

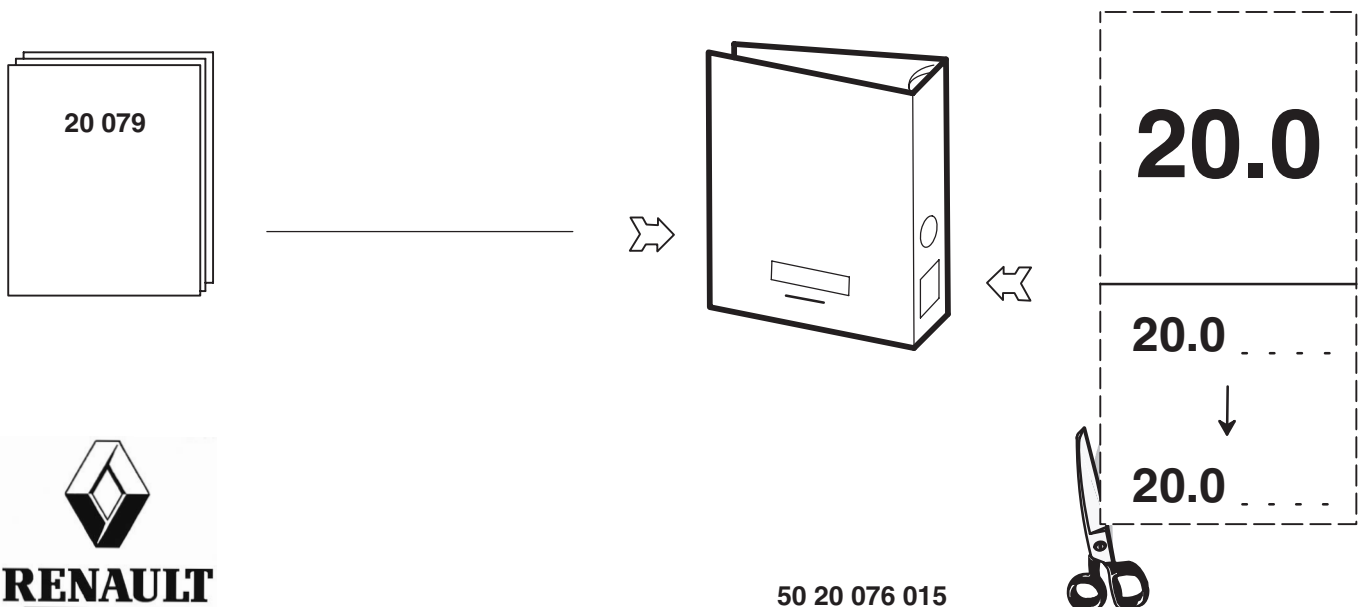
20 079 – AN – 06.1998

ENGINE

ENGINE	VEHICLE
MIDR 06.20.45 MIDR 06.23.56	KERAX

NOTE




































The above information may change in the course of time.
Only the "Consult" section of the workshop manuals repertory in standard N° 10320 serves as reference.



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CONVENTIONAL SYMBOLS

 Tighten at indicated torque (Nm) (left-hand thread)	 Adjust – Place in contact
 Tighten at indicated torque (Nm) (right-hand thread)	 Clearance – Dimension to be assured or noted down (mm)
 Tighten by the indicated value	 Axial – Vertical
 Loosen by the indicated value	 Radial – Horizontal
 Interference fit	 Maximum out-of-true
 Force to be exerted in direction of arrow (hammer-press)	 Maximum static toe-in error
 Rotational load	 Machining tolerance
 Heat or cool. Temperature in degrees Centigrade (e.g.: 80 ° C)	 ... to ...
 Weld bead	 Equal – One or the other
 Repair time	 ... Smaller than ...
 Exhaust – Outlet	 ... Greater than ...
 Intake – Inlet	 ... Less than or equal to ...
 Weight in kg (e.g.: 275 kg)	 ... Greater than or equal to ...
 Smear (see “Consumables” table)	 Repair dimension
 Grease or oil (see “Consumables” table)	 Part to be replaced
 Fill to level (see “Specifications” and “Consumables” table)	 Wear limit
 Depending on versions or options	 Inspect – Check the condition of parts
 Mark – Assemble as per marking	 Danger for persons, the vehicle or the equipment

TECHNICAL DATA

Engine

Type 06.20.45 / 06.23.56

Weight:

– Undressed engine 785 kg

Consumables and oil capacity (see servicing handbook).

Tightening torques

There are several types of tightening

- Tightening to torque (in **Nm.**)
- Tightening to angle (in °)
- Tightening to torque–angle (in **Nm. + °**)

Torques given in **Nm.** are nominal torques (average value calculated on the basis of the minimum torque and the maximum torque).

The tightening accuracy class defines the tolerance of this torque in percent as a function of the nominal torque applied.

Tightening accuracy classes

- **Class I:** Special threaded hardware (tolerance $\pm 10\%$ of the final torque)
- **Class II:** Reserved for precise tightening (tolerance $\pm 10\%$ of the nominal torque)
- **Class III:** Reserved for normal standard tightening (tolerance $\pm 20\%$ of the nominal torque)

For standard threaded hardware indicated in the table below, use tightening class **III**.

For other torques, see page **A2**.

Tightening torques for conventional nut and bolt hardware to “METRIC system” standard 01.50.4002		
Dia. and pitch of nuts and bolts (in mm)	Quality class 8.8	Quality class 10.9
	Tightening class III ($\pm 20\%$)	Tightening class III ($\pm 20\%$)
6 x 1.00	7.4	10.8
7 x 1.00	12.1	17.8
8 x 1.00	19.2	28.2
8 x 1.25	17.9	26.3
10 x 1.00	39.4	58
10 x 1.25	37.4	55
10 x 1.50	35.4	52
12 x 1.25	67	98
12 x 1.50	64	94
12 x 1.75	61	90
14 x 1.50	105	155
14 x 2.00	98	143
16 x 1.50	161	237
16 x 2.00	151	222
18 x 1.50	235	346
18 x 2.50	210	308
20 x 1.50	328	481
20 x 2.50	296	435
22 x 1.50	444	652
22 x 2.50	406	596

Tightening torques (in Nm)

The tolerance indicated after the nominal tightening torque corresponds to the tightening class.

Nuts securing engine front brackets to chassis	220 ± 44
Engine rear brackets to chassis setscrews	352 ± 53
Engine aspiration hose spring clamp	6 + 1

TO REMOVE TO FIT

To remove

Position the vehicle over a pit or on lifts. Over a pit, chock the road-wheels.

On lifts, put safety trestles under the axles.

Open the front grille. Tilt the cab.

Disconnect the set of batteries. Always commence with the negative (-) terminal.

Drain the cooling system.

(See servicing handbook **3783**).

Remove the soundproofing.

Remove the gearbox.

(See MR : **32 055**)

Remove the radiator assembly.

(See MR : **20 080**)

If necessary

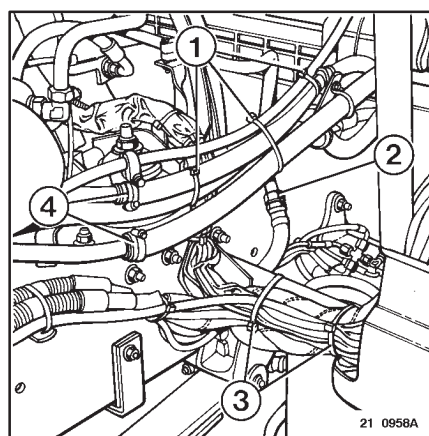
Drain the oil from the engine.

(See servicing handbook **3783**).

Remove clamps (1-3).

Disconnect flexible air pipe (2).

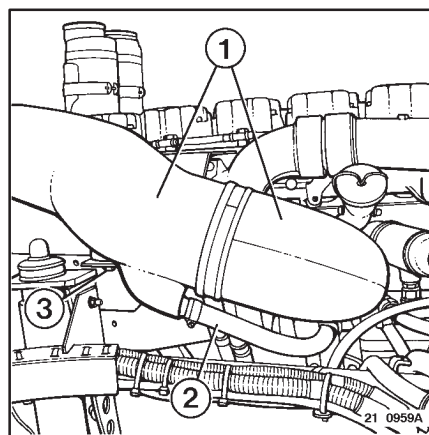
Disconnect hoses (4).



Disconnect the flexible hose (2).

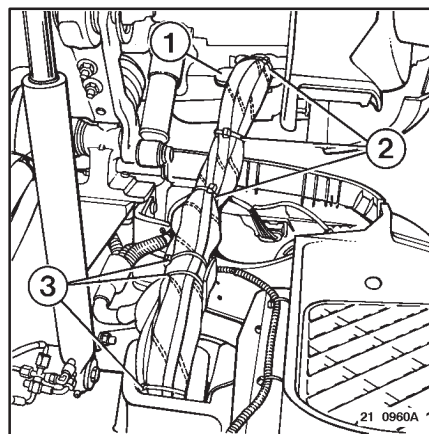
Remove the screw (3).

Remove air aspiration tube (1).

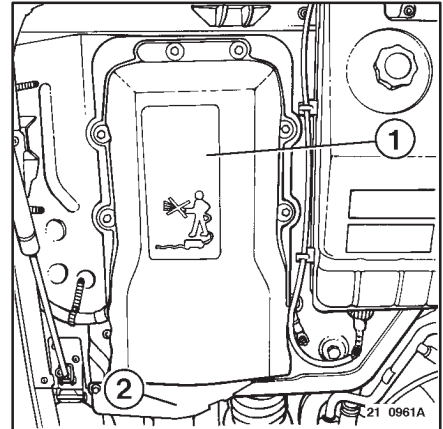


Remove clamps (2-3).

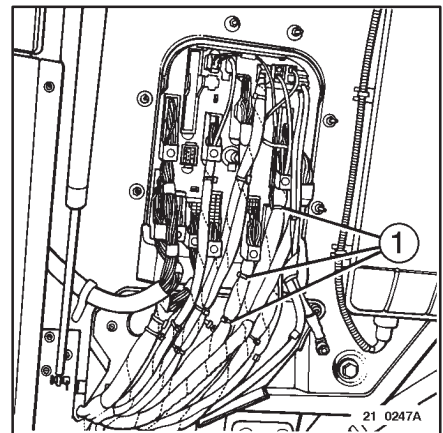
Remove clamp (1).



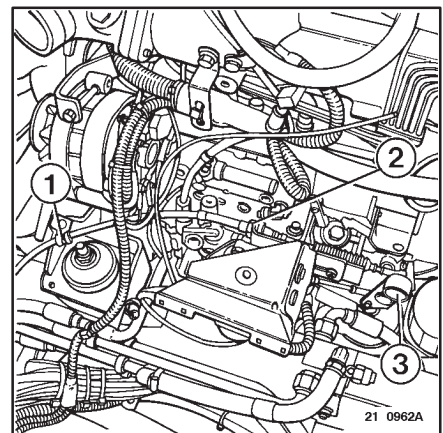
Remove guards (1–2).



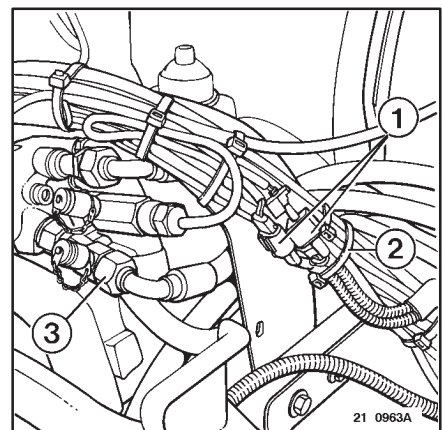
Remove clamps (2–3).
Disconnect the engine wiring harnesses in the cab.



Disconnect the air pipes.
Disconnect the fuel pipes.
Remove clamp (1).
Disconnect accelerator ball-joint (3)
Unscrew locknut (2).
Disengage the accelerator cable from the sheath stop.

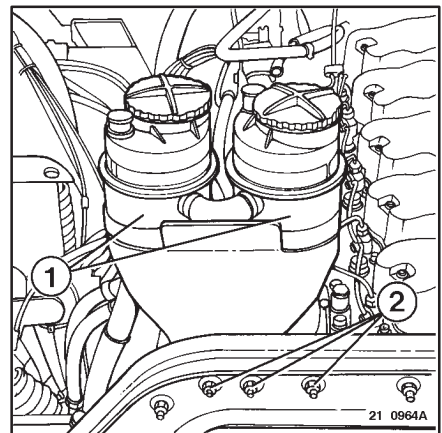
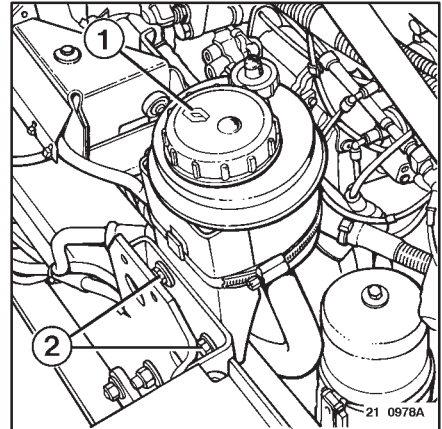


Disconnect flexible oil pipe (3).
Cut cable clamp (2).
Disconnect wiring harness (1).

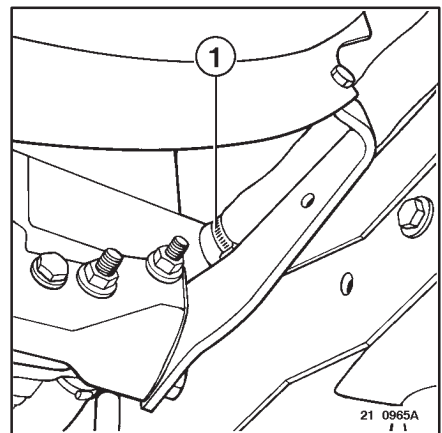


Remove the screws (2)*.
Move aside the steering hydraulic circuit fluid reservoir (1)*

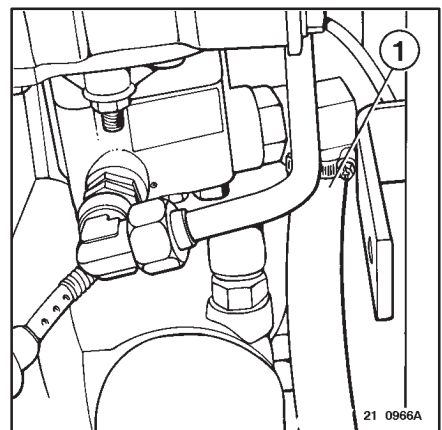
Disconnect starter motor.
Disconnect earth braid.



Disconnect oil filler spout (1) .



Disconnect hose (1).



Assembly with air conditioner.

Remove the screw (1).

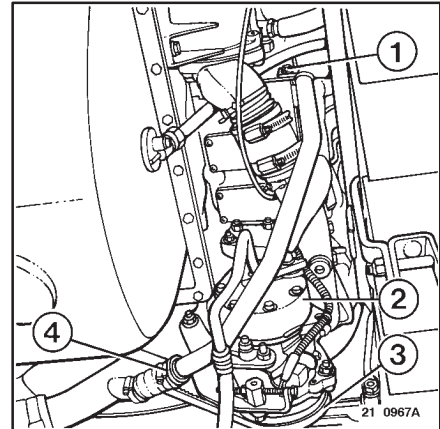
Disconnect hose (4).

Remove the drive belt (3).

Remove the air conditioner compressor (2) from its support without disconnecting the piping and lash it to disengage it from the engine.

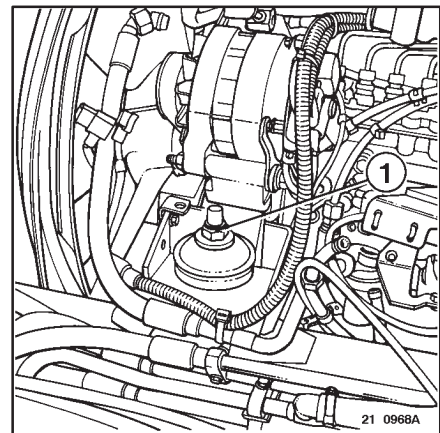
If necessary

(See MR : 63 212)



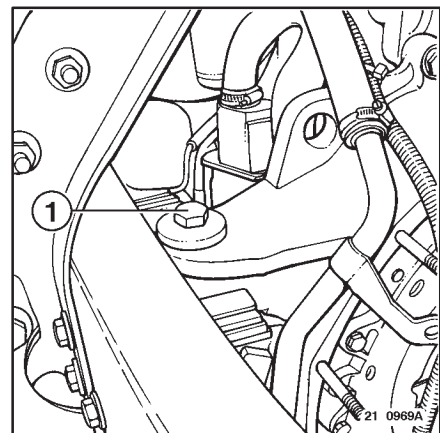
Remove the engine front brackets nuts (1).

Withdraw the washers.



Remove the engine rear brackets screws (1).

Withdraw the washers.

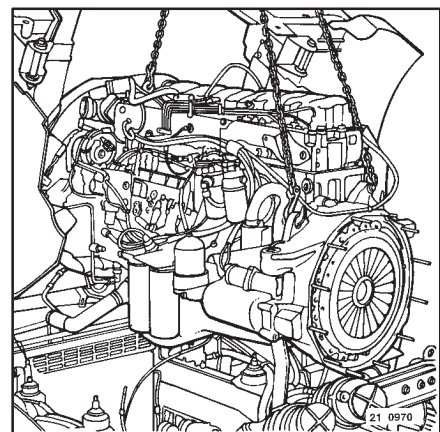


Place a lifting sling at 3 points on the engine.

Lift up and remove the engine.

This operation requires special care.

During the operation, make sure that no pipe, tube, wiring harness, etc...remains hooked to the engine.



To fit

For fitting, proceed in the reverse sequence of removal.
Tighten at the recommended torque.

Connect up the accelerator cable and adjust the control.
(See MR : **20 072**)

Tension the drive belt.
If necessary, fill the engine with oil.
Bleed the fuel system.
Fill the cooling system.
Fill the steering system with oil.
(See servicing handbook **3783**).

Assembly with air conditioner.
If necessary
(See MR : **63 212**)