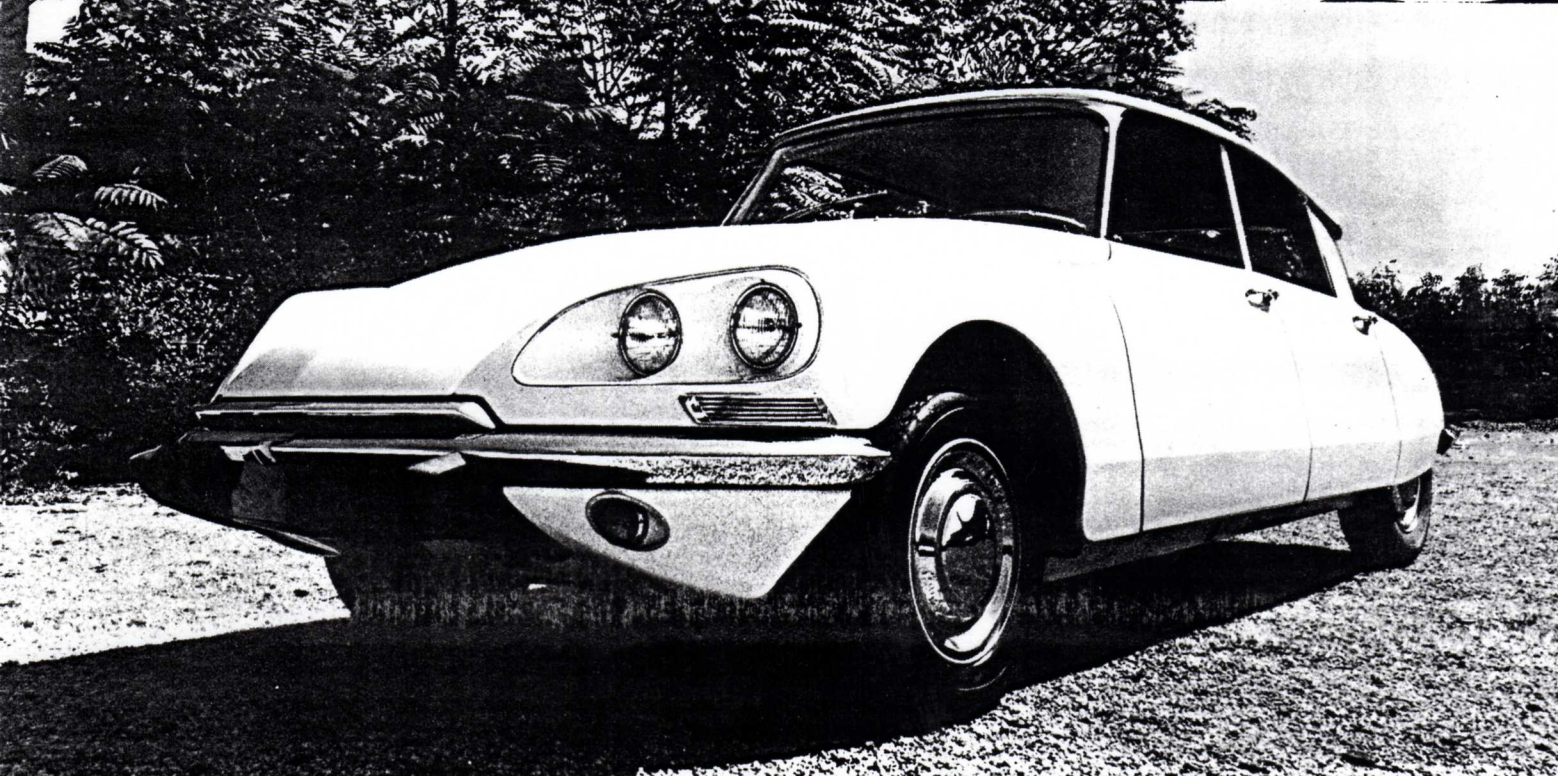


# CITROËN '69





FABULOUSLY  
FRENCH....

## CITROËN

**Everybody scoffs until he drives the Citroën DS 21  
an engineering marvel delightful to drive.**

If you stop and think for a moment there is really no reason why a car has to have a lot of sheet metal overhanging either the front or the rear. That is, if you make the front wheels pull rather than making the rear wheels push.

Of course if you stick the wheels

out at the four corners where they belong you are going to wind up with a funny looking car. But only funny looking because it is different from what people are accustomed to seeing.

The problem only seems to be a problem in the United States where, contrary to claims of enlightenment, live the most traditional and Victo-

rian people outside of Australia.

Oddly enough the French don't seem to care. The basic shape of today's Citroën is little changed from the time it was introduced in 1955. The design made a great deal of sense to the pre-De Gaulle Frenchman and it makes a great deal of sense to us today.

We mentioned the wheels. Out there at the corners they contribute a degree of stability unparalleled except in expensive sports cars. The shape, while strange to the eye of the traditionalist, is aerodynamically so sound that a small engine is able to propel the Citroën DS 21 at speeds in excess of 100 mph while delivering 30 mpg economy. The smooth snout is uninterrupted by a bulky radiator grille. Any aircraft or automotive engineer will happily tell you what frontal air resistance costs in terms of horsepower. No, cooling air is ducted from beneath the front, scooped up under pressure and the payoff is at

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**Citroen suspension raising and lowering system is unique in automotive application. No troublesome or unsafe jacking is required. Car lowers itself onto jack to raise wheels.**

the service stations you don't have to patronize. Underneath there's a full length belly pan which also helps reduce drag and increase economy.

Does all this begin to sound like it is not such a funny car after all? Wait, there's more. The top; it is contoured to add its bit to the reduction of wind drag and turbulence. The sides are aerodynamically designed with lines converging to the rear where the fully skirted fenders add their bit to the overall slippery shape. So, who needs fins, styling gimmicks, tacked on chrome? Here's a distinctive car with *functional* styling and it is certainly different enough to attract attention. So why aren't a lot more of them sold? We'll get to that later.

#### **Drive train**

Power for the Citroen DS 21 (the DS stands for Deesse and means goddess, the 21 is for the displacement at 2175 cc or 132.7 cu. in.) comes from an in-line four cylinder engine with hemispherical combustion chambers in the aluminum alloy head. The unit is slightly over-square at 3.543 and 3.366 in. bore and stroke. Compression ratio is a mild 8.75:1 which means the DS 21 can get along very nicely on regular gas. SAE horsepower is 109 at 5500 rpm and maximum torque is 128 lb/ft at 3000-3500 rpm. Electrics are 12V with negative ground and a 35 ampere alternator supplies juice to the 55 ampere-hour battery.

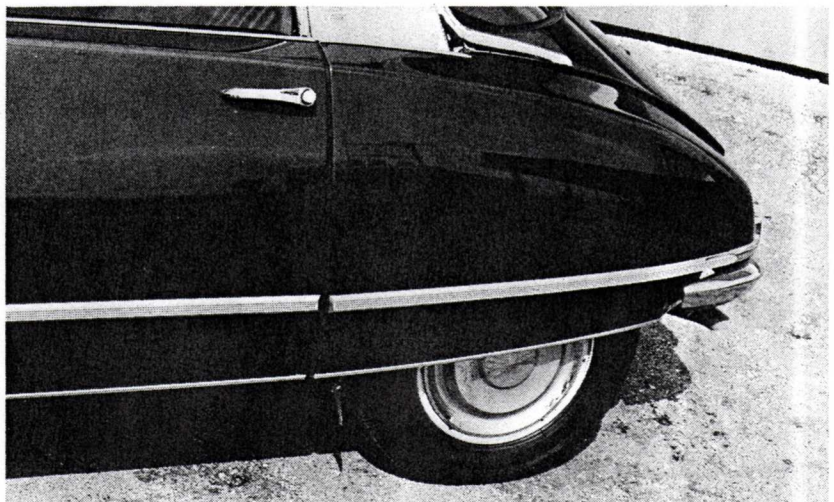
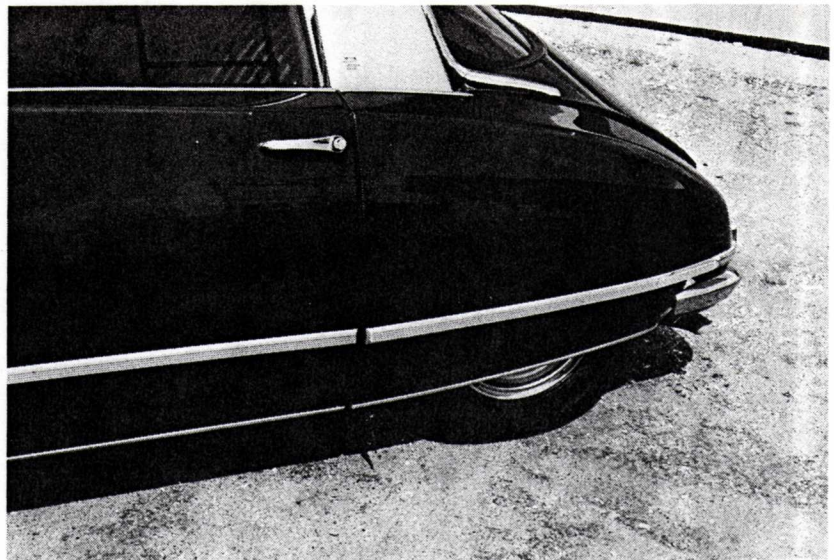
Fuel is supplied to the engine through a Weber 2-V 28 x 36 DDE carburetor.

Power is taken to the transmission through an incredibly fast hydraulic dry plate clutch which is entirely automatic. There is no clutch pedal although gear changing is manual. The transmission is out front ahead of the driving wheels while the engine is behind the center line of the wheels.

An entire article could be written about the unusual features of the engine and transmission. For the me-

chanically oriented, the powerplant is of the wet sleeve type and one of the few in which a piston may be changed *from the top*. There is no transmission in current use that is comparable to the Citroen four-speed. Shifts are in the conventional manner, that is,

in changing up it is necessary to lift off the throttle momentarily to avoid over-revving, however, there is an easy adjustment that makes each shift drag-strip-quick for the performance oriented driver. There is no tachometer but the speedo has bright





**Combination of front wheel drive, hydropneumatic suspension and radial-ply tires gives Citroën fantastic cornering stability.**

**Braking of the DS 21 is faultless. Inboard disc brakes at front with proportioning valve provide straight line stops time after time.**

red dots to indicate maximum speeds in each gear. First gear is a short one with a ratio of 3.25:1, second is a long throw to 1.83:1, third is 1.59:1 and fourth is really an overdrive at 0.85:1. Final drive is 4.375:1. The combination makes for great flexibility.

### **Power and performance**

A car for long distance cruising or for daily transport to and from the office the DS 21 most certainly is. A drag racer it is not. At Orange County International Raceway we left the adjustable clutch and transmission cam set in its best street position. As a result our quarter mile e.t.'s were hardly spectacular. The best run was made in 20.11 sec. with a terminal speed through the traps of 70.86 mph. Had we adjusted the shifting, both the e.t. and the speed would have improved markedly.

For day-to-day use the leisurely shifting works just fine for the average driver since the faster gear changing requires more skillful use of the throttle. For passing there is ample power and acceleration on tap by merely dropping down a gear. The small Citroën engine, stressed like a sports car, should never be lugged and responds happily to fairly high revs.

Although we had no opportunity to check absolute top speed we have no reason to doubt the factory claim of 115 mph.

### **Brakes and safety**

The Citroën DS 21 so abounds in safety features that a special brochure has been prepared listing 50



major safety items. What is astonishing is that the majority of these life saving features were designed into the car prior to its introduction in 1955. Citroën required no urging from a government source to build an automobile which would do its utmost to protect its occupants.

Brakes are inboard-mounted discs at the front and drums at the rear. The front discs have been standard since the car's inception as has the proportioning system which prevents rear wheel lock-up under the most severe of panic stops. We unsuccessfully attempted to lock up the DS 21 wheels for photography but got arrow straight, undramatic stops every time. Braking distance is on a par with the Rover which, with its four wheel discs, stops in the 30 ft. per sec<sup>2</sup> area from 60 mph. Standard tires are Michelin, X AS 180 x 380, which do their bit to assist braking.

The brake 'pedal' is a conical button about the diameter of a hockey puck. It is so responsive that early advertising recommended driving

with a bare right foot. An exaggeration, but the feel is just right with none of the abrupt take-over so often felt with power assisted binders. A unique feature of the brake system is a warning signal that lights up on the dash when pads are worn to the point of replacement.

In connection with braking there is a safety reminder built into each Citroën speedometer. It shows stopping distance in feet including average reaction time.

Citroëns purchased in Europe for use in Europe have fantastic lighting. Headlights that turn and illuminate the corner you are rounding plus quartz-iodine driving lights. These are aided by a headlight leveling device which keeps the lights level regardless of load, deceleration or acceleration. All are illegal in the U.S. This is safety legislation?

The Citroën spare wheel and tire are mounted in front of the transmission and engine, in the bow where they absorb much of the impact in the event of a head-on collision.

