By RAY BROCK

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Driving test included 750 miles of travel over all types of roads. Falcon proved to be the easiest on gasoline with a figure of 29 miles per gallon driving at 60 mph.

PHOTOS BY CHEVROLET, FORD, CHRYSLER AND ERIC RICKMAN

hr ROAD TEST

COMPARING THE: CORVAIR · FALCON · VALIANT

After hearing much speculation and viewing supposedly smuggled sketches of the Big Three's new small cars for the past couple of years, our first actual look at the Corvair, Falcon and Valiant finally materialized in late July of 1959. At that time, we visited the three companies involved to get advance information on the new entries in the "compact" field and needless to say, were quite interested in what we saw.

The Corvair impressed us with its ingenious, for American cars, engineering features. Rear engine location, transaxle combination, four wheel independent suspension, flat-opposed aluminum air-cooled engine and countless other unusual ideas. We drove a pair of Corvairs, one with standard transmission and the other with automatic, on the truck testing loop of General Motors' proving grounds and had we been required to write a test report on the basis of this short driving experience, we probably wouldn't have been able to find enough exciting adjectives to describe the car.

The next day had been set aside to visit with the Ford Public Relations department where we were to get our first look at the Falcon. Unfortunately our visit also coincided with the shooting schedule of Ford's photographic crew and they had whisked all available show models to upstate Michigan to shoot footage for TV commercials. The only Falcons left for us to see were a couple of engineering prototypes being driven on Ford's Dearborn test rack. Our PR guide was quite apologetic that he had nothing better to show us but took us to the test track where we saw a pair of mud-stained sedans minus some trim pieces and with wires and instruments bracketed here and there throughout the car. The cars were going through a test program so we didn't have an opportunity to drive them. The engine was up front and there was really nothing drastically revolutionary to the eye about the chassis or anything else. Had we been required to express an opinion about the Falcon with the impression gained on this trip, we probably wouldn't have been too complimentary.

Chrysler's Valiant was the last of the three scheduled for introduction and had not been cleared for viewing by the press at the time we made our trip to Detroit so we hadn't really expected to see this car. While driving the Dodge Dart on Chrysler's proving grounds to get material for a test report, we accidentally encountered an old friend from Plymouth who had been transferred to the Valiant program. He led us into a garage where we saw the car for the first time. The styling was completely different from what we had expected and we had just started to check the car over when a security guard came up and asked to see our passes. Since we hadn't been cleared for the particular garage we were in, the guard gave us the polite heave-ho and that ended the sneak preview of the Valiant. After such short exposure, we were definitely in no position to give an opinion as to what manner of car this was.

Back at the home office, it was decided that the only logical way to test the three new small cars was not to do them one at a time but to get similarly equipped models of each, pick out a course on the map which would take us over all types of roads and take all three cars over the course together so that conditions would be as nearly equal as possible. Drivers would be rotated between cars frequently so that characteristics of the three cars could be observed over all types of roads by each driver. Making arrangement with three Public Relations departments and getting the three cars all together at the same time turned out to be like coordinating the Allied invasion of Normandy but the task force was finally assembled and we were ready to make a true comparison test of Corvair versus Falcon versus Valiant.

MODELS TESTED

CORVAIR—A deluxe model 700 Corvair four-door sedan with standard transmission, radio, heater and folding rear seat was borrowed from Chevrolet's west coast Public Relations department. The car was well broken in with over 4000 miles on the odometer and had been tuned to factory specifications by a nearby Chevy dealer. Wheelbase for Corvairs is 108 inches, tread is 54 inches front and rear, overall length is 180 inches or an even 15 feet, maximum width 66.9 inches and the car is 51.3 inches high with four passengers. Our test car weighed 2480 pounds with a full tank of fuel but minus passengers, 1520 pounds or 61.4% rested on the rear wheels while the remaining 960 pounds or 38.6% rested on the front wheels.

FALCON—We couldn't obtain a four-door Falcon for our test but otherwise the two-door model we used was equipped similarly to the Corvair. It had the standard transmission, radio, heater and deluxe trim. The car had nearly 6000 miles on the odometer and was freshly tuned to Ford specs by a local dealer. The wheelbase was 109.5 inches, front tread 55 inches, rear tread 54.5 inches, total length was just 1-inch longer than the Corvair at 181 inches, maximum car width was 70 inches and the design height was 54.5 inches. The two-door test model weighed an even 2400 pounds topped off with fuel with 1310 pounds or 54.6% on the front wheels, 1090 pounds or 45.4% on the rear wheels. Had we been able to borrow a four-door model, it would have weighed but 30 pounds more so the weight advantage of the two-door was not too much more than the four-door.

VALIANT—Our Valiant test car was a V-200 deluxe four-door model with radio, heater and standard transmission. It too was well loosened up with 3500 miles on the meter and was tuned to factory specifications before being turned over to us. The Valiant has the shortest wheelbase of the three at 106.5 inches. The tread is slightly wider than the others at 56 inches front and 55.5 inches rear tread. At 184 inches, the Valiant is four inches longer than Corvair, three more than Falcon. It is 70.4 inches wide and stands 53.3 inches high. Our test car weighed 2820 pounds minus passengers with 53.5% or 1510 pounds on the front wheels.

These were the test cars we would use for our comparison test. All were the deluxe versions, all had radio, heater, standard transmission and no other weight adding extras except for Corvair's folding rear seat. All had ample break-in mileage and the engines were dealer checked to factory tune-up specifications before the cars were turned over to us. The only variance was a two-door Falcon weighing just 30 pounds less than a four-door model. As nearly as we could arrange conditions, the cars were evenly matched.

INTERIORS

CORVAIR—All three of the test cars are, according to factory literature, 6-passenger sedans. The Corvair has the widest seats of the three but only by a matter of a fraction of an inch. Thanks to the rear mounted engine, Corvair also has a nearly flat floor pan with just a small suggestion of a hump for control extensions. This flat floor, according to the Chevy ads makes the car a true 6-passenger model because of increased foot room. We tried the car

(*Continued on following page*)

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(Continued on following page)

·FALCON·VALIANT

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COMPARING THE: CORVAIR • FALCON • VALIANT

continued

with three six-footers per seat and although the doors could be closed, nobody was ready to start on a cross-country trip under these conditions. Corvair's ads also talk about the increased head room. This is true but at a sacrifice of seat height. For some reason, GM's stylists have erroneously figured out that the proper way to ride in a car is with the posterior near the floor and the legs leveled out front.

Boiled down to simple language, Corvair's seats are far too low for comfortable driving. They make entry and exit difficult in the front seat and nearly impossible in the rear. Ladies wearing skirts are advised to be extremely careful when getting out of the back seat of a Corvair or their modesty might be damaged. Leg room in the Corvair is a matter of compromise. For long-legged drivers like ourselves, the front seat in rearmost position is still too close to the pedals. Rear passenger legroom is ample under these conditions but if there were adjustments to move the front seat back farther, which there aren't, legroom in the rear would be borderline. Armrests are standard in the front seat of deluxe Corvairs only and not factory offered at all in the rear. If you think armrests aren't handy in a car, try to find someplace to put your arms when you don't have them and it will make you a believer.

The floor mounted shift lever for standard transmissions will be popular among the younger set but not if three are in the front seat. The lever and center passenger get in each others way during shifts. There have been suggestions by the competition that Corvair's gasoline fed heater will burn a good amount of fuel on cold days. Chevy estimates that normal use in cold weather will result in a consumption rate of about 1/10th gallon per hour. If operated at maximum rate, which will drive you out of the car on a pretty cold day, the rate of gasoline consumption is ¼ gallon per hour. As an example, with the normal use rate, an average of about 40 miles per hour and estimating 20 mpg for the car in nasty weather, the gasoline consumption rate by the heater would probably be around 1 gallon for every twenty used by the engine. On the other hand, using the heater at maximum force will devour one gallon for every eight used by the car at the same speed and mileage. About one thing there is no doubt, Corvair's gasoline heater is almost instantaneous in producing heat and will produce all you will ever need in any of our fifty states.

We usually don't enter into a discussion on quality of interior materials or workmanship when testing cars since we believe that the prospective buyer can determine whether he approves of what he sees or not. We do warn you though that there is a broad gap between the deluxe Corvair and a deluxe 1960 Chevy full-sized car.

FALCON—Seats in the Falcon are nearly 3½ inches higher off the floor than Corvair seats and this difference makes the Falcon a far more confortable car to ride in or get in and out of. Long trips do not produce weary legs and we actually discovered that access to and from the rear seat of the two-door Falcon is much better than getting in the rear seat of a four-door Corvair. Headroom, incidentally, although some 5 inches less than Corvair, is ample. Also dubbed a 6-passenger sedan by Ford ads, the Falcon doesn't provide adequate hip room for six adults on extended trips. Leg room both front and rear is good and for our long legs, the rear notch of the seat adjustment lever proved just right. The standard transmission shift lever is on the steering column where, in our opinion, it belongs. Unless the car you are driving happens to be a racing sports model or a drag machine, the lever belongs on the column. Anticipating arguments that floor shifts are cheaper to build so should be used on economy cars to help keep cost low, we might point out that Falcon is least costly of the three small cars yet managed to locate the lever conveniently. If you do have to carry three in the front seat, changing gears is easily accomplished.

Falcon's heater is the conventional hot water type. On the car we tested, this heater did not provide adequate heat for really cold weather. The firewall insulation was not securely fastened in place and partially blocked the heater outlet duct but despite this, the temperature of the air that got by the obstruction when maximum heat was being used did not get very warm. Whether the thermostat was of the proper rate or faulty or the heater just plain unable to supply enough heat, we unfortunately didn't have time to determine. If you live in a cold climate and are considering Falcon, we suggest you ask for a demonstration ride and check the heater output before placing an order.

Falcon interior appointments, particularly the deluxe version, are of very good quality for an economy package. Although not as fancy as some of the larger Fords, they surpassed both the Corvair and Valiant cars we tested. The deluxe trim package includes arm rests both front and rear as well as a padded dash panel.

VALIANT—Seats in the Valiant are about the same height and comfort as those in the Falcon. Like the Falcon, the Valiant is much easier to get in and out of than the Corvair, has plenty of leg room for us oversized drivers and has ample headroom although it too is about five inches shy of that offered in the Corvair. The shift lever is on the floor like Corvair's and again we state that this is the wrong place for it. Three in the front seat restricts shifting ease and it is just generally awkward.

Valiant's heater is also of the hot water variety but unlike that in the Falcon we tested, will really deliver the goods. It will not produce heat as fast as Corvair's gasoline heater but after driving less than a mile on cold mornings, will start to produce heat and warms to maximum efficiency very fast. If used full force, it matches Corvair's gasoline heater and should fulfill any buyer's needs. Valiant's deluxe interiors seem to be a mixture of good and bad. Materials used approach Falcon quality and were generally better than the Corvair, but workmanship, on our test car at least, was not as good as either the Corvair or Falcon. A carpet is used for the floor and this is better in both quality and appearance than the cheap rubber covering used by Corvair and Falcon. Arm rests are furnished both front and rear for the deluxe V-200 Valiants.

Valiant's body lines have a Continental flavor and attracted the most attention from the public on test trip. Some approved, some didn't, but spectators took time to look it over at each stop. The gas filler in the left rear fender gushes back as tank nears full.

LUGGAGE SPACE

CORVAIR—Being a rear-engined car, luggage space naturally must be located in other than the conventional rear location. There are two places provided for luggage plus a third optional provision. The major luggage space is up front in the compartment most cars use for an engine. According to Corvair specs, there are 11.3 cubic feet of luggage space between the front wheels. The gasoline heater, spare tire and tools also fit in this compartment. Because of the necessity for wheel wells which will clear the front tires at all limits of travel while either straight ahead or turning, plus a gasoline tank between the luggage space and the firewall, this luggage compartment is an odd shaped creation with neither a flat floor nor straight sides to stack against. A lot of loose ping pong balls would fit in the space but not many rectangular pieces of luggage. Also, items being loaded must be lifted 30 inches to clear the front body panel. The second luggage provision is behind the rear seat. This area is listed as 4.3 cubic feet and a number of smaller items can be fitted here but trying to fit a large heavy suitcase in this area, even if it would fit, is not too practical. It would be awkward to lift into place and could also block vision out the rear window partially. The third luggage area is an optional folding rear seat. When folded down, a flat floor nearly four feet long and the width of the car provides 17.6 cubic feet of luggage area. Of course this will eliminate use of the rear seat for passengers.

FALCON — Conventional luggage space is present in the Falcon with 23 cubic feet of space located at the rear of the car. The spare tire is also located in this compartment but a good amount of space is available for storing luggage. The rear opening is 28 inches above the ground.

VALIANT — Also conventional in location and shape, the Valiant luggage compartment has 24.9 cubic feet of space. The spare tire is located in a well beneath the trunk floor and does not impose on the regular storage space. The spare tire covering beneath the rubber mat is not too durable in appearance but should not be troublesome as long as heavy, sharp objects are not placed directly on it. The rear trunk opening is 22 inches off the ground.

ENGINES

CORVAIR—The most "different" automobile engine to be produced in the United States in many a year. Corvair engines are air-cooled six-cylindered 140-inchers with pushrod-operated overhead valves. Two banks of three cylinders each are horizontally opposed with weight saving aluminum used for pistons, crankcase, heads, bell housing, accessory housings, etc. The bore is 3.375 inches, stroke 2.6 inches, compression ratio is 8:1 and the horsepower rating is 80 at 4400 rpm with 125 ft/lbs or torque at 2400 rpm. Two Rochester single-barrel carburetors are used, one on each cylinder bank with curved molded hoses between the carburetor air horns and a central air cleaner. An automatic choke in the air cleaner housing acts for both carburetors. The engine is almost entirely enclosed in sheet metal shrouds that direct cooling air from a blower atop the engine through an oil cooler, around the cast iron cylinders and other hot spots on the engine. A thermostatically controlled air intake ring on the blower maintains correct operating temperature regardless of outside air temperature. The air blower is driven by a narrow V-belt which uses the generator pulley and idler pulley in an ingenious but simple manner to change direction from the vertical plane of the crankshaft pulley to the horizontal plane of the air blower.

FALCON—Also a brand new engine for the economy package, this engine is similar to the Ford six still used in larger models but has been scaled down and re-engineered to eliminate a number of pieces and drop weight to an absolute minimum. It is an overhead valve in-line six with cast iron used for the block, integral head and intake manifold, etc. Weight savings are accomplished by controlling thickness of cast iron sections and the use of a very short stroke to cut overall height. The cylinders have a 3.5-inch bore, 2.5-inch stroke and total displacement is 144 cubic inches. Compression is a little higher than the Corvair at 8.7:1 but regular grade gasoline is still recommended. The horsepower rating is 90 at 4200 rpm while the torque rating is 132 at 2000 rpm. A single-barrel Holley carburetor supplies the fuel and has a water heated block between carburetor and intake manifold to help vaporize fuel for better economy as well as to prevent icing. For those die-hards who never did really accept the automatic choke, the Falcon is built to order with a mechanical choke operated from the dash like days of old. All in all, the Falcon engine is of conventional nature but carefully designed with economy and light weight in mind.

VALIANT—Another brand new design, the six cylindered in-line engine for the Valiant is both conventional and radical. It is the first overhead valve six ever offered by the Chrysler Corporation and uses cast iron for both the block and head. The same basic design is also shared with Plymouth and Dodge Dart for their 225 cubic inch sixes so Valiant hasn't been able to benefit as much in the weight saving department as either Corvair or Falcon. Valiant's six has a 3.4-inch bore, 3.125-inch stroke, 170 cubic inches of displacement and 8.5:1 compression. The engine

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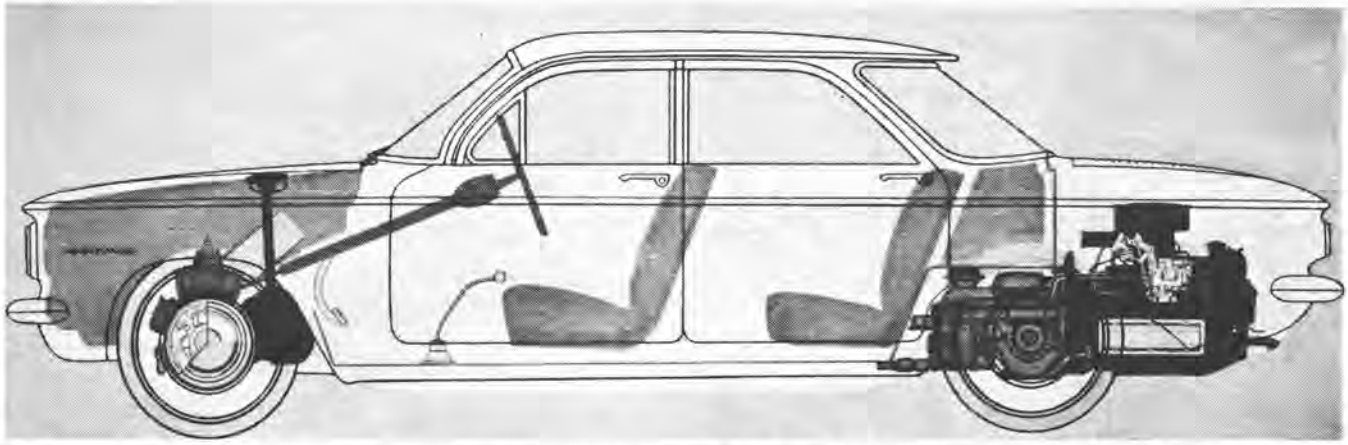

Corvair cutaway side view shows the location of engine and transaxle unit. The fuel tank is well protected against collision between luggage space and firewall but has only 11 gallons capacity. Corvair is the lowest of the three cars and with rear engine position, offers a flat floor pan both front and rear. Seat height is much lower than others and as a result, headroom is greater.

TOP—On twisting dirt roads with ruts, bumps and loose dirt, the Valiant proved to be a ball of fun. Ride was good, the car felt secure at all times and corners could be taken as with a Pikes Peak racer.

BOTTOM—Falcon, lightest of the three cars tested and with the least sprung weight did not get good footing when cornering on dirt roads. Falcon also had a flighty feeling on rough asphalt corners.

is tilted 30° to the right side of the car, a move which permits locating the water pump housing on the side of the block to shorten overall length and also permitting more room to design manifolding for the engine. A single-barrel Carter carburetor supplies the fuel and is fitted with an automatic choke.

Some weight saving steps have been taken such as aluminum intake manifold, bell housing and an alternator instead of a generator. Alternators differ from the regular automotive generator as we know them in that they produce alternating current instead of direct current. They are commonly found on taxis, police cruisers and other equipment which encounters lots of traffic, prolonged night driving or other operation which overworks the electrical system. The alternator will produce current at idle speeds, is lighter than a d.c. generator and eliminates the need for a complicated regulator since it uses just a simple voltage regulator on the alternator. The alternator will keep the battery fully charged at all times and will certainly be standard equipment on all passenger cars in the near future, probably next year on the rest of the Chrysler line.

HOT ROD carried a story in the December 1959 issue which covered these three engines thoroughly so we won't go to any more detail at this time other than to say that all three are the latest produced by their companies and judging from the past records of all three, should be dependable powerplants.

TRANSMISSION AND REAR AXLE

CORVAIR—Another new feature for American cars is Chevy's transaxle unit. As the name implies, the transmission and rear axle gears are a combination unit, although each has its separate housing. The differential housing with axle gears bolt directly to the bell housing of the Corvair engine with the pinion shaft in alignment with the engine's crankshaft. The pinion shaft is hollow however and permits the transmission main drive extension to pass through the hollow pinion to the transmission. Once in the transmission part of the transaxle unit, the drive gear shaft also passes through a hollow output shaft which is splined to the inside of the hollow pinion. Sounds confusing doesn't it? It is best explained by the cutaway drawing on page 30. The whole combination unit is very compact and lightweight. Ratios for the three-speed standard transmission are 3.22 for first, 1.84 for second and direct high. Only second and high gears are synchro-mesh. The axle ratio used with the standard transmission is 3.55 with a 3.89 ratio optional. Obviously, the 3.89 will provide better performance but will cost a mile or two per gallon in economy.

Corvair's automatic transmission is a scaled down version of Chevy's Powerglide and has two forward speeds with a torque converter. The gear ratios are 1.82 to 1 and direct, with the converter having a maximum torque multiplication ratio of 2.6:1. In operation, this transmission is exactly like the full-sized Powerglide except that shifting speeds have been scaled down a bit too. Maximum upshift speed is 45 mph with a kickdown passing provision below 40 mph. The axle ratio used with the Powerglide is 3.55 with no optional ratios offered. The shift lever for the Powerglide is a dash-mounted lever to the right side of the steering column.

FALCON—Two new Ford transmissions are offered for the Falcon, one a three-speed standard shift unit and the other a scaled down version of Ford's Fordomatic. The manual transmission is conventional in design but has been trimmed of much weight and size to match the economy nature of the Falcon. It has gear ratios of 3.29 in first, 1.75 in second and direct in high. Only second and high gears are synchro-mesh. The axle ratio used with the standard transmission is 3.10:1 with an optional ratio of 3.56:1.

The Falcon Fordomatic has two forward speeds and a torque converter. Low gear has a ratio of 1.75:1 with Drive direct and a torque converter stall ratio of 2.40:1. Maximum upshift out of Low range is at 55 mph while maximum downshift speed is about 48 mph. The shift lever is on the steering column. The transmission housing is made of aluminum and all related parts are much smaller than those used in larger Fords so as to keep the weight low. The axle ratio used with this transmission is 3.10:1 with no optional gear offered.

VALIANT—Both standard shift and automatic transmissions are offered by Valiant too. These units are new in design and both smaller and lighter than anything used by the Chrysler Corporation in the past. The standard transmission has gear ratios of 2.71 in first, 1.83 in second and direct in high. As with the other two new compacts, only second and high gears are synchro-mesh. The transmission case is twisted 30° to the left of the car when bolted to the engine and combined with the engine's 30° tilt to the right makes an angle of 60° between the two. The reason for the transmission tilt is so that the side shifting levers will be rolled down toward the road more where they will require less floor hump to cover them. A floor mounted shift lever hooks to the transmission levers by means of linkage. The standard rear axle ratio is 3.55:1 with a 3.23:1 optional ratio.

Valiant's automatic transmission is the only one of the three which offers three

forward speeds. It too is a scaled down version of a larger transmission, the TorqueFlite. The forward speed ratios are 2.45 in first, 1.45 in second, and direct in third. The torque converter stall ratio is 2.25:1. Continuing Chrysler practice, the controls are pushbuttons on the left side of the dash. Valiant's TorqueFlite also has a Park position, something new for Chrysler. The rear axle ratio used with the automatic is 3.55:1 with a 3.23 ratio optional. Combined with Valiant's larger engine displacement, the three forward speeds of the automatic versus only two speeds offered by Corvair and Falcon should make the Valiant much livelier than either of the other two when equipped with an automatic transmission.

SUSPENSION

CORVAIR — This is the first production American car to offer independent suspension on all four wheels. The front suspension is pretty much old stuff with unequal length control arms and coil springs between lower arm and frame member. At the rear, however, Corvair has come up with a swing axle arrangement. A stamped steel lower control arm positions the wheel with a coil spring between the arm and upper frame member. The swing axles have U-joints at the inner end where they fasten to the transaxle extension shafts. Refer to page 30 for a picture which will better explain the arrangement.

FALCON—Although more like other full-sized Fords in the suspension department, Falcon has made a slight change in the spring mounting on the front wheels. The spring mounts between a swivel seat about midway along the upper control arm and a pad high in the front fender well of the unitized body. This particular arrangement has been used for a number of years on some English Fords. The rear suspension is similar to larger Fords with a Hotchkiss drive to Hypoid rear axle of Spicer origin. The axle housing is bracketed to semi-elliptical leaf springs longitudinally mounted to the underbody of the car

VALIANT—A smaller version of Chrysler's famed torsion bar suspension is used for the front of Valiants with unequal length control arms locating the wheels and the torsion bars running lengthwise along the underside of the unitized body to anchors beneath the front floor pan. The rear suspension is also just a smaller version of larger Chrysler products with semi-elliptical leaf springs bracketed to the rear axle housing. An open driveline is used and short, heavy front sections of the leaf springs resist both torque and braking forces.

BRAKES

CORVAIR—Nine-inch drums are used with 1.75-inch width on all four wheels. With the majority of the weight on the rear of the Corvair in normal attitude, hard braking causes a weight transfer so that 46% of the weight is on the front wheels, therefore all four brakes provide nearly equal effort in hard use. The rear wheel brake hydraulic cylinders are slightly larger so that they do give more braking to the heavier rear of the car in average use. Total lining area is 120.8 square inches and they halt the light Corvair in excellent fashion time after time without a hint of fade or pull. Parking brakes are on the rear wheels and are activated by a ratchet type hand lever beneath the left side of the dash.

FALCON—With more weight concentrated on the front wheels in static position and even more transferred to the front brakes during hard breaking, Falcon's front brakes must naturally be larger than those on the rear of the car. All four drums are 9 inches in diameter but the front drums are 2.25 inches wide while the rear drums are 1.50 inches wide. Total effective lining area is 114 square inches and under hard usage, the front brakes control 63.1% of the braking load. Parking brakes are on the rear wheels with a pull T-handle to activate them. Like the Corvair, the lightweight of the Falcon is instrumental in making the brakes very effective at all speeds and after much hard use, no indication of fade is noticed.

VALIANT — Since the Valiant is heavier than either the Corvair or the Falcon, it is only natural that it must have larger brakes to equal the job being done by the other two. Drums are nine inches in diameter both front and rear but those at the front are 2.25 inches wide while those on the rear are 2.00 inches wide. Total effective brake area is 129.1 square inches. The front wheels take 60% of the braking load on fast stops but do the job in excellent fashion. Like the Corvair and Falcon, Valiant's brakes are very sure and fade resistant. The parking brake is on the rear wheels with a foot operated lever. For the first time in years, a Chrysler product hasn't used a parking brake working on the driveline.

All three cars must be judged about equal in braking ability and the only thing to choose between the three in this department is a personal like or dislike in the amount of pedal pressure required. Only Valiant offers a power brake option but it is not needed. Both Valiant and Falcon standard brakes have a power brake feel to them, Falcon a little more so than Valiant. The Corvair pedal is not as sensitive as the other two but is by no means stiff.

DRIVING AND MANEUVERABILITY

CORVAIR — Slipping behind the wheel of Chevy's lightweight offering for the first time does not require any unusual check-out procedure. Vision is good to all sides, the car is easy to steer, clutch action is smooth, acceleration is acceptable and with the engine at the rear of the car, noise level is low for front seat passengers. One thing you might notice the first time you try to park the Corvair at a parallel curbside spot is that although the steering is light, it is not particularly fast and the turning angle is not as sharp as you were expecting. As a matter of fact, the Corvair needs a 39 foot turning circle for the outside front wheel on left turns, 39.5 feet to the right. This is as much as many full-sized cars and certainly too much for a car of Corvair's dimensions.

Although the floor mounted shift lever is smooth and positive in operation, it is quite a chore to use, especially in heavy traffic. Since the Corvair is not overly endowed with power, second gear is a must below 20 mph and on most residential street corners. Shifting into second gear requires the driver to lean forward and over a slight amount to get the gears meshed and of course this bit of body english must be repeated when reaching for the lever to bring it back into high gear. Corvair's low gear is almost impossible to engage while rolling at low speeds without a considerable amount of gear clash. Being weak on torque, the Corvair shift lever must be used constantly in slow traffic since the engine doesn't do a good job of lugging in high gear, or second gear either at very low speeds. Below 10 mph, you are practically forced to use low gear and because it can't be engaged without a lot of clash, this necessitates a complete stop in many cases. Improved low gear design so that it could be more easily engaged while the car was still rolling would help but an even better solution would be a synchro-mesh low gear. It is rumored that the latter might soon be offered in the form of a four-speed fully synchro-meshed gearbox as an option but who wants to pay extra for an item that should be standard equipment?

If you have become accustomed to powerful American cars in recent years, the Corvair requires a bit of readjustment out on the open highway. You do not have the power to follow close behind a slower car and then suddenly give it the gas and pull out to pass. This kind of passing will get you in trouble so the best method to use is to get plenty of distance between the Corvair and the car being followed, then watch for an opening in traffic and use the space ahead to build up speed and swing out to pass it as the opening in traffic presents itself.

FALCON—Driving this car for the first time is really not too different than driving a regular sized Ford. Steering is easy although even slower than the Corvair and could be a bit faster in action. Parking maneuverability is very good but the Falcon requires 38.8 feet for a turning circle which, like the Corvair, is too much for a car of this size. The shift lever on the

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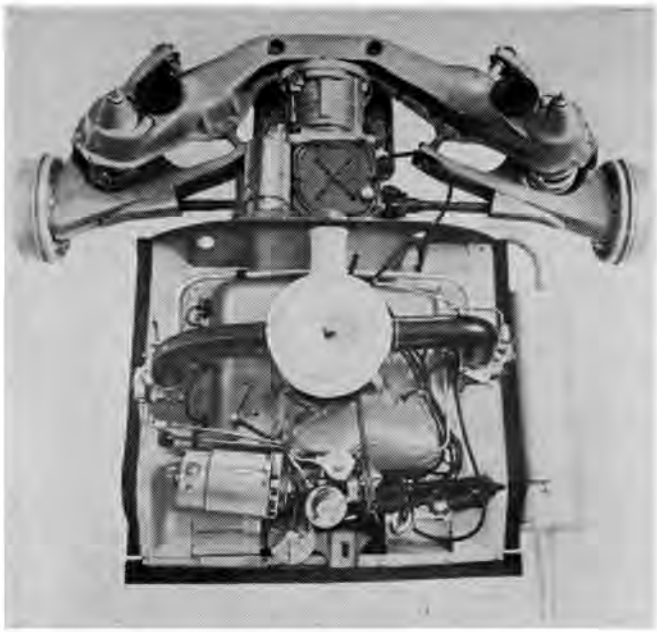
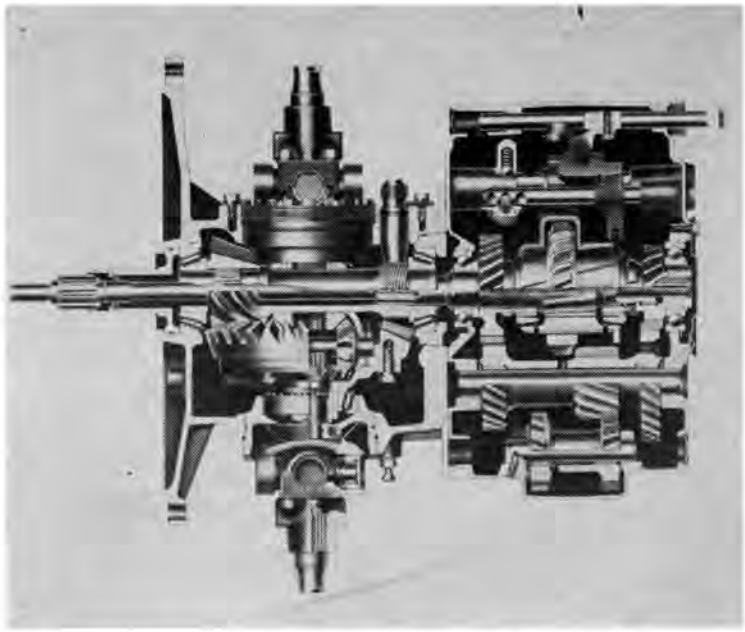


The whole Corvair engine and transaxle can be removed in 30 minutes or if necessary, the rear suspension system can also be removed at the same time. Rear crossmember bolts to the unitized body with swing axles, control arms and coil springs.



Corvair transaxle is compact, lightweight unit. Note that the differential housing bolts to engine bellhousing with long shaft driving through hollow pinion to far end of trans, then back through gears to transmission output shaft splined inside pinion.

COMPARING THE: CORVAIR • FALCON • VALIANT continued

column is very handy and gear changes can be made without stretching. Like the Corvair, the Falcon also suffers from lack of low speed torque, especially when equipped with the 3.10 axle ratio as was our test car. When slowing to round corners or when moving in slow traffic, second gear must be used quite often but is easy to engage. Low gear is a little easier to engage at slow speeds than the Corvair but not much. A synchro-mesh low gear would be every bit as handy in the Falcon as it would be in the Corvair. On our test Falcon, high gear synchro had evidently been abused somewhat by the drivers ahead of us and fast shifts into high could not be made without gear clash. Whether this will prove to be a weak spot in Falcon's transmission, we don't know. If it is of weak design, Ford will probably have to make corrections.

Power supplied by the Falcon six is also mild when compared to most larger cars and with the 3.10 rear axle ratio, is slightly worse than the Corvair when it comes to high gear passing out on the open road. Speeds and distances for passing must be carefully calculated.

VALIANT—The first thing you notice about the Valiant when you slip behind the wheel is that it requires more steering effort than either the Corvair or Falcon. The steering ratio is practically the same as the Corvair but with the engine in the front instead of the rear, more weight increases the effort. Falcon's slower steering ratio effectively cancels out its front engine weight. Valiant offers a power steering option, the only one of the three to do so, and although this power will ease the steering problem while giving a more ideal steering ratio some 25% faster than even Corvair, it will naturally cost money too. Parking the Valiant without benefit of power steering is therefore not as easy as parking the other two although it does have the advantage of a sharper turning angle, needing only 37.1 feet for a circle. While steering is not as easy as Corvair or Falcon, we hasten to point out that this is not a serious problem, the Valiant is still much easier to park than a full-sized car minus power steering.

Clutch action is good and with the larger engine, acceleration is noticeably better than either Corvair or Falcon. The gear ratios are more evenly spaced in the transmission which helps and low speed lugging power is far better than that of the others. In fact, the Valiant clutch can be engaged from a standing start in second gear if you so desire and will pick up speed very well. Second gear is not needed nearly so soon at slow speeds and the car will pull away from corners in high gear that call for a shift to second by the others. While on the subject of second gear, Valiant's floor mounted shift lever requires the same reaching motion as the Corvair for second cog and is not a bit handy. The fact that it doesn't have to be used as often in the Valiant as in the Corvair is of little consolation. One more thing, the Valiant can be downshifted into low gear at slow rolling speeds without the gear clash present in the others. Low is not synchronized but evidently the edges of the gears are beveled better.

The horsepower rating of the Valiant is more than either the Corvair or Falcon engines and despite the car being several hundred pounds heavier than the others, will deliver better acceleration, although more so at low speeds than at highway speeds. At highway speeds, the Valiant must also be allowed more room for passing than you might be used to and although it has the best passing acceleration of the three cars, is not greatly better.

RIDE AND HANDLING

CORVAIR—The first time you start off down the road in Corvair and come to a slight dip, you will be surprised that the front wheels pass through the dip smoothly but the rear end of the car will bob up and down as it goes through. This is of course the result of the heavier weight concentration at the rear. Front engined cars naturally bounce more as the front wheels hit the dip. In straight and level riding, the Corvair is very good whether traveling fast or slow. The suspension is much softer than most cars. High speeds on rough roads will keep you busy at the wheel, however, since the swing axles at the rear of the car not only change camber but also toe-in as they travel through their arc and have a strong tendency to steer the car. It is not a dangerous condition but you are aware that a lot of corrections must be made with the steering wheel.

Handling of the Corvair is entirely different than any other American car you have ever driven. With the engine and more weight in the rear, the Corvair has a strong tendency to oversteer. In other words, the rear of the car wants to help the front wheels with the job of turning the corners. This is not noticed so much when the car has several passengers, but with one or two passengers it is an easy matter to get the Corvair "way out of shape" as the saying goes. High speed corners out on the open road aren't so bad. The driver can feel the oversteer and correct the right amount to make rapid headway but on the tight, twisting curves, the Corvair is a different story. If you try to act like a frustrated Fangio on the tight stuff, you will spend most of the time looking out the side windows to see where you are going. The outside rear wheel slides out and the swing axle seems to fold under a little so that the inside rear wheel loses traction completely and hops sideways across the road. The noise inside the car is very alarming when the wheel starts hopping. This is the feeling on tight corners with a smooth road surface. If the road is rough, the rear end feels more like it's riding on marbles.

We have read many rave notices written by our colleagues in the automotive publication field on the superb handling of the Corvair but we will take issue with them all on this matter. The Corvair is very able when driven as an economy car but completely out of step when trying to act like a race car. The rear engine location will certainly help traction in mud or snow and the Corvair will easily top the others in this kind of going but for tight corners, we recommend new owners to take it easy, at least until they've learned the limits. Corvair's ride on dirt roads is very good, with the independent suspension following the bumps and rough spots very well. Oversteer tendencies are of course much greater in the loose stuff but at reasonable speeds, no special problem is presented.

FALCON—Suspension on the Falcon is the choppiest of the three in feel although published spring rates at the wheel are less than either Corvair or Valiant. Probably the combination of less sprung weight and stiffer shocks is responsible for this feeling. Although firmer in the town ride department, out on the open road at fast speeds, the firm suspension gives passengers a positive, secure ride. On rough roads at high speeds, the Falcon dances around a bit due to its low sprung versus unsprung ratio and wheel corrections must be made although not so much as with the Corvair. This same reason makes the Falcon a bit flightly when negotiating corners on rough asphalt roads but if the roads are good, the Falcon can be hustled through tight runs in very rapid fashion. The rear does not try to break away like that of the Corvair and the Falcon will rate with the best of our larger cars in covering ground over smooth twisting roads. On dirt roads, the Falcon is not so good. It skates around badly on corners and doesn't feel the least bit secure on the straights.

VALIANT—This car is the winner hands down in both ride and handling departments regardless of what type of road surface is offered. A lot of the credit probably goes to the extra weight involved giving a good sprung versus unsprung weight ratio. Either slow or fast rides are very good and there is no tendency to flit around when traveling fast over rough roads. Through dips and over bumps, the car stays straight and does not toss passengers around. On tight corners, the Valiant is not only good, it is better than any other American passenger car regardless of size and over a given stretch of twisting road could outrun most other cars despite less horsepower. Road surface does not affect cornering ability like it does with the other two and on loose dirt roads, the Valiant is surefooted.

On our 750-mile comparison trip with the Corvair, Falcon and Valiant, we purposely went out of our way to find bad roads and twisting mountain passes. The Valiant impressed all three drivers with its riding ability and handling agility through all types of corners.

OPERATING ECONOMY

As we mentioned early in our story, all three cars were carefully tuned before we picked them up. We planned to make a comparison test of their mileage producing ability and wanted to be sure that all three had the best chance to prove themselves. With the three cars in caravan, we threaded our way through Los Angeles rush hour traffic and out the freeways in the direction of Las Vegas, Nevada. Traveling at a fast highway clip, we discovered that we could not make the 297 miles to Las Vegas on a single tank of gasoline, at least the Corvair and Valiant couldn't. The Falcon has a 14 gallon fuel tank, the Corvair has only 11 gallons capacity and the Valiant has a 13 gallon tank. After a stop for fuel halfway, we continued on to Las Vegas and checked mileage at this point. Corvair averaged 22.8 miles per gallon, the Falcon averaged 25.6 mpg and the Valiant averaged 20.3 mpg.

Using these averages and figuring that one gallon would remain in the fuel tank when the gauge reads empty on each of the cars, the Corvair's range with standard transmission and engine in perfect tune would be approximately 225 miles at a fast highway clip. For the Falcon, using the same procedure, and with the same conditions prevailing, the range would be about 335 miles. For the Valiant, the range would be about 245 miles. Of course most wise drivers do not let the gauge get down to empty on cross-country trips so the range would more likely be about 180 miles for Corvair, 300 for the Falcon and 210 for the Valiant. The way we like to travel, neither the Corvair nor Valiant have nearly enough range and the Falcon is just passing. Personally we prefer Rambler American's 20-plus gallonage and mileages up to 25 mpg which give around a 500 mile range.

After spending the night taking in Vegas' bright lights, we started out early the next morning in a northerly direction. Speeds were kept at a steady 60 mph and traffic was light so conditions were perfect for economy driving. We left the main road some 100 miles north of Las Vegas and backtracked back down into Death Valley. We turned onto a rough dirt road in the floor of the Valley where the cars were wrung out thoroughly over about 15 miles of ruts, rocks and deep sand at fast speeds. After leaving this section which certainly had absorbed a healthy gulp of fuel, we continued on across Death Valley to Stovepipe Wells where we again gassed up and checked mileage for the 179 miles traveled. The Corvair delivered 25.8 miles per gallon, the Falcon topped the list with an impressive 29 mpg and the Valiant produced 22.7 mpg.

From Stovepipe Wells to our next fuel stop, all three cars were deliberately driven hard to see what their potential would be under the most adverse conditions. The Corvair and Falcon proved to be evenly matched for top speed on level country at about 90 mph with the Valiant considerably faster at a little over 100 mph. Through tight mountain passes, the cars were pushed to their limit and when we stopped to refuel some 152 miles later, all three cars had been through the wringer. The Corvair averaged 20.3 for the section, the Falcon had dropped to 21.7 and the Valiant's larger engine produced 18.1 miles per gallon. Back in Los Angeles after more than 750 miles of driving, nearly all of which was at 60 mph or faster, the overall average for the trip was 22.8 for the Corvair, 25.3 for the Falcon and 20.3 for the Valiant. Spot checks for mileage in city driving produced 21 mpg for the Corvair, 26.5 for the Falcon and 20 for the Valiant.

Although all three cars are supposedly designed for regular gasoline, only the Falcon and Valiant would burn western regular grades without protest. Although having the lowest compression rating of the three at 8.0 to 1, the Corvair rattled and banged badly on regular at factory recommended spark setting so we were forced to use premium fuel on our test trip. If the spark were retarded to eliminate detonation on regular fuel, mileage would probably not have been as good as that registered. The gasoline filler neck on the Valiant is a real engineering goof. It is located in the left rear fender with the lid flush to the fender and the first foot or so of the neck is practically level

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with the ground. Never once during all the fills that were made on our trip or later on around town, did a service station attendant manage to fill the tank without losing a couple of tenths all over the fender and on the ground. Even when warned that it would happen, they couldn't prevent spillage. Once we decided to show them how but after getting our shoes full of gasoline, decided to let the experts take over.

Economy of operation for these three new compact cars does not stop with just fuel economy. All of the cars are much lighter in weight than their bigger brothers so should deliver longer tire and brake life. Then there is the promise for increased battery life with Valiant's alternator and Corvairs have no water hoses, radiator or anti-freeze to give trouble. They do burn gasoline in the heater though so will probably not be ahead on this count over the long run.

Falcon's front suspension has been changed from that offered by larger Fords so that coil spring anchored to upper A-arm will fit into fender well of the unitized body.

The list price on the new compacts is not as low as some people thought they would be, but once the initial demand is met, dealers will probably be much easier to bargain with. In resale, the compacts should hold their prices much better than the larger cars.

SERVICING

CORVAIR—According to the Corvair literature, the whole engine and transmission assembly can be pulled from the car in 30 minutes. This is a handy feature because the whole unit has to come out to work on clutch, transmission, differential and perhaps even the starter. The items just mentioned don't usually need frequent servicing, though, so this shouldn't really affect servicing costs too much. Servicing of spark plugs, ignition, oil filter, carburetors and air cleaner is of course no prob-

lem since they are all immediately at hand as soon as the engine hatch is opened. One possible exception is the center spark plug on each cylinder bank because we have heard that at least one tool company is making a special plug socket and extension for Corvairs. Carburetor cleaning will cost twice as much as the other cars because there are two of them but they are simple and should be quick to overhaul. Corvair is the only one of the three cars that uses hydraulic valve lifters. If the engine oil is serviced at proper intervals, lifter life should last as long as the rest of the engine so no adjustment costs here. One caution, the blower belt must be kept in good adjustment or it will flip off and cause immediate overheating. Other service procedures such as chassis lube, etc., will be the same as any other car.

FALCON—Good accessibility is also present for all features that must be serviced on the Falcon engine. Plugs, ignition, oil filter, carburetor and air cleaner are all easy to service. Of course the Falcon has only one carburetor to need cleaning but it has mechanical lifters that will probably need to be adjusted every 25,000 miles or so, so the amount not spent on a second carburetor will be absorbed by rocker arm adjustment. Other service costs will be routine.

VALIANT—Everything that must be serviced on the Valiant engine is also easy to reach. An added feature is that the oil pump bolts to the outside of the block instead of being in the oil pan. Of course, oil pumps very seldom give trouble and usually outlast the rest of the engine. Like the Falcon, the Valiant has only one carburetor to be cleaned but it also has mechanical lifters which means that rocker arms will need occasional adjusting.

Looking all three cars over from a servicing angle, no one seems to have a distinct advantage or disadvantage over the other. We would estimate all three good in servicing ease and all will be about equal in the cost department.

OPINIONS

All three cars tested had their good and bad points. It all depends upon what you are looking for in a car. They are all approximately the same in external dimensions and will fit in the older garages that have previously grown outmoded.

Corvair's fuel economy although not bad, is not as good as Falcon, premium grade fuel is required and the fuel tank is just about half as large as it should be. The seats are much too low for comfortable driving and hard to get in and out of. Interior finish and quality is only fair, the floor mounted shift lever is awkward, the car handles badly on tight corners, has rear wheel "steer" on rough roads at high speeds and has poor luggage space without the optional cost folding rear seat. The steering ratio could be a little faster and

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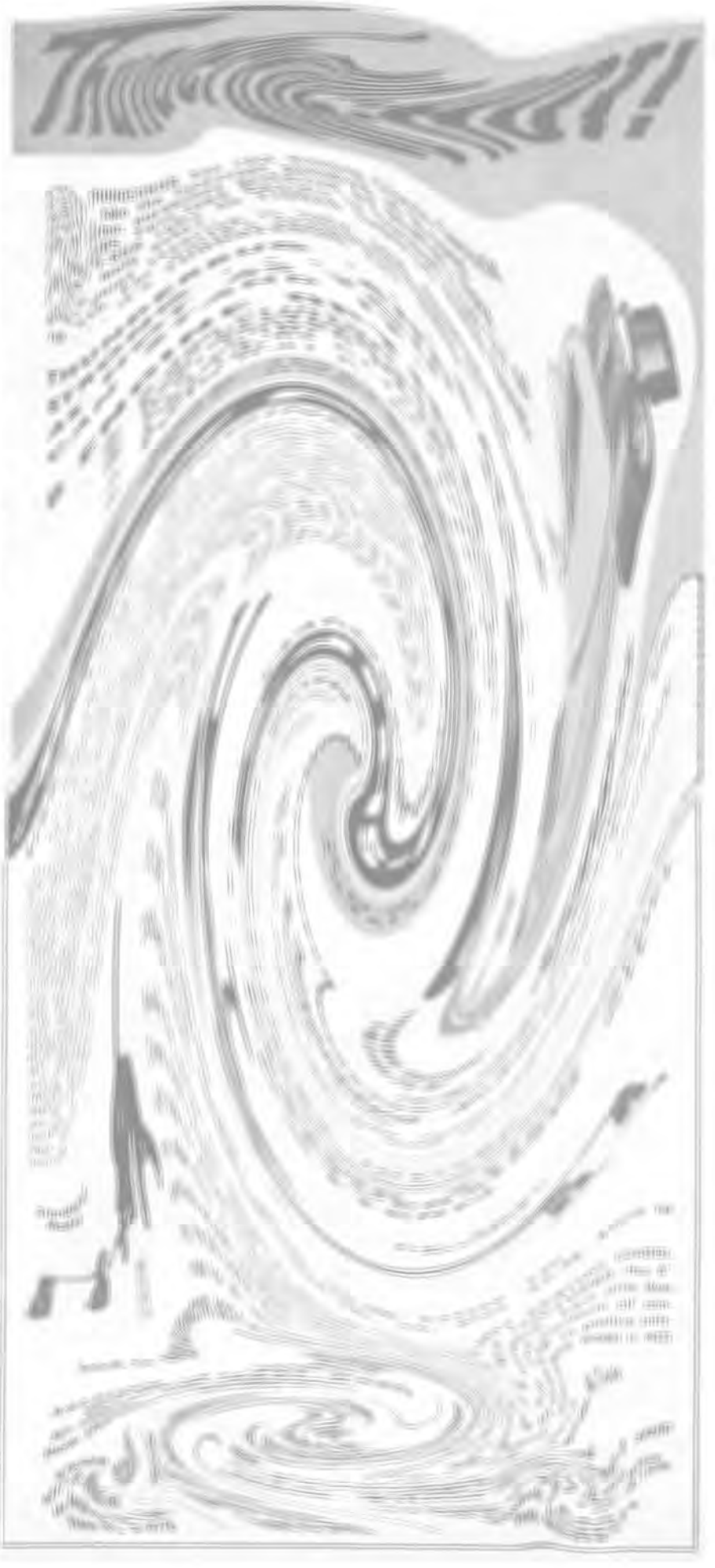

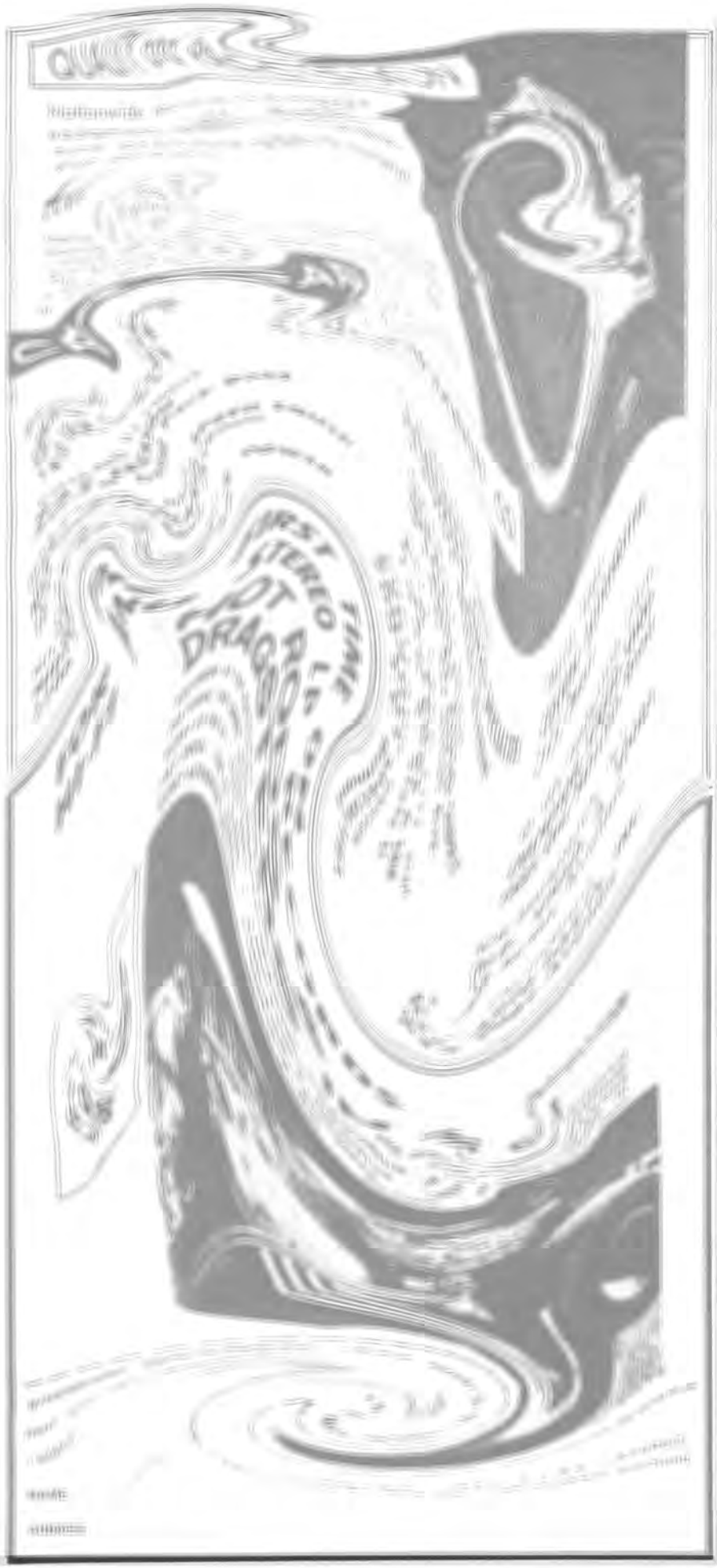

COMPARING THE: CORVAIR • FALCON • VALIANT·

continued

the turning circle is too large. Ride on rough roads is good, traction in mud or snow will surpass any other American car and the gasoline heater is fast acting and efficient. The Corvair also needs a synchromesh low gear.

The Falcon will deliver the best fuel economy, has comfortable seats, has the best interior finish, is easy to get in and out of, has convenient shift lever, handles good on smooth roads and has ample luggage space. On the other hand, steering is too slow, turning circle is too large, it dances around at high speeds on rough roads, skates on dirt roads, could use a synchromesh low gear and on our test car at least, the heater was not nearly as good as on the other two.

". . . it's not only compact transportation, the engine is in the middle where it belongs!"

Valiant's economy is nothing to brag about, especially compared to the Falcon. It too needs a larger fuel tank and some redesigning in the gasoline fill department. Seats are comfortable and access is good. Interior quality is good, workmanship mediocre and the floor mounted shift lever is awkward. In ride and handling, the Valiant is the best of the three on all types of roads. Luggage space is ample and the heater is very efficient. Lugging power is much better than Corvair or Falcon and the optional three-speed automatic transmission has a solid edge over the two-speed units offered by the others.

All three cars have excellent brakes and thanks to unitized construction they have solid, rattle-free bodies. All three are also rated 6-passenger sedans by their companies but unless a couple of the passengers are children, they are not suited for six on a long trip.

These three compacts all have much in their favor and the way their strong points vary, at least one of the three should appeal to everybody in the market for a new car. Falcon and Valiant also offer station wagon models so this broadens their market somewhat. Take a look at all three before you choose and make sure you ask for a demonstration ride. Compacts are apparently here to stay.