

MARCH 1965

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PONTIAC DRAG TEST 2+2 vs. GTO

Two outstanding performers from the same stable clash in a unique performance demonstration.



BY ROGER HUNTINGTON

General Motors may be out of the racing game right now but its divisions continue to put out some of the saltiest and most intriguing high performance street models in the industry. Certainly Pontiac Division is at the head of the list. Its great GTO option in the Tempest line made history last year, setting a pattern in high performance compacts that the industry is copying today. And for 1965 they've done it again by duplicating the GTO theme in the big cars. They call this new package the "2 + 2." It comes standard with special trim on a



fastback coupe body, special 2 + 2 bucket seating, heavy-duty suspension, 421 cu.-in. 4-barrel engine and enough performance, styling and luxury options to curl your hair! Pontiac hopes the 2 + 2 will repeat the success of the GTO.

I recently had the opportunity to run side-by-side performance and handling tests on new '65 models of the GTO and 2 + 2, to see how performance really compared under bread-and-butter conditions. Both cars were owned by Ace Wilson's Royal Pontiac dealership in Royal Oak, Mich., where it seems like half the performance-

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minded Pontiac enthusiasts in the midwest go to buy their cars! Royal was grooming the cars for a number of demonstration and stunt runs throughout the country this summer, and was glad to submit them for early performance and handling tests. Both cars had been ordered from the factory with all needed options factory installed, and had been tuned and set up by Royal's ace mechanic Milt Schornak.

But I wanted another ingredient in the picture for this special test. I wanted some well-known personality in the hot rod field—not directly connected with Pontiac—to do the driving, and to submit an impartial evaluation of the handling and "roadability." This seemed like the best way to get a fair comparison. For my

"personality" I got none other than Hurst's man-in-Detroit Jack Watson. Many of you will remember Jack as the "Shifty Doctor" at the recent NHRA Nationals. He did repairs on gummed-up floor shifting linkages at the Hurst tent—all dressed up in a doctor's whites. Jack is now manager of Hurst Performance Research, Inc. in Detroit, a new company recently started by George Hurst to research and develop new high performance products for the hot rod market. You'll be hearing a lot more from them later. Anyway Jack Watson seemed like an ideal boy to do our test driving. He's an excellent driver, knows cars in and out, and has a lot of contacts for invaluable background information to help him make the evaluation. And he's no Pontiac

man—any more than Fords or Mopars or anything else. He promised to be objective.

How about the cars we tested? I won't try to list all the dozens of special options on these cars, but only the ones that importantly affect performance and handling. Both cars had the optional high performance Tri-Power engines. The GTO had the 389 cu.-in. job rated 360 hp at 5200 rpm, and the 2 + 2 had the 421 "HO" option at 376 hp at 5000. Both these engines have more that's special than just the triple carburetion. The GTO has a special hot hydraulic cam not used in any other '65 Pontiac GTO model. The big 376 hp 421 has a special hydro cam, special streamlined cast-iron exhaust headers, and bigger exhaust piping all

the way through. These are two of the strongest steering engines in the industry.

Royal's top performance salesman, Dick Jesse, tried to get the best possible combination of gearing on both cars that would be a good compromise between normal street and highway driving, and low speed acceleration. He ordered 3.90 rear end gears in the GTO and 4.11s in the 2 + 2. This actually turns out to be almost exactly equal effective gearing in both cars because of the difference in tire sizes. Both engines turn just about 3050 rpm at a true 60 mph in high gear—which is a good compromise between highway cruising and low speed dig. (The GTO has 7.75/14 tires and the 2 + 2 has 8.55/14.) Optional close ratio gears were ordered in the Muncie 4-speed transmissions in both cars. These have the 2.20-to-1 low gear, instead of the standard 2.56 ratio, and give a more flexible gear combination when using stiff axle gears. The launch is adequate, and the closer ratios above are better for fast road work, rally driving and the drag strip. However you would want to use the standard 2.56-low gearset with an axle ratio of, say, 3.36 or 3.55. The 2.20-low's would be sick off the line with these fast ratios.

In the handling department, keep in mind that both the GTO and 2 + 2 come with heavy-duty springs, shocks and anti-roll bar as standard equipment. However not all Pontiac enthusiasts realize that you can order a second heavy-duty suspension combination, that has

still stiffer springs, shocks and roll bar. They call it the Ride & Handling Package to distinguish from the Sports suspension that comes standard on GTO and 2 + 2 models. It helps a lot to stabilize the car on hard corners, without hurting the ride too much. Handling was further helped by ordering optional power steering on both cars. This gives an overall steering ratio of 17.5:1, compared with the standard manual steering ratio of 24:1. The extra quickness in the steering makes the car more responsive in corners and on the highway in crosswinds—and, of course, with power assist there's no problem of high rim effort with the fast ratio. Early power steering gears weren't responsive and accurate enough for optimum handling under "ragged-edge" driving conditions, and power steering got a bad reputation in this department back then. But this is no longer true of your modern designs. The trouble is that most companies don't use a really quick steering ratio with their power gears, so you don't gain much by going to power on a high performance car. But Pontiac has wised up—and its latest power steering option is a real help in handling. (Incidentally, it also offers a 20-to-1 manual gear for the GTO; but the 17.5-to-1 power gear was considered preferable.)

Then there's the matter of brakes. Standard American passenger cars are not noted for superior brakes, and the Pontiac is no exception. But you can order optional brakes that will do the job in any situation. For the GTO you

can get either aluminum front drums and harder organic lining or sintered iron linings with hardened iron drums. Dick Jesse chose the latter combination as the best compromise for rallying with the GTO. For the big 2 + 2 you can get the above options plus the beautiful Kelsey-Hayes aluminum hub-drum units that dress up the car so much, and also give much better brake cooling. Jesse chose these aluminum hub-drums for the 2 + 2.

Engine tuning? Not a whole lot. Schornak did the usual Royal Pontiac Bobcat treatment on both cars. Briefly, this consists of blocking the intake manifold heat risers, richening the carbs a little to compensate, removing air cleaners, installing thin head gaskets (.027 in. vs. .054), adjusting rocker arm ball joints out to the end of the hydraulic lifter travel and substituting special elastic lock nuts to keep them from loosening, installing Champion J-10Y plugs gapped .032, disconnecting vacuum advance in distributor, installing lighter centrifugal advance springs to give faster advance at the low end, and pushing up the initial advance to around 16 degrees (crank). Total advance varies from 33 to 36 degrees. These changes pep up the car a lot on the street, but they appear to affect mid-range torque more than top end horsepower. Also, for the acceleration tests, the exhaust tailpipes were disconnected from the manifolds and M&H Super Stock street-strip tires were used for traction. Otherwise the cars were strictly "showroom."



Our acceleration tests were run on Cliff Riley's Milan, Mich. drag strip. I ran the usual 0-30 and 0-60 mph checks to give an idea of the bread-and-butter street performance, and included a series of measurements with the accelerometer that permitted me to calculate the actual peak horsepower and torque produced at the flywheel on the road. This is a complex mathematical procedure that I needn't go into here, except to say that I combine the accelerometer "G" figures with the true weight of the car and the calibrated speedo readings to calculate a hp figure for several points in the rpm range (after allowing for the drag hp with the car coasting at that speed). All the above tests were made with two people in the car. But for the quarter-mile runs against the drag strip clocks, Jack Watson was alone in the cars. Incidentally, the curb weight of the GTO (no passengers, half tank of gas) was 3550 lb., and the 2 + 2 weighed 4190 lb.

I was generally pleased with the performance results. We expected the two cars to be quite close in performance, and they were. The Big 421 engine in the 2 + 2 had considerably more midrange torque than the 389, and you could see this especially in acceleration in low and 2nd gears. The big 2 + 2 would pull the GTO out of the hole in side-by-side tests, gaining up to 1 1/2 car lengths at the end of the 2nd gear. But then the little GTO would come on. It would gradually gain back maybe 1/2 to 1 car length in 3rd and 4th gears. And the GTO would always be gaining in the traps. Its trap speed was 1 to 1.5 mph faster than the 2 + 2. The 2 + 2 averaged ETs about .25 sec. better than the GTO. This is greater than you would predict from the difference in their acceleration rates at different speeds. But I think the difference was that the big 2 + 2 seemed to get better traction off the line. It got out of the hole quicker than the GTO. Obviously the 2 + 2 had better weight distribution. Apparently the heavy 389 engine in the nose of the GTO affects its weight balance more than the 421 engine in the front of the heavier 2 + 2. It only takes 1 or 2 percent difference in front-rear weight balance to account for a couple of tenths on ET. Given equal weight balance in the two cars, I think the GTO might have been

quicker on ET. It had a better weight/hp ratio.

The calculated hp outputs of 335 hp and 345 hp for the GTO and 2 + 2, respectively, are reasonably close to their advertised ratings of 360 and 376 hp. Most Pontiac engines are much closer to their advertised ratings than many other cars.

Pontiac has rated its engines conservatively for years. And this is good, because it gives the cars a better chance in the stock classes at the drag strip, where they classify on the advertised hp figure. You will also note that my measured torque figures are even closer to the advertised ratings than the hp figures. The advertised figure for the GTO is 424 lb.-ft., and the 2 + 2 461 lb.-ft., both at 3600 rpm. My measured figures almost hit these. Admittedly the Royal Bobcat tune-up package helps mid-range torque quite a lot.

Anyway these two Pontiac engines were plenty strong, and hefted these heavy cars around like they were toys. They jumped off the

a little more in a tight corner than the 2 + 2. I'm sure I could get through a fast, broad curve faster with the 2 + 2, that is, where the car speed was up around 70 or 80 mph or more. On the other hand, I think I could get through a tight, slow corner faster with the GTO. I would have to wrestle the steering wheel, but the shorter wheelbase alone would make a big difference. For this reason I think the GTO would make a better rally car. The smaller cars are always better here.

"On the open highway, cruising at 70, 80 or 90 mph, I think I would prefer the GTO. The front end feels more solid and responsive. The GTO responds the same at 100 mph as at 60 mph. The big car, though, seems to have a slight amount of 'float' in the front end at high speeds. It doesn't wander, but just raises up and isn't quite as responsive to steering inputs as the GTO. It feels entirely different at 100 mph than at 60. I suspect that there may be considerable

aerodynamic lift on the nose at high speeds. However both cars are quite unaffected by crosswinds. There is no wander or oversteer under these conditions. I suspect the extra-heavy-duty suspension has a lot to

PERFORMANCE DATA

MEASUREMENT	GTO	2 + 2
0-30 mph	2.6 secs.	2.5 secs.
0-60	5.4	5.2
Drag strip E.T.	13.98 at 101.78 mph	13.72 at 100.41 mph
Maximum HP	335 hp at 5000 rpm	345 hp at 4800 rpm
Maximum torque	415 lbs.-ft. at 3400 rpm	450 lbs.-ft. at 3500 rpm

line like Super/Stocks, with their M&H tires, and both broke 100 mph in the traps in street trim. This isn't bad performance in any frame of reference. Also it should be mentioned that Schornak's rocker arm adjustment, with the special lock nuts, had just about the same effect as putting solid lifters in the engines. When the engines came off the factory assembly line they would only wind to around 5000 rpm before the lifters would start to pump up. After the adjustment, Watson was winding to 5600 in the gears to shift—and he could have gone to 5800 rpm if there was any need! That's the beauty of these ball-stud rockers. You can adjust out to the end of the hydraulic travel.

Then there's the important matter of handling and cornering. I depend entirely on Jack Watson's opinion to evaluate this (especially as seat-of-the pants feel is deceiving in this area of a car's performance). Here's how Jack stacked it all up, and his own words:

"The GTO has somewhat more understeer, or front end plowing, in a corner than the 2 + 2, probably because of the greater percentage of weight on the front wheels. The big car actually feels more stable and secure in a fast corner because of this better front-rear balance. Its handling is more predictable. It doesn't do anything sudden or unexpected. The GTO isn't exactly skittish; but the rear end moves around

do with this, as many late Detroit cars change entirely when you get a little crosswind.

"The brakes on both cars are excellent. I didn't get any noticeable fade in either car, even after quite hard brake usage. I suspect the metallic linings in the GTO would hold out longer than the organic linings in aluminum drums in the 2 + 2, if you really flogged them. But in normal fast driving, either type of brake is more than adequate. I think I would prefer the organic linings in my own car, though, as the metallic require more pedal pressure, and squeak when cold. Both types need vacuum power boosters, and both these cars had power brakes.

"Riding and driving comfort were fine in both cars. The heavy-duty suspension gives a good compromise between ride and handling. The Pontiac bucket seats are comfortable for long distances. My only criticism would be that the steering wheels were set a little high in both cars. I would prefer them lower and closer to the driver. These new tilting wheels are nice because you can adjust them."

And so concluded the Shifty Doctor, and so concludes a very interesting and significant test of two new Pontiac high-performance models that are bound to set patterns. Watch this new 2 + 2 theme in big cars catch on! 