LAP 3, BASIC CAR PREPARATION

his lap we're going to address basic car preparation. Once you've made the decision to experience driving your Mustang on the track, you need to consider a few things when preparing your car. There are items mandated by most tracks, other items that will maximize your track time, and still others that are related only to improving performance. Your first focus should be on reliability. A safe, reliable car is much better than a troublesome one that prevents you from focusing on the track-or worse, making the call to grid.

The coolant catch can is one of the most misunderstood components. A stock item on most cars and a requirement on most tracks, the coolant catch can is commonly a source of problems. At track events, it is common to see an overheated car in the pits venting fluid and a frustrated driver with no idea why it's happening. Many drivers "upgrade" their stock system prior to a first-time track event and sometimes this creates a new problem. Sometimes catch canrelated problems seem to make no sense, as the problem doesn't occur in the first session, but shows up after the second or third time out. The solution lies in understanding how the system works.

When your engine runs, the coolant warms, as does any air trapped in the system. All engines carry some trapped air; you cannot get it all out. As the coolant and air heat, they expand and so pressure rises. Ideally, the expanding coolant and air stabilize at a pressure less than that at which the radiator cap is designed to vent.

When coming off the track and into the pits, the engine is usually carrying more heat than it ever sees on the street. When the engine is shut off, the temperature rises further, until the radiator cap vents through the vent hose into the coolant catch can. In the catch can, there should be sufficient fluid to keep the tip of the vent hose submerged such that later, when the engine cools and the air contracts, a slight vacuum is created in the catch can, which draws fluid back from the catch can, through the vent hose and into the radiator. Over time, the cycle repeats and eventually, the majority of the air is expelled from the system and the situation stabilizes.

The key to system stabilization is a vacuum seal both at the radiator cap and in the vent hose. If you have a slight vacuum leak, the system draws air-not fluid-back into the radiator as the engine cools. The next time out on the track, you have more air in the system than you started with, more air to expand and thus a more rapid rise in pressure and a greater loss of fluid. The cycle repeats and only gets worse. This is when people start blaming the radiator, radiator cap or the water pump. All you need to do is let the system cool, fill it with water, and make sure the coolant catch can has some fluid in it and you don't have a vacuum leak.

The rear-end vent is another source of concern. Sticky tires and high speeds will create sustained side G-forces that will cause you a problem. Your Mustang vents the rear axle from a fitting on the top of the axle tube (usually on the driver's side), into a rubber hose that extends up into the frame. This arrangement works fine for the street, but G-forces on the track will slosh the gear oil from the center section, down the tube along the axle, and hold it there long enough to fill the vent hose with enough oil to make a mess of the underside of your car. A catch can mounted in the trunk and draining back to the axle tube will solve this problem.

Good, strong, non-fading brakes are necessary for you to fully enjoy your car on the track. The stock setup is more than adequate, provided the street pads are replaced with one of today's carbon kevlar designs. These new designs are more than adequate for the track, even without the addition of dedicated cooling ducts and specialized rotors. The carbon kevlar pads respond best when very warm, so make sure you get them up to heat before demanding maximum breaking. Also make sure you put you street pads back on for street driving-or you're likely to slide down the driveway or through the garage while attempting to stop your car with cold brakes.

You need to mount a good fire extinguisher where you can easily reach it while you are fully strapped in. This means that with belts tight, you can reach the extinguisher, remove it from the mount, and deploy the contents without delay. Check this at home in the garage with your helmet on. Odds are you'll

never need to use the extinguisher, but the self-confidence obtained by proving it to yourself will inspire future calm and confidence when you need it most.

A checklist is another good idea. Obvious items to include are: Lug nuts tight? Brake master cylinder full? Minimal steering play? Hood pins installed? Full of oil? Radiator and gas caps tight? Dipstick in?

When on the track, it is your obligation not to create problems that affect others. Laying down fluids, dropping parts and constantly breaking down create unsafe situations that have an impact on other's ability to enjoy themselves. Having made a substantial investment in time and money to get here, you don't want someone else affecting your track time, right? Think about it. It's an obligation. Others are counting on you to do exactly the same.

Things happen, parts fail and cars breakdown, but there is no excuse for not being prepared. When your car is submitted for technical inspection, you are representing it to be track worthy. Start regularly breaking down on the track, and the watchful eye of the chief steward will be upon you. Experienced chief stewards recognize the difference between working through mechanical issues and not being prepared. A good chief steward will not hesitate to put you on the trailer rather than spoil the weekend for others...so make like a Boy Scout and "be prepared".

See you next lap,

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Roadracer

