

Repair Operation Manual

- Clutch & brake master cylinders
- Wheel cylinder and clutch slave cylinder
- Disc brake caliper



GENERAL RECOMMENDATIONS FOR A CORRECT REPARATION

· ONLY THE FREE GARAGE CAN REPAIR INSTEAD OF REPLACING

1 IDENTIFICATION OF THE KIT



PROVIDE YOUR DISTRIBUTOR WITH THE MOST COMPLETE INFORMATION TO FIND THE ADEQUATE REPAIR KIT.

INFORMATION FROM THE VEHICLE

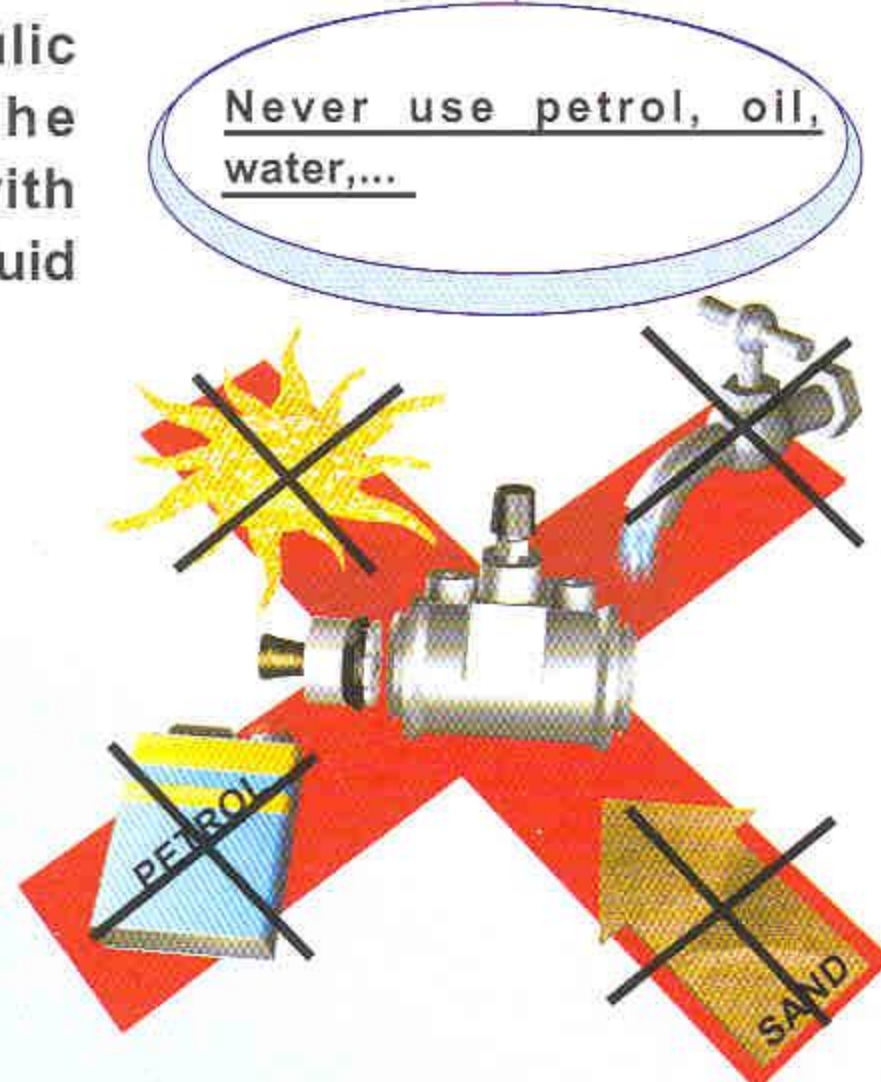
- BRAND
- MODEL
- YEAR

INFORMATION FROM THE ELEMENT

- DIAMETER
- VERSION
- NUMBER OF PISTONS

3 CLEANING

Clean the hydraulic element and the internal pieces with alcohol or brake fluid and air.



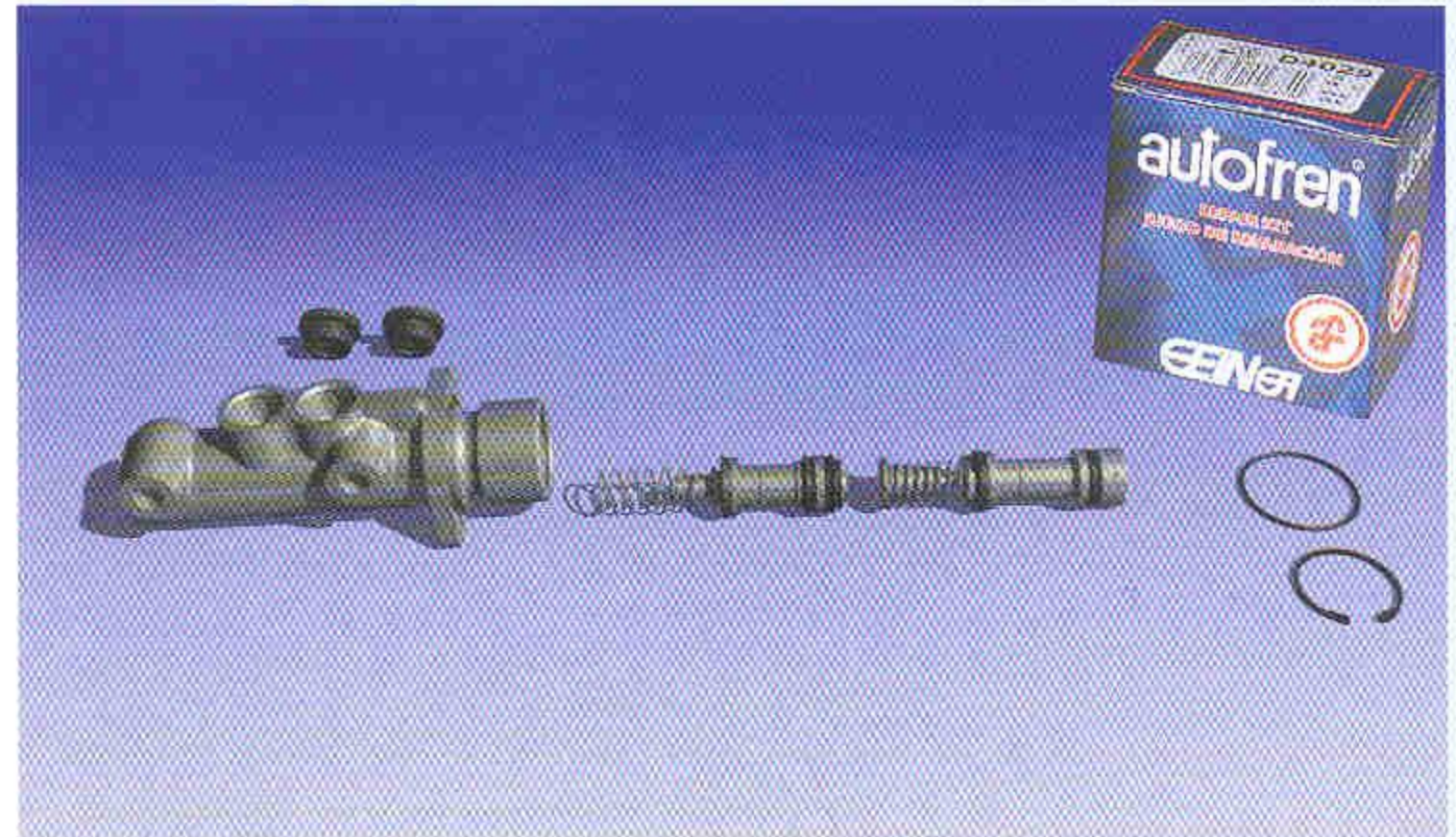
5 KIT CHECK

Check that the pieces in the kit correspond to those assembled in the hydraulic element.



2 DISMANTLING THE ELEMENT

Dismantle the element and put the internal pieces in the same order of dismantling.



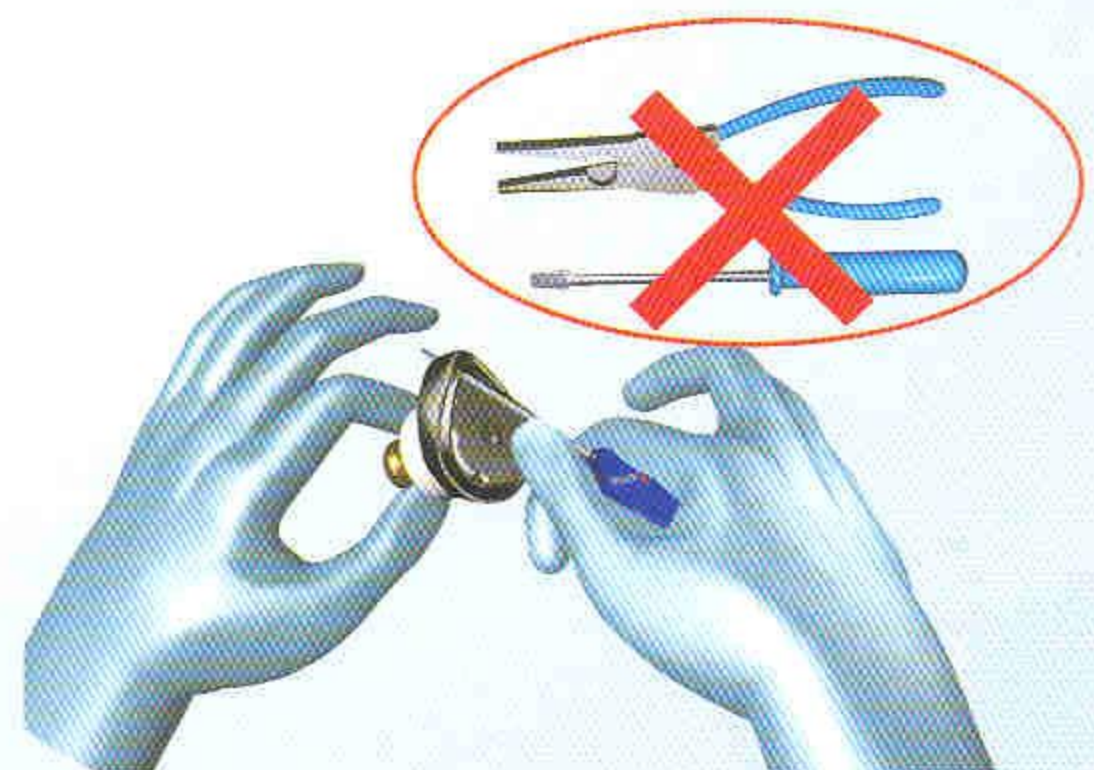
4 STAIN AND SCRATCHES

Before starting reparation, check that inside the hydraulic element there are no stain pores or deep scratches. If necessary, polish it with fine sandpaper impregnated in brake fluid.



6 DISMANTLING AND ASSEMBLING

Check the assembling position of the rubber parts. Dismantle carefully rubber parts using a tool that does not damage pistons. We recommend the **EINER** tool that can be provided by your distributor.

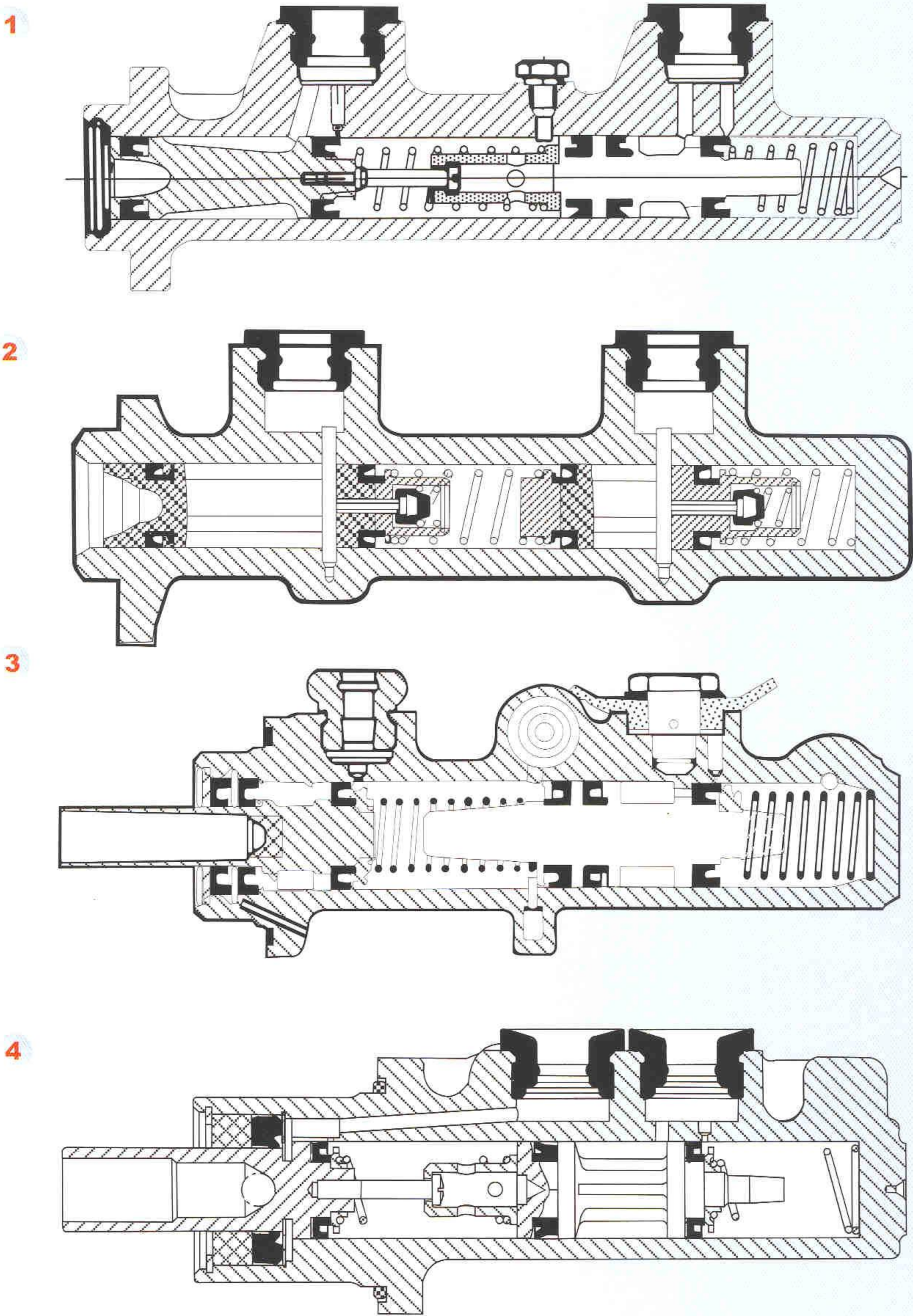


REPAIRING CLUTCH AND BRAKE MASTER CYLINDERS

· *STAND OUT AGAINST YOUR COMPETITORS REPAIRING*

MAIN TYPES OF BRAKE MASTER CYLINDER

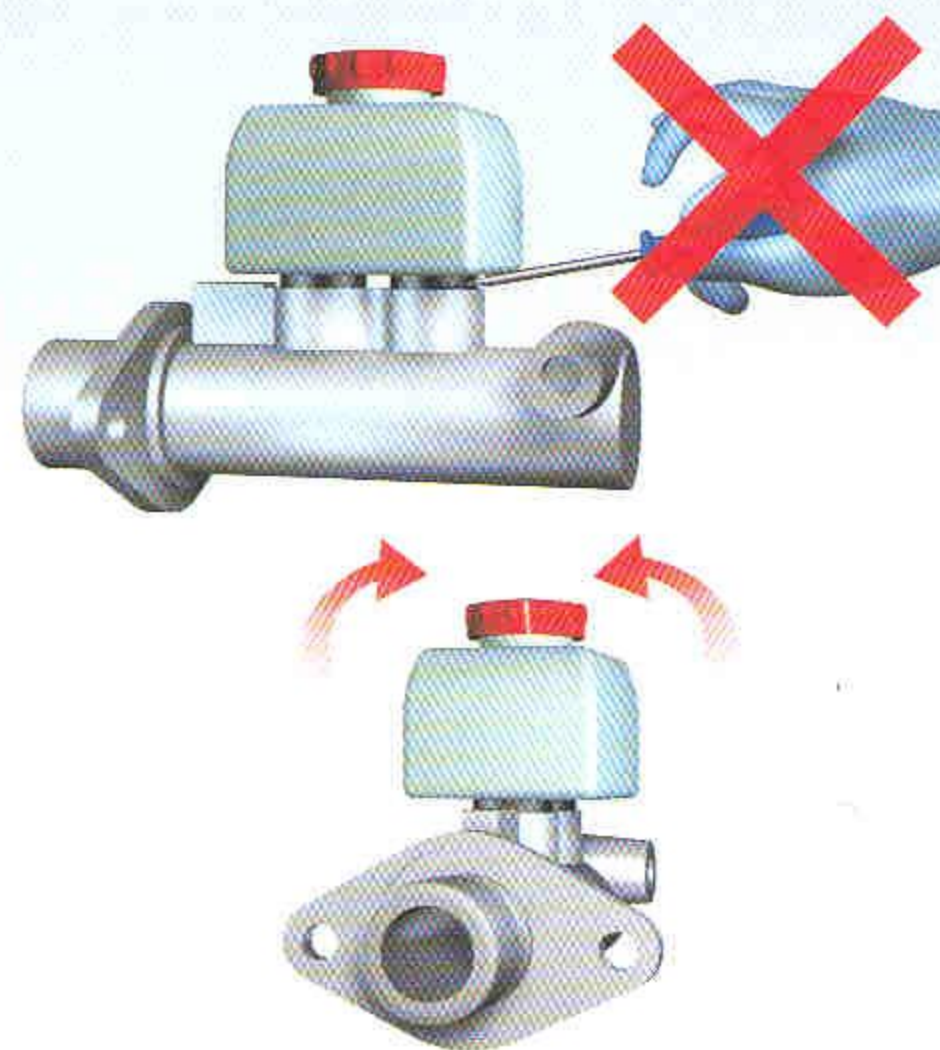
Using these designs you will be able to ensure the correct assembling position of the rubber parts and the rest of internal elements in the cylinder that you are repairing.



REPAIRING CLUTCH AND BRAKE MASTER CYLINDER *(continued)*

THE HIGH PRICE OF NEW ELEMENTS MAKES REPAIRING COMPETITIVE

- 1 Remove the reservoir tank and dismantle the rings in it.

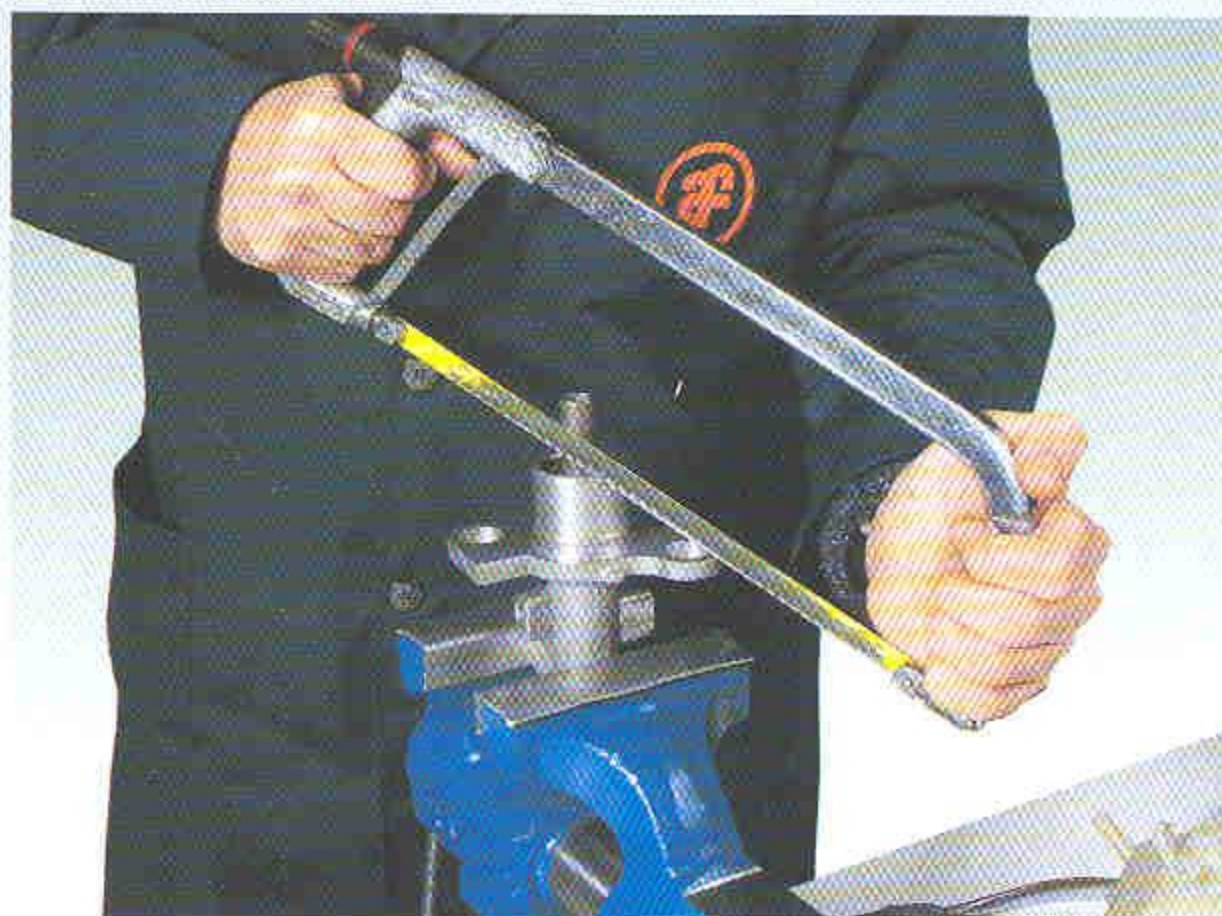


- 2 Remove the circlip pushing the piston with an adequate spindle.



* In case that the circlip has no especial holes for removing, proceed as follows:

- 1.- Tear the master cylinder screw to the circlip groove. 2.- Remove circlip with a thin screwdriver.

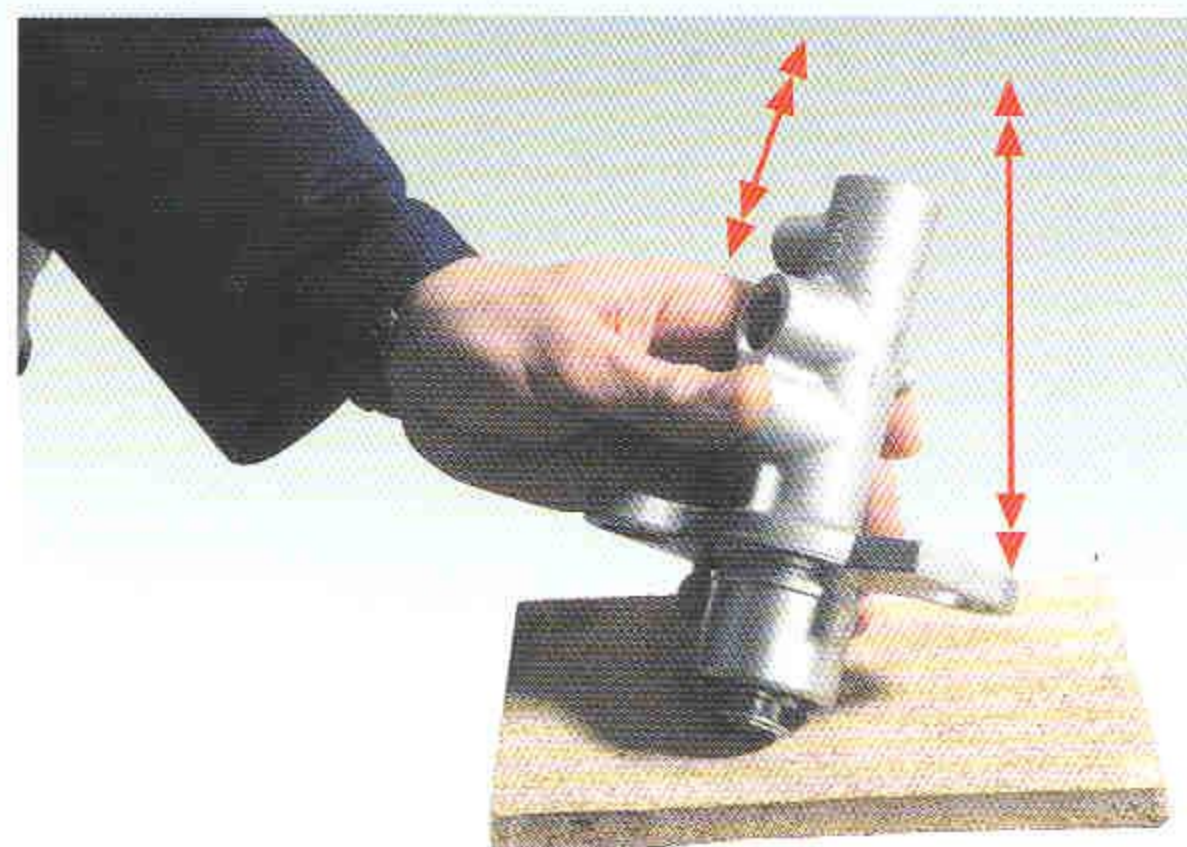
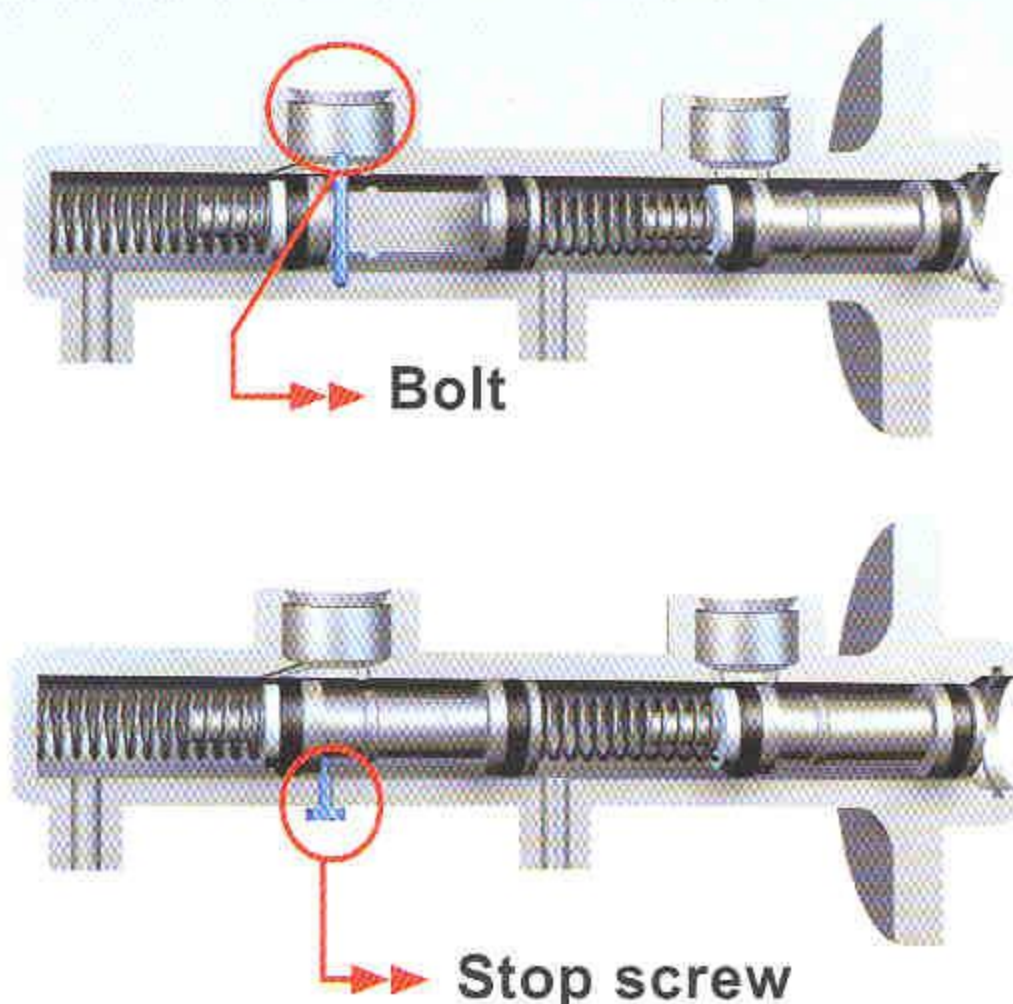


NOTE: **CEINSA** supplies a standard circlip together with the kit to replace the removed one.

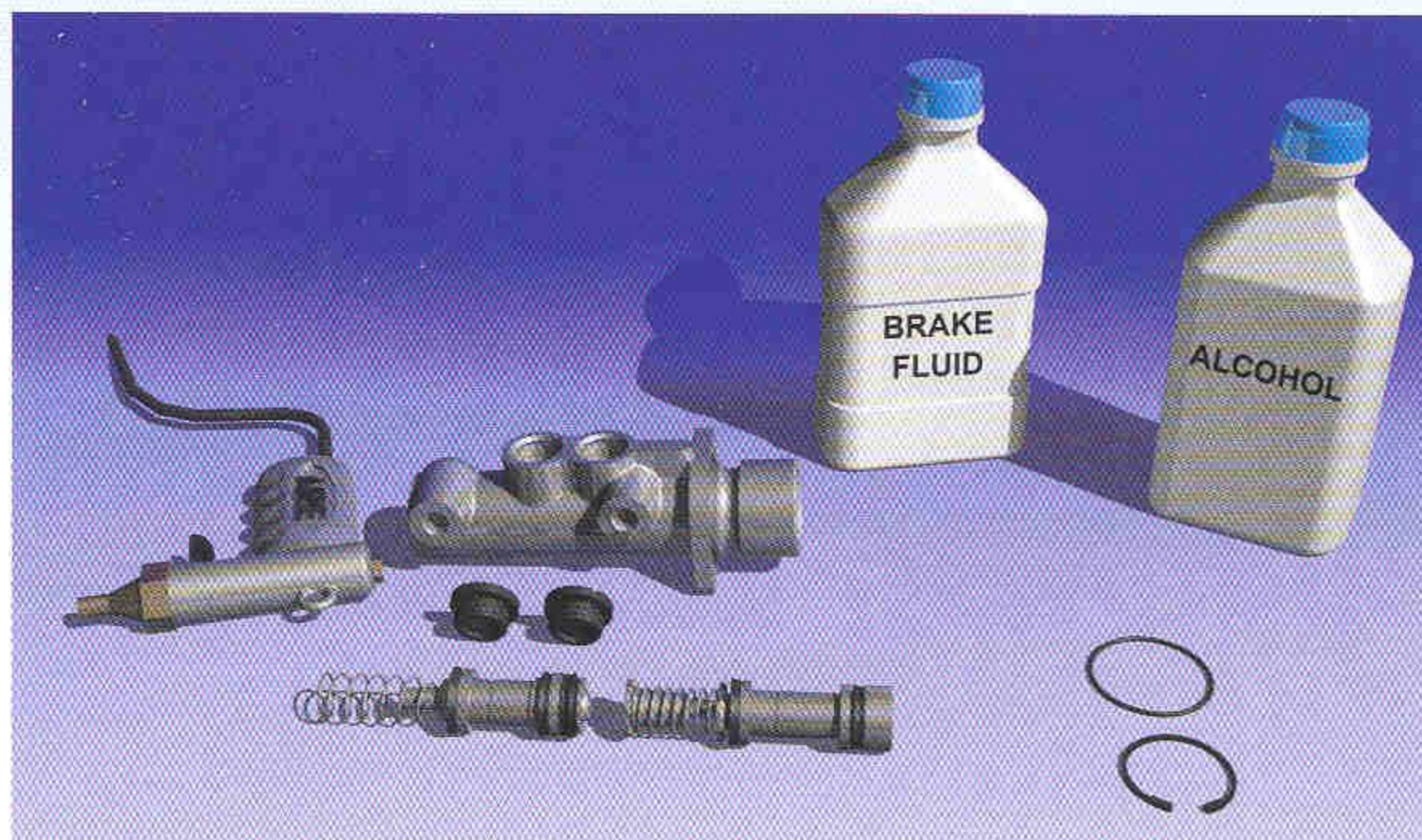
REPAIRING CLUTCH AND BRAKE MASTER CYLINDERS *(continued)*

· **MAKE YOUR CUSTOMER SAVE MONEY, YOU WILL GET HIS/HER LOYALTY**

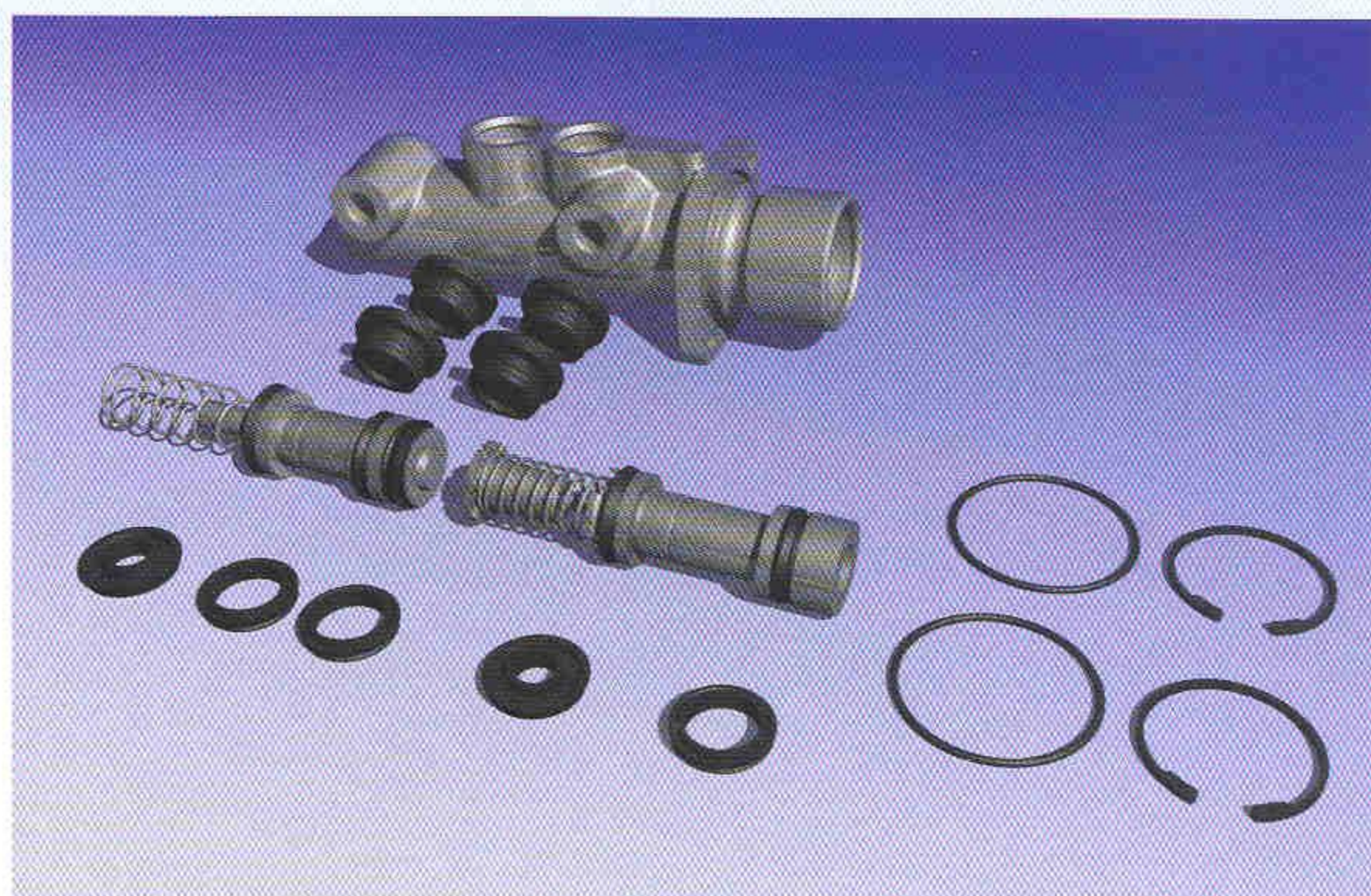
- 3** Before dismantling internal parts, verify if there are stop screws or bolts. In such case, remove them and hit the master cylinder on a wooden or plastic surface to remove the pistons.



- 4** Place on a clean surface all components ordered as dismantled and clean the inside of the cylinder and the parts only with alcohol or brake fluid and air. Verify the aspect of the inside part of the cylinder and if necessary polish it with fine sandpaper impregnated in brake fluid.



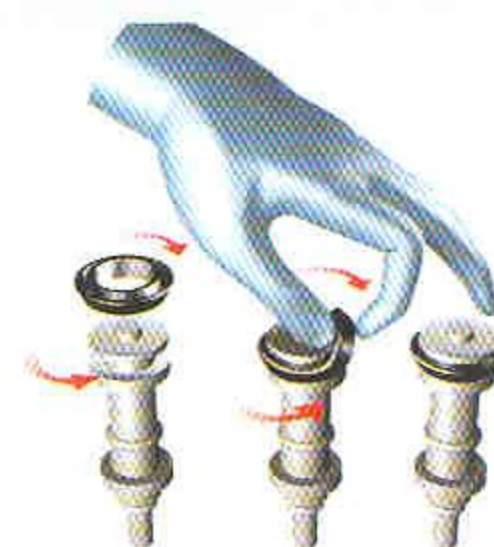
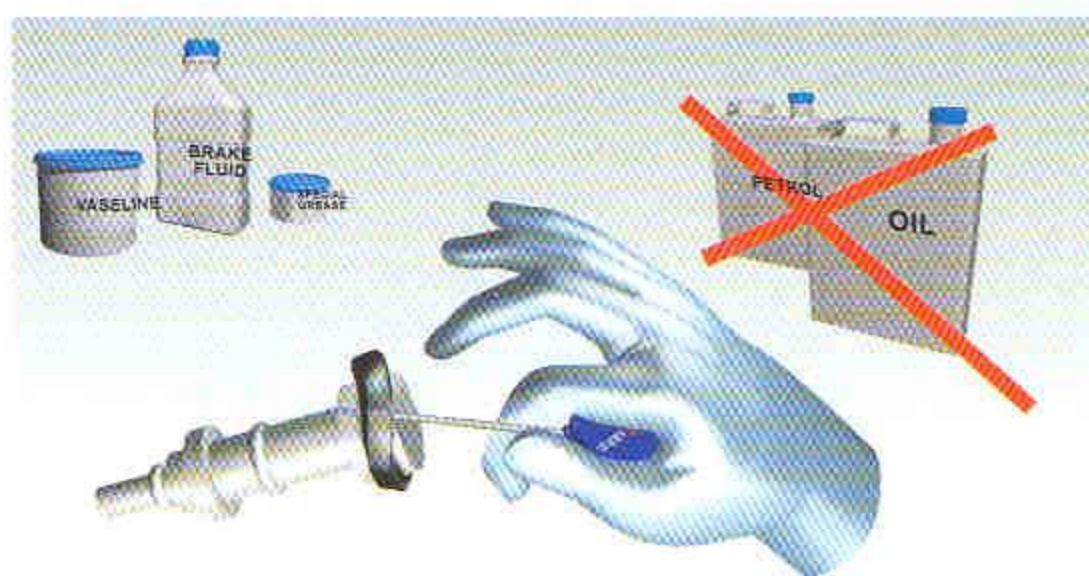
- 5** Put out kit components and place them next to the ones to replace to assure the perfect identification of each piece.



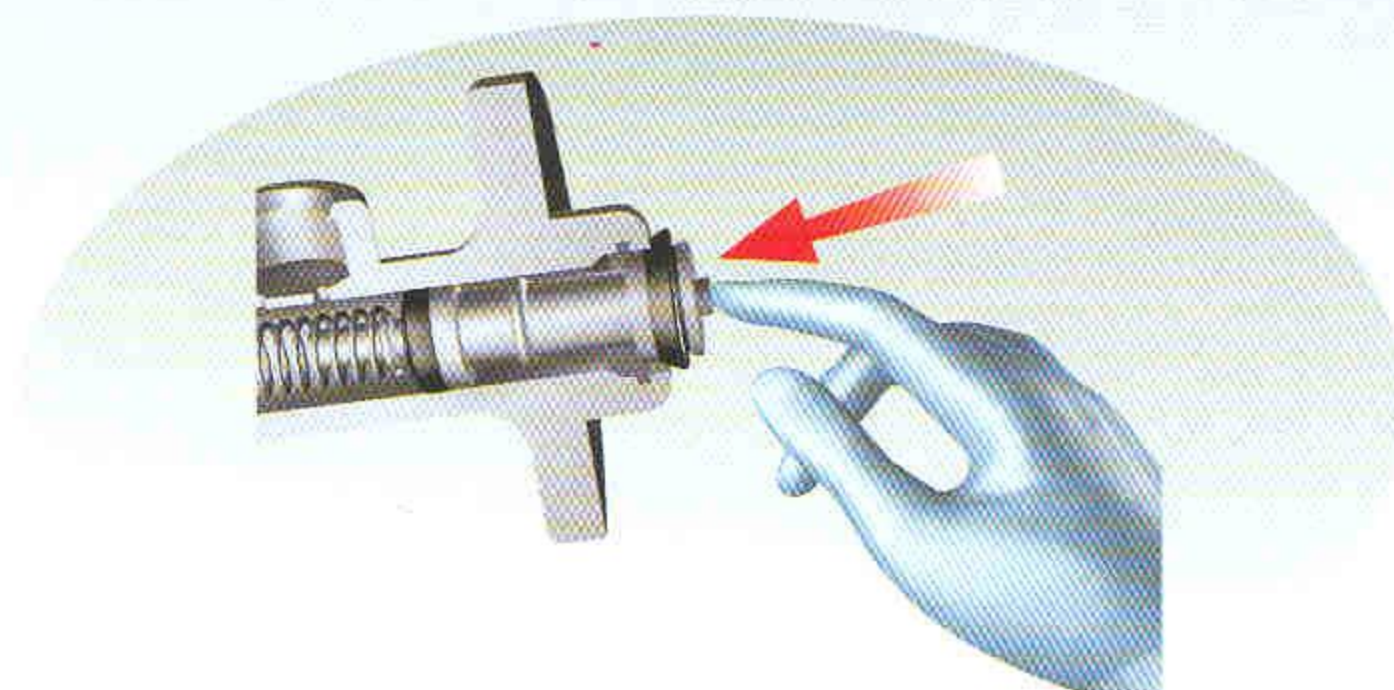
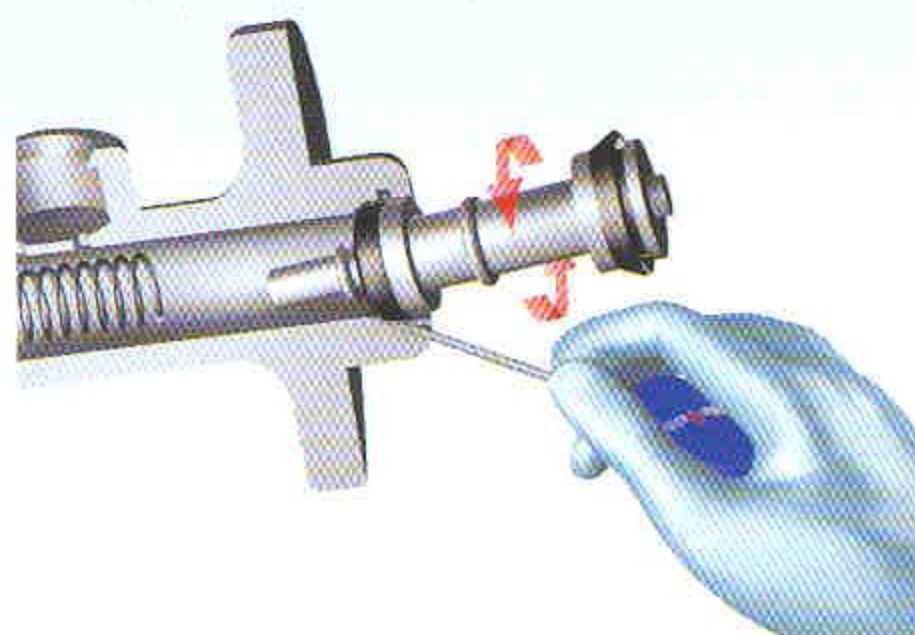
REPAIRING CLUTCH AND BRAKE MASTER CYLINDERS (continued)

· YOUR MOST VALUABLE ASSET IS YOUR LABOUR FORCE

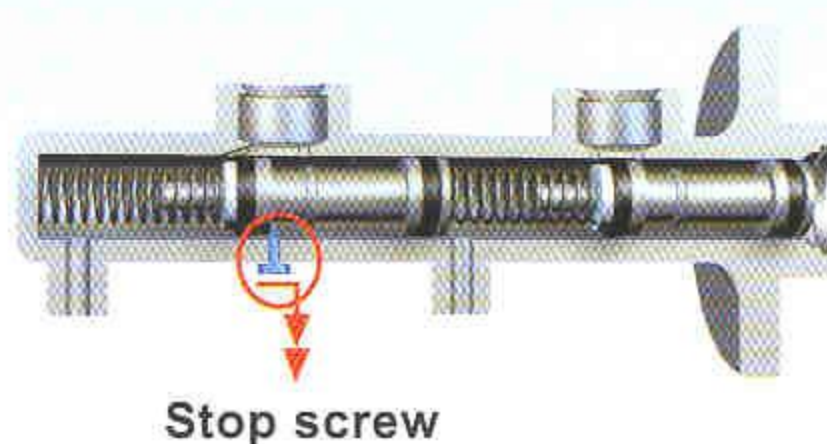
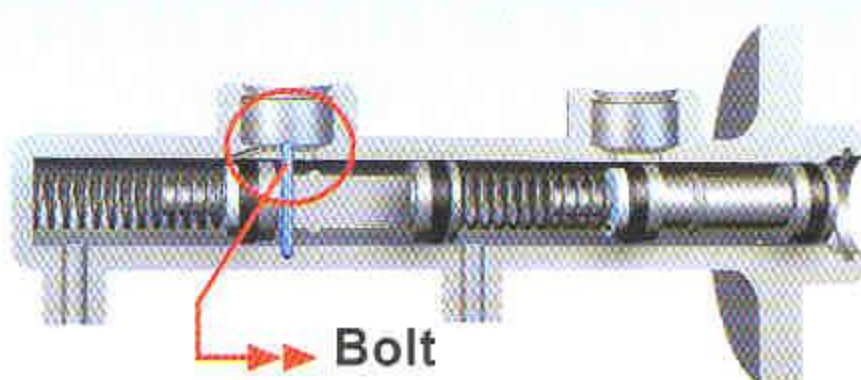
- 6** Dismantle and assemble rubber parts one by one using a plastic or a wooden tool (never use metal tools which can damage the pistons) we recommend the special **CEINSA** tool that your distributor can supply for free. Pay special attention to the assembling position, impregnating the new pieces with special grease for brakes, vaseline or brake fluid.



- 7** Impregnate the rubber parts as well as the inside of the cylinder with a special grease or brake fluid before assembling pistons. Be specially careful of not nipping the rubber part lip with the cylinder screw, you can use **CEINSA**'s tool.



- 8** Fit the bolts or stop-screws if necessary and after the circlip or security ring.



- 9** Finally, assemble header gaskets, impregnate the inside only with special grease or brake fluid and fit the reservoir tank which previously we had cleaned.

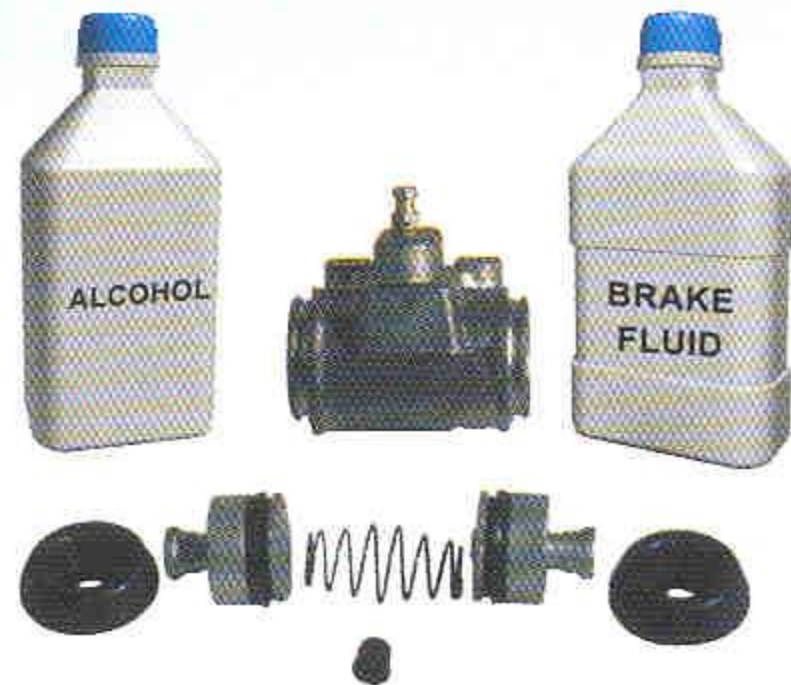
If assembling has been correct, **CEINSA** guarantees a perfect work of the repaired element.



REPAIRING WHEEL CYLINDERS

REPAIR FOR ECOLOGY. YOU WILL HELP TO PRESERVE THE ENVIRONMENT

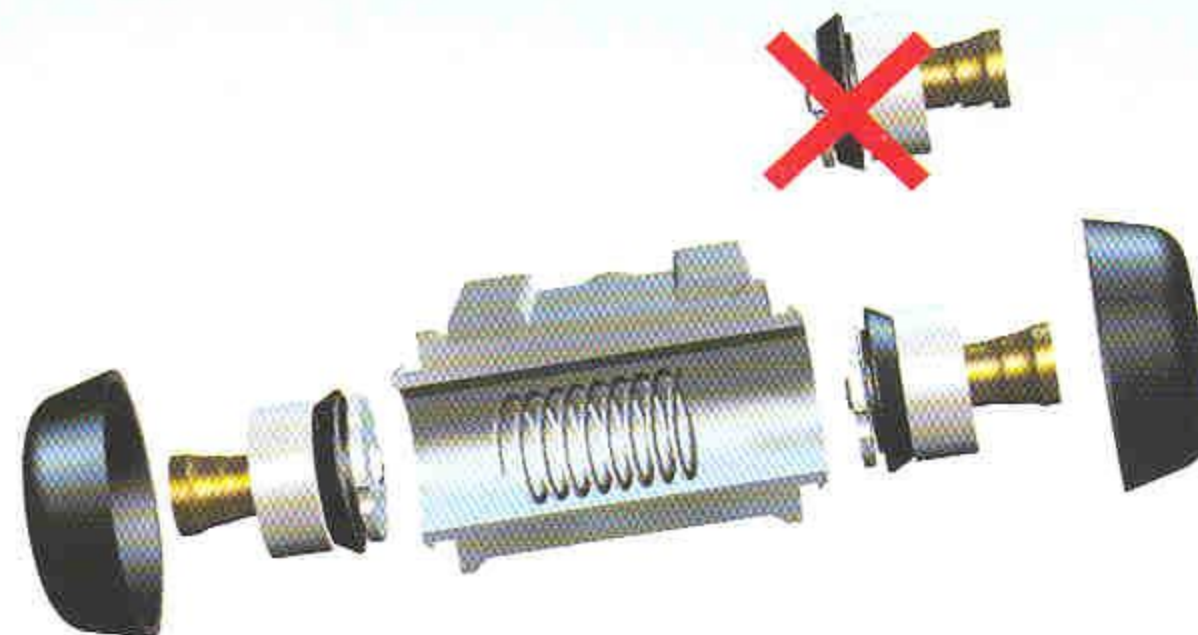
- 1 Remove boots from the cylinder and put out the inside parts.
Clean carefully the parts and the inside of the cylinder, only with alcohol or brake fluid. Check the inside part of the cylinder and if necessary, polish it using a fine sandpaper impregnated in brake fluid.



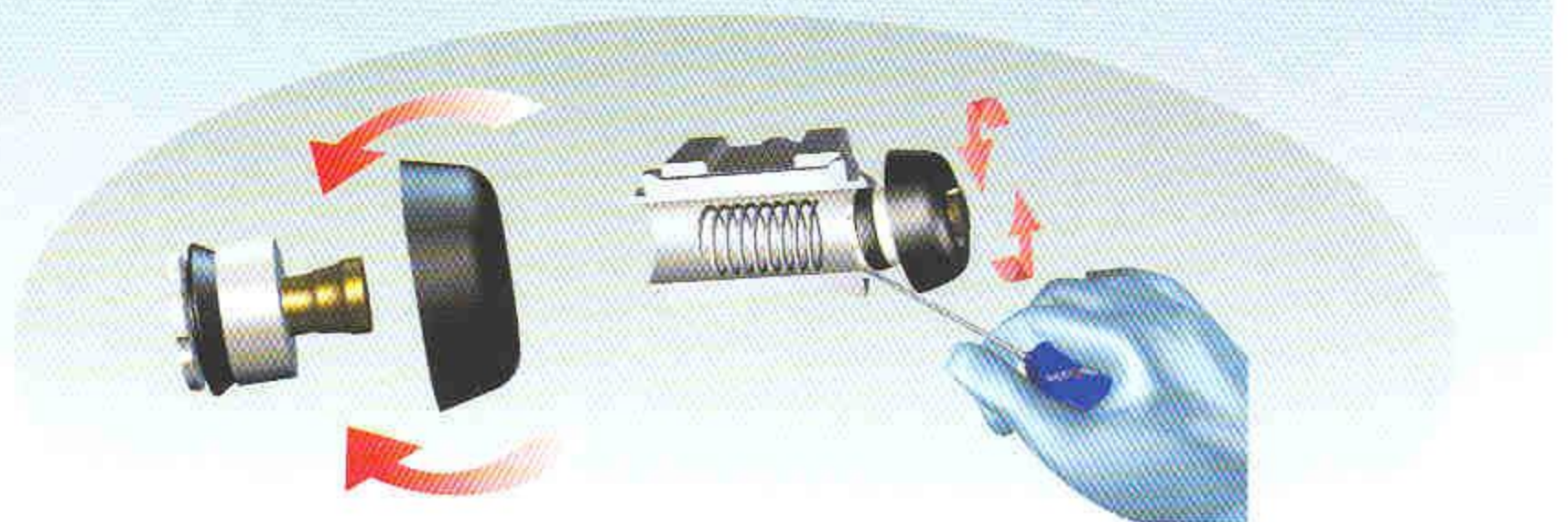
- 2 Dismantle carefully rubber parts avoiding scratching the pistons, using if necessary a plastic or wooden tool. We recommend the special **CEIN** tool that your distributor can supply you for free.



- 3 Impregnate the new parts with special grease for brakes, vaseline or brake fluid and proceed to assemble rubber parts on the pistons using the special tool, paying all your attention to the correct order of assembling.



- 4 Finally, fit the boots in the piston groove, being careful of not soiling them with brake fluid and proceed to assemble parts in the cylinder, paying special attention to not nipping the rubber parts lip with the cylinder edge, using a **CEIN** tool if necessary.



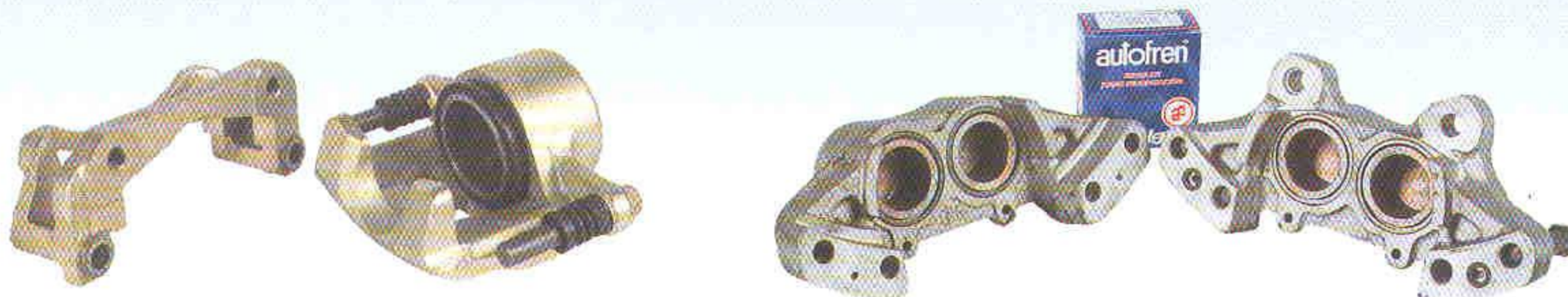
NOTE: Check that the bleeder is perfectly clean before fitting the wheel cylinder on the drum so that it is possible to bleed it correctly.

REPAIRING BRAKE CALIPERS

· YOU WILL ALWAYS FIND **EEINER**
REPAIR KITS FOR ANY BRAND AND MODEL

!!WARNING!! Every time those brake pads are replaced, it is very important to replace the piston seal, a worn seal, impedes the piston return when finishing braking, producing quicker erosion of pads and annoying noises.

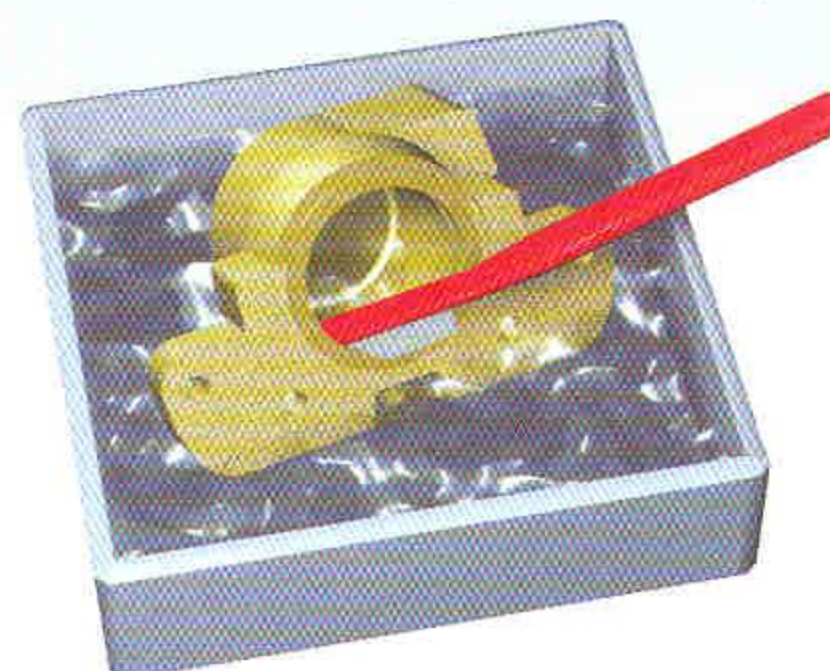
- 1 Remove the caliper and dismantle it if necessary to put out the piston.



- 2 Remove the boot and the piston using compressed air if necessary, being careful and placing a wooden shim between the running board and the piston.



- 3 Remove the o-ring with a flexible blade with rounded edge, or the **EEINER** tool. Clean the inside of the caliper and the piston only with alcohol or brake fluid, ensuring the perfect cleanliness of the groove where the ring fits.



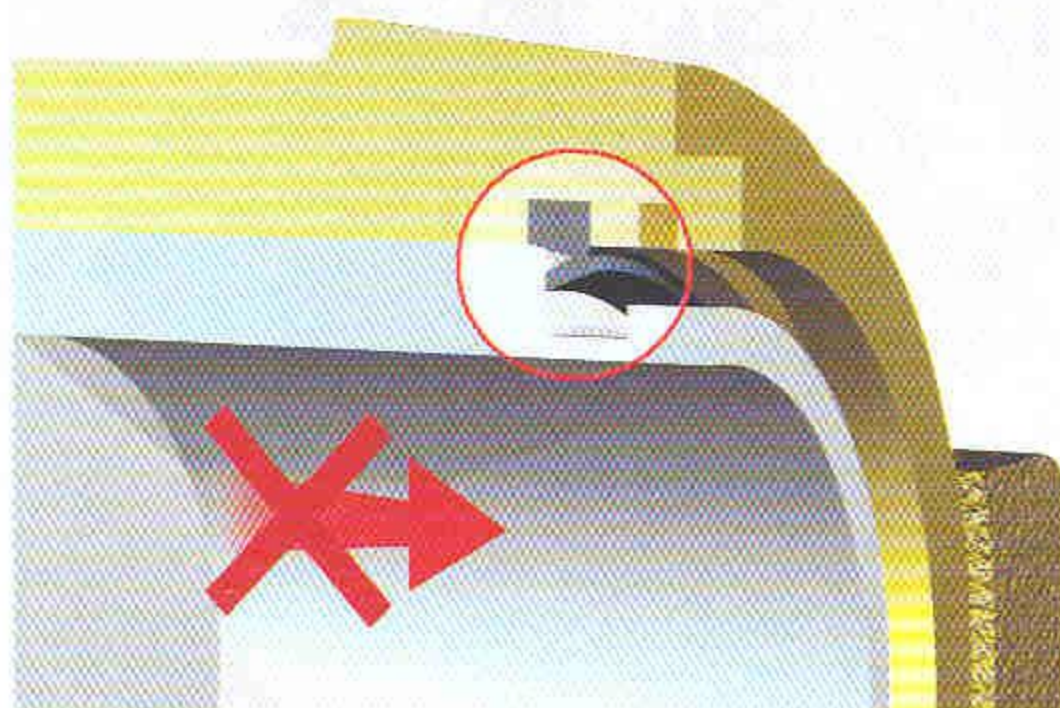
- 4 Before introducing the new o-ring in the sealing groove, lubricate it with special grease, vaseline or brake fluid. Fit it in its place with your finger and check that it fits well on all the surface of the sealing groove.



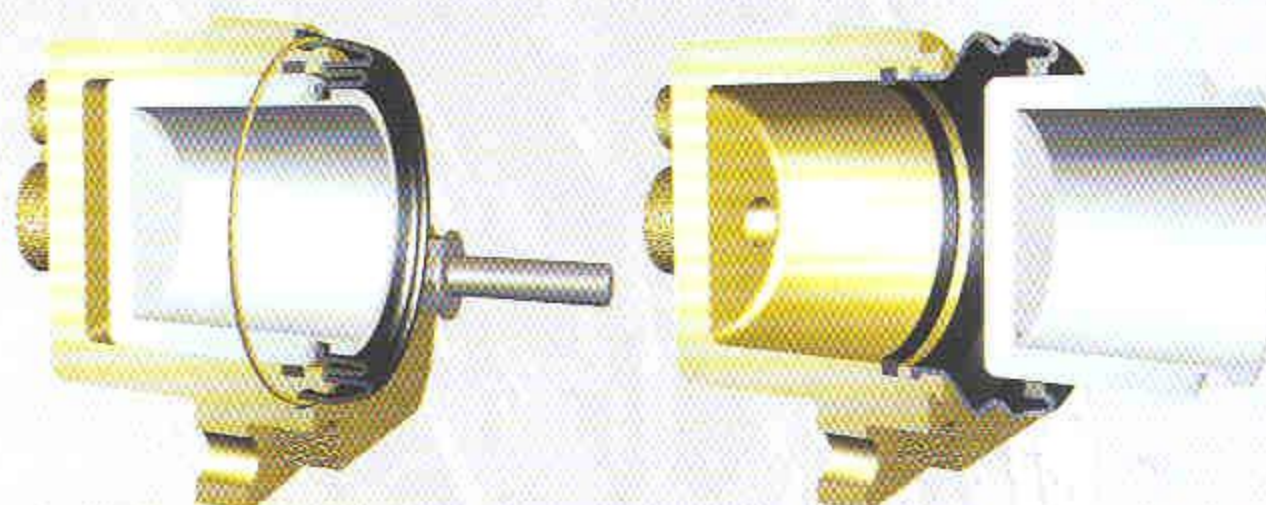
REPAIRING BRAKE CALIPERS (continued)

SEINSA, GUARANTEES ITS DISTRIBUTOR DELIVERY IN 24 HOURS

- 5** Press to introduce the piston, avoiding that the piston gets across the seal position, because in such case it will damage the seal.



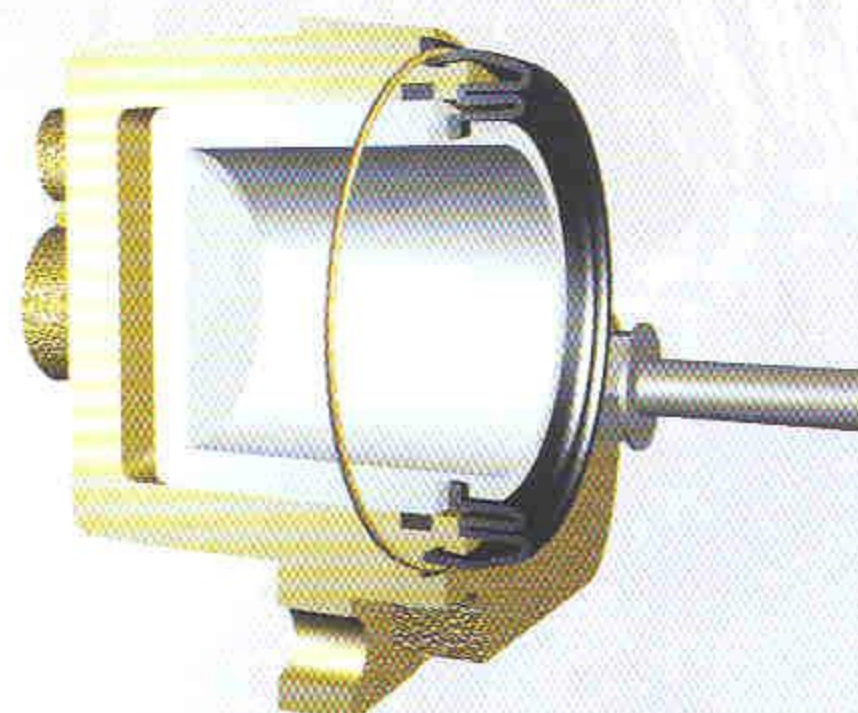
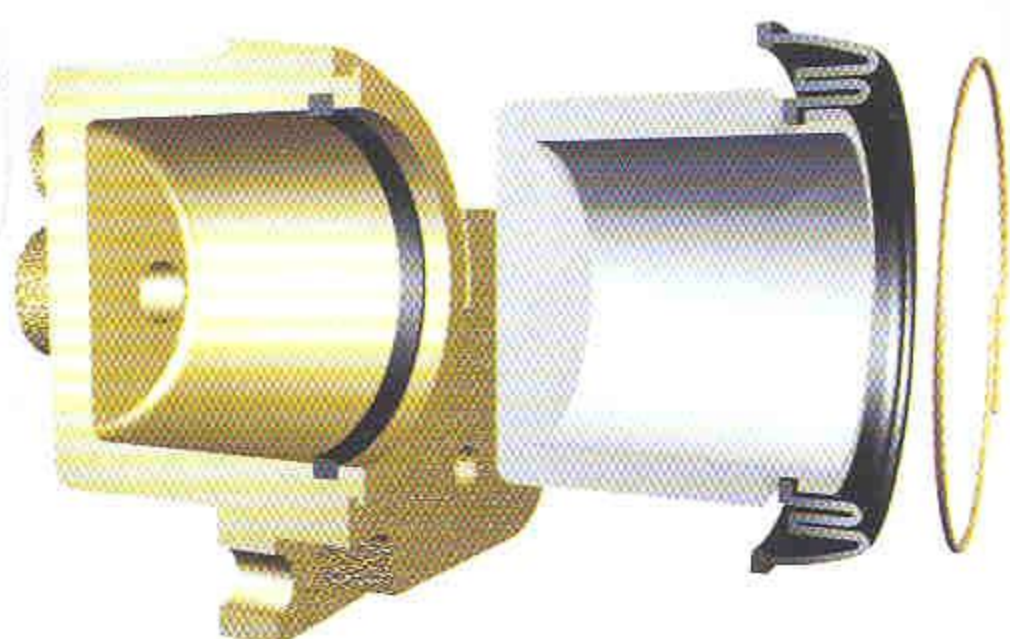
NOTE: There are two main types of caliper that need different procedures in assembling the piston and the boot:



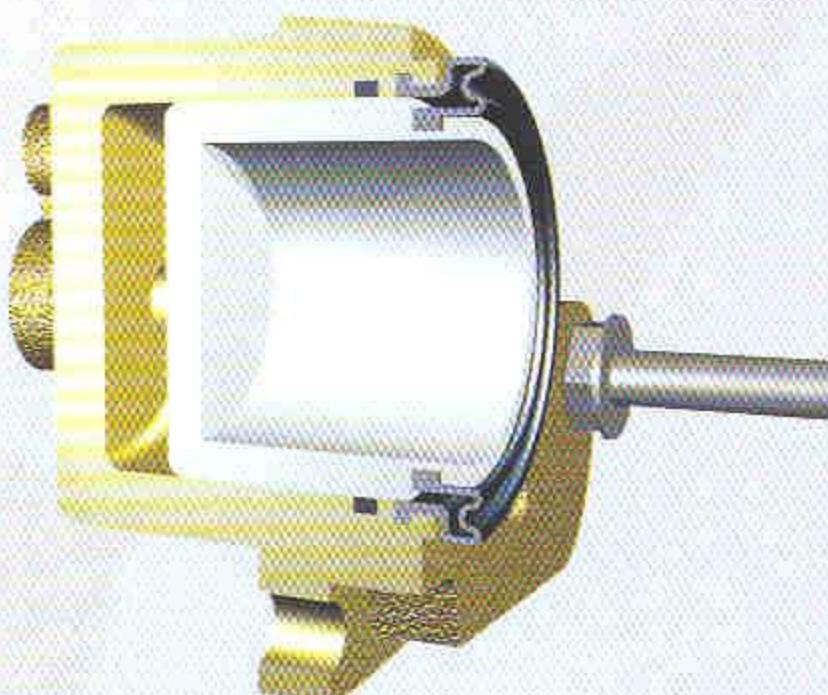
TYPE A

TYPE B

- 6** For assembling **TYPE A**, fit the boot in the piston groove and then introduce it in the caliper, then, put the boot in the sealing groove and fit the shim.



- 7** For assembling **TYPE B**, you must fit the boot on the piston (not in its groove), and introduce it in the sealing groove before fitting the piston.



- 8** In the case of a pin slide type caliper, verify that it moves correctly on the slides. If not, clean and grease them and replace the pin boot. If necessary, replace the complete kit of slides.

NOTE: Even in the case that the slides move correctly **SEINSA** recommends to grease them and replace the pin boots.