



RENAULT

B 80

B 110

B 120

B 110 4 x 4

**édition anglaise
english edition**

WELCOME ON BOARD YOUR NEW RENAULT

You have now taken possession of your new vehicle.

We trust that it will give you the entire satisfaction you have the right to expect and which was the reason for your original choice.

This driving and servicing handbook has been compiled to provide all the information you need and will enable you to :

- Get to know your Renault better to derive maximum benefit from its advanced technical features in optimum working conditions.
- Permanently guarantee optimum operations by following the maintenance recommendations.
- Cope with any minor problems not requiring assistance from a specialist, without losing too much time.

NOTE

This handbook covers all the options proposed to customers. Take into consideration only the indications regarding the model owned by you.

The few moments devoted to reading this handbook will be well worthwhile for the information it contains and by the new technical features you will discover. If any details remain unclear, our Dealer Staff will be pleased to provide you with any further information you may require.

HOW TO READ CROSS-REFERENCES

The reference numbers, figures and letters mentioned in the text refer back to two types of illustration :

- *figures correspond to figures or photographs situated in proximity to the text*
- *letters, sometimes followed by a figure, correspond to the Instrument Panel diagram to be found inside the handbook.*

“Bon voyage” at the wheel of your Renault !

RENAULT TRUCKS AND BUSES: FRONTIER-FREE SERVICE

24 hour round-the-clock assistance exists and has been in operation for several years now. Eleven emergency call centres are listening in for you 365 days a year.

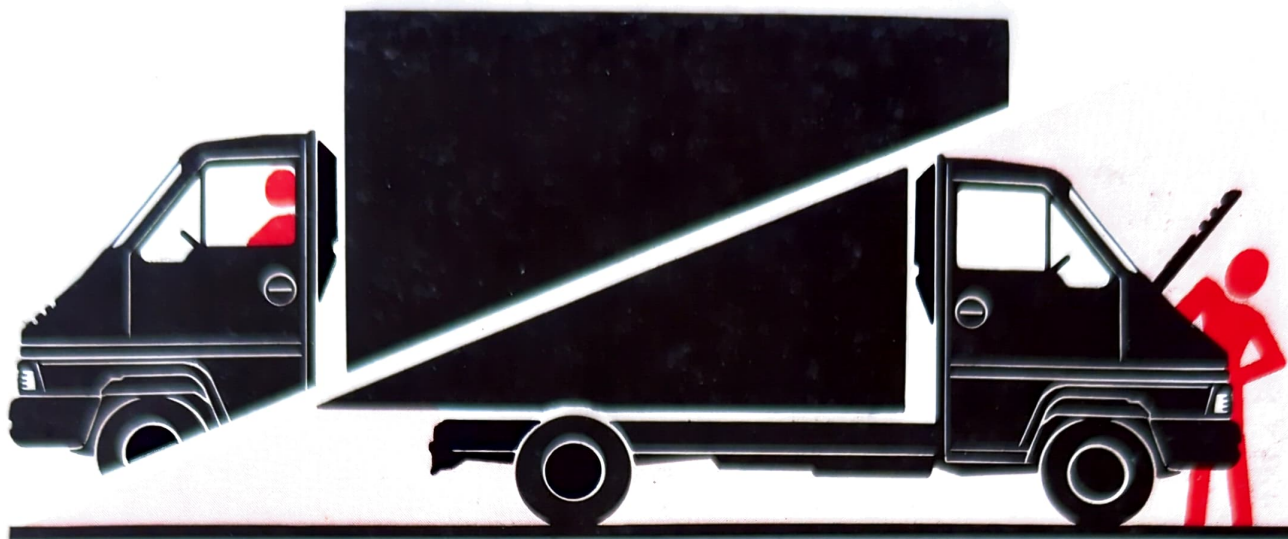
The RENAULT V.I./DKV European credit card can be used to pay your vehicles' travelling expenses.

Problems of ready cash, currency and prolonged lay-up are eliminated.

Spare parts officially approved by RENAULT V.I. meet both the requirements of the vehicle specification and the regulations in force. Only premium Renault parts will ensure :

- Original Equipment safety standards.
- Maintenance of original characteristics and performance.
- Full Manufacturer's Warranty.

The manufacturer reserves the right to make any modifications deemed necessary during production. This handbook should not be considered as a specification for the model in question.



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RENAULT V.I.

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B1 specifications

ENGINE

Depending on your vehicle's equipment
Naturally aspirated engine

	8140.07
Capacity	2 499 cm ³
Bore/stroke	93/92 mm
Injection pump "BOSCH"	EPVE
Firing order	1.3.4.2
Maximum no-load speed	4 500 rpm
Idling speed	750 rpm

Turbocharged engine

	8140.27
Capacity	2 499 cm ³
Bore/stroke	93/92 mm
Injection pump "BOSCH"	EPVE
Firing order	1.3.4.2
Maximum no-load speed	4 400 rpm
Idling speed	750 rpm

Turbocharged intercooled engine

	8140.47
Capacity	2 499 cm ³
Bore/stroke	93/92 mm
Injection pump "BOSCH"	EPVE
Firing order	1.3.4.2
Maximum no-load speed	4 400 rpm
Idling speed	750 rpm

CLUTCH

Depending on your vehicle's equipment

235 DBR

250 DBR

GEARBOX

Depending on your vehicle's equipment

ZF S 5.18

ZF S 5.24

POWER TAKE-OFF

Depending on your vehicle's equipment

Pederzani 743.AM

N 243 B

B2 specifications

TRANSFER BOX

STEYR VG 100

PROPELLER SHAFTS

Tubular shafts fitted with universal joints.

REAR DRIVE AXLE

Depending on your vehicle's equipment

569

669

With inter-wheel differential lock.

FRONT DRIVE AXLE

569

FRONT AXLE

369

STEERING

Depending on your vehicle's equipment

Gemmer 65

BENDIX 111.301

Hydraulic power assisted

FRONT SUSPENSION

Depending on your vehicle's equipment

Leaf springs, hydraulic shock absorbers.

Anti-roll bar

REAR SUSPENSION

Leaf springs, hydraulic shock absorbers and anti-roll bars.

BRAKES

Hydraulic

ELECTRICS

Depending on your vehicle's equipment

12 volts

1 battery(ies) 90 Ah
105 Ah

Alternator : VALEO 70A-A 14N 163
VALEO 105A-A 14N 140

Starter : BOSCH 0001218019

B3 specifications

BODYWORK

It is essential to obtain 1/20 scale chassis drawings from your dealer when fitting bodywork or special equipment (loading crane, fifth wheel, etc...). For the attachment of this bodywork or equipment and also electrical connections, we ask manufacturers and body-builders to comply with the RENAULT V.I. specifications and standards drawn up for this purpose. These are readily available from your dealer.

WELDING ON VEHICLE

Important precautions

The vehicle is equipped with numerous electronic circuits.

Prior to carrying out any electric welding work, an equipotential link must be made by disconnecting the two negative (-) and positive (+) cables from the terminals of the battery and connecting them to earth.

The master switch should be left ON (or circuit closed).

Place the earthing clamp as close as possible to the weld, but never attach it to a rotating part (prop shaft, hub, fan, etc.), nor to any sub-assembly having moving parts (air compressor, turbocharger, etc.).

Nearby plastic hoses and electrical cables should be protected or removed. This also applies when grinding or drilling.

When reconnecting the battery, respect the polarities by always beginning with the positive (+) terminal. If the polarity is reversed, you run the risk of causing irreparable damage to the electronic components.

KEYS :

Make a note of your key numbers here :

- Ignition key :

- Door key :

Fuel tank 67

B5 specifications

TYRES

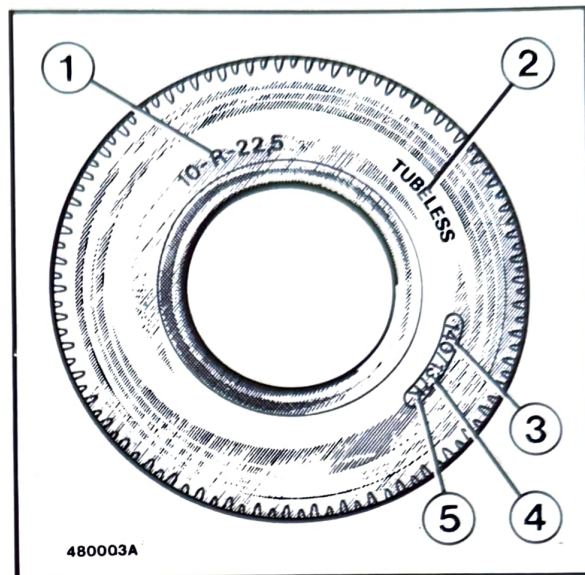
Depending on your vehicle's equipment

- 1 - Tyre type
- 2 - "Tubeless"
- 3 - Load index : single fitment
- 4 - Load index : twin fitment
- 5 - Symbol indicating maximum speed authorised for tyre

Tyre pressures

N.B.

These pressures are given for guidance. Consult the manufacturer's data for further details concerning the make, type, specification and specific usage information for chassis designed to be fitted with equipment likely to modify axle loads. Respect the load/speed indices marked on the sidewalls of the tyres.



Tyre type	Load in Kg. as per fitment		Pressure in Bars
	Single	Twin	
175/75 R 16 C	1 180	2 200	3.0
	1 360	2 520	3.5
	1 500	2 800	4.0
	1 650	3 100	4.5
185/75 R 16 C	1 300	2 440	3.0
	1 480	2 760	3.5
	1 640	3 080	4.0
	1 800	3 400	4.5
195/75 R 16 C	1 350	2 565	3.0
	1 560	2 965	3.5
	1 760	3 345	4.0
	1 950	3 700	4.5
205/75 R 16 C	1 520	2 850	3.0
	1 720	3 230	3.5
	1 920	3 610	4.0
	2 120	4 000	4.5
215/75 R 16 C	1 680	3 080	3.0
	1 880	3 520	3.5
	2 040	3 920	4.0
	2 300	4 360	4.5
6,50 R 16	1 680	3 240	4.0
	1 840	3 560	4.5
	1 940	3 720	4.75
	2 000	3 900	5.0

B6 specifications

NOTE

Tyre pressures are given for guidance. Refer to the manufacturer's data regarding make, type and specific usage. Respect the load/speed indices marked on the sidewalls of the tyres.

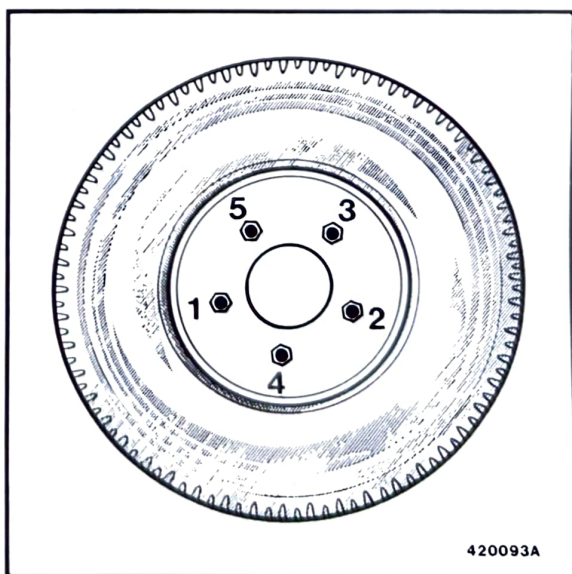
Type of tyre	Load in Kg according to tyre size		Tyre inflation pressure in bars according to use		
	SINGLE	TWIN	ROAD	TRACK	SAND
9,00 R 16	2 000		2.50	1.7	0.9
	2 200		3.00	2.0	1.0
	2 400		3.25	2.2	1.2
	2 800		3.75	2.7	1.4
	3 000		4.25	2.9	1.6
	3 200		4.50	3.2	1.7
	4 240		6.50		

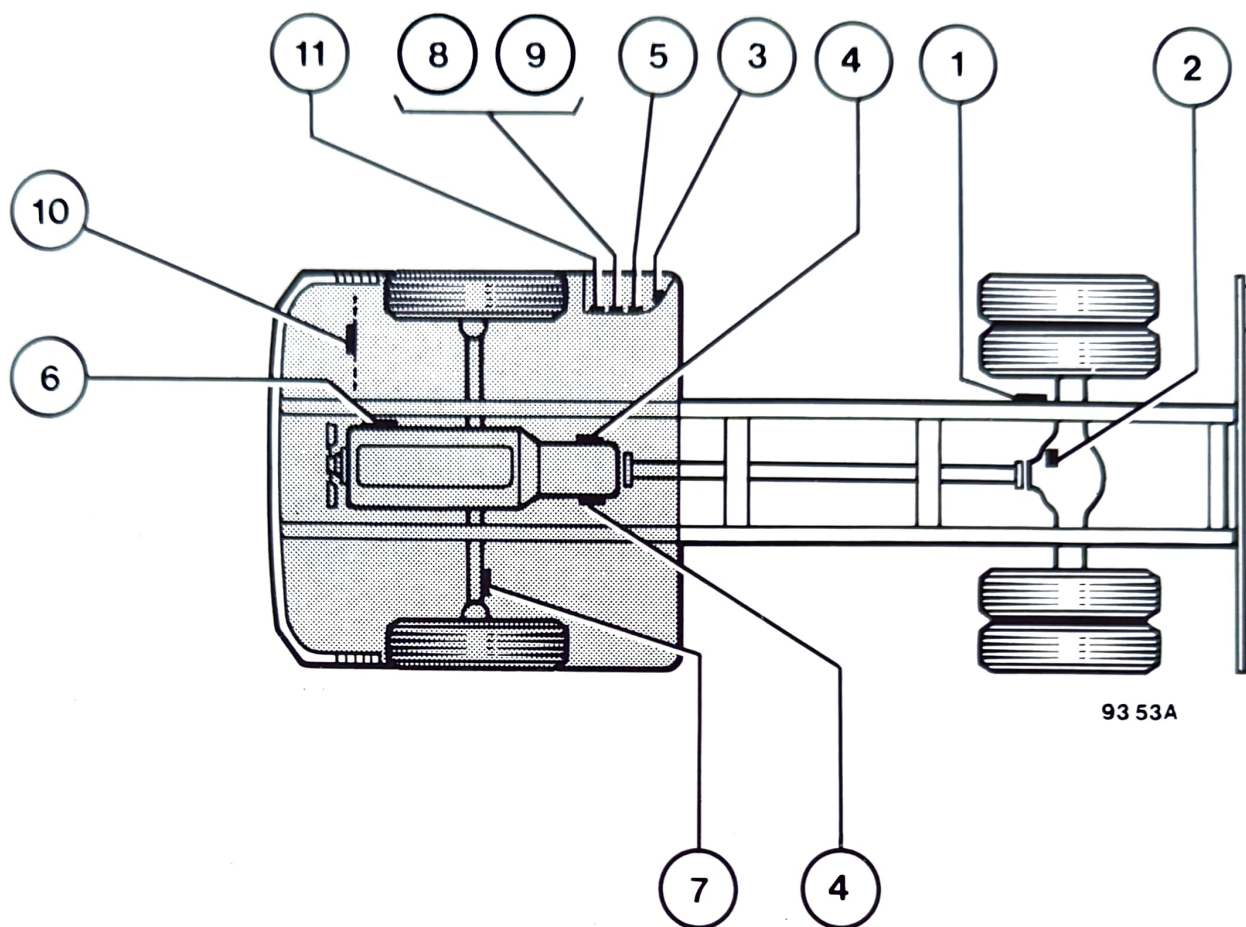
Steel wheels

Tightening torque of wheel nuts :
360 N.m

Tightening sequence :

- Disc wheels





VEHICLE IDENTITY MARKINGS

- 1 - Chassis
- 2 - Drive axle
- 3 - Tachograph plate
- 4 - Gearbox
- 5 - Load sensing valve curve plate
- 6 - Engine
- 7 - Axle
- 8 - CAM plate
- 9 - Paint reference
- 10 - Cab
- 11 - Manufacturer's identity plate

C1 use of the vehicle

DOORS

FRONT DOORS

Opening from outside

Press push-button (1) and pull the door open.

Closing

Push the door until it engages automatically.

Locking - Unlocking

With key in lock (2).

Opening from inside

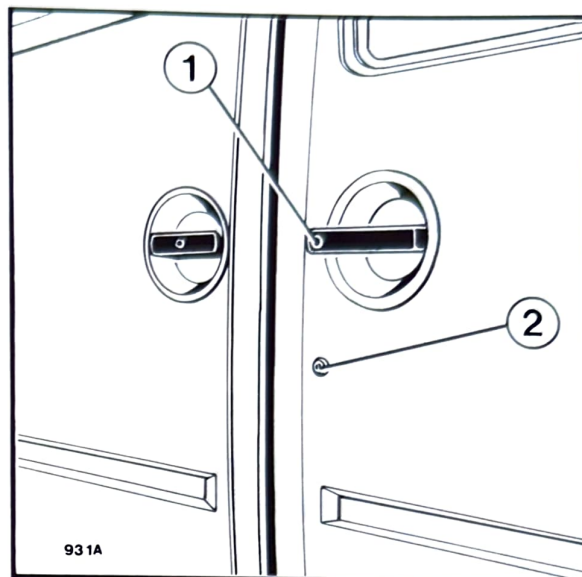
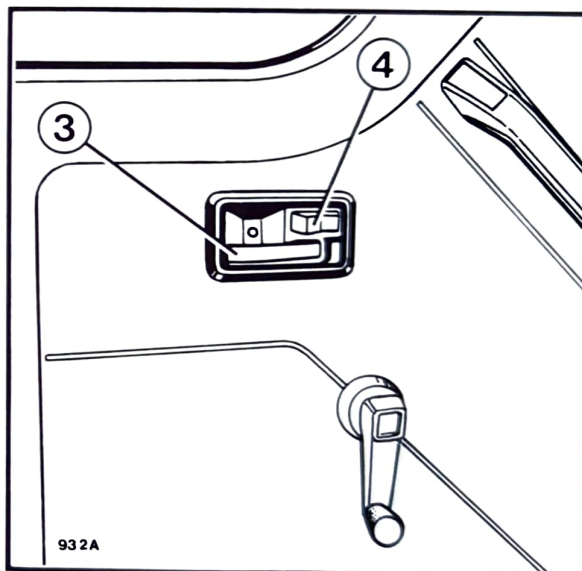
Pull lever (3) rearwards and push the door.

Closing

Pull the door until it engages automatically.

Locking - Unlocking

With tumbler knob (4).



C2 use of the vehicle

Depending on your vehicle's equipment

SLIDING SIDE DOORS

Opening from outside

Turn handle (1) to the right and pull the door rearwards.

Closing

Turn handle (1) to the right and pull the door forward until it engages automatically.

Locking - Unlocking

With key in lock (2).

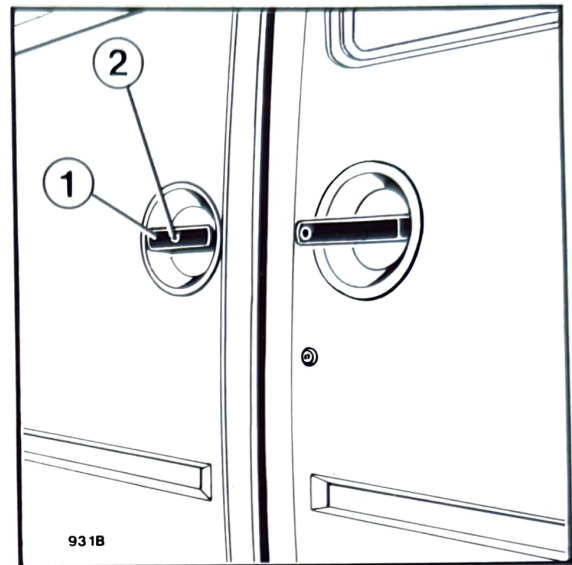
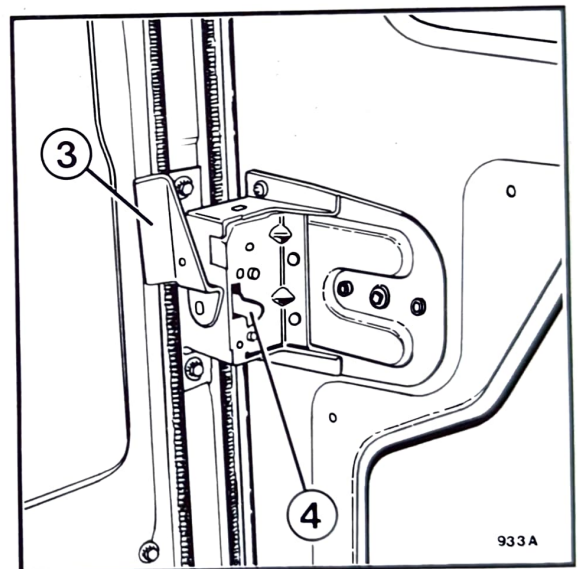
Opening from the interior

Tilt lever (3) rearwards and open the door until bolt (4) engages.

Closing

Tilt lever (3) forwards and close the door until it engages automatically.

This door does not have any system for knocking from the interior.



C3 use of the vehicle

Depending on your vehicle's equipment

REAR DOORS

Opening from outside

Turn handle (1) to the right and pull the door.

Closing

Push the door until it engages automatically then turn handle (1) to the left.

Locking - Unlocking

With key in lock (2).

Opening from inside

RH door

Lift handle (3) and push the door.

LH door

Lift handle (4) and push the door.

Closing of LH door

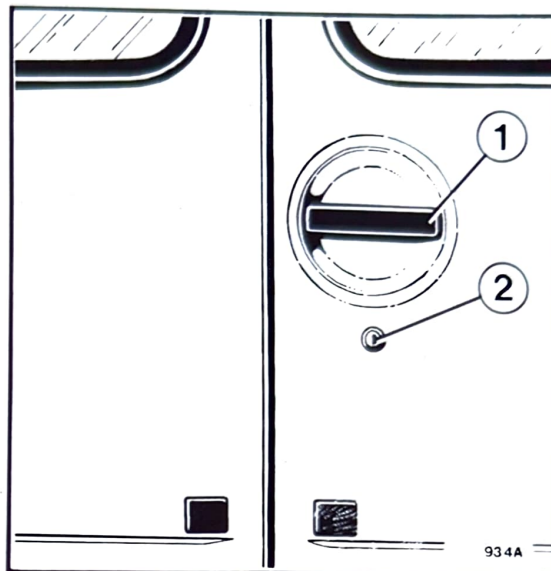
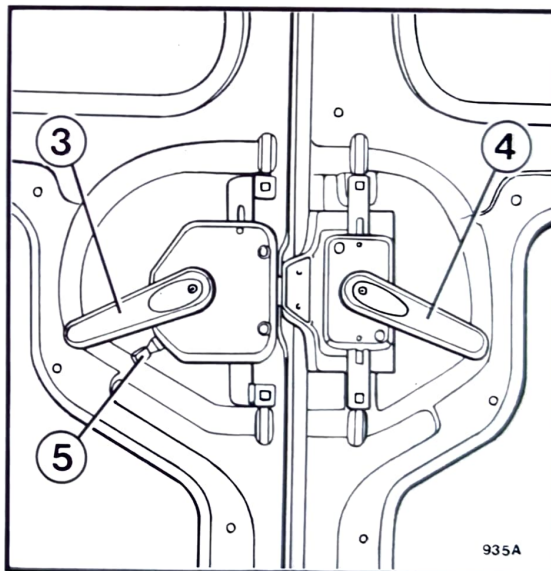
Close the door and lower handle (4).

Closing of RH door

Close the door until it engages automatically and lower handle (3).

Locking - Unlocking

By lever (5).



C4 use of the vehicle

Depending on your vehicle's equipment

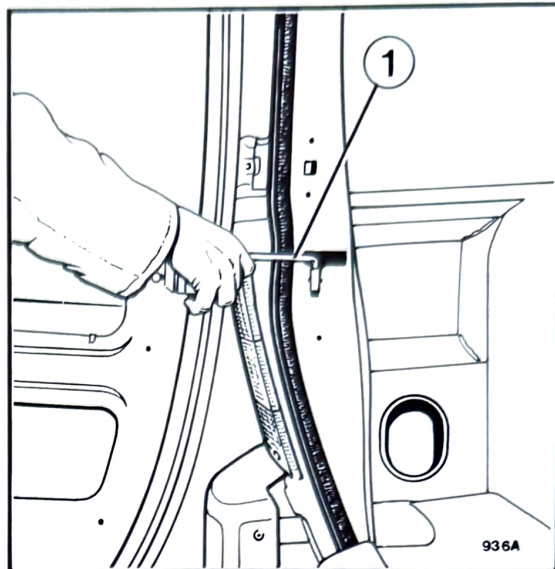
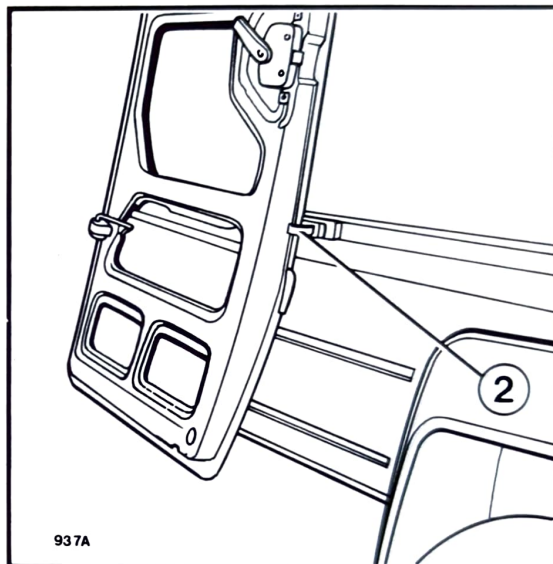
270° opening rear doors

Open the door to approximately 70°, push door check (1) and hold it until it jumps out of its housing.

The hooks (2) attached on the side panels serve for hooking the doors on the vehicle sides.

IMPORTANT

It is formally forbidden to drive on the public highway with the rear doors hooked open at 270°.



BONNET

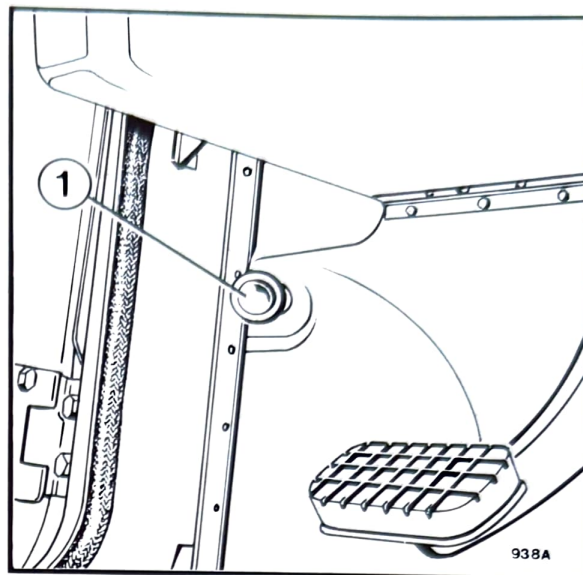
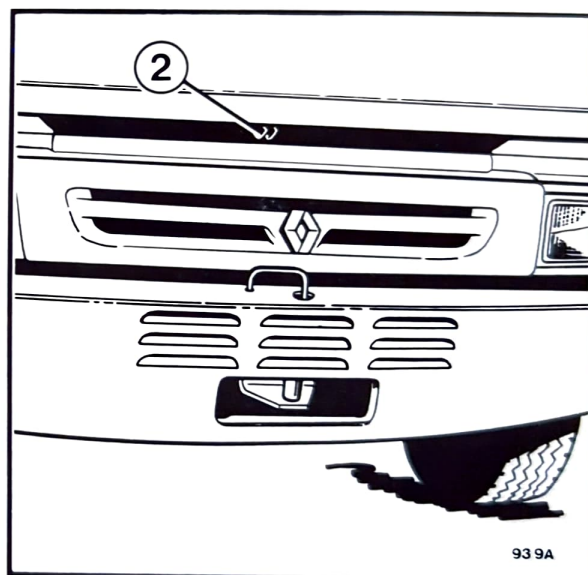
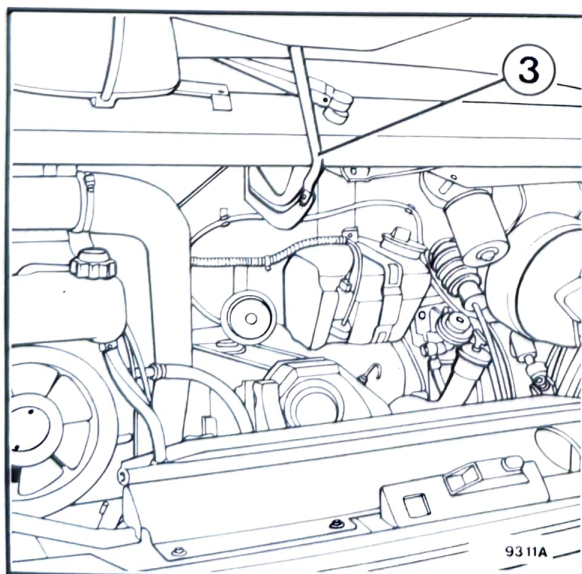
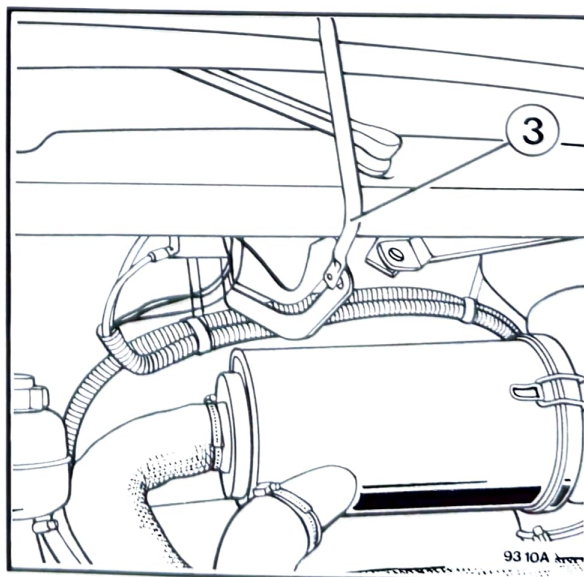
Opening

Pull knob (1) located on the left under the dashboard.

Raise hook (2) and open the bonnet.

Closing

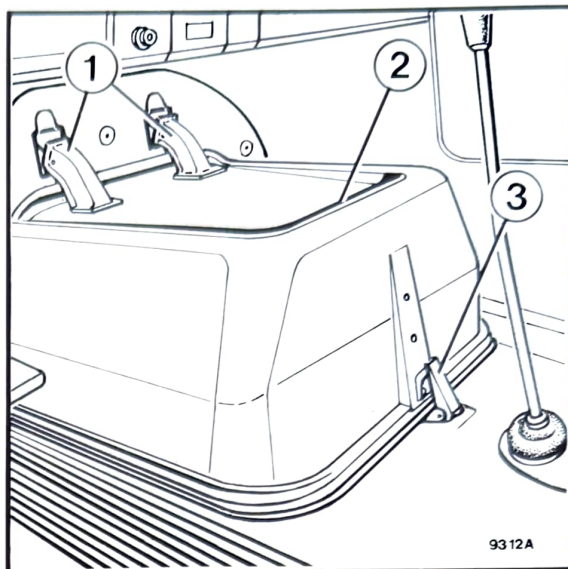
Lift the bonnet slightly and push strut (3). Let go of the bonnet when it is approximately 20 cm away from its closed position. It will lock itself under the effect of its own weight.



C6 use of the vehicle

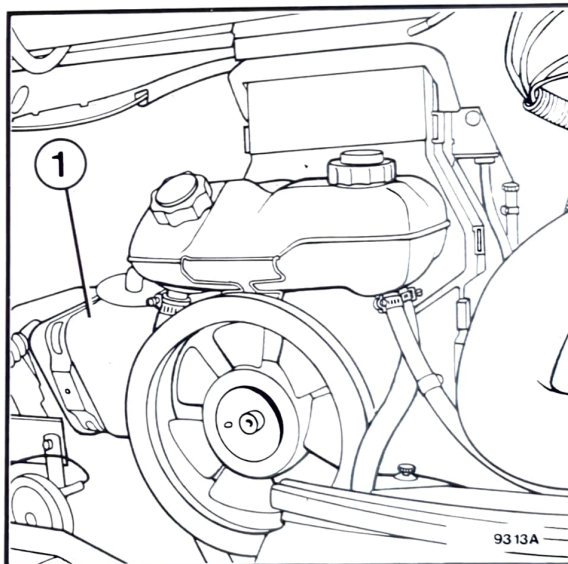
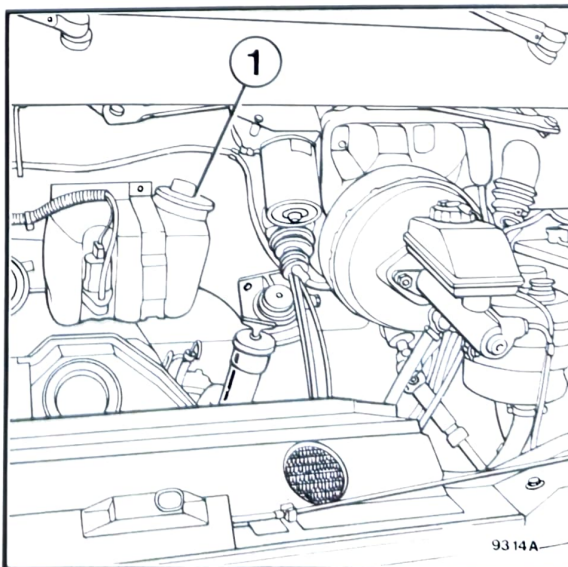
Engine hood

Unclip fastener (3). Lift with handle (2) and push the hood forwards to disengage the hooks (1)



WINDSCREEN WASHER RESERVOIR

Regularly check the water level in the reservoir (1). If necessary, top up with soft water. To avoid scale deposits and jet and tube clogging, we recommend the addition of a RENAULT windscreen washer product. As this product also contains an anti-freeze, it can be used all the year round.



C7 use of the vehicle

SEATS

IMPORTANT

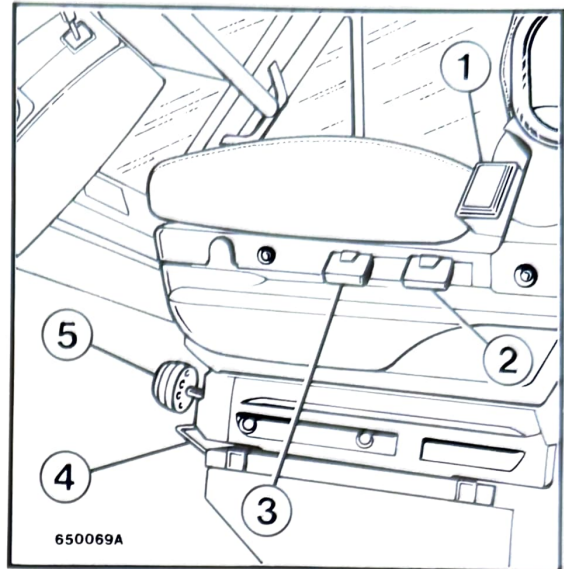
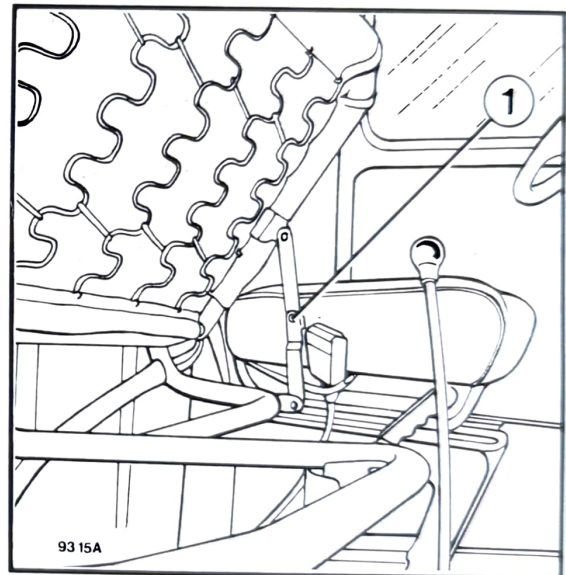
For your own safety, it is essential to remove the plastic protective cover when putting the vehicle into commission.

NOTE

Depending on seat use (i.e. driver, passenger, left or right hand drive), controls are located to one side or the other. The seat type shown is just one possible solution.

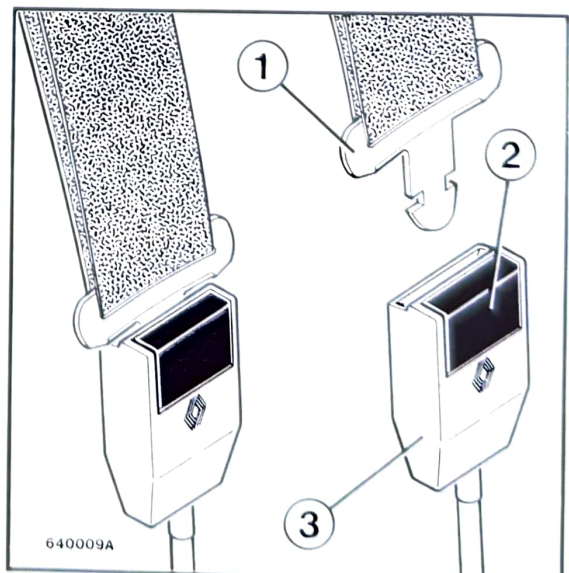
Driver's seat

- 1 - Seat squab adjustment.
- 2 - Seat cushion height and rearward tilt adjustment
- 3 - Seat cushion height and forward tilt adjustment
- 4 - Seat adjustment, fore-and-aft.
- 5 - Suspension flexibility adjustment.



Passengers' bench seat

The seat cushion is locked and unlocked automatically. Just pull it upwards to lift it. It is held by strut (1). To lower it, fold strut (1) forwards and press.



Seat belts

Inertia reel safety belts

Slowly unwind the strap so as to be able to engage bolt (1) in clasp (3).

If the strap locks, pull it back a little then continue unwinding.

Unlocking

Press button (2) on clasp (3) ; the belt is returned by retractor.

Accompany bolt (1) with your hand to facilitate this operation.

C8 use of the vehicle

SWITCHES

COMBINED LIGHTS/HORN STALK SWITCH

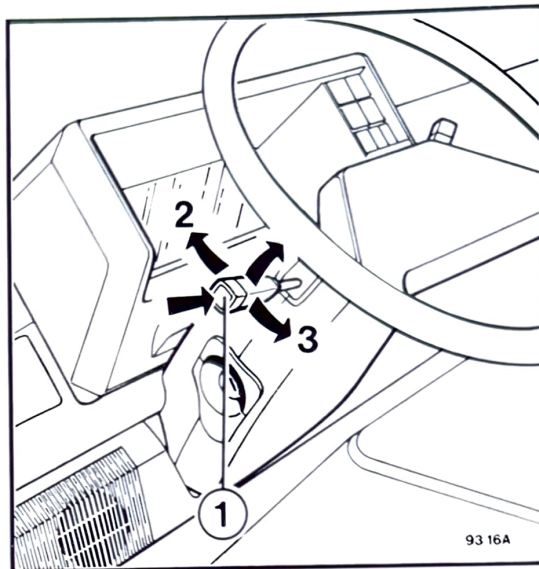
Direction indicators (flashers)

Push the control stalk (1) parallel to the steering wheel in the direction you are going to turn :

2 - RH indicator lights.

3 - LH indicator lights.

The control stalk incorporates an automatic return feature.



Horn

Push down on the end of control stalk (1) to sound.

Headlamps flasher warning unit

Lightly pull the control stalk (1) towards you to flash.

Lighting

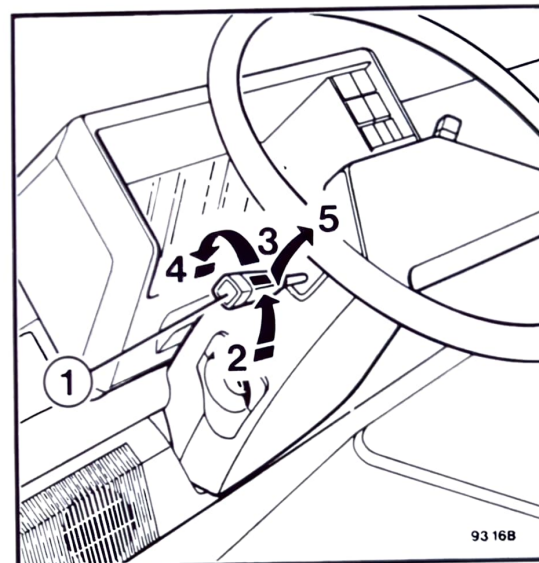
Lighting is controlled by control stalk (1). The lights go out when the stalk is in position "2".

Parking/side lights

Push the control stalk in the direction of position "3". Warning light (T) comes on.

Dipped beam headlights

Push the stalk in the direction of position "4". Warning light (S) comes on.



Main beam headlights

With the control stalk in position "4", pull the stalk towards you in the direction of position "5". Warning light (R) comes on.

To revert to dipped headlights, push the stalk again in the direction of position "5". Warning light (S) comes on.

The instrument panel lighting comes on in all "Lights On" positions.

Alarm buzzer

When a front door is opened, an alarm buzzer is tripped to warn you that the lights are still on whereas the engine is stopped (to prevent discharging the battery).

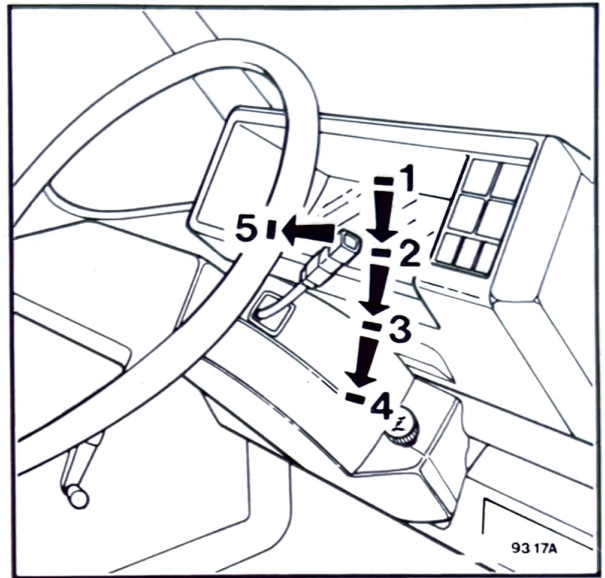
C9 use of the vehicle

Windscreen wash/wipe control stalk

Move the stalk parallel to the steering wheel :

- 1 - Intermittent wiping
- 2 - Slow wiping
- 3 - Fast wiping
- 4 - Stop position

The stalk also controls the windscreen wash/wipe by moving it towards (5).



C10 use of the vehicle

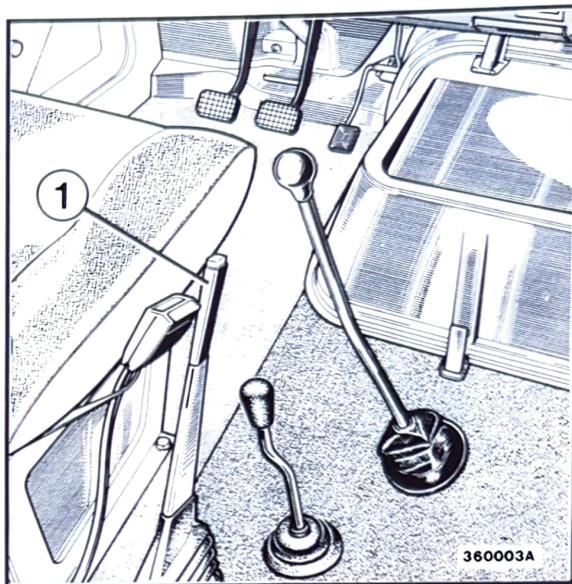
PARKING BRAKE

Release

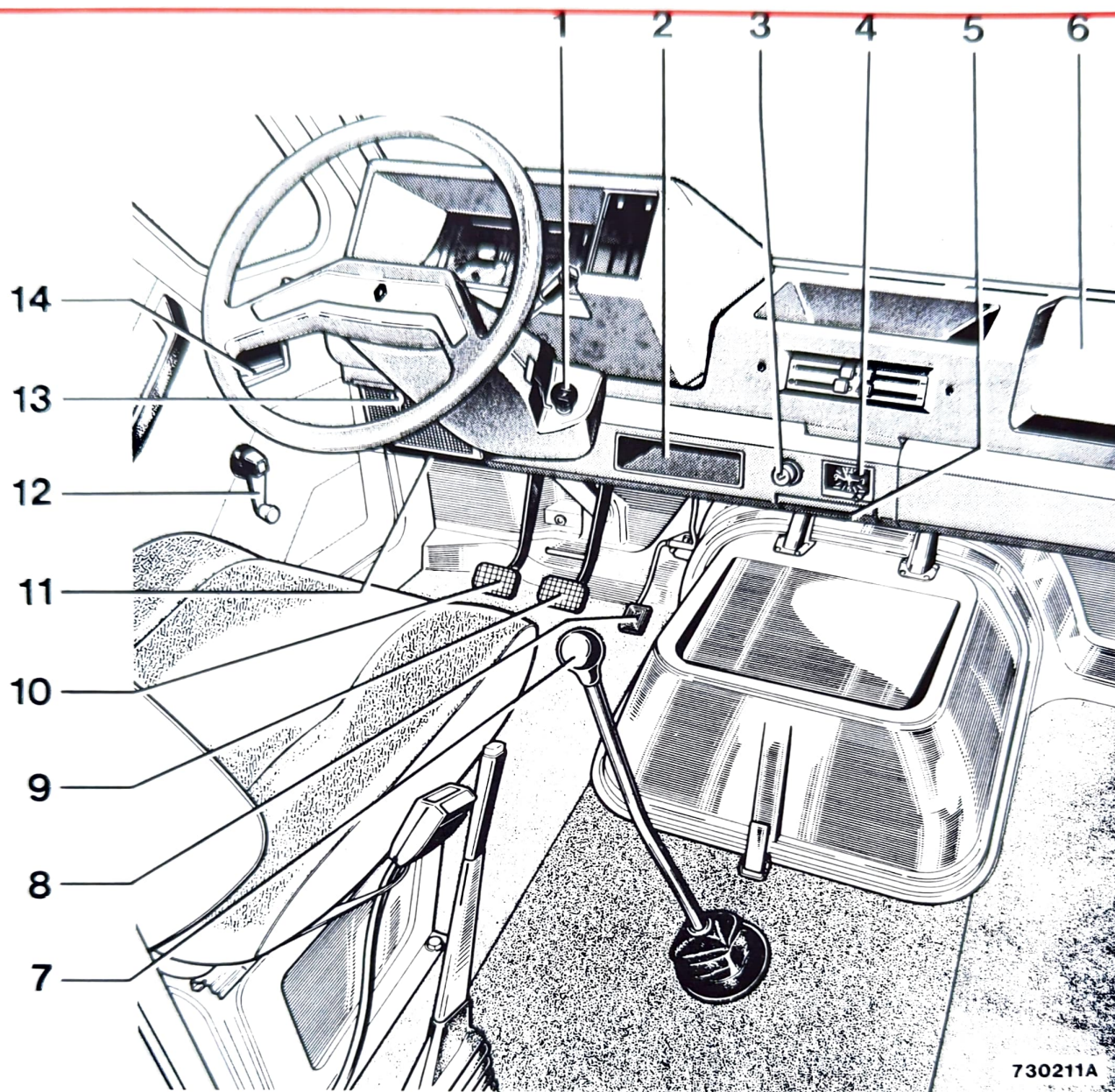
Pull lever (1) gently. Depress the push-button and push the lever down.

Application

Pull the lever.



C11 use of the vehicle

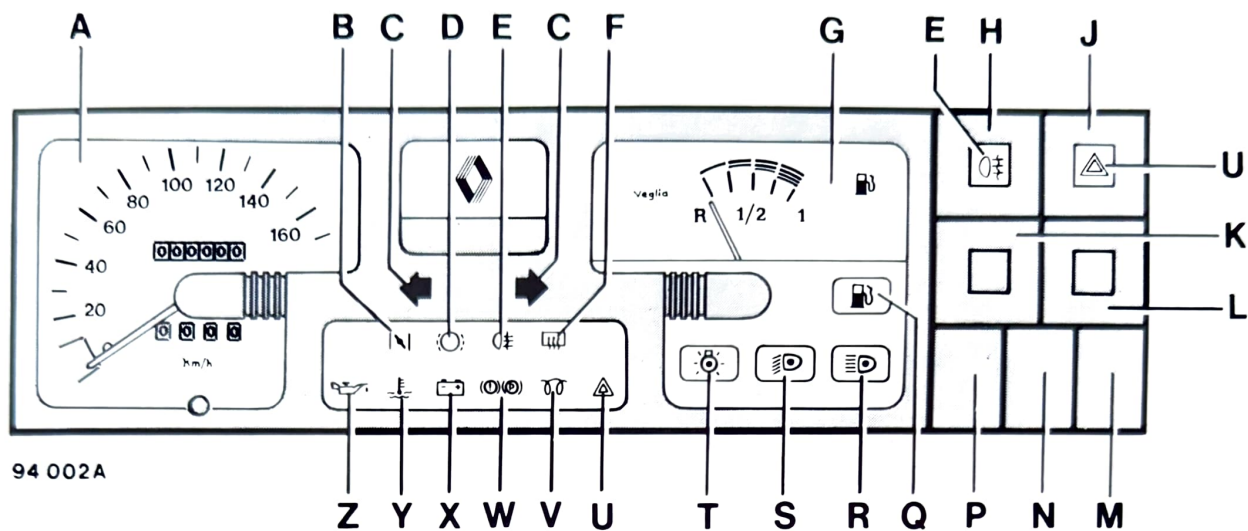
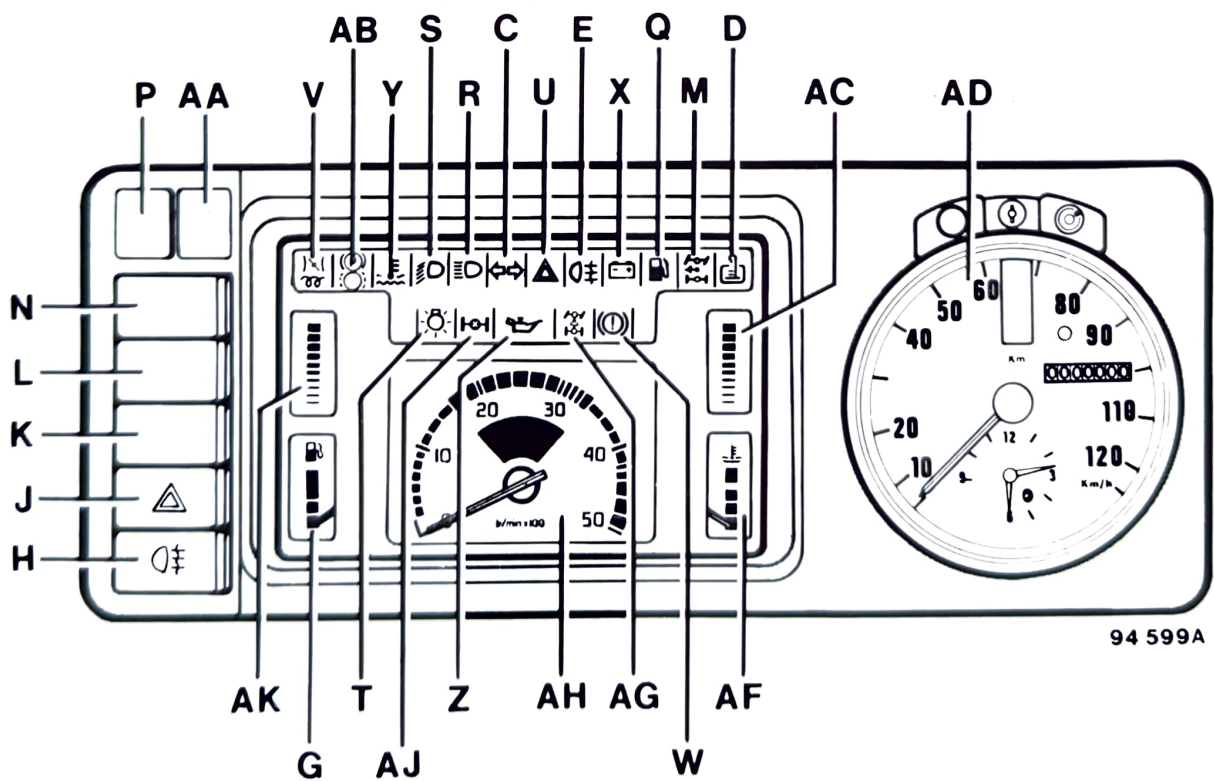


730211A

DRIVING POSITION

Depending on your vehicle's equipment

- 1 - Engine idling control
- 2 - Space for radio
- 3 - Cigar lighter
- 4 - Clock
- 5 - Ashtray
- 6 - Glove compartment
- 7 - Gear change lever
- 8 - Accelerator pedal
- 9 - Brake pedal
- 10 - Clutch pedal
- 11 - Fuses
- 12 - Driver's window winder control
- 13 - Steering lock/ignition switch
- 13 - Starting switch
- 14 - Door opening control



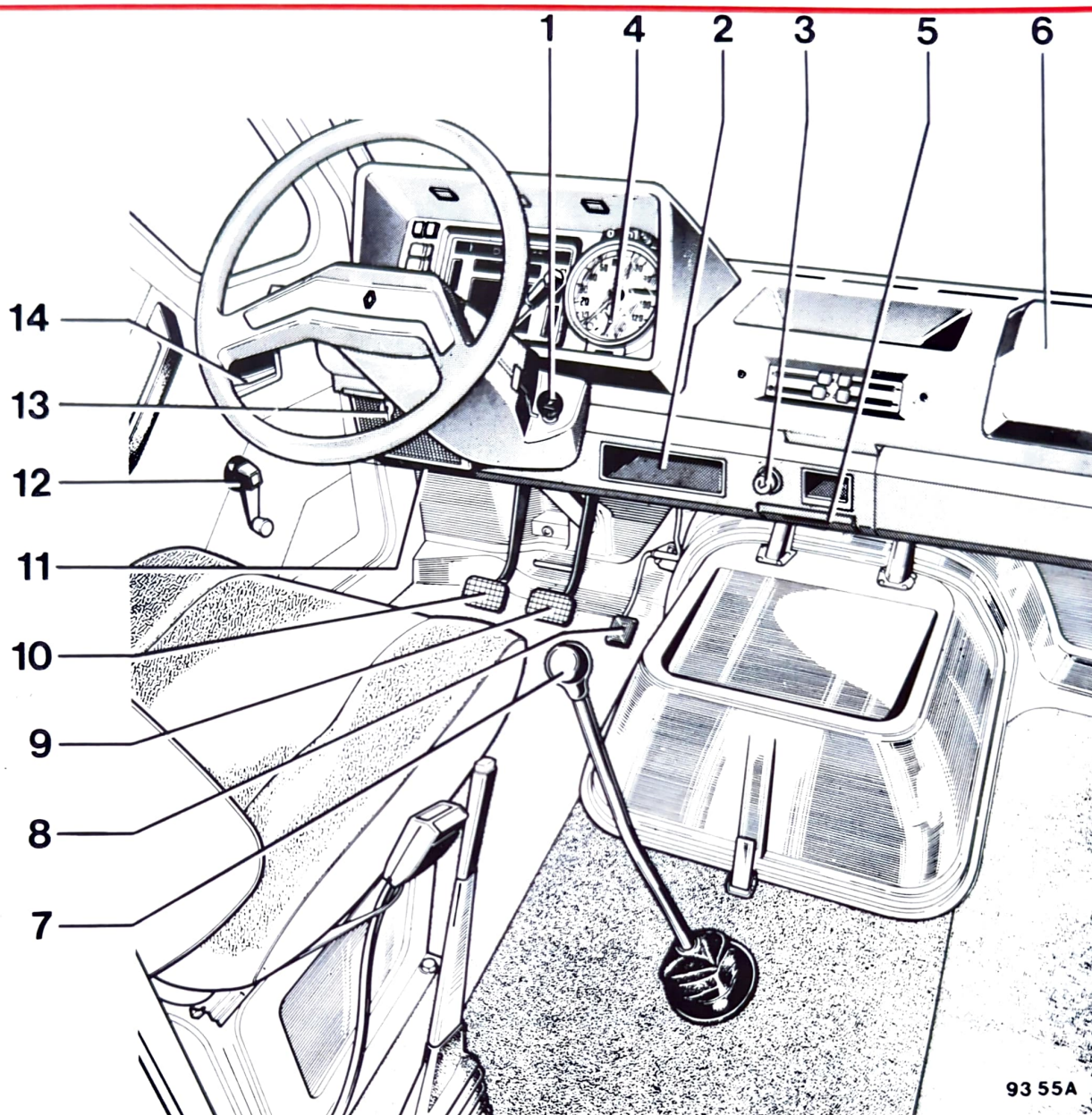
C12 use of the vehicle

INSTRUMENT PANEL

Depending on your vehicle's equipment

- A - Mileometer-speedometer
- B - Available
- C - Direction indicators warning light
- D - Available
- E - Rear fog light warning light
- F - Available
- G - Fuel level gauge
- H - Rear fog lights switch
- J - Hazard lights switch
- K - Blanking plate
- L - Blanking plate
- M - Power take-off warning light
- N - Blanking plate
- P - Blanking plate
- Q - Fuel level warning light
- R - Main beam headlights warning light
- S - Dipped beam headlights warning light
- T - Side/parking lights warning light - Dashboard lighting
- U - Hazard lights warning light
- V - Engine preheat warning light
- W - Brake fluid level warning light
- W - Parking brake warning light
- X - Battery charge warning light
- Y - Water temperature warning light
- Z - Engine oil pressure and stop danger warning light.
- AA - Blanking plate
- AB - Parking brake warning light
- AC - Blanking plate
- AD - Tachograph
- AF - Water temperature gauge
- AG - Front axle dog clutching warning light
- AH - Rev. counter
- AJ - Inter-wheel diff. lock warning light
- AK - Blanking plate

C13 use of the vehicle



93 55A

DRIVING POSITION

Depending on your vehicle's equipment

- 1 - Engine idling control
- 2 - Space for radio
- 3 - Cigar lighter
- 4 - Clock
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- 14 - Door opening control

C14 use of the vehicle

PRIOR TO STARTING

Check in particular :

- That there are no traces of oil, water or fuel under the vehicle.
- Leaks from major units. Should a leak occur, clean the breather. A clogged breather allows pressure to build up in the casing and leads to leaks.
- Oil levels
 - . engine
 - . power steering
 - . brake fluid system.
- Coolant level
- Tyre pressures
- Air filter clogging indicator
- Correct operation of the danger warning lights.
- That water has been drained from the fuel prefilter.

Automatic warning light tester

The tester checks the warning light bulbs (battery charge, water temperature, air and oil pressure). All the lights go out as soon as the engine is started.

Tachograph

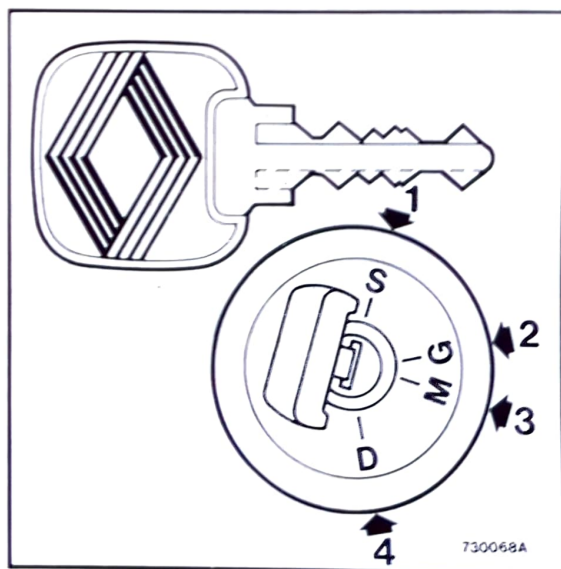
To avoid damage never open the tachograph cover when the engine is running.

STARTING SWITCH

Depending on your vehicle's equipment

Steering lock

- Stop and column-lock position (1) : withdraw the ignition key and turn the steering wheel until the steering lock clicks.
- Garage position (2) : engine stopped, steering wheel free.
- Running position (3) : contact and pre-heating.
- Start position (4): if the engine does not start, turn the ignition key before actuating the starter again. Release the key as soon as the engine runs.



C15 use of the vehicle

STARTING

Make sure that the parking brake is engaged.

Ensure that the gear lever is in neutral.

Fully depress the accelerator pedal. Actuate the starter. Release the accelerator pedal as soon as the engine runs.

Depending on your vehicle's equipment

Starting the engine using the Flammstart system

Cold start

(in cold weather with temperature below 15°C (59°F))

Switch on the ignition. Warning light (V) comes on.

After 30 to 60 seconds, warning light (V) goes out. The engine is ready for starting.

Fully depress the accelerator pedal and start the engine.

As soon as the engine runs, release the ignition key and hold the engine speed between 1 000 and 1 100 rpm.

NOTE

Actuate the starter within 30 seconds of warning light (V) going out. If not, the Flammstart system is de-activated.

Warning light (V) comes on again and stays on until the engine temperature is sufficient.

IMPORTANT

Never exceed an engine speed of 1 100 rpm as long as warning light (V) is on (risk of blowing out the flame).

Repeating the starting operation in the event of interruption of the cycle

Before commencing the operation, the ignition must be switched off for at least 4 seconds.

Hot start

(in temperatures above 15°C (59°F))

Switch on the ignition. Warning light (V) comes on for 1 or 2 seconds, then goes out.

Since the temperature is high enough, the Flammstart system is not activated.

Fully depress the accelerator pedal and start the engine.

As soon as the engine runs, release the ignition key and the accelerator pedal.

Operating trouble

If warning light (V) flashes or stays out when the ignition is switched on, or flashes during operation, get the installation checked out by your dealer or an approved agent.

The engine oil pressure warning light (Z) must go out 3 to 7 seconds after the engine has started.

The battery charge warning light (X) must go out as soon as the engine starts.

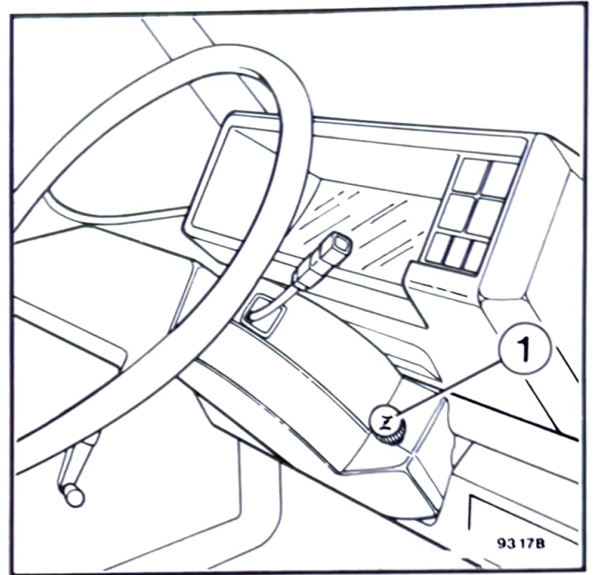
C16 use of the vehicle

Hand throttle

This control serves to adjust the engine speed for cold starting and when using the power take-off. Pull the control (1) to attain the required engine speed and turn clockwise to lock it, keeping your foot on the accelerate to relieve the control.

Do not move the vehicle until :

- The engine oil pressure warning light has gone out.



Vehicle equipped with fuel preheater

The preheater starts automatically

It is controlled by a thermostat which monitors fuel temperature.

C17 use of the vehicle

SPECIAL CONDITIONS

USE DURING WINTER OR IN COLD CLIMATES

Engine starting

(see "STARTING")

Prior to setting off, allow the engine to run for a few minutes to ensure that oil pressure has built up. It is best not to warm up the engine by prolonged running at idle or no-load, but, to drive slowly using the lower gears until normal running temperature is attained. Never demand maximum power from your engine until the water temperature reaches 80°C.

CAUTION

Under no circumstance should a radiator blind or shutter be fitted on vehicles equipped with an intercooled engine.

Engine cooling system

This vehicle is supplied with HUILES RENAULT DIESEL "TOPCOOLING C" which is in conformity with RENAULT V.I. specifications. It gives frost protection in temperatures down to -25°C.

Batteries

Keep the batteries well charged since their resistance to frost depends on their charge level.

USE DURING SUMMER OR IN HOT CLIMATES

Check the battery electrolyte level frequently. Do not labour the engine, change gear as often as necessary to maintain optimum engine speed. Thus the circulation of water in the cooling system will be improved, keeping the engine temperature within the required specification limits.

Frequently clean the exterior of the radiator by blowing compressed air through the core from the engine side, to remove any insects or dust that may restrict the air flow. Ensure that the radiator is in good condition and if necessary, descale.

USE IN DUSTY ATMOSPHERES

It is recommended to make a careful inspection of the air filter clogging indicator every day.

Air filter

Normal servicing (see page F17 → F19).

Do not forget that clogging of the filter depends on engine revs. If low gear ratios are constantly used (mountainous terrain, etc...) then the filter should be serviced on a time basis rather than mileage.

A blocked filter can cause serious damage

USE AT HIGH ALTITUDE

Use of the vehicle at high altitudes affects engine performance. A power loss of approximately 10 % for normally aspirated engines and approximately 5 % for turbocharged can be expected per 1,000 metres of altitude. Also remember that the boiling point of water decreases by 3.5°C every 1,000 metres increase in altitude.

C18 use of the vehicle

ON THE ROAD

Depending on your vehicle's equipment

Engine speed range

Always select a gear ratio which will enable you to keep the engine in the optimum range of 2 000 to 3 200 r.p.m. Check this on rev. counter (AH).

NOTE

The maximum torque of the engine is developed at 2 000 (B110-B120) - 2 200 (B80) r.p.m. Keep an eye on the instrument panel warning lights and gauges.

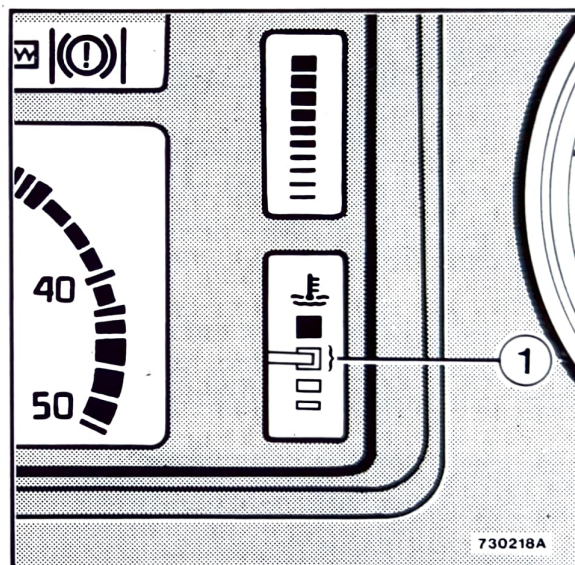
If oil pressure warning light (Z) comes on, stop the engine and immediately find the cause. If the brake air pressure drop warning lights (W) come on, stop the vehicle immediately and find the cause. If water temperature warning light (Y) comes on, stop the vehicle immediately and find the cause. Watch the water temperature gauge (AF), the temperature should stabilize between 85-90°C.

Depending on your vehicle's equipment

Water temperature gauge

Needle in position :

1 - approx. 85/90°C

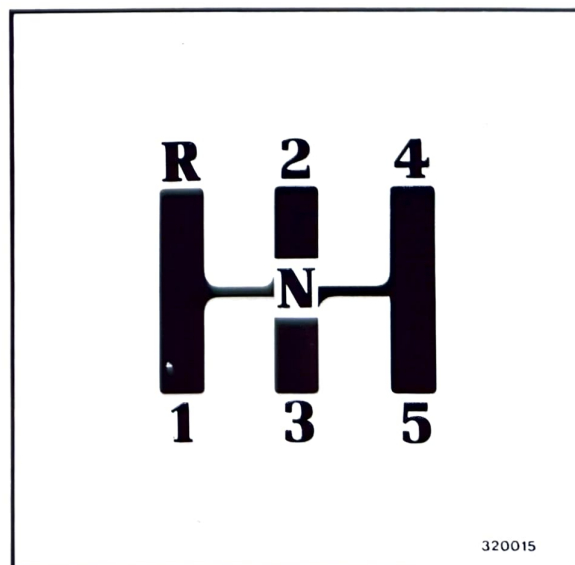


GEARBOX

Gear changing

Gear pattern.

Always start off in first gear, then change through the gears in a regular sequence to prevent premature wear of the clutch.



C19 use of the vehicle

TRANSFER BOX

Depending on your vehicle's equipment

Transfer box control

The gears are to be shifted while the vehicle is at a standstill. Control lever (1)

H.S. 4x2 "road" position

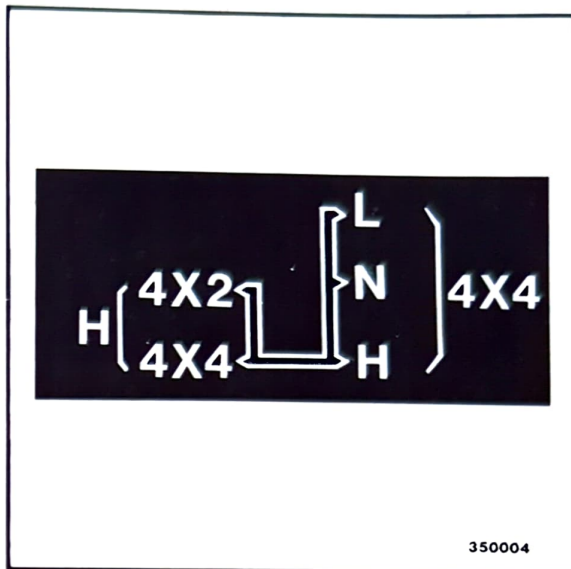
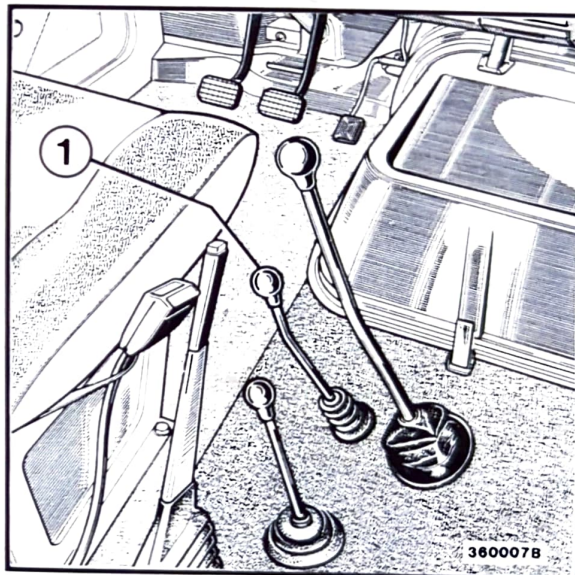
(High speed, 4x2). The transfer box is in high speed range and only the rear axle is driving. The warning light (AG) is off.

L. 4x4 "all terrain" position

(Low speed, 4x4). The transfer box is in low speed range and all 4 roadwheels are driving. The warning light (AG) is on.

H. 4x4 "sand" position

(High speed, 4x4). The transfer box is in high speed range and both axles are driving. Only warning light (AG) is on



C20 use of the vehicle

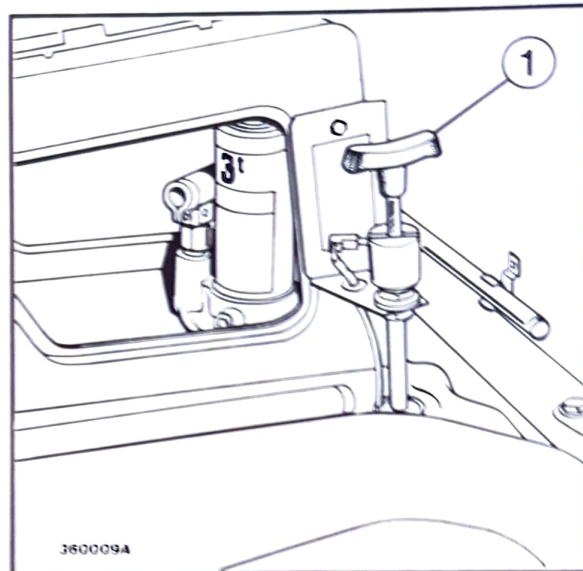
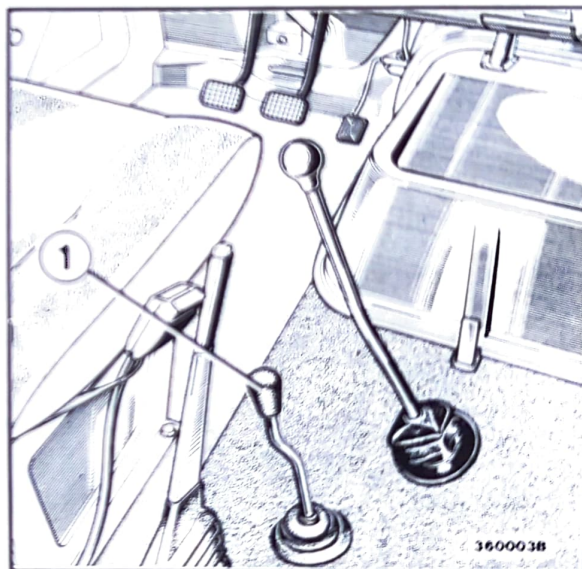
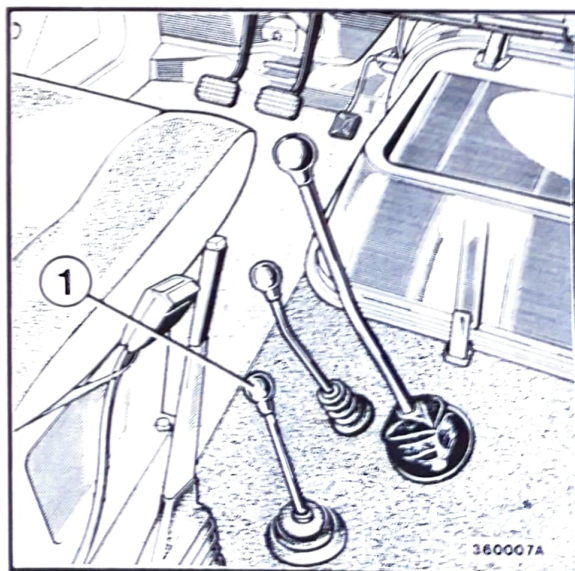
POWER TAKE-OFF

Depending on your vehicle's equipment
Gearbox mounted power take-off

With the vehicle stationary, engine idling and the gear lever in neutral, depress the clutch pedal for 7 seconds. Actuate control (1). Engage the clutch and the power take-off will turn instantly. Warning light (M) must come on. To disengage the power take-off depress the clutch pedal and actuate the control (1). Warning light (M) will go out.

Engine speed

If drive is used for a hydraulic pump, do not exceed the maximum engine speed defined by the equipment manufacturer.



C21 use of the vehicle

DIFFERENTIAL

Depending on your vehicle's equipment

Inter-wheel differential lock

Do not use :

- On surfaces giving a firm grip (roads, dry or rocky ground).
- On bends or corners.
- When the vehicle is equipped with an anti-skid device (chains, etc...).

Engagement

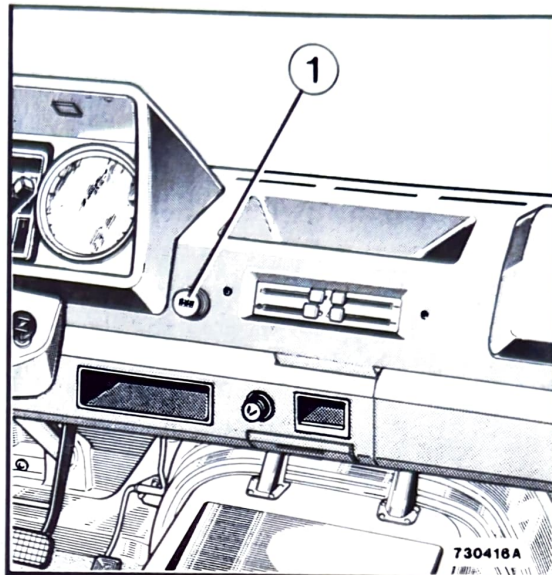
On surfaces with poor grip or slippery roads (without changing road speed), actuate switch (1). Warning light (AJ) will come on.

NOTE

Never engage the inter-wheel diff. lock if one of the drive wheels spins. If a drive wheel fails to grip, declutch and actuate switch (1). Engage the clutch but only accelerate after warning light (AJ) comes on.

Disengagement

Return the switch (1) to its original position. The warning light (AJ) should go out. If it does not, reduce your speed to a crawl and gently turn the steering wheel to the right and to the left in order to release the dog clutch and to extinguish the warning light.

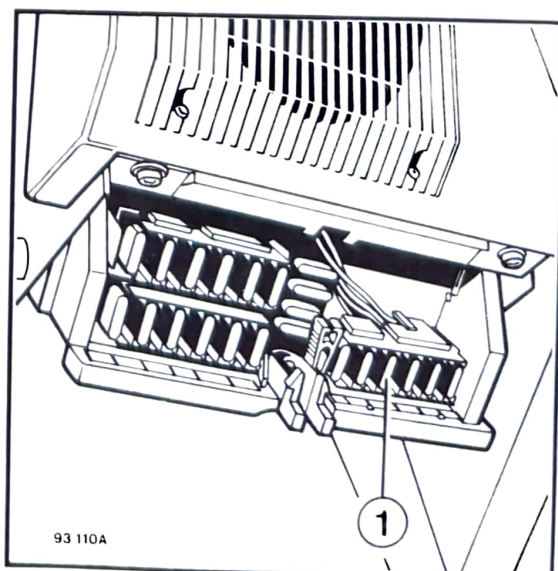


STOPPING

Apply the parking brake and put the gear lever in neutral. Always allow the engine to slow down and idle for several seconds before operating the stop control. Switch off the ignition.

IMPORTANT

If the vehicle is to be stopped for more than 10 days, it is recommended that fuse (1) be removed to avoid discharging the batteries through the tachograph.



C22 use of the vehicle

TYRES

WHEELS AND TYRES

Wheel changes

Precautions to be taken prior to fitting :

Before fitting

Carefully clean the wheel rims and hubs. In particular, clean all parts in contact with the wheels and remove all grease, earth, mud, metal burrs, excess paint, etc.

Fitting

Lightly lubricate the studs and nuts with engine oil. Tighten the nuts gradually using the wheel nut spanner provided in the tool kit. Correct tightening pressure is obtained by pulling the tool lever hard.

IMPORTANT

Overtightening may cause damage. Do not use tubes, bars or other devices to increase the leverage.

In-service checks

Check the tightness of the wheel nuts after the fitting of a wheel or a wheel change : after 20 to 30 km then between 150 km and 250 km.

Failure to carry out these elementary precautions may result in loosening of the wheel nuts and have serious consequences.

Principal causes of premature wear

- Manner of driving (excessive braking, driving through potholes, etc.).
- Overloading of vehicle or bad load distribution.
- Excessive inflation or under-inflation (inflate to pressure corresponding to the weight per axle).
- Incorrect pairing (always twin tyres of the same dimension, type and same degree of wear).
- Incorrect front end steering geometry.

Inflation chart (vehicle laden)

See Specifications chapter.

Checking tyre pressures

Frequency

The tyre pressures must be checked every day.

Method

The tyre pressures must always be checked when the tyres are cold.

It is essential never to deflate hot tyres.

Safety

In the event of a tyre hitting an obstacle or if it is necessary to stop as the result of a puncture, it is essential to get the tyre checked by a specialist immediately.

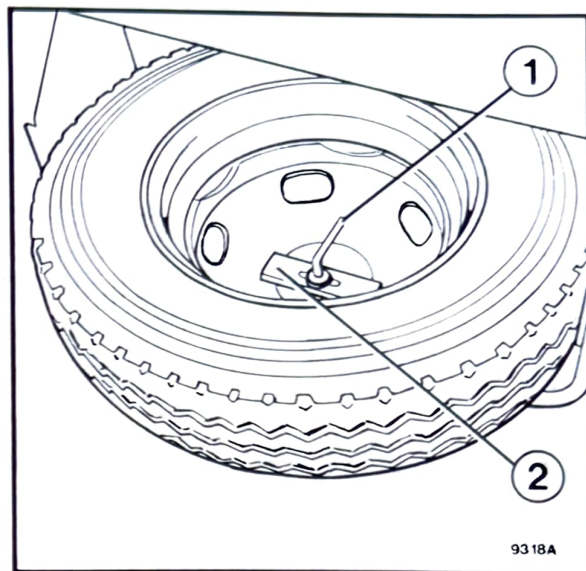
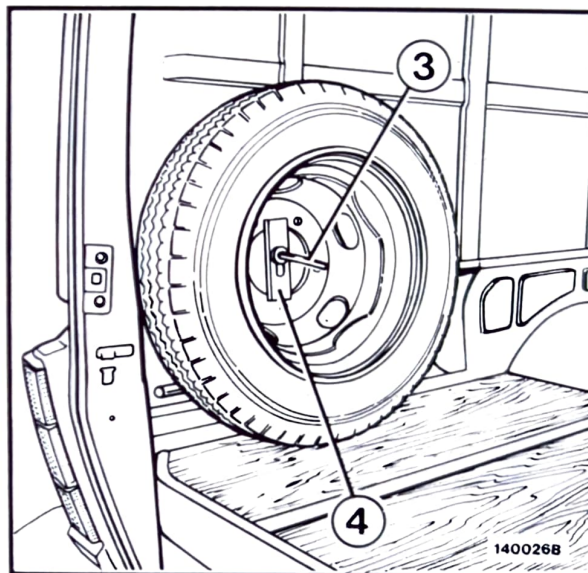
C23 use of the vehicle

Spare wheel carrier

Depending on your vehicle's equipment

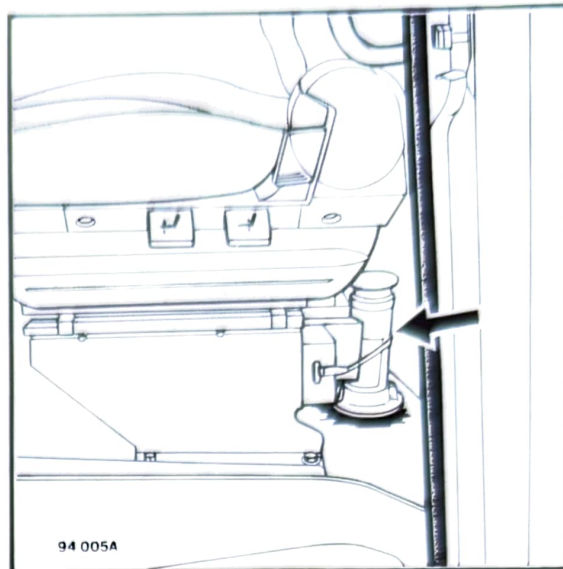
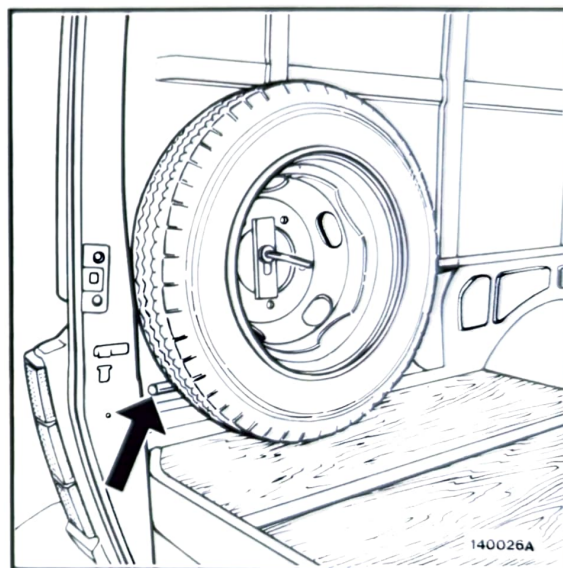
Rotation of tyres

Unscrew the bolt (1) and the bracket (2). With an option body, the spare wheel is fitted inside of the vehicle by means of screw (3) and bracket (4).



C24 use of the vehicle

Depending on your vehicle's equipment
Location of jack and tool kit.



C25 use of the vehicle

Depending on your vehicle's equipment

POWER ASSISTED STEERING

CAUTION

When the engine is shut-down, power assistance to the steering is lost and between 5 and 7 times as much effort is needed to turn the steering wheel. In general, if loss of assistance is experienced, proceed as follows: Check the fluid level in the reservoir, check for leaks from hose and pipe unions and rectify if possible (tighten the unions or change the hoses). Top up the reservoir with clean fluid to the recommended specification. Restart the engine and check that the pump performs normally. Test at low engine and road speed.

If any doubt remains concerning the pump's efficiency, the unit must be inspected by an approved specialist.

Under no circumstances must hydraulic components be removed or their initial settings altered. This work must be carried out by a specialist.

A hydraulic system can only operate efficiently if it is kept perfectly clean. Great care must therefore be taken to ensure that no dirt enters the system when the above operations are carried out.

C26 use of the vehicle

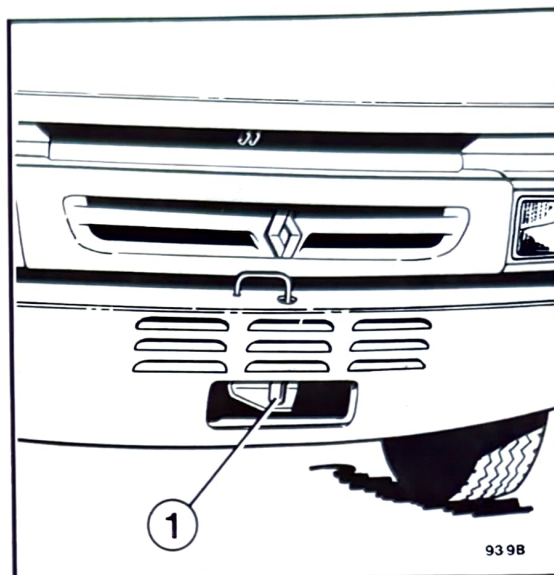
TOWING

WARNING

The yoke (1) attached to the front crossmember is designed for on-road towing in normal conditions. When towing vehicles with slipping drive wheels out of mud or loose soil, it is vital to take the usual precautions. The engine must be running when towing is undertaken.

If the engine of the towed vehicle cannot be used :

The steering will be hard to turn as the power assistance system will not operate.



IMPORTANT

Braking is no longer assisted when the engine is stopped, it is therefore necessary to exert more force on the brake pedal.

Type "B80 - B120 - B110 4x2"

- . Select neutral.
- . Disconnect the prop shaft at the drive axle
- . Use the towing yoke.

Type "B110 4x4"

- . Select neutral.
- . Disconnect propeller shafts at the drive axles.
- . Use the towing yoke.

D1 air conditioning

HEATING - VENTILATION

- Fan control lever (1)
- Windscreen air distribution flap control lever (2)
- Floor well air distribution flap control lever (3)
- Unit heater valve control lever (4)

Demisting/defrosting of windscreen

As soon as the engine has started, move control levers (2-4) fully to the left.

Heating

After the engine has been running for a few minutes, move control levers (3-4) fully to the left.

Ventilation

With control lever (4) fully to the right, adjust the air flow with control levers (2-3).

Fan

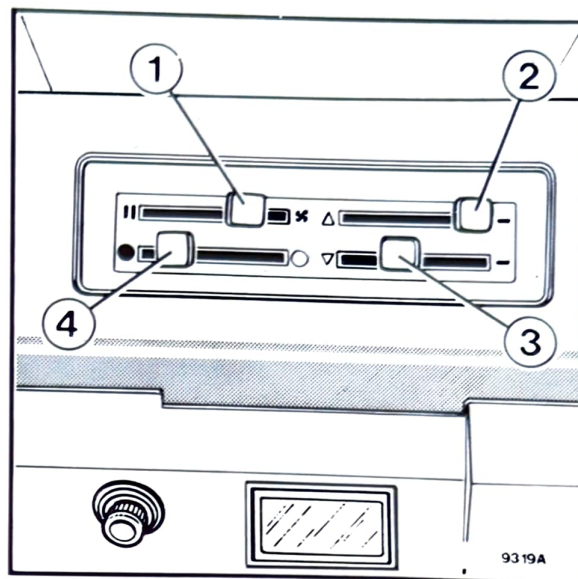
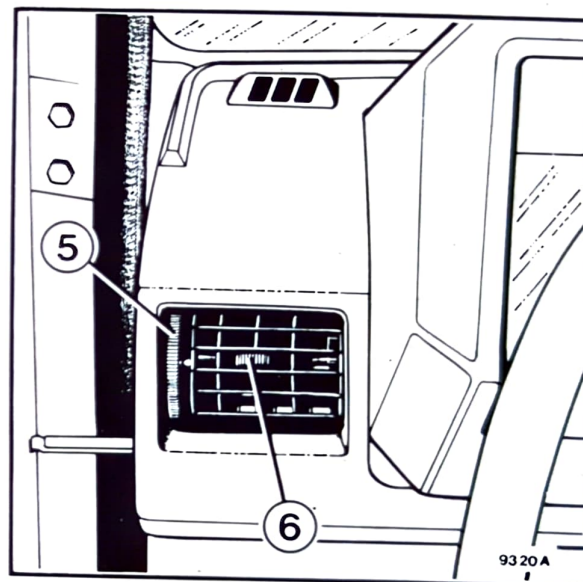
In all cases : demisting, de-icing, heating, ventilation, a motor-driven fan enables the air flow to be increased.

Control lever (1) has two positions of adjustment

- Lever in the middle : fan running at low speed.
- Lever fully to the left : fan running at top speed.

The two swivel air vents located at each end of the fascia panel can be used as follows.

- To open : turn knurled wheel (5) downwards.
- To close : turn knurled wheel upwards.
- To direct the air flow : swivel control (6).





E1 consumable products

LUBRICANTS

Adapt the viscosity of the oil used to the climatic conditions of the region in which you use your vehicle.

The use of lower grade oil calls for more frequent oil changes. Our dealer is at your disposal to advise you.

Engine oil filter cartridge

For your own safety, use authorised filters only; their filtration sill (15 microns) and filtration area (50 dm²) have been designed to guarantee correct engine operation and long service life. In the case of closely spaced oil change intervals, the frequency at which the oil filter is changed must take vehicle operating conditions into account.

Change the engine oil filter cartridge(s) : at the warranty inspection and at the same time as an engine oil change. Do not exceed an interval of 20 000 km between two cartridge changes.

Diesel fuel

Maximum sulphur content 0.3 %. Above this, divide oil change intervals by two.

Change the fuel filter cartridge(s) : at the same time as an engine oil change. Do not exceed an interval of 10 000 km between two cartridge changes.

Greasing

Front axle unit

IMPORTANT

The seals accept a maximum greasing pressure of 210 bars.

Adjust your greasing station at this pressure.

E2 consumable products

INTERNATIONAL STANDARDS

Choice of lubricants according to operating temperature

Engine

CCMC Specifications : D4 R / D5

Oil	Operating temperature
SAE 10 W 30	- 20°C to + 30°C
SAE 15 W 30	- 15°C to + 35°C
SAE 15 W 40	- 15°C to + 50°C
SAE 20 W 30	- 10°C to + 35°C
SAE 25 W 40	- 5°C to + 50°C

Gearbox

Power take-off

Oil	Operating temperature
SAE 30..... 2104 E..... CE / SF	- 20°C to + 30°C
SAE 40..... 2104 E..... CE / SF	- 10°C to + 40°C
SAE 90..... 2105 D..... GL4	- 10°C to + 30°C
SAE 80 W..... 2105 D..... GL4	- 20°C to + 20°C
SAE 80 W 90..... 2105 D..... GL4	- 10°C to + 30°C
SAE 80 W 85 W ... 2105 D..... GL4	- 20°C to + 25°C

Transfer box

Oil	Operating temperature
SAE 90..... 2105 D..... GL4	- 10°C to + 30°C
SAE 80 W..... 2105 D..... GL4	- 20°C to + 20°C
SAE 80 W 90..... 2105 D..... GL4	- 10°C to + 30°C
SAE 80 W 85 W ... 2105 D..... GL4	- 20°C to + 25°C

Steering box GEMMER 65

Oil	Operating temperature
SAE 90..... 2105..... GL4	- 30°C to + 50°C

Front drive axle

Wheel hub 569.10

Rear drive axle(s)

Oil	Mil.l	API	Operating temperature
SAE 90.....	2105 D.....	GL4 / GL5	- 15°C to + 40°C
SAE 80 W.....	2105 D.....	GL4 / GL5	- 25°C to + 20°C
SAE 80 W 90.....	2105 D.....	GL4 / GL5	- 25°C to + 40°C
SAE 80 W 85 W ...	2105 D.....	GL4 / GL5	- 25°C to + 30°C

E3 consumable products

RENAULT V.I. recommend Huiles Renault Diesel

Choice of lubricants according to operating temperature

Engine

Oil	Operating temperature
MV3 20 W 30	- 10°C to + 35°C
MV3 25 W 40	- 5°C to + 50°C
MV5 15 W 40	- 15°C to + 50°C

Gearbox

Power take-off

Oil	Operating temperature
MV3 20 W 30	- 20°C to + 30°C
MV3 25 W 40	- 10°C to + 40°C
EP 80 W	- 20°C to + 20°C
HD 80 W	- 25°C to + 20°C
HD 80 W 90	- 25°C to + 40°C
SUPERTRANS EPX 80 W 90	- 25°C to + 50°C

Transfer box

Oil	Operating temperature
EP 80 W	- 20°C to + 20°C
HD 80 W	- 25°C to + 20°C
HD 80 W 90	- 25°C to + 40°C
SUPERTRANS EPX 80 W 90	- 25°C to + 50°C

Steering box GEMMER 65

Oil	Operating temperature
EP 80 W 90	- 30°C to + 50°C

Front drive axle

Wheel hub 569.10

Rear drive axle(s)

Oil	Operating temperature
EP 80 W 90	- 15°C to + 40°C
EP 80 W	- 25°C to + 20°C
HD 80 W	- 25°C to + 20°C
HD 80 W 90	- 25°C to + 40°C
SUPERTRANS EPX 80 W 90	- 25°C to + 50°C

E4 consumable products

Hydraulic system(s)

Circuit	Huiles Renault Diesel	Standards
Brake	L 55	SAE J 1703 / DOT4
Power steering	STARMATIC	ATF DEXRON IID
Engine coolant	TOPCOOLING "C"	

Grease

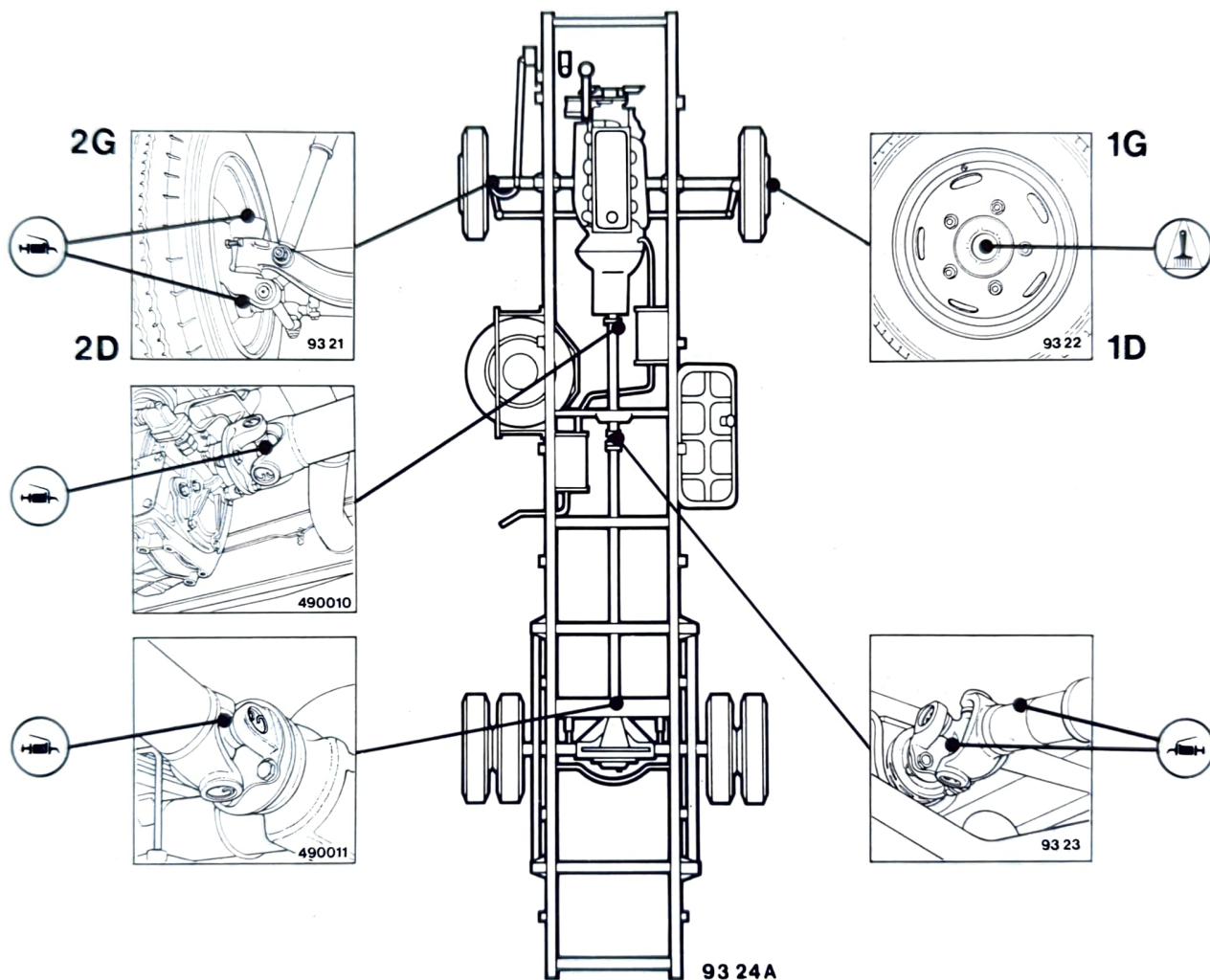
Symbol	Huiles Renault Diesel	Standards
	 RAE	NLGI 2 lithium soap grease EP additive
	 Superol EP2	NLGI 2 lithium soap grease lead-free calcium EP additive



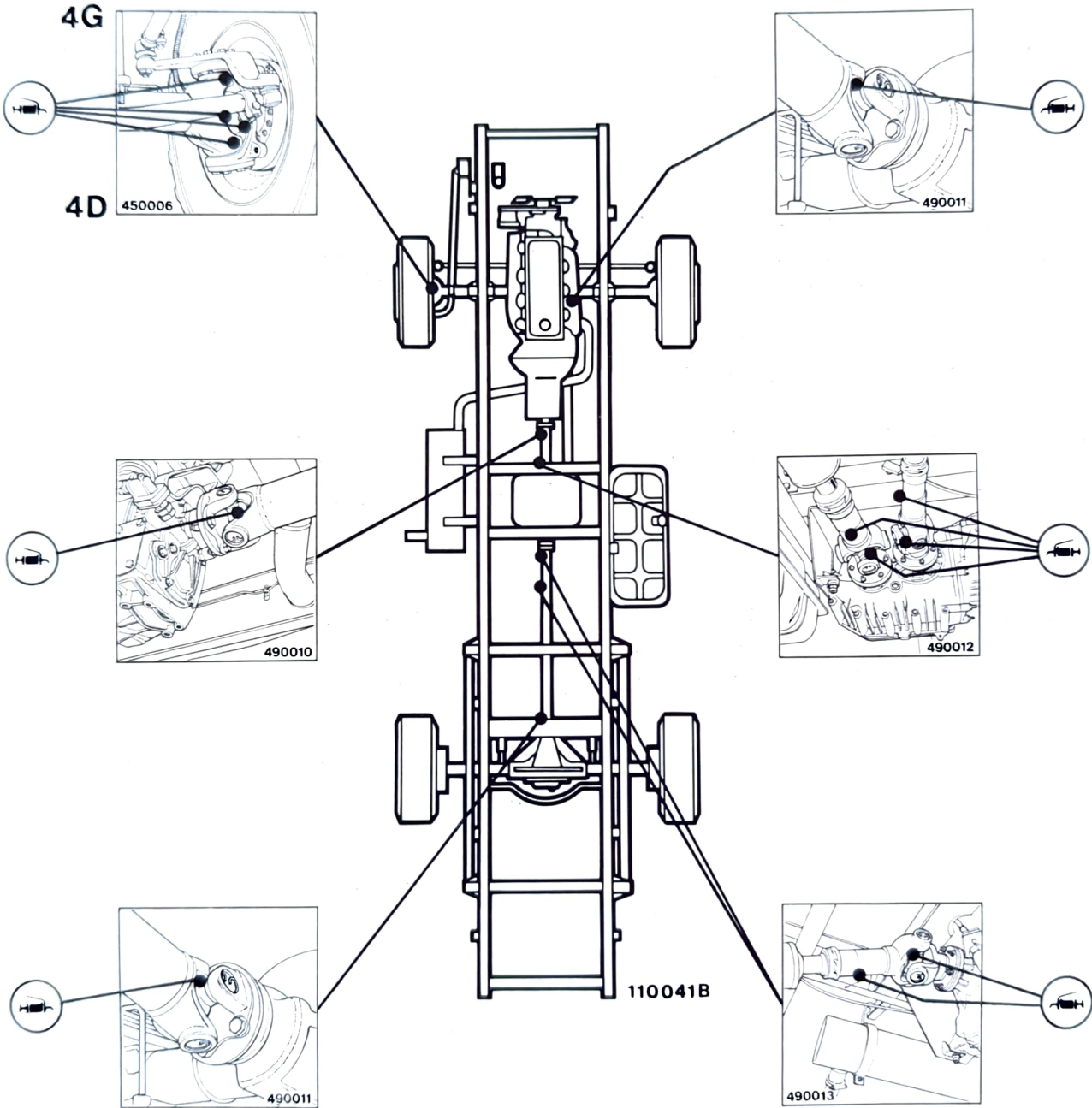
Grease

2 G	Two grease nipples on left	Location on chassis
1 D	One grease nipple on right	

E5 consumable products



E6 consumable products



WARRANTY

Servicing is the best guarantee of reliability

Recommended inspection and servicing intervals are given as a guide and are intended for vehicles operating under normal road conditions. The tougher the operating conditions, the shorter the service and inspection intervals. In some cases it will be necessary to consider servicing and inspection intervals in terms of hours rather than mileage. The Manufacturer cannot be held responsible for damage caused by driving errors, or failure to comply with the recommendations made in this handbook, particularly regarding the use of lubricants that are not in conformity with the performance specifications given.

Warranty inspection (see page F3)

This inspection is carried out:

- at 5 000 km in tough usage conditions
- at 10 000 km in inter-city and long distance usage conditions

It is free of charge (except for consumables and filters) but obligatory.

Technical inspection (see page F4)

This is carried out after 6 months.

It is free of charge but obligatory.

Implementation of the above checks are essential for the validity of vehicle warranty. To obtain these inspections, consult your normal dealer and give him the warranty certificate you received when the vehicle was supplied.

NOTE

Depending on usage or intended purpose, the **Warranty inspection** and **Technical inspection** operations can both be done at the same time.

Your dealer or importer is alone empowered to decide on this choice.

Lubrication

The manufacturer specifies the performance levels of the lubricants required for the correct operation of the vehicles supplied, and also defines the lubrication intervals.

These recommendations must be strictly followed.

Their observance will increase the service life of the equipment and components. Failure to comply can invalidate the warranty offered.

IMPORTANT

*Draining major units : always drain oils on level ground with the oils hot to aid the flow.
When refitting the drain plugs, fit new gaskets.*

Checking the oil levels

(all major units).

Oil levels must always be checked on flat ground and conditions should always be identical (i.e. vehicle empty or laden). Wait for 5 minutes after the vehicle has stopped before carrying out the check.

Road tests

After the warranty inspection, the dealer should make sure that the user clearly understands all the driving and servicing instructions in the handbook.