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50 CENTS

CAR LIFE

ROAD TESTS

TEMPEST LE MANS V-8
CHEVROLET BISCAYNE
RAMBLER CLASSIC 660

Turbine for Town

THE BIG NEW ENGINES
more inches, more power



**Car Life's
1963 Award for
Engineering Excellence**

FOR OUR FIRST test of a 1963 Pontiac, we at *Car Life* chose what we think is one of the most interesting cars in the line-up—a Tempest Le Mans coupe powered by the new optional V-8 engine.

When the Tempest Four was first announced in the fall of 1960, it was not touted as a compact car; with a wheelbase of 112 in., it was at least 2 in. too long. But, call it what you will, a senior compact or an in-between, the extensive changes for 1963 leave no doubt in our minds that this new Tempest is better described as a standard-size car. Although the wheelbase is unchanged, practically all other dimensions have been increased. The Tempest is 2 in. wider and 5 in. longer, for example.

The pride of Pontiac is justifiably the sumptuous new Grand Prix coupe on a wheelbase of 120 in. Last year it sold 32,000 of this one model alone. But the GP is a very big automobile and it costs a lot of money.

The Tempest Le Mans offers somewhat the same concept in a smaller,

handier package and the price is very nearly \$1000 less.

The new V-8 engine option requires some explanation. Last year the B-O-P 215-cu. in. 185-bhp aluminum V-8 was optional at an extra charge of \$261. But 98% of all Tempest buyers selected the 4-cyl. engine. In fact, for only \$39 extra you could have the 4-barrel carburetor, 4-cyl. engine of 166 bhp.

But this year Pontiac engineers have taken advantage of the 50/50 weight distribution in the Tempest and dropped a 326-cu. in. version of their big iron V-8 engine into the front compartment. Our test car weighed in at exactly 3260 lb., or 260 lb. more than the lightest Tempest sedan equipped with a 4-cyl. engine and automatic transmission. Since we always weigh both ends of the car, we found the front end carries 54% of the total weight at the curb, or 1760 lb. The resultant 54/46 weight distribution isn't exactly what they started out with but at least it's not as extreme as the 60/40 distribution we recently

reported, or the more usual 57/43 distribution.

Essentially, this engine is exactly like the big 389-cu. in. Pontiac V-8 in every detail except for a smaller cylinder bore, reduced from 4.0625 in. to 3.71875 in. With 326 cu. in. this engine develops 260 healthy horses and a walloping 352 lb.-ft. of torque. And after driving the car for a week, no one will wonder why they didn't use the 389-cu. in. engine which weighs the same and has the same external dimensions. The Tempest just doesn't need any more inches—when you can spin the rear wheels at any time with 326 cu. in., why talk about 389?

Although Pontiac isn't making a big issue of it, the engineers have redesigned the automatic transmission and torque converter. As should be well known, this assembly is combined with the differential and forms a complete package called a transaxle. The gearset which provides only 2 speeds forward (and reverse) is the same as used in the latest Chevrolet cars but there are detail differences and the



1963 PONTIAC TEMPEST

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LeMans 326 V-8

torque-converter is special for Pontiac. Formerly there was a split-torque arrangement but the revised design is all hydraulic for more torque multiplication and smoother shifts. (Torque multiplication is 2.40 on 4-cyl., 2.20 on 8-cyl. units which are larger in diameter.)

The new transmission is a definite improvement in all respects except for the fact that it seems to be a little noisy in neutral. With the 326 engine the overall breakaway or starting ratio is 2.20 x 1.76 (gears) x 3.091 (axle), or 11.968:1. This total multiplication is really too much with the Tempest V-8—the rear wheels break loose too easily and if you go $\frac{3}{4}$ of the way around a corner slowly, and then accidentally punch the throttle slightly too hard, the rear end will swing around out of control—if you aren't ready for it. We therefore strongly urge that most Le Mans V-8 purchasers specify the 2.91:1 axle ratio which is standard on all other V-8 Tempest models. (This is because a limited-slip differential is not available on Tempests.) In fact you can also get an axle ratio of 2.53:1. with the 326 V-8 engine and, while this would reduce the performance factors quoted in our data panel on this car by 18%, it should also improve economy by very nearly the same percent. At any rate, don't be misled by this fairly simple automatic transmission—it gives the equivalent of 3 speeds forward with low gear changing gradually from 12:1 to 5.44:1 and, as shown in the data panel, holding L.O range gives a maximum of 72 mph—if you want it.

Of course, driving a car with so much surplus power is great fun. From a standing start it gets up to 60 mph (on a corrected speedometer) in 9.5 sec. and completes the quarter-mile in an elapsed time of 17 sec. flat. A cruising speed of 80 mph is merely loafing. The general feel of the car is that of a much bigger automobile, although big-car standards of ride and insulation from road and engine noise are not quite met even though improved over last year.



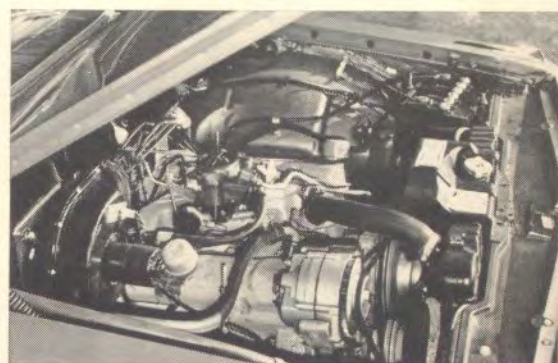
Power steering (\$75 extra) was supplied on our test car. This, we would say, is almost mandatory with the heavy V-8 engine up front, but of questionable value with the 4-cyl. cars. The steering feel is good except that the action is too slow to match the needs of the very active rear end. Though quoted as 4.25 turns, lock to lock, for both manual and power steering, our test car took very nearly 5 turns. The caster-return, or spin-back, with power steering is not quite powerful enough to be used safely in correcting a rear-end slide.

Tempest brake drums, even with the heavier V-8 engine, are only 9 in. in diameter. Pedal effort on our test car was much too high (no booster) but more serious was the brakes' inability to survive even one crash stop from 80 mph. In several tries, with adequate cool-off time between, we found that either the left or the right rear wheel would lock up and skid. Our opinion is that the changed weight distribution

with the V-8 option has not been compensated for in the fore-and-aft braking effort, which is 56/44% on all Tempest models. Since Pontiac offers a number of excellent heavy-duty brake options on the big cars (Al-Fin drums or even aluminum wheels with integral drums) it would seem equally essential on the Tempest V-8 at least, if not the 4-cyl.

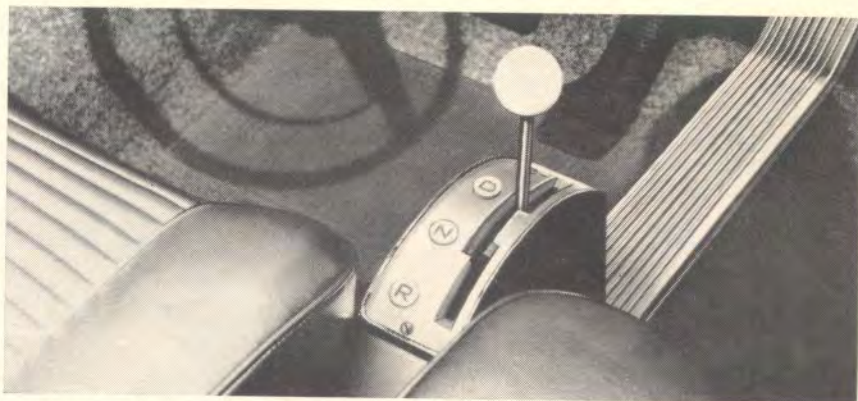
Fuel economy is, of course, whatever you want. High performance is so easily attained that our staff had a difficult time recording the best possible fuel economy. On short hops, with light traffic, the usual figure was 15-16 mpg.

However, on trips, and driving steadily at an indicated 65 to 70, we proved that 18-19 mpg is possible. We would say that an overall average of 20 mpg would just be possible with the 2.91 axle ratio and a careful, light-footed driver. Fuel, of course, must be premium grade with the 10.25:1 compression ratio (there's no other choice) ▶





HUGE TRUNK is by-product of hardtop styling.



CONSOLE-MOUNTED shift lever for automatic transmission is an optional feature.

LeMans

which would satisfy this V-8).

The Tempest is built to typical Pontiac high-quality standards and there is absolutely no sign of skimping to meet a lower price. The interiors of the Le Mans models (coupe and convertible only) are truly sumptuous. A console with shift control panel is optional (our car did not have it). We rather prefer the standard setup (with automatic) which consists of a simple push-down lever, low on the panel and to the right. An illuminated indicator lies just above the lever and an important change for '63 is the Park position—from neutral you move the lever sideways to the left. The optional console control system is different and

has a separate lever to engage Park.

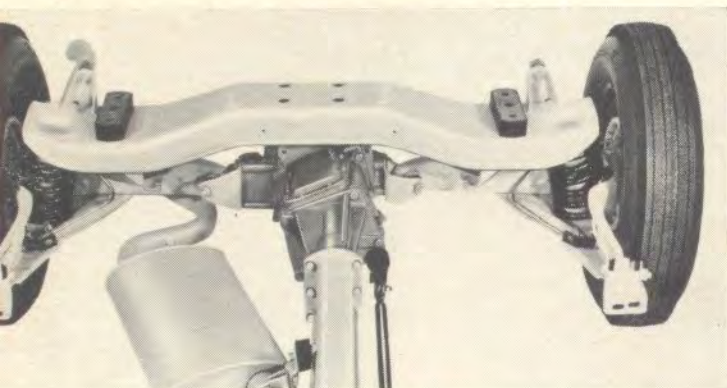
The Tempest Four can be ordered with either a 3-speed or a 4-speed manual transmission, the latter using the all-synchromesh gearset from the Corvair (i.e., not the heavy-duty Warner Gear T-10). The above options do not have enough torque capacity for the 326 V-8 and consequently the only manual transmission for this model is a special close-ratio 3-speed unit with synchromesh only on 2nd and high. The ratios are 1st—2.47, 2nd—1.53 and it comes only with a floor-mounted lever.

We found that forced shifts were possible but not necessary with the automatic, as it shifts itself under wide-open throttle conditions at about 5200 rpm. Lifter pump-up occurs at about the same speed. Using 5200 rpm as a limit, and with an axle ratio of 2.91, the 3-speed manual transmission would allow the impressive speeds of

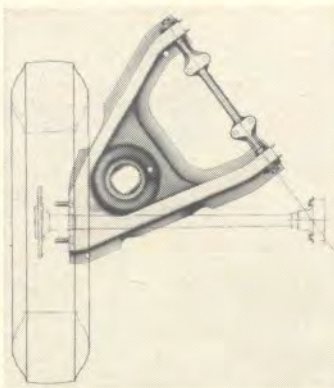
56 mph in 1st, 91 mph in 2nd. With this transmission the overall ratio in low would be 7.19 and the wheelspin problem mentioned in connection with the automatic would be considerably lessened. In fact, it probably would be advisable to order the standard ratio for V-8s with manual transmission, 3.09:1, to get better starts.

The new instrument panel merits very high praise. It consists of four round bezels shielded by a neat cowl. A tachometer (with adjustable red-line) occupies the far right position and could, we think, be better placed by moving it to the No. 3 spot (reading from left to right). Idiot lights for oil pressure and water temperature are there; an ammeter and other special instruments are optional. These combine the fuel supply with engine temperature (position No. 3) gauges and generator with oil-pressure (position No. 1). If you want a clock, you will

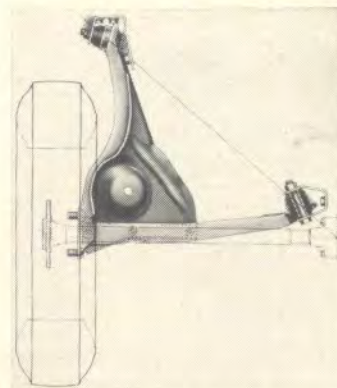




SUBFRAME CARRIES rear suspension and unique transaxle.



NEW REAR control arm (right) as compared with unit used in '61-62 (left).



have to make do without the tachometer!

The foot-operated parking brake caused one minor casualty on the staff. Being more used to a manual shift, he approached a stop, and pushed the brake and clutch pedals. The "clutch," of course, turned out to be the parking

brake and the result was a fat lip from contact with the steering wheel. This may not be important, but with manual shifts currently showing strong signs of revival the idea of left-foot-operated parking brakes for automatic transmission cars seems less attractive.

The 1963 Tempest is a much im-

proved automobile in many ways, particularly in appearance, road noise and suspension. And the V-8 option gives it performance with a capital P. Our only regret, aside from the criticisms mentioned earlier, is that the Tempest seems to be following the inevitable pattern of getting too big. ■

CAR LIFE ROAD TEST



1963 PONTIAC TEMPEST V-8 Le Mans Coupe

SPECIFICATIONS

List price.....	\$2427
Price, as tested.....	2953
Curb weight, lb.....	3260
Test weight.....	3570
distribution, %.....	54/46
Tire size.....	6.50-15
Tire capacity, lb @ 22 psi.....	3800
Brake swept area.....	198
Engine type.....	V-8, ohv
Bore & stroke.....	3.72 x 3.75
Displacement, cu in.....	326
Compression ratio.....	10.25
Carburetion.....	1 x 2
Bhp @ rpm.....	260 @ 4800
equivalent mph.....	120
Torque, lb-ft.....	352 @ 2800
equivalent mph.....	70.3

EXTRA-COST OPTIONS

326 V-8 engine, automatic transmission, power steering, radio, seat belts, wsw tires, remote control mirror, back-up lights, anti-freeze.

DIMENSIONS

Wheelbase, in.....	112.0
Tread, f and r.....	57.3/58.0
Over-all length, in.....	194.3
width.....	74.2
height.....	54.2
equivalent vol, cu ft.....	453
Frontal area, sq ft.....	22.4
Ground clearance, in.....	6.0
Steering ratio, o/a.....	23.6
turns, lock to lock.....	4.8
turning circle, ft.....	40.3
Hip room, front.....	2 x 24
Hip room, rear.....	56.0
Pedal to seat back.....	37.8
Floor to ground.....	10.5
Luggage vol, cu ft.....	14.1
Fuel tank capacity, gal.....	20.0

GEAR RATIOS

3rd (), overall.....	
2nd (1.00).....	3.09
1st (1.76).....	5.44
1st (2.2 x 1.76).....	12.0

PERFORMANCE

Top speed (4600), mph.....	115
Shifts, rpm-mph, automatic.....	
3rd ().....	
2nd ().....	
1st (5050).....	72

ACCELERATION

0-30 mph, sec.....	3.8
0-40.....	5.2
0-50.....	7.1
0-60.....	9.5
0-70.....	12.4
0-80.....	16.4
0-90.....	22.5
Standing ¼ mile.....	17.0
speed at end.....	81

FUEL CONSUMPTION

Normal range, mpg.....	16-19
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SPEEDOMETER ERROR

30 mph, actual.....	29.4
60 mph.....	57.1
90 mph.....	85.0

CALCULATED DATA

Lb/hp (test wt).....	13.7
Cu ft/ton mile.....	126
Mph/1000 rpm.....	25.1
Engine revs/mile.....	2390
Piston travel, ft/mile.....	1495
Car Life wear index.....	35.7

PULLING POWER

70 mph, lb/ton.....	335
50.....	465
30.....	560
Total drag at 60 mph, lb.....	135

