THE ULTIMATE 07-10 SER
SPEC-V TURBO KIT

BRAND NEW FOR
2010!

AVAILABLE UP TO
300 WHP

Intercooler: Treadstone bar and plate cores are specifically designed to maximize cooling using the most surface area possible in any given space. Our cores give the perfect balance between heat exchanging efficiency and flow.

Engine Management:
- Re-flash and one-time calibration
- UpRev standard with Cipher Cable for E-Tunes
- UpRev tuner for do it yourself tuning

Turbocharger: Turbonetics T3/T4 50 trim turbocharger, the perfect match for quick spool up, and top end Horsepower

8 Hour Installation Time:
- No Chassis Modification required
- Quick Spool up Turbocharger
- No cutting of Electrical Components

Kit Includes:
- 50 trim T3/T4 Turbocharger
- Treadstone TR8 Intercooler
- HKS Blow off valve
- Evolution Wastegate
- ECU Reflash
- Stainless Oil feed Line
- Taps for oil Drain line
- 304 Stainless Downpipe
- Drop in Deatschwerks 440 Injectors
- Black Powder Coated Aluminum Piping
- Silicone Hoses and T-bolts
- Dry Flow Synthetic Filter

- **Turbonetics Turbocharger & Wastegate**
- **First and Only Spec-V Kit on the Market**
- **100% Complete Bolt On Kit**
- **Tuned with UpRev Engine Management**
- **Ignition Timing, Air/Fuel, and Cam Timing All Tunable**
- **Capable of 300 WHP @ 9psi**
- **1 Year Warranty**

UpRev
ENGINE MANAGEMENT SOLUTIONS

TR2™
PERFORMANCE **ENGINEERING**

P: 888-789-4586 **W:** TreadstonePeformance.com

Treadstone Performance Engineering Inc, Miami Fl 33157 888-789-4586

INSTALLATION INSTRUCTIONS
TURBOCHARGER SYSTEMS:
2007+ Nissan Sentra SER & Spec-V

READ THIS FIRST: Study these instructions completely before proceeding. Engine and/or turbocharger damage may occur if any component within these instructions is improperly installed. Treadstone or any of its distributors cannot be held responsible for damages as a result of negligent or improper installation. This complete turbocharger system can be installed using common tools and automotive procedures, but installer must have a thorough knowledge of automotive engine operation and feel comfortable working on the vehicle. If in doubt, contact Treadstone technical support staff at (888)-789-4586 ext.2, between the hours of 9:00AM and 8:00PM EST, Monday through Friday.

Remove the turbocharger system from its carton 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 3 to verify that you have all necessary system components to proceed. If any components in the parts list are missing, contact Treadstone customer service staff. (888)-789-4586

Although this turbocharger system has been designed to use many of the factory emissions controls, it is not currently “smog” 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 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. Treadstone 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.

• Nissan factory service manual, for your model year Spec V
• A large table or bench, and plenty of adjacent available workspace
• Standard selection of automotive tools, primarily metric sizes
• An assortment of “zip ties” and/or thin-gauge steel wire
• The ability to securely lift the vehicle at least a few feet off the ground
• High temperature automotive RTV sealant
• NPT thread sealant
• Replacement engine oil and oil filter
• Hammer

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

			T3/T4E 50 trim, 4 bolt, .63	1
			TR8 Intercooler	1
		70005	Spec V downpipe1	1
			Evolution Wastegate	1
			HKS bov	1
			Turbo Manifold	1
		80001	Throttle body pipe	1
		80002	Drive Up Pipe	1
		80003	Pass. Int Pipe	1
		80004	turbo outlet pipe	1
		80005	3" Filter Pipe	1
	81001		**Hardware, Hoses Clamps**	
	`-	S27512	2.75" x 3" Silicone	1
	`-	S25090	2.50" 90 Deg. Silicone	1
	`-	S250C	2.50"	1
	`-	S200250R	2.00" to 2.50" Reducer	1
	`-	S20045	2.00" 45 Deg. Silicone	1
	`-	S20090	2.00" 90 Deg. Silicone	1
	`-			
	`-	CLTB275	T-bolt Clamp 2.75"	2
	`-	CLTB250	T-bolt Clamp 2.50"	5
	`-	CLTB200	T-bolt Clamp 2.00"	4
	`-	CLTB225	T-bolt Clamp 2.25"	1
	`-		Worn Drive Clamp 2.5"	1
	`-	CLWD46	Worm Drive 46, 3"	1
	`-	80026	Oil drain line(complete)	1
	`-		Oil Feed line 36"	1
	`-		Heat wrap	1

	81002	**hardware kit, gaskets, bolts**	
	`-	Oil Drain Flange	1
	`-	BSPT adapter	1
	`-	3an straight fitting	1
	`-	3an elbow fitting	1
	`-	NPT Tee fitting	1
	`-	T3 inlet gasket	1
	`-	4 bolt T31 gasket	1
	`-	M8 x 1.25 bolts	2
	`-	M10 x 1.5 bolts	4
	`-	M10 x 1.5 lock washers	4
	`-	M8 x 1.25 studs	6
	`-	M8 x 1.25 nuts	6
	`-	M8 split lock washers	10
	`-	5/16 bolts	2
	`-	O2 block off fitting	1
	`-	1/8" NPT plug	1
	`-	16" 3/8" Hose	1
	`-	small check valves	2
	`-	large check valve	1
	`-	4 small clips	5
	`-	2 large clips	5
	`-	1/2" to 3/8" plastic barb reducer	1
	`-	3/8" Vaccum Tee fitting	1
	`-	3/8" to 1/4" plastic barb reducer	1
	`-	self tapping 1/4 bolts	4
	`-	1/4" -20 nuts for ecu	4
	`-	1/4"-20 bolts for ecu	4
	`-	3/8" NPT Tap	1
	`-	M10 x 1.25 Studs	2
	`-	M10 flat washers	2
	`-	M10 x 1.25 Nuts	2

☐		10024	Filter, Treadstone Universal	1
☐			ECU Return BOX (up rev)	1
☐		80025	QR25 injectors	4
☐	**81003**		Battery relocation	1
☐	**81004**		Bracket kit	
☐	`-	80022	left int bracket	1
☐	`-	80023	right int bracket	1
☐	`-	80024	battery bracket	1

PREREQUISITE STEPS: Before getting your hands dirty while under the hood, there is a prerequisite steps. See the following section for detailed instructions regarding ECU Removal & Shipping.
ECU REMOVAL & SHIPPING: Remove the ECU (Engine Control Unit) from the car, and ship it to Treadstone to upload the new engine management program, tuned specifically for your car with this turbo setup. (Please refer to ECU return box included in this kit.) Package your ECU in the return box using the supplied foam packaging inserts. And return it to the address listed on the paper in the box

NOTE 1: You'll want to perform this step just before you are ready to start working on the car. When you receive your ECU back from Treadstone, it will be re-programmed for a turbocharged engine and therefore will no longer work properly with your naturally aspirated "stock" engine. You can use which ever shipping service you choose at your expense, if you overnight the ECU, we will overnight it back on our expense.

NOTE 2: If, in the future, you choose to remove the turbocharger system (for example, before selling the car), it is possible to re-program your ECU back to naturally aspirated "stock" specs. At that time, contact Treadstone customer service staff for details. (888)-789-4589

Package your ECU in the return box using the supplied foam packaging inserts. And return it to the address listed on the paper in the box

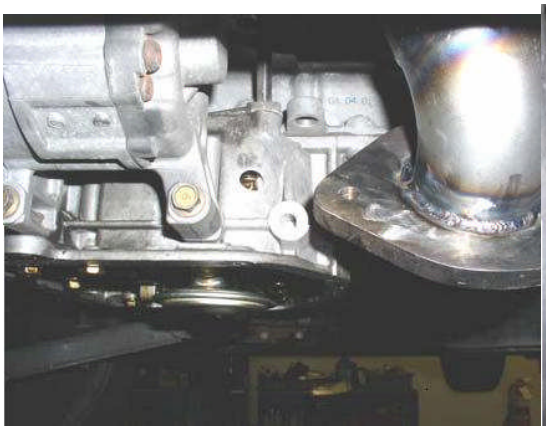
TIME TO GET YOUR HANDS DIRTY: With the prerequisite steps done, and the car parked for a few days (without an ECU), its time to start working under the hood. The steps from this point forward will progress smoother if you are prepared with the supplies listed on page 2, and although not necessary, the ability to lift the vehicle more than a few feet (i.e. a hydraulic lift) will make installation a lot easier.

NOTE: The following steps dictating removal of factory parts are purposely generic; refer to the Nissan factory service manual for more detailed instructions and torque specs for all fasteners.

Please note: 9 Psi spring will be installed in Evolution wastegate, this needs to be removed and the 7psi spring put in place to start of with approx 7.5 to 8psi base setting. Use caution if using the 9psi spring, this will net almost 10psi! We recommend to install the 7psi spring and use a boost controller to adjust from there. Climate and weather will affect engine performance, and detonation may occur at this level, unless further tuned.

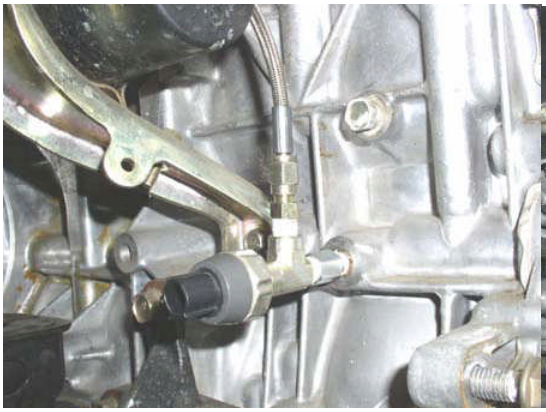
1. Lift the vehicle to a workable height and secure vehicle with jack stands.
2. Disconnect the battery and remove from vehicle.
3. Remove Engine Plastic Cover
4. Remove front Bumper and facia.

5. Using a 14mm open wrench, rotate the center hex bolt on the tensioner clockwise and remove the serpentine belt.
6. Unbolt the exhaust by unbolting the two 14mm bolts. Save the gasket, it will be used later on.
7. Unplug the mass air sensor and unbolt the 10mm bolt that is located next to the driver's side fender that secures the factory air box to the frame and remove the air box.
8. Unscrew the mass air sensor from the plastic tube and set it aside. It will be installed on the new supplied intake tube later on.
9. Remove the intake resonator box
10. Unplug the wire harness from the alternator. Using a 12mm socket, remove the positive (+) cable from the alternator and use a 10mm socket to remove the negative (-) cable from the alternator bracket
11. Using a 14mm socket, remove the upper and lower alternator mounting bolt
12 Once the upper bolts are removed, you can now remove the alternator from the engine and set it aside
13. Remove the four 10mm bolts and remove the heat shield from the factory exhaust manifold.
14 Unbolt the five 14mm bolts that secure the factory exhaust manifold to the engine and remove the manifold.
15. Loosen the drain plug on the bottom of the radiator and drain the coolant into a clean bucket, Remove Radiator and Shroud. (Carefully place radiator in a safe location)
16. Loosen both clamps on the upper radiator hose and remove
17. Remove the seven 12mm bolts that is located on the intake manifold and the two 12mm bolt on the driver's of the head near the throttle body
18. Remove the 2 coolant lines that connect to the throttle body.
19. Disconnect the 2 vacuum lines on the intake manifold.
20. Unbolt the 2 bolts that secure the wiring harness to the intake manifold
21. Remove the intake manifold and set it aside
22. Remove the 2 12mm bolts that secure the fuel rail to the engine and disconnect all the injector harnesses, and remove the 4 injectors and replace with new injectors.
CAUTION: Fuel will squirt, use caution when removing the injectors.
23. Drain the engine oil and unbolt the oil pan from the engine block by removing the ten 10mm bolt that surrounds the pan.
24. Drill a 9/16" hole in the factory mid-pan at the location shown
25. Tap the hole with the supplied 3/8"-18 NPT tap Apply a thin coat of liquid thread sealant on 3/8" NPT X 10an fitting on the threads of the aluminum fitting. Clean the threads and the area around it ***thoroughly*** with carb / brake cleaner making sure there are not
metal debris / chips.

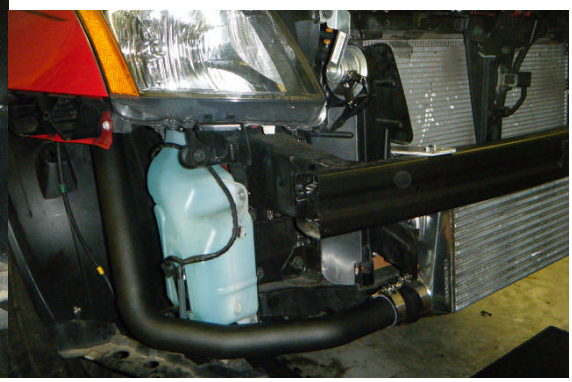



26. Using a sharp razor, carefully scrape off any silicone on the mating flange on the engine block.
27. Using high temperature. Silicone, or Three bond, apply a small even bead in the groove around the flange on the oil pan. Re-install the oil pan back onto the engine, making sure the pan is securely installed to prevent any oil leaks.

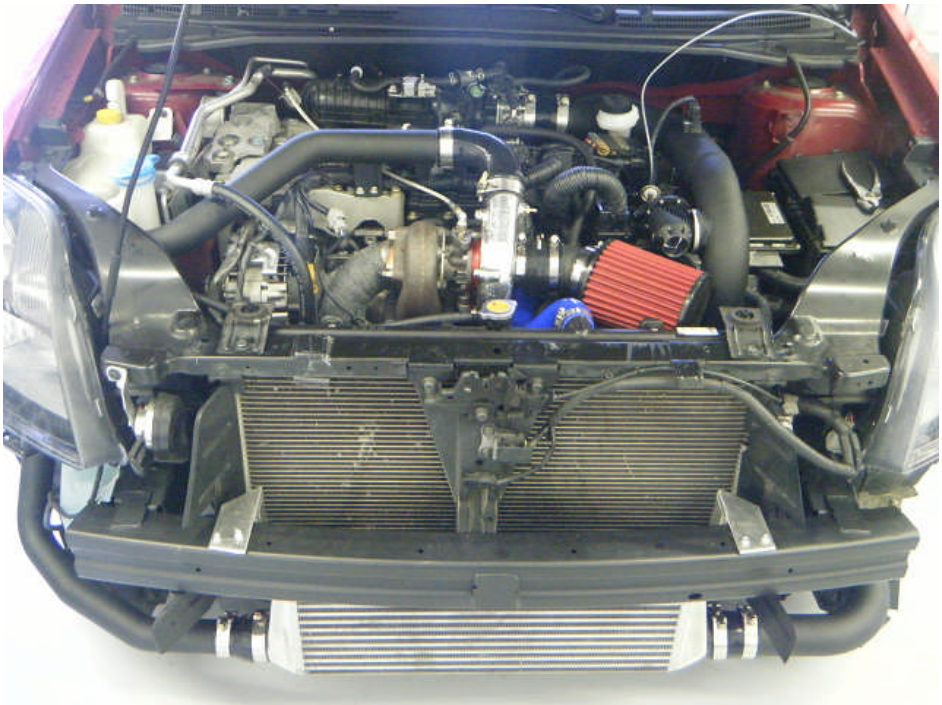
28. Disconnect the harness on the factory oil sending unit and remove the sensor using a 26mm socket.
29. Applying a small amount of liquid Teflon to the threads of the fittings, install the supplied 1/8" BSP to 1/8" NPT adapter fitting to the supplied 1/8" NPT T-fitting. Install the factory oil sending unit to one end of the T-fitting and install the straight -3AN to 1/8" NPT fitting to the other, side that is facing upward. Install the complete fitting assembly back on to the engine making sure the -3AN fitting is facing upwards.
30. Install the supplied -3AN steel braided hose to the -3AN fitting on the T-fitting, and Plug the harness back on to the factory oil sending unit.

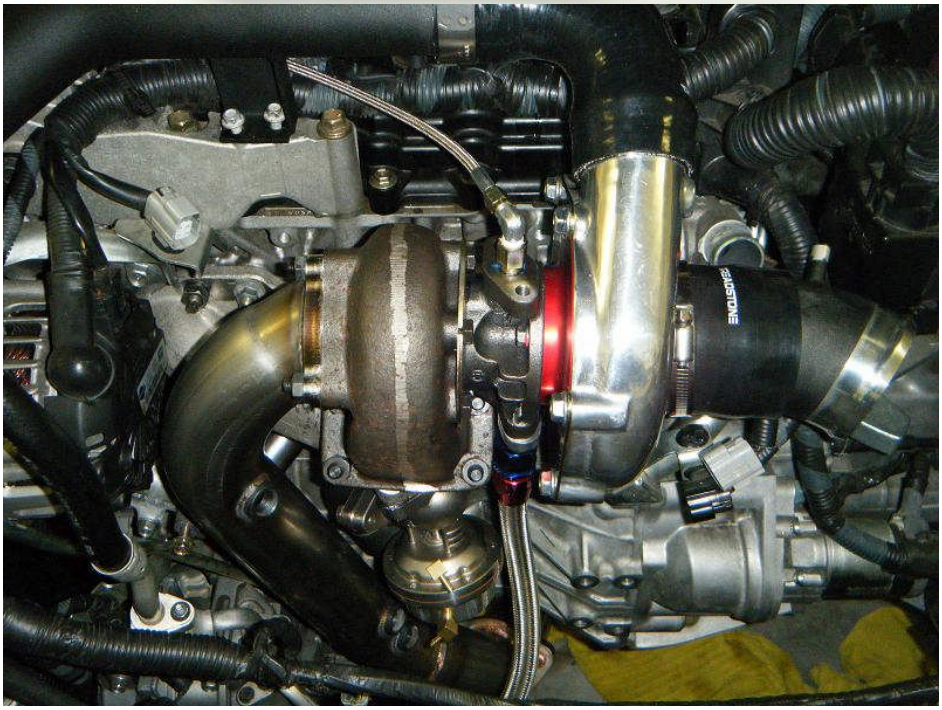



31. Install the two supplied 10mm studs in the additional threaded hole in the cylinder head. This will allow the manifold to seal better to the head
31. Install the oil drain flange onto turbocharger
32. install brass barb fitting 90 degree to turbocharger outlet
33. Install turbo manifold to engine using factory fasteners, bolt turbocharger to manifold with supplied M10 bolts, nuts and lock washers. **Make sure you put in all supplied gaskets! Thick gasket in Evolution wastegate box goes from manifold to wastegate**
34. Install wastegate, downpipe and attach using supplied hardware. Be sure to
35. Install top 2 o2 sensors from factory manifold, discard the bottom 2 heater sensors, use a small amount of anit seize if available to prevent seizing between threads
36. Plug downpipe 02 hole with fitting, or use aftermarket wideband gauge
37. Use high temp silicone for 3 bolt flange connecting the downpipe
38. Install ECU bracket relocation with factory fasteners and attach ECU to bracket with supplied ¼"-20 nuts and bolts.
39. Front bumper tow thread/hookup needs to be cut away to install TR8 intercooler, TR6 intercooler can be substituted if you do not want to cut the tow hook.

40. Install TR8 Intercooler using supplied brackets and self tapping nuts in the center of the bumper
41. Install complete intercooler piping and tighten T-bolt clamps down by hand, use of an impact gun will bend the aluminum tubing if not used carefully.
42. Install MAF sensor into pipe with supplied bolts and plug into harness
43. Alternator and wiring close to downpipe needs to be protected with heat shield.
Wrapping exhaust downpipe will also aid in keeping under hood temperatures lower
45. Connect oil supply and drain lines
46. Install filter

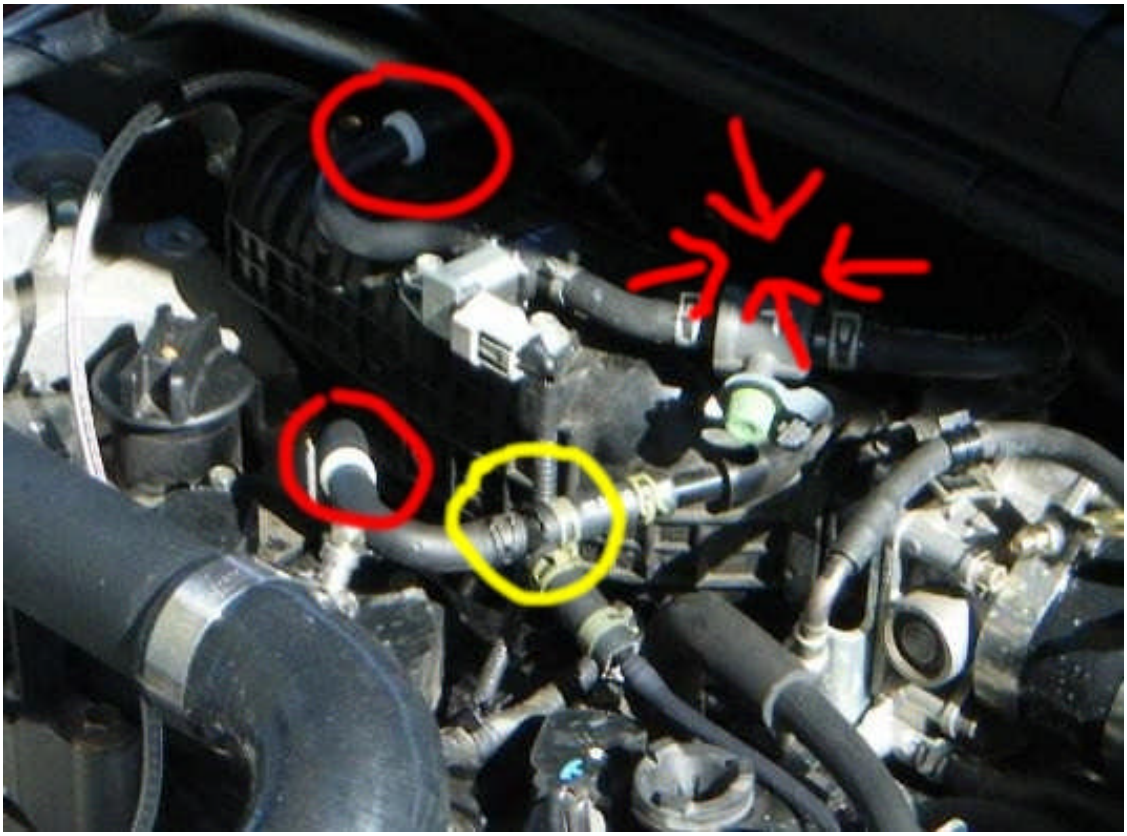




47. Check valves need to be installed so the brake master cylinder does not see boost, as well as the valve cover. When installing them, blow through them to test them, and position them in a direction from the manifold so the maser cylinder and valve cover does not pressurize. **If installed wrong, you may not have power brakes, use caution when installing!**

Use supplied clamps on either end of check valves.

48. In picture below circled in yellow, a Tee adapter is installed to supply all the necessary components with boost pressure and vacuum. 3/8” Tee adapter goes from manifold vacuum source to valve cover, also inline with check valve (circled in **Yellow**) Cut 3/8” hose 2” long and put vacuum reducer inlet to connect to 5/16” vacuum hose. Route vacuum hose under wiring and E.C.U. cover towards front of car. Use Tee fitting to connect boost gauge, Blow off valve, and or boost controller if needed.



49. Battery Relocation kit is needed to move battery to back passenger side of trunk. Use supplied hardware to fasten battery cable away from moving parts, and tucked up inside frame rails as necessary. **Caution**! An inline fuse can be purchased separately for extra precaution when using a trunk mount battery. We recommend an inline fuse to be installed in trunk incase of fire or accidental grounding of the power cable that may cause a fire.

FINAL CHECKLIST

Review these instructions to make sure that all fasteners, clamps & electrical connections have been installed & torque correctly.

• Check that all hose routings are free of any kinks or near any hot or abrasive surfaces, that may cause wear over time. Adjust or reroute as necessary to provide adequate slack for engine movement.

• Refill all fluids (oil & power steering) to factory recommended levels.

• The use of synthetic oil (with the factory recommended oil weight) is strongly recommended, as it will prolong the life of the turbocharger. Regardless of factory recommended intervals, the addition of a turbocharger requires that the oil be changed every 3,000 miles.

• The use of premium octane unleaded fuel is required for proper engine performance and to reduce the possibility of internal engine damage from detonation.

• Cycle the ignition to the "ON" position several times to pressurize the fuel system & check for any leaks. • Start the vehicle and check for any oil, power steering or air pressure leaks.

• **NOTE:** It is normal for the vehicle to emit some amount of white smoke & a strange odor for an hour or two of operation, as the oils within the exhaust pipes burn off.

TROUBLE SHOOTING GUIDE

Car Won't Start:

1. Check injector harness to ensure good connection of pig tails
3. Check coil packs to verify good connection
4. Check fuel pump fuse
5. Check for codes and troubleshoot per code

Car runs poorly. Stuttering, stalling, misfiring:

1. Verify MAF is connected and wires are intact
2. Check boost level. If boost level is other than 7 PSI verify vacuum line fittings are in the correct ports on the BOV and wastegate. For the wastegate the fitting should be in the lower port furthest from the red Turbonetics logo. The upper port should be open.
3. Check for boost leak at or after MAF
4. Verify throttle body is operating properly

ECU throwing codes (misfire):

1. Verify the spark plugs are not fouled and are gapped appropriately
3. Verify the vacuum signal lines are going to the correct ports on the BOV and wastegate

Car not building full boost:

1. Check for boost leaks
3. Verify wastegate boost signal line is installed properly (lower port furthest from logo)
4. Check for exhaust leaks
5. Verify turbo shaft spins freely and has little to no shaft play. If compressor blade tips impact compressor housing inlet contact Treadstone tech support at 305-972-9600

Car running excessively rich:

2. Check fuel pressure

Car detonating under boost:

1. Check boost pressure
2. Check fuel pressure
3. Verify injectors are installed properly
4. Verify air fuel ratio on dyno

Car smoking when coming off boost:

1. Oil drain line not installed properly
2. Oil drain not above oil level
3. Turbo seal failed
4. Verify oil pressure

Maximum boost limits on stock motor:

1. The stock QR25DE has shown the ability to produce good power but the rod/stroke ratio results in very high piston speeds and the stock rods are marginal. Treadstone does not recommend increasing boost
Pressure beyond 8psi
3. The addition of camshafts has shown significant gains in power production however increasing power output of the motor is at your own risk.