

**Y**'all gonna see some gettin' on with some gettin' on when Hubert Platt ("the mouth of the South") and Ed Terry start campaigning the 429 Mustang early this spring. Seems that Ford's new NASCAR engine (mentioned as the "twisted hemi" in June '68 HRM) will shortly become a production engine and thus will be eligible to run the NASCAR circuit along with the stock car classes of NHRA and AHRA.

You can look for a small fleet of the Mustang 429's to be launched at about the same time Platt and Terry begin taking those very quick trips down the quarter-mile. How quick? Who knows? Probably Ford. But they're not saying. We'll guesstimate low tens. If we went below that you wouldn't believe it, but don't be surprised. What sort of an animal will this beast be? Let's begin with a preliminary dissection of the prime mover.

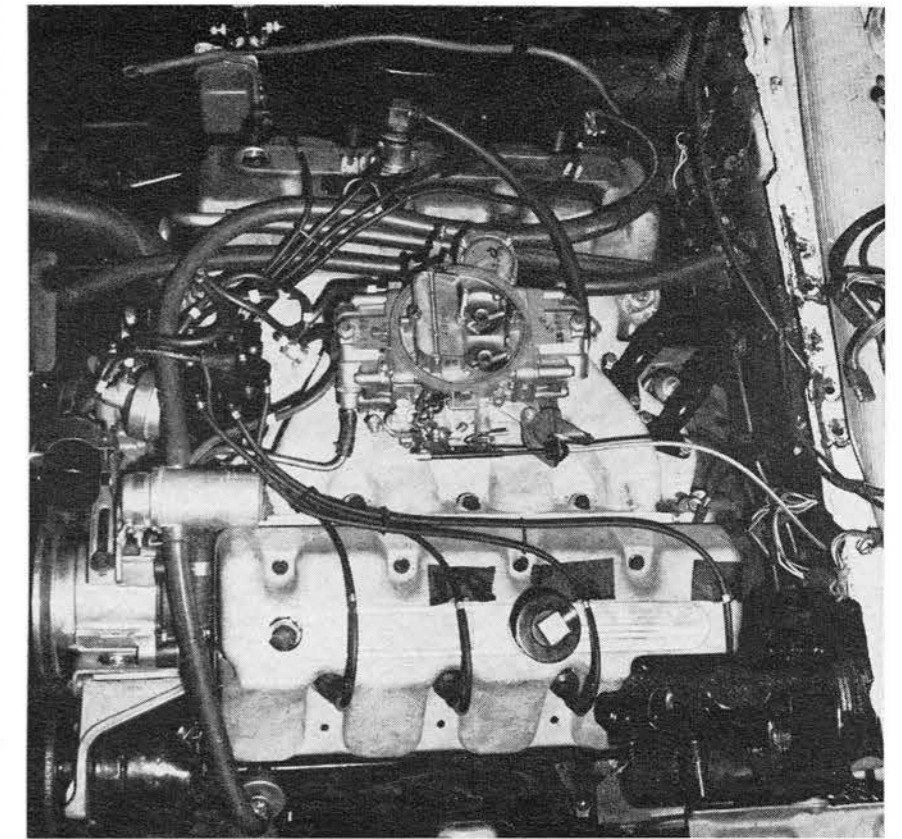
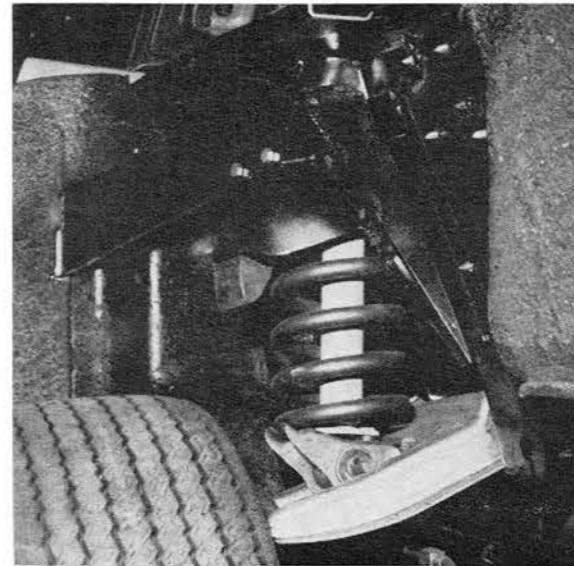
With minor modifications, the short block of the 429 will be the same as that now offered in the Thunderbird and full-sized Fords. Cylinder heads will be different — a lot different. Cast of alu-

minum, the twisted hemi chamber configuration should allow the engine to breathe rather well. The spark plug is placed near the center of the chamber for adequate flame propagation, which is a must in a chamber of this volume. Unlike the conventional wedge, there is a minimum of shrouding and breathing restriction around the edges of the valves. Port and valve size is huge. Notice the radical valve angle which allows for the desirable plug location, moves the intake valve guide to one side of the port, and straightens out the runner for still better breathing characteristics.

Valve actuation is from pushrod to forged arms which pivot from short individual rocker shafts. Full pressure lubrication is provided for each rocker shaft and arm. Although the engine is red-lined for 5700 rpm, the potential has to be far in excess of that figure with that valve train. This is the engine for NASCAR, remember? The intake manifold will be of cast aluminum mounted with a single four-barrel carb

*(Continued on page 36)*

*Surefire telltale sign of the 429 Mustang will be the Cougar-type functional scoop on the hood and a front spoiler. Basic Cobra Jet front suspension is moved outboard by relocation of A-arms; front track is increased.*



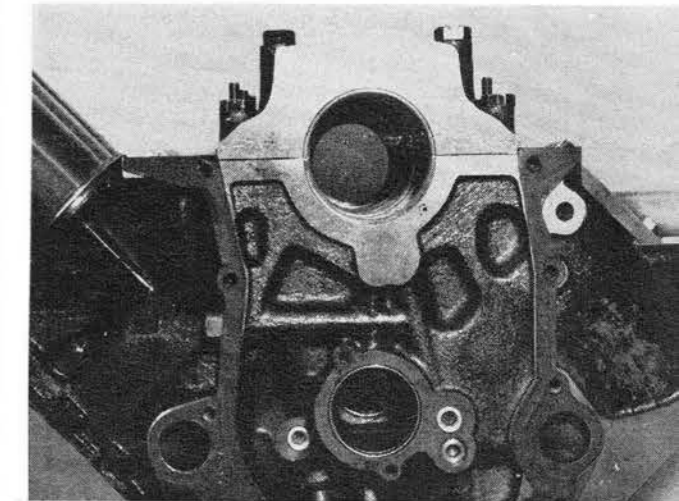
by John Thawley

*Ford engineering raises the temperature of the mustard by putting the 429 "NASCAR twisted hemi" into the popular Mustang. You wanna drag?*

**MIGHTY  
TOUGH  
HORSE**

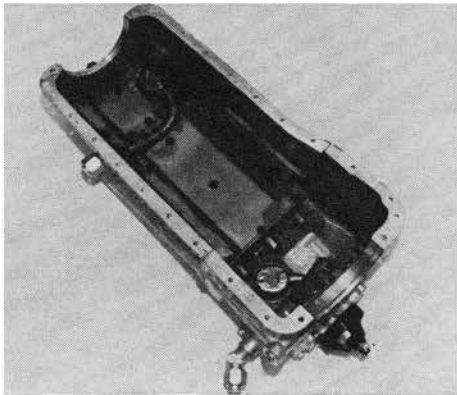
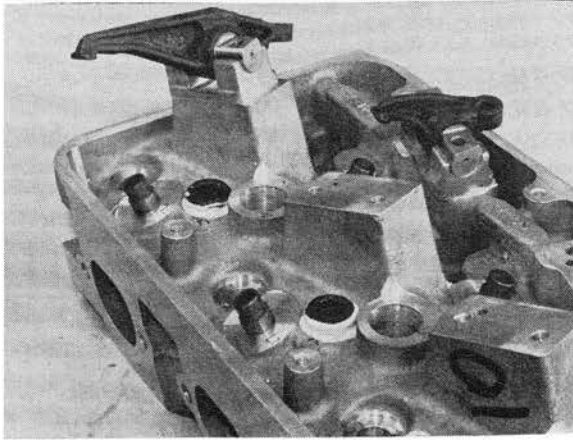


*Cast aluminum manifold mounts a single four-barrel Holley. Manifold is of the low-profile design — mandatory for hood clearance since the 429 is mounted somewhat higher in the chassis than other available engines. Hemi-type plug location should make plug changing a dream compared to big-block wedge. The valve covers have been reshaped since original design in an effort to facilitate removal. Installation headaches were worked out on the unit pictured. The 429 block displays a rugged bottom end with four of the five main bearings supported by four bolts each. Along with most other Ford blocks, the 429 is formed by the thin-wall casting technique.*

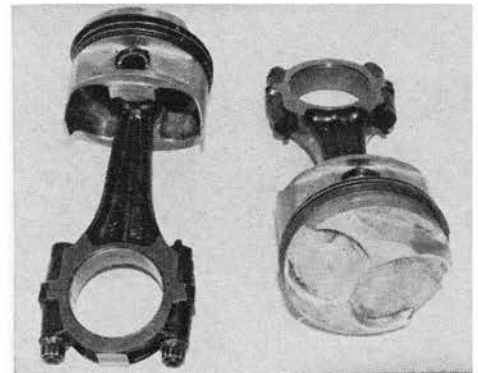
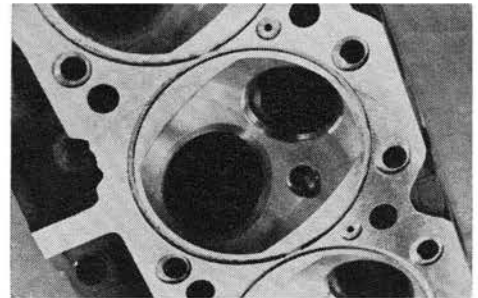


*photography: Ford Photographic and Bob Swaim*





Cast aluminum pan configuration for dual pickup dry-sump system will go in the NASCAR racers, not drag cars. Steel guides position pushrods for rocker arms swinging from individual, fully lubed shafts. Pushrods move to side of intake port. Smile, Hubert, you're on radio! Take a look at that combustion chamber. Stellite seat inserts are used for valve seats. Check plug placement and wide O-ring groove for sealing. Intake seat is cut at 30 degrees, exhaust at 45. First several hundred engines will come with forged rods; after that, castings will be stock. Production pistons are forged aluminum and feature deep pockets for massive valves. Notice the "fueler-type" heft of the rods, which are obviously engineered to stay together under high loading and rpm.



## TOUGH HORSE

—probably one of the higher performance Holleys.

The Mustangs set up for the quarter-mile will carry a number of changes not found in Aunt Suzy's powder blue six-cylinder '69 Mustang. Front suspension starts out as the basic Cobra Jet package with the upper A-arms moved outboard 1/2-inch and lowered a full inch at the suspension tower attachment. The lower arm is then moved outboard in order to increase camber, which is necessary to offset the change in the upper arm placement. Front spring loads and rates have been revised in order to offer somewhat stiffer handling. The vehicle will be one inch lower than any other production Mustang. A below-the-front-bumper spoiler will be stock. All this, plus a slightly modified roof line, seems to indicate a certain amount of thought being given to high-speed stability.

Around back on the 429, the Cobra Jet staggered shock package will be standard and tied into the "Daytona"-type third member which features a larger-than-stock ring gear and heavy-duty locker. Gear ratios will run from

3.50:1 to 4.30:1.

Front and rear wheel fender openings will be reworked to provide adequate clearance for the 15-inch tires which will be mounted on seven-inch rims. Relative to the location of the 428 engine, the 429 will be mounted slightly higher in the chassis. Did someone mention weight transfer?

Brakes will be discs, actuated by a

power booster assembly. Don't look for a long list of options to be available for this unit. If you want air conditioning you'll have to roll the window down. There are no plans to offer the 429 Mustang with any transmission other than the four-speed stick shift. The ribbon on this little package is a thermactor exhaust emission control which means a street legal car.

There is one item which may be unfamiliar to many performance enthusiasts. This production engine will be "dry decked." That is to say that although there is internal communication of coolant between the head and block, there is no conventional head gasket. Each cylinder is sealed between head and block by a stainless steel O-ring. Passage of water between head and block is accomplished by the use of rubber O-rings.

The Mustang grew up bearing the name of "pony car." When you first see this horse pawing 1320 feet of asphalt for the first time, you'll have to agree that as a descriptive term, "pony" just won't get the job done on the 429 Mustang. ■ ■

### Ford 429 Twisted Hemi Specs

Bore .....	4.36
Stroke .....	3.59
Compression ratio .....	10.5:1
Horsepower .....	570 @ 5400 rpm
Torque .....	420 ft.-lbs. @ 3200 rpm
Cam lift (at valve) .....	.440-inch
Cam duration .....	285 degrees
Intake valve diameter .....	2.29 inches
Exhaust valve diameter .....	1.91 inches
Crank .....	Forged, cross-drilled
Rods .....	Forged, 1041 steel
Miscellaneous .....	Dual-inlet oil pump baffled six-quart-capacity pan, Teflon valve stem seals, forged aluminum pistons, four-belt main caps, dual-point ignition