

Air Conditioning (A/C) System Performance Test

Table 1: [A/C Performance Table](#)

This test measures the operating efficiency of the A/C system under the following conditions:

- The current ambient air temperature
- The current relative humidity
- The high side pressure of the A/C system
- The low side pressure of the A/C system
- The temperature of the air being discharged into the passenger compartment

Test Description

The numbers below refer to the step numbers on the diagnostic table.

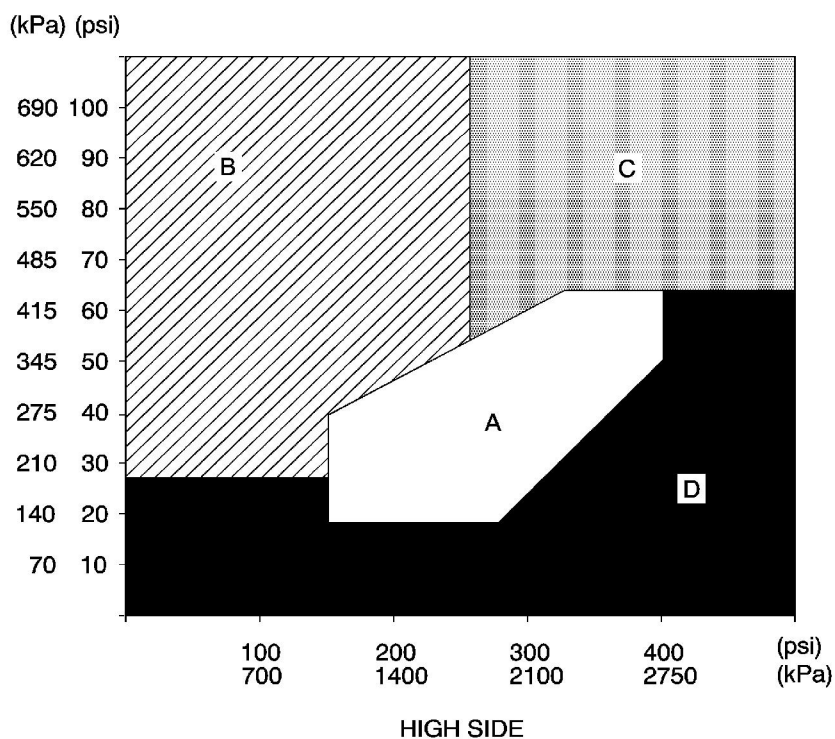
1. This step determines if the A/C system has at least the minimum refrigerant charge required to operate the system without damage.
2. This step measures the performance of the A/C system.
3. This step is to allow for vehicle variations as well as high ambient temperatures.

Step	Action	Values	Yes	No
Important: <ul style="list-style-type: none">• The ambient air temperature must be at least 16°C (60°F).• Do not induce additional air flow across the front of the vehicle during the test.• If you were sent here from a DTC diagnostic table, clear the DTC upon completion of this test.				
1	<ol style="list-style-type: none">1. Park the vehicle inside or in the shade.2. Open the windows in order to ventilate the interior of the vehicle.3. If the A/C system was operating, allow the A/C system to equalize for about 2 minutes.4. Turn OFF the ignition.5. Install the J 43600 ACR 2000 Air Conditioning Service Center.6. Record the ambient air temperature displayed on the J 43600.7. Record the low and high side STATIC pressure readings.	<p>More than 16°C (60°F) - 345 kPa (50 psi)</p> <p>More than 24°C (75°F) - 483 kPa (70 psi)</p> <p>More than 33°C (90°F) - 690 kPa (100 psi)</p>		

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	Are both the low side and high side pressures within the specified value?		Go to Step 2	Go to Leak Testing
2	<p>Important: Record the relative humidity and the ambient air temperature at the time of the test.</p> <ol style="list-style-type: none"> 1. Close the vehicle doors and windows. 2. Open the drivers door window 12.7-15.2 cm (5-6 in). 3. Select the following HVAC control settings: <ul style="list-style-type: none"> • The A/C is ON. • The coldest temperature setting • The maximum blower speed • Recirculation mode • The I/P panel outlet mode • All I/P panel outlets are OPEN. 4. Install the temperature probes of the J 43600 in the left and right center panel air outlets. 5. Apply the parking brake. 6. Place the transaxle/transmission in one of the following positions: <ul style="list-style-type: none"> • PARK (Automatic) • NEUTRAL (Manual) 7. Start the engine and warm to operating temperature. 8. Operate the A/C system for 5 minutes. 9. Inspect A/C components for the following conditions: <ul style="list-style-type: none"> • Abnormal frost areas • Unusual noises <p>Important: Press the RESET button, before using the print function of the J 43600 .</p> <ol style="list-style-type: none"> 10. Print the following information: <ul style="list-style-type: none"> • The panel outlet air temperatures • The low-side pressure • The high-side pressure 11. Compare the low and high side pressures and the panel output temperatures to the A/C 	--		

	Performance Table below.			
	Does all the data recorded fall within the specified ranges of the A/C Performance Table below?		Go to Step 8	Go to Step 3
3	<p>If the pressures and temperatures recorded do not fall within the specified ranges:</p> <ol style="list-style-type: none"> 1. Continue to operate the A/C system for an additional 5 minutes. 2. RESET the J 43600 and record the pressures and temperatures again. 3. Compare the low and high side pressures and the panel output temperature to the table below. <p>Does all the data recorded fall within the specified ranges of the table below?</p>	--	Go to Step 8	Go to Step 4
4	Do the high and low side pressures fall within the specified ranges, but the panel outlet temperatures do not?	--	Go to Air Conditioning (A/C) Diagnostics - Pressure Zone A	Go to Step 5
5	Is the low side pressure greater than the specified range, but the high side pressure within or less than the specified range?	--	Go to Air Conditioning (A/C) Diagnostics - Pressure Zone B	Go to Step 6
6	Are the low and high side pressures both greater than the specified ranges?	--	Go to Air Conditioning (A/C) Diagnostics - Pressure Zone C	Go to Step 7
7	Is the high side pressure greater than the specified range, but the low side pressure is within or less than the specified range?	--	Go to Air Conditioning (A/C) Diagnostics - Pressure Zone D	Go to Step 8
8	<p>Operate the system in order to verify the test results.</p> <p>Did you find the same results?</p>	--	System OK	Go to Symptoms - HVAC Systems - Manual



A/C Performance Table

Ambient Temperature	Relative Humidity	Low Side Service Port Pressure	High Side Service Port Pressure	Maximum Left Center Discharge Air Temperature
13-18°C (55-65°F)	0-100%	151-241 kPa (22-35 psi)	1040-1508 kPa (151-219 psi)	10°C (50°F)
19-24°C (66-75°F)	Below 40%	151-261 kPa (22-38 psi)	1081-1756 kPa (157-255 psi)	13°C (55°F)
	Above 40%	151-261 kPa (22-38 psi)	1233-1825 kPa (179-265 psi)	14°C (56°F)
25-29°C (76-85°F)	Below 35%	186-268 kPa (27-39 psi)	1391-1729 kPa (202-251 psi)	14°C (57°F)
	35-50%	192-289 kPa (28-42 psi)	1446-1887 kPa (210-274 psi)	16°C (60°F)
	Above 50%	192-268 kPa (28-39 psi)	1488-1777 kPa (216-258 psi)	16°C (60°F)
30-35°C (86-95°F)	Below 30%	220-310 kPa (32-45 psi)	1632-1977 kPa (237-287 psi)	18°C (64°F)
	30-50%	227-316 kPa (33-46 psi)	1639-1956 kPa (238-284 psi)	19°C (65°F)
	Above 50%	227-303 kPa (33-44 psi)	1667-1929 kPa (242-280 psi)	19°C (66°F)
36-41°C (96-100°F)	Below 20%	268-372 kPa (39-54 psi)	1908-2259 kPa (277-328 psi)	23°C (72°F)
		268-344 kPa	1901-2232 kPa	

105°F)	20-40%	(39-50 psi)	(276-324 psi)	23°C (73°F)
	Above 40%	268-385 kPa (39-56 psi)	1887-2246 kPa (274-326 psi)	24°C (74°F)
42-46°C (106-115°F)	Below 20%	316-392 kPa (46-57 psi)	2197-2535 kPa (319-368 psi)	24C (75°F)
	Above 20%	316-399 kPa (46-58 psi)	2177-2549 kPa (316-370 psi)	25°C (76°F)
47-49°C (116-120°F)	Below 30%	351-420 kPa (51-61 psi)	2397-2652 kPa (348-385 psi)	27°C (79°F)