



The crate debate

How can promoters maintain a level playing field for all?

Few topics have created greater controversy within the racing community as crate motors. Praised as the saviour of grassroots racing by many, and scoffed at by others, a spirited conversation is guaranteed whenever the subject is brought up.

Introduced as a means for increasing car counts by providing a lower cost alternative to custom built engines, crate motors have gained widespread acceptance in the Late Model division.

Although both Ford and Dodge also have crate motors available for competition, the 400 horsepower offering by GM has achieved the greatest acceptance. Priced at \$5,800, nobody can dispute the value they offer, although you're coming up on \$10,000 by the time you throw in the necessary water pump, carburetor, headers, clutch and other components. This compares to the \$20,000 people are paying for custom built engines.

Looking back at 2006, it's clear that crate-running teams enjoyed a distinct advantage in terms of results. Did the crate-powered teams simply put more effort into their race programs?

While hard work is no doubt part of it, it seems much of their success can be attributed to the aluminum fast burn heads, stepped headers, a large four-barrel carburetor and a small lightweight clutch that were granted to the crates to make them more competitive.

I acknowledge that crate powered cars have tighter RPM bands to operate with. And as a result, keeping up the race car's momentum on the track is of paramount importance.

However, successful race teams have not limited their engines to the 5,800 maximum RPM that GM recommends. I would be interested to compare the rated versus peak horsepower and torque figures, especially as the engine approaches the mandated 6,400 RPM rev limiter.

To address this performance gap, several tracks have amended their rules to give custom built motors a chance to keep up.

The issue of cheating is another hot topic that comes up in almost every discussion involving the crates.

For as long as rules have been written, race teams have worked to find ways to bend or secretly break them in order to gain an advantage.

While I'm not suggesting that the crate engine has created a field of cheaters, it

does, however encourage engine builders to extract everything that the rule books allow, requiring each track's Technical Director to pay close attention. At least with crate motors being sealed at the factory, the tracks do not have to worry about anyone cheating. Or do they?

The crate motors are sealed with special, break-away bolts at several locations, with the intention of preventing race teams from modifying their engines. The distribution of the special bolts is tightly regulated by General Motors, which has led many Technical Directors to assume that the engine is legal if the bolts do not appear to be tampered with.

However, rumours abound that the special bolts are not controlled as tightly as General Motors would like the tracks to believe and that several engine shops have created their own bolts that have successfully passed the lax tech inspection.

The GM performance catalogue advertises that a simple cam swap and the switch to 1.6 roller rockers will improve the base 385 horsepower engine that crate motor is based on to 430 hp.

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And 500 horsepower is achievable by switching to lightweight internal components and porting the heads for better airflow. Although the penalty for being caught cheating with a crate motor is a full-year suspension, the allure of obtaining a competitive advantage – in combination with relaxed inspection procedures – may convince some teams to try their luck.

Performing a thorough technical inspection on any engine is a time consuming, costly process to both the speedway and race teams. Replacing specialty bolts each week on a crate engine would undoubtedly raise this cost even more.

Therefore, with many tracks turning a blind eye to the possibility that the crate engines can be tampered with, the crate program becomes even more attractive by providing a free pass through tech lane.

To ensure the continued success of the crate program – and to silence the program's critics once and for all – an alternate check to thorough inspections must be

developed for the crate motors.

One option is to test an engine's actual horsepower and torque on a dynamometer. Random dyno testing by the track is an easy way to determine the legality of a crate motor without the need for a complete teardown.

If the engine does not perform within reasonable limits of the manufacturer's stated ratings, further analysis will be required. Unfortunately, using a dynamometer to test an engine is quite expensive and the required facilities or time requirements may not be convenient for either the track or race teams.

The I.M.C.A. (Int'l Motor Contest Association) has been successful in providing and enforcing a consistent set of rules designed with affordability in mind by introducing the option of engine claims.

Enforcing a low claim price has deterred teams from spending a large sum of money on their engine. Local speedways could follow the IMCA's lead by instituting an engine claim rule for crate motors.

Although I think that the engine claim rule is a great option, it requires the competitors to actually use it to be effective. The high cost of making a claim for a crate engine will limit participation from the teams. Therefore, local tracks must maintain responsibility for this program.

A solution to this issue could be employed by area speedways. Having a track-owned crate engine provides the Technical Director with the option of switching it with any crate-powered team that it deems suspicious. This allows the track to enforce an engine claim rule, while removing the responsibility for enforcement from the race teams.

Without question, crate motors have exceeded all expectations. They provide a lower cost alternative to custom-built engines and many top teams would not be racing in the Late Model division without their introduction.

However, the level of success experienced by crate-powered teams has had an effect that is in direct contrast to their original purpose. To remain competitive, teams with 'built' engines have been forced to upgrade their equipment. I believe further concessions are still required.

The bottom line is that speedways must find a way to ensure that crate motors are not being tampered with.

Because love them or hate them, crate motors are here to stay. ♦