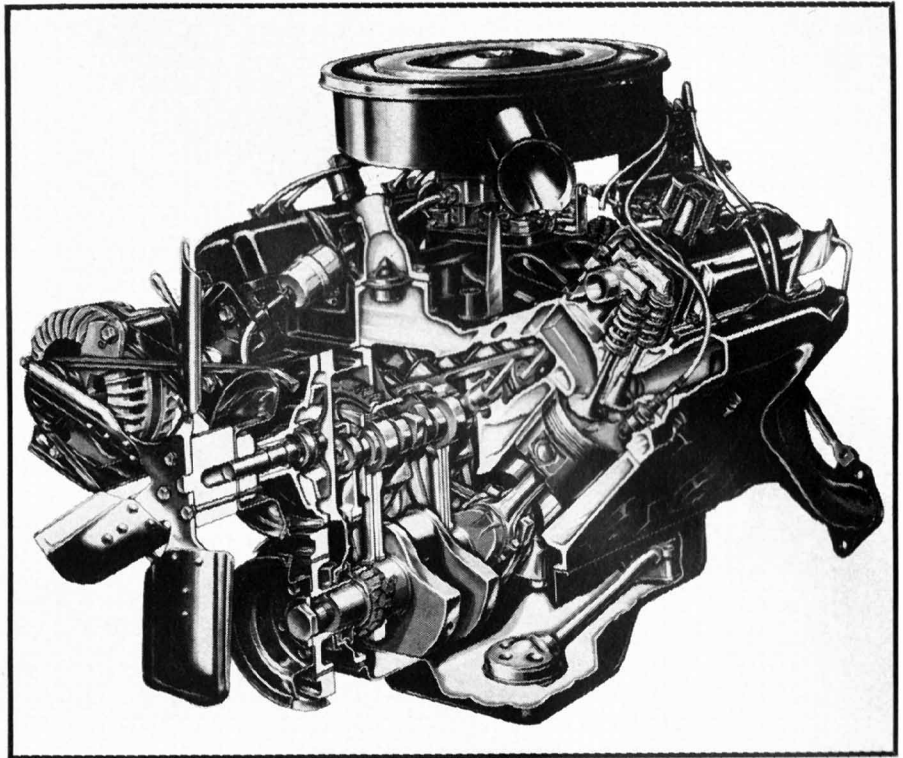




# Chrysler's New Small V-8



## Optional Power for Dart and Valiant

**A**S PREDICTED by *Car Life* some months ago, Chrysler introduced a smaller V-8 engine last December. While Chrysler, and others, has been working on all-aluminum V-8 blocks with no cylinder sleeves, the new engine is cast iron. (Reynolds Metals has a new bore treatment for aluminum blocks, reported to be satisfactory for up to 50,000 miles.)

The new Chrysler V-8 is available as an option in the Dart and Valiant compacts and we predict it may also be available in the Plymouth as an option to compete with the Ford 289 and Chevrolet 283 economy V-8s.

Actually, the new Chrysler V-8 isn't

**TABLE I—HOW THEY GREW**

	Chrysler	Pontiac
Original bore	3.563	3.750
Original stroke	3.250	3.250
Original cu. in.	259.2	287.2
Largest bore	3.906	4.095
Largest stroke	3.313	4.000
Largest cu. in.	3.18	421.5
New bore	3.625	3.719
New stroke	3.312	3.750
New cu. in.	274	326

quite "all-new." The original Plymouth V-8 of 1955 had dimensions of 3.437 x 3.250, giving 240 cu. in. This engine had bore centers spaced at 4.46 in. and it featured polyspherical combustion chambers with staggered valves. It weighed 570 lb. and ultimately grew in size and weight to become the current 318-cu. in. engine used as the standard V-8 in the Plymouth and Dodge. Essentially, the new engine is the 318 with a smaller bore, the same

trick employed for the 1963-64 Tempest V-8. (See Table I.) However, the Chrysler small V-8 has entirely new cylinder heads along with other changes, as compared with the 318.

It is of interest to note that the 318 V-8 engine will not quite squeeze into the available space in either the Valiant or the Dart. But since the new 273 V-8 has the same overall cylinder block dimensions, the question arises: How did they do it? The block has a shallow depression in the left-hand bank water jacket to clear the steering gear. The new heads are much more compact and the left-hand unit has an unusual high-rise exhaust system designed to clear the steering assembly. This tends to crowd the spark plugs but they are still reasonably accessible and are protected from the heat by metal shields which are merely tab-like extensions of the metallic-type exhaust manifold gasket.

Crankshaft and connecting rods are interchangeable between the 318 and the 273. The camshaft is not, because the 318 valve-rocker arrangement puts the pushrods at different angles from those for the in-line valves of the new engine. Incidentally, the in-line valves allow all rockers and pushrods to be identical (not true for the 318) and the valves are inclined (to the bore axis) at the fairly large angle of 18° to keep the overall width of the engine at a minimum. A special intake manifold has been developed to reduce the height of the engine. Made of cast

iron, it saves 12 lb. over the 318 unit.

The new 273 V-8 follows the lead of other manufacturers and makes extensive use of new foundry practices which allow thinwall castings. The block, complete with caps and bolts, weighs 149 lb. or 30 lb. less than the 318. The more compact heads weigh 41 lb. each, 12 lb. less than for the

**TABLE II**

	273	318
Bore spacing, in.	4.46	4.46
Bore & stroke, in.	3.625 x 3.313	3.906 x 3.313
Displacement, cu. in.	273.5	318.0
Comp. ratio	8.80	9.00
Bhp @ rpm	180 @ 4200	230 @ 4400
Torque @ rpm	260 @ 1600	340 @ 2400
Valves	inline	staggered
Valve lifters	mechanical	hydraulic
Int. dia.	1.78	1.84
Exh. dia.	1.50	1.56
Main dia.	2.500	2.500
Pin dia.	2.125	2.125
Block length	21.40	21.40
Weight, lb.	550	605

318. Total weight saving is 55 lb. and the 273 is said to weigh only 50 lb. more than the 225 6-cyl. From data we have we calculate the weights as: 170-6, 465 lb.; 225-6, 500 lb.; 273-8, 550 lb.; 318-8, 605 lb.

Chrysler states that this new option for the Valiant and Dart gives exceptional performance; 0-60 mph in 12 sec., for example. From a competitive standpoint it may seem a little odd that the piston displacement is only 273.5 cu. in., compared with the competition's 283 and 289 cu. in. However, this is only 3.5 and 5.5% smaller, and if this engine should go into the Plymouth one must remember that the Plymouth is 200-400 lb. lighter than the big Chevrolets and Fords. ■