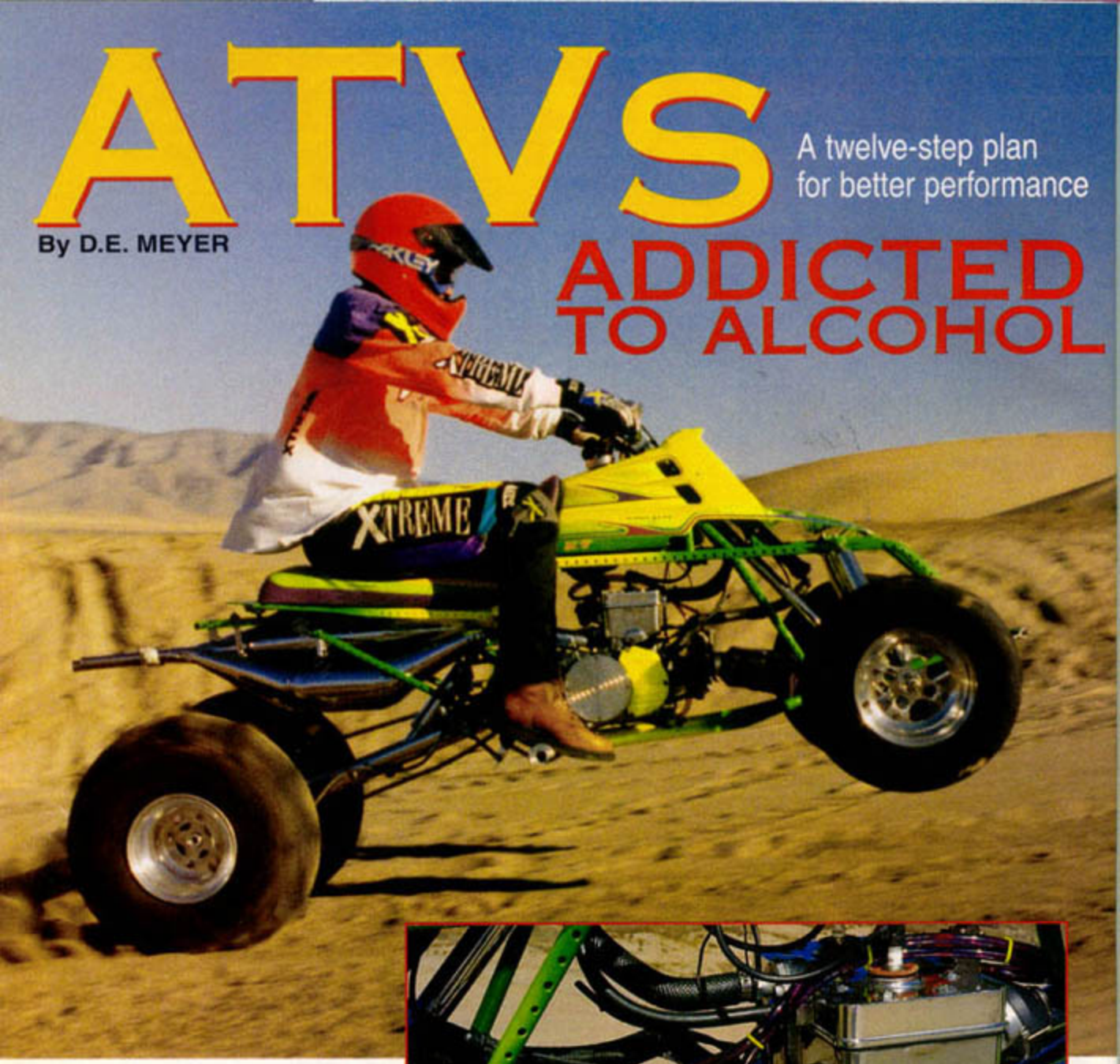
# ATVs

A twelve-step plan for better performance

By D.E. MEYER

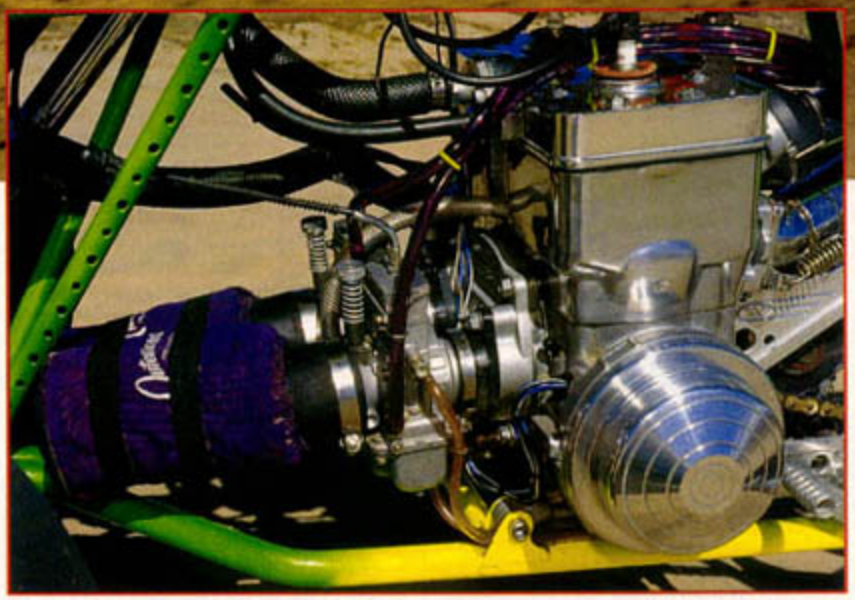
# ADDICTED TO ALCOHOL




Are you a hill-shooter tired of eating roost instead of giving it? Are you tired of drag racing your friends and always being the one having to come up with the excuses for why you lost? Are you running out of those excuses? Do you now spend your time at the dunes hanging around camp consuming large amounts of alcohol rather than facing the continual embarrassment of being called slow?

Well, you're putting that alcohol in the wrong place pal! Statistics show that, although personal consumption of alcohol actually slows your motivation as well as reaction time, ATVs that consume alcohol can increase their performance by as much as eighteen percent.

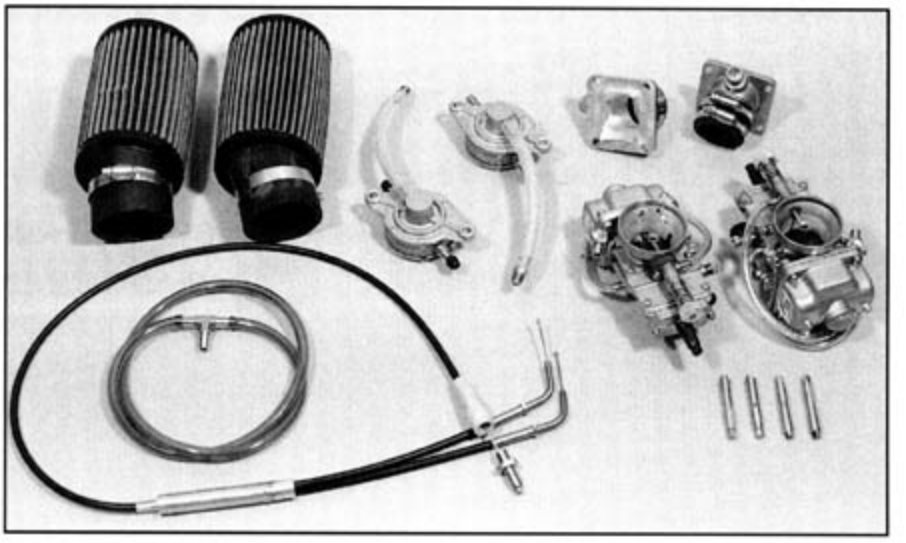
If you want to run with "the big boys" without investing serious money on stroker cranks and big bore kits, or if you already



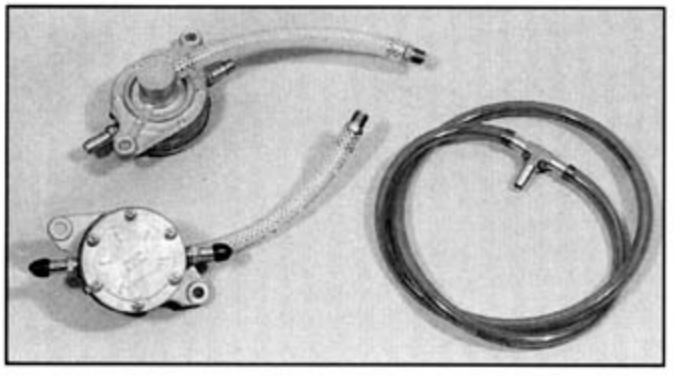
**FTZ makes alcohol carburetors and kits for most applications from single cylinder engines, to large displacement fours — 2-stroke or 4-stroke. They also sell other high-performance parts, from racing ignition systems, pipes, heads and clutches, to complete ready-to-win racing engine packages. Randy Muchmore, above, uses FTZ alcohol carburetors on his custom-framed, Rotax-powered, mega-horsepower hill shooter.**

have a highly modified hill shooter or drag bike, then alcohol can be a cost effective and reliable horsepower addition to increase speeds and lower ETs. It's as easy as FTZ.

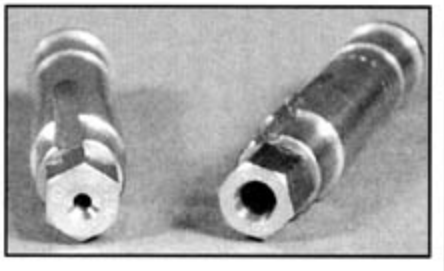
FTZ Performance out of Cape Girardeau, MO, has been in the business of building very fast motors since the 1980s. Starting with gas ATV flat track and TT motors, they quickly moved on to build alcohol motors when they got involved in micro sprint racing. Since then, they have been the winningest micro sprint builder for eight years running, winning several National Championships in the process!

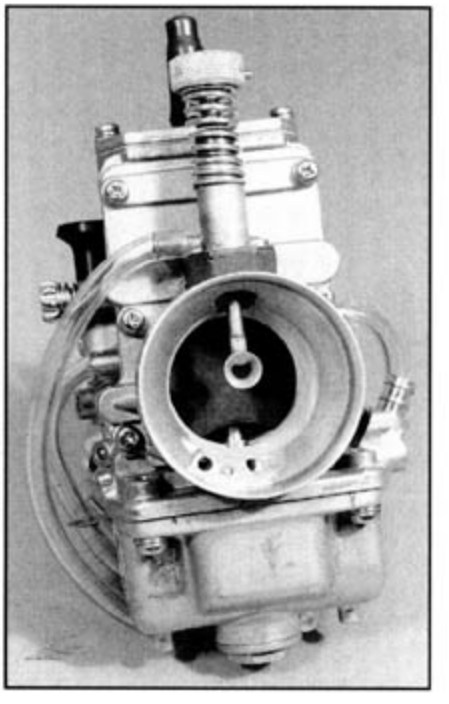


**RIGHT, here's the entire kit as needed to increase the performance of a Banshee by as much as 18%. A pair of larger intake manifolds, FTZ booster jet-modified Mikuni flat slide carbs, extra jet kits, and K&N air filters. BELOW, FTZ recommends using twin fuel pumps, special fuel line and filters for full throttle runs that will last longer than 8 seconds.**



**The booster jet, right, is designed to better atomize the fuel and create a fog directly down the bore of the carburetor. The knob can be turned to adjust the mixture. BELOW, jet on left is a stock gas jet and the one on right is an alcohol jet. Volume is where the power comes from, since alcohol allows for a far richer mixture than gasoline.**





For those of you not familiar with micro sprints, or micro midgets as they are sometimes called, they are basically downsized sprint cars powered by 125cc, 250cc, and 600cc motorcycle engines. In micro sprint car racing, engines are forced to withstand running the majority of a race with the throttle wide open.

Jon Fitzpatrick, owner of FTZ, was attracted to this type of racing largely due to this aspect. The modified gas carburetors that the micro cars were using at the time were a source of many problems including seized engines and burned pistons. Jon realized that a good, easy-to-adjust carburetor was crucial to engine reliability and consistency. The Booster Carb was the result!

Because the micro sprints' engines are basically the same as ATV engines, Jon says it was just a natural progression that lead him to use the same alcohol setup on ATVs for drag racing and hill racing.

Alcohol, or methanol as it is also called, increases horsepower by increasing the volume of fuel that is able to flow into the combustion chamber. Although gasoline contains more BTUs per gallon than alcohol, it will not run in such an overly rich condition.

An ATV engine running wide open on alcohol will actually consume about twice as much alcohol as it would gas. Considering alcohol can be purchased for around $1.25-$1.50 a gallon, that's still cheaper than racing gasoline. Fuel-grade methanol is usually available through speed shops and oil distributors. A castor-based oil should also be used, as petroleum and some synthetic oils will actually separate in a methanol mixture.

If fuel pumps are used, they should be located as close to the engine as possible and mounted vertically to keep the vibration from upsetting the pulses of the diaphragms in these snowmobile-type pumps. A small fitting will have to be installed in the cylinders to pulse the pumps from crankcase pumping. Years of racing and thousands of

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# PIPES

**FTZ's pipes really suck! That's what makes them so good. FTZ's specially designed Fat Boy pipes are manufactured expressly for that purpose. The increased scavenging helps draw the rich, heavy alcohol fuel mixture into the engine, as well as exhaust it. FTZ can specially design a pipe for any ATV, gas or alcohol burning, to work best in the rpm range that you desire.**

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dyno-runs have also resulted in many little secrets that Jon will readily share. He suggests you remove the stock petcock, remove the stock filter, and then drill out the opening of the petcock to allow for a greater amount of fuel flow. Then use a good quality fuel line and filter with a nylon or metal screen, as both alcohol and caster oil can easily clog a paper element. Minimum fuel line diameter should be 1/4 inch. If you retain a gravity-fed system, it is best to use 3/8-inch line.

While the normal gravity-flow fuel delivery system will usually suffice in a 300-foot drag race, Jon recommends that, on big bore engines and on certain "thirsty" engines, a fuel pump be added to ensure that the carbs keep as much fuel going in as is going out.

It is also recommended that you flush the alcohol out of the system with a gas/oil mixture at the end of the day. This keeps the alcohol from gumming the fuel system and condensing and forming moisture that can cause the internals to develop rust.

The main ingredient of the alcohol conversion is the carburetor. FTZ uses Mikuni flat-slide carbs with their kits for several reasons. The Mikuni has a better area to mount the booster jet. The Mikuni also allows the needle jet or "dump tube" to be changed. This allows each carb to be tuned over a broad range of applications. The main jet and pilot jet are also separate, again allowing for more specific tunability. For 1997, FTZ has also specially machined the Mikuni's bore and intake bell, providing even more superior fuel delivery and less loading-up at slow speeds.

The kit can be installed easily, and they come with complete installation instructions, including tuning, set-up, and other general tips. The kit is not cheap, but speed never is. However, if you've exhausted the allowable supply of ccs, drilled out metal until the frame whistles when the wind blows causing it to sag in the morning dew, then like a rap singer without a hit, alcohol is your only hope! •