

TOYOTA AUTOMATIC



It is difficult to build an efficient automatic transmission economy car. How well has Toyota succeeded?



Automatic shift lever is on steering column, has familiar P N D L R arrangement of U.S. autos.



Toyota engine is 116 cubic inch four, develops 90 horsepower, has outstanding low speed torque.

About 8 years ago Toyota vehicles began trickling across the Pacific from Japan. They failed to create much excitement at first but their rugged Land Cruisers gradually built a fine reputation by out-jeeping the firmly established Jeep. Among the country's sportsmen and hunters, Toyota became a household word and their reputation for being unbreakable grew rapidly. (See ROAD TEST Jan. 1966.)

As the firm built up dealerships it brought in sedans and pickup trucks to add to the line. The sedan was a small, four-passenger model just as under-powered and just as unusual-looking as the renowned VW. About all it had going for it was high quality.

Then, just a couple of years ago, Toyota did some-

thing everyone else probably wishes he had done by offering a car in the economy field that had lots of engine. It would run off from any other economy compact, and a lot of American sixes. Still bent on improving their American sales the firm brought out an entirely new automobile with the same 90 hp engine called the Corona. It had a better-looking exterior, a nice, less garish interior, and would still outperform the competition by a long margin. This newcomer rapidly won friends in this country among those who don't mind shifting gears. Actually it was easy to get used to since the standard, American-type, three speed column shift is used instead of a four-speed floor shift or some tricky variation of the 'H' on the



Fuse block is located handily in engine compartment which is neat, orderly and easy to service.



Corona is undercoated by factory at no extra cost. Rear suspension is conventional live-axle type.

column.

Toyota learned that in order to sell, their Land Cruisers had to out-do the competition in more ways than one. Applying this to the Corona they are now offering a new, two-speed automatic transmission model to widen its appeal to the American buyer.

In direct competition with the VW, Renault R-8, Simca, Ford Cortina, Fiat, Hillman, MG 1100, Opel and Datsun, the Toyota is in a crowded field of well-established makes. Of these, only Toyota has extra horsepower to handle the slippage losses of an automatic and still accelerate acceptably.

The price of the Corona, with standard three-speed transmission is \$1904 P.O.E. West Coast which includes such items as heater-defroster, padded dash, safety belts, foam-padded seats, front and rear carpeting, back-up lights, two-speed wipers and washers, white sidewall tires, radiator anti-freeze, a complete tool kit of excellent quality, a trouble light (that plugs into the lighter or into a socket under the hood) and dealer handling. The factory also includes a pint can of body touch-up paint in this price which leaves only sales tax and license to go. The two-speed automatic torque-converter costs \$165 additional, still keeping the car under \$2,200.

Jim McGraw West Coast Sales Manager for Toyota, recently stated that, although Toyota officials felt about 30% of sales would be with the automatic, more than 50% of Corona buyers now choose it — which is something new in the economy-automatic idiom.

LIKE POWERGLIDE

American drivers won't find the automatic difficult to get used to. It is very much like the two-speed Chevrolet Powerglide, with a column-shift lever and a quadrant that reads, **P. N. D. L. R.** from left to right. It doesn't creep nearly as much as the Powerglide while idling, however. Starting in "D," or drive position, the Toyoglide will upshift anywhere from 12 to 50 mph depending on load. A kick-down button will drop it into low range when the accelerator is pressed firmly to the floorboard. Toyoglide has a definite upshift that is extremely smooth, but can still be felt, as it goes from the 1.82 to 1 low to direct.

Before they brought it into this country, the Toyota Manufacturing Corp. conducted exhaustive tests of hundreds of thousands of miles with the automatic transmission so it comes thoroughly tested and proven under the most rigorous of Japanese conditions. At this point, naturally, there is no use history and no way of determining what service problems may be encountered or the life of the component will be. But, a close inspection of the transmission indicates that it is of adequate size for this application. In addition,



Short wheelbase Corona makes provision for over six-foot drivers with ample seat adjustment.



Toyota Corona standard equipment includes complete tool kit with touch-up paint and trouble light.

being patterned after the Powerglide, it has a distinct design advantage. The Powerglide, according to our transmission service authorities, causes owners fewer headaches than any other automatic.

The rest of the drive train includes the hefty 1897 cc (116 cubic inch) overhead valve engine rated at 90 horsepower @ 4,600 rpm and live rear axle with hypoid center section and semi-floating axles.

Developing peak (110 lb./ft.) torque at 2,600 rpm, the Toyota's engine is noticeably better in the low ranges than any of the economy cars and even the Volvo B 18-D which puts out 105 lb./ft. at 3,500 rpm. Its 3.07 inch stroke lets it cruise at fairly high rpm for sustained periods without getting into the accepted "high wear" areas of excessive piston speed. This good low end torque without a concomitant long stroke is the secret of the car's ability to deliver pleasant performance throughout the speed range with an automatic transmission.

The conventional rear axle has 3.70 to 1 gearing with the automatic, which is the same as with the three speed manual transmission.

BODY AND CHASSIS

With monocoque-type body construction, the Corona is fairly light in weight as well as being rugged. Body panels are pressed steel, electrically welded for rigidity and durability and each unit is under-coated at the factory, (another "extra" included in the base price). Both roof and floor are insulated for sound and heat protection.

In wheelbase (95.3 inches) the Corona has one inch over the VW and six inches over the Renault. Overall length is 161.8 inches, five inches shorter than the VW and five inches longer than the Renault. A height of 55.9 inches makes it lower than either of the others, slightly wider at 61 inches. Tipping the scales at 2,167 pounds, the automatic equipped Toyota weighs 33 pounds more than one with a standard transmission. This is about 400 pounds more than the VW and 500 more than the Renault. In pounds per horsepower it is a little better than the Falcon with 170 cubic inch six cylinder engine. Thus when pitted against its rivals in pure acceleration and performance, the Japanese car comes out smelling like a rose. It will run off and hide from the VW, Simca, Hillman and MG. But the Cortina and Renault R-8 will give it a good run for the money until up near its top speed of just over 90 mph.

Front suspension is by independent coil springs with wishbones, double-acting shock absorbers and a stabilizer bar. Five-leaf semi-elliptic springs and double acting shocks are used at the rear. A recirculating ball steering is used and while the road feel is solid the ROAD TEST staff agrees that it is a bit heavy for an economy sedan at the standard tire pressure. Steering is positive and quick enough to satisfy all



Sound proofing and insulation pad is used under carpets which are included in delivered price.



Speedometer is big, legible. Accelerator and brake pedals are near same height. Air vent above ignition key delivers fresh air.



Finned aluminum front brake drums improve fade-resistance. Lining-to-weight ratio is favorable.



Unit construction body has good torsion rigidity. Doors can be opened under severe twisting.



Car handles well on rough roads. Good sealing and fresh-air intake makes interior dust-free.

but the racers on our staff — just over three turns lock to lock. It'll swing around in a 32.4 foot turning circle as compared to 36.1 for the VW, 30.5 feet for the Renault and 39.8 for the Falcon (as a typical compact).

The Toyota Corona has finned-aluminum front drums with cast iron rear drums and a total of 118 square inches of lining area. Stopping ability rates good with very little deviation. We experienced full directional control in all tests. The car panic-stopped in approximately a straight line in other words. (Many cars under these conditions will not stop straight, but will veer in one direction or another and sometimes, even get completely sideways or spin. Since it is a normal human reaction in a panic situation to stand on the brakes and hold them to the floor, this is a standard ROAD TEST procedure.)

INTERIOR AND INSTRUMENTS

Somewhat unusual in an import are the Toyota's full bench seats. Only four adult passengers are going to be comfortable for a trip of any length, but six can be accommodated for a short hop across town or to the Saturday night movie — an impossible situation in some other cars of this class. Toyota doesn't offer reclining seats but the seats are quite comfortable for large and small people alike. ROAD TEST staff members would prefer more padding in the seat backs, but this is a small factor when all the car's other interior comforts are considered.

Coronas have a padded dash with black crackle finish that doesn't reflect in the windshields; the speedometer is easy to read; the odometer is graduated in 1/10th mile increments, (the VW's isn't), and a trip odometer is also standard. Fuel and temperature gauges are furnished, but only lights to warn of low oil pressure or generator/battery problems. However, there is one fine feature in a parking brake warning light which glows a bright red. Since the parking brake isn't strong enough to keep the car from moving under power, it is an extra good safety feature.

Driving position and vision over the short, forward-sloping hood is good for drivers of all sizes. To the rear vision is excellent with slight blind spots at the rear pillars. Other interior features that give an added touch include three assist hand grips, an inside hood release, parcel tray under the lockable glove box, pendant accelerator pedal, armrests for all four passengers and indents on the glove box door to hold drinks. The Corona also has a three-position dome light, an excellent heater and twin fresh-air vents at either end of the dash that allow air to be directed to either side of the driver's face.

One especially intelligent item, is the combination horn ring and turn signal actuator. Washer and wipers work off the same dash switch. There is even a lockable gas tank cap.

When it comes to trunk space, the Toyota has it over its rear engined rivals, and is about equal to such as the MG 1100, Cortina and other front-engined economy cars in carrying capacity. A rather high lip to lift luggage over and a spare taking up a goodly amount of the carrying space are negative features, but the Corona does carry a lot of luggage for an economy sedan and its usable area should be adequate for most small families' needs.

Detail of fit and finish on all Toyotas we have seen is remarkable. The quality of construction and attention to detail are items subject to close scrutiny by a Japanese maintenance agency which examines all exports of substance and assures that no sub-standard products leave the home country. This is a commodity much appreciated by today's harassed consumer who tends to expect troubles with any product purchased.

Interviews with Toyota dealers in the West Coast sales region indicates that Coronas come to them with an absolute minimum of items needing attention. They arrive with great amounts of protective padding and wrappings on everything including the steering wheel. Dealers have found their demonstrators, and all others as well, very tight, requiring thorough break-

ing in before the best performance can be expected.

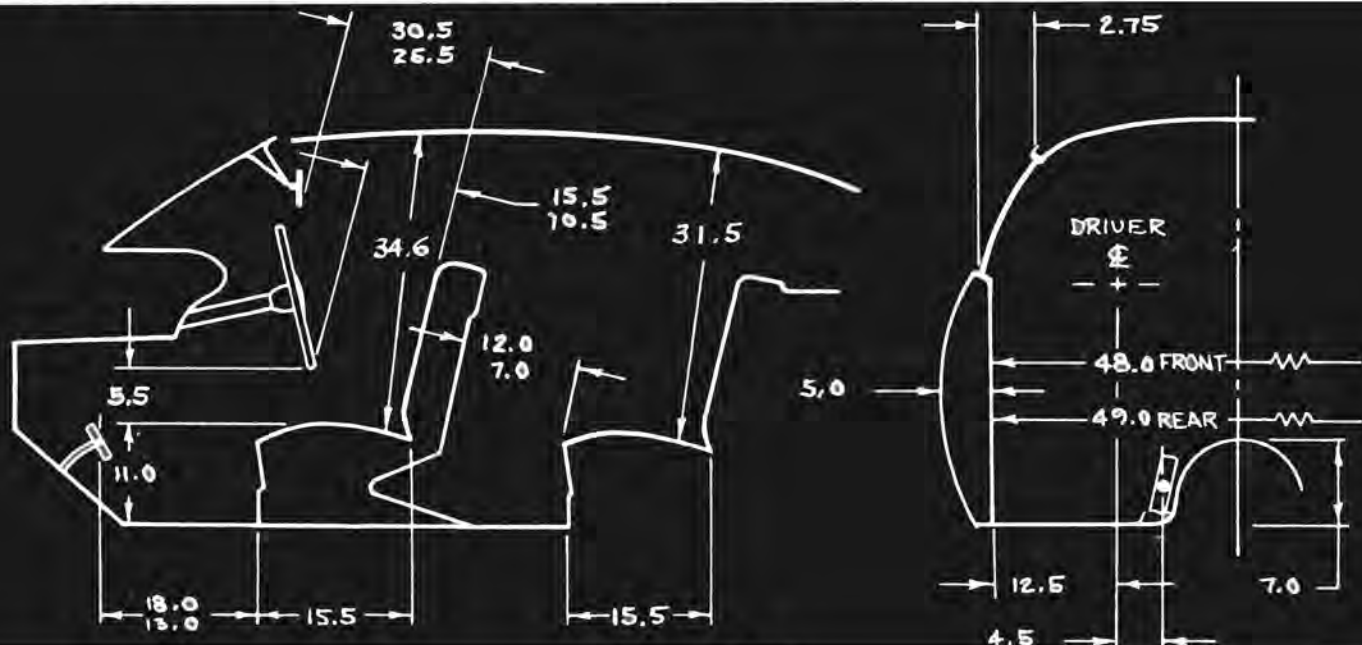
SUMMARY

ROAD TEST sees the Japanese auto industry as a waking giant, one that's far from being asleep, who is taking direct aim on the American market and is building an excellent product to compete favorably. This sleeping giant has one eye on the legendary VW and already has his foot firmly planted on our soil. The reputation of Toyota Land Cruisers spills over onto the sedan, which hasn't really been here long enough to establish its own reputation, but we think it will. Although it may not have the VW legend behind it, nor have the disc brakes and more sophisticated suspension of the Renault or the race-proven ability of the Cortina, it has a whole bundle of plus features

in its favor.

As adequate, comfortable transportation for four people and a lot of their luggage; with excellent stopping ability; more power than its peers without a noticeable loss in economy it is priced right down in the bargain-basement. The fact that it has an automatic transmission makes it exceptionally desirable as a second car where the wife refuses to learn to shift gears.

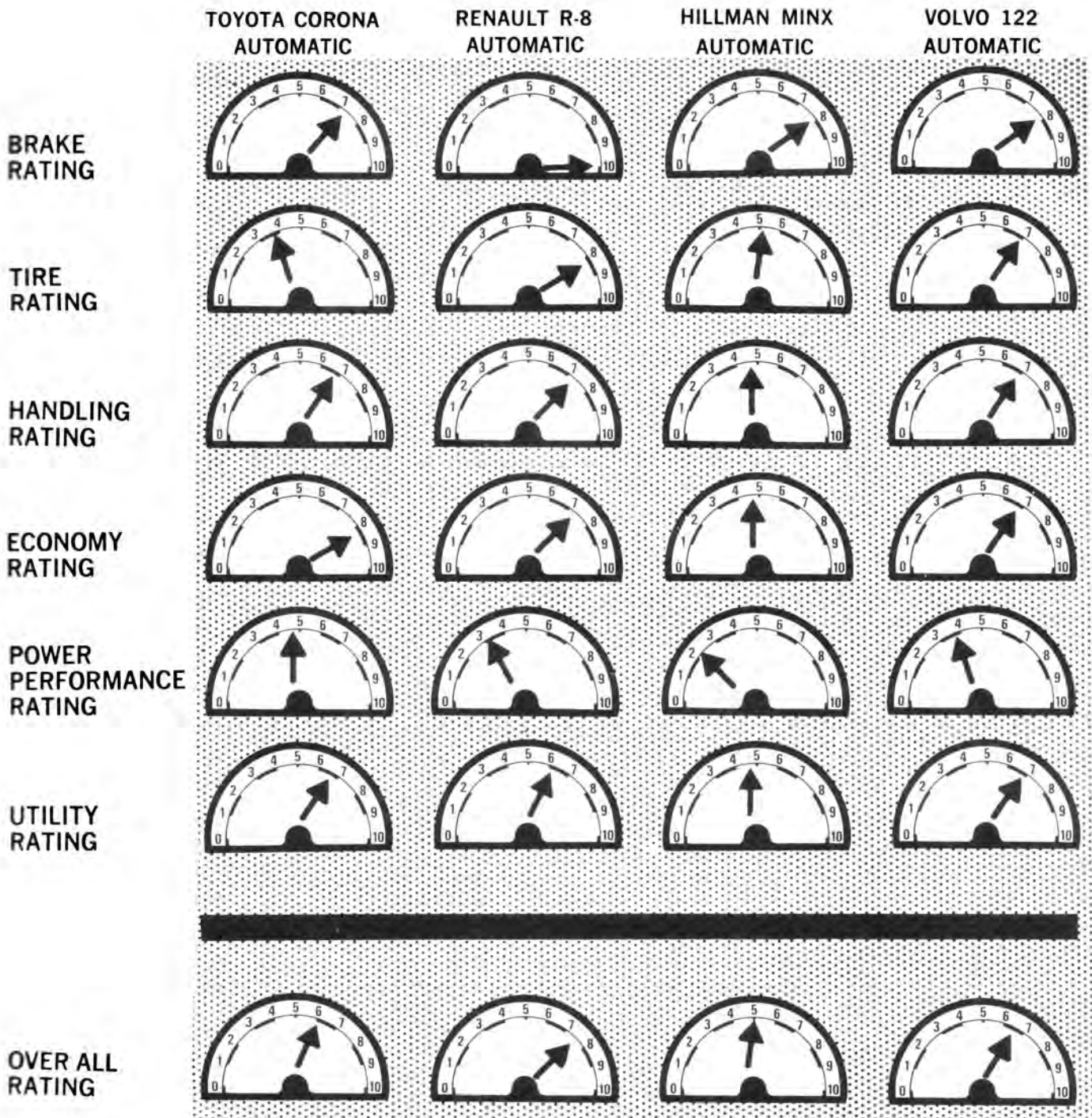
ROAD TEST's staff finds the Corona a unique vehicle in its class that has as much to offer as any of its competitors and more than most. Its 90 horsepower and automatic transmission give it a decided edge and its 12-month/12,000 mile warranty doesn't hurt the image one little bit. It's a good buy for the money, and more.



TEST RESULTS

PRICE		ACCELERATION		WEIGHTS AND MEASURES	
LIST	\$1745	0-30 mph, sec.	4.6	CURB WEIGHT, lb.	2139
AS TESTED	\$1903	0-40 mph	7.6	TEST WEIGHT, lb.	2310
ENGINE		0-50 mph	12.2	WEIGHT DISTRIBUTION (WITH DRIVER), FRONT/REAR, %	
NO. CYLINDERS	IN-LINE 4 OHV	0-60 mph	17.1	56/44	
BORE X STROKE, in.	3.46 x 3.07	0-70 mph	25.3	WHEELBASE, in.	95.3
DISPLACEMENT, cu. in.	115.7	0-80 mph	37.6	TRACK, FRONT/REAR	50.0
EQUIVALENT, cc.	1897	0-100 mph		OVERALL LENGTH, in.	161.8
COMPRESSION RATIO	8.0 : 1	TOP SPEEDS		WIDTH	61.0
BHP @ rpm	90 @ 4600	HIGH GEAR, mph	84	HEIGHT	55.9
EQUIVALENT mph	77	4th ()		GROUND CLEARANCE, in.	7.1
TORQUE @ rpm	110 @ 2600	3rd ()		FUEL TANK CAPACITY, gal.	12.0
CARBURETORS	1 NAGOYA	2nd (6000)	84	CHASSIS	
TYPE FUEL REQUIRED	REGULAR	1st (6000)	52	FRAME TYPE	UNIT WITH CHASSIS
DRIVE TRAIN		SPEEDOMETER ERROR		BRAKE TYPE	DRUM
TRANSMISSION TYPE	3 SPEED MANUAL	30 mph indicated and actual	29	SWEPT AREA, sq. in.	172.4
CLUTCH TYPE	SINGLE PLATE, DRY	40 mph	39	TIRE SIZE AND TYPE	5.60 x 13
DIAMETER, in.	7.9	60 mph	58	STEERING TYPE	RECIRCULATING BALL
GEAR RATIOS		80 mph	78	TURNS, LOCK TO LOCK	3.25
3rd		100 mph		TURNING CIRCLE, ft.	32.4
2nd	1:00 : 1	FUEL CONSUMPTION		ACCOMMODATIONS	
1st	1.82:1	NORMAL DRIVING, mpg	27.1	CAPACITY, persons	5
SYNCHROMESH	ON ALL 3	CRUISING RANGE, mi.	324	SEAT WIDTH, FRONT/REAR, in.	15.5
DIFFERENTIAL TYPE	HYPOID			HEAD ROOM, FRONT/REAR	34.6, 31.5
RATIO	3.7 : 1			ENTRANCE HEIGHT, in.	50.5
				STEP-OVER HEIGHT, in.	13.5
				DOOR WIDTH, in.	35.0, 32.7

HOW THEY COMPARE



* SEE PAGE 3 FOR EXPLANATION OF ROAD TEST RATINGS.