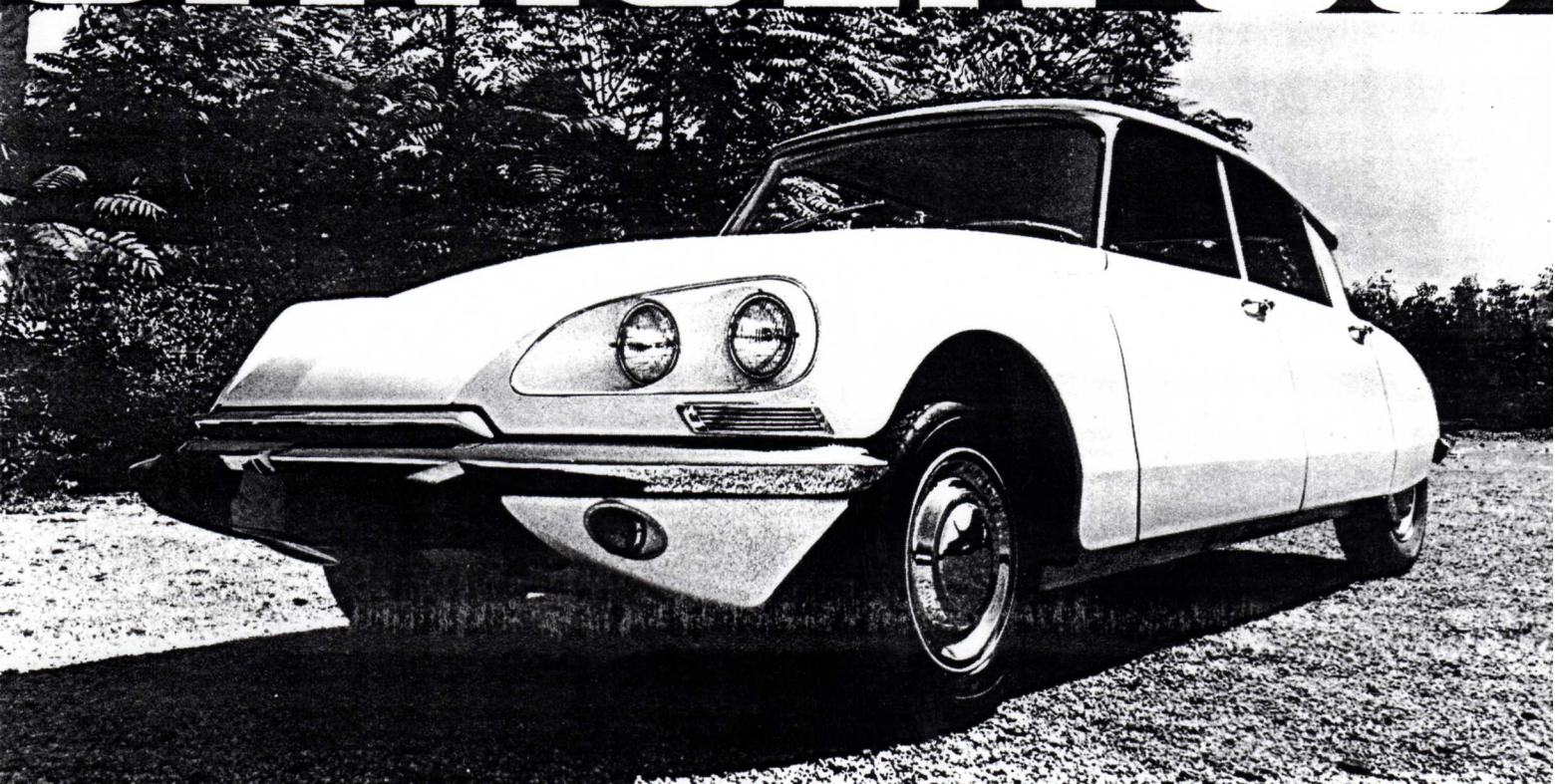


# CITROËN'69







**FABULOUSLY  
FRENCH....**

**CITROEN**

***Everybody scoffs until he drives the Citroen 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 Citroen 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 Citroen 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 oversquare 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.

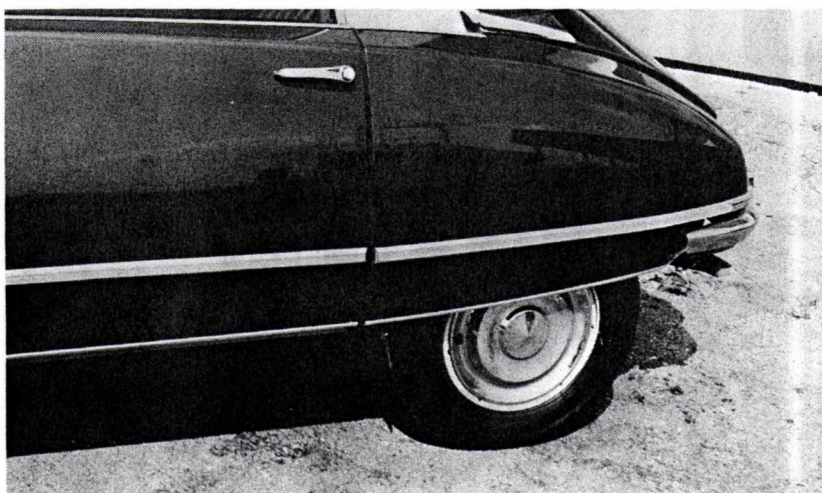
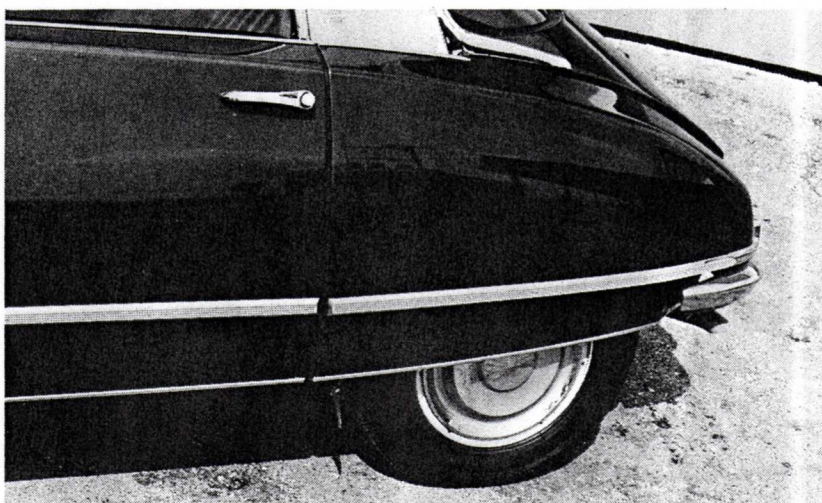
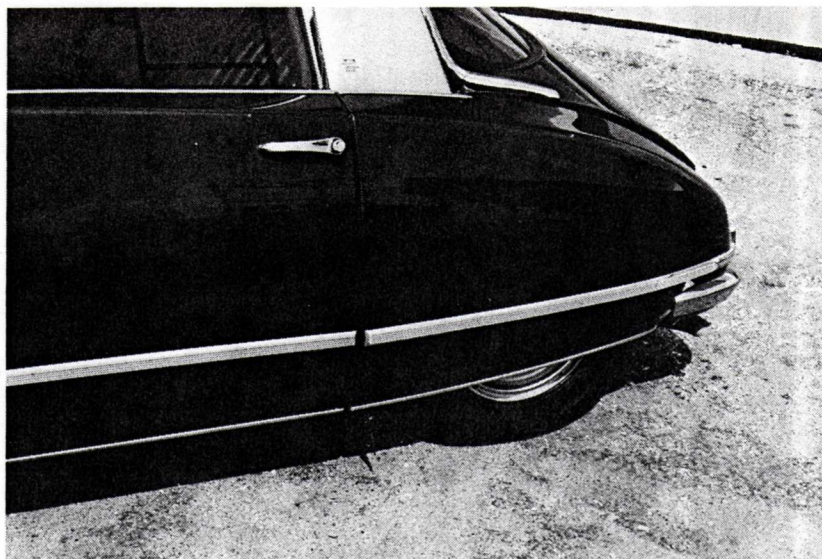
Fuel is supplied to the engine through a Weber 2-V 28 x 36 DDE carburetor.

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. As 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

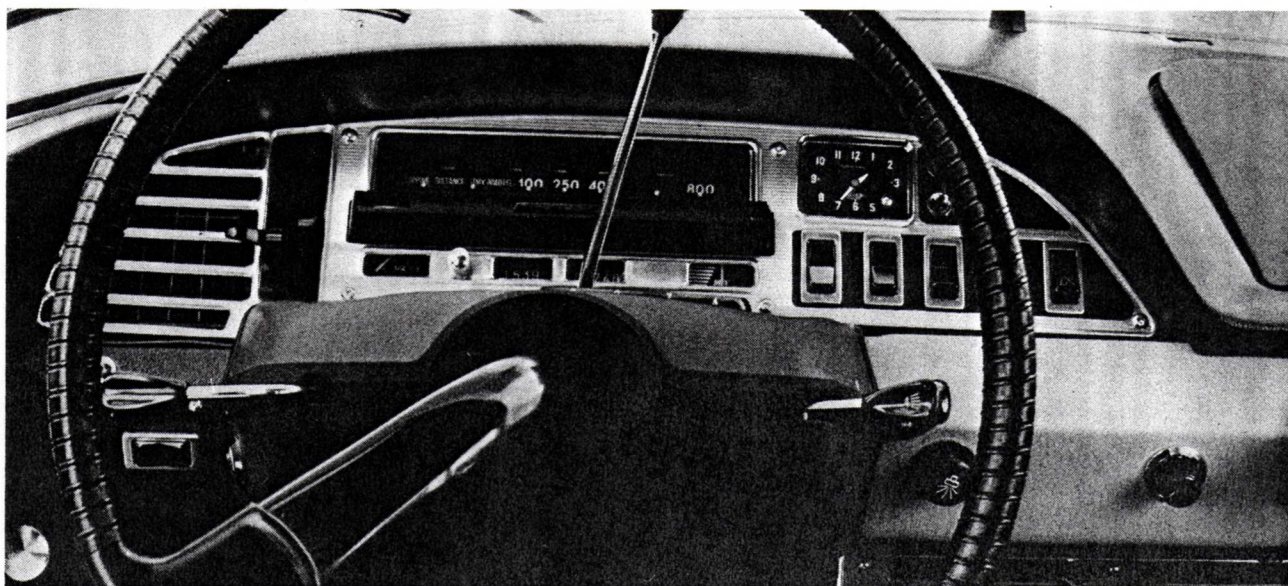
with a bare right foot. An exaggeration, but the feel is just right with none of the abrupt take-over so often felt with power assisted binders. A unique feature of the brake system is a warning signal that lights up on the dash when pads are worn to the point of replacement.

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.





**Instrument cluster is well placed, directly in driver's line of vision. Novel feature on speedometer is scale of stopping distances.**

In the rear the gas tank is not located in such a position to receive impact during a rear-end collision. Instead it is mounted forward of the wheels under the rear passenger seat. The trunk is deep and located between the wheels and chassis members. Its sides offer controlled rate crushability in cases of impact.

These are a few of the safety highlights. There are more. Starting with a clean sheet of paper, Citroën set out to build a vehicle with heavy emphasis on safety.

### **Comfort and convenience**

It has been said elsewhere but we'll say it again. The French are pragmatists when it comes to pampering their bodies. The Citroën DS 21 is built by and for men who are a bit sybaritic about creature comfort.

Seats are armchair soft. One's first impression is that they are *too* soft. This impression quickly passes when you realize what excellent lateral and thigh support the car gives.

The sloping hood out front, the panoramic windshield and the huge backlight all make for unrestricted visibility in all directions.

Instruments and controls are all grouped directly in front of the driver. There is a horizontal speed-



**Button that looks like a headlight beam switch is the Citroën brake pedal. Parking brake release is a little awkward in use.**

ometer with moving needle. A resettable trip odometer is incorporated. Fuel and temperature complete the gauge array. There are the usual warning lights for the balance of functions. The horn is actuated by inward pressure on the right-hand steering column stalk. Rotating the stalk turns on the headlights.

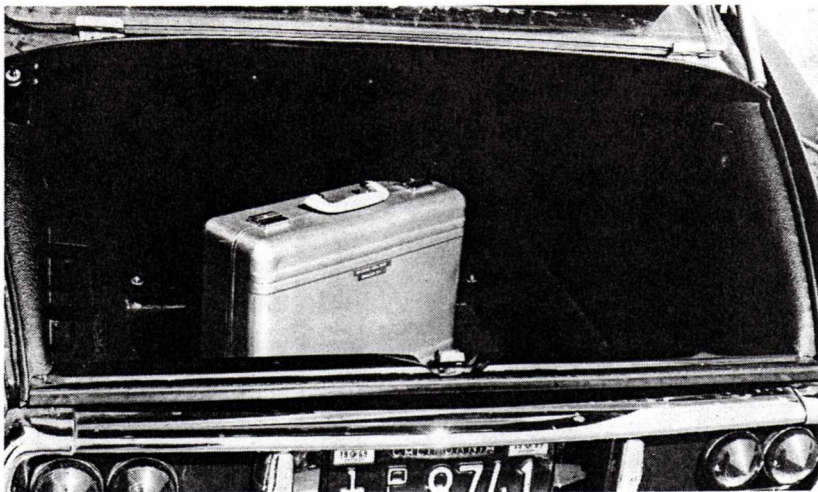
On the left of the steering column is the turn indicator stalk. This device is *not* self-cancelling, a source of annoyance to U.S. drivers. Neither does it cancel when you have signalled a turn into your driveway and turned off the ignition. Unlike U.S. cars, the Citroën turn signals are wired into the 4-way flasher circuit which operates with the ignition off.

Citroën front seat backs are fully

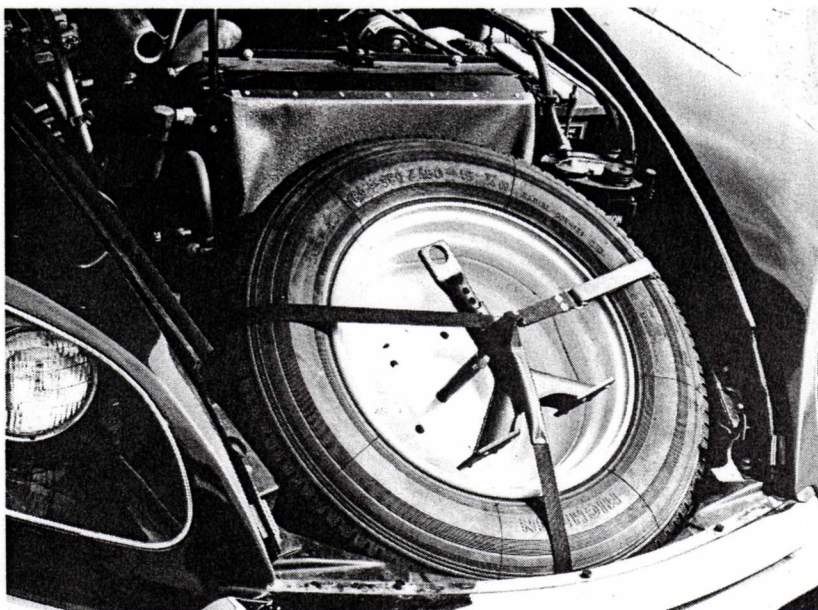
reclining and the seats themselves are adjustable for height as well as for distance fore and aft.

Probably the most discussed convenience feature of the Citroën is its unique suspension height adjustment which, in addition to making provision for rough and rutted roads allows the owner to change a wheel without manual jacking. There is a lever to the driver's lower left which permits variations in ground clearance from 2-9/16 in. to 9-7/8 in. Automated jacking is accomplished by raising the suspension to its maximum height, inserting the jackstand in its socket, then lowering the car to





**Citroen trunk is located between the rear chassis members. Deep recess permits upright stowage of several suitcases.**



**Spare, located ahead of engine, provides one of Citroen's many safety features. Cooling air for engine comes from beneath.**

its minimum height. The wheels on that side just have to come off the ground.

Ventilation and heating are controlled by face level ducts at the dash and in the foot wells. There is a single speed fan with switch on the dash to speed the flow of warm or cool air.

One minor item of inconvenience is the operation of the parking brake release. The U.S. driver is accustomed to a simple pull. The Citroen release must be pulled *and* pressed downward.

The electric clock on the Citroen dash is a precision timepiece. During our test period of about a week it neither gained nor lost a second. An extra cost option is the electrically heated rear window for defogging or for use in snow.

### **Economy**

The slippery shape and full belly pan of the Citroen DS 21 enable its small (132.7 cu. in.) engine to move the car briskly while delivering excellent fuel economy. The factory modestly claims 25 to 27 mpg as an average. During our test period we only achieved 23 mpg but this included a full day at the dragstrip with repeated acceleration and braking

runs. The Citroen dealer network, while not extensive, is growing, and dealer service departments bend over backward to give customers every possible consideration.

### **Summary**

If being inconspicuous and ultra conservative is your bag the Citroen is not for you. At traffic signals as the DS 21 levels itself after deceleration you are the object of open mouthed disbelief. If, on the other hand, you are genuinely concerned about safety, economy and engineering excellence combined with a rare degree of comfort we suggest you pay a visit to your friendly Citroen dealer.

The Citroen DS 21 may not be a goddess to the eye of every beholder but it has the charm of the ugly duckling with heart of gold. It most certainly is not a look-alike but by golly it sure makes sense. ♠

## **Citroen DS 21**

### **Data in Brief**

#### **DIMENSIONS**

Overall length (in.)	190.5
Wheelbase (in.)	123.0
Width (in.)	70.5
Height (in. normal)	57.9
Ground clearance (in. max/min)	9.9/2.5
Tread (front/rear in.)	59/51.3
Trunk capacity (cu. ft.)	17.5
Fuel tank capacity (gal.)	17.0

#### **ENGINE**

Type	water cooled in-line 4
Displacement (cu. in.)	132.7
Bore and stroke (in.)	3.543/3.366
Horsepower (at 5500 rpm)	109
Torque (lb/ft at 3000-3500 rpm)	128

#### **SUSPENSION**

Front/rear	Hydropneumatic with integral shock absorbers variable ground clearance
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#### **WEIGHT, TIRES, BRAKES**

Weight (as tested lb.)	3090
Weight distribution (front/rear)	62/38
Tires	Michelin X AS 180 x 380
Brakes (front/rear)	inboard disc/drum
Braking (from 60 mph, ft.)	130

#### **STEERING**

Type	Rack & pinion
Turns lock to lock	3.3
Turning diameter (curb to curb, ft.)	38

#### **PERFORMANCE**

Standing ¼ mile (sec.) see text	20.11
Speed at end of ¼ mile (mph)	70.86