Plymouth Features 3 Lines

Modern styling highlights this year's models in three price classes

THE 1954 PLYMOUTH FEATURES THREE lines: the Plaza, the Savoy, and the Belvedere, each styled and trimmed to appeal to a particular buying group. Eleven body types are available in the three series.

Aristocrats of the line are the Belvederes, consisting of a sport coupe of "hardtop" design, a four-door sedan, a convertible, and Suburban steel-bodied station wagon type of car, all color-styled in two-tone combinations. In the Savoy series are a four-door sedan, club coupe, and two-door sedan. In the lowest priced Plaza series are a four-door sedan, two-door sedan, business coupe, and Suburban.

Among advancements in engineering design being featured by Plymouth in the '54 models is the use of new silicon chromium alloy intake valves to extend top engine performance over a long period of time. Exhaust valve inserts have been retained to maintain high-compression engine performance in years of service. Other mechanical improvements include a higher capacity oil pump, new improved clutch, and improved electric windshield wipers.

Styling Starts With the Grille

The front-end styling of the Plymouth centers around the new grille and emphasizes car width. The grille, the designers claim, will stop all passers-by for another look. In long low lines, it bridges from fender to fender to give continuity and grace to the styling theme. It blends into and actually becomes the front-fender side moldings.

Length is emphasized by every detail of the body side styling. Belt molding carried around the low belt line of the new Plymouth is standard on all models. It forms a natural division for two-tone paint combinations in addition to enhancing the body lines. Beginning with the 1954 series, all two-tone models will be painted with the top color extending down to the belt line to emphasize the lowness of the body, especially if the upper color is the darker tone.

The bumpers have been moved out, both front and rear. This change increases the bumper-to-bumper dimension by 3¾ inches, making the car considerably longer.

Massive moldings on the tops of the rear fenders accentuate the length of the 1954 Belvedere.

The hood ornament of the new Plymouth is an interpretation of the company's sailing vessel emblem. Each of the new lines is identified by a name plate on the front fender near the leading door edge. The Belvedere name plate is in raised "hand script," the Savoy and Plaza use a broad italics in a more formal vein. Name plates in formal italics are also carried on the deck lids. In the left corner, the plate proclaims "Plymouth." On the right side, "Hy-Drive" or "Overdrive" is used when appropriate.

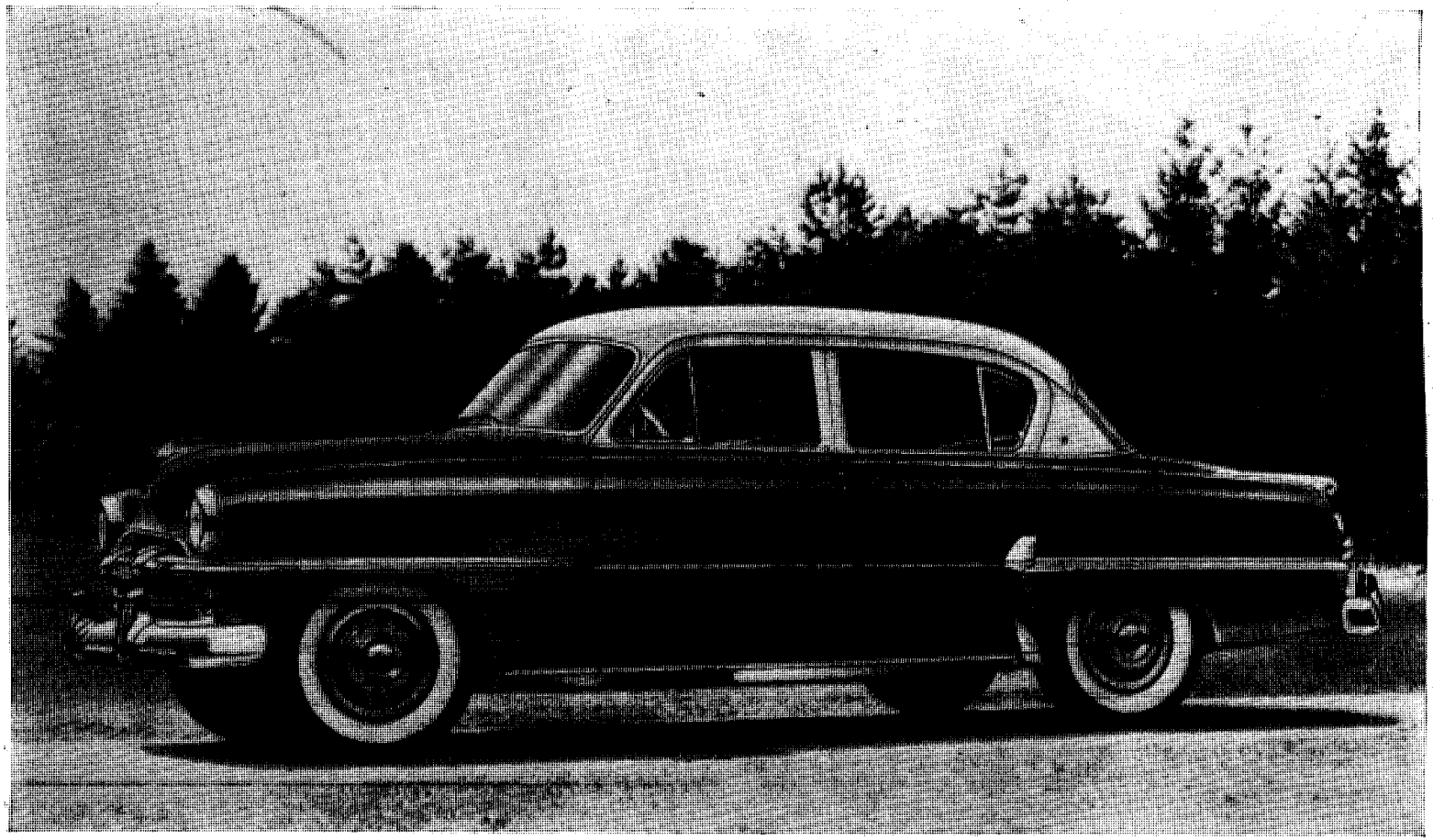
Two license-plate lamps are used, one on the inside face of each bumper guard. At this location the lamps are less likely to be covered with snow or mud. To facilitate the new license-plate lighting, the bumper guards have been moved closer together.

Plenty of Color

The Plymouth stylists have filled the interior of the 1954 models with color. From headlining to carpeting, color is everywhere, instilling a gay contemporary feeling.

The basic color is that of the seat material. All other colors are keyed to this primary hue. For example, when the seats are green, the headlining, sidewall material, and carpeting are shades of green. The instrument panel displays two complimentary green tones. Its top and bottom surfaces are dark green, setting off the light green insert across its face. The steering wheel is also light green to match the insert. And the garnish moldings are dark green to match the instrument panel top.

For the Belvedere line, the designers point out, the color coördination is taken



The Belvedere, one of eleven body types in Plymouth's '54 line.

a step further. Exterior colors are carried right into the interior. Seat fabrics are matched perfectly to the outside colors. The line features four, gay pastel exterior colors.

For the Belvedere and Savoy, the instrument panel is two-toned. The insert displays a light color tone on all the Savoy models, and either ivory or black on the Belvedere models.

The steering wheels on the Savoy and Plaza models have a new swept-back, two-spoke design. These hard rubber wheels are brightened and protected by a baked enamel of high chemical and abrasion resistance. The Savoy's steering wheel matches the color of the instrument panel insert and features a full horn ring. All Plaza model steering wheels are light gray, and a straight sleek horn-bar stretches out on each wheel spoke.

A three-spoke, plastic steering wheel is standard equipment on the Belvedere models. As on the Savoy, these wheels are colored to match the instrument panel insert. In the center of the horn ring the Plymouth sailing ship floats on a background of color.

Plymouth Power Steering

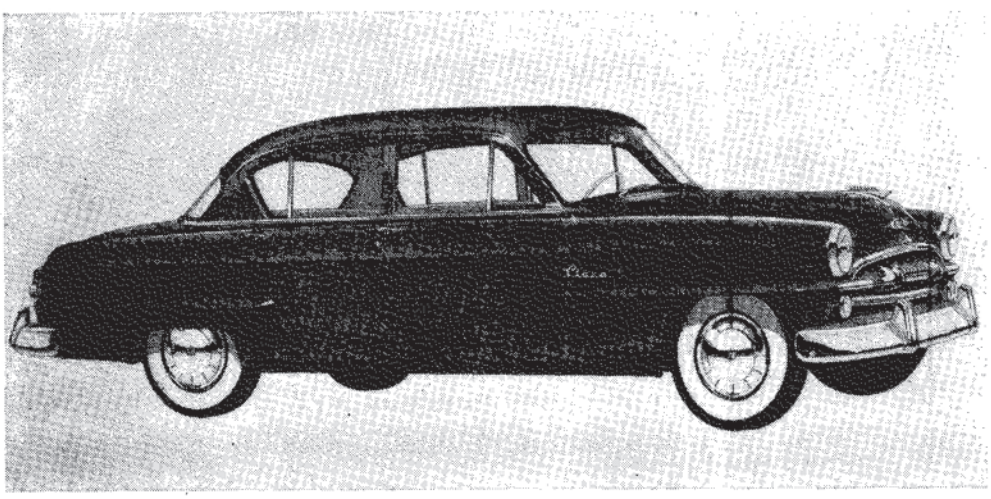
In keeping with increased public demand for power steering, Plymouth offers its new, compact, link type of unit as optional equipment.

Drivers are becoming increasingly aware of the benefits which power steering provides. Normal everyday parking has become more and more difficult as cars have grown heavier and have adopted larger and softer tires. With power steering, however, getting in or out of a parking space can take only a little more effort than steering at higher speeds.

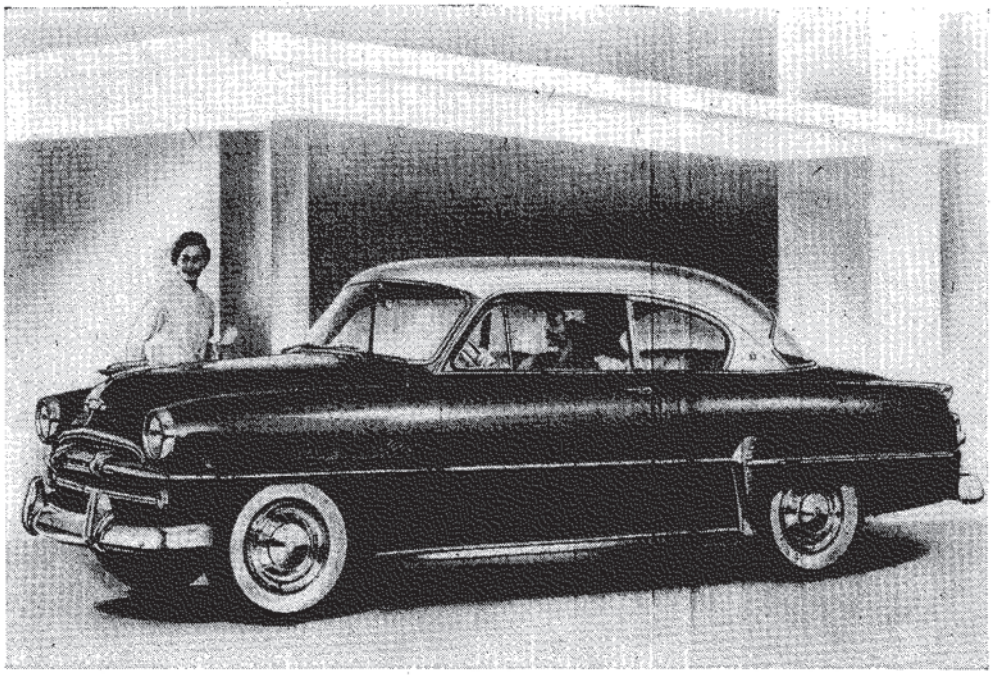
Less noticeable when first used, perhaps, is the reduction in driving fatigue offered by power steering. Many drivers fail to realize the amount of energy they spend in merely threading through city traffic or winding over a country road.

The manufacturers also like to emphasize power steering's contribution to driving safety—its tendency to resist road shocks that could result in dislodging the steering wheel from the driver's hand. In case of a blowout or if the front wheels hit a chuckhole or run onto a soft shoulder, power steering instantly comes to the driver's aid in helping to maintain control of the car.

Plymouth's new power steering makes an extremely simple and compact installation, the engineers say. The entire power unit becomes an integral part of the conventional steering linkage. This unit consists essentially of a power cylinder, a control valve, and a piston. The piston rod is rigidly attached to the side rail of the car frame. The tie rods in the steering linkage are attached to the power cylinder, which is free to slide on the piston rod in either direction. The control valve is mounted in the end of the power cylinder and is actuated by the



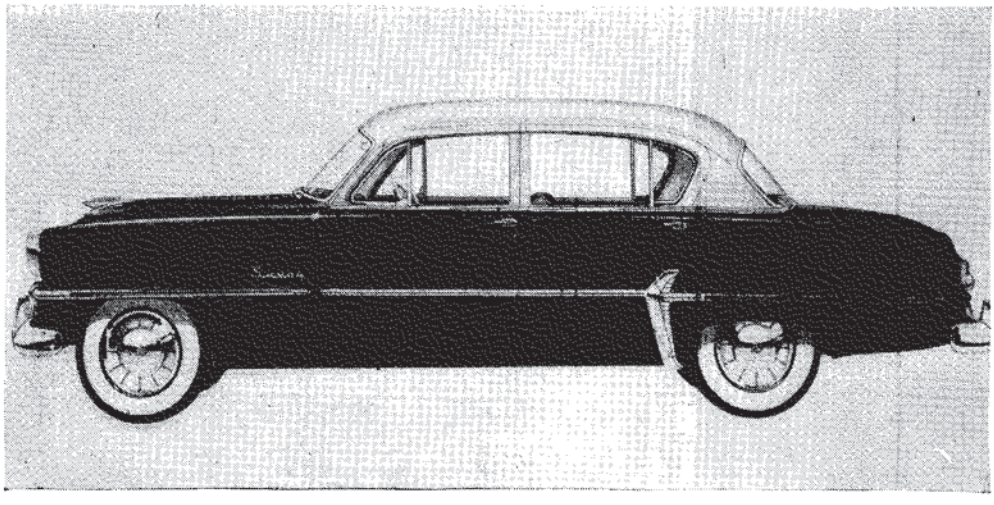
THE PLAZA line offers this four-door sedan. Also available in this lowest-priced series are a two-door sedan, a business coupe, and Suburban.



THE SPORT COUPE in the Belvedere line typifies Plymouth's new styling. All the new models are longer this year. You can have Hy-Drive transmission and power steering.

steering wheel through the regular steering gear assembly. It is constructed so that manual steering is instantly available should oil pressure be disrupted.

Power is furnished by a rotary oil pump coupled to the rear of the generator. Rubber hose lines carry the oil to and from the power unit in the steering linkage. When in the straight-ahead position, the control-valve spool is centered, returning all the oil directly to the oil reservoir at the pump. Thus, there is no force tending to move the power cylinder. When the steering wheel is turned, however, the control-valve spool restricts the direct flow to the reservoir, causing the pressure to build up. At



THE SAVOY series, Plymouth's middle line, offers a four-door sedan, shown here, a club coupe, and a two-door sedan. Note Plymouth's redesigned wheel covers.

the same time, this valve spool uncovers a passage exposing one end of the cylinder to the increased pressure, while the passage from the opposite end of the cylinder is fully opened to the lower pressure of the reservoir. The resulting difference in pressure then forces the cylinder to move along the piston rod, thus transmitting this movement through the tie rods to the front wheels.

Reaction areas, utilizing both springs and oil pressure, are incorporated within the control-valve assembly, giving the driver the proper "feel of the road." Since Plymouth power steering provides full-time operation, this "feel" is present under all conditions. Actual road-test figures show power steering's contribution to reduced driving fatigue. Results of comparison between Plymouth's power steering and manual steering appear in the table.

Three Drives Available

Plymouth Hy-Drive, a no-shift device, is one of three types of power drives available on all 1954 model Plymouth cars. The other two options are Plymouth Overdrive and Synchro-Silent three-speed transmission.

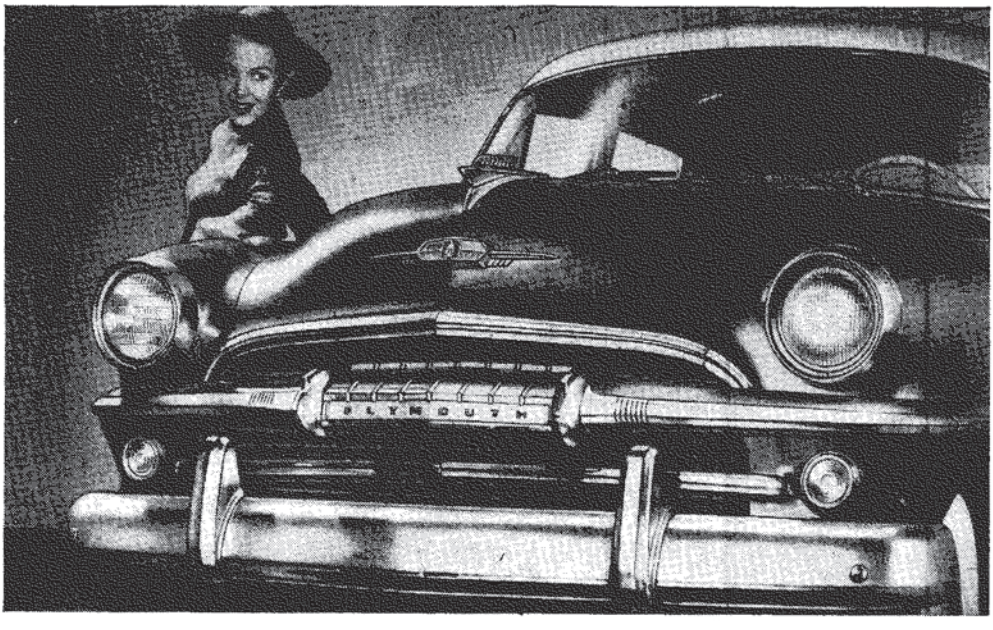
Introduced during the 1953 model year, Hy-Drive is now in volume production. It is made up of a combination of torque converter and three-speed transmission. Hy-Drive eliminates the need for shifting in all normal driving. When the car comes to a stop light, the driver simply steps on the brake. When the light turns green, he steps on the gas.

The smooth, automatic action of the torque converter takes the place of gear shifting in all normal driving situations. The driver can, however, shift manually into second or low gear for steep downhill engine braking or for exceptionally heavy pulling.

STEERING WHEEL EFFORT

Test Conditions	*Effort with Manual Steering**	*Effort with Power Steering**
Parking on dry pavement	30.5 lbs.	6.7 lbs.
Rounding city corner at 15 mph	10.7 lbs.	3.4 lbs.
Rounding country curve at 45 mph.	7.8 lbs.	2.6 lbs.

* At rim of standard, 17½-inch steering wheel.



FRONT VIEW shows Plymouth's wider, lower look. But ease of cleaning and simplifications of repairs have not been forgotten behind the '54 appearance.

SPECIFICATIONS

Engine: Six-cylinder, L-head. Horsepower, 100 at 3600 RPM. Torque, 175 foot-pounds at 12000 RPM. Piston displacement, 217.8 cubic inches. Bore, 3¼ inches; stroke, 4⅜ inches. Compression ratio, 7.1 to 1. Aluminum alloy U-slot pistons, cam-ground floating piston pins, four rings.

Lubrication: Oil pump, normal pressure, 40 to 45 pounds above 30 MPH. Capacity, 5 quarts (6 with filter change).

Fuel: Capacity, 17 gallons. Oilite filter inside fuel tank.

Electrical: Battery: three cells, 15 plates per cell, six volts, 100 ampere hours at 20 hours discharge rate. Six-volt generator gives 45 amperes at 8 volts at 2280 generator armature RPM. Distributor has automatic advance, speed, and vacuum control.

Cooling: Capacity, 13 quarts, (14 quarts with heater). Internal by-pass. Thermostat starts to open at 157 to 162 degrees F. Seven-pound pressure cap.

Transmission: Standard—manual, three speeds forward and one reverse. Automatic overdrive, optional with 3 speed. Hy-Drive (torque converter), optional. Single plate, dry, ventilated clutch.

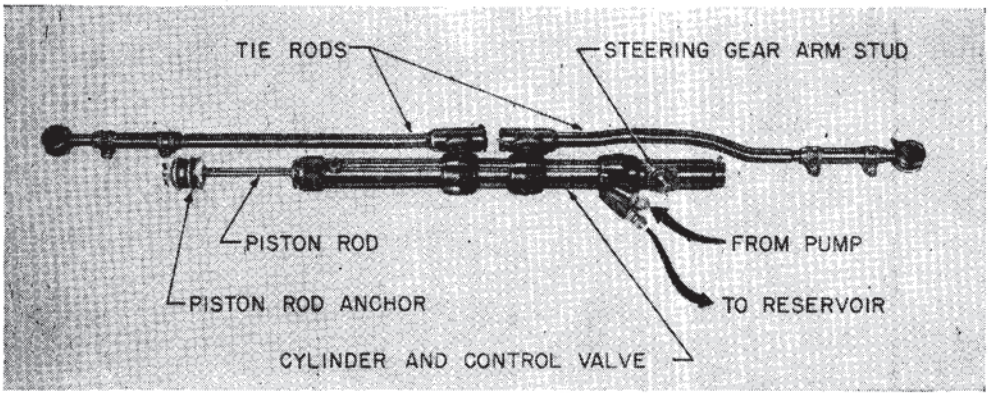
Rear Axle: Semi-floating, hypoid-gear. Ratio: standard, 3.73 to 1; with overdrive, 4.1 to 1; with Hy-Drive, 3.73 to 1. Special ratios 3.54 to 1, 3.90 to 1, 4.30 to 1.

Suspension: Coil front springs. Semi-elliptical leaf rear springs, two inches wide, five leaves. Oriflow shock absorbers, front and rear.

Wheels: Tread: front, 55⅞ inches; rear, 58½ inches. Tire size, 6.70 x 15.

Brakes: Four-wheel hydraulic, internal expansion. Drum diameter, 10 inches. Lining width, two inches, bonded lining.

Dimensions: Wheelbase, 114 inches. Over-all length, 193½ inches. Over-all width, 73½ inches. Over-all height (free) 63⅜ inches.



OPTIONAL on all models, Plymouth's power steering uses a power link to replace the drag link of conventional steering. The oil pump, attached to the generator, supplies the hydraulic pressure to move the cylinder right or left.

Pontiac Brings Out New Line

Star Chief series in the modern trend with longer wheelbase and higher horsepower

PONTIAC FOR 1954 INTRODUCES A NEW line of automobiles, the Star Chief series, and an improved and newly-styled line of Chieftains, which incorporate many engineering advances.

Four body types are offered in the Star Chief series—the Custom Catalina (two-door), Custom four-door sedan, Deluxe four-door sedan, and convertible. The Chieftain line includes a Custom Catalina, Deluxe Catalina, four-door sedan, and station wagon. The Chieftain Special series includes a four-door sedan, three-seat station wagon, and two-seat station wagon.

Keynotes of Pontiac advances for 1954 are greater length and higher horsepower, as exemplified in the Star Chief Custom Catalina.

Engineering Advancements

In stepping up the horsepower from 122 to 127 in the Hydra-Matic, eight-cylinder, 7.6:1-compression-ratio engine, Pontiac engineers adopted a new carburetor and intake manifold. In the new carburetor, the sectional area of the bore below each throttle valve is 20 per cent greater than formerly and the size of the mating orifices in the intake manifold have been enlarged to conform. This means less restriction to the airflow and improves the engine's volumetric efficiency, or breathing ability.

A new spark-plug-wire support and ignition-coil bracket has been added to the eight-cylinder engine to reduce the loss of electrical energy caused by grounding against adjacent metal. Each spark plug wire is separated and lifted further above the cylinder head than in previous designs, providing an estimated increase in available voltage at the combustion chamber of from 15 to 20 per cent. This will reduce spark plug service and improve engine performance, particularly in cars subject to low-speed driving in city traffic.

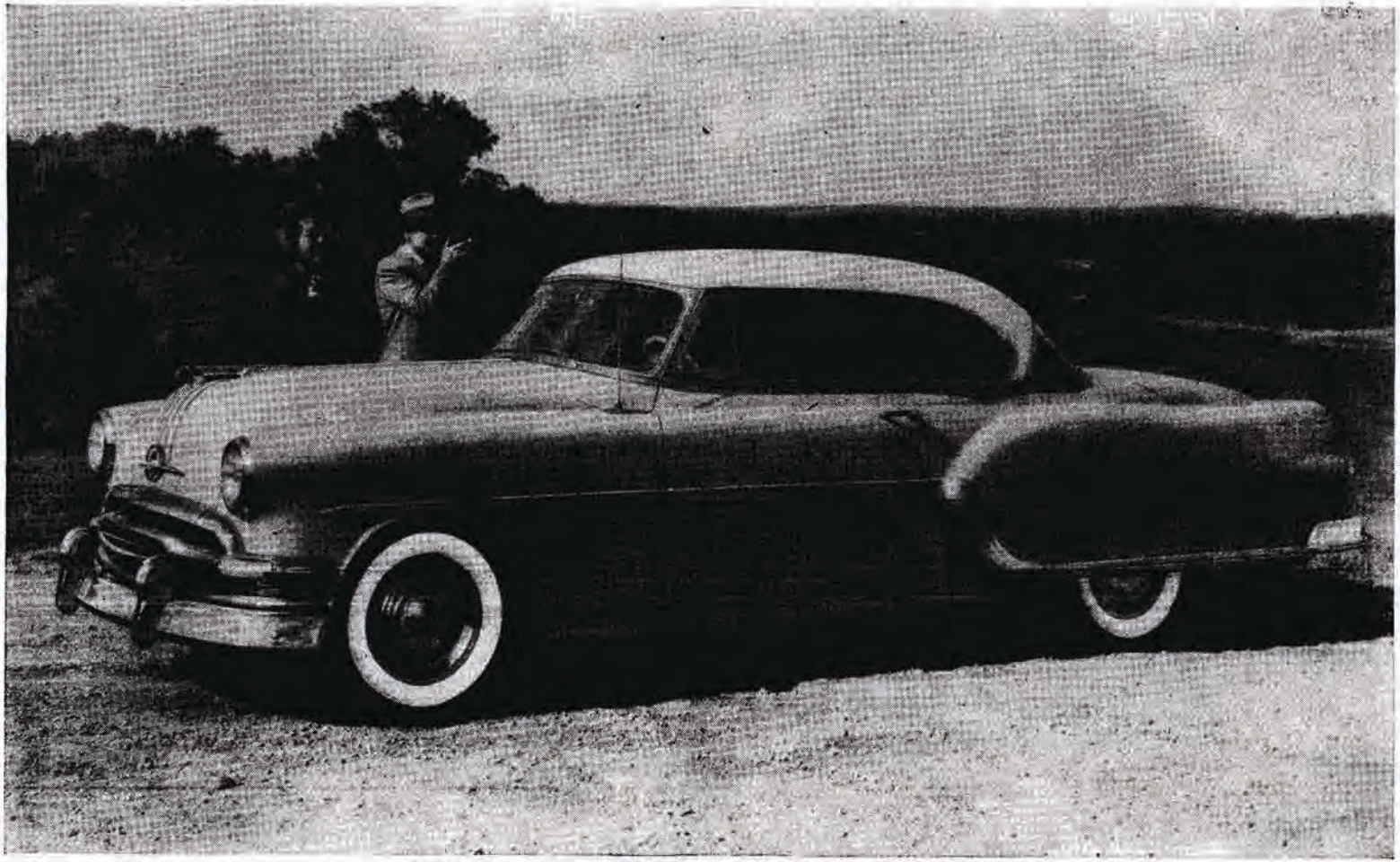
An improved current and voltage regulator has been added to both Pontiac six and eight-cylinder engines for 1954. In the new design, the speed booster, or series winding, has been eliminated, thereby improving voltage-control characteristics. Tests prove the change most advantageous during high-speed, hot-weather driving conditions, because the voltage is more effectively maintained at a prescribed limit. This means less likelihood of battery overcharge and makes it unnecessary to add water to the battery as often.

For improved performance of the six-cylinder engine, Pontiac engineers for 1954 have added a new distributor which will increase the service life of spark plugs and render the distributor less susceptible to the effects of moisture and dirt, the engineers say.

Improved performance has been accomplished by revision of the distributor cam-and-breaker-arm assembly to allow more time for build up of each electrical charge. This provides higher voltages and greater voltage reserve, which is particularly important when each spark plug, because of gap increase or carbon accumulation, requires more energy to fire than when new. These advantages are of the most value in high-speed driving and with premium fuel or high-compression engines.

An all-weather cap of greater diameter and greater height provides better protection against moisture and dirt. Openings to the atmosphere for breathing are now provided by means of raised platforms in the cap, which seat against the top of the housing. A series of barriers in this passageway, one of which has an external lip fitting around the periphery of the housing, serve to precipitate any dirt particles that may be in the entering air.

Doubled valve life in the 1954 six-cylinder engine is promised by engineers through the adoption of an aluminum dipping



213 inches of Star Chief Custom Catalina, ready for the roads.

process. By this process the head ends of the intake and exhaust valves are dipped in a molten aluminum bath under accurately controlled time and temperature conditions. A thin layer of aluminum adheres to the dipped surface and also combines with the steel. This makes the valve material more resistant to high temperatures as well as to operational stresses and greatly reduces failure due to pitting and burning.

The Star Chief series has a wheelbase of 124 inches as compared with 122 inches for the rest of the 1954 models. The rear springs on this series have been lengthened to 60 inches and an extra leaf has been added. The engineers claim the new spring suspension and the longer wheelbase—the rear wheels are moved back two inches—distribute the weight more evenly, front and rear, and provide smooth braking, optimum control, better durability, and structural stability.

Body mounts in the 1954 Pontiac are doubly insulated with a softer rubber than previously used and have been re-located for maximum reduction of vibration and noise. In this new insulator assembly, a portion of one insulator projects through a circular hole in the frame while its squared upper portion acts as a cushion between frame and body. A lower insulator fits around at the lock nut end and prevents metal-to-metal contact.

Through various tests, engineers have located as nearly as possible the natural vibrational frequency of the frame assembly and have placed body mounts at points which will dampen or smother this vibration. The result is ride improvement, plus a substantially reduced level of road noise.

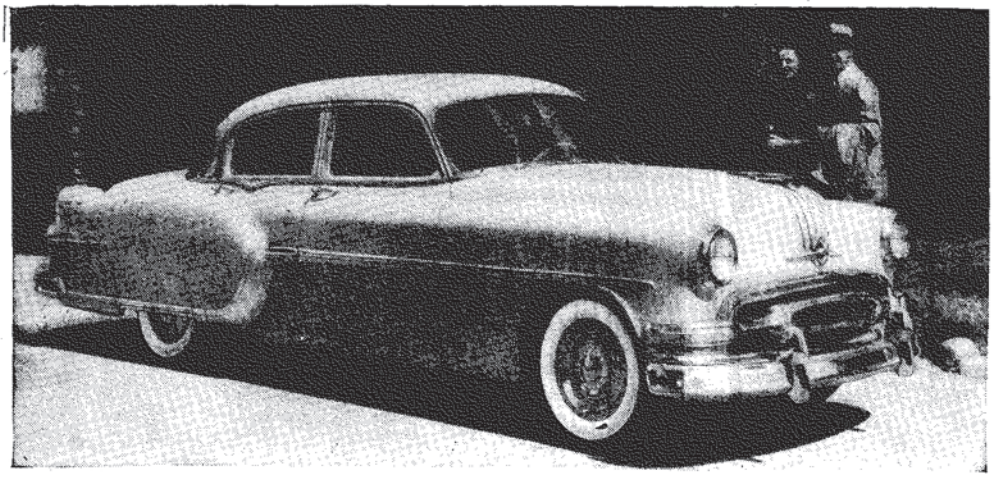
Styling Changes

The immediately noticeable exterior changes on 1954 Pontiacs include new paint colors, new radiator grille, new Silver Streak hallmark, new radiator nameplate, new hood ornament, new parking lamps, new Deluxe and Custom side moldings, new Special model fender nameplates, chrome gravel guards for Special models, new trunk-compartment handle and molding, new rear-fender identification markings, and new wheel-disc color treatment.

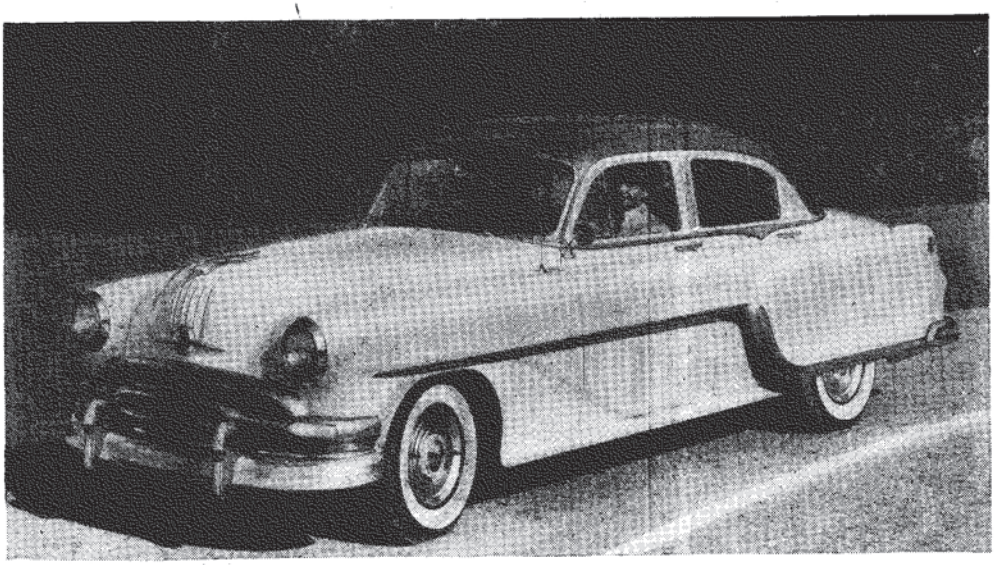
In addition, the Star Chief series features special rear-fender stars, a distinctive tail-lamp molding, and an individualized rear-deck handle and molding. All Custom models also wear the distinctive, decorative chrome plaque behind the rear windows and chrome moldings over the side windows.

For 1954, all-leather upholstery or leather-and-nylon combinations are available in the Star Chief Catalina and Chieftain Custom Catalina, while the leather-and-nylon combination is used on the Custom four-door sedan. There is a choice of three two-tone combinations to match the exclusive exterior colors of these cars.

Convertibles are upholstered in Morrokide, with two-tone color combinations to harmonize with the full range of solid exterior colors.



IN THE NEW LINE, the Star Chief Custom four-door sedan rides on a wheelbase of 124 inches. Note chrome plaque at rear windows and stars on fender fin.



THE CHIEFTAIN Deluxe four-door sedan shows exterior styling for 1954. It is available with the pepped up, eight-cylinder engine, Hydra-Matic transmission, air conditioning, power brakes, Comfort Control seats, electric window lifts.

A new seat adjustment mechanism is offered as a factory-installed accessory for 1954. By lever control in combination with body movement, the front seat may be tilted forward or backward a total of 15 degrees—7½ degrees in either direction. By the same control, the seat may be raised 1.5 inches. It is mechanically operated and does not use hydraulic or electric power. The advantages of such a seat, the engineers say, include added comfort, better vision, and easier driving. Control is by two levers at the left-hand side of the seat, positioned just ahead of and just behind the regular seat-control knob.

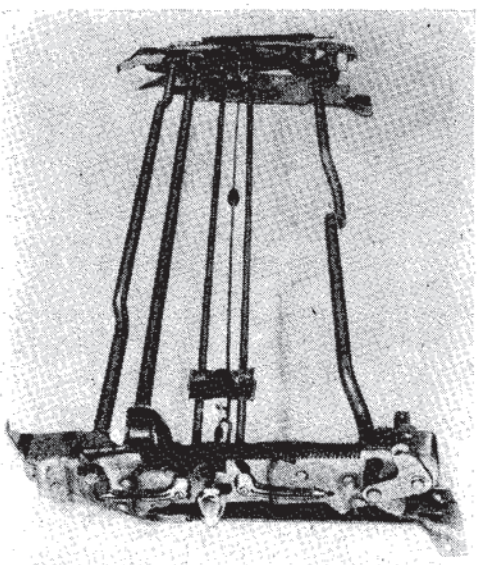
Another factory-installed accessory is an air-conditioning unit, which the Pontiac says is unlike any other in the industry. The unit will deliver cooled, outside air in a matter of minutes, giving the advantages of reduced air and traffic noise as well as reduced dust and pollen entry because a comfortable interior temperature can be maintained with windows closed even in the warmest weather.

Air Conditioning

All major components of the Pontiac air-conditioning system are located forward of the dash, with the cooled air entering the car through two adjustable nozzles mounted in ball sockets at each end of the instrument panel and through a valve outlet in the air-conditioning control board on the instrument panel.

The Pontiac unit includes refrigerant, compressor, condenser, liquid receiver, expansion-valve evaporator, and back-pressure valve. The refrigerant used is Freon 12, a non-toxic, nonflammable, practically odorless gas with a low boiling point.

The cooling cycle is as follows: Freon gas under pressure is drawn into the compressor—a reciprocating, two-cylinder, single-stage unit mounted on the right-hand corner of the cylinder block—which delivers it under high pressure and temperature to the condenser. Mounted in front of the radiator to take advantage of cooling air from the engine fan or car motion, the condenser cools the gas as it travels from the top of the core to the bottom, where the gas emerges as a liquid under high pressure. This liquid then passes into the receiver, which acts as a reservoir, and from there to the thermostatic expansion valve, which is governed by the action of a temperature-sensitive control. As the Freon leaves the expansion valve, it enters the evaporator located under the top surface of the right fender. Passage of warm air over the evaporator causes the liquid Freon to boil and return to a gaseous state. During this change, the Freon absorbs heat from the air passing through the evaporator, thus cooling it for delivery into the car.



COMFORT-CONTROL seat, as found in the Pontiac, has this mechanism, which, they say, permits 360 positions.

Installation of the unit on Pontiac eight-cylinder engines includes also a fast-idle mechanism (which operates when the gear shift or selector lever is in neutral) to allow the cooling system to operate at greater capacity when the car is parked for short periods. Other engine modifications include a six-bladed, instead of four-bladed, fan, heavy-duty combination fuel-and-vacuum pump, 130-ampere-hour battery, and heavy-duty 50-ampere generator and regulator.

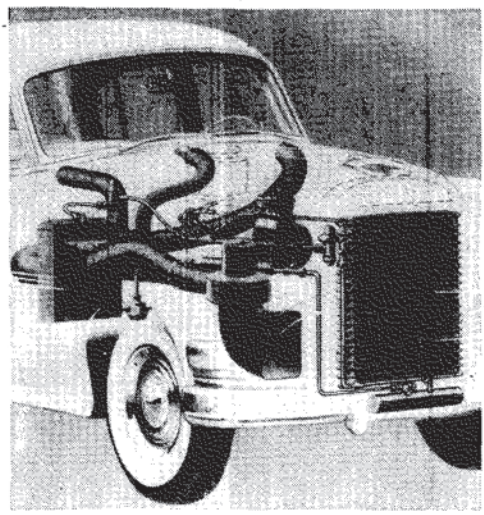
Pontiac's Power Brakes

Optional on the '54 Pontiac are power brakes; a self-contained hydraulic type that uses the engine intake-manifold vacuum and atmospheric pressure for its power. There are three basic elements: (1) a vacuum power cylinder, consisting of a cylinder, vacuum power piston, and return spring; (2) a hydraulic master cylinder, which contains a hydraulic plunger, a compensating valve, a residual check valve, and a fluid reservoir; and (3) a mechanically actuated control valve, consisting of a valve push rod, a slide valve, a slide-valve return spring, a reaction diaphragm, and a counter-reaction spring. The latter controls the degree of brake application or release in accordance with the foot pressure on the brake pedal, which is mounted from the steering post.

With power braking, only toe-tip pressure is needed, the foot pivoting on the heel from the accelerator pedal to the brake. It reduces fatigue, decreases driver reaction time, and makes for quicker, safer stops. In the event of failure in the vacuum power system, a vacuum reserve tank provides braking power and brakes can still be applied through greater pressure on the pedal.

Power-driven, push button-controlled, front-door window lifts are also optional. The power for the movement of each window comes from a direct-current, reversible electric motor mounted inside each front door. Two toggle switches for operating each front window are located on the driver's door, and a single switch is also on the right door for the right front window.

Rounding out the accessory line for the 1954 Pontiacs are a number of other items, including an instrument-panel safety cushion of resilient fiberglas covered with color-keyed Morrokide, improved Safety Power Steering, a new lighted Indian-head hood ornament, Arctic windshield wiper blades, door edge guards, door handle guards, and a wide brake-pedal pad for cars equipped with either Hydra-Matic or conventional brakes.



XRAY VIEW of Pontiac's air conditioning system, factory-installed on eight-cylinder engines. The compressor is on the top right-hand corner of the cylinder block, the condenser just behind the grille, the evaporator under the right fender. Cooled air and incoming uncooled air can be mixed at the instrument panel.

SPECIFICATIONS

Engine: *Chieftain Six:* in-line, six cylinder, L-head. Bore, 3 9/16 in.; stroke, 4 in. . Piston displacement, 239.2 cu. in. Compression ratio: with synchromesh transmission, 7.0 to 1; with Hydra-Matic, 7.7 to 1. Horsepower: with synchromesh, 115 at 3800 RPM; with Hydra-matic, 118 at 3800 RPM. Torque: with synchromesh, 193 foot-pounds at 2000 RPM; with Hydra-Matic, 197 at 2000 RPM. *Chieftain Eight* and *Star Chief:* in-line, eight cylinder, L-head engine. Bore, 3⅜ in.; stroke, 3¾ in. Piston displacement, 268.4 cu. in. Compression ratio: with synchromesh transmission, 6.8 to 1; with Hydra-Matic transmission, 7.7 to 1. Horsepower: with synchromesh, 122 at 3600 RPM; with Hydra-Matic, 127 at 3600 RPM. Torque: with synchromesh, 226 foot pounds at 2200 RPM; with Hydra-Matic, 234 at 2200 RPM.

Lubrication: Pressure to main bearings, connecting rods, piston pins, camshaft bearings. Splash to tappets and cylinder walls. Metered jet to timing gear. Crankcase capacity, 5 quarts. Pump pressure, 35 to 40 pounds above 40 MPH. Precipitation-type oil cleaner, full flow.

Fuel: Capacity, 20 gallons. Downdraft dual carburetor. Automatic manifold heat control. Integral automatic choke. Vertical, oil, crimped copper air cleaner, standard; heavy duty oil-bath cleaner, optional.

Cooling: Six-cylinder engine has capacity of 18.3 quarts without heater, 20.1 with heater. Eight-cylinder engine holds 18.8 quarts without heater and 20.6 with. Cellular type of radiator. Pressure system, 6¼ to 7½ pounds. Internal by-pass thermostat opens at 151 degrees in the 6-cylinder engine and at 160 degrees in the 8-cylinder.

Electrical: Six-volt battery, 15 plates per cell. Generator output, 45 amperes. Starter cranking speed: 121 RPM for six cylinder, 118 RPM for eight.

Power Train: Conventional transmission has ratios of 2.66 to 1 in first, 1.66 to 1 in second, 1.00 to 1 in third, 3.02 to 1 in reverse. Hydra-Matic transmission, optional on all models. Hydra-Matic ratios: 3.82 to 1 in first, 2.63 to 1 in second, 1.45 to 1 in third, 1.00 to 1 in fourth, 4.30 to 1 in reverse. Hydra-Matic has fluid coupling with planetary gears. Drive shaft is of the exposed type. *Rear axle ratios:* six-cylinder engine, 4.1 to 1 with conventional transmission, 3.077 to 1 with Hydra-Matic; eight-cylinder engine, 3.9 to 1 with conventional transmission, 3.231 with Hydra-Matic.

Brakes: Four-wheel, duo-servo, hydraulic. Power brakes, optional. Effective braking area, 171 square inches. Parking brake operates on rear service brakes.

Suspension: Front: independent, lateral control with coil springs. Rear: semi-elliptic leaf springs. Direct-type shock absorbers front and rear.

Steering: Mechanical steering has 25.1 to 1 ratio. Power steering, optional on all models; hydraulic type; ratio, 23.3 to 1. Turning diameter (wall to wall): Chieftain Six and Eight, 43 feet 6 inches, left; 43 feet 2 inches, right; Star Chief, 45 feet, left; 45 feet 2 inches, right.

Dimensions: *Chieftains:* Wheelbase 122 inches. Over-all length, 202.66 inches. Over-all width, 76.64 inches. Over-all height, 63.24 inches. *Star Chief:* Wheelbase, 124 inches. Over-all length, 213.66 inches. Over-all width, 76.64 inches. Over-all height, 63.24 inches.