

# REMEMBER THE AIRFLOW?

*29 years ago this "radical" DeSoto was the talk of the town*

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**E**ARLY IN JANUARY 1934, 2-page magazine advertisements were heralding the advent of the Airflow DeSoto. Not unlike prior promotions in automotive history, America for months had been reading and hearing amazing stories about a "new kind" of automobile. The car finally made its appearance at the New York Automobile Show, held later that January. Although the DeSoto Airflow was the pilot model, its unusual characteristics were to be found in the Chrysler Airflow model, soon to follow.

However, the story actually began in 1927, when engineer Carl Breer started a study of aerodynamics in relation to automobile body design. Subsequently, DeSoto engineers proved through wind tunnel testing that the contemporary automotive design was very inefficient—very resistant to the air through which it moved.

The manufacture of DeSoto automobiles had begun in 1928 and during the next five years DeSoto continued to sell conventional cars in the post-Depression fashion. But American car production had been reduced from a peak of 4,794,898 cars in 1929 to a low of 1,186,185 in 1932. So this 75% reduction in car manufacture during the early Depression years was obviously not the time to be introducing a

radically new design. So, the Airflow DeSoto stayed on the drawing board.

In the interim, DeSoto engineers decided that the Airflow had to be more than just aerodynamically sound. They wanted to completely sever any psychological connection between it and the horseless carriage. It had to be popularly priced, run economically, comfortably, and be safe to ride in at speeds in excess of 80 mph. A composite of these prerequisites was hardly to be found anywhere among the other cars of that day.

From the standpoint of comfort, the Airflow was unexcelled. Passengers rode in the middle of the car, that is to say, between the front and rear axles. Conventional handstraps were not needed, as the thickly cushioned upholstery and low center of gravity all contributed to a smooth ride. Doors were unusually large for a 4-door, being 30.75 in. in width. The engine was rubber mounted, dynamically balanced, and sported a combination air cleaner and silencer atop the downdraft carburetor. A rubber-mounted impulse neutralizer was affixed to the front end of the counter-balanced crankshaft. The transmission was of the constant-mesh type and used silent helical gears throughout.

The 52.5-in. long rear and the 43.5-in. long front leaf springs, together with a kick shackles (shock reducer),

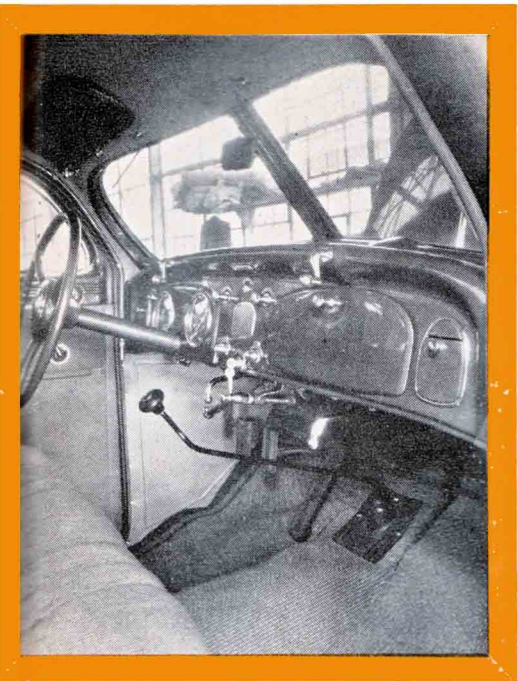
added to riding comfort. Metal spring covers were standard equipment. Pedals were even mounted on the frame to prevent or minimize the transmission of engine vibrations.

Brake drums were 11 in. in diameter and the shoes had over 177 sq. in. of braking surface, exceeding in both respects most of their modern equivalents. Drums were of the "Centrifuse" type—steel shells with cast iron braking surface—introduced to the industry only a few years earlier.

To reduce unsprung weight, the front axle was of seamless tubular design. The diameter of the axle, however, suggests that it more properly belonged on a truck.

The Airflow, with regard to safety, was virtually matchless. It helped institute the modern concept of unitized construction. The frame and body formed one structural steel unit extending the entire length of the car. Quoting from the Airflow Body Service Manual, "The Airflow body is of all-steel unit construction, fabricated from steel panels and pressed steel rails, channels and braces welded and riveted into one solid, rigid structure of incomparable strength and durability." The wide-angle windshield was said to increase driver visibility by 25%. Safety plate (DuPlate) glass was standard in the windshield and ventilating wings, but was optional





throughout at slight additional cost.

The DeSoto Airflow, introduced in 1934 along with the Chrysler version, was built to last. The body and fender metal was of such unusually heavy gauge steel that some owners said the car was built like a tank. The DeSoto fenders and sheet metal parts were "Bonderized" and bodies were rust-proofed by a similar process known as "Parkoliting." The only appreciable evidence of rusting on the author's car is on the channel which clamps the headlamp lens to the reflector—apparently an oversight on the part of the company.

Numerous innovations were to be found on the Airflow. All models were equipped with a radio antenna in the roof. Controls were placed in the instrument panel, whereas provision for the radio chassis was made under the floorboards, near the battery. The cellular radiator was a rugged 4 in. thick, with a large frontal cooling area. It was of the cross-flow type, having its expansion tank remotely located on the left side of the engine compartment. Distribution headers were placed on either side of the radiator instead of in the conventional positions. A tool kit was installed in each new car and was carried in the right side of the engine compartment.

Ventilation was provided by the crank-operated divided windshield, as well as by the twin cowl ventilators. A unique system was devised for opening the front door windows. A large crank operated the window proper while a small one actuated the window vents. Each could be operated indi-

vidually, but a locking device was provided which allowed the large crank to lower the whole assembly as a unit. As a result, a passenger had a choice of using or removing the window vents. Finally, as if more ventilation was needed, the 4-door sedans sported swing-out type, rear quarter windows.

The lighting system also was rather unusual. The 1934 DeSoto Airflow used what was then called an "asymmetrical passing beam." This meant that the left headlamp beam was lowered while the right one remained on bright. A switch on the dashboard could lower both headlamps if desired. As they were of 32 and 21 candlepower, this combination of requirements predicated the 2300 series of headlamp bulbs. This specially indexed series of bulbs caused a great deal of confusion among the people required to stock and use them.

Styles were changing from the conventional bolt-on trunk to the familiar built-in version. The DeSoto Airflow sported a 1934 version of the modern "Continental" kit and, by necessity, had an inside luggage compartment located behind the rear seat. Access to it was obtained by raising the hinged rear-seat back. This cushion was lockable in its upright position. The leatherette-lined compartment was illuminated by a small light which was wired in parallel with the dome light.

An airplane type (dial) speedometer, prominently positioned on the

dashboard, was brought back into vogue with the Airflow.

DeSoto made only the Airflow series in 1934, but a more conventional "Airstream" model was included in 1935 and 1936. It is unnecessary to expound at length regarding the Airflow's exterior design. The car looked like an overgrown Volkswagen—with a front-mounted engine and, as might be imagined, the Airflow-shaped hood left little space inside for the engine and accessories. Even the radiator had to be contoured to fit. Rear fender skirts came as standard equipment and were a full half circle in shape.

Besides the conventionally chromed parts, the front seat frame was of tubular design and had approximately 20 linear feet of exposed chrome tubing, including a chromed robe rail.

The 1934 DeSoto Airflow was available in four different body styles or models. Each cost \$995 at the factory in Detroit. One could purchase a 4-door 6-passenger sedan, a 4-door 6-passenger Town Sedan, a 2-door 6-passenger Brougham, or a 3-passenger coupe with enclosed rumble seats.

The Airflow, with all of its merits, was poorly received by the buying public, meeting with overwhelming consumer apathy. At the time of the Airflow's demise DeSoto and Chrysler reverted to a styling more commensurate with public demand, but today, twenty-five years later, people still occasionally speculate on the Airflow and its effect on car styling. ■

TECHNICAL SPECIFICATIONS			
1934 DeSoto Airflow			
Engine	DeSoto, L-head, floating power, 4 main bearings, integral counterweights, 4 camshaft bearings, water cooled	Front suspension	10 leaves, 43.5 x 2 in., left front has kick shackle or shock eliminator
Cylinders	6, in-line	Rear suspension	9 leaves, 52.5 x 1.75 in.
Firing order	1-5-3-6-2-4	Tread, in.	Front, 57, rear 56.25
Bore & stroke, in.	3.375 x 4.50	Wheels	5 steel spoke or disc wheels as standard equipment, 650-16 Airwheel tires 26 psi inflation
Displacement, cu. in.	241.5	Ground clearance	Front axle 7.5 in., rear axle 8.5 in.
Cylinder head	Aluminum as standard	Carburetor	Carter (B&B) down-draft, 1.5-in. throat, Sisson automatic electric magnetic choke
Cylinder block	Gray iron with cylinder walls brought to mirror-like finish	Crankcase capacity	6 qt., 35 psi oil pressure at 30 mph
Pistons	Aluminum alloy, T-slot, cam ground, 4 rings	Cooling system	5 gal., cross-flow, cellular type
Compression ratio	6.2:1 with standard aluminum head, 105 psi pressure at cranking speed, 130 psi at 1000 rpm	Fuel capacity, gal.	16
Spark plugs, mm.	14	Transmission	2.75 pt., constant mesh type, silent helical gears throughout
Taxable hp NACC (SAE) rating	27.34	Battery	Willard, 3-cell, 17-plate, 155 amp. hr., 6 volts
Developed bhp	100 @ 3400 rpm with std. alum. head	Brakes	Centrifuge type, steel shell with cast iron braking surface, 11-in. diameter, Lock-head, double anchor
Max. torque	185 ft.-lb. @ 1200 rpm	Shock absorbers	Hydraulic, front & rear
Axle ratio	4.12:1	Starter	Positive-shift type
Wheelbase, in.	115.5	Clutch	Borg & Beck, Model 10A3, single plate, dry disc
Length	196	Steering	Gemmer, worm and roller
Width	70.25 max.		
Height	68		
Gear Ratios	Low 2.81:1, Second 1.55:1, High 1:1, Reverse 3.61:1		
Frame	Integral with body, i.e., unitized construction		