SON OF BOBCAT

Royal treatment for a Three-Tiger Tempest

IT CAME to our rather large ears in December that Pontiac was about to release a rortier, snortier rendition of its optional 326-cu. in. V-8 for Tempests . . . that there was already such an engine mumbling away to itself in a Le Mans coupe . . . and that this same coupe was also fitted with several other Pleasant Things.

We had already tested a V-8 Tempest (CL, January) but felt that a version such as this rated a supplementary report. So we got in touch with Royal Pontiac, performance-minded "Ace" Wilson's dealership in Royal Oak, Michigan. Royal, in turn, referred us to Jim Wangers—Mr. Stock Eliminator of 1960 and the man who set up last year's road test of the Royal Bobcat (CL, July).

And so it shortly came to pass that we were burbling along the frigid byways of Michigan, happily pounding away at the throttle of a Tempest Le Mans. This do-it-yourselfer is a standard 3-speed, the lever of which sprouts out of the floor and, while the lever moves smoothly, it has a throw that, in 2nd gear, seemingly comes to a halt somewhere around the carburetor.

Before we go into the behavior of the car, a few words on what it had in it. First, the engine: This one is known as the 326-HO (for High Output), which equals 280 bhp @ 4800 rpm and 355 lb.-ft. of torque @ 3200 rpm as it comes out of the factory, compared with the standard version's 260 bhp @ 4800 and 352 lb.-ft. of torque at 2800 rpm. The extra oomph is supplied by a single 4-barrel carburetor (2-barrel is standard) and a dual exhaust system. For those who are forgetful of rpm limits, the hydraulic lifters in stick-shift cars are of the fast-bleed-down variety found also in Pontiac's 421-HO engines. (We never did find out at what rpm the lifters do pump up; with the power falling off rapidly above 5500 rpm, we felt it was fruitless to continue the hunt after 6000 rpm was reached.)

The handling department was augmented by the sort of Sturdy Stuff we'd like to see in more cars: heavy-duty springs, shock absorbers and stabilizer bar, for instance . . . plus a quicker steering box that cuts the ratio down from 24:1 to 20:1 and feels faster than 4.5 turns of the lucite wheel would indicate.

Other non-standard but orderable items included a tachometer and a 3.9:1 rear axle that's the lowest ratio available and is considered the proper gear with which to hunt the thundering Bigbore. Newly available for Tempests, although not fitted to our car, are finned cast-iron brake drums and metallic linings—worth looking into, as the standard brakes are not the Tempest's strong point.

If you don't mind a bit more spank to the ride than is usually found in domestic cars, you'll like the heavy-duty suspension and faster steering. They greatly improve the handling of a Tempest, set up as it normally is for people who have no urge to go bucketing around bends the way some of us do, our eyes agleam and hearts pumping excitedly.

The HO's 20 more bhp add $65.31 to the list price of the 260-bhp V-326, while the springs and shocks together cost $6.24 and the tachometer $53.80. No prices were available for the steering, stabilizer bar or brakes.

And so to driving the firebreather. Folks, you know where it says in the manual that tire pressures should be 22 psi all around? Well, you just go right ahead if you like heavy steering and don't mind the front end snuffling gently from side to side like a scent-happy hound. This was not for us, so we pumped them up to 30 psi front and 28 psi rear. Son of a gun! Mother Mangrum's Little Acid Quellers couldn't do more for your ulcers than a little extra tire pressure does for a Tempest with big V-8 up front! Cures wander, lightens steering and helps keep tails tucked in longer, provided you neither take your foot off, nor turn too many horses loose, in the middle of a turn; either maneuver tends to make the rear end swing out into an oversteering attitude if you're going lickety-split at the time.

In the hands of a driver accustomed to it, a little oversteer can be great fun —and a useful tool. By hanging the tail out and using the slide to scrub off excessive speed, for example, many a driver has made it out the other end of a corner without sliding off the road in the middle. An oversteerer like our heavy-duty-suspended Tempest requires that you stay more on your toes when pressing hard than does an understeerer but, once you get the hang of paying out the right amount of tiller at the right moment, the feeling of mastery over hurtling machine is great food for the ego.

The combination of 280 bhp and a ▶

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3.9 rear axle in a Tempest work together to produce what the British used to call a Q ship, (i.e., a craft rigged with hidden artillery for raiding unsuspecting shipping). Example: A bright-eyed young soul cruising around in a standard V-8 Tempest needled us into an impromptu blast one evening. It was a top gear affair from 45 mph. No muss, no fuss, no bother. Just one standard Tempest fast sinking astern.

To clock acceleration times we nosed around for a road with less sanded and salted ice on it. The first couple of runs made it very clear that this was going to be a difficult session. For one thing, the road surface wasn't as sticky as we would have liked. And, for another, a rapid 1st to 2nd shift was causing the speedometer needle to flail wildly, making it tricky to pinpoint precise speeds. We started all over again, using 2000 rpm as the gently-engage-clutch figure and keeping the rear wheels playing in a narrow band either side of wheelspin. We also made the 1st to 2nd shift a relatively leisurely one so as to give the speedo needle a chance to stabilize itself quickly.

Despite all this pussyfooting around, the Tempest by no means slouched, whumping to 30 mph in 2.6 sec., and to 60 mph in 6.9 sec. Switching next to the 0-40 and 0-100 mph times, we were to record only one run of 4.9 and 18.7 sec., respectively, before we found ourselves with egg on our faces and nothing but Reverse and 1st gears to mess around with. Ruefully, we returned the car to Pontiac Engineering, which promptly spread out the gearbox's innards and located a broken synchronizer ring. (We were assured that there would be a "fix" on this by the time the 326-HOs charged onto the marketplace.)

With time running short, we were forced to forego taking further acceleration times and so handed the car over to Royal for $100 worth of the Tempest Royal Bobcat treatment.

The first step in this treatment, engineered and administered by Frank Rediker and Chuck Brumfield, is to advance the cam timing by 4°, the aim being to move the torque down lower in the rpm range. Attention is then turned to the distributor, which has 26° of advance built in. The vacuum-advance tube is disconnected and the hole plugged, so that the distributor can be given an additional 15° without the vacuum advance sticking in its two cents' worth. With this much timing, they recommend that Sunoco's pure concentrate (270) be used; a lower-octane fuel may be used, but then the timing should be retarded 3°. The normal dwell of 30° on the points is not altered. Completing the ignition work, Champion J-12 spark plugs are screwed in, adjusted to a 0.030-in. gap for maximum-effort driving, 0.035-in. for puttering around.

The next step is to back off the choke completely and block the heat risers, which makes for a cooler, more concentrated charge of propellant. And since it *is* more concentrated, the carburetor can be jetted to spray a richer mixture. The metering rods on the primaries of the Carter AFB 4-barrel are reduced by 0.004 in., effectively increasing the fuel flow through the primary jets on maximum-power step. The secondaries are opened up from 0.073 in. to 0.077 in. (future experimentation may lead to a further increase of 0.004 in.). In order to insure that enough air whistles in to match the greater supply of gas, a low-restriction air cleaner is slapped on over the four gaping throats.

To provide a cushion against pump-up of hydraulic lifters, a set of Royal's "Hydraulic Lifter Restrictors" (fiber lock nuts to you) are fitted to the rocker arms. These will lock into position anywhere on the rocker studs, whereas the standard lock nuts have to be tightened all the way down to the boss. They're only usable on Pontiac and Chevrolet engines; stamped rocker arms and all that.

Finally, low-restriction fan blades are bolted on, for a saving (or gain, depending upon how you look at it) of around 7 bhp. Being of fine pitch and low suction, these blades are not for warm weather use, of course.

An admirable display of restraint keeps the external trim changes to a set of wheel spinners and the replacement of the Le Mans emblems on the front fenders with an embossed "Royal Bobcat" nameplate.

Cajoled into making a guesstimate of the boost in horsepower, Rediker and Brumfield agreed on "about 40 more horses," for a gross of 320 bhp. "The real gain in performance, though, comes from moving that torque down lower in the rpm scale."

In stock 326-HO form, the engine had been smoothly quiet. Not so now. Blocking the heat risers—and thus doing away with what functioned as a balance tube between the exhaust pipes—had changed the exhaust note from a low rumble to a lusty bellow akin to a basso raspberry. Mix in a chorus of metallic clicks coming from looser adjustment of the hydraulic lifters. Add an audibly nervous 1000 rpm idle. We now had the feeling of being seated on a high-strung horse that was prepared to dash off in all directions at once. Positively invigorating.

With Wangers' benisons ringing in our ears, we rode forth to do battle once more, meanwhile muttering exhortatory prayers over the gearbox. Pressing us into service as willing guinea pigs on this, the first 326-HO application, Pontiac Engineering had furnished a portion of the shifter rod with a rubber coupling. This was supposed to absorb the shock of brutal shifts (who? us?) and spare the synchronizer ring. At the same time, it angled the gear lever farther back toward the driver's seat, making the throw seem shorter as a result.

With an icy wind fanning 10°-above-zero slivers through our warm blood, we set the stop watches to clicking once more. The only marked quarter-mile available to us was laid out on asphalt, which was sprinkled with a faint layer of salt. This was fine once 2nd gear was reached, but controlling horrendous wheelspin in 1st gear required ultra-low-rpm feathering out of the hole. Under ideal dragstrip conditions, with a set of oversize butyls and opened exhausts, it would have been reasonable to expect quarters of around 14.5 sec. That we managed to record an average of 15.6 sec. (at 96 mph), with two aboard and the car in normal road trim, was more than a little gratifying.

To give the car a fairer chance to lay its power down, we repaired to a relatively saltless surface of cement for the zero-to runs. Once again we had to curb our throttle foot to keep that frenetic speedo needle from having fits, but ye Tempest Royal Bobcat gave a rousing account of itself (see table). The higher-speed runs were complicated by the refusal of the Tempest's gear linkage to accept full-bore shifts into 3rd. In all fairness, however, it should once again be pointed out that this was a pre-production setup, to be remedied before 326-HOs begin to amble along the assembly lines.

To sum up, a Tempest Le Mans with super-handling options and 280 horses of V-8 is a nice piece of goods. With a bit of acquired skill in the art of keeping the reins taut on its oversteer, you should have as much fun as we did. In Royal Bobcat form, the Tempest weighs a solid increase in already very muscular performance against a measure of coarseness to the sound and feel of the engine in town driving. At high cruising speeds, this coarseness pretty well disappears. The lack of a choke makes starting a bit of a chore in cold weather, but those whose hearts go pitter-patter at the slightest murmur of a harrumphing exhaust would only consider us to be fuddy-duddies for such caviling. —*L. F. Titwillow*

COMPARATIVE PERFORMANCE
1963 Tempest Le Mans V-8 Coupe

	CL test	Stock HO	Bobcat
Bhp	260	280	320
Transmission	auto	manual	manual
Axle ratio	3.09	3.90	3.90
Acceleration			
0-30, sec	3.8	2.6	2.4
0-40	5.2	4.9	3.5
0-50	7.1	—	4.9
0-60	9.5	6.9	6.5
0-70	12.4	—	7.7
0-80	16.4	—	10.9
0-90	22.5	—	12.7
0-100		18.7	17.2
Standing, ¼	17.0	—	15.6
Speed at end, mph	81	—	96