

Corvette Autocross Prep

By Paul Hamersly

Lubrication – Thoroughly lube all ball joints and tie rod ends, as applicable. I recommend quality synthetic grease.

Engine oil – Has it been changed recently? Are you using Mobil-1? Is it full? Note, most authorities recommend over-filling LT1/4, LS1/2/6 engines by one-half quart before a track session.

Power Steering Fluid – Change your factory PS fluid to Red Line or other quality Synthetic. It will withstand the heat generated much better, prolonging the life of your PS pump and the steering rack. Every 3-4 events, use a turkey baster to remove the fluid from the pump reservoir and refill with new Red Line.

Brake Inspection – Check your brake pads. Do they need replacement? Are your rotors good?

Brake Fluid – I recommend a complete brake system fluid flush at least once a year, and bleeding at the calipers after every 3-4 autocross days. Use high temperature brake fluid. The most important number in brake fluid rating is the “dry” boiling point (the wet boiling point is more important if you do not regularly change your fluid, but frequent changing/bleeding will eliminate moisture). The higher, the better. The higher rated fluid will withstand greater temperatures with less loss of braking capacity. If you are doing track days, you stand a very high likelihood of boiling the fluid in the calipers. It is a very good practice to bleed your brakes after each high speed track day. This will eliminate the boiled fluid from the calipers. Race quality brake fluids include Motul 600, ITE SuperBlue, and Castrol SRF among others. These are “DOT 4” fluids. Do not use “DOT-5” synthetic fluid, as it will damage ABS systems.

Wheel Bearings – Check each wheel bearing for play. Jack each wheel off the ground and check by trying to move the wheel back-and-forth with your hands at the 12 and 6 o'clock positions. There should be no free-play on C-4 through C-6 cars, and movement of 1/16” or less on C-1 through C-3 cars.

Radiator – Is the coolant clean and full? Have C-4/C-5 cooling systems been burped and topped off? Have you cleaned the space between the radiator and the A/C condenser coils for good air flow?

Seat Belts – Are they free from obstructions? Do locking & “cinch” functions work?

Fire Extinguisher – Do you have one? Does your class require one? Is it charged?

Lug Nuts – Check for even torque. Factory recommendation is 100 pounds/foot. I use 90 because I change wheels often. Using 90 reduces wheel stud stretch potential and when all 5 lugs are torqued to 90, you are still quite safe. Do not rely upon impact wrenches for torque. Using a torque wrench makes sure they are equal and greatly reduces the possibility of rotor or drum warpage. *Note, remove hub caps & lug nut covers.*

Tires – Are they in good condition? Have you checked cold pressures and set them to the point where they will be at optimum pressure after heating on the track? If you aren't sure what starting pressure to run, inflate street tires to about 38 pounds cold before going to the track. Take liquid white shoe polish with you, and ask an experienced driver to show what pressure to start with and how to use the polish to check inflation during your track day.

Transmission and Differential – Have fluids been changed per schedule & levels checked?

Fluid Leaks – Are there any fluid leaks that could create dangerous situations on the track?

Battery – Is it properly secured?

Belt(s) – Are serpentine or v-belts free from fraying and properly adjusted (cars before automatic tensioners)?

Helmet – SNELL-2000 or 2005? The rating class can be either “M” or “SA.” DOT ratings alone don't count.

Alignment – These won't adversely affect tire wear, but your Corvette will handle better. See me individually for advanced settings based upon your individual car and tires. For street and AX, try 1/8” toe OUT front & 1/8” toe IN rear; set camber to -1.5 front & -1.0 rear. Caster will be OK after camber is set. For high speed track events, change front toe to zero or no more than 1/16” out.

Brake Pads – Optional for starting out. Consider upgrading to Autozone's Performance Friction (PF) “Z” rated pads. They give much more stopping power than stock and have a lifetime free replacement warranty! See me privately about higher performance pads and their pros/cons for street and AX use.

Remove Loose Junk – You don't want flying objects to hit you or get under the pedals.