PAS System – Pressure Testing

MODEL
1997 MY-ON XK8 Range
1998 MY-ON V8 XJ Series
VIN
001001-ON
812256-ON

ISSUE:

This Technical Bulletin will provide a Diagnostic Procedure to aid in the investigation of power assisted steering (PAS) related problems, and must be used in conjunction with the PAS Rack and Pinion Evaluation Form, W-29.

ACTION:

When diagnosing PAS related problems, the following procedure is recommended:

1. Enter the Customer's comments in the appropriate section of the Evaluation Form.
2. Inspect the steering assembly and enter the observations in the appropriate section of the Evaluation Form.
3. Determine the cause of the fault.
4. Rectify any fault found.
5. Test to confirm the elimination of the fault.
6. Record the idle and maximum pump pressures on the completed W-29 form and submit the form.

> **NOTE:** Failure to submit the W-29 form may delay warranty reimbursement.

LEAK DETECTION PROCEDURE

Raise the vehicle on a suitable hoist to provide access to the steering rack.

> **NOTE:** If a fluid leak is suspected the steering rack assembly, reservoir and pump must be thoroughly cleaned of all dirt, grease and fluid, using a suitable degreasing agent, and then thoroughly dried, before testing for leaks.

After cleaning, check the whole PAS system for any outward sign of physical damage or misalignment.

Start the engine and turn the steering steadily from lock to lock observing all the connections and joints for signs of a fluid leak.

> ⚠ **WARNING:** Eye protection, i.e. goggles or visor, must be worn when looking for suspected leaks.
> **Do not** attempt to repair any suspected leak while the engine is running.

PRESSURE MEASUREMENT PROCEDURE

Measure the maximum system pressure, (which is governed by the pressure relief valve), by connecting a pressure gauge **(J25323-D)** with suitable adapters **(J28579)**, into the fluid circuit of the PAS system. When using gauge J25323-D, the tool must be connected so the fluid flow enters the gauge end of the tool.

1. Thread the dog leg adapter pipe into the high pressure (output) fitting of the PAS pump. Connect the tester hose from the gauge end of the tester to the dog leg adapter.
2. Connect the other tester hose to the PAS high pressure hose previously disconnected from the PAS pump.
3. Run the engine at idle speed, and check that the pressure at idle is 100-150 psi (6.9-10.3 bar).
4. Hold the steering wheel at full lock and read the maximum pressure recorded on the gauge which should be 1470-1600 psi (100-110 bar). If the pressure is within specification, continue to step 6. If the pressure reading is below the minimum, continue with step 5.
5. Center the steering wheel and close the pressure tester valve for no more than 5 seconds. Read the maximum pump pressure with the valve closed.

   • If the maximum pressure recorded is within the limits, 1470-1600 psi (100-110 bar), then the RACK is faulty and not the pump. The rack may have excessive internal leakage causing a high flow rate.

   • If the maximum pressure recorded is below the minimum, 1470 psi (100 bar), then the PUMP is faulty and not the rack. The pump may have a pressure valve seized in the open position allowing excessive flow, or it may be worn and inefficient.
6. Record the idle and maximum pump pressures on the W29 form.

Warranty Information:

FAULT CODE	R.O. NUMBER	DESCRIPTION	TIME ALLOWANCE
GC CB 63	57.20	PAS pressure test	shop time