

# THE PROS AND CONS OF CRATE ENGINES

## **Why is a Crate Engine Better than My Current Engine?**

Cost!!!! Engine costs are going up every year. Cost is the number one reason why less and less racers can afford to race each year. Car counts are down across the country due to the increased cost of racing. The cost to build a competitive short track engine increases every year. As new parts are developed and tested, it becomes harder and harder for racers on a budget to be competitive. A racer with a larger budget than his peers is at an advantage, he is able to keep up with the latest technology and purchase the latest components for his engine package. Cost is also a factor in attracting rookies to the sport. As the cost of racing is reduced, more and more rookies and other competitors will be able to start racing.

## **Why Obsolete my Current Engine?**

Generally, engines are only competitive for 1-2 years, during that time they generally need rebuilds and extensive maintenance. After two years, most teams have to build a new engine because it is outdated, worn out or broken and requires extensive costs to rebuild. If a Crate Engine is an option at the track and allowed to compete, it has generally become the engine of choice after a period of 1-4 years so your current engine will not be obsolete. There will be some "concessions" such as weight breaks in an effort to make both engine packages competitive just as your current engine went through when the rule was introduced. After 1-5 years our experience has shown that the sealed Crate Engine's value makes it the engine of choice. In addition competitors will find that when all teams use the same engine package, racing will become more competitive. The real challenge then will come down to driver skills and chassis set up. It also minimizes track tech time and issues and complaints of cheating. Most tracks will choose to continue with the current engine rules and make crate engines optional. This allows current engine builders the chance to continue to build engines of there configuration.

## **Will I be Competitive?**

That depends on several factors. The ASA program has proven that anyone can be competitive. Last year and this year "Rookie" drivers have won races in ASA. The ASA program is a great testimonial that anyone can be competitive when the playing field is level. That is why NASCAR is so popular. Can a crate engine be competitive on the short track? Yes, one track in NH built a 430HP crate engine, installed it in a two year old late model car and asked the 4 top drivers from the prior year to drive it. All four drivers broke the track record with less HP. They found that they were loading and unloading the chassis with their old engine package and were smoother with less HP.

## **What Crate Engine Should I Use?**

Review your local tracks rule book for your class to see which engine package is legal. GM will have several engine packages available that should fit most classes without adding or subtracting much weight. If you have questions contact your local track for a copy of the rules or talk with the track officials.

## **What about Durability? Will a Crate Engine Last?**

GM's Crate Engines have proved themselves on and off the track for durability. Hundreds of engines have competed full seasons at local short tracks around the country. They have been successful at 12 hrs of Sebring, IHRA drag racing and the One Lap of America. Some engines are still competitive after two seasons with normal maintenance. The ASA program has proven that "Assembly Line to Race Track" can work. ASA engines are on their second season with no reported engine failures other than team errors.

## **What if My Engine Fails?**

Most crate engines carry a warranty. But the warranty is void when used in racing applications. They will however as a general rule of thumb replace the engine on "new defective failure". That is: if the engine fails within the first initial start up it will be replaced. This will be at the discretion of the factory upon inspection of the engine.

## **Will I be Able to Race at Other Tracks?**

Currently more and more race tracks are adopting crate engine rules. There are at least 25 tracks in the USA using crate engines. Tracks from as far away as FL, to the East and West Coast and North Carolina have crate engine rules that are successful. As more tracks locally adopt crate engine rules, competitors will be able to race at several tracks a week. Other factors such as tire and chassis rules will affect your particular class at those tracks. If more and more tracks adopt similar rules, a day may come when you could load up your family and race car and take a vacation to visit a relative and race at another track for experience.

## **Why is The Engine Sealed and Who Will Police Them?**

Sealing the engine is the only way to prevent tampering and keep the engines competitive. Sealing engines will have to be done locally. The local track can approve one or two engine builders for rebuilds and track servicing. The track or engine builder will be responsible to keep records of serial numbers on the seals and make emergency repairs at the track such as a bent push rod. Hefty penalties and suspensions will need to be instituted at the track to keep the playing field level. GM is developing a kit with the necessary bolts and hardware for sealing engines that can be instituted at the local level. GM is also looking into sealing the engines from the factory.

## **How Much Will it Reduce My Engine Costs?**

That depends on several factors. It depends on which crate engine package is legalized. What class you compete in. How much you currently spend on your engine package and how many times you service the engine during the season will all affect your "Average Engine Costs". On average it will reduce engine costs by 1/3 to 1/2. A typical "Factory Stock" will expect to see engine costs drop by as much as 1/ 2 as the engine will be competitive for an average of two years. That cost will be further reduced because of the initial cost of the crate engine will be lower. On a Limited Late Model where engine maintenance is higher, the "Average Engine Cost" savings will be even more because the engine will can be competitively run all season with only normal maintenance.

## **Where Will I be Able to Purchase the Engine?**

The engines will be sold through a local GM dealer. Some tracks may elect to purchase the engines from the dealer, seal them and sell direct to the competitors. Another option which several tracks have implemented, is allow the local "Authorized" engine builder sell the engines to competitors after installing oil pans and sealing the engine. Contact your local track and ask how they plan to provide engines.

### **What Will it Cost to Rebuild my Engine?**

The cost for a rebuild will vary depending on the amount of racing hours on the engine. If the engine has limited hours on it and only need rings, bearings and a valve job, the cost will average \$1,500-\$3,000.00 including parts. GM recommends that the rods, camshaft, lifters and valve springs be replaced after two years or 300 hours of use. The current tracks that are using crate engines find most teams elect to purchase a new engine after the second year. Some competitors have three years on their crate engine. The rebuild costs vary due to local labor rates and what each engine actually requires, so it is hard to estimate the true cost in each application.

### **Will My Carburetor be Obsolete?**

GM is recommending use of a 650 CFM 4BBL carburetor on the crate engines. There are several reasons GM is recommending use of the 4BBL carburetor. First, the engine is more efficient with the use of a 4BBL carburetor and is affected less by temperature changes with the lower compression crate engines. Second, 2BBL carburetors cause a restriction on the engine. Small CFM increases in flow will have a larger effect on HP gains than an efficient 4BBL carburetor used on a low compression engine. Third, engine damage & failure is more prevalent on restricted engines. It is harder to tune a 2BBL engine, easier to lean out the engine due to dirt and debris and poor carburetor tuning. Currently well funded teams and engine builders spend more money and time to develop 2bbl restrictor engine packages. If Cost is a concern, then tracks can institute a "Claimer Rule" on the crate engine 4BBL carburetor to try and reduce the money higher funded teams will spend to gain an advantage.

### **What if I Want to Race a Ford or Dodge?**

ASA has successfully proven that if all teams run the same engine package and are able to use other makes sheet metal (Ford & Dodge) that the racing is very competitive. GM's crate engines are very affordable compared to building a competitive Ford or Dodge racing engine. Currently Ford or Dodge does not offer a crate engine package for use in circle track racing. GM is advocating that Ford and Dodge create a comparable crate engine package so individuals who want to race a Ford or Dodge can compete on the same level.

### **What are the Benefits of a Crate Engine Rule?**

You will notice several benefits right away. First, your initial engine costs should be reduced at the beginning of the year. Second, your "Average Engine Costs" should be reduced over the course of a season. If you elect to use the engine a second year you will see a tremendous drop in engine expenses. Third, all your competitors will have the same engine and competition will be close. (This is why NASCAR is so popular) Fourth, teams with more budget will not be able to "Out Spend" you in the engine bay and make you un-competitive. Fifth, with lower costs and more competitive racing more cars will be racing and the purse should go up. Finally, do you really know how much HP your engine makes? Most local engine builders build a different combination each time and do not dyno them or has access to a dyno. So how does he really know how much HP each engine makes? GM will give each and everyone the same engine package. With a sealed crate engine everyone will have the same chance to win; no one can out spend you to buy the checkered flag at the end of the night.

### **What Happens When My Engine is Worn Out?**

The teams can elect to sell the engine to another team that may have it rebuilt at the tracks "Authorized Rebuild Center." Or they may sell it to someone who is looking for an engine for their HotRod, Street car or truck. By changing oil pans and rebuilding the engine it will be similar to the crate engines we sell for off road street packages. The parts used in the crate engine packages are 4-bolt blocks, good cranks and rods which are becoming harder to find. These pieces make excellent parts for high performance use.