

RENAULT FUEGO 2.0 L GTX

BRAKE PRESSURE LIMITER VALVE

The Fuego has a dual circuit braking system. The two lines to the rear brakes pass through a double brake pressure limiter valve assembly, which is activated by a link to the rear suspension centre arm.

The valve assembly is repairable but only if the o-rings need replacing, the seats need resurfacing, or the bores need resleeving.

First remove the valve assembly and give it a good clean: don't worry, everything inside will be able to be removed for a thorough cleaning and drying before reassembly. Note that the brake lines from the front attach with 12 mm unions and the lines to the rear brakes with 11 mm unions.

Undo the large end plug (will need quite a lot of force and use of a well-fitted allen key and extension lever may be insufficient – consider turning the plug with the good old monkey wrench, with the body of the assembly held firmly in a vice. Do not lose the copper washer. Removal of the plug exposes the end of the main piston for this half of the assembly.

Then undo the two smaller bolts by allen key (again ensure it is well-fitting), with an extension lever and with the body of the assembly still in the vice. Do not lose the spring washers. Separate the two halves of the assembly. Do not lose the rubber seal that fits between the two halves.

From the half that mates with the spring and lever, gently lever out the metal spring clip ring and carefully prise out the rubber bellows to which is fitted the metal spring base/piston tapper. If not done so already, the threaded adjustment rod that screws into this end of the assembly should be carefully unscrewed from the assembly so that it does not become damaged. Removal of the bellows exposes the end of the main piston for this half of the assembly.








At the opposite end of this half of the assembly is a plug that carries a short (10 mm) spacer piston. Do not lose this piston, or the plug. Both are normally held in place quite firmly with o-rings, the plug especially. With a suitable drift on the end of the main piston, gently punch out the piston, which should in turn move the plug and spacer piston. If there is resistance, which could be due to the plug being stubborn, grasp the exposed end of the plug in a vice (no movement is to be allowed against the jaws of the vice) and by twisting the body of the assembly, gently work the plug loose.

This half of the assembly connects with LHS front and RHS rear brakes.

Returning to the other half of the assembly, with a suitable drift on the end of the main piston, gently punch out the piston. You will note that this piston is a little shorter than the other.

This half of the assembly connects with RHS front and LHS rear brakes.

Once the parts are carefully cleaned and dried, inspect:

-  the pistons for damage – in the longer piston, the metal plate over the rubber valve may have become separated from the piston and have taken on a cone-shape (due to forceful return when e.g. the rear of the car has been raised high and then forcefully returned to ground, as in an accident);
-  the valve seals for wear, deterioration;
-  the valve seats for pitting;
-  the valve o-rings (probably should be replaced anyway);
-  the plug o-rings, including the internally-fitted one that seals the spacer piston (probably should be replaced anyway);
-  the rubber seal between the two halves of the assembly (which should be serviceable after cleaning)
-  the rubber bellows for tears or deterioration.

The o-rings on the pistons and for the spacer piston are not o-rings but are square in section. I was not able to source square-rings so have relied on standard o-rings 006 for the main pistons, 007 for the spacer piston and 015 for the plug.

If by this stage, all of what is written sounds double-dutch, consult the diagram.

When the rear of the car is raised, the pistons (and the piston taper) are free to move at least 1.5 mm, under pressure of the fluid in the braking system, away from the screwed plug end, causing the rear brake lines to be blocked by the valves on the pistons. This puts all the braking effort on the front brakes.

I don't know what the significance of the 0.6 mm gap between the spacer piston and the two main pistons at rest is but it exists. Perhaps there must be some accommodation when the valve rubbers press down hard on the seats and distort.

So far, my rebuilt valve assembly using standard o-rings is working

Have fun!

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