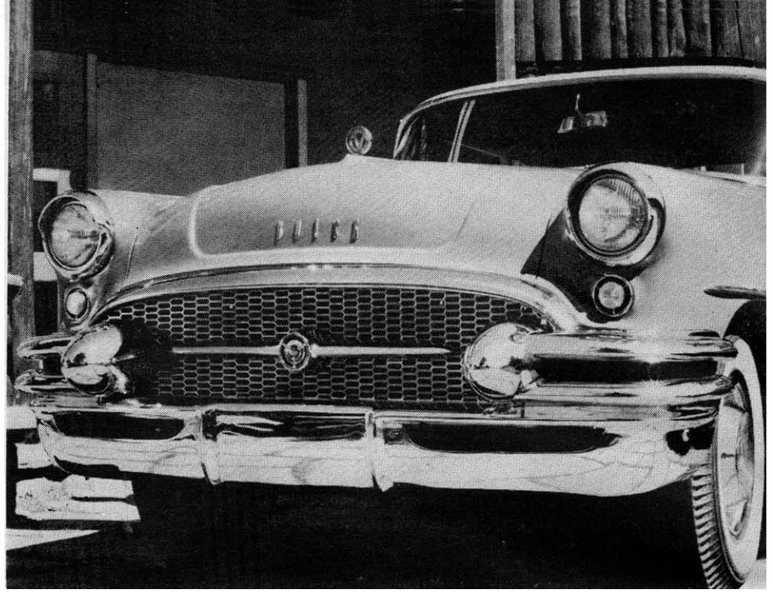
ROAD TEST

The hottest production car of 1954 comes back with revised styling and 236 horsepower to defend its championship.



BUICK CENTURY

MOTOR *Life* Test Staff Report

IT WAS close to the end of 1954 when one Buick agency sales manager finally woke up. "Talk about the car business . . ." he said. "All year we've been hard-selling our cars because the rest of the industry was. Looking back, we know that wasn't necessary, that Buick sold itself during the year."

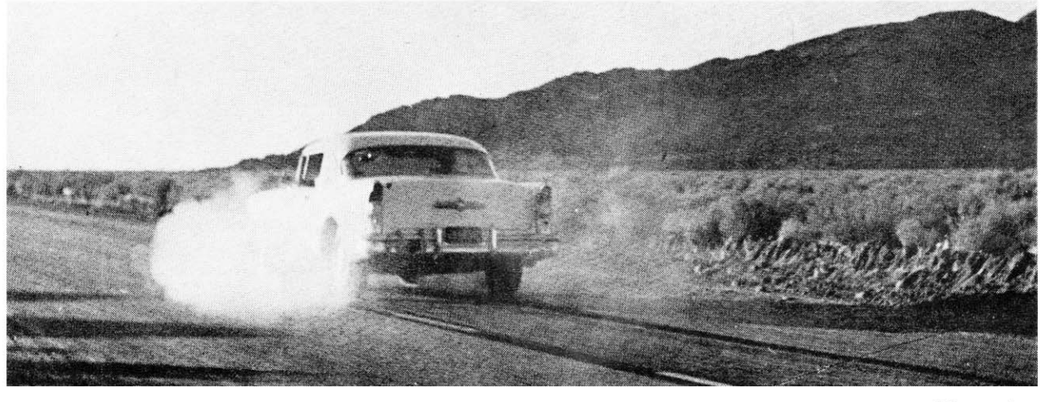
In the hottest, although not the largest, selling line of 1954, the re-introduced Buick Century model (Special body, Roadmaster engine) was one of the hottest and most desired cars. Featuring a big, big 200 horsepower engine in the smallest Buick body, the Century model was referred to by many enthusiasts as a "production hot rod," was the answer for many car buyers who wanted a medium-sized car with a maximum of torque, low and high speed performance. Immediate popularity of the Century helped Buick take over third place in national sales during 1954.

Going into 1955, the Buick Division is faced with two major problems: one is concerned directly with retaining that third place position against several powerful threats, second is the job of producing a 1955 Century which can hold the title of "hottest" car and hottest seller in a pace-setting line of models. The MOTOR *Life* test staff decided to find out if the Century had made this transition.

Our road test car was an off-white Century Riviera or hardtop model with green side panels, green interior, power brakes, steering, windows, seat, Buick's new variable-pitch Dynaflow transmission. Testers were most curious about this innovation; turbine blades which allow more or less oil passage depending upon how far the throttle is floored. This new Dynaflow was hailed as a vast improvement over Buick's Twin-Turbine model of 1954.

The combination of new transmission plus Buick's 1955 big engine (236 bhp, 9.0:1 compression ratio) is excellent. During the acceleration checks (made with fifth wheel and Weston electric speed indicator), testers found that although the DRIVE range acceleration wasn't disappointing, acceleration in the LOW range was startling. Since the new Dynaflow will hold well in LOW range until about 60 mph,

Brakes of 1955 Buick are excellent even during simulated panic stops. Note that tracks left by locked wheels are even and straight.



most of the acceleration checks were done in that gear range. Reason for this is simple: the Dynaflow stator blades vary only under DRIVE conditions, have been designed to stay fully opened (75 degrees from the closed position) in any other gear. Testers found 0-60 mph in 10.9 seconds, a very surprising fast "jump" 0-30 mph in 3.9 seconds. Low range acceleration, in town, is not too advisable. The Century model will burn rubber away from the stop-lights, moves out so fast that it could easily exceed posted speed laws long before running out of "go." The test car, to further check acceleration times, was run through the electrically-timed Santa Ana, California drag strip for maximum speed at the end of the one-quarter mile. In stock form and loaded with the power equipment, the Century turned a very healthy 81.31 mph. The test staff began to experiment with shift points, gradually improved that time to 81.71 mph. (During "official" road testing, however, this speed went down to 77 mph.) At the end of the quarter mile, the Century was still accelerating, still had a great deal more pull. This was proved again when the test staff made their high speed runs at the special MOTOR *Life* test strip. The Buick, in stock form, ground out an amazing 115 mph, with ease.

During those top speed runs, the Century held true and sure to the road, gave little indication of veering or wandering from its normal traffic lane. The speedometer needle licked upwards evenly with little hesitation and the passing-range times were excellent; 12.6 seconds from 50 to 80 mph. These passing range speeds were taken while the car was accelerating, the stop watches clicked on and off respectively as the car approached those miles per hour on the electric speed indicator. At high speeds there is a little buffeting present in the ride, but the engine is very quiet, wind noise is at a median level. With the squared-off hood, testers expected more wind resistance than was actually met and although a healthy crosswind was fishtailing down from the mountains, it failed to affect the course of travel.

Testers tried the Buick power brakes under all conditions. Using an A.A.A. brake detonator, we found the brakes safe, sure and efficient. For a car the size and weight of the Century, moving at impressive speeds, brakes would have to be good. They are. From an actual 45 mph the Century required but 95.6 feet to stop, from 30 it was 46.5 feet. With brakes full on (simulated "panic" stop) the 3950 pound car gave little sign of wanting to swap ends, came to a true dead stop with the car in a straight line.

Valving in the front shock absorbers on all 1955 Buick models has been changed and in corners and on curves, the Buick now leans slowly, returns slowly. It is a strange feeling at first (most American cars bob right back up with a sudden snap), but upon familiarization, it becomes a comfortable experience which lessens body roll and return within the car. Body lean is definitely present but to a degree. After the lean point has been reached, the Buick can be taken tighter and tighter into the turn without appreciably affecting adhesion to the road. Going into several tricky switchbacks, testers were pleasantly surprised by the way the Century "held on."

Buick's modified power steering left something to be desired. Traveling 4.5 full turns lock-to-lock, the feel should be light but isn't. Although Buick engineers increased the pressure relief valve setting from 750-900 psi to 875-1025 psi for 1955 (for ease in parking) the overall effect is of a semi-power steering unit, one which reduces pressure required to turn the wheel, but goes only part way.

The steering wheel is new for 1955, is a three-spoked model with a tapered horn ring button. Testers were agreed that the three chrome-covered spokes were annoying because, regardless of steering wheel position, the spokes catch

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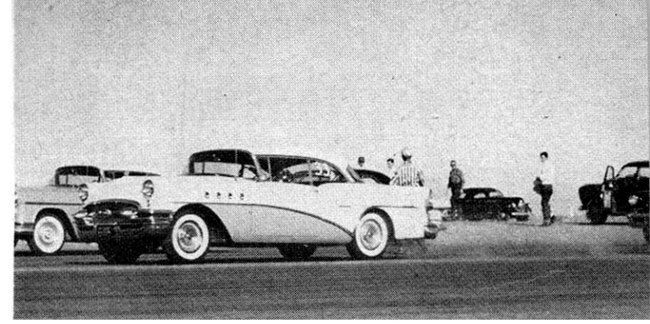

To check acceleration in a competitive atmosphere, Buick Century was run through the electrically timed Santa Ana, California strip.

ROAD TEST DATA SHEET

Performance Table

ACCELERATION

Calculated with calibrated speedometer (calibration by Tracktest 5th wheel driving Weston double range speed indicator). All times are the best of several runs in opposite directions.

MPH	seconds
0-30	3.9
0-40	6.0
0-50	8.25
0-60	10.9
0-70	15.0
0-80	20.5

Standing ¼ mile 17.8 secs.
Speed at end of ¼ mile 77
Checked with electronic equipment at SANTA ANA acceleration strip.

TEST CONDITIONS

Temperature 72 degrees Wind 12 mph
Road Surface ASPHALT-DRY Fuel Used MOBILGAS SPL.

TOP SPEED

Using measured ¼ mile at 2,850 feet above sea level
Best run 115.3 mph Average of several runs 112 mph

BRAKES

Stopping distance using A.A.A. electric detonator:
60 to full stop * ft. required 45 to full stop 95.6 ft. required
50 " * " 30 " 46.5 "

TURNING
Radius 41.6 ft.

STEERING (POWER)
Lock to Lock 4.5 turns

FUEL CONSUMPTION

Checked with McCulloch Fuel Flow meter. At steady speeds using an average of one up wind and one down wind run at each speed indicated:

30 mph	average is	22.5	miles per gallon
40 "	"	20.4	"
50 "	"	18.8	"
60 "	"	16.3	"
70 "	"	14.4	"
80 "	"	12.4	"
90 "	"	*	"

NOTE: Average traffic and road mileage not checked due to uncontrollable variations in each test.

SPEEDOMETER CORRECTIONS

With new tires using factory recommended tire pressures.

Car Speedometer	10	20	30	40	50	60	70	80	90
Actual Speed	/	/	29	38	/	56	65	/	/

NOTES: * NOT TAKEN.

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from 200 percent to 600 percent more station wagons this year than they did in 1954.

Slight indication of things to come is the idea car, the Chevrolet Nomad wagon. Viewed at the 1954 Motorama, officials were besieged by requests for a delivery date. It was not only indication of interest in good design, but proof positive that the station wagon movement is strong, has not nearly reached a saturation point.

Remember, within several years one out of every three new cars will be a wagon. Before you buy your new car drive one. With one leisurely look and a trial spin, you may find everything you ever wanted in a car—all rolled up and neatly delivered in the revitalized, dramatically good looking and practical "newest" model—the modern station wagon. •

REVIEWS OF MOTORING LIFE

(*Continued from page 10*)

before the Big Three. Without big investments to consider, they could move faster, get new ideas into production sooner. And, if the idea didn't sell, they could pull out as easily. That was before the war—today, capital costs are the same for the small and the large companies. Further, the manufacture of better cars or cars with advanced technical innovations is becoming increasingly difficult. Many of the postwar "automatic equipment" accessories came from the multimillion dollar experimental labs of the Big Companies, labs too expensive for the independents to support. For example, FORTUNE points out, the Big Three are currently having a race to produce the first successful turbine-powered car. The independents can't afford this type of fight.

Another factor which has affected sales of independent cars is a feeling, on the part of the public, that all cars within a given price bracket are equally reliable and that the slight extra price for the independent product isn't worth it. The independents have also reached the odd position of *following* style trends instead of leading them. The industry-wide acceptance of G.M.'s wrap-around windshield is a good example.

To start his conclusions, Harris believes that if the two new mergers (American, Studebaker-Packard) don't show an upward gain in sales through the next few years, these two combines will organize. But even if they don't, there is little chance that these companies will disappear; their manufacturing potential too valuable in other areas.

But, according to FORTUNE's editorial spokesman, no one wants to see the independents out of business, especially the Big Three. Presidents of the independents have indicated that the Big Three have done everything short of stop production to help the smaller companies. The government doesn't want them out of business and, most important, the car buyer (interested in competition) doesn't want them out of business.

The entire hope for the independents lies with their management, Harris concludes. The daring and ingenuity of these groups is going to make or break these automobile companies.

FORTUNE's report is timely, accurate, thoroughly researched, and well written. It, more than any other piece of journalism on the same subject, clears away the hazy cobwebs surrounding the recent mergers, shows the reader exactly the state in which the independents find themselves and the task which lies ahead. For any MOTOR *Life* reader interested in the independent cars or in the automobile industry, from any aspect, this article in its entirety should be required reading.

★ ★ ★

PRODUCER-actor-director Jack Webb closed out his 1954 season by becoming involved in a search for a hit-and-run "hot rodder." At one point during the half-hour proceedings Webb, as monosyllabic police Sergeant Joe Friday, says to a rodder who is trying to be friendly with the police, "You have a long way to go."

In explaining hot rodding to the public at large, the nation's number one television crime show may have an equal distance to travel.

Proceeding from the premise that a hit-and-run victim was deliberately struck down by a "hot rodder," Friday and partner Smith wade bravely into Los Angeles traffic in search of a black prewar Ford with dual pipes, a smashed headlight and a hot rod club emblem dangling from the rear bumper. Tracking down the club emblem, the partners, in some devious fashion, get involved with a hot rod club president who offers nothing more rewarding than some slow paced, dreary dialogue about the "thrill" of machinery. The enthusiasm with which the youngish actor described hot rodding may set that movement back to the model T stage. Although Smith and Friday had entered the backyard garage with pleasant expressions, they departed with black scowls. Nowhere in the country could car enthusiasts blame them.

Blessedly, the remainder of the show was dedicated to a manhunt *without* such grade B movie standbys as a 110 mph chase over a mountain course which might frighten Ray Crawford. In the end, as usual, the criminal was arrested, sassed the police, is now, according to the program, serving five years in prison.

There is a great deal to be said to the public about hot rodding. Unfortunately, Dragnet served to alleviate, very little, any existing misunderstanding between the police, the public and the hot rod movement. • —*I.T.G.*

BUICK ROAD TEST

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the sun's rays, reflect them inside the car and onto the headliner. Movement of the reflections is distracting. When the sun is in certain positions, those chrome reflections aim directly into the driver's eyes. Instrumentation is full, but small; the speedometer is difficult to read.

Directly to the right of the steering column is a flight-dash type of panel which houses heat and ventilation controls. Buick's heating system is one of the best in the business, incorporates an auxiliary heating system for getting the interior warmed up fast in cold weather. The four-way power seat works with ease and no complex operational instruments. One little button goes four ways, pushes the seat in any of those directions. In the full low position, however, the front seat is still too high for tall drivers; the roof lines cutting into the tall person's side vision. The cigarette lighter is evidently an afterthought, has been encased in a chrome-plated separate pocket directly below the instrument panel. The problem, undoubtedly, was to get the lighter halfway between passenger and driver, and this was the only solution. The entire remainder of the dash is cleanly designed but clearly employed. At night the instrument lights, which are not hooded, reflect in the driver's window. Interior upholstery and paneling is color-keyed vinyl and fabric, excellent for long wear and maximum appearance. The radio, complete with a floor button tuner, has excellent tone. The selectomatic tuning bar is a good feature for country or out-of-home-base driving. Altogether, however, the cockpit and interior are well designed, well engineered and very attractive. The faults located by the test staff required diligent research and, even then, staffers were disagreed on some of the items.

On the exterior, and parked next to the 1954 counterpart, the Century for 1955 is an improvement. The rear fenders have been simplified with removal of the hump. Their size led one staff member to remark, "I wonder if the tail light race will replace the horsepower race?" Buick, leader in the sweep-spear type of side molding, has improved on it this year while other cars are catching up. The entire hood and front end have been cleaned up and the stamped grille with one central cross bar is definitely more attractive than the toothy former front end. Perhaps the best simplification is in the headlight treatment; well designed hooded bezels replace the oval chrome parking-headlight combination of 1954. Combining these design changes with other Buick styling advances (cut out rear wheel wells, etc.), the Buick is definitely one

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of the more aesthetically desirable cars on the market today, and the increase in sales backs that up.

Mechanically, and throughout the car, changes for 1955 are minor, are just improvements on the 1954 equipment. The power plant has had some minor valve, cam, and carburetion changes plus a compression raise, but it is basically the same power plant which showed up so surprisingly well in the Mexican Road Race of 1954. In sports car circles, where owner-drivers are critical of all equipment, the Buick engine is finding increased acceptance and use. The engine's low poundage-per-horsepower output is a strong factor in its favor, and now that it has proven stamina and reliability it begins to replace the heavier power plants as the prime mover—in competition circles.

Speaking of competition—Buick has a fight ahead. Every car manufacturer would like to wrest that third position away from Buick and several are conducting concerted drives. Buick, on the other hand, is quite happy in third position and would like to keep it that way. Summing up their new Century, we'd say Buick goes into that fray pretty well prepared. •

TECHNICAL TIPS

(*Continued from page 12*)

a 1950 Dynaflow transmission and accelerator pedal linkage to pivot these blades.

Louis Sykes Elmhurst, New York

• *Again we run into one of those situations that is best covered by saying that you can do anything with any car if you have the inclination, ambition and money. Changing the older model Dynaflow over to the new type with the variable pitch stator is a task that involves considerably more than changing stators and adding linkage. The complete Dynaflow unit from the '55 would have to be installed in your '50.*

Dyno Horsepower

I have a modified Chrysler Six motor 264" with which I have been able to clock a mere 90 bhp at the rear wheels at 3700 rpm on a local Clayton dyno. The above figure was obtained after correcting carbs and distributor advance under power.

I was quite satisfied with the figures until I noticed the dyno curves published on late model V-8s which show a modified 296" Merc producing 150 bhp running in second gear on a dyno. My mill had an almost flat power curve between 3500 and 4700 rpm, indicating pretty good breathing, etc. My question is: Is there an advantage in running a chassis dynamometer test in second gear? If so, why?

Another query: Would tire pressure, water temp., etc., make a difference in getting a peak reading on a carefully conducted test? I want to be honest with myself and have carefully avoided any "flash readings" on my tests. All have been recorded only after a steady 30 second or more duration.

Walt Cave Daytona Beach, Fla.

• *There are two reasons for running dyno tests in second gear; the dyno receives more horsepower and the tires take less of a beating. More horsepower is available because less power is wasted in rear end friction. Friction increases with speed so if the driving train is operated at a lower speed it absorbs less power. At high speeds the tires waste a lot of power through friction in their constant flexing as their treads attempt to wrap around the rollers.*

Tire pressure and water temperature do have an effect on horsepower readings on the chassis dyno. Too high or too low a tire pressure will both have adverse effects. The water temperature will affect power output considerably and a high temperature will usually reduce the horsepower reading. Spark settings must also be changed to conform to engine temperature when you're in quest of that "last little bit" of power—the hotter the engine the less spark advance.

Maximum power is always obtained with the spark timing set just below the ping point. A ping is always an indication of waste combustion.

Blown Cadillac

What must be done to a '50 Cadillac engine to make it hold up and stay together with a Rootes type blower on it? Recently purchased and installed a new S.CO.T. unit with one 4-barrel carburetor. Lost all eight pistons in the first 20 miles. This engine has the heads milled .090" and is, otherwise, stock. Would changing back to stock compression and installing racing pistons cure it?

John Yost West Lafayette, Indiana

• *Milled heads should never be used in conjunction with a supercharger if pump gasoline is to be used as a fuel. Although you neglected to state the presence of detonation or the type of piston failure, it is assumed that breakage or cracking is your complaint. Racing pistons should not be necessary if you are using a moderate supercharger boost. However, a moderate boost coupled with too much compression will produce detonation (ping) which will crack ring lands, rings, and various highly-stressed areas of the pistons. Racing or stock pistons can not stand abuse of this sort. Although it is never done, all engines that receive supercharger installations should also have distributor alterations that will reduce the amount of spark advance when blower boost is fed to the engine. An engine cannot tolerate as much spark advance with blower boost as without.*