

41 623 – AN – 11.2001

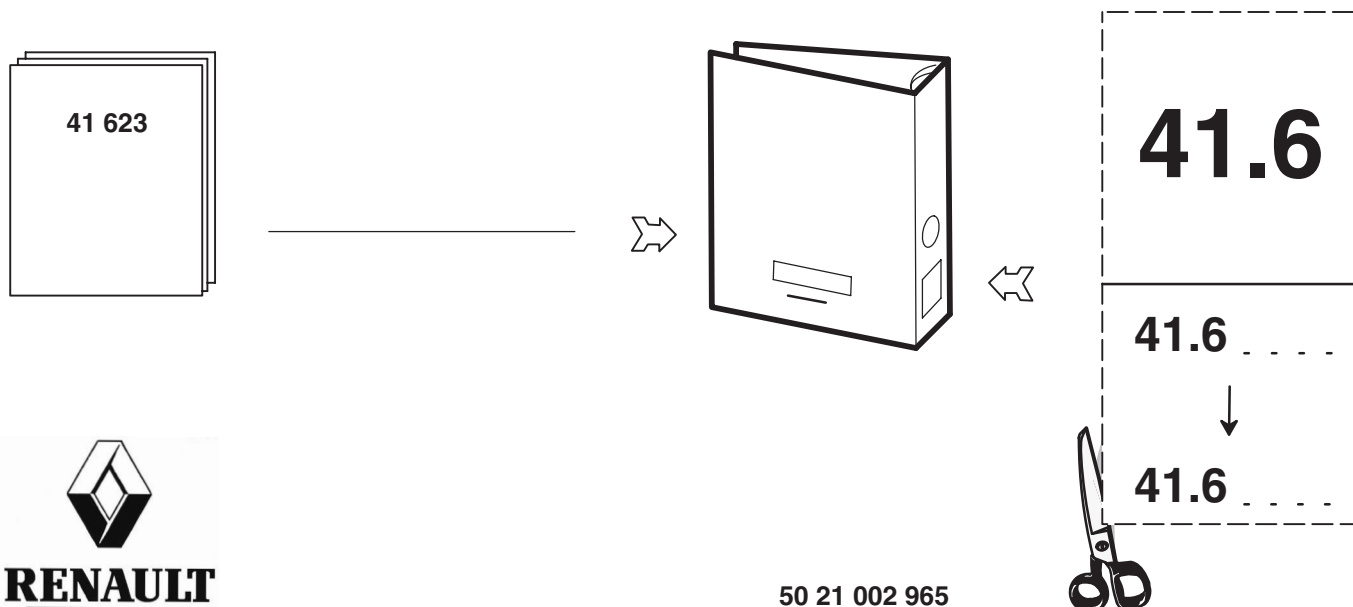
STEERING

STEERING	VEHICLE
ZF 8095	MIDLINER
ZF 8098	AXER ARES ILIADE MR.C RECREO TRACER AGORA AGORA LINE CIVIS CRISTALIS PR 112 PR 118 KERAX MAGNUM MAJOR MAXTER PREMIUM

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.



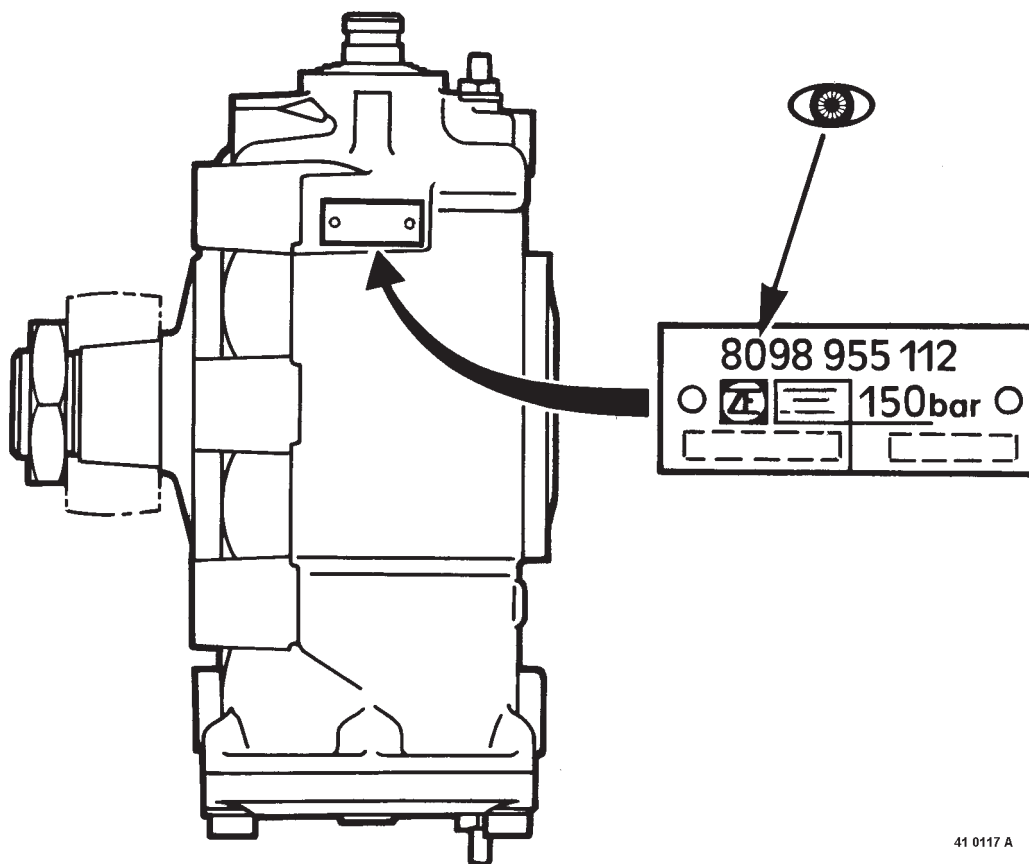
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CONVENTIONAL SYMBOLS

 Tighten to torque (Nm) (left-hand thread)	 Adjust – Place in contact
 Tighten to 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



41 0117 A

Coaches / Buses

Vehicle	Type	Step-down ratio (number of steering wheel turns)	Operating pressure (bar)
M R C	8098 955139	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098 988331	26.2 → 22.2 / 1 (3.1)	150 (+10)
ILIADE / ARES RI 65 R	8098 955401	26.2 → 22.2 / 1 (3.1)	150 (+15)
ILIADE / ARES RI 75 R	8098 988524	26.2 → 22.2 / 1 (3.1)	150 (+15)
TRACER	8098 955139	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098 955331	26.2 → 22.2 / 1 (3.1)	150 (+15)
PR 112 / 118	8098 955277	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098 955278	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098 988330	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098 988331	26.2 → 22.2 / 1 (3.1)	150 (+10)
AGORA AGORA LINE	8098 955280	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098 955382	26.2 → 22.2 / 1 (3.1)	150 (+15)
CIVIS / CRISTALIS	8098 988595	26.2 → 22.2 / 1 (3.1)	150 (+15)
AXER RECRCO	8098 955611	26.2 → 22.2 / 1 (3.1)	150 (+10)

Trucks

Vehicle	Type	Step-down ratio (number of steering wheel turns)	Operating pressure (bar)
MIDLINER	8095	19.6 / 1 (5.4)	130 (+10)
MAJOR	8098965106	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098965115	20.7 / 1 (5.8)	150 (+10)
	8098965117	20.7 / 1 (5.8)	130 (+10)
	8098965118	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098965119	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098965120	26.2 → 22.2 / 1 (3.1)	120 (+10)
	8098 965121	26.2 → 22.2 / 1 (3.1)	120 (+10)
MAGNUM	8098 955112	20.7 / 1 (5.8)	150 (+10)
	8098 955113	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098 955322	20 → 17 / 1 (2.4)	150 (+15)
	8098 955323	26.2 → 22.2 / 1 (3.1)	150 (+15)
	8098 955324	20 → 17 / 1 (2.4)	150 (+15)
	8098 955424	26.2 → 22.2 / 1 (3.1)	150 (+15)
	8098 955454	26.2 → 22.2 / 1 (3.1)	150 (+15)
	8098 955455	26.2 → 22.2 / 1 (3.1)	150 (+15)
	8098 988145	20.7 / 1 (5.8)	150 (+10)
	8098 988167	26.2 → 22.2 / 1 (3.1)	150 (+10)
MAXTER	8098 955113	26.2 → 22.2 / 1 (3.1)	150 (+10)
	8098 955120	26.2 → 22.2 / 1 (3.1)	130 (+10)
	8098 955195	26.2 → 22.2 / 1 (3.1)	130 (+10)
	8098 988167	26.2 → 22.2 / 1 (3.1)	150 (+10)
PREMIUM	8098 965134	20 → 17 / 1 (2.4)	150 (+15)
	8098 965135	26.2 → 22.2 / 1 (3.1)	150 (+15)
	8098 965136	20 → 17 / 1 (2.4)	150 (+15)
	8098 965137	26.2 → 22.2 / 1 (3.1)	150 (+15)
KERAX	8098 955323	26.2 → 22.2 / 1 (3.1)	150 (+15)
	8098 955330	26.2 → 22.2 / 1 (3.1)	130 (+13)
	8098 955424	26.2 → 22.2 / 1 (3.1)	150 (+15)

DISASSEMBLY ASSEMBLY

Preparation prior to assembly :

Carefully clean and inspect all the parts.

Wash the bearings in clean solvent.

Let them drip dry naturally.

Immediately prior to assembly, lubricate them lightly with thin oil.

Do not unpack a new bearing until you are ready to install it.

Do not clean the the protective grease off new bearings.

Seals and lock-plates must always be discarded and new ones fitted.

Never force-fit parts with copper or brass punches or drifts.

Use a specially adapted plunger each time so as to prevent metallic particles getting into the casings and bearings.

Always oil parts prior to force fitting.

The inside of the lips of seal rings must be smeared with grease.

Shrink fitted parts must be heated with a hot air blower or in an oven, etc... Flame heating is strictly forbidden.

NOTE

When using a torque multiplier, calibrate the torque wrench-torque multiplier assembly to the desired torque.

Repairs to the steering box are limited to replacing the gasket

Disassembly

IMPORTANT

Steering box with automatic adjustment hydraulic lockover limitation stops: before operating the steering arm, remove the hydraulic lockover stops.

If necessary:

Unlock.

Loosen nut (1).

Remove the drop arm.

Use tool(s) N° **0833**.

Install the steering box on frame **1000**.

Mark

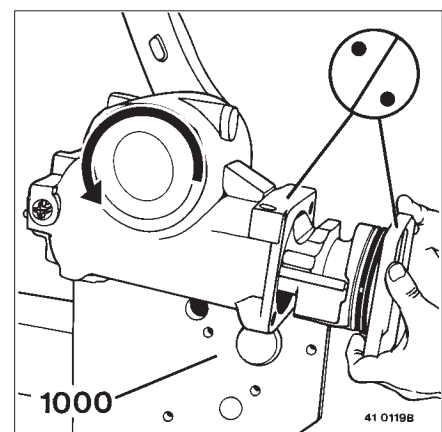
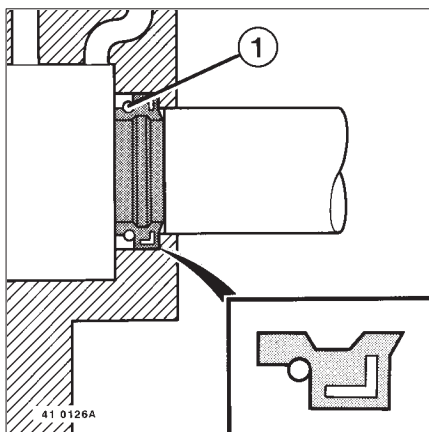
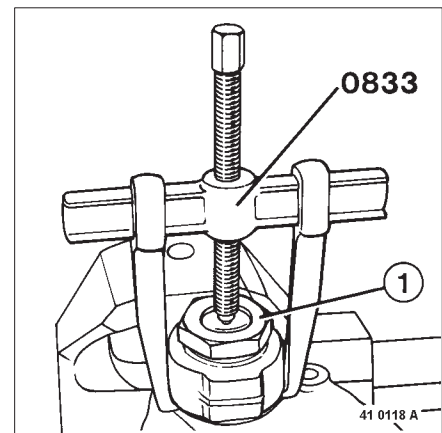
Remove the cover.

Actuate the sector gear in the direction of the arrow.

Remove the piston.

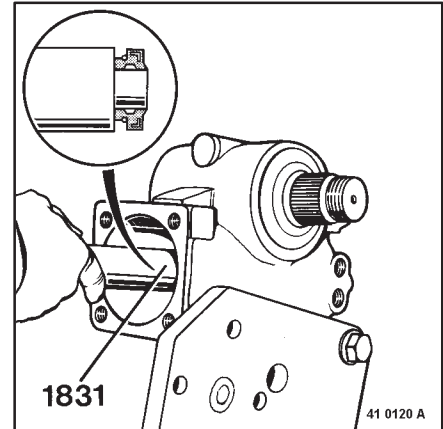
Withdraw the seal ring (1).

Use a tube.

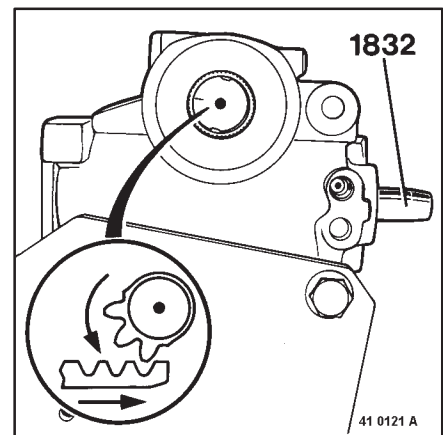


Assembly

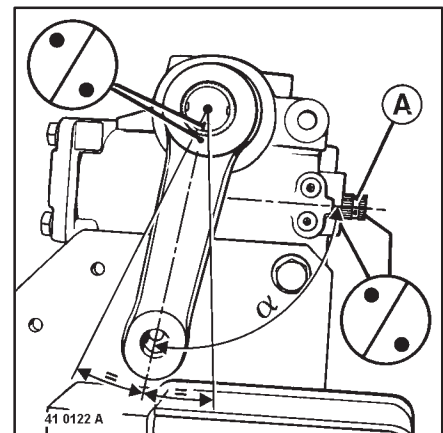
Grease
Install the seal.
Use tool(s) N° 1831.



Mount tool N° 1832.
Fit the piston.

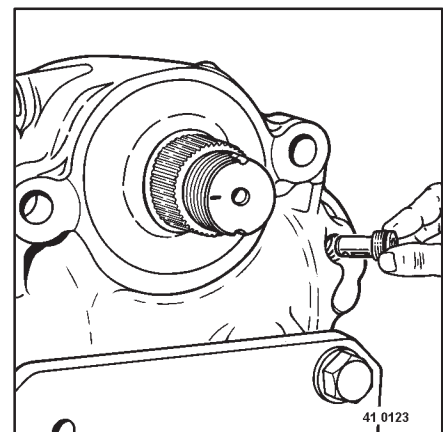


Position the drop arm.
Move the lever from one stop to the other and then position it at the mid-point.
 $\alpha \approx 100^\circ$ (MRC : $\alpha \approx 105^\circ$)
Check the mid-point
Correct if necessary.
Withdraw tool N° 1832.
Tighten the nut.
Tighten to torque.
 500 ± 50 Nm
 550 ± 55 Nm
Lock.
Assemble the automatic adjustment hydraulic lockover limitation stops. Check their adjustment.
(see RVI repair manual 41 032).



Pressure limiter

Replace, if necessary.



TESTING

Power steering

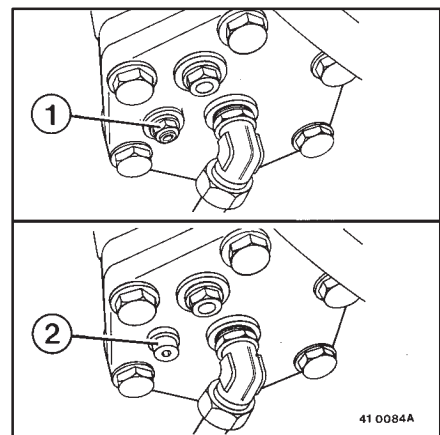
Before implementing an accurate control of the vehicle's power steering circuit, it is vital to make sure :

- that the front steering geometry is correctly adjusted (parallelism and mechanical steering lock stops),
- to eliminate wear in the front end (i.e. kingpin housings and kingpins).
- Check that the hydraulic steering circuit is leakfree.
- Inspect that pipework is in good condition (friction, traces of wear).
- Replace damaged hoses and lines.

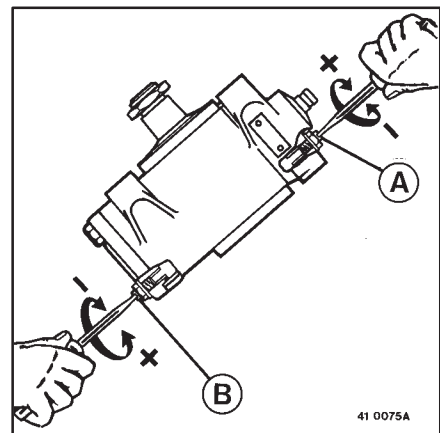
On, vehicle, see MR 41 032.

Identifying steering boxes

- 1 - Steering box with manual adjustment.
- 2 - Steering box with automatic adjustment.



Adjustment of hydraulic lockover limitation stops (see MR 41 032).



Adjusting the automatic adjustment hydraulic lockover limitation stops (1)

(To be carried out after adjusting the mechanical steering lock stops).

With the front roadwheels raised, without hydraulic assistance :

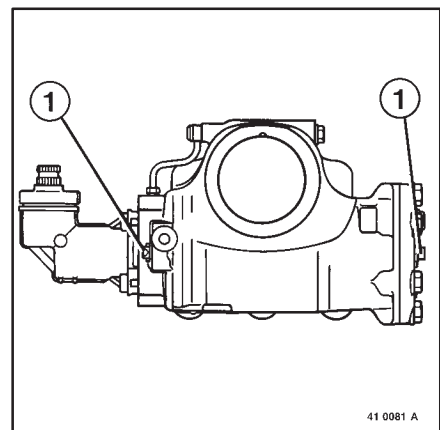
- Turn the steering wheel to the left until contact is made with the axle stop (without forcing).
- Turn the steering wheel to the right until contact is made with the axle stop (without forcing).

The hydraulic stops are adjusted automatically.

NOTE

Correction is possible if the steering radius is reduced.

If the steering radius is increased, replace the hydraulic stops.



TOOLS

RENAULT TRUCKS divide tools into 3 categories :

- **General-purpose tools** : Commercially available tools.
 - . **50 00 26 reference number** (possibility of purchasing through the RENAULT TRUCKS Spare Parts department).
 - . **4-figure reference number** (tools with RENAULT TRUCKS reference number, but available from the supplier).

- **Special tools** : Specially created tools, distributed by the RENAULT TRUCKS spare parts division.

- **Locally manufactured tools** : these tools are classified differently according to their degree of sophistication :
 - . **4-figure reference number** (represented by a drawing) : tools that are simple to make without need for special qualification.

 - . **50 00 26 reference number** (possibility of purchasing through the RENAULT TRUCKS Spare Parts department) : a certain skill is needed to make these tools.

Three levels (or echelons) determine their assignment :

- **LEVEL 1** : Tools for servicing and minor tasks.

- **LEVEL 2** : Tools for major repairs.

- **LEVEL 3** : Tools for refurbishment.

Special tools				
Ref. RENAULT TRUCKS	Description	Category	Quantity	Page
50 00 26 0833	Puller	2	1	B1
50 00 26 1000	Universal frame	2	1	B1
50 00 26 1831	Pusher	2	1	B2
50 00 26 1832	Protector	2	1	B2