

Tiny hatchbacks

go a long way on a gallon

By **JIM DUNNE** and **ED JACOBS**
 PHOTOGRAPHS BY GREG SHARKO

The feature that matters most to cost-conscious car buyers in these days of high-priced gasoline and talk about rationing is fuel economy. This month, we take a close look at four cars that emphasize high-mpg

performance foremost: Chevrolet Chevette, Dodge Omni O24, Plymouth Champ, and AMC Spirit.

All four are designed to make a trip to the gas station a once-a-week excursion. They have four-cylinder engines, efficient transmissions, light weight, and small body dimensions. Features such as smooth ride, quiet

interiors, passenger room, and comfort get less attention in these vehicles.

Dodge Omni O24

The O24 is new this year. It's the two-door version of the front-drive subcompact Dodge introduced last year, and the twin sister of Plymouth's Horizon TC3. Its differences from the four-door, however, are more significant than just appearance. The O24's 96.7-inch wheelbase is 2.5 inches shorter, although the car is half a foot longer. The result is a lower, sleeker, sporty profile, and one that requires you to sit three

Continued

PS ratings— test report in a nutshell

The ratings are based on test results and measurements. Results should be read with the understanding that they reflect tests only on our sample cars. An excellent rating is 5 points; very good, 4; good, 3; fair, 2; poor, 1; very poor, 0.

	Dodge Omni O24	Plymouth Champ	AMC Spirit	Chevrolet Chevette
Fuel economy	4	5	4	4
Acceleration	5	4	2	2
Braking	3	4	3	3
Handling	5	5	4	5
Maneuverability	5	5	5	5
Ride comfort	2	2	2	1
Quietness	0	0	1	0
Roominess	3	3	2	3
Visibility	5	5	3	5
Entry/exit ease	3	3	3	2



Sporty, practical, fuel-stingy, or all three; take your pick. Clockwise from foreground: Dodge Omni O24, Chevrolet Chevette, AMC Spirit, and Plymouth Champ.



Low-speed slalom evaluates maneuverability. Spirit (top) displayed high body roll, was slowest. Nimble Champ (next to top) cornered much flatter, tied for win here, easily won high-speed lane-change. Surprising Chevette (next to bottom) tied Champ in slalom. Omni O24 cornered flatly, but mustered only third in slalom.

inches lower. That difference may appeal to some buyers, but it doesn't provide the best view and is also less comfortable.

The low roof line is very confining for rear-seat passengers. Almost three inches of head room have been sliced off, and leg room is 4.5 inches shorter than in the four-door version. Rear-seat room is marginal—at best—for adult passengers, and nothing like that provided in the four-door [PS, March '78].

Unlike most sporty cars, the O24 has plenty of cargo space. With the rear seat folded down, the coupe offers a generous 33.8 cu. ft. of highly usable room. (A full-size sedan does well to provide 20 cu. ft. of trunk space.) The hatch makes loading and unloading large, bulky packages convenient.

The O24's drive train is identical to that of the four-door Omni, a pleasing combination that is relatively quiet and smooth-running. Its spritely acceleration was by far the best in this group. Our zero-60-mph times were under 15 seconds, which borders on V8 performance. (Remember that the straightaway on our test track is slightly uphill, so our acceleration times may be slightly slower than are reported elsewhere.)

Despite the changes in wheelbase and length from the four-door, the O24 achieved top marks for speed through both of our dynamic tests. But we did notice the odd sensation of the rear end getting light under full power in the high-speed lane-change. It never amounted to anything more than a *sensation*, and might possibly have been related to the particular car/tire combination, but was still surprising in a front-wheel-drive car. Otherwise, traction and high-speed stability were outstanding.

We have mixed feelings about the floor plan of the O24. Unlike the Chevette and Spirit, there is no problem with foot or leg room up front; it's one of the great benefits of front-wheel drive. However, when the rear-seat back is folded down, it is more than four inches above the cargo floor, which breaks the load area into two sections.

In the front, the driver's lower position is quite different than in the four-door. The deeply recessed steering-wheel hub appears odd. So does its large rim, but that's done for better leverage when turning. The bucket seats are also unusually large for a subcompact. They have a firm backing, but their shape is similar to that of a bench seat, and provides little lat-

eral support. Add that to the low seating and flat, spacious floor, and you get the feeling of rattling around in the front, instead of being part of the car.

Plymouth Champ

Plymouth's subcompact Champ, also new this year, is the twin of the Dodge Colt Hatchback (not the totally different Colt sedan, which has been around for several years). Its name reflects Chrysler Corporation's expectations from the car in the area of fuel economy.

Along with the Colt Hatchback, Champ exclusively offers the Twin Shift 4x2 transmission. It's a dual-range four-speed with an extra countershaft, which allows you to choose between overall gear ratios for either power or fuel economy. The controls for the system are two shift levers mounted side by side on the floor. You can pre-select either mode, then use the four-speed shifter conventionally; or you can select either mode at any time.

That means that you can have up to *eight* forward speeds, plus two reverses! It's fun to shift to the precise gear that suits your driving needs, and it's rewarding to find that the car can deliver as much as 43 mpg in highway driving (EPA results).

The Champ is a midget among small cars—about the closest you'll find to a pure commuter car—but that doesn't mean that comfort or driving ease has been ignored. The front-wheel-drive layout puts 63 percent of the ultralight 1881-pound curb weight on the front wheels, which translates into a solid feel in the steering and excellent directional stability at high speed, with little wander.

The hatchback design turns this mini-compact into a big hauler. With the seats folded, the rear compartment will hold 27.4 cu. ft. of cargo. That's equal to the Chevette, and more than the bigger Spirit. However, it does take two hands to release the rear-seat back, which, when folded flat, makes an uneven match with the remainder of the floor, as with the O24.

As you would expect, some corners were cut in the design of the Champ. Fuel can clearly be heard sloshing in the tank when you stop the car, rear-seat room is tight, and noise levels are slightly higher than those on competitive models—but these things aren't critical, and mini-car buyers seem quite willing to accept them.

The simple instrument-panel de-

Continued

EPA fuel mileage (mpg)

	Dodge Omni O24	Plymouth Champ	AMC Spirit	Chevrolet Chevette
Highway	38	43	33	30
City	25	33	22	25
Calif. city	24	32	15	25

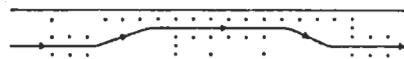
sign is highlighted by handy controls. Headlight and wiper switches are built into the instrument cluster's shroud, well within an extended finger's reach of the steering wheel.

The Champ comes the closest of any to being a basic-transportation car among the present lineup of minis. Frills and features that add bulk and weight were deleted, while necessities like cargo room and fuel economy were designed in. Don't be surprised to see many more cars like the Champ on the road as fuel-supply problems mount.

AMC Spirit

Our Spirit DL, with its four-cylinder Volkswagen-built engine, is the lowest-power version of this restyled AMC subcompact, which we tested in February with the most powerful engine. By now you're aware that it's based on a Gremlin body shell that is more than 10 years old. However, generous updating of the chassis and body have kept it fresh-looking. By using the imported engine (AMC does not produce a four-cylinder of its own), the Spirit is able to offer substantially better fuel economy than is possible from the company's lineup of V8 and six-cylinder engines. Unfortunately, with its heavy chassis, Spirit is no economy standout. Its 22-mpg city and 33-mpg highway EPA mileage ratings are among the poorest of the four cars tested.

What is special about the Spirit is the luxury finish that upgrades the interior. Doors are trimmed with the



Omni O24 veers back to right side of road (above) approaching end of high-speed lane-change, which duplicates car's behavior if its path is suddenly blocked at high speed. Chevette (right) is viewed from behind at same point. Despite long approach, it was still accelerating all the way through the test grid.



look of a high-priced car. Carpeting, bright moldings, soft vinyl, and wood-grain inserts are used. A similar theme shows up on other parts of the interior, in marked contrast to the Champ and Omni.

Spirit's worst features can be traced to its heritage. As more small, economical cars are introduced, more vestiges of the old Gremlin become apparent. Rear-seat room is the poorest of the group, even though the Spirit has the largest body. And the load-carrying area is poorly laid out, with the spare tire stowed on top of the floor at the rear.

While the VW engine delivers ac-

Continued

Chevette locked brakes during panic stops (right), but remained controllable. It finished third in the cold-brake test, second in hot test. Champ won both.



Hatchback convenience, sizable cargo capacity, and high fuel economy are some strong features of the current subcompacts.

ceptable fuel economy, it lacks the muscle to move the heavy (2600+ pounds) chassis with authority. Its zero-60-mph times were in the 18-second range. In addition, the engine seems to run at high speeds most of the time, as though being overworked. A side effect of this is a comparatively noisy passenger compartment.

Chevrolet Chevette

The four-door Chevette is another basic-transportation type of vehicle. However, Chevrolet does offer a long list of spruce-up and comfort options to upgrade the car. Among the minicompacts built with the less contemporary front engine/rear drive chassis, the Chevette may be one of the best values, especially for economy and driving ease. But that does not make the small Chevy equal to most of the front-drive small cars, notably Omni and Rabbit.

Problems of passenger space can become acute when a car has a transmission/driveshaft tunnel in the floor. In the Chevette, front-seat foot and leg room are particularly tight, due to the narrow width of the car and the extra-wide transmission tunnel.

Rear-seat passenger room is slight-

ly better. Chevrolet added three inches of leg room back there (compared to the two-door Chevette) and that seemingly tiny increase did make a big difference in passenger room.

Our test Chevette was equipped with GM's passive seat-belt system, which insures that front-seat occupants are belted up before the car can be started. The system is similar to the one Volkswagen pioneered. The top of the shoulder harness is hooked to the rear of the front-door frame, about midway up the window. When the door swings open, the belt swings aside, too. When the door is closed, the belt presses against your chest, and locks securely in place if an accident should occur. The lap belt must be buckled up separately.

There are some problems with the GM system, though. The edge of the belt passes less than two inches from your face, so close that by simply turning to look left, the hard fabric presses into flesh. The belt also cuts down slightly on the apparent entrance/exit space to the front seat. However, while the system seems to need minor improvements, it does offer good protection for those who can't be bothered with buckling up.


The Chevette's ride quality is poor, and not all of it is the fault of the short wheelbase and light weight. It becomes bouncy over small bumps, and tiring on long trips. Still, it managed top marks for both high-speed and low-speed maneuverability, and was easily controllable in just about any driving condition.

Our test Chevette was equipped with an automatic transmission, which put it at a disadvantage to the other cars' manual transmissions. As one result, its acceleration was slowest of the group. Zero-60-mph times hovered around the 18.5-second mark. This slow acceleration even showed up in the high-speed lane-change test. It was ultimately possible to negotiate the entire test with the accelerator pedal planted firmly on the floor, rather than varying it to meet the car's reactions.

As was evident in all four models, the small-car builders scrimp on luxuries like noise control and ride comfort. That is to be expected; but in important features such as fuel economy, ease of handling, and cargo capacities, the tiny hatchbacks can surprise you.

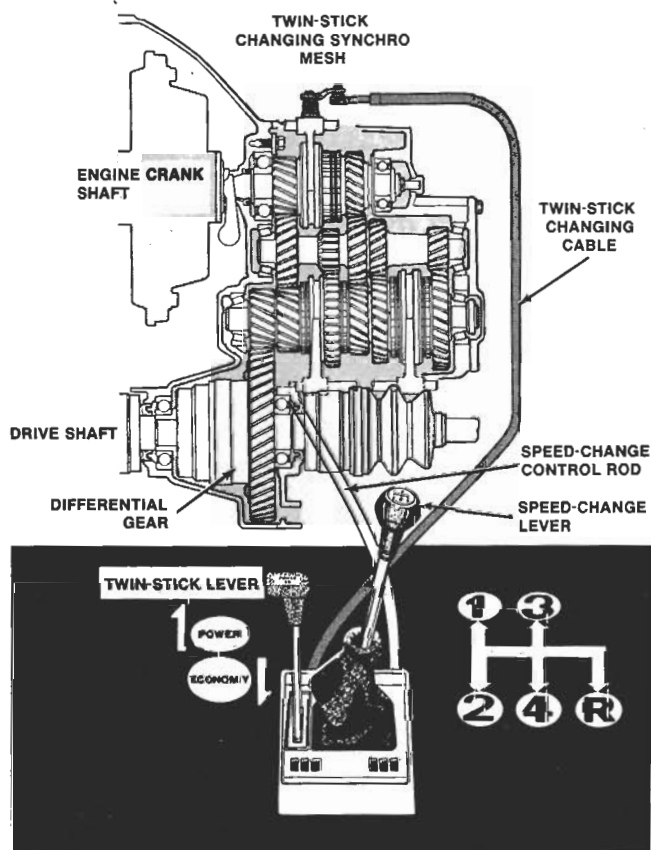
Specs and test results on page 46

Any similarity between a is purely



Champion Spark Plug Company
Toledo, OH 43661

TWIN-STICK TRANSMISSION



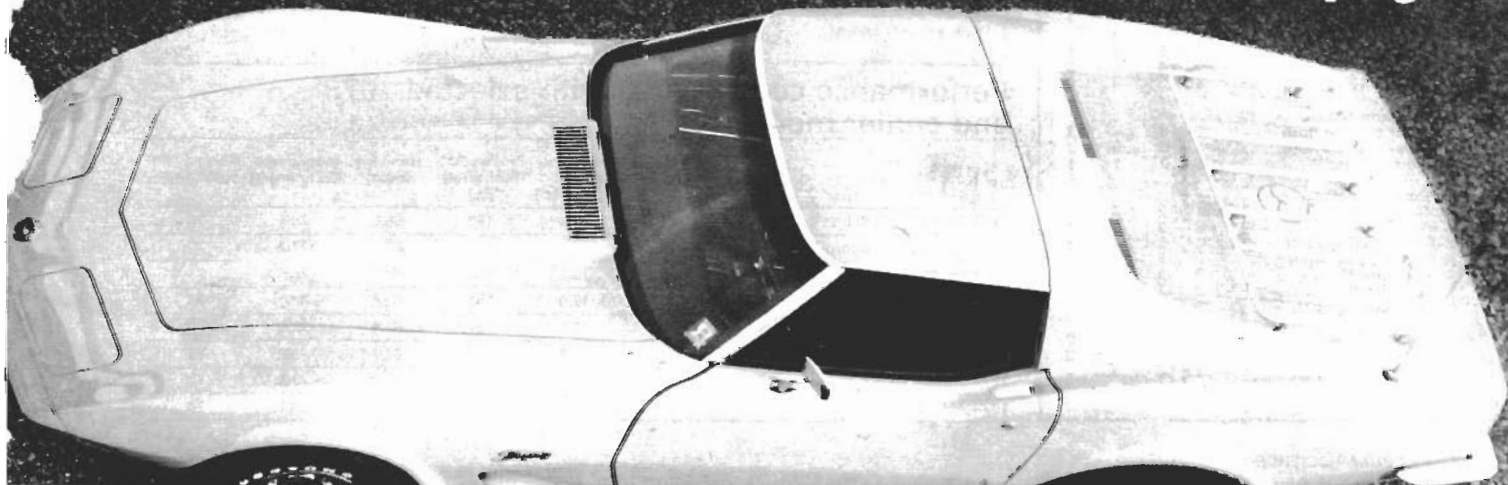
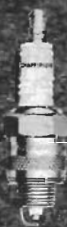
Moving Champ's left-side shift lever selects either gear on extra transmission countershaft (top of cutaway), determines overall ratios of otherwise conventional four-speed. Selector functions at all times, gives eight forward speeds plus two in reverse.

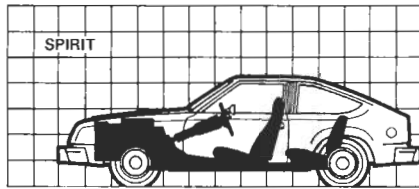
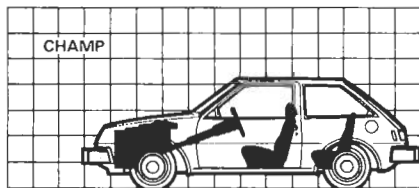
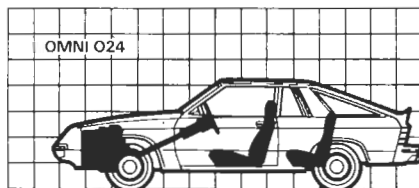
Corvette and a John Deere US.

The similarity is purely Champion. The spark plug that's right for virtually every kind of engine made. For better performance, change your spark plugs at least once a year with a fresh set of Champions.



**You can't buy
a better plug.**





Today's subcompacts offer buyers livelier performance, better fuel economy, and better looks than their predecessors did. Growing energy crunch insures continuation of this sort of development.

PS serviceability ratings

How easy is it to service these cars? To give you an approximation of how difficult it is for a typical person to perform various service operations, we examine each test vehicle. The numbers mean: 1, very difficult; 2, difficult; 3, average degree of difficulty; 4, easy; 5, very easy.

	Dodge Omni O24	Plymouth Champ	AMC Spirit	Chevrolet Chevette
Checking fluid levels:				
Battery	4	3	4	5
Master cylinder	5	5	4	3
Windshield washer	5	5	5	5
Engine oil	4	4	3	3
Coolant	5	5	4	5
Checking the engine:				
Spark plugs	4	4	3	1
Distributor	3	3	2	1
Carb adjustment	2	3	3	*
Oil filter	2	1	2	2
Oil fill	3	3	3	2
Replacing hoses:				
Upper radiator hose	3	3	4	3
Lower radiator hose	3	3	3	2
Heater hoses	1	1	1	1
Changing bulbs:				
Headlights	1	2	3	2
Taillights	2	2	2	2
Front running lights	3	3	3	3
Front parking lights	3	3	3	3
Front directionals	3	3	3	3
Rear directionals	2	2	2	2
Rear running lights	2	3	2	2
Checking fuses	3	4	3	2
Spare-tire accessibility	3	3	4	3
Changing belts	2	3	3	2

*Sealed.

Dodge Omni O24, Plymouth Champ, AMC Spirit, and Chevette—dimensions, specs, and test results

	Dodge Omni O24	Plymouth Champ	AMC Spirit	Chevrolet Chevette
DIMENSIONS (inches)				
Wheelbase	96.7	90.6	96.0	97.3
Overall length	172.7	157.0	168.5	162.6
Overall height	51.4	50.6	51.6	52.3
Overall width	66.0	62.4	71.1	61.8
Track, F/R	56.0/55.6	54.0/53.0	58.1/57.5	51.2/51.2
Ground clearance	5.4	4.3	4.2	5.3
Front head room	37.5	36.8	37.8	38.3
Front hip room	52.6	51.6	54.3	49.4
Front leg room	42.5	40.6	40.8	41.5
Rear head room	34.7	36.0	33.5	37.4
Rear hip room	46.1	51.0	40.3	40.5
Rear leg room (min.)	28.6	29.7	27.7	33.5
Rear knee room (min.)	-3.7	-0.8	-5.06	-2.7
Couple distance	26.1	26.0	23.6	26.7
SPECIFICATIONS				
Engine type	OHC 4	OHC 4	OHC 4	OHV 4
Displacement (cu. in./L)	104/1.7	86/1.4	121/2.0	98/1.6
Compression ratio	8.2:1	8.8:1	8.1:1	8.6:1
Carburetion	2-bbl.	2-bbl.	2-bbl.	2-bbl.
Net hp @ rpm	70 @ 5200	70 @ 5200	80 @ 5000	74 @ 5200
Net torque @ rpm	85 @ 2800	78 @ 3000	105 @ 2800	88 @ 2800
Transmission	4-speed manual	4-speed manual	4-speed manual	3-speed automatic
Axle ratio	3.37:1	3.47:1	3.08:1	3.70:1
Tire make	Goodyear	B. F. Goodrich	Firestone	General
Tire type	G.T. radial	Steel-belted radial	Deluxe Champion, bias-belted	Dual Steel III radial
Tire size	P185x70R13	155SR13	G78x14	P155x80R13
Steering	Rack and pinion, manual	Rack and pinion, manual	Recirculating ball, power	Rack and pinion, manual
Overall steering ratio	18.0:1	n.a.	17.0:1	18.4:1
Turns, lock to lock	4.0	3.9	4.0	3.6
Turn diameter (ft.)	33.4	32.8	31.5	30.8
Front suspension	Independent, MacPherson struts, coil springs	Independent, strut type, coil springs	Independent, coil springs on upper control arms, struts on lower	Independent, single lower control arm, coil springs
Rear suspension	Independent, with coil springs	Independent, trailing arms, coil springs	Hotchkiss, with semi-elliptic leaf springs	Solid axle, control links, torque tube, track bar, coil springs
Front stabilizer-bar diameter (in.)	0.866	0.55	0.75	0.87
Rear stabilizer-bar diameter (in.)	None	None	0.75	None
Trailer towing (max. lbs.)	Not recommended	Not recommended	Not recommended	1000
Trailer tongue wt. (max. lbs.)	Disc/drum	Disc/drum	Disc/drum	100
Brakes	Disc/drum	Disc/drum	Disc/drum	Disc/drum
Brake swept area (sq. in.)	197.5	288.4	265.0	297.7
Fuel tank (gal.)	13.0	15.3	13.0	12.5
Trunk space (cu. ft.)	33.8*	27.4*	24.8*	27.4*
Liftover height (in.)	29.0	28.5	25.1	28.5
Curb weight (lbs.)	2256	1881	2631	2118
F/R weight distribution (%)	61/39	63/37	53/47	53/47
Basic price	\$4482	\$4425	\$3999	\$3913
Price as tested	\$5580	\$4794	\$4303	\$6081
Major options on test car.	Sport package \$339, glass sun roof \$175, special tires \$136	AM/FM \$164	Power steering \$153	Passive shoulder belts \$144, deluxe interior \$104, A/C \$496, automatic transmission \$295, AM/FM stereo \$148, custom seats \$181
TEST RESULTS				
Acceleration (sec.)				
0-60 mph	14.1	15.6	18.4	18.5
25-70 mph	16.4	17.9	21.7	23.5
Brake test (cool) 60-0 mph				
Stopping distance (ft.)	145	137	171	148
Pedal pressure (lbs.)	100	135	65	80
Disc temperature (°F)	234	160	204	172
Brake test (hot) 60-0 mph				
Stopping distance (ft.)	155	137	165	152
Pedal pressure (lbs.)	115	120	95	80
Disc temperature (°F)	709	675	508	755
Interior noise @ 60 mph (dBA)				
Handling test (mph)	71	73	70	71
Maneuverability test (mph)	64.7	67.1	62.4	64.7
	29.6	30.1	29.1	30.1

TEST CONDITIONS: Ambient temperature, 40° F; relative humidity, 60 percent; barometric pressure, 29.94 inches Hg
*With rear seat folded

Performance comparison with selected 1979 and earlier models

	Mpg (city driving)	Acceleration 0-60 mph (sec.)	Brakes 60-0 mph (hot) (ft.)	Handling (mph)	Maneuverability (mph)	Noise @ 60 mph (dBA)
1979 Volkswagen Rabbit 4	25	14.4	150	60.0	28.1	76
1978 Plymouth Sapporo 4	29	16.7	123	62.4	27.2	73
1978 Toyota Celica GT 4	20	13.2	150	60.0	28.6	71
1978 Honda Accord LX 4	33	17.6	141	62.4	28.1	74
1978 Volkswagen Scirocco 4	25	13.2	127	62.4	29.6	73
1979 BMW 320i 4	19	12.2	140	64.7	29.6	74
1977 Datsun 200SX 4	23	15.3	138	60.0	29.1	72
1979 AMC AMX V8	13	13.4	179	60.0	29.1	74