HUNTING FOR PERFORMANCE: MATCH-BASH SHOWDOWN

INDICATIONS ARE that not much direct competition between "factory hot rods" will be seen in top stock classes on dragstrips next season. Manufacturers again seem to be avoiding each other. Ford will put its major effort into the AA/S class (which may be changed to "A/S" next season), using high-performance 427 wedge engines (425 bhp) in medium-size Fairlanes and Comets. On the other hand, the new Dodge-Plymouth 426 Street Hemi will run in the Super/Stock class. Chrysler Corp. surely will dominate S/S, and Ford promises to dominate AA/S against older Chrysler, Chevrolet and Pontiac models.

The rules for the A/FX class haven't been completed, so factory plans are still up in the air. Some real confrontations may occur here, however; Ford is prepared to build a few special Mustangs with the sohc 427 engine, but Chrysler may not be willing to tackle the sohc Mustangs if it isn't allowed to radically alter wheelbases and lighten its cars. The factories won't build special cars for a class if they're not fairly confident of winning. So A/FX could be a Ford show in '66, too.

What about the wild exhibition and "match-bash" cars that don't conform to any rules? These drew a lot of attention during the past season. The word is that there will be much less factory activity in this area next year. The cars are expensive, potentially dangerous, and they're not really proving very much—other than that they can put on a noisy gymnastic show for the crowds. There will be new exhibition cars in '66, but probably not more than two or three from each factory. Of course, there will be many new private builders of these cars, so there will be no dearth of action.

THIS NEW trend to factory air scoops for high-performance street and strip engines is interesting. Pontiac's new dealer-installed hood scoop for the GTO essentially is an air box around the triple 2-throat carburetors. The air box seals against the hood. The stock nose piece on the standard GTO hood bubble is replaced by an open piece that allows air into the box around the carburetors. The unit is said to improve dragstrip e.t.s by 0.2 sec. and raise trap speed by 2 mph!

Ford will offer a similar device as standard equipment on 1966 Fairlanes (and maybe Comets) with dual 4-barrel 427 high-performance engines, which were supposed to start rolling off the assembly lines in January. Ford will use a special fiberglass hood with the scoop designed right in, but Ford places the air box around the carburetor air horns. This seals against the hood with a thick plastic foam "gasket" when the hood is lowered. Ford says the seal is good enough to hold a little ram pressure in the air box. This wouldn't amount to much at road speeds. There is a good chance that the air flow at that point would give no ram at any speed. The cool air, which can be up to 60° F cooler than regular underhood air, easily can add 5% to engine output.

It's a surprise that Ford offers a hood scoop as standard equipment on a street machine. It takes very careful design and testing to produce a scoop that won't gulp a substantial amount of water in the rain. Has Ford solved this one? If this Ford thing works, a safe prediction is that a rash of hood scoops will appear on special HP models. Not only do scoops add horsepower, but their appearance lends that high performance aura. Scoops certainly could develop into strong prestige symbols in the youth market, as have triple carburetors, special instruments and magnesium wheels. Developments such as hood scoops are proof positive of the growing influence of the youth market in American car design.

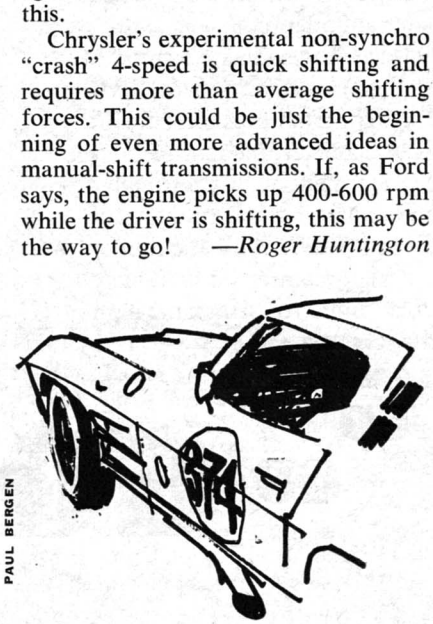
SOME INTERESTING test figures on a Mustang drag racing car popped up at Ford Engineering recently. Engineers were checking the time required to shift a 4-speed transmission, using recording timers and highly responsive recording tachometers. Shifting time was defined as the interval that full engine power was cut off from the rear wheels. Engineers found that shifting time varied greatly with the skills of the drivers involved. A very skillful driver can complete the 1-2 and 3-4 shifts (straight lever motion) in 0.15 to 0.20 sec. The 2-3 shift, across the H shift pattern, takes 0.30-0.35 sec. The times required for the average driver is 50 to 100% longer, or up to 0.60 sec. or more.

There was other information that came out of these tests that was even more interesting than the shifting times. That was the amount of rpm the engine picks up when the clutch is disengaged and the throttle is held open in the classic "speed-shift" technique. It's called "overshoot" speed at Ford. Engineers say it amounts to a minimum of 400 rpm with an expert driver and is 600 rpm with the average driver. In other words, if the shift is timed for 7000 rpm on the tach, the true engine speed will flash to 7400-7600 rpm before the re-engaged clutch hauls it down again. An ordinary electric tach won't show this because there is too much inherent inertia and damping. A sensitive recording tach picks it off and records it for that minute 0.25 second or so that the clutch is disengaged.

That little rpm gain can't be detected from the sound of the engine on a fast speed-shift. Ford engineers say they must design their racing engines to be safe from breaking at 500 rpm or more above the established shift point.

SPEAKING OF shifting time with a 4-speed, a new ratchet shifter has been developed by Hurst Performance Research in Detroit. This device allows all shifts to be made by pushing a lever straight forward a few inches. The lever is pulled to one side and back between shifts to pick up the next gear. This allows somewhat faster shifts than with the conventional H pattern with forward and rearward shift motions. But there is another advantage. The linkage uses a slotted cam plate on the transmission case that moves the shift levers fore and aft and up and down in a pre-selected pattern. This cam plate allows nearly three times as much leverage, or mechanical advantage, in the shift linkage between hand lever and transmission. This permits use of "new gear-shifting concepts" inside the case that may require more brute force than can be exerted manually with present linkages. Hurst won't say any more than this.

Chrysler's experimental non-synchro "crash" 4-speed is quick shifting and requires more than average shifting forces. This could be just the beginning of even more advanced ideas in manual-shift transmissions. If, as Ford says, the engine picks up 400-600 rpm while the driver is shifting, this may be the way to go! —*Roger Huntington*



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