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To date there appear to be virtually no "bugs" in the '61. The quality of assembly—at least in the Northeast—seems to be down a bit and, with the exception of the Bonneville, the cars are a bit "tinny" as compared to the '60 line. Even under close examination inside door panels, etc., I could find no real reason for this—there seems to be no sacrifice in quality of materials—but it's definitely the kind of car that makes good use of a heavy undercoating job.

An item of particular interest in the new body design is the absence of a "knee-breaker"—the windshield cutting into the doorline to provide an entry obstacle. A lot more door hangs on the hinges because of this, but hinges are another item that have been improved considerably.

Getting back to the stability feature, arms not too unlike those on current Chevies hold the rear axle in place and eliminate the damnable "tail-wag" the '60 Pontiacs had, completing a very *roadable*, rideable chassis. Speaking of chassis, there are only vestiges left; front and rear suspensions bolt to the unitized body as complete assemblies. This technique was initiated by GM in the Corvair and has apparently been successful enough to be adapted to all their car lines. Primarily, this method greatly simplifies production, but it also holds many advantages in subsequent maintenance.

While managing to shorten the overall length of the latest Pontiacs, its designers actually increased headroom yet maintained a long, sleek appearance—no easy feat. The passenger package is *big* and, while slightly lower than last year's, the trunk compartment will handle even more of the assorted and exotic items we always seem to want to fit in there. From a design standpoint, the lines are clean and very functional even if the window and roof area seem slightly outsized. It's interesting to note that the single rear lights on the less expensive models make the tail section appear much more tasteful than the multiple setups with which the deluxe cars are equipped. It's a case where the lily gets overgilded slightly.

A big interior improvement was accomplished in the instrument panel. It's considerably shortened away from the passenger's legs and—a feature that delights servicing mechanics—is unshrouded underneath. Repairs to instruments and accessories on the '59 and '60 cars require about the same effort as recovering a nose cone from the bottom of the Pacific.

The performance option of triple carburetors with progressive vacuum-actuated linkage, like this test Pontiac's, is an extremely practical one. All three carbs cut in only when the throttle is fully depressed. If you choose to drive mildly, gas mileage will be considerably better than that delivered by a single four-barrel. Performance, if you want to floor it, is likewise considerably better, but the gas gauge will drop like there's no tomorrow. If you're considering high-speed cruising, mileage with the "trips" is better than with the quad as the feature of even fuel distribution comes into play. Within the range of available engine options, you can darn near order a Pontiac race car, but the triple carbs stand head and shoulders above everything else as the most value for all but the out-and-out hot rodder. Iskenderian cams can be purchased under normal Pontiac catalogue numbers, as can 200-dollar-a-set Clevelite bearings. These are items that win races, but mean little in even beyond-normal road application because family car aspects are pretty well destroyed. With tri-carbs you can have a bear or a well-bred workhorse, as you require.

Since our (*Continued on page* 63)

A CARS COMPARISON TEST

SPECIFICATIONS AND PERFORMANCE FIGURES
1961 PONTIAC BONNEVILLE FOUR-DOOR

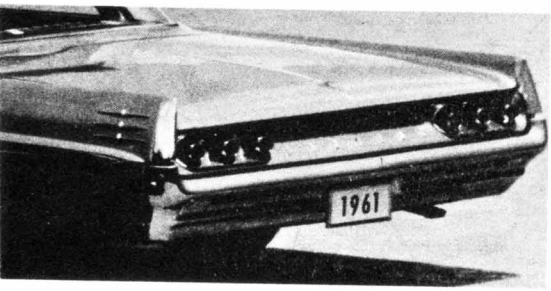
BODY DIMENSIONS		ENGINE AND DRIVE TRAIN	
Tread	62.5 in.	Engine	389 cu. in. V8
Wheelbase	123 in.	Transmission	3-speed or 4-speed manual / Hydra-Matic
Height (loaded)	55.8 in.	Compression ratio	10.75:1 / 10.75:1
Width	78.2 in.	Max. HP @ RPM	318 @ 4,600 / 318 @ 4,600
Windshield Area	1604.3 in.	Maximum Torque at RPM	430 @ 3,200 / 430 @ 3,200
Visibility Area	4260.5 in.	Rear Axle Ratio	3.23:1 / 2.87:1
Front Seat Legroom	45.1 in.	Exhaust System	Dual reverse flow
Rear Seat Legroom	40.8 in.	Electrical System	12-volt, 61 amp. battery

PERFORMANCE FIGURES ON TEST CAR

0 to 60 mph	6.9 sec.	Traffic Circle	35 MPH
Standing ¼-Mile	14.2 sec.	Top Speed (Ind.)	130 MPH

333 and 348 horsepower engines available on special order

Most popular Pontiac styling option is rakish four-door hardtop having lots of glass.



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Since our (*Continued on page* 63)

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In its stock form the blower operates in the vertical position. To place it horizontally Lou reworked oil supply and drainage and changed the oil seals. In a diesel application, the blower is never throttled to operate under a vacuum at the inlet side, as it would in a car. Hence in its new job, the blower needed a seal that would both retain pressure and prevent oil from being drawn in by vacuum under part throttle conditions.

Four reworked Rochester injectors deliver the fuel to this housing just above the blower inlet, so that the blower acts as a king-sized mixer insuring improved fuel distribution. At first glance it might have seemed more logical to deliver fuel at the ports, but there were several factors against it. Apart from lack of space, the Rochester injectors rely on a stream of air at atmospheric pressure drawn in from the outside to atomize the mixture, especially at idle. Blower pressure would have made this impossible, or at least difficult to achieve.

The fuel injection unit is driven, as on a Corvette, from the distributor. To remove a potential source of trouble and to simplify the air meter, the choke mechanism was removed. The nozzles have 2½ times the flow rate of the stock nozzles. Redrilling them with a fixed size drill would never be enough to insure accurate flow characteristics. Lou measures the flow rate of the stock nozzle, using a stop watch to see how long it takes to flow a given amount of fluid through his home made flow rig. He then keeps scratching a little at a time with a drill until the desired rate is achieved. With a little practice you can get four correct jets out of the eight. The float level was changed to compensate for the slightly different position of the unit.

All the work of fitting the blower, fuel injection and other components on the engine was done in the shop using a dummy block. Spare heads were reworked to avoid tying up a car or a full engine.

By this time Lou was ready to drop his mill into a car for driving and test purposes. He selected a slightly banged-up '53 Stude Commander, primarily on the basis of availability. By the time he got through, little was left of the original Stude running gear, but the body remained scrupulously stock to avoid drawing attention to the car in traffic. Engine, clutch and transmission are Chevy, which offers a wide selection of clutches and gear ratios. At the same time, the Chevy transmission is more apt to take the torque than the Stude parts, and it saved making up an adaptor.

Installing the engine did not pose great difficulties. Corvette front mounts, which considerably reduce engine rocking under load, were reworked to rest directly over the stock Stude pads. At the rear, the Stude crossmember was discarded and an angle iron unit made up to fit under a pair of Powerglide mounts at the bell housing. This crossmember was made to be removable for quick engine removal. It is, however, not necessary to unbolt the crossmember for clutch or transmission service. The flywheel shield bolts to a pair of brackets welded on the frame.

Even a Stude with an automatic shift, as Lou's was originally, has a clutch pedal. A wide brake pad simply joins the clutch and brake pedals. Changing to two smaller pads freed the pedal, but left the problem of adapting some linkage. A new lever was fitted to the clutch pedal shaft on the inside of the frame rail.

A Chevrolet rear axle was selected because of the greater availability of interchangeable gear ratios. To keep front and rear wheels and braking systems compatible, a set of Corvette brakes was spliced to the Studebaker spindles. The two-piece drive shaft was discarded as not being able to stand up to the increased engine torque. However, even the three-inch tubing which Lou used at first did not prove sufficient, especially at higher engine revs. The clearance would be fine with the drive shaft static, but rub marks between the center of the drive shaft and tunnel indicated a whip condition. The drive shaft would simply bow out toward the middle and cut a wide path. Changing to a four-inch diameter tube completely cured the problem.

Starting off from the line always poses traction and wheel hop problems. Lou solved these by installing a beefy pair of radius arms made up of tie rods from a 1½-ton Ford stake truck. The rods were cut down to size and retapped to receive the tie rod ends. Corresponding brackets were welded to the frame and the spring hangers. The rear springs were softened by taking out a leaf from each. Also, the rods can be adjusted to different lengths, varying the compression and rate of the front part of the spring.

With the major part of the installation completed, Lou proceeded to add further fine points to the engine compartment. Power requirements at the high end were reduced slightly by exchanging the Chevy four-blade fan for a Ford three-blader. A spacer was redrilled to provide needed clearance and the air intake was placed in a cool spot, just in front of the radiator in a comparatively dust-free area. An A.C. paper element, rated for a 500 cubic inch engine, is connected through a reinforced five-inch hose to the Rochester air meter unit.

Fuel supply is insured by a Carter fuel pump mounted in the tank under the fuel level. This pump was used on the Cadillac Eldorado Brougham, and on a number of truck and bus installations. Because of price considerations, Carter never pushed it. But it really does the job. It consists of a small electric motor and a centrifugal impeller the size of a 50 cent piece. As the fuel line remains pressurized at all times, the possibility of vapor lock is reduced. Lou added a further precautionary measure by wrapping the fuel pump and fuel lines in burlap which is wetted down just before a run to keep them cool.

Lou is a member of the Mount Clemens Bearing Burners and quite active in club affairs on the technical end. Evenings and weekends find a steady stream of visitors with sundry blower and fuel injection problemt beating paths to his door. Incidentally, he has promised us to answer written queries if they are sent to his Romeo address, 8877 32-mile road.

PONTIAC 389

(*Continued from page* 15)

test car had enough mileage to be well broken in, it got a real workout. With manual shifting of the transmission on acceleration runs, a slight improvement in times was noted *if* the shifts were made at the precise, ideal instant. But the Stratoflite works so well that your chances are better if you leave it alone and let it shift for itself . . . no pun intended. The delay between floored throttle and torque applied to the rear wheels in a standing start is even shorter in the '61 models. In fact, you have to featherfoot a bit to keep the rear on the ground. There's also less weight there than last year which makes it all the more critical. Weight-wise, the '61's "feel" a lot lighter, though differences on the scales are minor. To a degree, this even applies in high speed runs; the car had much better stability than the '60 above 100 mph, but there was a tendency to be a bit more skitterish with road irregularities. Wind noise is even less than the practically-nil it was last year.

Handling through high-velocity turns is a pleasure. A few years back, this tester would have laughed at anyone stating that Detroit would one day build a car with this kind of

roadability. Right now there are several out-and-out sports cars that would be *very* lucky to stay with a '61 Pontiac through a fast bend without being "hung out like a Monday's wash." Considering what other chores the Pontiac must accomplish, it's pretty amazing.

And that about sums up the '61 Pontiac. As you can see from the accompanying figures, It Performs, it's pretty and ride and controllability are a pleasure. And the men behind the Indian Head have another hot product this year.

CHRYSLER 300G

(*Continued from page* 17)

six centrifugal weights fly outward and wedge themselves betweeen the pressure plate and its cover, pressing the plate more firmly against its disc. Commensurately, the force exerted by the weights becomes progressively greater as revs increase so that the effective total force of the pressure plate against the disc becomes more than 2,800 pounds as peak torque is reached. Should you think that this represents a lot unnecessary trouble on the part of Chrysler engineers, remember that the 300 G's 413 cu. in. powerplant has a maximum torque output of 495 lbs/ft at 2,800 rpm!

The impressive-sounding box has a couple of failings, however. The first is the fact that, believe it or not, it just doesn't match the automatic's pep! While a 0-60 clocking of seven seconds flat in a car of the G's size is nothing to sneeze about, to be sure, we were able to clock 6.5 second readings on an automatic-equipped F. Furthermore, we witnessed a quarter-mile drag between two G's, one Torqueflite-powered and the other three-speed equipped, at a Chrysler-sponsored demonstration in which the automatic car "took" the manually shifted model by more than a length. Both cars were driven by champion sports car and Gran Prix drivers who assured us that they were really trying!

A considerable throw required from First to Second on the manual model may be the explanation for the automatic's seeming advantage. As for road and street driving, let's just say that the manual transmission makes the driver work. Speaking for ourselves, we wouldn't mind the work if it tended to sufficiently improve the car's performance over that of the Torqueflite. But it doesn't, mainly because First is not a synchromesh gear and is therefore useless once you have upshifted. Imagine tooling a 375-horseepower car through New York City traffic with only two gears and you'll get our point. Getting the 300 G to pick up smoothly from, say, 10 mph in Second requires considerable revving-up, hence gas-burning. And our mileage-per-gallon amounted to 9½ in traffic and 13 on the road, so the need for useless revving bothered us. And frequent shifting, what with a necessarily stiff clutch pedal, produced an over-abundance of lurching that proved somewhat annoying. For our money, we would stick with the automatic and save 150 dollars—the cost of the optional manual—to boot. Other than the manual transmission, the only cause for quibbling we could find in the 300 G was the location of the turn signal control—on the dash to the driver's left. But, of course, we're used to seeing it on the steering column.

From here on, anything we could possibly say about the 300 G would have to be to the good. The big ram-inducted V8, breathing through a pair of four-barrel carburetors, has been refined over the past couple of years to the point where it is a quiet, tractable, steady performer in spite of its ability to produce tremendous accelerating thrust and loaf as it powers the car along even at 100 mph (stock 300's have clocked speeds as high as 149 mph). Its 10-to-1 compression ratio requires that it be fed premium gas, yet although the engine idles at 750 to 800 rpm, even the driver sometimes has to check the console-mounted tach to make sure that it's running. Incidentally, you can get the "G" to 100 mph in 16 seconds—if you can find a place other than a drag strip at which to do it.

Handling and ride are above reproach. Torsion bars teamed up with 60-inch outrigger springs and heavy duty shock absorbers provide the handling necessary in a car having such raw power, yet allow it to maintain luxurious riding qualities.

Not to be neglected in this description are steering that's amazingly quick in spite of the standard equipment power-assist, an absence of annoying squeaks and rattles made possible by the 300 G's unitized body-frame construction and excellent braking ability and characteristics. Incidentally, power-assisted brakes and steering and the Torqueflite transmission are standard equipment and are included in the 300 G's base price of 5,411 dollars (exclusive of state and local taxes).

Among an array of optional equipment that will turn this handsome power package into an automotive palace are radios (a choice of two), power antenna, rear shelf speaker and rear window defroster on the hardtop, push button heating, electric window lifts, air conditioning, six-way power seat, limited-slip differential, and so on.

As we said, the 300 G is a unique car and well worth its price (if you can afford it) if you want that rare combination of brute power and superb handling fitted into a luxurious, fine-riding package.

STUDEBAKER HAWK

(*Continued from page* 19)

well over 100 mph. On Studebaker's high speed oval—rough in places due to age and without straights enabling one to build to full top—the test car with fifth wheel rammed to 108 mph. With a couple of miles of smooth pavement without curves it should do about 112. But with the four-barrel pot, not tested, there's no reason why this baby cannot do a neat 115 mph. Of course, there are a number of axle ratios available. It is doubtful whether the standard three-speed box, even with the optional overdrive, would quite equal what we achieved with the four-speed.

Improved steering reduces the effort required to maneuver the car without power, but the look is still the same 4.6 turns as formerly. This seems slow, but Studebaker employs a variable ratio which results in faster steering than one would imagine for rounding street corners and on twisting roads. The suspension system has been refined but is essentially as before. Front coils are bolstered against an anti-sway bar. Rear springs carry the axle farther to the front, that is the axle is mounted assymetrically. Telescopic shock absorbers have been revalved to buffer dips and abrupt rises well and with less rebound shock. New rubber blocks beneath the frame cushion the rear axle and propeller shaft against the shock of deep dips taken too swiftly.

Quite low slung, but with the advantage inherent in retaining 15-inch wheels, the Hawk has better road clearance than many other cars. The lowest parts are the two mufflers, which can be cinched up a bit closer to the underparts if one desires to tinker. Even so the overhang, front and rear, is considerably less than on many other cars with a smiliar wheelbase. For the Hawk with its 120.5-inch wheelbase is five inches and more shorter overall than most competitive makes in the same price class. Price, incidentally, is right in line with the top models of the so-called Low-Priced Big Three, and less in some cases.

A car in a class by itself, then, is the Hawk. Does its handling and roadability warrant this distinctive category?

For a car basically intended for