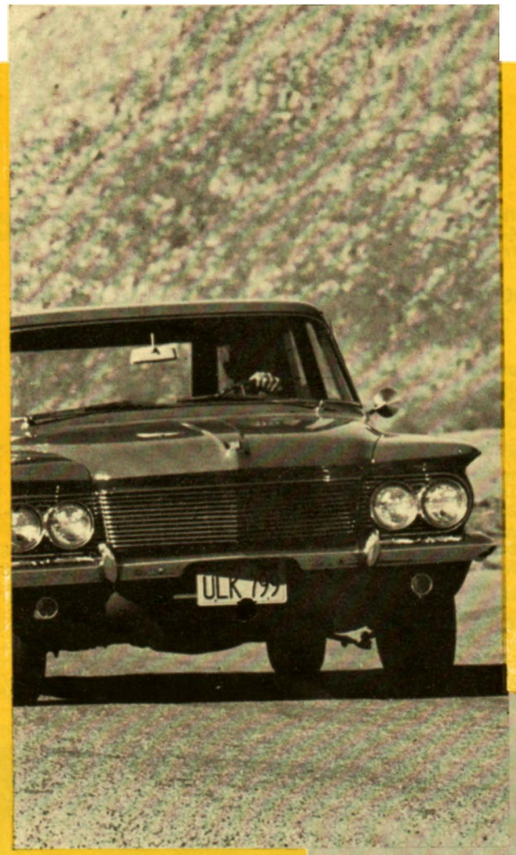


Lancer's Three Engine Options

Dodge's new compact offers a triple choice of powerplants, with a wide range of performance

by Chuck Nerpel
Technical Editor





TORSION BAR SPRING RATES AND FRONT SUSPENSION GEOMETRY, WELL MATCHED TO WEIGHT DISTRIBUTION, GIVE LANCER GOOD STABILITY.

SEPARATION OF DODGE AND PLYMOUTH dealerships last year left Dodge dealers without a domestic compact car to offer their customers in competition with the Plymouth Valiant. Solution to the problem, the Lancer, bears a striking resemblance to the Valiant but carries the Dodge name. Minor trim and grille changes make it outwardly different from its Plymouth counterpart, but the powerplant options available are quite a bit more exciting.

Standard engine is the now familiar Slant Six of 170 cubic inches rated at 101 hp, but the 225-cubic-inch Slant Six is optionally available and provides an additional 44 hp. This is the same basic engine used in the six-cylinder Dodges and Plymouths, but it is available with the die cast aluminum block which makes it nearly 50 pounds lighter than the 170-cubic-inch cast iron powerplant.

Quietly and without publicity the Dodge Division of the Chrysler Corp. has been producing a limited number of aluminum engines for their Lancer automobiles. The basic block configuration is similar to cast iron engines, but a closer look reveals an interesting cylinder casting technique. Cylinder liners are of cast iron, molded into the barrel during the casting process, and the barrels themselves are completely surrounded by a water jacket, from their junction at the inner crankcase to the head itself.

The tops of the cylinder barrels are not attached to the top portion of the block where it joins with the cylinder head, nor are they recessed into the head in any way. Sealing is done with a conventional laminated copper gasket squeezed between the head and the rather narrow edges of the cylinder barrel tops.

MOTOR LIFE'S test of the Lancer is really a four-phase evaluation of Dodge's new compact. First, we selected the station wagon because its similarity to sedan wheelbase and length allows a good test of passenger car handling characteristics, while checking the advantages of a compact station wagon. The other phases of our test are the engine options – testing the standard powerplant against the larger engine option, and then seeing how the large engine responds to the Hyper-Pak kit optionally available for it.

Just to be sure there was a constant to check against, the identical car was used for all engine tests. We did not change cars – we changed engines. As an increasing number of compacts are ordered with automatic transmissions and some power option, MOTOR LIFE'S test car was equipped with a three-speed, pushbutton-operated automatic transmission and a power steering unit. Transmission, power steering and rear axle ratio of 3.23:1 were unchanged; only the powerplants were replaced.

As a compact, the Lancer is just about the right size: small enough to handle lightly in traffic or parking lot, large enough to hold its own on freeways and highways, roomy enough to hold people, relaxed and comfortable.

The station wagon is essentially a four-door sedan with extra interior space normally occupied by the luggage compartment, but with more usable cubic feet unbroken by rear axle shelf or spare tire. Any time more space is required, the second seat folds forward and there is inside room from front seatback to tailgate to unroll a sleeping bag. A section of the flat floor just inside the tailgate swings up to uncover spare tire and tool compartment.

The tailgate, which opens flat and can be used in this position if extra-long cargo space is required, is unlocked from the inside by manual latch. The rear window is electric, operated by key from a lock in the center of the tailgate, or by a dash knob. The tailgate cannot be opened or closed unless this window is all the way down. In addition to its excellent ventilating contribution, this is an easy way to lock the car and it provides safety for any valuables stowed in the rear of the wagon.

The standard 170-cubic-inch Slant Six cast iron engine weighs about 50 pounds more than the new die cast aluminum 225-cubic-inch powerplant. It is smooth-running with



By folding rear seat flat, floor length is nearly seven feet with tailgate closed; tailgate open, cargo area is 8¾ feet.

good low-end torque, but bogs down with the automatic transmission and power steering pump, thus leaving a lot to be desired in performance. In today's fast-accelerating traffic flow, we were floorboarding the throttle constantly to keep up, and it showed on our fuel consumption. Rush-hour freeway driving, which requires a lot of speed-up and slow-down driving, logged 16.6 mpg. Open highway travel cruising at 65 mph raised the mileage to 18.9 mpg.

This sounds like excellent mileage from a car with the comfort and carrying capacity of the Lancer, but we make a point of it because the 225-cubic-inch engine, with a great deal more go, got just about the identical mpg under similar conditions. Our personal choice for the best from the 170-cubic-inch engine would be the manual three-speed transmission with 3.55:1 rear axle ratio and no power steering, which seems superfluous on such a light-steering and responsive car as the Lancer.

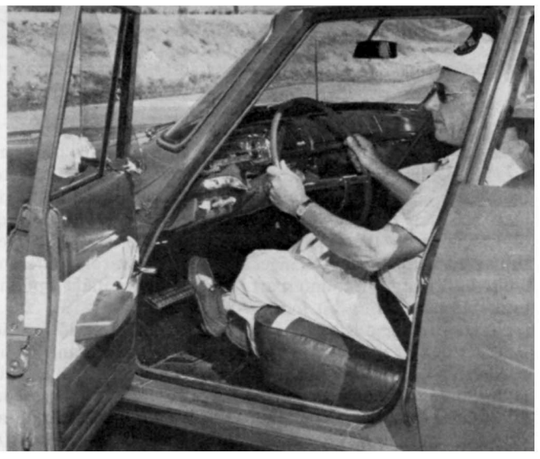
Lancer steering with the larger but lighter 225-cubic-inch engine is not noticeably changed under ordinary driving conditions, but in situations that can and do occur – where one may be forced to corner at high speeds due to poor judgement of a curve or an unmarked one – there is less understeer or frontwheel washout than with the heavier engine. The extra 55 cubic inches and 50 pounds less weight gives the optional powerplant the edge.

The engine winds to 3800 rpm in first gear, shifts quickly

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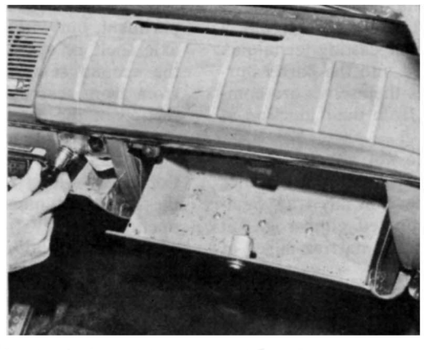
Plywood hatch under ribbed rubber floor covering lifts out for access to spare, jacking tools and extra space for small items.



Seat and wheel positions are designed for comfort, visibility, and adequate legroom. Wide doors make exit and entry easy.



Turn signal indicator lever interferes with pushbutton shift selector. New feature is transmission parking lock.

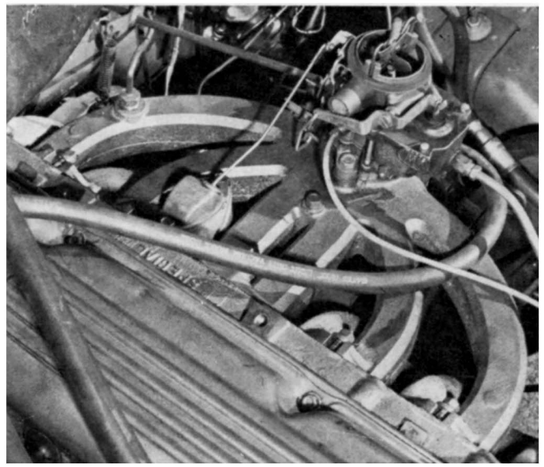


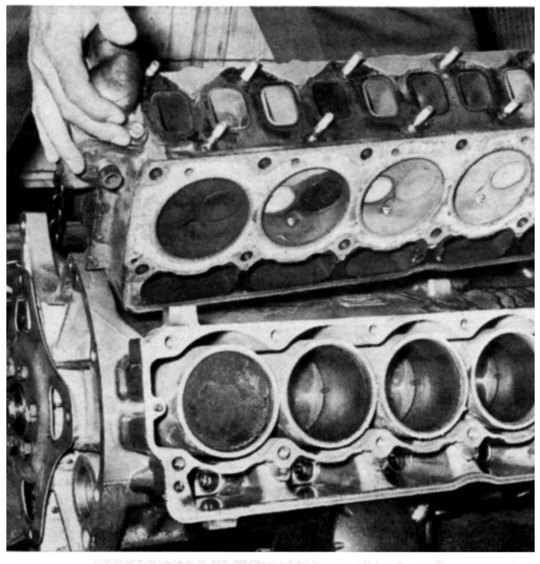
Hinged and boxy glove compartment has generous space for small incidentals, can be fully loaded without spilling everything when door is opened.



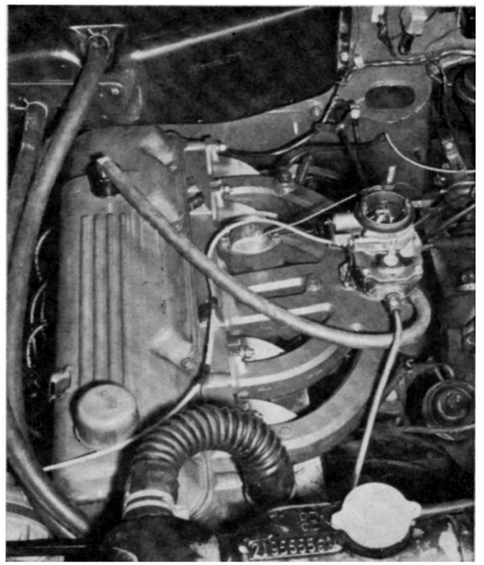
Cooling of nine-inch brake drums and molded asbestos linings is helped by slotted wheels and ventilated hub caps.

Standard 170-cubic-inch cast iron engine, right, is similar in overall dimensions, manifolding and carburetion to the 225-cubic-inch engine, below. Bore is the same for both powerplants; greater displacement is achieved by one inch more stroke.



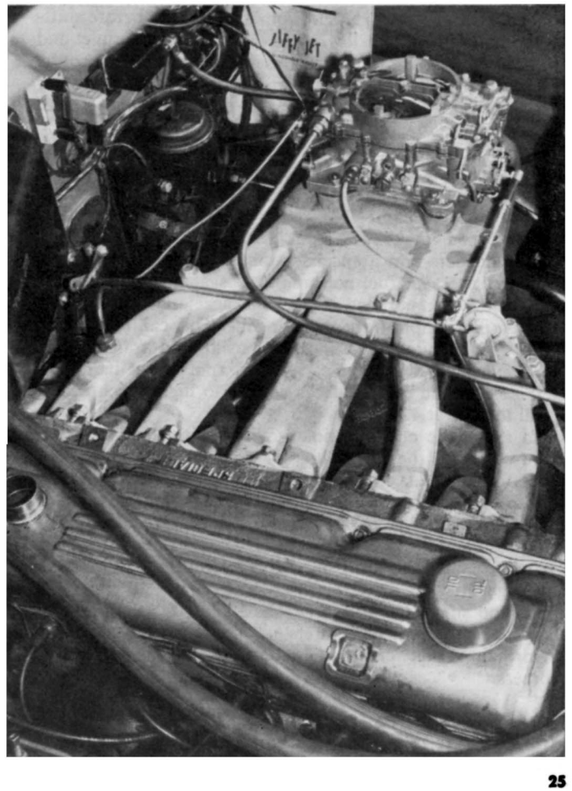


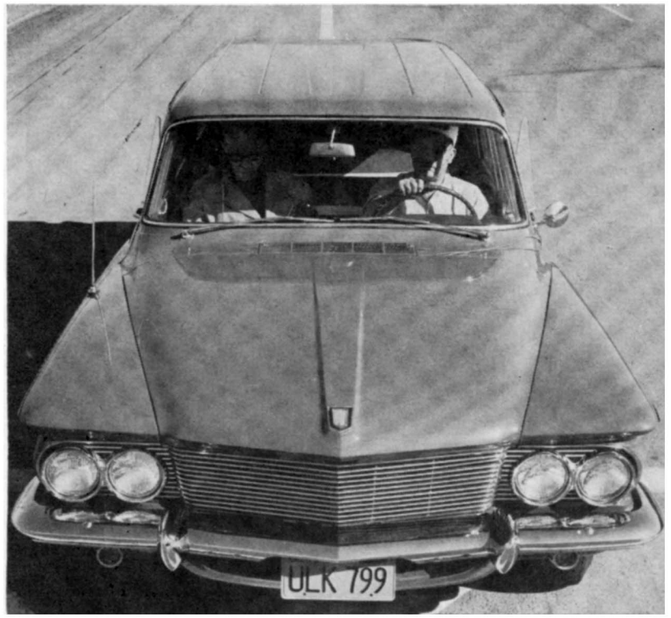
Cylinder barrels on die cast aluminum engine are free of attachment to top of block, above. Head is cast iron with a separate port for each intake and exhaust valve. Cast iron liners are cast into cylinder barrels. Ram-type cast aluminum intake manifold, right, with four-barrel jug, is part of the Hyper-Pak kit. A special low-profile, large-diameter air cleaner is furnished for carburetor.



Lancer's Three Engine Options

continued





Full curved windshield gives undistorted view of the road and front fender limits. Louvers in cowl supply air to heater, vents; screen out water, dust.



Electric rear window can be opened with key lock in tailgate or by a dash-mounted control knob.

Lancer's Three Engine Options

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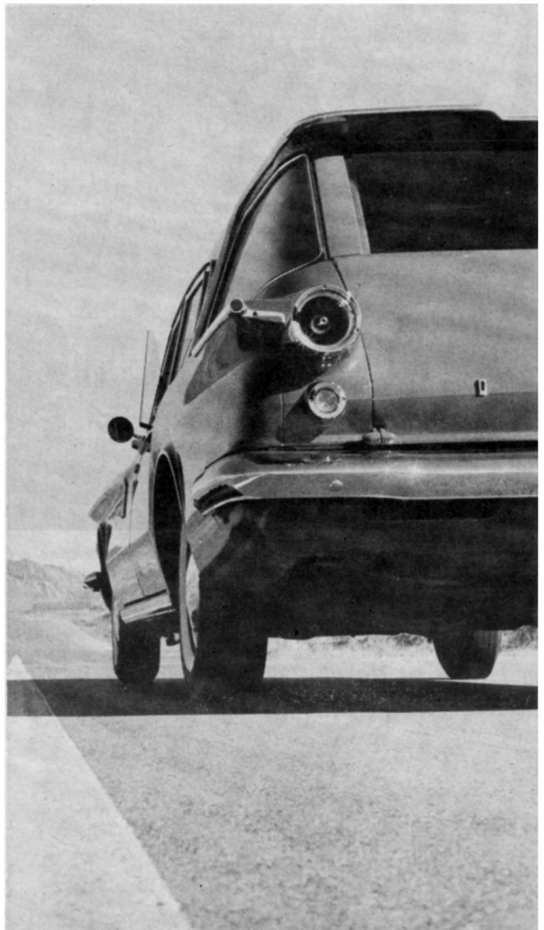
into second and cranks to 4200 rpm and 54 mph before shifting to high. Cruising or low-speed traffic driving is quiet and smooth with good throttle response in high at part throttle. The car is just as noiseless in rapid acceleration for passing at full throttle, even with automatic downshift into second at speeds up to 50 mph.

Adding the modification kit known as the Hyper-Pak to the 225-cubic-inch powerplant is almost as effective as installing a big V-8 under the hood. The complete package includes special cam, lightweight pushrods, heavy valve springs, tuned intake with four-barrel carburetor, free-flow exhaust headers and a special muffler and tailpipe.

On the average, fuel consumption is about two mpg less than with the unmodified engine, but acceleration runs gave us seven more mph in the quarter-mile. This can be bettered slightly by manually shifting the pushbutton transmission. The engine will wind to nearly 6000 rpm if not hampered by the automatic up-shift from second to high which occurs at full throttle at 4200 rpm.

An automatic choke is not provided with the four-barrel carburetor, but the kit includes a cable and dash-mounted knob for manual operation. Idling is faster and not so smooth with the special cam, and the spark advance is greater with the kit. While premium fuel is recommended, compression ratio is 8.2:1 and the better grades of regular gas work quite well with only a slight ping on full-throttle standing starts.

Not too small, not too large, the Lancer fits the domestic compact car need and offers economy or a choice of performance that can equal some of its bigger Detroit brothers. •



Rear lighting assembly with recessed lens combines functions of stop, turn and tail light; has outrigger housing reflector.

DODGE LANCER 770

6-passenger 4-door station wagon

OPTIONS ON CAR TESTED: Power steering, radio, heater
ODOMETER READING AT START OF TEST: 2669 miles

ENGINE SPECIFICATIONS

6-cylinder in-line, ohv water-cooled

	170	225	225 Hyper-Pak
Bore	3.4 ins.	3.4 ins.	3.4 ins.
Stroke	3.125 ins.	4.125 ins.	4.125 ins.
Displacement	170 cu. ins.	225 cu. ins.	225 cu. ins.
Horsepower	101 @ 4400 rpm	145 @ 4000 rpm	196 @ 5200 rpm
Block	Cast iron	Die cast aluminum	Die cast aluminum
Head	Cast iron	Cast iron	Cast iron

PERFORMANCE

0-30	6.6 secs.	4.4 secs.	4.3 secs.
0-45	12.7	8.7	7.6
0-60	21.9	15.9	11.8
¼-mile	22.1 & 60.6 mph	19.8 & 67 mph	18.5 & 74 mph

Speedometer error on test car

Car's speedometer reading	34	51	56	70	82	92
Weston electric speedometer	30	45	50	60	70	80

Stopping distances — from 30 mph, 33 ft.
— from 60 mph, 128 ft.

SPECIFICATIONS FROM MANUFACTURER

GEARBOX
Automatic 3-speed torque converter with gears, push-button control

DRIVESHAFT
Open with pre-pack U-joints

DIFFERENTIAL
Hypoid gear
Standard ratio 3.23:1

SUSPENSION
Front: Independent, lateral control arms, torsion bars
Rear: Solid axle, semi-elliptical parallel leaf springs

BODY AND FRAME
Unit body/frame
Wheelbase 106.5 ins. Track, front 56.0 ins., rear 55.5 ins. Overall length 188.8 in. Curb weight 2665 lbs.

WHEELS AND TIRES
Stamped steel disc wheels, 6.50 x 13 tires

BRAKES
Hydraulic drum type
9-in. diameter single leading shoe, 129.1 sq. ins. effective area.
Front: 2.25-in. lining width
Rear: 2.0-in. lining width