

# Dyno Check List

In order to avoid costly delays at the time of the tuning appointment, it is best to be prepared. We will at our discretion repair any necessary items at \$90 per hour plus parts. If the car is already on the dyno, the dyno and O2 fee will not be refunded. The car will generally need to be pulled off the dyno and put on the hoist to fix problems.

**BOTTOM LINE:** The car must be 100% in perfect running order to have a proper tune done. It must not leak oil, misfire, or have any other mechanical/electrical issues. Make sure you have read and understand everything on this page. If you have questions, ask before coming in for a tune. I will expect that everything in this list is up to par unless you tell me prior to making your tuning appointment.

## **Electrical Issues**

1. Ensure there are no shorts in any wiring, no loose connections, no exposed conductors.
2. Ensure that you have a properly functioning fuel pump and proper injectors.
3. Ensure that you have a properly functioning alternator and battery.
4. Ensure that there are no engine trouble codes present.

## **Mechanical Issues**

1. Ensure the engine has good compression and cylinder to cylinder variance is within specification. We can help you determine what your compression test results should be for your combination before the dyno appointment.

### Compression Test:

In my opinion, you should know the health of your motor before having it tuned. Your engine should be healthy before putting it through a rigorous tuning or track session. This will also give you a 'baseline' to monitor throughout the life of your engine.

Approximately 'Healthy' numbers –

- 8:1-8.5:1 compression: 150-170 psi per cylinder
- 8.5:1~9.5:1 compression: 170-210 psi per cylinder
- 9.5:1~11:1 compression: 210-275 psi per cylinder
- 11:1+ compression: 250+ per cylinder (highly depends on cams being used)

The tested numbers shouldn't vary any more than 10% from cylinder to cylinder.

### Leak Down Test:

Similar to a compression test, it's another measure of your engine's health. There shouldn't be any more of a leak down % than 10% in any one cylinder. If you are seeing more than 10%, try to find where the air is leaking. You can do this by listening or feeling at the dipstick hole or by taking off the radiator cap and watching for bubbles in the coolant. Air in the dipstick points to the piston rings, ring lands or the pistons themselves. Air in the coolant points to head gasket issues, or cracked or sinking sleeves.

## Dyno Check List

Compression and leak down cost run -Honda \$100.00

Subaru \$180.00

DSM \$100.00

240SX \$100.00

OTHER CALL

(Most app's include new NGK plugs)

2. Ensure that there are no fluid leaks of any type (brake, power steering, coolant, fuel, etc.).
3. Ensure that the engine doesn't burn oil or coolant.
4. Ensure that all your intercooler clamps are tight and that couplers don't have holes. You don't want a blow off during a dyno session.
5. Ensure you have brakes that work in case we need to drive the car after dyno tuning.
6. You may need cooler spark plugs; either bring them with you, or I may have a set in stock for your car. If you need spark plugs during, or after the tuning appointment, be prepared for the cost if we are to supply them.
7. Engine Timing: Make sure if you vehicle has a distributor or can sensor that you can adjust timing that it is set to the OE spec. If you are not able to do so and need use to check before the tuning session there will be a \$25.00 charge
8. Ensure that the clutch doesn't slip.
9. Ensure that the drive train is sound, i.e. no bad cv joints, or u-joints, transmissions, differentials, etc..
10. Ensure Valve Lash is set properly if not it could cause a reduction in power.
11. Turbo bolts need to be loctite and lock washer or likely they will come loose.
12. Any new engine with head studs need to be re torque to spec after first warm up.

### **Other**

1. The car must have insurance and registration in case a test drive is required.
2. We are not liable for damage to you, or your car due to any issue resulting from work, use of products sold by, or tuning done by Speed Industry. By deciding to modify your car you take responsibility for anything that may go wrong. If you don't like the sound of that, then keep it stock.
3. ENSURE THAT THE PROPER FUEL OCT. AND THERE IS PLENTY OF FUEL IN THE CAR.

On a final note, it just plain makes sense to be prepared when scheduling a dyno appointment. If something is in question, just address the problem before, so that it doesn't cause problems during testing. Also anything above we can take care of before your dyno just make sure adequate time is given.

### **Signature:**

X\_\_\_\_\_.