

ENGINE BUILDER

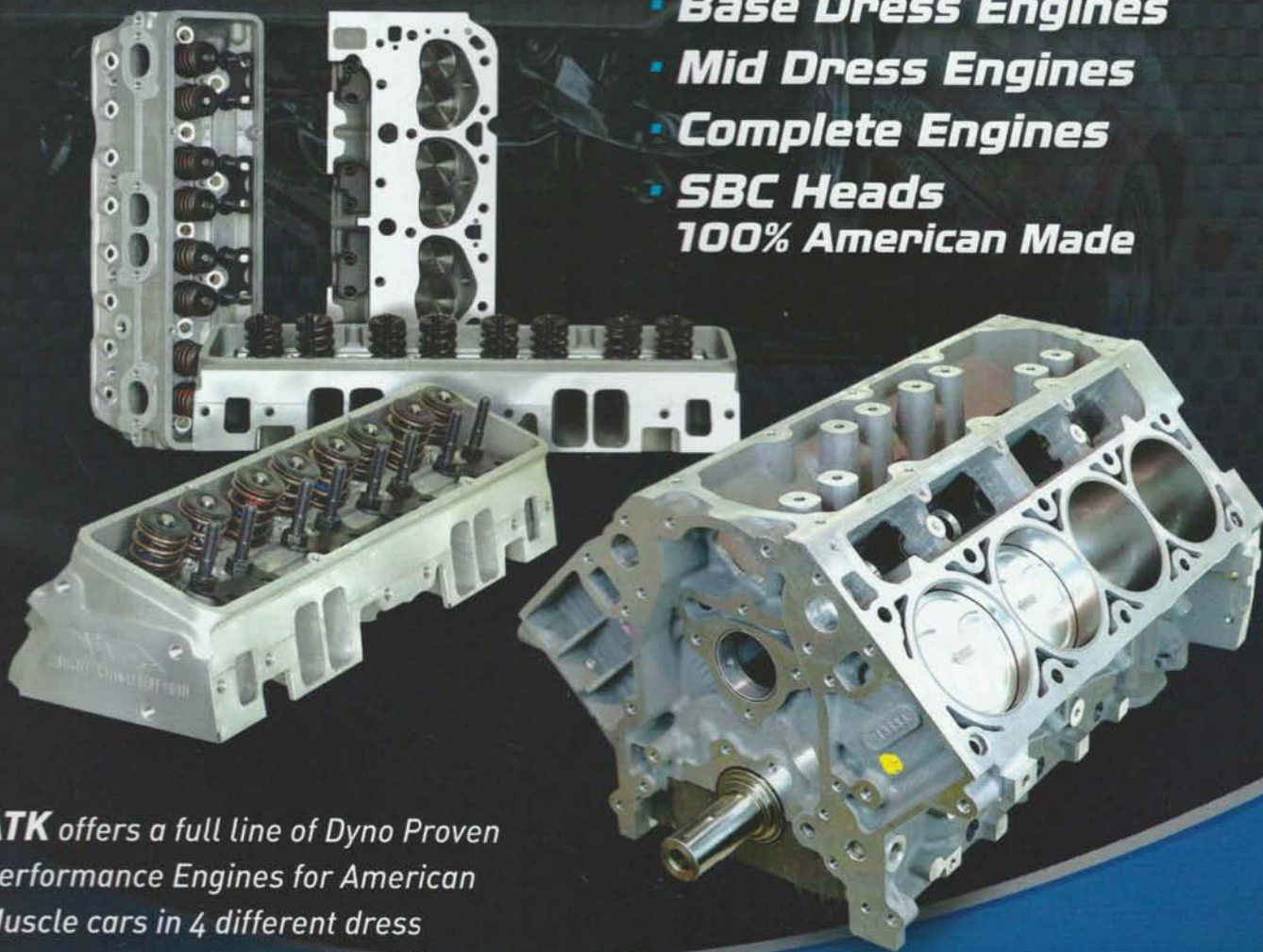
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"The oil industry did not specifically address biodiesel fuels with their new API CK-4/FA-4 specifications. This means it is up to individual engine manufacturers to specify amounts of biodiesel fuel their engines will tolerate. Most manufacturers currently use the use of up to 20 percent (B20) biodiesel in their latest engine designs."

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number than gasoline so engine builders can utilize higher compression ratios when building engines for fuels. A 2-point increase in compression ratio (CR) can easily produce a 10 percent horsepower increase.

Another advantage gained from using alcohol fuels is cooling. Alcohols have a very unusual heat of vaporization. As a result, the intake charge on an alcohol-burned engine is significantly cooler than when burning gasoline. This in turn lowers combustion temperatures, which lowers heat rejection into the cooling system and NOx emissions. You alcohol burners can claim to be emissions friendly or "green."

The primary lube oil problem encountered when using alcohol is water. Alcohols absorb water everywhere, including humidity. The more water an alcohol fuel contains, the less horsepower it will produce per gallon of fuel burned. Be sure your alcohol fuels are sealed up at all times.

Alcohols also have a tendency to be aggressive to viscosity index (VI) improvers and some types of dispersants in typical lube oils. To test each race, place a sample of the oil into a glass container. Allow the container to stand overnight. The sample contains considerable deposits the next morning, you have an alcohol-related problem.

Many racers just change oil every race to minimize the amount of water in the oil and guard against additive depletion. You may consider switching to a high-grade oil (e.g., from SAE 10W-40 to SAE 20W-50) to be certain you have sufficient lube oil film strength.