HUNTING FOR PERFORMANCE: JOHN BULL JOINS USAC

IT WAS a surprise when the United States Auto Club (USAC) announced the championship racing circuit will switch to 3 liters in 1968 to get in line with International Formula I. This is surprising because of the apparent lack of available American racing engines in this small size. It is difficult to accept USAC rules that will force American racing men to buy foreign engines.

Then, just a few days later, an announcement was made that Ford (of England) would develop a 3-liter engine for Formula I competition as early as 1966. It will be developed in a special section of the new $28 million Ford Engineering & Research Center in Sussex, England. English Ford has announced an initial budget of $280,000 for the project and says the new engine will be supplied initially to Colin Chapman for his Lotus cars; but it presumably will be available later for other Formula I teams—and eventually the American Championship circuit in 1968.

The announcement came as a bit of a bombshell. Ford of U.S. officials have stated flatly they aren't interested in building small racing engines. But, on second thought, this new move makes a lot of sense. Ford is deeply committed to auto racing in Europe and the U.S. Ford can't back out when it is not quite at the top and there still is much publicity hay to be harvested.

Development of this complex engine in England, at its lower labor costs, may be much cheaper than the recent Indianapolis engine project in Dearborn. Yet, presumably, Dearborn brainpower and engineering facilities will be available for special problems. The whole thing begins to make a lot of sense, because one basic engine could be used to gain racing victories all over the world after USAC adopts the 3-liter formula in 1968.

But everyone can't be happy. Some American racing pros now are loudly wondering what is to become of their new $15,000, 4.2-liter Indianapolis Ford engines!

SPEAKING OF new racing rules, word is out on NHRA's plans for the top stock classes in 1966 drag racing. Harried NHRA officials have been tearing their hair trying to come up with regulations that will encourage the factories to produce healthy competition cars, but will still assure the backyard builder a chance against the big-money pros in factory-sponsored cars. So far they haven't been successful.

The biggest change for '66 is that the minimum model production required for eligibility to compete in "stock" classes has been reduced from 100 units to 50. Last year's 100-unit minimum caused Ford and Mercury to back right out of the picture. The manufacturers believed costs of hand-building 100 special racing cars for the Super/Stock class were much too high when they could reap plenty of publicity with a handful of sohc 427 Mustangs and Comets in A/FX. This left S/S to the hemi Dodges and Plymouths. NHRA hopes the new 50-unit minimum will encourage all factories to produce Super/Stocks next season. These cars still will be required to meet a minimum weight of 3400 lb. with a 427-cu. in. engine (8.0 lb./cu. in.) and a minimum wheelbase of 114.5 in. with 427 cu. in. The 1966 model specifications were to be filed with NHRA by Nov. 1, 1965, and sales availability to the public must be verified. No lightweight body panels will be admitted.

A TALK WITH one of our top professional exhibition drag racing men, who drives an altered and lightened Plymouth on the "match bash" circuit, proved very interesting. He didn't want his name used; but he provided some very significant information on various performance experiments they had tried to get better times. There aren't very many rules for these exhibition match races with full-bodied cars. "Run what ya' brung." In this atmosphere, there are dozens of things that can be done to achieve virtually dragster performance with these big full-bodied cars. This team started with one of the altered-wheelbase Plymouth "funny" cars with the standard 426-cu. in. hemi-head engine (aluminum heads), two 4-barrel carburetors on the ram manifold and pump-grade fuel. Normally the special car weighs only 2800 lb., but in some events the team added ballast to meet the A/FX minimum of 3200 lb., which puts about 65% of the total weight on the rear wheels. This weight makes a good baseline. The team driver quoted approximate elapsed times and trap speeds for various changes from the above baseline performance (with effects being cumulative):

	e.t.	Trap Speed
Baseline: 3200 lb., 426 cu. in., 2x4 carburetors, gasoline	10.9 sec.	128 mph
Replace carburetors with Hilborn f.i.	10.7	130
Reduce weight to 2800 lb.	10.3	135
Increase displacement to 480 cu. in.	10.0	139
Run methanol fuel instead of gasoline	9.7	143
Run 25% nitro in methanol fuel	9.3	149
Special liquid rosin on tires	9.1	149

The figures quoted closely approximate slide-rule calculations on the effects of power, torque and weight on elapsed times and terminal speeds. A few exhibition drivers are turning these speeds, though they are very secretive about engine and chassis modifications. A few have run e.t.s in the high 8s at over 150 mph, but these cars weigh 2600 lb. or less.

This evidence indicates top performers are running at weight under 2800 lb., displacements well over 426 cu. in., a big load of nitro and a good traction mix for the tires!

A DRAGSTRIP TEST on a 1966 Pontiac GTO that had been set up by technicians from Hurst and Royal Pontiac in the Detroit area for competition in the B/Stock class proved surprising. An individual can order one of these cars from the factory with special lightweight construction to bring the running weight (with half a tank of gasoline) down very close to the published shipping weight. Stock cars are classed for drag racing on shipping weight, which is the minimum they can legally weigh for a given class. Normally the running weight is at least 150 lb. above this. So the Pontiac people will build a car to special order with enough of the body insulation and sound deadening material omitted to cut the weight by well over 100 lb. Note: *No* special lightweight body panels are used. It's all done with body insulation. Our test car had a published shipping weight of 3478 lb.—and it came over the scales at 3485 with 10 gal. of fuel.

Probably no other factory will build a light car like this to special order. Company officials say the lighter weight is equally good for street or dragstrip performance. Not enough insulation is removed from the body to leave it with booms and rattles.—*Roger Huntington*