SERVOTESTER

This has been designed to check power steering and steering pumps on the vehicle itself. In order to do this, the SERVOTESTER should be inserted into the hydraulic system instead of easy access.

Using the choke valve, it if possible to simulate the action of the steering distributor valve in order to test the pump operation. The low and high pressure manometer can be used to measure the circuit oil pressure.

The servotester has two manomenters, one low and one high pressure used to measure the oil pressure circuit. The low pressure has a key used to disable it when testing is performed at high pressure. It also has a throttle valve, which function is to gradually close the circuit to increase the pressure in simulating the action of the steering control valve so you can check the pump operation.

Connecting the Servotester:

- Disconnect the pressure outlet tube from the pump and connect it to the SERVOTESTER outlet hose.
- Connect the pressure inlet tube of the SERVOTESTER into the pressure outlet port of the pump.
- Wait until the hydraulic system oil temperature is around 50ºC.
- In the first place, the pump must be checked. When we are sure the pump is working correctly, we can then check the steering.

PUMP TEST

While the choke is being closed, the wheel should not be turned since this could cause pressure peaks which could damage the pump or the SERVOTESTER.

Low pressure test: This test is complementary to the high pressure test

Without moving the steering wheel at all, irrespective of the engine speed, **the pressure should be between 3 and 10 bars, depending on the pump model**.

With the engine idling and with the choke open, if the pressure on the low pressure manometer is too high, the distributor valve is faulty or there may be a twist or blockage in some part of the circuit. It is advisable to carry on with the tests.

Maximum pressure test:

Close the low pressure manometer. With the engine idling, the choke should be slowly closed until the pressure gauge marks the rated pressure indicated on the plate for each pump, it may rise to 60-150 bars, depending on the model.

The maximum deviation between the rated pressure and the actual reading on the pressure gauge should be approximately, 10%. **If the pump does not reach 60-150 bars (depending on the model) the pump is faulty.**

The pump should not be maintained at this maximum pressure for more than 5 seconds to prevent the possible deterioration of the pump's internal components.

Open the choke again..

STEERING TEST:

In order for this test to be reliable, the pump must be working correctly.

To test the steering, it should be remembered that there are various models, particularly those of the ZF manufacturer, where it is necessary to place shims in order to limit the turning angle ½ to ¾ of a turn before reaching the stop.

Maximum pressure test:

Close the low-pressure manometer.

Turn the steering wheel from stop to stop, maintaining the wheel at the stop for 5 seconds. The pressure difference between the two sides should not be greater than 10% approximately. If it is, there is an internal leak or the distributor valve is not working correctly.

Turning the steering wheel to the stop, the pressure should reach the rated value indicated for each model. If the pressure is too low and the gauge needle oscillates, the distributor valve might be faulty or there may be an internal leak.

LIZARTE shall not be liable for any damage caused to the low pressure gauge during the high pressure test, and we would therefore remind you that <u>it is essential to close the low pressure gauge with the orange key.</u>

See diagram on following page

SERVOTESTER