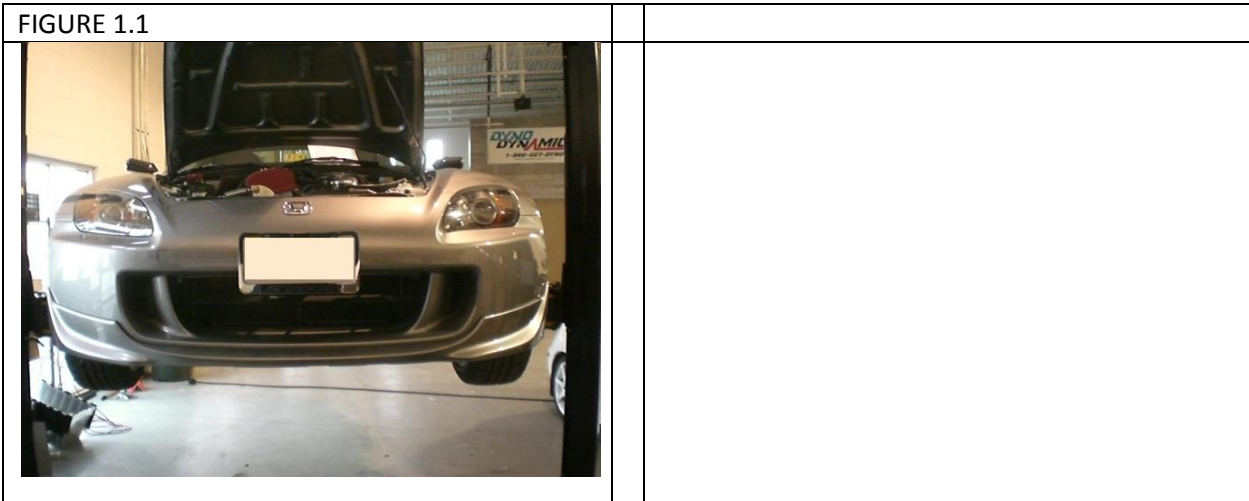


PTP-MAN-30000



## 1 - Prepping the Vehicle for Turbo System Installation

1. Disconnect and remove the battery from the vehicle.
2. Jack up the vehicle to a workable height and secure vehicle with jack stands. See FIGURE 1.1



3. Remove the undercarriage plastics and splash guard.
4. Remove the front bumper fascia.

## 2 - Removing the Oil Filter and Factory Oil Cooler Assembly

1. Remove the water lines from the from the factory oil cooler assembly. Be sure to keep the factory tension clamps as you will be using them later.
2. Use a 30mm socket and unbolt the oil filter mounting bolt. You can now remove the factory oil assembly from the engine.

## 3 - Assembling and Installing the Billet Aluminum Motor Mount System

1. Press the two polyurethane insert halves into the motor mount.  
Lubricate the inside of the poly inserts with oil and then press the sleeve into the mount. The sleeve should be flush with both sides of poly inserts.
2. Place a piece of wood underneath the oil pan and use a floor jack to support engine.
3. Remove the lower sub-frame crossbar.

4. Remove the factory passenger-side motor mount and bracket.
5. Attach the Billet Aluminum Motor Mount to the bottom of sub-frame using the two M12x1.75x70mm bolts. Put the bolts through from the bottom of the motor mount and place the flat washer then the serrated nut on from the top. (Only hand tighten the bolts at this time)
6. Re-attach the sub-frame crossbar and tighten all the factory nuts and bolts.
7. Attach the aluminum c-clamp to the motor mount using a drop of medium strength Loctite on each of the four allen-head bolts. Tighten down the c-clamp evenly until it is flush or nearly flush with the billet motor mount.
8. You can now go back and fully tighten the two M12x1.75x70mm bolts holding the billet motor mount to the subframe.
9. Using the supplied hardware for the steel motor mount bracket, attach it to the engine block. Note the button-head allen bolt goes on the top right hand corner of the motor mount bracket. (It provides additional clearance for the turbo compressor housing)
10. Once you have the motor mount bracket in place, align the bracket hole with the motor mount sleeve hole and secure them together using the supplied M10 x 1.5 x100mm flanged bolt and serrated nut. \*Note: You can use the floor jack and a pry bar against the engine to align the holes in the motor mount and motor mount bracket if need be.
11. With the new motor mount system in place, you can now take the floor jack out from underneath the engine. This completes the installation of the billet aluminum motor mount system.

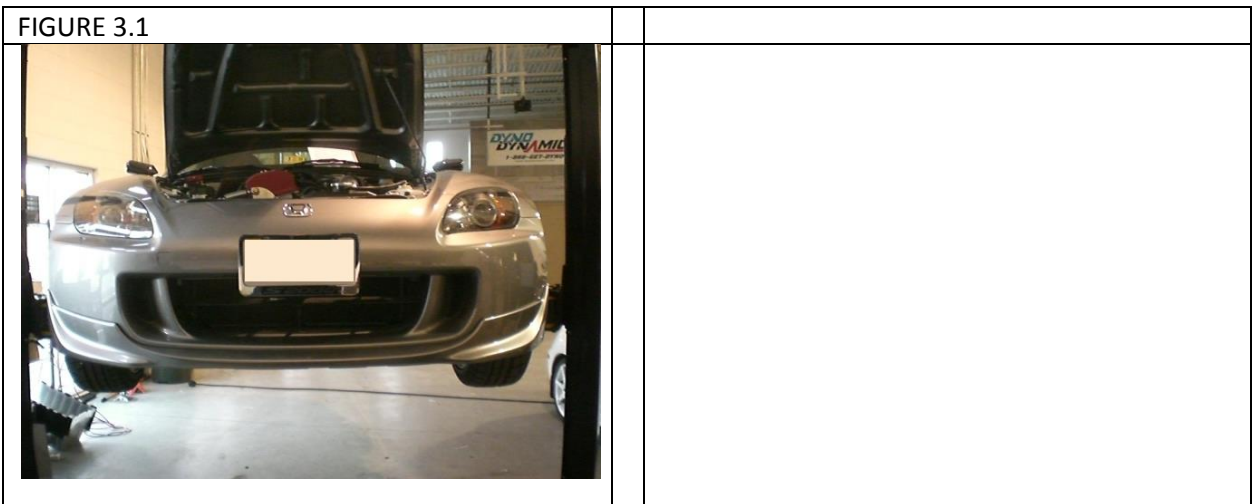


FIGURE 1.1



#### 4 - Installing Turbo Manifold, Turbo, WG, Dump-tube/Recirculating-tube, and Exhaust System:

1. Remove the oil filter and factory oil cooler and water lines. (Keep the clamps for the factory water lines as you will be reusing these later)
2. Using the supplied factory exhaust manifold gasket, install the turbo manifold to the engine and fully- tighten all the cylinder head exhaust flange nuts.
3. You will not need to place the attach the turbocharger to the manifold. You will need to pass the turbo through from the opening in front of the engine and crossmember.
4. Mount the turbo using the supplied v-band clamp. (Only use the non-locking nut at this time as it helps to simplify installation..... you will be able to start it by hand)
5. Tighten the clamp just enough to seat it against the manifold flange, but loose enough to still allow you to rotate the turbo.

**\*VERY IMPORTANT NOTE\*** It is **IMPERATIVE** that you have the turbocharger **PROPERLY** seated against the turbo manifold flange. With the step machined into the turbo manifold flange, it is very easy to have the turbo sit cock-eyed against it. If you are unsure, you can always use a mechanics mini-mirror to check the connection. Getting this part wrong will prevent the downpipe and/or wastegate tube from fitting properly.

6. The next step is to mount the wastegate to the turbo manifold. Make sure the allen head bolt on the v-band clamp is facing upwards, since you will need to eventually tighten the clamp from above (through the engine compartment). Do not fully tighten the bolt at this time since you will need to rotate the WG for final assembly.
7. You will now need to install the intermediate pipe along with its transmission mount bracket. This will dictate the final positioning of the turbo and downpipe.

8a. **Dump to atmosphere WG Dump-tube option:**

1. Loosely mount the dump-tube, again with the clamp's allen head bolt facing upwards.
2. Attach the downpipe to the turbo using the supplied v-band clamp. Only use the non-locking nut at this time. Position the downpipe to allow it to rotate and turn in such a way as to be able to connect to the intermediate pipe.
3. Position the dump tube as so that it runs nearly parallel with the downpipe. Tighten the v-band clamps to the turbo and intermediate pipe.
4. After you are satisfied with the final positioning of all the components, go back and install the locking nut onto the downpipe inlet v-band clamp and the turbo inlet v-band clamp.

8b. **Recirculated WG Dump Tube option:**

1. Loosely mount the recirc-tube to the WG, again with the clamp's allen head bolt facing upwards.
2. Attach the downpipe to the turbo using the supplied v-band clamp. Only use the non-locking nut at this time. Position the downpipe to allow it to rotate and turn in such a way as to be able to connect to the intermediate pipe and the recirculating pipe.
3. Tighten the v-band clamps to the turbo and intermediate pipe.
4. After you are satisfied with the final positioning of all the components, go back and install the locking nut onto the downpipe inlet v-band clamp and the turbo inlet v-band clamp.

9. **Utilizing the supplied BRD (boost regulating disks) \*Very Important for proper boost control\*:**

Due to our very high flowing turbo manifold/downpipe design, it can be difficult to achieve the necessary exhaust flow through the wastegate to maintain lower boost levels at higher rpms.

We've designed our boost regulating disks to be fitted between the v-band connection of the downpipe and intermediate pipe.

When installed along with our recirculating WG option and the GT30R or GTX30R, we're able to achieve 10-11 psi minimum with the 2.5" disc and 8-9 psi minimum with the 2.25" disc. Our dyno

testing shows that even at 14-15 psi, there is no loss in overall horsepower. At 17-20+psi, you may want to remove the regulating disc. At those higher boost levels the wastegate will have no problem regulating boost without the use of the BRD.

Besides offering better wastegate control at lower boost levels, the other benefit we noticed on the dyno was that there was a slight increase in low to midrange torque when using the BRD.

#### **10. Installing the oil and water lines:**

1. Remove the factory oil pressure sender on the passenger side of the engine block.
2. Assemble the supplied oil t-block adapter as shown.
3. Tighten the oil t-block adapter onto the engine block as shown. The oil feed off of the t-block adapter will point approximately 30 degrees or so downward towards the front of the engine.
4. Connect oil feed line from the t-block adapter to the turbo oil feed inlet.
5. Remove the factory water line that goes from the intake manifold to the throttle body.
6. Route the water lines as shown.
7. Connect the outside turbo water line to the throttle body.
8. Connect the inside turbo water line to the intake manifold.
9. Click-tie the two water lines to the intake mounting plate as shown.
10. Install the supplied u-shaped water hose to replace the bypass the factory lines going to the factory oil cooler. Reuse the factory water hose clamps to secure the lines.
11. Install the new oil filter adapter using a rag to protect the threads and pair of channel lock pliers.
12. Install a new factory oil filter.
13. This completes the installation of the turbocharger assembly.
14. You can now fit the rest of the exhaust system onto the car.



## 2 - Installing the Turbo Oil Scavenging System:

1. Install oil return fitting onto the timing chain tensioner using the supplied dowty seal washer.





Install both passenger and driver's side intercooler mounting brackets using the supplied hardware. Install oil scavenge pump onto passenger-side bracket as shown.



**Oil Scavenge Line Routing (Standard, no oil cooler):**

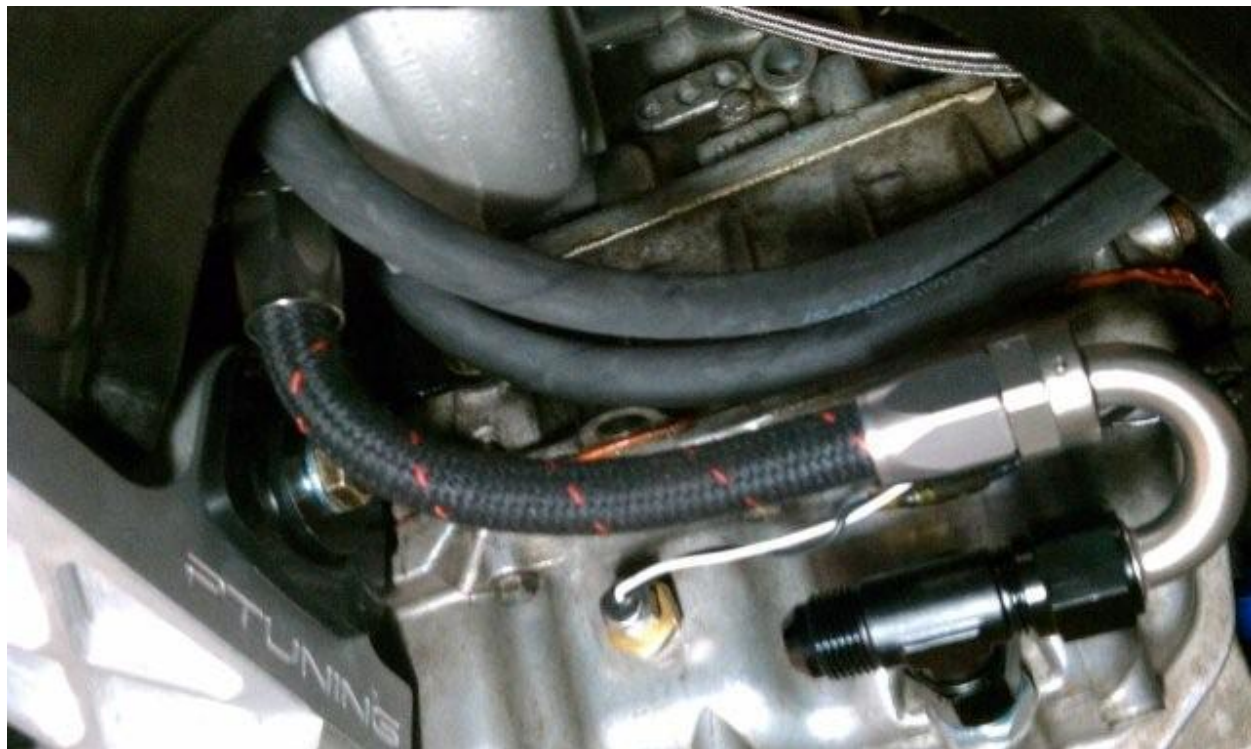
Loctite and install the supplied fitting to the oil pan with the supplied Dowty Seal.



Connect the supplied AN t-fitting connector to the oil pan fitting.



Route the oil scavenging lines from the turbo to the AN t-fitting as shown.





Route the oil line from the AN t-fitting, through the space between the subframe and power steering rack, and make the connection to the oil pump inlet as shown. (passenger-side fitting on the oil scavenging pump).

Connect the line with the 180 degree fitting to the pump outlet (driver's-side fitting on the oil scavenging pump).

Pass the line through between the subframe and power steering rack.

Connect the remaining oil return fitting (forged 90 degree fitting) to the installed fitting on the timing cover.

At this time, secure the lines together as shown with click-ties. Use the supplied heatwrap to provide abrasion resistance to any part of the line making contact with the subframe.

#### **Oil Scavenge Line Routing and Oil Cooler Installation (oil cooler option only):**

Loctite and install the supplied fitting to the oil pan with the supplied Dowty Seal.

Connect the supplied AN t-fitting connector to the oil pan fitting.

Route the oil scavenging lines from the turbo to the AN t-fitting as shown.

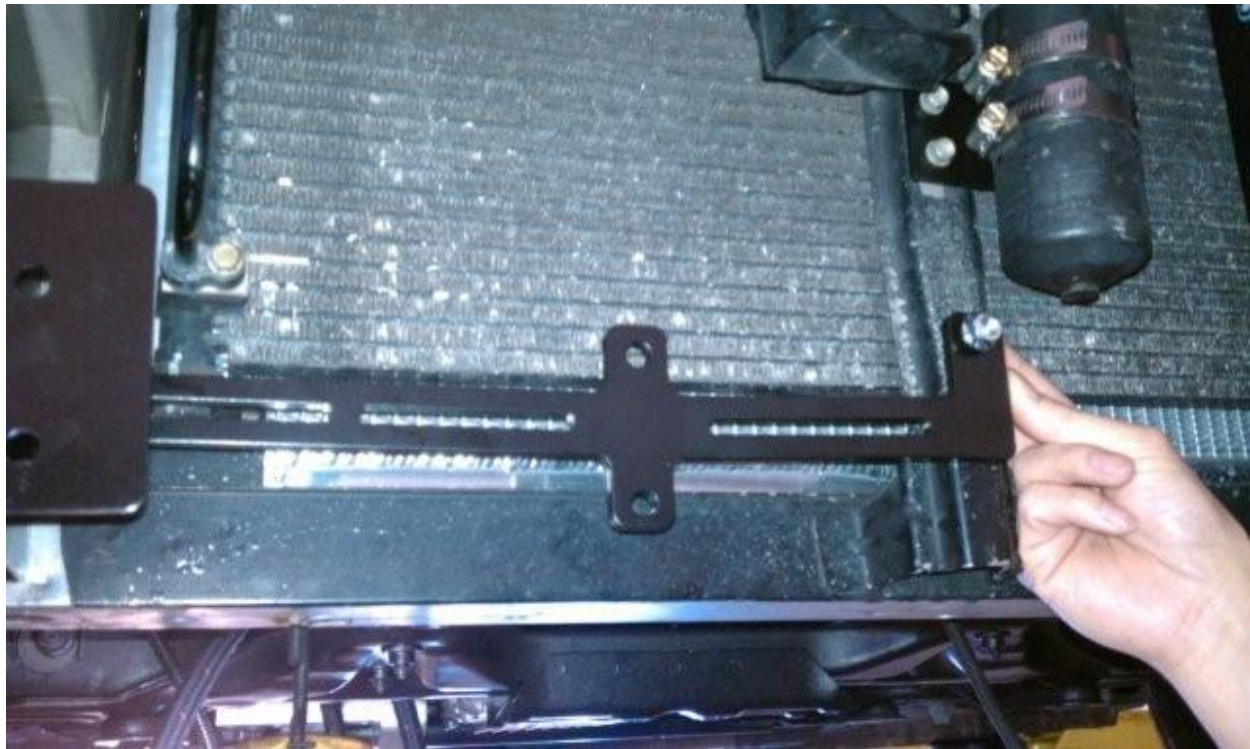
Route the oil line from the AN t-fitting, through the space between the subframe and power steering rack, and make the connection to the oil pump inlet as shown. (passenger-side fitting on the oil scavenging pump).

Mount the bracket for the oil thermostat and oil cooler as shown.



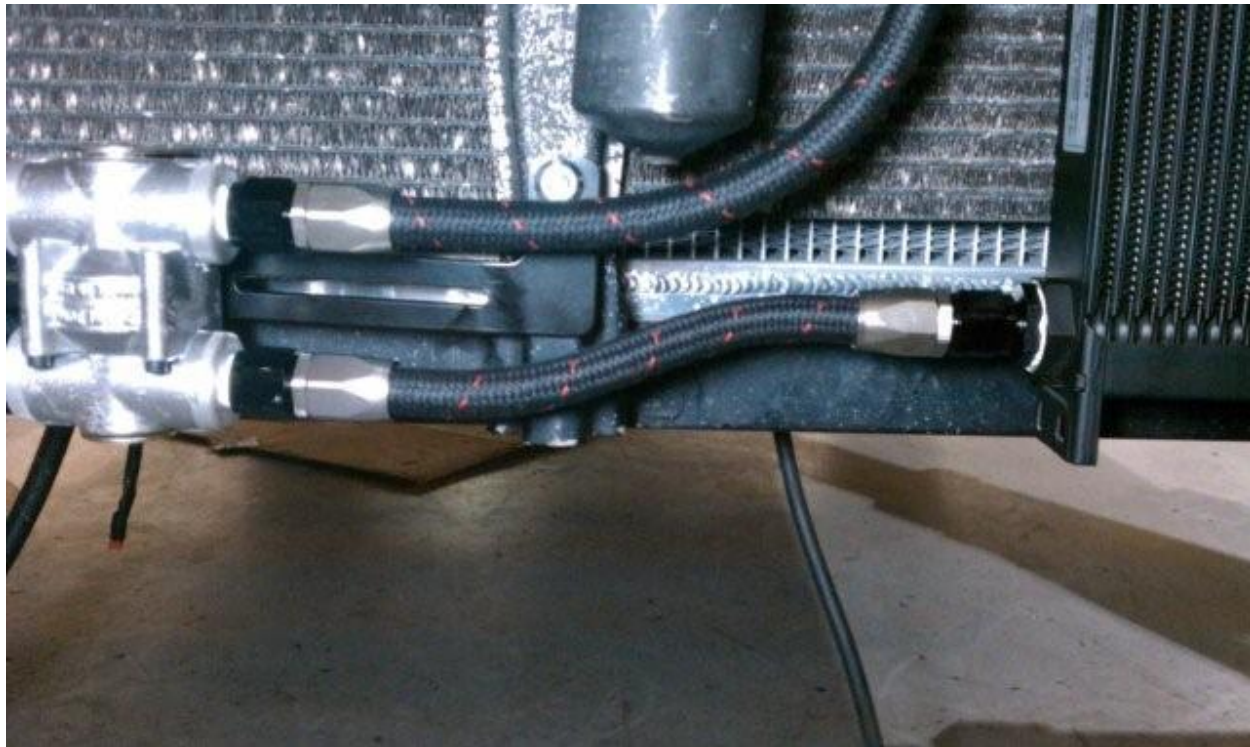
















Connect the line with the 180 degree fitting to the pump outlet (driver's-side fitting on the oil scavenging pump).

Pass the line through between the subframe and power steering rack.

Connect the remaining oil return fitting (forged 90 degree fitting) to the installed fitting on the timing cover.

At this time, secure the lines together as shown with click-ties. Use the supplied heatwrap to provide abrasion resistance to any part of the line making contact with the subframe.

Route the oil line from the AN t-fitting, through the space between the subframe and power steering rack, and make the connection to the oil pump inlet as shown. (passenger-side fitting on the oil scavenging pump).

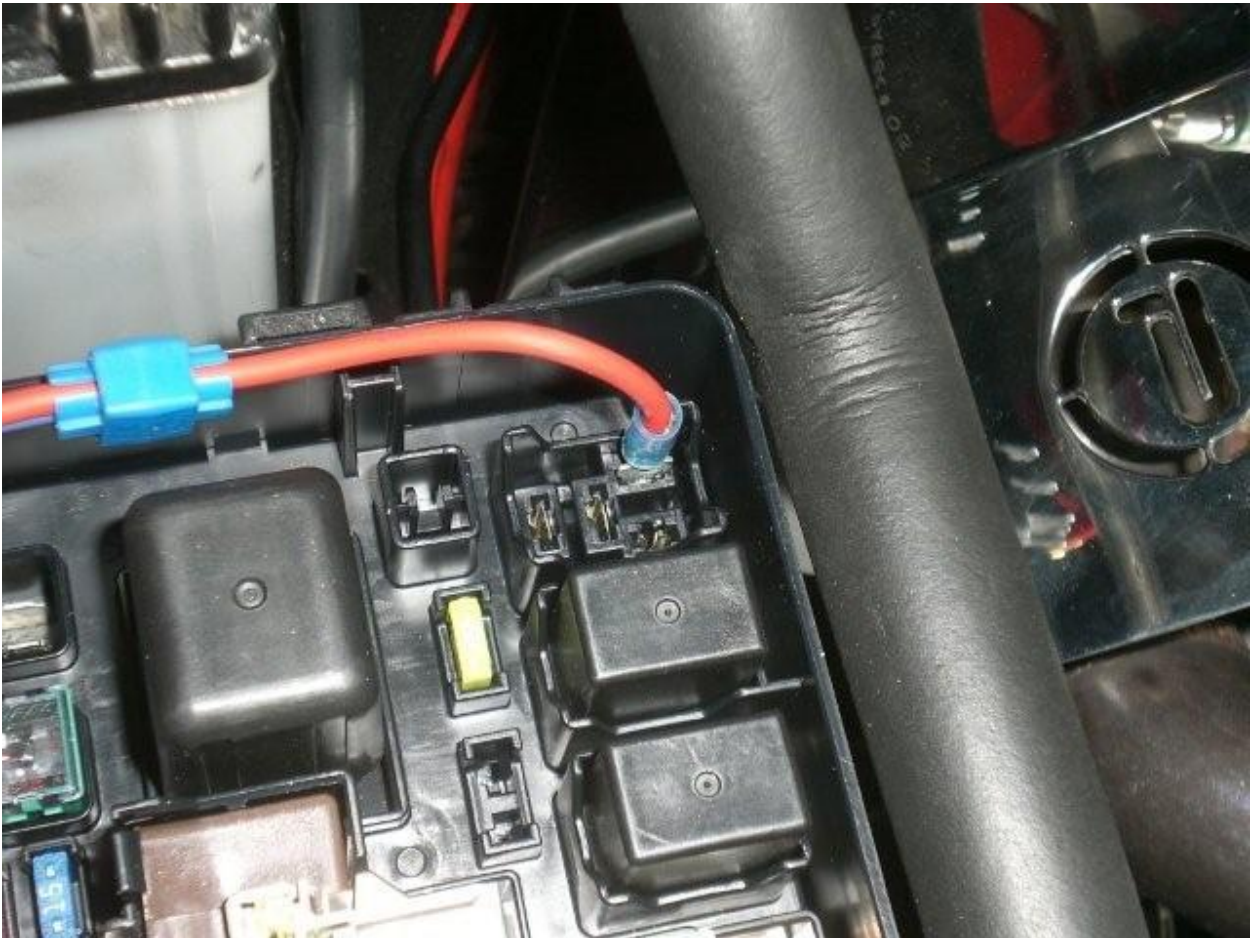
### Wiring up the relay for the Oil Scavenging Pump:

Route the oil scavenging pump wires through to the engine compartment as shown.  
Secure the relay to the fusebox mounting bracket as shown.  
Attach the ground wire to the bolt on the same fusebox bracket that attaches to the shock tower.  
Click tie the relay wires to the fusebox wire as shown.



Connect the relay plug to the oil scavenging pump plug and secure the wiring harness to the chassis wiring harness as shown.  
Strip the wire loom from the factory oil pressure sender as shown. Using the supplied wire-tap connect the black relay trigger wire to the oil pressure sender wire. (This ensures that the oil scavenging pump will only turn on when there is oil pressure..... when the engine is running).

Remove the condenser fan relay.  
Connect the red relay wire to the electrical relay slot as shown.



This is what the final installation should look like.



#### **Installing the SPAL Fan System:**

Unplug and remove both factory radiator/condenser fans.  
Assemble the brackets on SPAL Fan as shown.  
Cut the plug off of the factory passenger-side radiator fan.  
Using the supplied bullet connectors, connect it factory plug to the SPAL fan wires as shown.  
Install the new fan assembly onto the radiator using the supplied hardware.  
Plug the SPAL fan into the chassis-side connector plug.  
Replace the 20 amp radiator fan fuse with the supplied 30 amp fuse. (The High Performance SPAL fan will draw a little over 20 amps)  
This completes the installation of the SPAL Fan System.



#### **Installing the Intercooler and Intercooler Pipes:**

Remove A/C receiver/dryer bracket and bolt on the supplied bracket.  
Use the supplied worm clamps and secure as shown. (Note: you will only be passing the worm clamps through the inside hole slots)



Attach the small piece of rubber hose as shown to protect the small A/C line.



Mount the intercooler to brackets using the supplied hardware.





Intercooler pipes laid out to show installation order:



Attach the supplied npt barb fitting to the first intercooler pipe. This is also a good time to attach the boost controller pressure-supply hose to the barb fitting (click-tie the hose connection).



Attach the pipe to the turbo outlet using the step-hose coupler  
Remove and modify both headlight mounting brackets as shown to provide clearance for the intercooler pipes. Reinstall both modified brackets.





Install the vibra-mounts to the chassis as shown.

Install the second and third intercooler pipe. Attach the third intercooler pipe bracket to the installed vibra-mount.

Install the fourth and fifth intercooler pipes.

Install Turbosmart BOV.

Route bov vacuum hose underneath the chassis crossmember and click-tie along the chassis wiring harness.

Do not re-install the bumper until you have completed the checklist and post-start inspection.



#### **Final pre-start checklist and post-start inspection:**

1. Refill the engine with approximately 5.5 quarts of oil for starters.
2. Be sure your engine management system has a working base map before attempting to start the vehicle.
3. Have an assistant start the engine while you inspect ALL the oil and water fittings for leaks. Place your hand on the oil scavenge pump to ensure that it is working (if the pump is functioning properly, you will feel the pump pulse as it pumps the oil through). Also check for fuel leaks around the injectors and fuel rail too at this time.
4. Idle engine for a approximately 1-2 minutes and stop and re-check the oil level.
5. Re-start the engine and bleed the coolant per factory procedures. Be sure to have someone monitor the water temp. At this time you will also want to check to make sure that the radiator fan functions properly.
6. If you have the oil cooler option, make sure to re-check the oil one more time after the oil thermostat fully opens and the oil cooler becomes hot.
7. Once you are satisfied that there are no leaks along the oil scavenge pump and/or lines, test fit the bumper and trim as necessary. Install the bumper along with under pan splash guards, etc. You will also need to trim around the splash guard to allow clearance for the intercooler pipes.
8. This completes the installation process.
9. We highly recommend that you get a professional dyno tune ASAP. Your tuner will need to dial in the AFR, timing, and boost before you can start to safely boost your vehicle.