

**citroën**

*Owner's Guide*

**DS 21**

*Owner's Guide*



Dear Citroën Owner:

Like any other piece of precision-made fine machinery, your Citroën requires certain routine maintenance to insure regular uninterrupted performance. Please take the time to read this guide carefully, as well as the Maintenance Guide you received from your Dealer at time of delivery.

These books have been prepared by Citroën engineers. By following the suggestions and instructions found within and by patronizing Authorized Citroën Dealers, your car will give you thousands of miles of trouble-free service.

All of us at Citroën, and our network of Citroën Authorized Dealers, maintain an interest in you and your car. We are always happy and interested in hearing from Citroën owners, and remain always at your service

Sincerely,

CITROEN CARS CORPORATION

## SOLE IMPORTER AND DISTRIBUTOR IN UNITED STATES

### East of Rocky Mountains

**GENERAL OFFICES**  
CITROEN CARS CORPORATION  
641 Lexington Avenue  
New York, N. Y. 10022  
Telephone: (212) MU 8-1161

**SERVICE AND PARTS**  
CITROEN CARS CORPORATION  
415 Third Avenue at 7th Street  
Brooklyn, N. Y. 11215  
Telephone: (212) MU 8-2850

### West of Rock Mountains

**GENERAL OFFICE — SERVICE AND PARTS**  
CITROEN CARS CORPORATION  
8423 Wilshire Boulevard  
Beverly Hills, California  
Telephone: (213) OL 3-8330

## IN CANADA

CITROEN CANADA LIMITEE  
4010 West Rue Ste Catherine  
Montreal 6, P. Q.  
Telephone: (514) 937-7411

## IN MEXICO

AUTOMOVILES CITROEN, S. A.  
Balderas No. 120-124  
Mexico 1, D. F.  
Telephone: 18-17-20

Specifications and information outlined in this manual were in effect at the time of printing. S. A. André Citroën and/or its subsidiaries reserve the right to change these specifications and include revisions without prior notice and without responsibility whatsoever.

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## identification and plates

The car **Serial Number** is stamped on a rectangular plate located on the upper right side of the fire wall in the engine compartment.

The **Motor Number** is stamped on a rectangular plate located on the left side of the engine block.

The **manufacturer's plate** with the words "Made in France" is mounted on the chassis at the right side of the engine.

**Note:** You must not remove or change the location of these plates.

The **Paint Reference Number** is stamped on a small round plate located next to the serial number plate. This number is a three digit figure preceded by "A.C."

Information covered in this guide applies to the following models:

Model	SAE Horse Power	Factory Symbol
DS19 Hydraulic shift .....	90 @ 5250 rpm	DY
DS19M Mechanical shift .....	90 @ 5250 rpm	DL
DS21 Hydraulic shift .....	109 @ 5500 rpm	DX
DS21M Mechanical shift .....	109 @ 5500 rpm	DJ

## major specifications and settings

Fuel. All models

Premium

### MAIN DIMENSIONS

Wheelbase .....	123"
Front Track .....	59"
Rear Track .....	51¼"
Overall Length .....	190½"
Overall Width .....	70½"
Height (running position) .....	58"

### CURB WEIGHT

Unloaded: DS 19 or 21.....	2,855 lbs.
Pallas .....	2,885 lbs.
Convertible .....	2,900 lbs.
Loading Capacity: DS 19 .....	1,050 lbs.
DS 21 .....	1,090 lbs.

ENGINE	DS 19	DS 21
Bore .....	3.386"	3.542"
Stroke .....	3.366"	3.366"
Displacement — cc .....	1985	2175
Displacement — cu. in. ....	121.1	132.7
Compression Ratio .....	8.75	8.75
SAE Torque Maxi .....	110 ft./lbs. at 3500 rpm	128 ft./lbs. at 3000-3500 rpm

#### CAPACITIES

##### Cooling System:

Single Heater .....	12 qts.
H/D Heater (optional) .....	14 qts.
Fuel Tank .....	17 U.S. gals.

##### Engine crankcase:

with filter change .....	5¼ qts.
w/o filter change .....	4¾ qts.
Gear Box .....	2 qts.

##### (\*) Hydraulic System:

(Complete) .....	5½ qts.
(Reservoir only) .....	3½ qts.

(\*) Use only Heavy Duty Brake Fluid SAE 70 R3

Firing Order (all models) .....	1-3-4-2
Spark Plugs (*) .....	Marchal 35B
Engine Symbol DX and DJ ..	Marchal 34S
DY and DL ..	0.6 mm or .024"
Spark Plug gap (Marchal) .....	0.20 mm or .008"
Valve Clearance (cold): .....	0.25 mm or .010"
Intake .....	12° BTDC
Exhaust .....	0.40 mm or .016"
Point of ignition .....	
Contact breaker gap .....	
Cylinder Head Torque:	
—Tighten when cold: 1st ..	22 Ft. lbs.
2nd ..	43.5 Ft. lbs.

(\*) For recommended CHAMPION or BOSCH spark plugs, consult your Authorized CITROEN Dealer.

#### ELECTRICAL SYSTEM

Battery Polarity ..... Negative Post Grounded

Bulbs	DS19 & 21	PALLAS
Front Sealed Beams .....	50W/40W	50W/40W
Iodine Lamps (wherever legal) ...	————	55W
Front Directionals .....	4W/18W	4W/21W
Rear Directionals .....	25W	25W
Tail Lights .....	4W	4W
Stop Lights .....	15W	15W
License Plate Lights .....	4W	4W
Interior Lights .....	4W	2/15W

#### INSTRUMENT PANEL

	DS 19 & 21	PALLAS
Charge Indicator (24v) .....	3W	3W
Hydraulic Pressure Indicator .....	4W	4W
Brake Pad Wear Warning (DS21) ..	4W	4W
Dash Panel Lights .....	2W	4W
Clock Light .....	2W	2W
Directional Indicator (24v) .....	3W	3W
High Beam Indicator (24v) .....	3W	3W



# instruments and controls

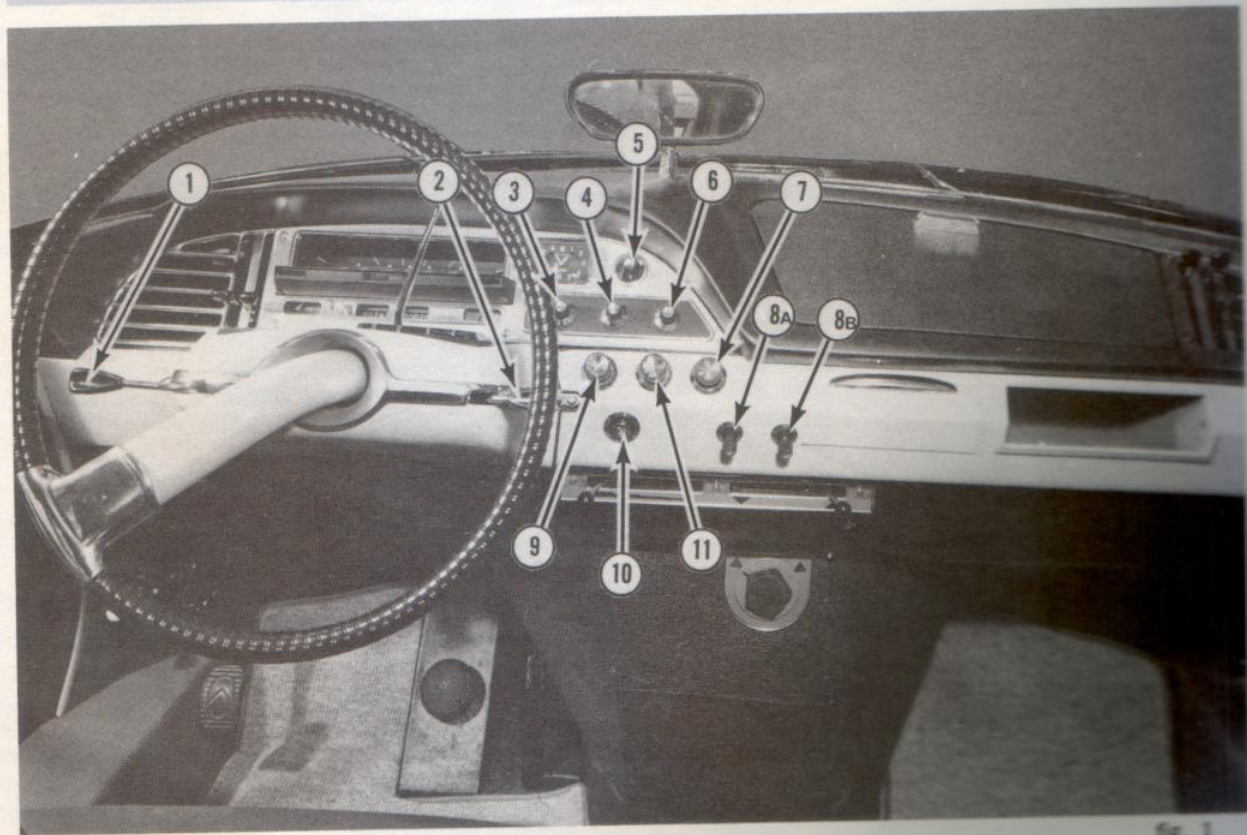


fig. 1

## fig. 1 — dashboard

### 1. Directional Signal Lever.

Move lever up to signal a right turn or down to signal a left turn.

To cancel a signal, slightly lift the lever toward the steering wheel. The signals can be reversed immediately by moving the lever all the way up or down. In addition to the indicator light fig. 3 an audible clicking sound occurs during the operation of the signal lights.

### 2. Horn and Light Switch (combined unit).

See page 10.

### 3. Overnight Parking Lights.

Turn the knob to the left or to the right to switch on simultaneously a front parking light and a rear red light on the side desired.

### 4. Interior Light Switch.

### 5. Red Charging Indicator Light.

When the engine is idling the light remains on. On acceleration and during normal running, the light will go out. If the light remains on while driving, it is an indication of defect in the charging circuit. Have the charging system inspected by your nearest Authorized CITROEN Dealer. If the light remains on when the car is parked, it serves as a reminder that the ignition was not shut off.

### 6. Windshield Wiper Control.

Turn knob clockwise to operate slow and then fast wiping speeds. Use fast speed in heavy rain only.

### 7. Windshield Washer Control.

Press on knob to spray liquid on windshield. Operate with slow wiping speed only.

### 8A. Front Heater Fan Switch.

### 8B. Rear Heater Fan Switch (optional).

### 9. Choke Control. See page 18.

### 10. Ignition Switch.

### 11. Cigar-Lighter

To operate push in completely. Wait a few moments until it springs back when ready for use.

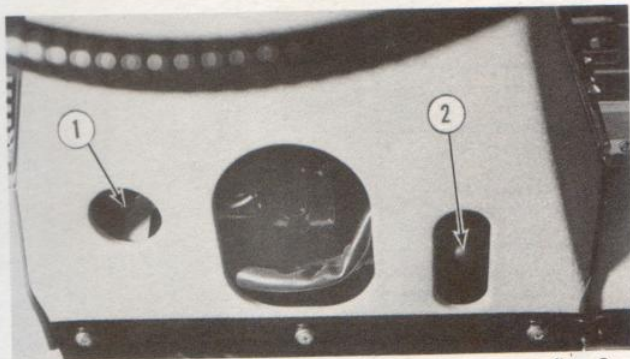
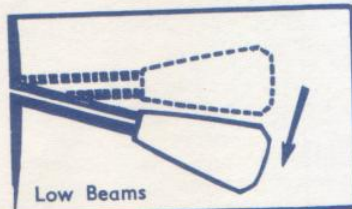
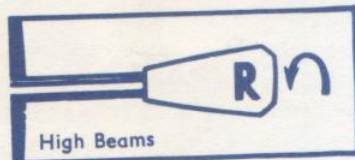
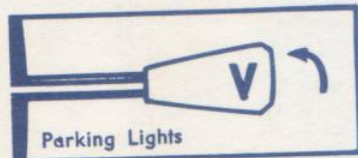
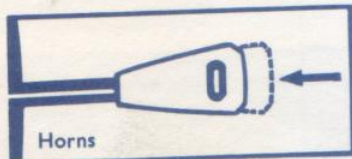


fig. 2

1. **Instrument Light Switch.** This rheostat light switch 1 fig. 2 is available on all models. It regulates the cluster light when the light switch 2 fig. 1 is in position V or R.

2. **Auxiliary Clutch Control** (available with hydraulic shift only). When the engine is not running, the clutch is automatically disengaged. The purpose of this control is to suppress the automaticity and to permit clutch engagement when the engine is not running. This is required to start the engine by hand-cranking (see page 21) in case of weak battery or to free up solidified engine oil in very cold weather.



"V" for Ville or Town.  
"R" for Route or Road.

### horns and headlight switch:

2 fig. 1

It controls the Horns, the Headlights and serves as a Dimmer Switch at the same time. Its lever can move in three different directions.

1. It can be pressed **IN**.

Press lightly to sound **Low** tone (Town horn). Press fully to sound **High** tone (Country horn).

2. It can rotate from "O" to "R".

Position "O" — All lights **OUT**.

Position "V" — Parking lights **ON**.

Position "R"—High Beams **ON**.

3. It can move **up** or **down**.

When lights are set in position V or R and the lever is moved down the **Low Beams** will go **ON**.

### fig. 3—instrument panel

1. Directional indicator (Green light). See 1 fig. 1.

2. Hydraulic pressure indicator (Red light).

Functions only when the ignition is **ON**. Also see Brake Security Control page 22.

3. High Beam indicator (Blue light).

4. Temperature gauge.

5. Speedometer Dial.

Mile graduation —0 to 120  
Kilometer graduation —0 to 180

Some cars may have the speedometer dial marked with three figures above respective speeds. These marks represent approximate distances to stop a car at each respective speed—see page 22. These distances are expressed in meters or in feet depending on calibration.

6. Odometer (total mileage).

7. Trip mileage register.

8. Trip mileage reset control (push in and turn to zero)

9. Fuel gauge.

# instrument panel

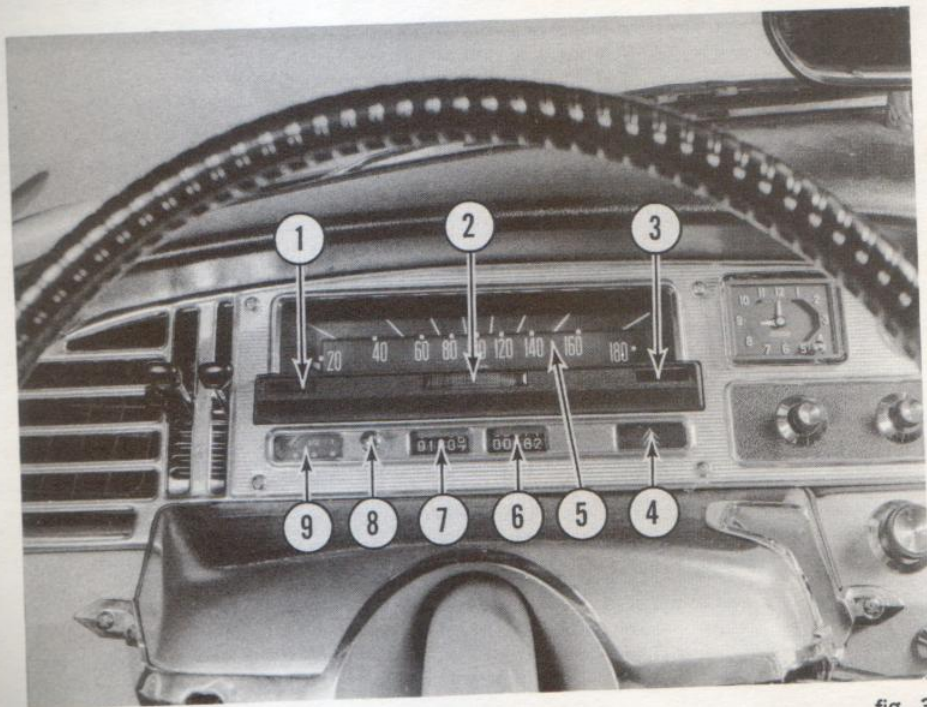


fig. 3

## 300-mile inspection

After the car has been driven for the first 300 miles, it must receive an inspection which shall be performed by any Authorized CITROEN Dealer. The inspection is **free**, the Owner must pay only for the new engine oil and the filter cartridge. Performance of this inspection is an essential condition of the Warranty and it is the Owner's responsibility to have it made between the first 300 and 500 miles. Failure to do so will void the Warranty.

Note: Several operations which are part of the inspection require the engine to be completely cold which extends the time to the work itself. It is therefore suggested that you schedule the inspection well in advance, for instance when you take delivery of your car and also that, whenever possible, you leave your car with Dealer overnight.

## breaking-in period

During the first 300 miles do not exceed the following speeds:

- 15 mph in 1st gear
- 28 mph in 2nd gear
- 44 mph in 3rd gear
- 60 mph in 4th gear

It is important that during the first 300 miles the car be driven very gently so that all moving parts are properly mated together. Avoid fast starts or brutal sudden stops. Avoid driving at constant and sustained speeds for long distances. On the contrary deliberately change speeds on long stretches and down shift on hills before engine begins to labor. Do not drive in 4th gear below 40 mph. Between 300 and 1200 miles increase your speed gradually. After 1200 miles the car may be driven freely up to the following speeds:

- 25 mph in 1st gear
- 50 mph in 2nd gear
- 70 mph in 3rd gear

***driving***

***buckle your seat belts***

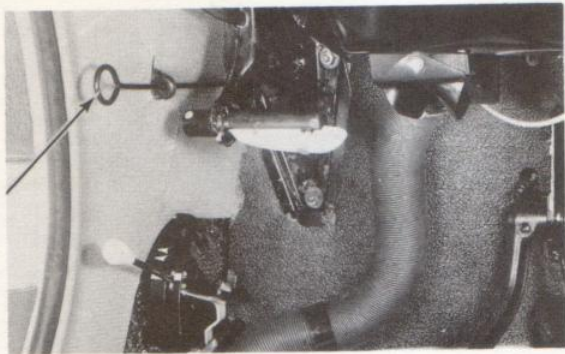


fig. 4

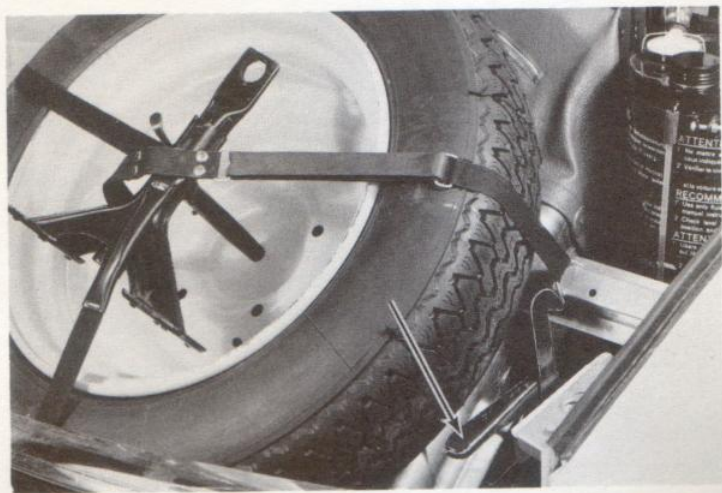


fig. 5

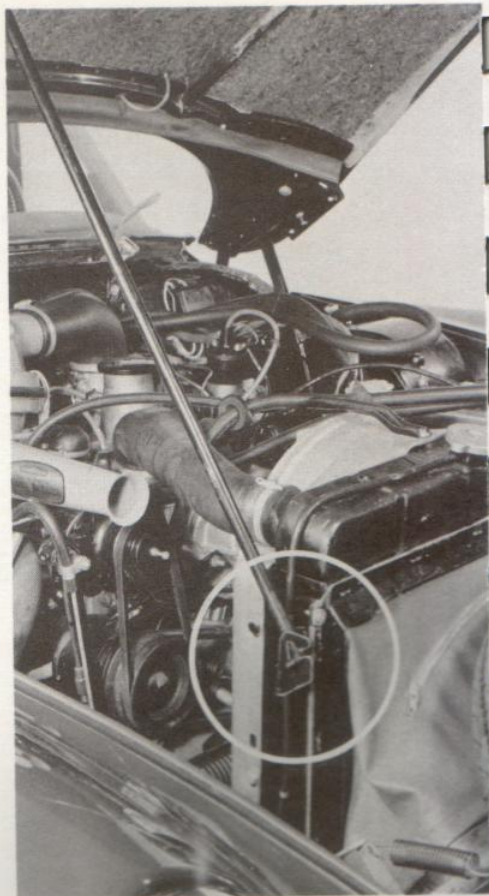


fig. 6

## day to day checkings

Frequent checking of the cooling system Water Level, the Oil Level and Hydraulic Reservoir Fluid are entirely the responsibility of the driver. They should not only be made while the car is new but for the entire life of the car. Every driver should become thoroughly familiar with the proper method of performing these checkings.

## to open the hood

Release the right and the left hood catches by pulling both release rings from inside of the car. See fig. 4. The hood will rise slightly.

With your right hand reach the safety latch fig. 5 and press it down to open the hood completely.

To support the hood in the open position remove the rod from its grommet and place it into the notch on the right side of radiator frame. See fig. 6.

## checking the water level

The level should be about one inch from the top of the filling neck. The radiator is fitted with a pressure cap. Therefore, when checking level of a warm engine, use caution before completely removing cap. Turn cap counter-clock-wise approximately  $\frac{1}{4}$  turn. A slight hissing sound will indicate the escape of pressure. Wait until this stops before lifting the cap.

## checking the engine oil

Check the oil level on a level ground. A good practice is to check oil every time you stop for fuel. Oil should never drop below the lower notch or rise above the upper notch of the dipstick.



Between the "Mini" and "Maxi" marks on the dipstick, the corresponding amount of oil is approximately 1 qt. To prevent incorrect reading stop the engine and wait several minutes to allow the oil trapped in upper engine components to return to crankcase.

If necessary, replenish with the same grade and make of new oil as the one you already have in the engine. The total capacity of oil is  $4\frac{3}{4}$  qts. without filter cartridge change. It is  $5\frac{1}{4}$  qts. when the oil filter cartridge is replaced.



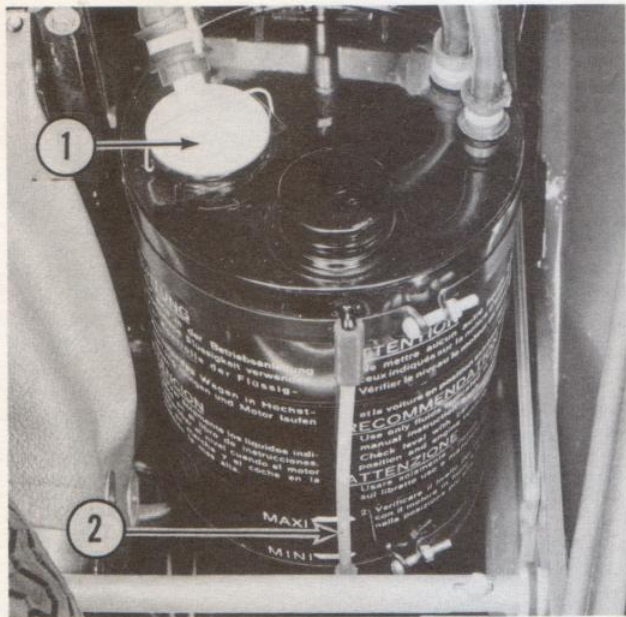


fig. 7

## checking hydraulic reservoir fluid level

The main reservoir is located to the left of radiator. A transparent fluid level indicator is provided as a guide when checking the fluid supply.

To determine the fluid level, start the engine and let it run at idling speed. Set the height control lever in maximum high position. Notch 5 fig. 14.

## Very Important:

The CITROEN hydraulic system uses a heavy-duty brake fluid SAE specifications 70R3.

Never use any other liquid; particularly mineral based products, such as engine oils, hydraulic jack oil, shock-absorber oil, transmission oil, etc. These products will destroy the hydraulic system of your car rapidly and completely.

Wait until car reaches maximum height, then check that fluid level is within the "Maxi" and "Mini" marks.

If it is necessary to replenish the fluid supply, the following is a partial list of recommended brands:

MOBILLOIL	Super H.D.
DELCO	Super 11
LOCKHEED	Wagner 21B
MOPAR	Hi-Temp.

If necessary, these brands can be mixed with each other. However it is preferable to always use the same brand.

If it becomes impossible to obtain any of the above brands, it is permissible to use any heavy-duty brake fluid, provided the container in which it is sold clearly states that it meets S.A.E. Specifications 70-R3.

Following is a partial list of hydraulic brake fluids suitable for the CITROEN suspension and available in Canada and in Mexico.

**CANADA:**

CASTROL	"LHS 2"
CASTROL	"HF"
LOCKHEED	"Wagner 21 B"
B.P.	"CF"
SHELL	"Donax D"

**MEXICO:**

ESSO	"Super Heavy Duty"
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**NOTE:** a brace is provided in the engine compartment to hold a two quart can sold as an accessory by all CITROEN Dealers. It is advisable that you carry with you, especially during long trips, a certain reserve of a recommended brake fluid of the same brand as the one which is in your car suspension system.

# starting DS with hydraulic shift

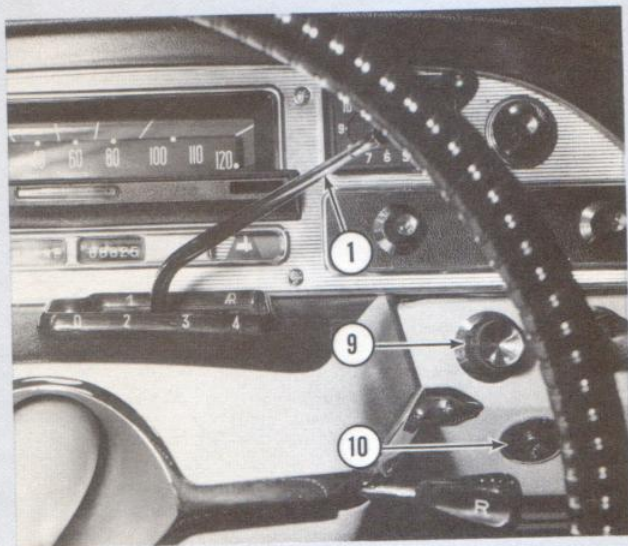


fig. 8

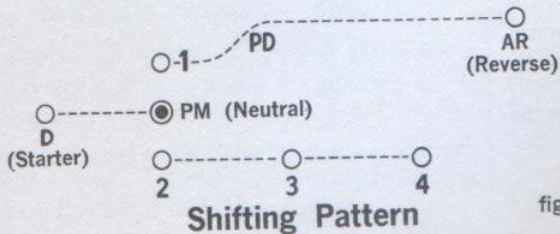


fig. 9

Be sure the gear selector lever 1 is in neutral position (PM on diagram). Insert key in ignition switch 10 and turn clockwise. The ignition is now "on".

**When the engine is warm:** Press the accelerator pedal all the way down. Do not use the choke control. Start the engine by moving the gear selector lever to the "D" position fig. 9. If the engine does not start immediately, wait a few seconds, then repeat the operation.

As soon as the engine starts, release the accelerator pedal.

**The use of the choke control:**  
**When the engine is cold:** Pull the choke control 9 (fig. 8) to full choke position (all the way out). Depress the brake pedal 1 fig. 12 with the right foot. Move the gear selector lever 1 toward "D" fig. 9 as far as it will go. Hold it in this position until the engine starts running. If the engine does not start immediately, wait a few seconds and repeat the operation. Do not release the brake until the engine has started.

**In very cold weather:** The engine may stall when the brake is released. If so, repeat the previous operation. Keep the brake applied until the engine is warm enough to eliminate stalling when the brake is released.

As soon as the engine starts, push the choke control all the way in.

Avoid excessive use of the choke and do not race the engine when cold. In very cold weather, let the engine idle for a few minutes before driving off.

You may start the engine by hand cranking fig. 11.

### important notes

Before driving off, always wait a few moments to allow the car to stabilize in normal driving position.

Do not drive with the choke all the way out.

### shifting gears

The clutch is hydraulically operated and is controlled automatically. There is no clutch pedal.

To shift gears, simply move the selector lever to the desired po-

sition fig. 9. The shifting pattern is indicated on a rubber plate permanently attached to the dash at the base of the selector lever. The lever can be moved through either one of the three parallel lines shown in the diagram fig. 9. It can also be moved forward from the neutral (PM) position to 1st gear (1) and rearward from 1st gear to 2nd gear through neutral (PM). The 1st and reverse (AR) gears are in the line furthest from the driver. Second, third and fourth gears are in the line nearest to the driver. To shift from 1st to reverse, push the lever toward the windshield, and pass check-point (PD) before moving it completely to the right, as shown on fig. 9.

When moving the lever from one gear to another, a detent catch can be felt, indicating that the lever is in correct position for a particular gear.

When up-shifting from 1st to 2nd, 3rd and 4th, release the accelerator pedal momentarily between shifts. When shifting from 1st to 2nd, do not release the accelerator pedal until the lever is at "neutral" (PM). When

downshifting from 4th to 3rd gear, release the foot from accelerator only slightly.

When up-shifting, the car may have a tendency to shoot ahead at each gear range. This is due to over-acceleration. To permit the car to drive smoothly, gradually apply pressure to the accelerator after each shift.

When a car is standing with the engine running, do not shift if the choke control is all the way out. The engine will be idling at an accelerated rate, causing brutal starts.

**Caution:** When down-shifting from 1st to reverse, stop the car motion before completing the shift.

**Note:** It may exceptionally happen during the breaking in period that after you engage the first gear and accelerate, the car will not move. In that case, move the gear selector lever to Neutral position and back to 1st or to 2nd gear and accelerate again.

## starting the DSM with mechanical shift

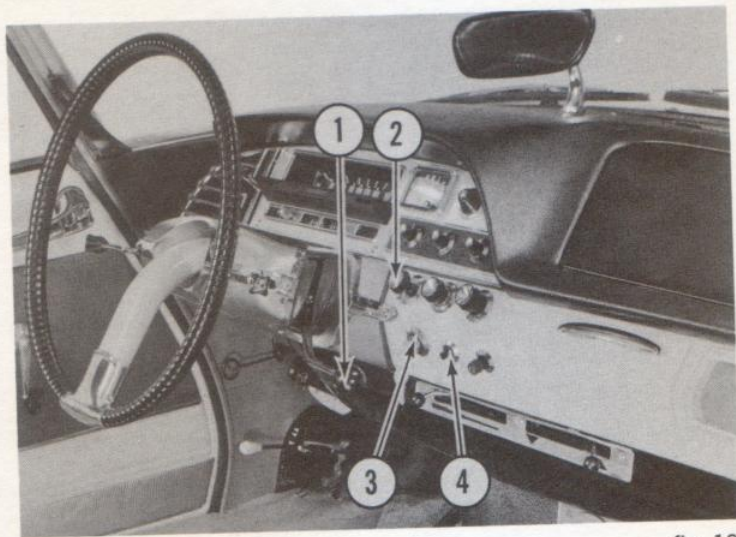


fig. 10

Be sure that the gear shift lever is in "neutral" position and turn the ignition switch **3** on. **When engine is cold**, pull choke knob **2** completely out and press the starter button **4** without touching the accelerator pedal. If the engine does not start at the first attempt, wait three to five seconds and start again.

As soon as the engine has started progressively push the choke half way **IN**. Leave it in that position until the engine idles smoothly, then push the choke **IN** completely. Never overuse the choke and do not race the engine when cold. In very cold weather let the engine idle for a few minutes before driving off.

When engine is warm, press the accelerator pedal completely down without using choke control, then press starter button. If engine does not start at the first attempt, wait three to five seconds (keeping the foot on the accelerator pedal), then press starter button again.

As soon as engine has started release the accelerator pedal. Before driving off, always let the engine run for a few moments. This will allow the car to stabilize in normal driving position.

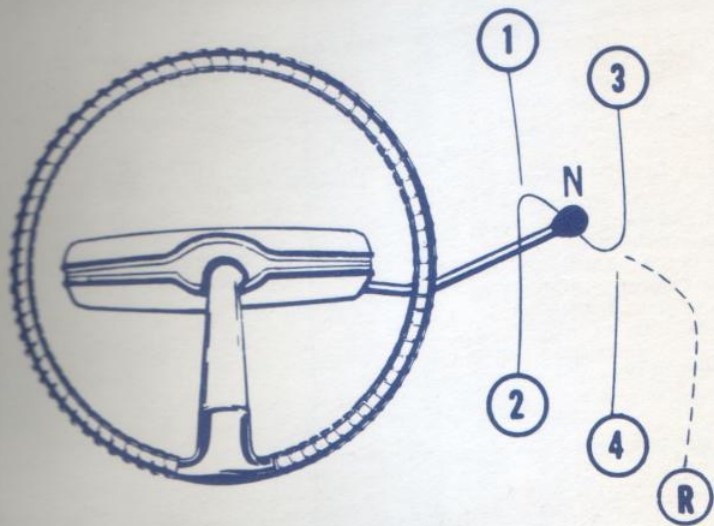
### Notes:

Although it is not advisable to use the choke excessively, it is permissible to run the engine with choke control half opened to facilitate maneuvering while parking or to raise car when changing a wheel.

When car has been garaged for a long time, or if gasoline tank has been emptied, prime the fuel pump by turning the Starter on **3** or **4** times during 5 seconds each time but without touching the ignition switch nor the choke.

Never run the motor in a closed garage without proper ventilation, since the exhaust fumes (carbon monoxide) are a poisonous and dangerous gas.

## shifting



### To shift gears:

1. Depress the clutch pedal completely.
2. Move the shift lever as indicated above.
3. Release the clutch pedal progressively and simultaneously accelerate the engine.

### Important Notes:

Before shifting from first to reverse or vice versa, bring the car to a complete stop.

For the first few thousand miles down-shift from 2nd to 1st at speeds below 10 MPH.

Avoid driving in 4th gear at speeds below 40 MPH, particularly in city traffic.

## to start with crank handle

The crank handle may be used in cold weather to free up the engine, or to start engine when battery is too weak.

The crank handle and its extension are stowed under the spare wheel. Insert the extension through the guide under front bumper until it engages the gear box spindle. Do not forget to put the ignition **ON**. Be sure car is in neutral.

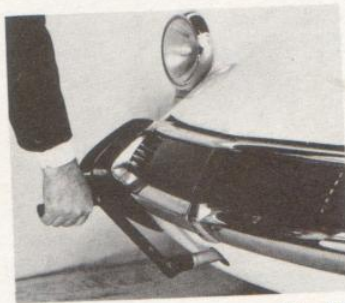


fig. 11

## DS hydraulic shift

Before cranking the engine, push the lever 2 fig. 2 forward, then lock it in this position by pushing upward. In this position, the engine can be hand-cranked. As soon as the engine starts, return the lever to its normal position before shifting into gear.

# brakes

## distances required to stop a car

CITROEN wishes to bring the information that follows for the sake of safety, and especially to the attention of drivers who drive in areas where speed is not limited.

The total distance required to stop a car is actually the sum of two distances. The first distance is the one covered by the car before the brakes are applied, the second during the time while the brakes are operative. The first distance, or time, is function of individual reflexes. It averages approximately  $\frac{3}{4}$  of a second. On the other hand, decelerations provided by the best of the braking systems can only tend towards a limit determined by the grip of tires on the road. Remember also that for a deceleration, as high as it may be, the distance covered by the car during braking time increases considerably with the speed. For instance, it will be 34 feet at 25 mph and 540 feet at 100 mph. Thus, while the speed increased only 4 times, the stopping distance increased 16 times.

On the chart below are shown the total stopping distances as they are related to the speed of the car.

SPEED OF THE CAR	25 mph	50 mph	75 mph	100 mph	112 mph
Distance covered during reflex time	27'	55'	82'	110'	123'
Distance covered during braking time	34'	133'	305'	540'	682'
Total stopping distance	61'	188'	387'	650'	805'

The stopping distances shown above are approximate. They are valid when the following conditions are met: brakes and tires in perfect condition, the car is not overloaded, the road is dry with good traction surface . . . **These distances may be considerably increased on wet and slippery roads.**

At high speeds (85 mph) it is recommended not to use the full power of the brakes instantly to bring the car to a stop. A good practice is to apply the brakes gradually and "pump" the brake pedal.

Both the DS and DSM have two braking systems:

The main power brake similar on both models and the emergency brake which is foot operated on the DS and hand operated on the DSM.

## brake security control

A red indicator 2 fig. 3 serves as a warning when the hydraulic pressure controlling the main brake becomes insufficient.

On cars equipped with 109 hp engines this warning light is also wired to the pads of the front disc brakes. Consequently if these pads wear off excessively, this red warning light will also go on.

When the light appears after switching the ignition on, it is normal. Start the engine. After a few moments the light will go out. Wait until it goes out before driving.

Should the light appear while driving, stop the car immediately. There is ample reserve pressure to do so under all circumstances. Without delay, have your car inspected by your nearest CITROEN Dealer.

If the circumstances make driving mandatory, do so at speeds below 20 mph using caution.

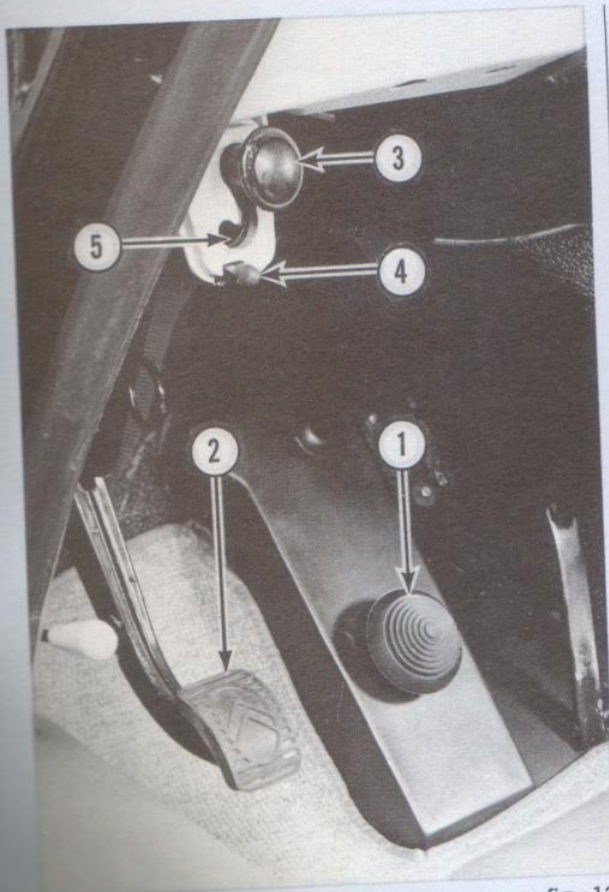


fig. 12

## DS hydraulic shift main brake 1 fig. 12

The power assisted braking action is proportional to the pressure of the foot on the pedal and even in case of sudden stops relatively little pressure is required to bring the car to a halt. Before driving on the open road for the first time it is advisable to test the brakes to become familiar with their response and power.

## emergency brake 2 fig. 12

Contrary to the main brake, which requires little effort, the emergency brake must be applied very strongly. Pressure applied to the foot pedal operates the front brakes only. It has two functions:

it serves as an emergency brake and as a parking brake, both controlled by the same knob 3.

In the illustration, the knob is in "parking" position. The foot pedal can only be pushed down; it cannot return to normal position. The front brakes are applied and locked proportionately to the effort exerted. To release the foot pedal (thus unlocking the front brakes) pull the knob and move it to the notch 5. The foot pedal can now be moved up and down freely and repeatedly applied.

As an added precautionary feature a safety lock 4 is incorporated to prevent accidental release of the control knob 3 from the "parking" position. The lock is operated from right to left and vice versa. When it is positioned to the right, the control knob cannot be released until the lock is moved to the left. When stopping or parking on a hill, it is essential to press the foot pedal down very firmly.

The control knob should always be in notch 5 when the car is being driven.

**Caution:** When parking the car on a hill, it is imperative that the gear selector lever be returned to the neutral position.



## **parking**

When parking or driving in congested city traffic, the driver is frequently required to move the car within short spaces or tight areas. In such circumstances, driving strain is greatly relieved due to a clutching system designed to permit movement of the car in 1st or reverse at a very low speed, eliminating the use of the accelerator. Car motion is stopped or resumed by simply applying or releasing the brakes lightly.

**The car must always be completely stopped before shifting from 1st to reverse and vice versa.**

## **starting on a hill**

Release the parking brake as previously described, but keep the car stationary with the left foot on the main brake. Shift into gear and gradually accelerate while decreasing the pressure from the main brake.

## **stopping**

To stop the car apply the main brakes only. Do not use the emergency brake. Application of the main brake, in addition to bringing the car to a stand-still, permits the clutching system to disengage automatically.

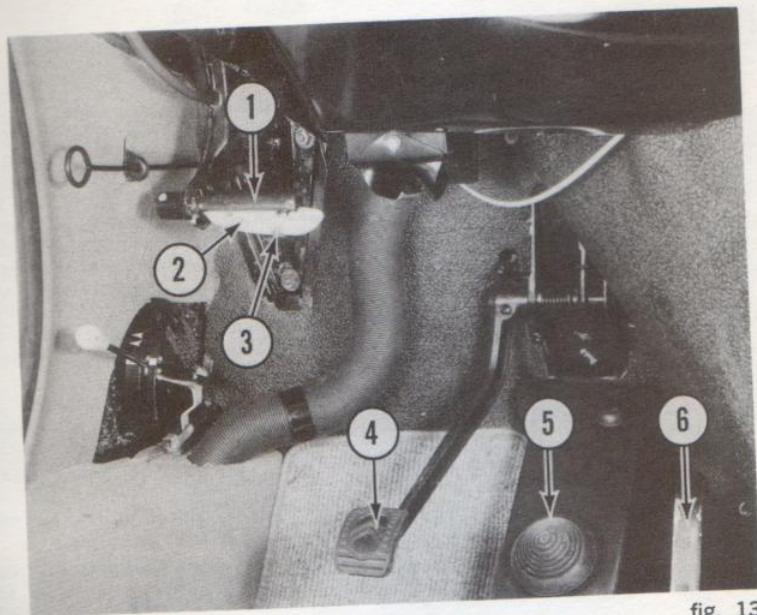


fig. 13

### brakes DS M with mechanical shift main brake

On the DSM with mechanical shift the main Brake 5 fig. 13 is similar to the main brake on DS with hydraulic shift, see page 23.

### parking brake

The parking brake operates on the front wheels only. To apply the parking brake pull handle 1.

It will lock automatically. To release the brake, pull the handle slightly, then squeeze the release trigger 2 and push the brake handle all the way forward. The brake handle may be locked in the parking position if it is so desired. A safety lock 3 when moved a  $\frac{1}{4}$  turn prevents the operation of the release trigger.

When parking on a hill it is essential that the parking brake be applied firmly.

## road clearance

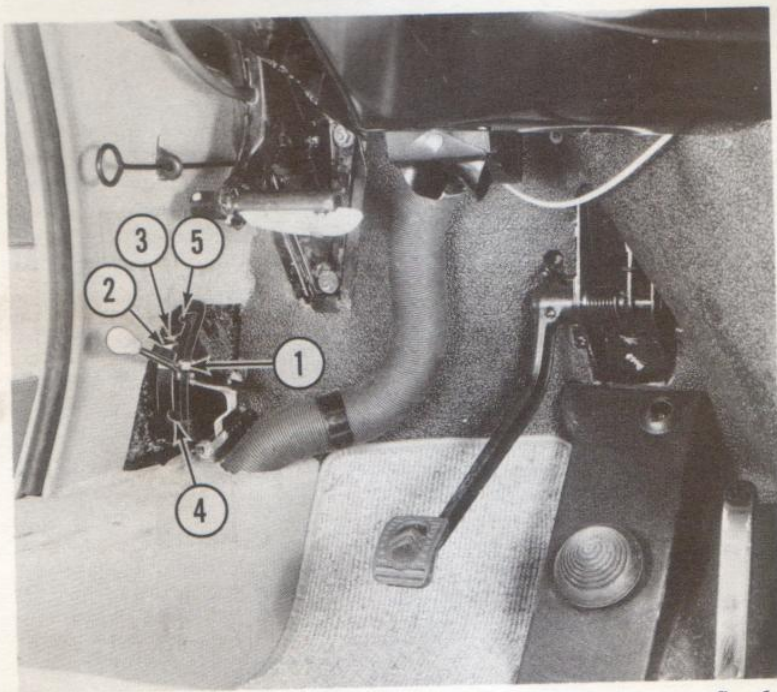


fig. 14

### road clearance adjustment fig. 14

To facilitate driving conditions on difficult roads: ruts, snow conditions, sandy surfaces, etc., it is often advisable to increase the road clearance of the car. The height control lever can be set in three different positions indexed with white marks on the housing in which it moves. When the lever is set in **slot 1**, the car is at its normal driving height. When lever is set in slots 2 or 3, the road clearance is increased accordingly.

Driving comfort is greatest in the normal position. However, the car can be driven when the lever is set in either of the other two positions.

In addition the lever can be set in two extreme positions.

It can be moved all the way up to 5, or all the way down to 4. These two positions are used for jacking purposes when changing a wheel. They must not be used for normal driving. However, it is permissible to raise the car to its maximum height to clear road obstacles, such as snowdrifts, flooded roads, etc. In such circumstances, drive with care, and only far enough to clear the obstacle, then reset the car to its normal driving position or to the height the condition of the road may require.

# tires

Your car is fitted with MICHELIN XAs type tires as original equipment. Never mount any other tire on your car. Because of the construction of the tire itself, the walls of MICHELIN XAs tires are marked:

"COTE EXTERIEUR VOITURE" or **OUTER SIDE of CAR.**

"COTE INTERIEUR VOITURE" or **INNER SIDE of CAR.**  
**THESE RECOMMENDATIONS MUST BE IMPERATIVELY RESPECTED.**

Note: MICHELIN XAs tires are classified as snow tires therefore never use chains on your CITROEN.

**TIRE INFLATION PRESSURES: taken when tires are COLD.**

Tire size	DS 19 & 21	180 x 380 XAs
Front		27 psi
Rear		24 psi
Spare		30 psi*

\*Deflate to proper pressure depending on wheel to be replaced. **DO NOT OVERINFLATE** your tires as nothing will be gained in doing so, except that you may adversely affect the riding comfort.

**MICHELIN XAs Tires are not interchangeable with other MICHELIN X type tires nor with any other tire.**

## TIRE CARE:

It is important to check the tire pressure frequently and before the car has been driven more than one mile at moderate speed, i.e. while tires are still **COLD.**

Correct tire pressure not only will insure even wear-off of the tires, but also provide the best ride.

While servicing your car, have the tires inspected for cuts and bruises and if uneven wear is noticed, switch the tires.

A good practice is to switch tires regularly every 10,000 miles or more often if necessary.

Cross switch wheels and tires per following pattern:

Spare to right front  
Right front to left rear  
Left rear to right rear  
Right rear to left front  
Left front to spare.

During this operation, have the wheels checked for proper balance.

Always have the wheel balance checked after a tire has been repaired.

***features and comfort***

# power jacking—changing a wheel

The whole operation should take no more than 10 to 15 minutes. MICHELIN X tires give extra long service and are seldom subject to puncture. Nevertheless remember in case of such emergency always drive to a safe area out of the traffic path.

From engine compartment remove spare wheel, stand with pin and crank handle with extension. Have the engine idle during the entire operation. If the rear wheel is to be replaced, remove the rear fender. Loosen



fig. 15

the fender bolt with the crank handle as shown in fig. 15. Then with a slight lift, pull the fender to the rear, see fig. 16.

Procedure for removing wheel. Set emergency brake firmly and lock it.

- Set height control lever to top position fig. 14. Let car rise and stabilize at upper lever.
- Remove hub cap with hook on stand pin, by prying fig. 17.
- Loosen the five wheel nuts without removing them at this point. You may use crank extension as a lever. See fig. 18.
- Hook stand on stud located about middle of car side body member, same side as wheel to be changed. **Be sure the stand extension eye is well engaged over the stud.**
- Insert pin in hole through stand and stand extension. Use hole before last on horizontal surface fig. 19.
- Move down the height control lever to lowest position. Car will then descend, tilt on opposite side and wheels will retract from ground.
- Unscrew wheel nuts completely. Remove the wheel.

Installing new wheel.

- Insert crank extension into the wheel center hole and present wheel on hub as shown in fig. 20. Install the five nuts without tightening them at this point.
- Raise car to high position slot 5 fig. 14 and remove stand.
- Lower car to normal driving position (slot indexed with white mark).
- Tighten wheel nuts with crank handle (do not use the extension).
- Install the hub cap respecting the valve location. To do this place hub springs on each side of the valve hole in the rim and push hub in place by forcing the last hub spring with the stand pin and hook.
- Replace tools and wheel in engine compartment. Secure them firmly. See fig. 5.
- **Make sure hood is well locked after that operation and have the tire repaired at the first opportunity.**

**Note:** We recommend that you ask your CITROEN Dealer to demonstrate this procedure.

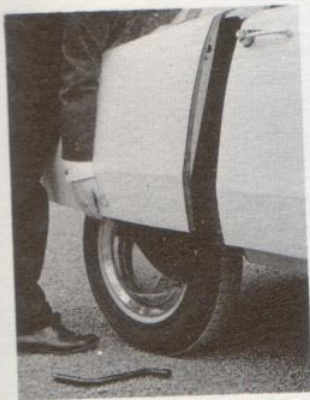


fig. 16



fig. 17



fig. 18



fig. 19



fig. 20



fig. 21

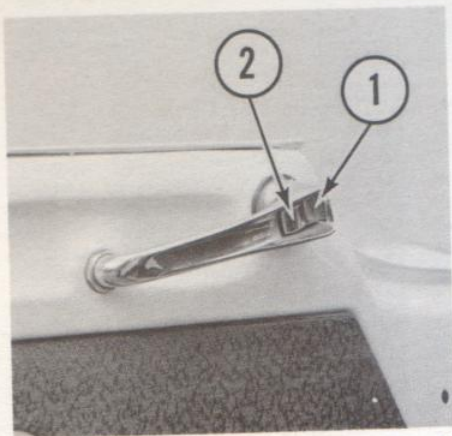


fig. 22

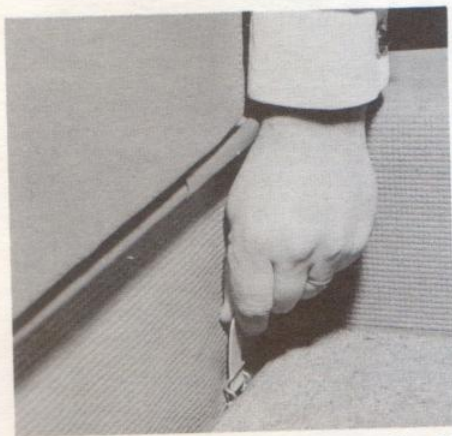


fig. 23

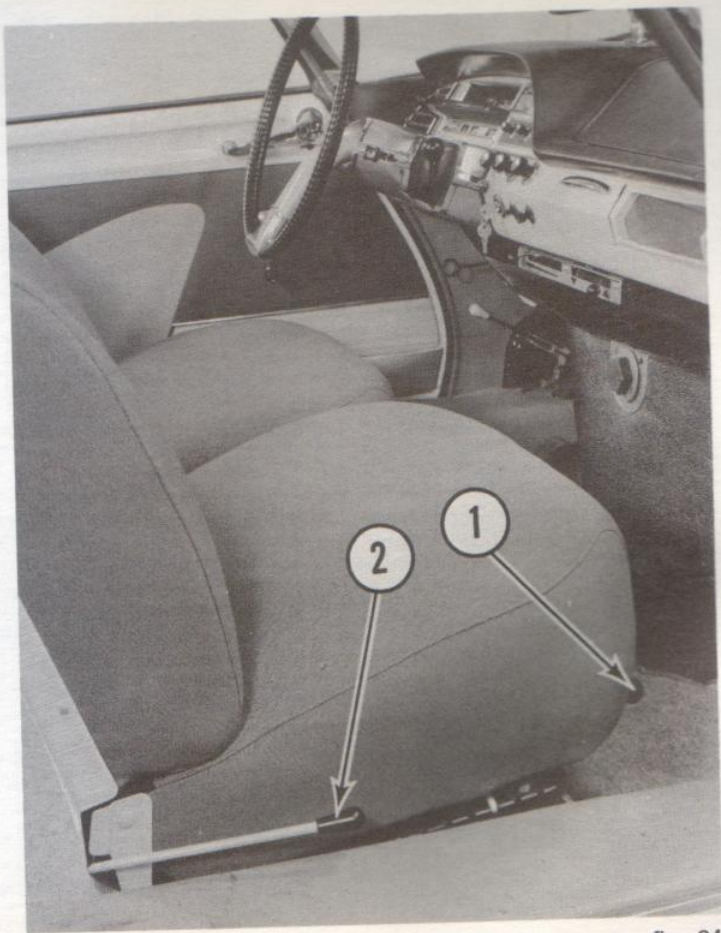


fig. 24



## keys

Two keys are supplied with the car. The code number of the lock is stamped on each key. It is important to have on record this four digit number. Should you decide to order additional keys, always specify the code number. Carry keys separately.

## doors

To open a door from inside, grip the handle and press on **lever 1** fig. 22 while pressing the door open with the forearm. When fully opened the doors are held by a retractable door check. **Lever 1** also serves the purpose of locking the doors. To do this move this lever toward the front until you hear a click.

To unlock the lever press on the **catch 2**. Both front doors must be locked with the key and cannot be locked from the inside.

## carpets fig. 23

On models so equipped, the front and rear carpets are installed by inserting the three plastic tabs into the spring clips located on the face of the seat platforms.

To remove the carpets, simply lift the tabs from the clips.

## front seats fig. 24

Both front seats can be individually adjusted for best posture and comfortable driving. They can also (when so equipped) be converted into beds.

To bring a seat cushion forward or backward move from right to left the latching **lever 1**. Then move the seat to the desired position and release the lever to lock the seat on its tracks. The standard range of adjustment is 6 inches.

To change the back rest angle, simply lift the side lever while leaning backward or forward. Release the lever to lock the backrest in the desired position.

To convert a seat into a bed, first move it completely forward. Then lift **lever 2** and tilt the backrest all the way down.

**Note:** The front cushion height or angle may be permanently modified if it is so desired. See your CITROEN Dealer.

## seat belts — optional, unless otherwise specified.

Twelve anchoring points are provided on every car. These will enable you to install the seat belts on each or all the front or rear seats.

Anchoring points are concealed under the floor insulation. Therefore do not have holes drilled in the floor but consult your Citroën Dealer for the proper installation.

**Note:** For cars equipped with front bench seat, the fore and aft adjustment lever is in the middle of the bench.

## interior lights

The switch 4 fig. 1 controls the interior lights. However the lights will go on automatically when either front door is opened.

## trunk light

This light will automatically go on when the trunk lid is open and when the light switch 2 fig. 1 is in position "V" or "R". Check that the trunk hood is always closed.

## ash trays

To empty a tray pull it completely and lift while still pressing on the spring catch.

## electric clock

To set the clock to correct time, press and turn the button on the dial.

## sun visors

Both sun visors slide on their spindles and can be moved according to the direction and angle of the sunlight. They also

can be swung around to mask the top of the door windows.

The passenger's sun visor is fitted with a mirror.

## rear view mirror

The rear view mirror is of the day and night type. It can be set in either of the two positions without changing its angle. To avoid headlight glare from the rear, simply tilt the lower edge to the "night" position.

## map pocket — radio

Located under the glove compartment, may be used for radio installation. (Consult your CITROËN Dealer.)

## fuse box fig. 25

The fuse box is located in the Engine Compartment on the left upper corner of the fire wall. It contains three active fuses and one spare. Active fuses protect the following circuits:

**Yellow Terminal**—Windshield Wiper Motor and Accessory Terminal.

**Red Terminal**—Front Low Beams Tail Lights, Instrument Light, Trunk Light, Clock and Rear License Lights.

**Blue Terminal**—All other circuits except Horns and High Beams.

The fourth fuse is a Spare one. All fuses are rated 30 amps each.

**Note:** Always shut off the engine and disconnect the corresponding circuit before replacing a blown fuse.

If after having replaced a blown fuse by the spare, this spare fuse blows again, contact your Citroën Dealer.

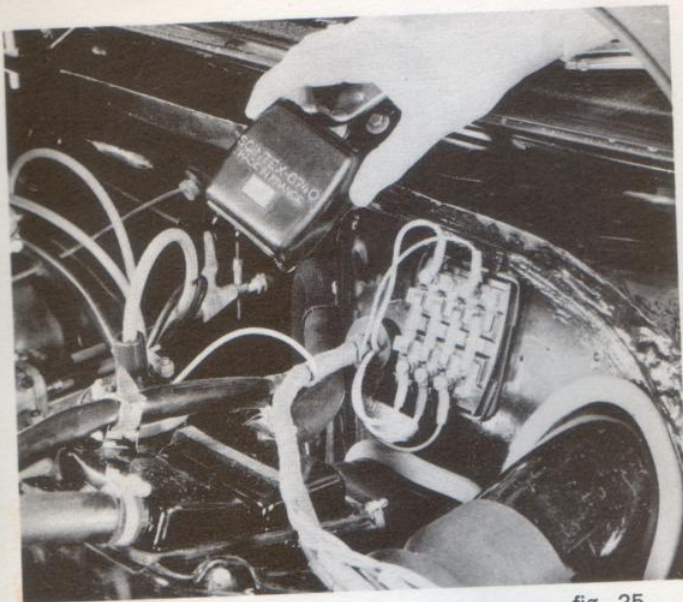


fig. 25

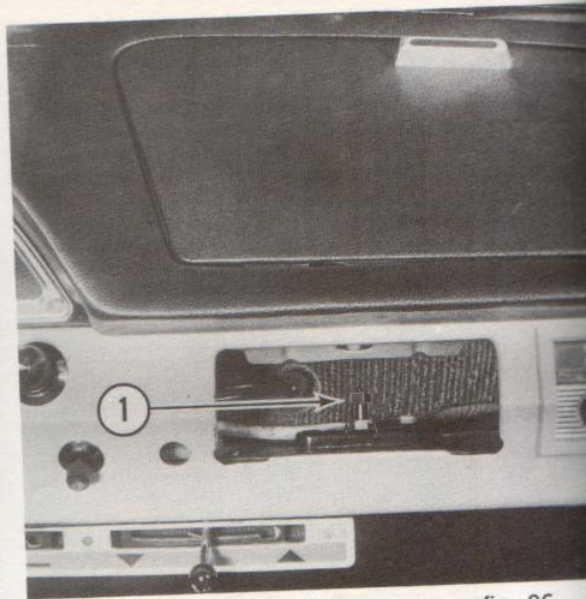


fig. 26

### accessory terminal

If additional 12 volt electrical accessories are to be installed such as radio, fog lamps, back-up lights, etc., the serviceman should be advised to use the special terminal 1 fig. 26 provided for this purpose behind the ashtray. This terminal is suitable for a 10 amp. current draw.

## ventilation and heating

Your Citroën is provided with two distinct air control systems. One is used for fresh air ventilation, the other for heating and/or defrosting.

The ventilation and heating systems may be used separately or simultaneously according to the comfort desired.

### ventilation

Fresh air is admitted to the interior of the car through a vent situated at each end of the dashboard. The air stream is supplied to the vents through ducts incorporated in the front fenders. Three control levers at each vent enable the driver or the front passenger to regulate the incoming air volume at will. The vents may be used separately or together.

**Lever 1** controls a flow of air toward the floor of the car. When the lever is all the way down, this air flow is shut off. As the lever is raised the air flow volume increases.

**Lever 2** controls an air flow directed toward the upper half of the interior. When the lever is at its lowest position this air stream is shut off. As the lever is raised the incoming volume of air increases.

**Lever 3** operates a deflector

which diverts the air stream controlled by **lever 2**. In warm weather this may be utilized to fan the face of the driver or passenger.

During inclement weather conditions the deflector can direct the air stream toward the roof as an aid in de-misting the rear window. The heating system blower may in summertime be used to supplement ventilation. This is particularly helpful when driving under conditions requiring all windows to be closed. It will also maintain a ventilation air supply when the car is at a standstill with windows closed. Close the heater control **valve 6** and turn the blower switch on. A control **valve 6** regulates the volume of hot water flowing through the heating system. When the pointer is at the red triangle the valve is open. When it is at the blue triangle the valve is closed.

### to operate the heater

Turn the heater **valve 6** to the red triangle.

Start the blower motor switch **8A**.

Move the **lever 4** to the left.

Move the **lever 5** all the way to the left.

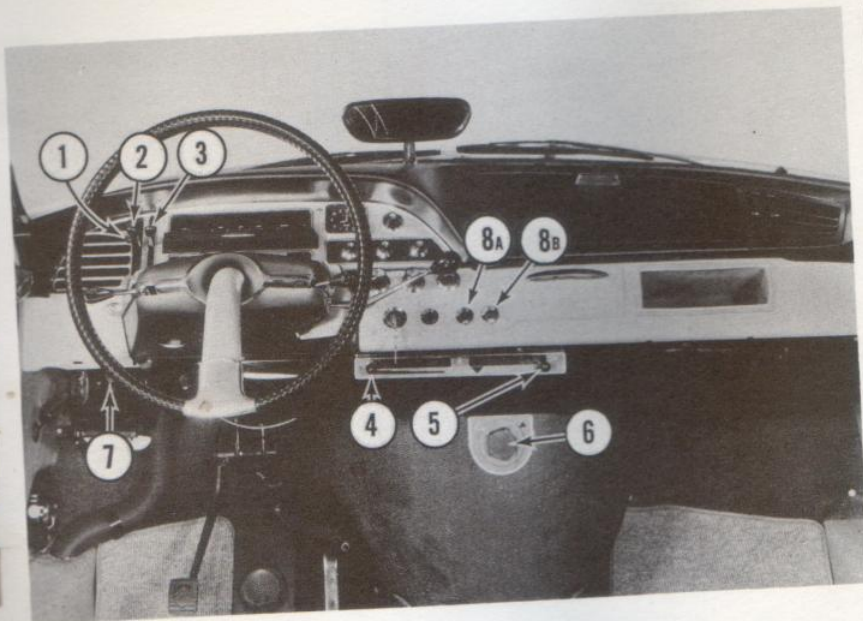
Air produced by the blower is heated by an auxiliary radiator. The **lever 4** operates a shutter flap which controls the volume of warm air entering the interior. When the lever is at the extreme right the flap is closed. There is no heat. As the lever is gradually moved to the left the incoming volume of warm air increases, heating the car proportionately.

### to operate the defroster

Turn the heater blower on. Move **lever 4** to the extreme left. Move **lever 5** to the extreme right (upward triangle).

The defrosting system includes four vents. Two vents, located at the front topside of the dashboard are used for defrosting the windshield. At each end of the dashboard additional vents are used to defrost the front door windows.

The **lever 5** controls a shutter which diverts air from the heater blower to the defroster. For maximum defrosting the lever must be at the extreme right (upward triangle). As the lever is gradually moved toward the left, the air volume is divided proportionately between heating and defrosting. At the extreme left (downward triangle) the air volume is used for heating only.



### optional heavy duty heater

The optional heavy duty heating system includes:

An additional blower for rear

interior heating and rear window defrosting.

An additional switch **8B** to operate the rear blower.

**Shutter** incorporated in the front gravel shield.

Pull chain **7** which operates the shutter.

In very cold weather the interior heating may be amplified by regulating the front shutter with the pull chain. When the chain is all the way pulled, the shutter is closed reducing the volume of air supplied by the engine fan. This raises the engine cooling system temperature and heat efficiency.

The temperature gauge dial has a white scale which is used as an indicator for controlling the shutter opening. If the gauge needle tends to move toward the right end of the scale the shutter must be opened. Release the pull chain to permit additional air volume into the engine compartment. Control the shutter so that the needle remains in the center of the scale at all times.

**Note:** With the heavy duty heater the water cooling system capacity is increased to 14 quarts.

## trailer hitch

A trailer hitch may be installed by your CITROEN Dealer. Trailer hitches for the sedan and station wagon are of different types.

The maximum permissible weight of trailers (when fully loaded) for either model of the car is 2,750 lbs., the trailer being equipped with inertia braking system.

## tool kit

A tool kit is provided with each new car as standard equipment. It contains the following pieces:

- 1 screw driver.
- 1 pair pliers
- 1 spark plug wrench
- 1 Engine and gear box drain plug wrench
- 3 Box wrenches

# ***lubrication and maintenance***

Periodic Maintenance and scheduled inspections as outlined in the Warranty and Maintenance Booklet are of major importance.

This booklet is provided with every new vehicle.

## **CHOICE OF LUBRICANTS**

Be sure the oil you use is of the right type and of a quality brand name. Do not mix different types of oils. Do not use any additives with these oils without the advice of your Authorized CITROEN Dealer.



fig. 27

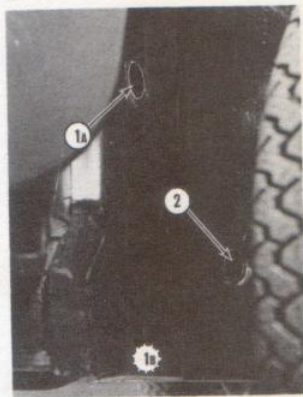


fig. 28



fig. 29

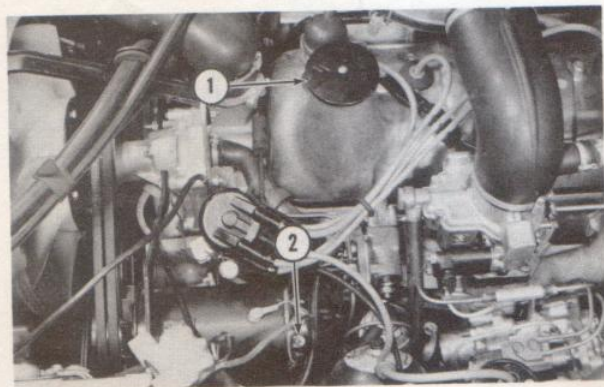






fig. 30





fig. 31




## LUBRICATION CHART

Every	Lubricate	Lubricant
3000 mi	Drive Shaft (1 fitting on each side)  ① .....	1 fig. 27 Chassis Grease
	Upper and Lower Anti-roll bar knuckles (2 fittings on each side)  ② .....	1A & 1B fig. 28 Chassis Grease
	Anti-roll bar bearings .....	2 fig. 28 Chassis Grease
	Drain Engine Oil .....	1 fig. 29 Chassis Grease
	Crankcase capacity: —filter element change: —5¼ qts. ....	SAE 10W-30
	—without element change: 4¾ qts. ....	
6000 mi	Replace Oil Filter Element	2 fig. 30 Engine Oil
	Rear Generator Oil Cap .....	
	Distributor Shaft: (Apply on felt pad 1 or 2 drops only.) .....	Very Light Oil
	Check Gear Box Level ....	2 fig. 31
12000 mi	Drain Gear Box Oil (capacity 2 qts.) .....	1 fig. 31 SAE 90 EP
	Lubricate Rear Suspension Cylinder Ball  ③ .....	Wheel Bearing Grease
18000 mi	Drain Hydraulic System Fluid  ③ .....	SAE 70 R3 Brake Fluid

 ① Moderate pressure is required.

 ② The lower Grease Fitting 1B is reached through the underpan.

 ③ These operations to be carried out correctly must be performed by an Authorized CITROEN Dealer.

### engine lubrication

Drain the crankcase with the engine **warm** every 6000 miles and refill with **multigrade** SAE 10W-30 oil, both in summer and in winter.

Oil Filler Cap is in 1, fig. 30.

— In countries where the average temperature exceeds 86° F, the 20W-40 multigrade oil is recommended.  
— In countries where Winter temperature frequently falls below 0° F, the 5W-10 multigrade oil may be used.

**CAUTION:** never run the engine even on the starter when crankcase is empty.

### special conditions

The given lubrication schedule is recommended for **NORMAL** suburban driving. If "Stop and Go" driving prevails, or if the car is being driven in dusty areas, these intervals must be reduced. Consult your CITROEN Dealer.

## oil filter replacement

It is very important that the cartridge be replaced at prescribed intervals: the first time during the 300 mile inspection and every 6000 miles thereafter. To replace the oil filter cartridge proceed as follows:

- Remove cover 2, fig. 29 from the oil pan.
- Unscrew the center bolt and remove filter components.
- Before replacing cartridge wash and dry components.
- Place new cartridge and components respecting their sequence on the bolt and starting from the head of the bolt place: the flat washer, the pre-filter screen, the gasket, the retainer and the cartridge.
- Install the above parts in the oil filter. Align the bolt properly.

**CAUTION:** The screen housing must be placed so that the locating indentation on its edge engages the oil suction embossment (toward the front of the car).

- Before locking the tightening bolt, make sure that the screen cover cannot turn. If it can, the locating tab is placed badly.

Oil capacity when cartridge is replaced is 5¼ qts. After the cartridge is replaced, run the engine at fast idling and make sure there is no leaks.

## gear box fig. 31

Every 6000 miles check the gear box oil level. It must be level with the edge of the cap 2. If necessary replenish with SAE 90 "extreme pressure" oil. Every 12000 miles, it is advisable to have the gear box drained by a CITROEN Dealer. See drain plug 1. Capacity 2 qts.

Refill gear box by the upper filler plug (not illustrated).

## changing hydraulic brake fluid

The hydraulic system should be drained every 18,000 miles by your CITROEN Dealer. Also see special conditions page 41.

## battery

Check the water level regularly, particularly in the summertime. It should be approximately 3/8" above the plates in each cell. If necessary, add distilled water only. Never add acid.

After a period of time, the battery terminals may become slightly sulphated. To remedy this, disconnect the terminal clamps. Remove the insulating felt washers. Wash the sulphation from the clamps and terminals with clear water. Replace the felt washers after soaking them in castor oil. Replace the clamps tightly in their terminals.

## brakes

Every 12,000 miles have the front and rear linings checked by your CITROEN Dealer.

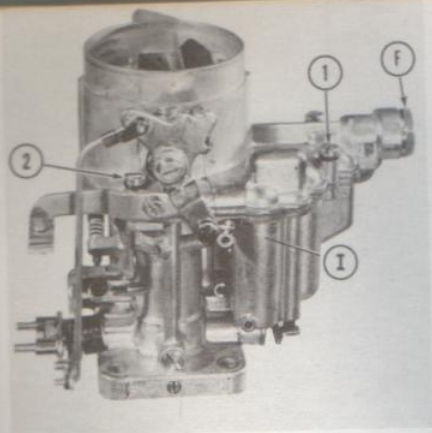


fig. 32

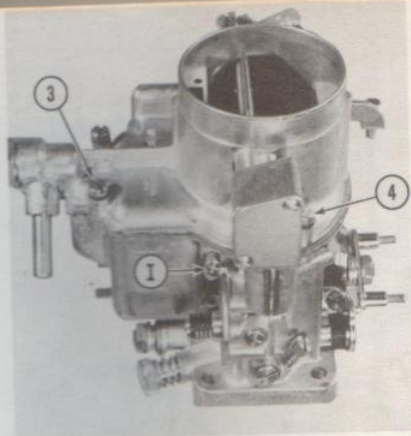


fig. 33

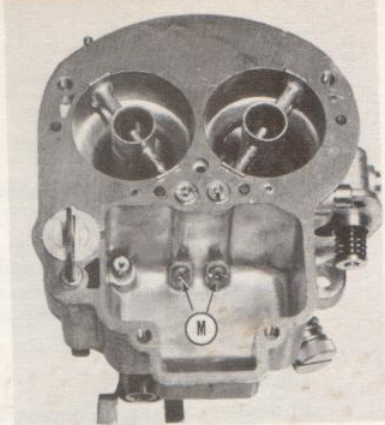


fig. 34

## carburetor

All DS models are equipped with Weber double barrel carburetors:

	DS 19	DS 21	DS 19M	DS 21M
Weber reference 28/36 .....	DDE2	DDE	DDEA2	DDEA1
Main jets: primary .....	130	130	120	130
secondary .....	175	175	170	175
Idling jets: primary .....	50	50	45	50
secondary .....	70	70	55	70

## important

These modern high precision units will practically never lose their adjustment. **The original factory settings should never be altered or changed.** They will usually require no maintenance except an eventual cleaning of the fuel filter screen.

## cleaning the fuel filter screen

Loosen the nut F, remove the screen and dip it in gasoline. Blow dry with compressed air. If the main and idling jets must be inspected or cleaned, see page 54.

## filters

### the carburetor air filter

Every 6000 miles, rinse the cartridge in gasoline and dip it in engine oil.

Let the excess oil drip away before replacing. (Do not blow dry cartridge with compressed air).

### the fuel filters

In addition to the carburetor filter, which may be removed and cleaned, a second filtering element is located in the fuel pump. Do not try to remove this unit yourself; have it cleaned by your CITROEN Dealer when needed.

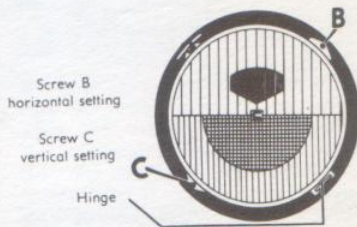
### the hydraulic system filter

It is located at 1 fig. 7. Have it cleaned by your CITROEN Dealer every 6000 miles.

## headlight adjustment

To adjust the headlight, remove the rim. Grip the two holes at the bottom and snap the rim out. The horizontal aim is adjusted by screw "B".

The vertical aim is adjusted by screw "C".



### replacing a sealed beam unit

Remove the rim.

Lift mounting spring clip (left of center). Pull out the unit. Disconnect wires. Remove inside ring by loosening the two small metal screws.

To replace a new unit reverse the above procedure.

Have focus of lights checked by specialist as soon as possible.

## quartz iodine lamps — optional on Pallas models wherever legal

When car is so equipped, the Lamp Control Knob Switch is located immediately under the Horn-Light Lever Switch.

These bright headlamps will go ON only if the Knob-Switch is pulled out and if the Horn-Light Lever is in upper R position. They will automatically go OFF if the Horn-Light Lever is moved to the lower R position or if it is rotated to V position.

### bulb replacement

Proceed with replacement when all lights were out. If the lights were on, wait at least five minutes until the bulbs are completely cooled down. Avoid touching the bulb with naked fingers. (Should this happen, wash the bulb thoroughly with soap and dry with soft lintless cloth).

- Remove the outer rim by pulling it out by the lug on the bottom.
- Remove the lamp reflector assembly.
- Disconnect the feed wire by pulling it out.

- Disengage the lamp holding spring clamp.
- Remove the lamp.
- Introduce the new lamp into the socket and make sure to position prongs correctly.
- Place the spring clamp on lamp.
- Reinstall the feed wire.
- Reinstall the reflector assembly by inserting all three adjusting screws in their plastic sockets.
- Position and snap the outer rim back in place.
- Have the aiming checked by a specialist at the first opportunity.

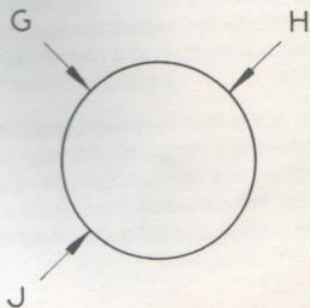
Aim-adjusting screws are as follows:

- Screw H — Side Aiming
- Screw J — Height Aiming
- Screw G — Simultaneous Side and Height Aiming.

Use 8 mm. open wrench.

## door windows

To insure easy sliding of the windows, have a CITROEN Dealer apply two coats of special varnish or silicon compound on the rubber.



## cooling system care

The cooling system should not normally require regular maintenance except **frequent checking of water level in reservoir** see page 15. And also seasonable inspections consisting of checking the condition of all hoses, thermostat and proper anti-freeze protection.

We recommend that the anti-freeze solution be kept in the cooling system the year round, regardless of its concentration.

It is advisable when totally or partially draining the cooling system, to add rust inhibitor (soluble oil) to the extent of  $\frac{1}{2}$  of 1% of the total cooling system capacity. Check with your CITROEN Dealer to be certain that inhibitor has been originally added to the anti-freeze you will use.

**Never use alcohol as anti-freeze in your CITROEN.**

## winterizing

Between the months of October and April, cars are delivered with sufficient antifreeze to protect the cooling system to 5° F below zero. Cars delivered between the months of April and October are protected to approximately 30° F. Should it be necessary to further increase the protection of the cooling system, consult your local CITROEN Dealer. CITROEN Dealers are kept informed on suitable brands of anti-freeze solutions and their method of use.

The draining of the cooling system is a delicate operation.

To drain the radiator, open the petcock located at its lower right side.

To drain the cylinder block, remove the hexagonal plug located just below the oil dipstick tube. In very cold weather, the engine should be allowed to

idle a few minutes before accelerating.

### Precaution when draining cooling system:

If the cooling system has been completely drained, the following precautions should be observed when refilling:

- Be certain the control valve 6 page 37 is fully opened.
- Start the engine and accelerate several times to insure complete filling of the system.

**Caution.** In areas where only hard water is available, add a cooling neutralizer such as "TELAR" made by DUPONT or similar products to prevent chalky deposits in the cooling system and particularly in the radiator.



### radiator cleaning

A zipper is provided on the vinyl section of the air intake shroud. When open, it will facilitate inspection or cleaning of the radiator core as well as the lower metal section of the shroud.

**IMPORTANT** — The car should never be driven with this zipper open. In exceptional cases, for example when the air flow is ob-

structed by a very thick blanket of snow, you may drive with the zipper open, thus providing additional ventilation. In this case, hold the flap open by means of a snap-on button.

**Note:** If there is a noticeable decrease of heating or ventilation efficiency, have an Authorized CITROEN Dealer check cleanliness of the ducts located at the end of the ventilation tubes.

### battery

The best protection against frost is to keep the battery fully charged. A normally charged battery (Acid S.G. 1210) will withstand a temperature of 20° F below zero. A weak battery may burst. It cannot be repaired.

### windshield washers

In cold weather, add proper solution to prevent freezing.

### frozen locks

To free frozen door locks in extremely cold weather use a cigarette lighter or match to heat the shank of the key before inserting in the lock. If the lock still cannot be turned, continue to heat the head of the key until the tumblers defrost completely.

## cleaning hints

**Body**—To protect the exterior finish of your car, wash it often. Road tar and various dirt, if allowed to stay extensively, are hard to remove and may damage the paint. Wash the car with water and mild soap. Flush with clear water abundantly. If you wish to wax or polish your car, use products of good quality only.

The under section of the car is coated with a black sealer which provides protection against road salts and ice-melting agents. It also improves soundproofing. Avoid washing the coated areas with gasoline or strong detergent solutions.

**Upholstery.** When cleaning the upholstery, never use very strong products such as benzene, trichlorethylene, etc. Strong products, when improperly handled, will not only damage the rubber padding of the upholstery but may set some stains permanently especially when the nature of the stain is unknown. Use only mild products and rub lightly with clean and well squeezed pads.

If you are confronted with particularly bad stains such as the ones made with lipstick, inks, dyes or chewing gum, it is much preferable to request the help of a professional cleaner rather than to attempt to remove the stain yourself.

## leather trim

**Seats.** Prepare a solution of lukewarm water and mild soap to form an abundant foam. With the **foam alone**, rub the dirty spots several times with a wet clean sponge and wipe out the remaining foam. Always prevent the water entering the seams which could damage the padding and the seams.

## convertible top

Proceed in the same manner as for the leather seats but rinse the top with clear water abundantly.



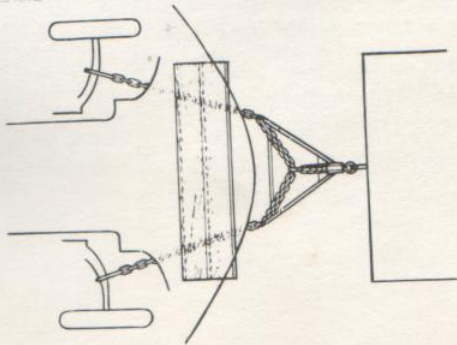
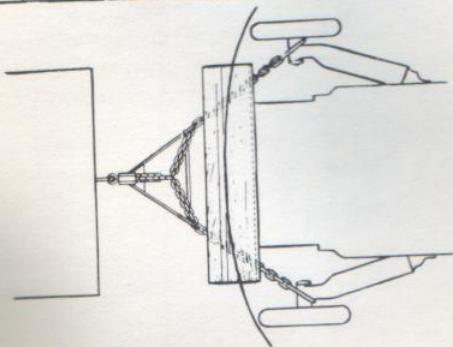
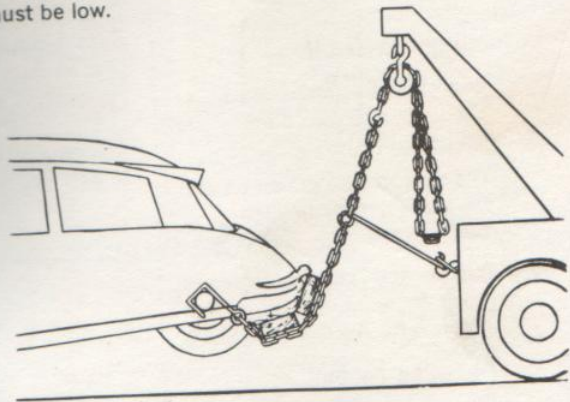
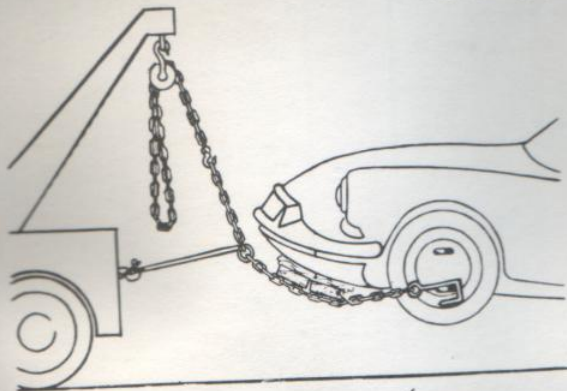
## towing the car

Should it be necessary to have the car towed by another vehicle, the towing cables may be attached to the lower right and left suspension arms only.

The cables must be sufficiently padded to protect the front gravel shield.

Never attach cables to the bumper for towing purposes.

The towing speed must be low.



### loading the car

Should you decide to send your car by Trailer or by Ship, the following instructions must be given to the Shipper.

### loading on trailer

Wide loading ramps are to be used. See track dimensions on page 6.

The car must be driven on and from the Trailer in high position—notch 5 fig. 14.

Before the car is fastened down it must be lowered—notch 4 fig. 14.

Fastening points:

**Front** — main tension — use lower Suspension Arms **only**.

**Rear** — moderate tension — use loops on chassis.

### loading on ship

The car is to be lifted by the wheels or on a platform.  
**Never by the Frame.**

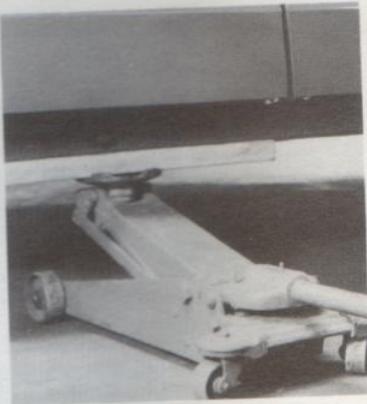
Prior to the loading operation it is advisable to remove the rear fenders. They can be stored inside the car.

Shipping volume for all models is **446 cu. ft.**

## ***general hints and minor trouble shooting***

The Minor Trouble-Shooting section is included in this Owner's Manual for reference only. It must be well understood that owners with insufficient mechanical skill and knowledge should never attempt to do the work themselves, but rather have an Authorized Citroën Dealer perform these functions at the normal maintenance schedule.

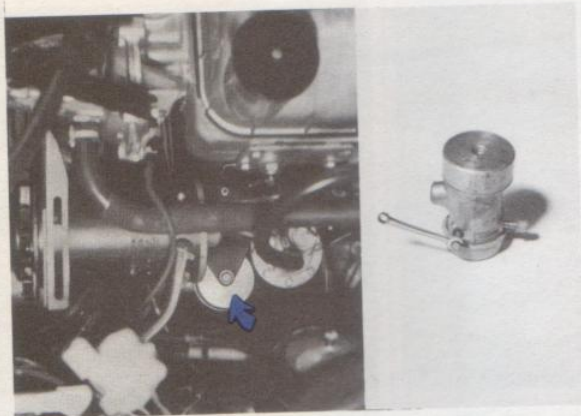
All Authorized Citroën Dealers are kept informed by means of technical bulletins on the best products and latest repair methods suitable for your car. They also have special tools and equipment.



**How to raise the car with a floor jack.** Insert a thick flat board between the jack and the edges of the car frame—preferably near the jacking sockets. Note! Never use a bumper jack, or a horizontal hydraulic lift other than a drive-on type lift.



**How to clean hydraulic filter.** Loosen retaining clip and lift the filter housing tube from the reservoir. Remove the filter from inside the tube and clean it with alcohol only. Dry the filter by blowing compressed air inside. Re-assemble and follow bleeding procedure (see page 54).



### HOW TO BLEED HYDRAULIC PRESSURE SYSTEM.

Important! After removal of filter housing, it is necessary to bleed the air out of the hydraulic system. The bleeding screw is on the pressure regulator (resembles an aluminum cylinder) located under the fuel pump. The bleeding screw is an 8mm hexagonal rod. Open the bleed screw about  $\frac{1}{2}$  turn (never unscrew it completely). Start the engine and let it run a few seconds before tightening. Do not expect to see fluid escape as bleeding is done internally. It may be necessary to accelerate the engine slightly to initiate the pumping process.

### Inspection or Cleaning Carburetor Jets.

Although the main and idling jets of each barrel appear to be identical, they have a different calibration and therefore are not interchangeable.

**Caution:** To avoid incorrect installation, it is advisable not to remove them. If they must be inspected, identify and reach them as follows:

**Main Jets:** They are located in M fig. 34. To reach them remove the air horn by loosening screws 1, 2, 3 and 4.

**Idling Jets:** Loosen screws I fig. 32 and 33.

**DS 19 and DS 21.** Carburetor adjustments on these models absolutely require a tachometer. To be properly performed they must be done by an Authorized CITROEN Dealer.

The first idling speed (Engine warm) is 550 r.p.m.  
The accelerated idling speed is 900-950 r.p.m.

## HOW TO START THE ENGINE WITH STARTER RELAY

This device permits starting the engine without being obliged to get into the car.

The starter relay is located on the battery positive cable. It is provided for use by mechanics—not by owners.

**Caution:** Before starting the engine with the starter relay make sure that the gear shift lever is in neutral position and the emergency brake is on.

## HOW TO REPLACE SPARK PLUGS:

Disconnect the secondary terminal 1.

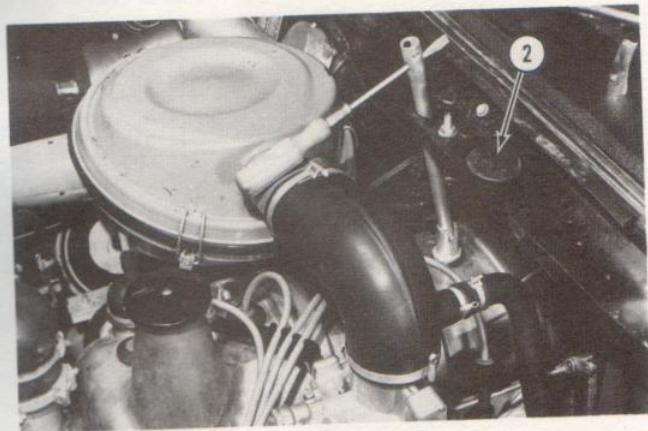
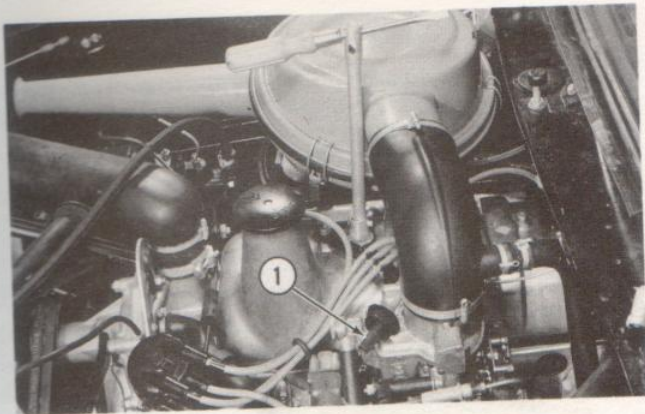
Disconnect the Rubber dust cap. Disconnect the Insulation cap.

A 13/16" socket type wrench is provided as standard equipment in the car tool kit. Insert this wrench into the spark plug well and engage the plug. Insert a screw driver into the hole provided at the top of the wrench and turn sharply counterclockwise.

If replacing a new plug, fit it with the center electrode extension and insulating jackets removed from the old spark plug.

## TO REMOVE THE FOURTH SPARK PLUG

A hole is provided in the center of the drain shelf to permit access to the 4th spark plug. Remove the rubber sealing plug 2. Be sure to replace it after installing the spark plug.



## HOW TO SERVICE THE REAR SUSPENSION CYLINDER BALL

- Place the car on horses.
- Remove the rear fenders.
- Move the manual height control lever in the lowest position 4 fig. 14.
- Release the pressure in rear suspension circuit by loosening the bleed screw at the pressure regulator.
- Remove the tie clip from suspension cylinder rod.
- Remove the dust boot clamp.
- Disengage the dust boot and push it to the rear.
- Disengage the piston rod from the support socket. (The rod can be disengaged and replaced only when the tie clip through holes are parallel.)

- Pack the ball socket with wheel bearing grease.

## hard starting

Hard-starting may be due to:

- faulty ignition or
- improper or no fuel delivery

### To check the ignition system:

1. First check condition of fuses and their connections.

2. check the battery:

- Press the manual button of the solenoid. If the engine rotates the battery is good.

If the engine does not rotate the trouble may be in the solenoid or starter. In this case the car may be started by hand cranking. See page 21.

### 3. Check the Spark Plugs for Sufficient Sparking:

- Remove a wire from any spark plug (preferably at the front of the engine).
- Hold the terminal approximately  $\frac{3}{8}$ " from the valve cover and at least 10-12 inches from the carburetor or fuel delivery lines.
- Turn the ignition key on and rotate the engine by means of the manual button at the solenoid.

### CAUTION: BE SURE YOUR HAND IS WELL INSULATED.

- If a spark occurs the ignition system is good. The fault is with the spark plugs

or valves. If no spark appears the trouble may be in the coil, distributor or any other part of the primary ignition system.

#### 4. Check the coil:

- Remove the heavy wire from the coil center tower.
- Hold the wire approximately  $\frac{3}{8}$ " from its socket.
- Turn the ignition key on.
- Rotate the engine by means of the manual button at the solenoid.
- If a strong spark jumps between the wire and the socket the coil is good.
- If no spark appears proceed to check the distributor.

#### 5. Check the Distributor:

Distributor failure may be due to faulty contact points, a bad condenser, a bad rotor, a wet or cracked distributor

cap, dirty wire connections, etc.

a) **CONTACT POINTS:** Remove the distributor cap by loosening the two spring clips. (Do not separate the wires from their sockets). The rotor and contact points will then be visible. By means of the solenoid manual button, rotate the engine with the ignition key on. Observe the contact points to see if a small spark occurs. If a spark appears the trouble may be in the rotor or distributor cap or their connections. If no spark appears have the primary circuit checked by your CITROEN Dealer.

b) **ROTOR:** Replace the distributor cap. Remove any one of four spark plug high tension wires from their socket on the distributor cap. Hold the wire approxi-

mately  $\frac{3}{8}$ " from its seat. With the ignition key on rotate the engine by means of the solenoid manual button. If a spark occurs the rotor is good. If no spark appears check the rotor and its connections, including the wire from the coil tower to the distributor cap. **Caution must be exercised at this operation due to the possibility of the engine starting suddenly.**

c) **DISTRIBUTOR CAP:** Before checking the distributor cap be sure it is dry and clean. With the ignition key on observe the cap to see if a spark seems to jump between any of the wire sockets. If so, replace the cap.

**CAUTION: AT ALL TIMES BE SURE THE PARKING BRAKE IS APPLIED FIRMLY AND THE GEAR SHIFT IS IN NEUTRAL POSITION.**



### to check fuel delivery:

If no fuel is delivered to the carburetor the car will not start. To check the fuel delivery remove the rubber hose from the carburetor intake tube. Hold the hose downward. Prime the fuel pump (see page 20). Rotate the engine by means of the solenoid manual button.

### CAUTION: BE SURE THE IGNITION SWITCH IS OFF.

If the fuel spurts from the hose the trouble is in the carburetor or valve system. If fuel does not appear the trouble may be lack of fuel, faulty fuel pump or delivery tubes or unvented gas tank filler tube. See your CITROEN Dealer.

### FRONT END ADJUSTMENTS

Turning Radius	..18'1/2"
Castor .....	1.30°
Camber (equal both sides) ....	1 mm—.039"
Front Wheel Toe-In .....	.040"—.120"



S. A. ANDRÉ CITROËN, 117 A 167, QUAI ANDRÉ-CITROËN, PARIS-XV<sup>e</sup>, FRANCE

Printed in U.S.A.