



Refer to Parts Microfiche Gr. 54 to identify control modules.

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920/940/941		
Models	202.029 208.365 210.065/082/265/282		
ME-SFI system designation	2.0		
<b>Closed throttle (idle) position, check, adjust</b> (07-2053 or 07-2056) <sup>15)</sup>			
Engine oil temperature .....	° C	>60	
Selector lever position .....		P/N	
Engine speed .....	rpm	P/N: 650 – 800	D: <650
CTP recognition (accelerator pedal not depressed) .....	HHT display	<b>ON</b>	
On-off ratio before right TWC .....	%	0±25 <sup>1)</sup>	
On-off ratio before left TWC .....	%	0±25 <sup>1)</sup>	
Engine coolant temperature .....	° C approx.	>80	

<sup>1)</sup> In case of complaint, on-off ratio must be measured at idle speed and at 2500 rpm with purge line to engine disconnected and plugged.

<sup>15)</sup> Time Guide operation no. and/or SMS job no.

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920/940/941	
Models	202.029 208.365 210.065/082/265/282	
ME-SFI system designation	2.0	
<b>Engine, check, adjust</b> (07-1100) <sup>15)</sup>	Page 1	
Engine oil level	HHT display	OK
Fuel tank level	HHT display	OK
Engine oil temperature	° C	>60
Engine speed (selector lever in P/N position)	rpm	650 – 800
Air mass	kg/h	10 – 20
MAF voltage (increasing rpm = increasing voltage)	V	1.3 – 1.7
Ignition timing with premium unleaded gasoline (91 posted/95 RON) <sup>1)</sup>	° CKA	5 – 25
Injection duration right	ms	3 – 5
Injection duration left	ms	3 – 5
Camshaft Hall-effect sensor, value jumps	HHT display	55-AA
ECT	° C	>80
Intake air temperature (IAT)	° C	<30
Purge valve on-off ratio	%	–
Battery voltage	V	10
Actuator		
Actual value potentiometer r1	V	4.0 – 4.6
Actual value potentiometer r2	V	0.3 – 0.9
Pedal value sensor		
Nominal value potentiometer r1	V	0.2 – 0.5
Nominal value potentiometer r2	V	0.1 – 0.4
CTP recognition (accelerator pedal not depressed)	HHT display	<b>ON</b>

<sup>1)</sup> In case of complaint, check ignition timing at full load.

<sup>15)</sup> Time Guide operation no. and/or SMS job no.

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920/940/941	
Models	202.029 208.365 210.065/082/265/282	
ME-SFI system designation	2.0	
<b>Engine, check, adjust</b>	07-1100	Page 2
WOT Recognition	HHT display	<b>OFF</b>
Torque	Nm	30 – 50
Throttle valve angle	°	0.3 – 2.5
Throttle valve stop learned	HHT display	<b>YES</b>
On-off ratio before right or left TWC		
ECT >70°C	%	0 ± 25 <sup>2)</sup> oscillates
Right O2S 1 voltage before TWC	mV	– 200 to + 1000 <sup>12)</sup>
Left O2S 1 voltage before TWC	mV	– 200 to + 1000 <sup>12)</sup>
Self adaptation at partial load, right	Factor	0.68 – 1.32 <sup>5)</sup>
Self adaptation at partial load, left	Factor	0.68 – 1.32 <sup>5)</sup>
Self adaptation at idle speed, right	ms	– 1 to + 1 <sup>4)</sup>
Self adaptation at idle speed, left	ms	– 1 to + 1 <sup>4)</sup>
Driving range (selector lever position)	HHT display	<b>P/N</b>
A/C compressor, EC pushbutton depressed	HHT display	<b>OFF</b>
Purge system	HHT display	<b>OFF</b>
Safety fuel shut off	HHT display	<b>OFF</b>

<sup>2)</sup> In case of complaint, on-off ratio must be measured at idle speed and at 2500 rpm with purge line to engine disconnected and plugged.  
<sup>4)</sup> Base setting at idle, 0.0 kg/h (Bosch) or 0.0% (VDO). Mixture tendency "**rich**" < 0.0 kg/h or 0.0%. Mixture tendency "**lean**" > 0.0 kg/h or 0.0%.  
<sup>5)</sup> Base setting partial load = 1.0. Mixture tendency "**rich**" < 1.0, mixture tendency "**lean**" = > 1.0.  
<sup>12)</sup> Oscillates around 300 mV after 2 minutes at idle.

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920/940/941		
Models	202.029 208.365 210.065/082/265/282		
ME-SFI system designation	2.0		
<b>Cold start</b>	07-2321		
Engine oil level .....	HHT Display	OK	
Fuel tank level .....	HHT Display	OK	
Engine rpm while cranking .....	rpm	> 100	
Battery voltage .....	V	10	
Safety fuel shut off .....	HHT display	<b>OFF</b>	
ECT .....	° C	<sup>7)</sup>	
IAT .....	° C	<sup>7)</sup>	
ECT at starting .....	° C	<sup>7)</sup>	
CTP recognition (accelerator pedal not depressed) .....	HHT display	<b>ON</b>	

<sup>7)</sup> Proceed complaint related or temperature related.

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920/940/941		
Models	202.029 208.365 210.065/082/265/282		
ME-SFI system designation	2.0		
<b>Warmup</b>	07-2023		
Warmup speed <sup>12)</sup> ECT < 40 °C	rpm	approx. 1200 – 1500	
Warmup speed <sup>12)</sup> ECT > 40 °C	rpm	approx. 800	
Engine rpm (raised idle speed temperature dependent)			
ECT approx. –10 °C	rpm	P/N: 850 – 1000	D: 750 – 900
ECT approx. +15 °C	rpm	P/N: 800 – 950	D: 700 – 850
ECT approx. > 50 °C	rpm	P/N: 700 – 850	D: 650 – 800
CTP recognition (accelerator pedal not depressed)	HHT display	<b>ON</b>	
After start enrichment < 70 °C maximum 50 seconds	HHT display	<b>ON</b>	
TWC heating at idle < 30 °C maximum 50 seconds	HHT display	<b>ON</b>	
O2S 1 heater before TWC	V	–	
A/C compressor	HHT display	<b>OFF</b>	

<sup>12)</sup> Raised idle speed for max. approx. 50 seconds after starting.

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920
Models	202.029
ME-SFI system designation	2.0
<b>Engine performance</b> <sup>7)</sup>	07-1203 or 1206 Page 1
Engine oil level .....	HHT display OK
Fuel tank level .....	HHT display OK
Engine speed .....	rpm 5300
Air mass .....	kg/h 480 – 580
MAF sensor voltage .....	V 3.8 – 4.8
Ignition timing with premium unleaded gasoline (91 posted/95 RON) .....	°CKA 23 – 31
Injection duration, right .....	ms 14 – 19
Injection duration, left .....	ms 14 – 19
Camshaft Hall-effect sensor, value jumps .....	HHT display 55 – AA
ECT .....	°C 80 – 100
IAT .....	°C < 30
Purge valve on-off ratio .....	% –
Battery voltage .....	V 10
Driving range 3 .....	hp –
Altitude (correction value) .....	Factor –
Exhaust gas back pressure .....	mbar < 300

<sup>7)</sup> These are minimum performance values. Do not exceed speed of 80 mph.  
 Simulating engine coolant temperature and intake air temperature is not possible with ME-SFI. When testing WOT position be sure to use an external cooling fan to ensure adequate engine cooling.

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine		112.940	112.941
Models		208.365	210.065/082/265/282
ME-SFI system designation		2.0	2.0
<b>Engine performance</b> <sup>7)</sup>	07-1203 or 1206	Page 1	
Engine oil level .....		HHT display	OK
Fuel tank level .....		HHT display	OK
Engine speed .....		rpm	5300
Air mass .....		kg/h	480 – 580 <sup>1)</sup>
MAF sensor voltage .....		V	3.8 – 4.8
Ignition timing with premium unleaded gasoline (91 posted/95 RON) .....		°CKA	23 – 31
Injection duration, right .....		ms	14 – 19
Injection duration, left .....		ms	14 – 19
Camshaft Hall-effect sensor, value jumps .....		HHT display	55 – AA
ECT .....		°C	80 – 100
IAT .....		°C	< 30
Purge valve on-off ratio .....		%	–
Battery voltage .....		V	10
Driving range 3 .....		hp	153
Altitude (correction value) .....		Factor	–
Exhaust gas back pressure .....		mbar	< 300

<sup>1)</sup> Preliminary test value

<sup>7)</sup> These are minimum performance values. Do not exceed speed of 80 mph.

Simulating engine coolant temperature and intake air temperature is not possible with ME-SFI. When testing WOT position be sure to use an external cooling fan to ensure adequate engine cooling.

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920/940/941	
Models	202.029 208.365 210.065/082/265/282	
ME-SFI system designation	2.0	
<b>Engine performance</b> <sup>7)</sup>	07-1203 or 1206	Page 2
Actuator	Actual value potentiometer r1 .....	V <4.0
	Actual value potentiometer r2 .....	V >0.9
Pedal value sensor	Nominal value potentiometer r1 .....	V -
	Nominal value potentiometer r2 .....	V -
Throttle valve angle .....		° 80 – 83
CTP recognition .....	HHT display	<b>OFF</b>
WOT recognition .....	HHT display	<b>ON</b>
Torque .....	Nm	250 – 350
Knock control approved .....	HHT display	<b>OFF/ON</b> <sup>14)</sup>
Knock ignition angle/cylinder .....	°CKA	0
Right knock sensor .....	V	> 0.5
Left knock sensor .....	V	> 0.5
Driving range (selector lever position) .....	HHT display	<b>R, D – 1</b>
A/C compressor .....	HHT display	<b>OFF</b>
Transmission overload protection .....	HHT display	<b>OFF</b>
Deceleration shut-off .....	HHT display	<b>OFF</b>
Front axle VSS .....	mph (km/h)	-
Rear axle VSS .....	mph (km/h)	>100

<sup>7)</sup> These are minimum performance values. Do not exceed speed of 80 mph. Simulating engine coolant temperature and intake air temperature is not possible with ME-SFI. When testing WOT position be sure to use an external cooling fan to ensure adequate engine cooling.

<sup>14)</sup> HHT display ON if knock control is required.



**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920/940/941	
Models	202.029 208.365 210.065/082/265/282	
ME-SFI system designation	2.0	
<b>Cruise control</b>		
Brake switch, brake pedal not depressed .....	HHT display	<b>ON</b>
Stop lamp switch, brake pedal not depressed .....	HHT display	<b>OFF</b>
Move CC switch to corresponding position .....	HHT display	<b>V/SP/B/A</b>
Safety contact, CC switch actuated .....	HHT display	<b>ON</b>
Safety contact, CC switch not actuated .....	HHT display	<b>OFF</b>
Cruise control .....	HHT display	–
Maintain transmission range .....	HHT display	–
Cruise control shut-off, function .....	HHT display	–
Cruise control shut-off, safety .....	HHT display	–
<b>Drive authorization system (DAS)</b>		
DAS and ME-SFI control modules compatible .....	HHT display	<b>YES</b>
Engine control module identified .....	HHT display	<b>YES</b>
Engine control module locked .....	HHT display	<b>YES</b>
Drive authorization activated .....	HHT display	<b>YES</b>
Vehicle locked with RCL .....	HHT display	<b>NO</b>
Number of starts with not locked control module .....	Number	0

**Engine 112.941 as of 02/97**  
**Engine 112.920/940 as of 06/97**

Engine	112.920/940/941
Models	202.029 208.365 210.065/082/265/282
ME-SFI system designation	2.0
<b>Idle Quality</b>	
Rpm deviation/cylinder . . . . .	revolution/s <sup>2</sup> 1)
Rpm deviation cut out threshold . . . . .	revolution/s <sup>2</sup> –
Acceleration sensor up to 06/96 . . . . .	V –
Idle quality failure counter as of 02/96 . . . . .	Number 0
<b>On-off ratio</b>	
Idle speed . . . . .	rpm 650 – 800
Engine speed . . . . .	rpm 3200
On-off ratio at WOT and transmission selector lever position 3 . . . . .	% 0±25 constant
On-off ratio at upper partial load and transmission selector lever position “D”, 75 mph (120 km/h), 32 hp (24 kW) . . . . .	% 0±25 oscillating
On-off ratio at lower partial load and transmission selector lever position “D”, 31 mph (50 km/h), 9 hp (7 kW), . . . . .	% 0±25 oscillating
Exhaust gas back pressure . . . . .	mbar <180

1) Entry if value is larger than cut out threshold.