

83-609 Testing ambient, in-car temperature sensor and potentiometer (temperature dial) without tester

Data

		In-car temperature sensor			Ambient temperature sensor			Potentiometer
Connections in male plug		4 and 5			2 and 3			9 and 10
Resistance (ohm) at the following sensor temperatures:								
Sensor temperature °C (°F)	In-car temperature sensor Ω			Ambient temperature sensor Ω			Potentiometer ¹⁾ nom. Ω	
	nom.	max.	min.	nom.	max.	min.		
18 (64)	2300	2500	2100	390	415	362	300 ^{+ 50} _{- 30} at temperature dial adjustment 65 °F	
19 (66)	2200	2400	2000	376	400	349		
20 (68)	2110	2310	1910	363	388	337		
21 (70)	2030	2220	1830	350	375	325	900 at temperature dial adjustment 75 °F	
22 (72)	1950	2130	1740	338	362	314		
23 (74)	1870	2050	1660	326	350	304		
24 (76)	1790	1970	1590	314	339	294		
25 (78)	1720	1900	1510	303	328	283		
26 (79)	1650	1820	1440	293	317	274	1480 ^{+ 140} _{- 110} at temperature dial adjustment 85 °F	
27 (80)	1580	1760	1370	282	307	265		
28 (81)	1510	1690	1300	273	298	257		
29 (84)	1450	1620	1230	263	280	248		
30 (86)	1390	1560	1170	254	275	241		
31 (88)	1340	1500	1110	246	272	235		
32 (90)	1290	1450	1050	238	265	227		
33 (92)	1250	1400	1000	232	250	222		
34 (93)	1190	1360	960	225	248	212		
35 (96)	1140	1310	910	218	240	205		
36 (97)	1090	1270	870	211	232	198		
37 (98)	1040	1230	830	204	224	191		
38 (100)	990	1180	780	197	216	184		
39 (102)	940	1140	740	190	208	177		
40 (104)	900	1100	700	184	200	170		

¹⁾ Ambient temperatures have no influence on specified ohm values. For checking potentiometer, adjust to 900 Ω by turning temperature dial. Hold potentiometer shaft in place by means of adjusting wrench and set temperature dial to 75 °F by rotating on shaft (refer to 83-611). Then check values at temperature dial setting of 65 °F and 85 °F.

To check temperature sensor and potentiometer, disconnect tester from system and determine specified resistance via connections in male plug for tester (refer to table).

With warm engine it is recommended to remove ambient temperature sensor during test. With in-car temperature sensor, the temperature is measured directly on sensor.