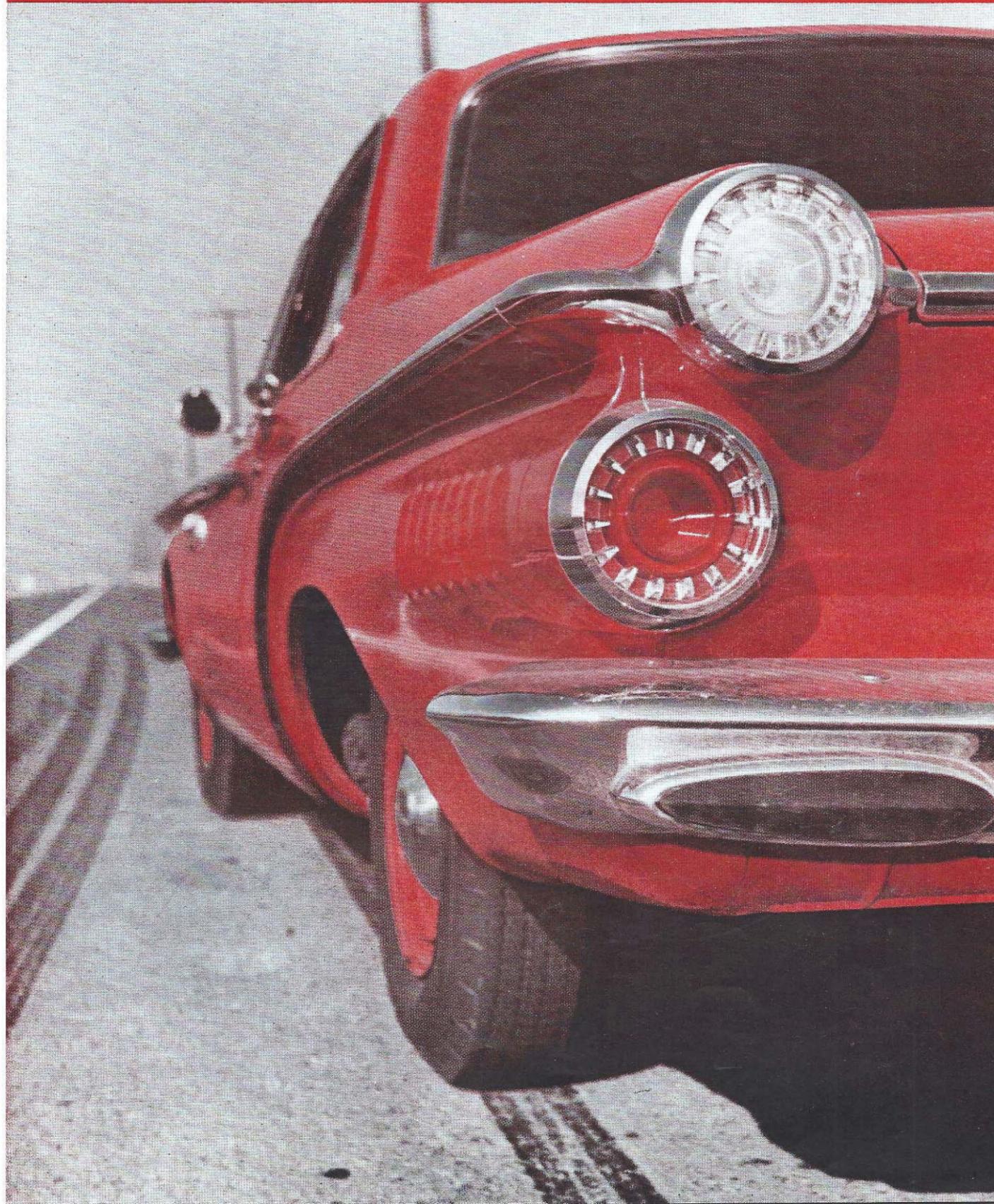


Look who else is on "Hot-Track Row"....

Dodge Dart 413 ▶



Dodge Dart 413 *continued*



When this year's Dodge first appeared, a 305-bhp, 361-cu. in. V-8 was the hottest engine option listed. A *Car Life* staffer at the press preview couldn't resist asking one of the division's engineers if the 383- and 413-cu. in. Chrysler powerplants offered in the 1960 and '61 Darts would fit the smaller, lighter 1962 model. Though the question was meant whimsically, there was something suspicious about the way the engineer smiled and nodded.

Now, we know why. Both of these big engines have become regular production options! The 383 is available with 330 and 335 bhp and the 413 with 365, 385 and 410 bhp! Any of these is quite a bundle of beans for a car which weighs well under two tons.

Dodge's previous experiments with the 383 and 413 can be forgotten. Without question, these two powerplants make the 1962 Dart the hottest automobile Chrysler Corporation has ever offered the public.

But that's not all. The big mills can be fitted with a full line of factory-authorized speed equipment, all of which qualifies as stock. It includes Edelbrock or Weiand

manifolds, Howard or Iskenderian camshafts and Forged-true or Jahns pistons. And the power train can be completed with any of three manual transmissions and *twenty* rear axle ratios!

Most of these items, however, must be installed by the dealer. For testing, we felt the most appropriate combination would be the hottest one available directly from the factory. This proved to be the 385-bhp engine, conventional 3-speed transmission and 4.10:1 axle. The only modifications we accepted were the installation of a Cal-Equip floor shift and the substitution of 6.70-15 tires for the standard 7.00-14. In fact, the most unorthodox thing about the car was the Dodge mechanic who prepared it. His name was Marvin Ford!

For the standing quarter-mile, our elapsed time was 15.1 sec. and our terminal speed 96 mph. While these are impressive figures for a straight factory car, they could have been improved without getting into the special dealer-installed options.

Two problems held us back. As the engine neared its horsepower peak, 5200 rpm, the fan belt would fly off the water pump drive. Dodge assures us this is being corrected with deeper pulleys, so we'll dismiss it as a fault of our particular car. Still, it forced us to treat the throttle with a little more caution than usual.

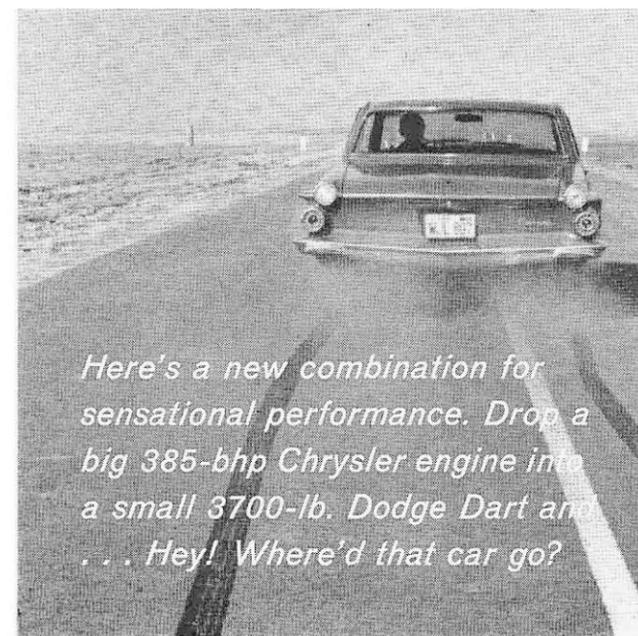
The other difficulty involved traction. The test car had neither a limited-slip differential nor proper tires. As a result, even partial throttle would break the wheels loose excessively at the start of each run. And low e.t.s depend on the cleanest possible jump from the line.

But even with a secure fan belt and better traction, we would've barely tapped the Dart's potential. Let's go over the car carefully and see what might be done to turn it into a drag race champion.

Our test vehicle was what Dodge calls the Dart 330, the middle series in the line. It was a 2-door hardtop, equipped with radio, heater and power steering. The first thing we'd do is forget the frills and order the plainest Dart 2-door sedan without any convenience accessories. This should save us between 150 and 200 lb. right off the bat.

The 385-bhp engine, as we tried it, had twin 4-barrel carburetion. Two possibilities exist for improving this, putting the two big carbs on short ram manifolding or replacing them with a triple 2-barrel arrangement.

Ford, the aforementioned mechanic, gave us a good case for the ram system. On an earlier Dodge, he told us, he tried two 4-barrels first with a normal manifold and then with short ram tubes. Running the same day at the



Here's a new combination for sensational performance. Drop a big 385-bhp Chrysler engine into a small 3700-lb. Dodge Dart and... Hey! Where'd that car go?

same strip, he was able to reach a speed in the quarter-mile 4 mph faster with the ram. We doubt that triple 2-barrels would show that much advantage over conventional twin 4-barrels.

Ram manifolding is the only dealer-fitted item which alters the advertised engine output. With it, the 385 bhp at 5200 rpm becomes 410 bhp at 5400 rpm and torque increases from 455 lb.-ft. at 3600 rpm to 460 lb.-ft. at 4400 rpm.

But we can continue to boost actual power, if not the nominal rating. The standard compression ratio is 11:1; with special domed pistons, we can raise it to 14:1. As delivered, the engine has hydraulic valve lifters driven by a camshaft providing 268° duration for both intake and exhaust openings. We can ask the dealer to put in mechanical lifters, heavier valve springs and a cam with 276, 284, 292 or 308° duration.

The engine that materializes out of all this will really

turn on but only at extremely high crankshaft speeds. It should be able to hit between 6000 and 6500 rpm easily. This means we'll have to use considerable discretion in gearing and, fortunately, Dodge accommodates us very well.

Our test car had the standard 3-speed transmission with a 2.55:1 first and 1.49 second. However, we can get a closer gearset with a 2.17 first and 1.43 second. And the Warner 4-speed is also available, not with the usual, widely spaced "big car" gears but with the closer ratios used in the Corvette. These are a 2.20 first, 1.66 second and 1.31 third.

Frankly, we're inclined to favor the close-ratio 3-speed. It's much nearer than most 3-speeds to the 4-speed's advantage of minimizing the drop in rpm during a shift, yet it eliminates the time lost in the 4-speed's extra gear change.

A big problem with a close-ratio box is selecting a rear



Dodge Dart 413 *continued*

axle that provides low enough over-all gearing in first and, at the same time, allows sufficient speed in third. Our test car's over-all ratio in first was 10.5:1. To duplicate this figure with the close-ratio gearset, we'd need a 4.89 axle. If that didn't do the trick, Dodge would be ready to sell us anything from a 2.76 to a 6.17! Of course, we'd specify a limited-slip unit.

Tires also play a part in gearing and, here again, Dodge has gone all out. Listed as an authorized option is the combination of 7.00-14 front tires and 9.00-14 rear! If we went that far, however, we'd probably have to install an even lower axle.

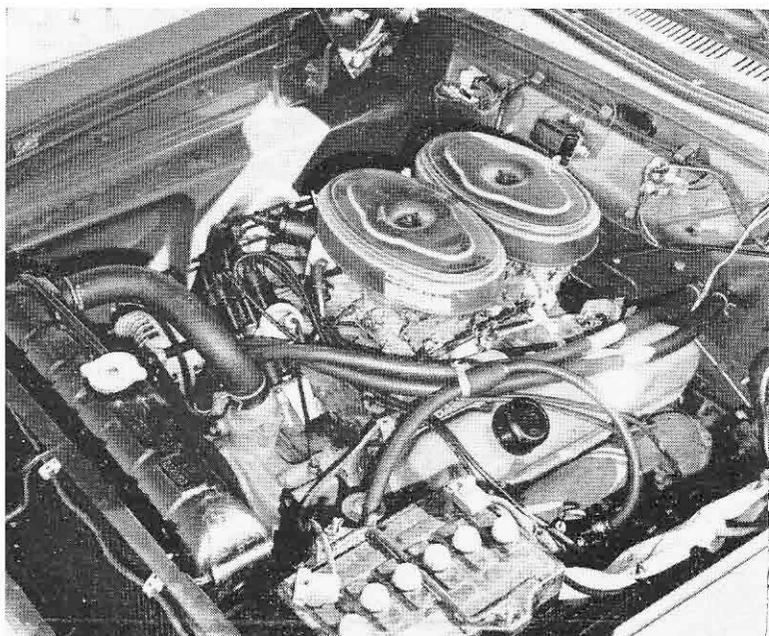
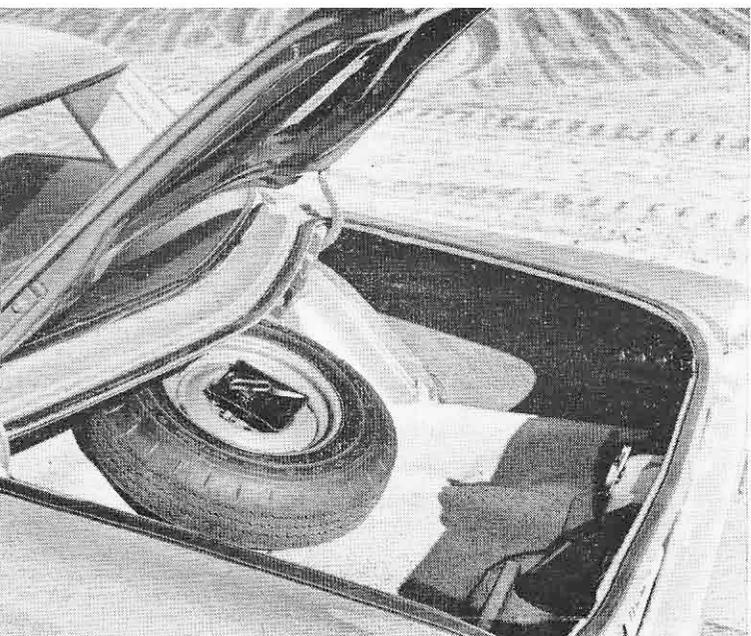
Ford told us he'd obtained the best results with 8.00-14s. This seems a reasonable choice because, with the 4.89 axle, the car would be able to hit 115 mph at 6300 rpm, a crankshaft speed that should be well within the capabilities of the modified 410-bhp engine. For maximum traction, we'd want tires of butyl rubber.

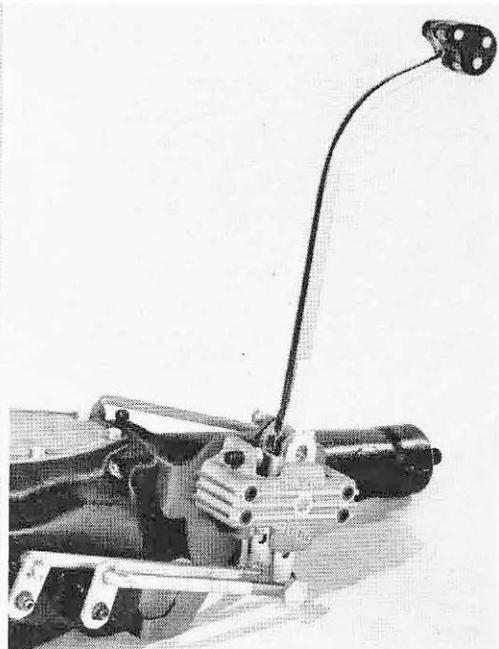
Our test car had one final feature we consider desirable, a police chassis with heavy-duty brakes and suspension. The brakes had 11-in. drums, compared with Dodge's usual 10-in., increasing swept area to 380 sq. in.

The stiffer springs, to our surprise, didn't do much for the handling qualities. The problem here is the weight of the 413 powerplant, an estimated 672 lb. This places enough of the car's total weight on the front wheels to obliterate the stability of a normal Dart. Even with the very light feel of Dodge's power steering, nose heaviness and excessive understeer are apparent. The 413 isn't a very good choice for ordinary highway use.

Now that we've outlined a Dart for dragging, the obvious question is, "What'll she do?" As we go to press, the components we've suggested are just becoming available, so nobody has had an opportunity to build quite the car we have in mind. However, the experience of our friend Ford indicates what we can expect. He has raced a 1962 Dart with a 383 engine and scored e.t.s in the low 13s and speeds above 106 mph. With a ram-induced 413, he believes an e.t. between 11.9 and 12.5 sec. is possible and quarter-mile terminal speed should be between 110 and 115 mph!

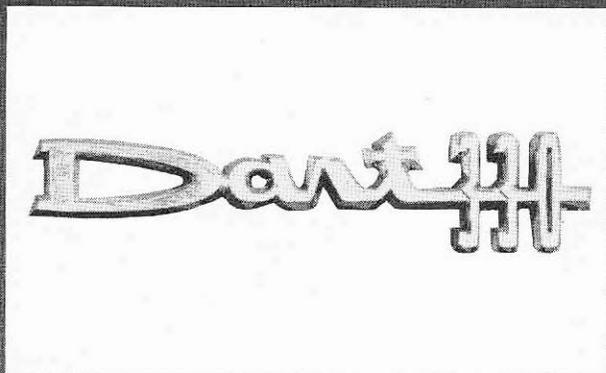
Dodge, then, is a car to watch at the drag strips this season. For the first time, the make has really gone all the way in special performance equipment. And this means the 1962 Dart stands a very good chance of chewing the feathers of its Super Stock rivals, including those of a certain big Indian! ■





CAL-EQUIP floor shift is Dodge-authorized option.

CAR LIFE ROAD TEST



DODGE DART 413

SPECIFICATIONS

List price	\$2570
Price, as tested	n.a.
Curb weight, lb	3540
Test weight	3890
distribution, %	56.5/43.5
Tire size	6.70-15
Tire capacity, lb	4430
Brake swept area	380
Engine type	V-8, ohv
Bore & stroke	4.19 x 3.75
Displacement, cu in	413
Compression ratio	11.0
Bhp @ rpm	385 @ 5200
equivalent mph	99.5
Torque, ft-lb	455 @ 3600
equivalent mph	68.8

EXTRA-COST OPTIONS

413-cu. in. engine, power steering, padded dash, back-up lights, radio, heater, outside mirror.

DIMENSIONS

Wheelbase, in	116.0
Tread, f and r	59.4/57.5
Over-all length, in	202.0
width	76.5
height	54.0
equivalent vol, cu ft	483
Frontal area, sq ft	23.0
Ground clearance, in	6.0
Steering ratio, o/a	18.8
turns, lock to lock	3.5
turning circle, ft	36.4
Hip room, front	60.8
Hip room, rear	50.0
Pedal to seat back, max.	41.0
Floor to ground	12.0
Luggage vol, cu ft	28.0
Fuel tank capacity, gal.	20.0

GEAR RATIOS

4th (), overall	
3rd (1.00)	4.10
2nd (1.49)	6.11
1st (2.55)	10.5

PERFORMANCE

Top speed (est), mph	107
best timed run	n.a.
3rd ()	
2nd (5600)	72
1st (5600)	42

ACCELERATION

0-30 mph, sec	3.5
0-40	4.7
0-50	6.1
0-60	7.4
0-70	9.2
0-80	11.7
0-100	19.0
Standing 1/4 mile	15.1
speed at end	92

FUEL CONSUMPTION

Normal range, mpg	10/13
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SPEEDOMETER ERROR

30 mph, actual	25.3
60 mph	48.4
90 mph	72.5

CALCULATED DATA

Lb/hp (test wt)	10.1
Cu ft/ton mile	193
Mph/1000 rpm	19.1
Engine revs/mile	3140
Piston travel, ft/mile	1965
Car Life wear index	61.6

PULLING POWER

3rd, lb/ton @ mph	425 @ 70
2nd	off scale
1st	off scale
Total drag at 60 mph, lb	160

