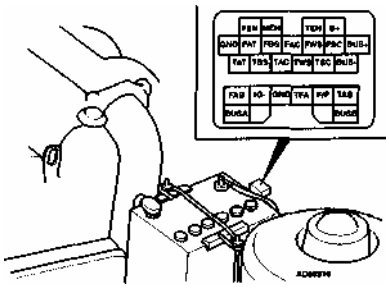
MAZDA

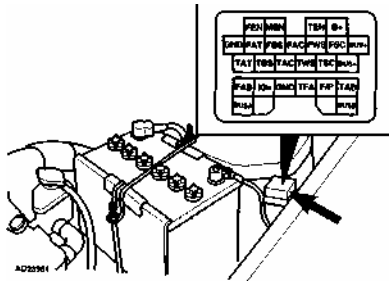
Model: 323 (BG) • 323 Estate 1,6/4x4 (BW) • 323 (BA/BJ)
626/MX-6 • 626/Estate • **Xedos 6**/9 • MX-3/MX-5
Year: 1989-00
Engina code: BP, BP-DOHC, B3, B3E, **B6**, B6-SOHC, B6-DOHC, B6E,FP, FS, **KF**, KJ, KL K8, RF, RF-CX, RF-Turbo, ZL, Z5
System: Mazda EGI • Mazda EDC

Engine management/transmission

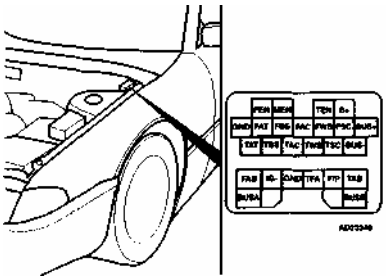
Data link connector (DLC) locations



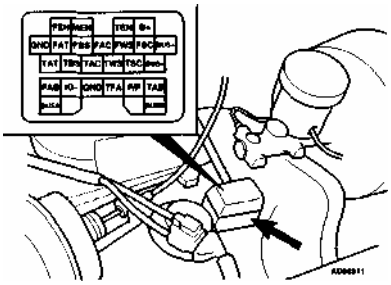
323 - engine bay, LH



626 -1997/MX-6, Xedos 6/9, MX-3 -engine bay, LH



626/Estate 1998 -» - engine bay, LH



MX-5 - near brake master cylinder

Trouble codes

General information

Except Xedos 9 2,3

- Refer to the How to use this manual section for: general test conditions, terminology, detailed descriptions of wiring faults and a general trouble shooter for electrical and mechanical faults.
- Trouble codes are displayed by using an LED connected to the data link connector (DLC).
- Except 323 1998-», 626/Estate/MX-5 1997->: Engine control module (ECM) displays all available diagnostic information for immobilizer system.
- DLC without wiring/terminals in positions FAT & TAT: Engine control module (ECM) incorporates transmission control function.
- DLC with wiring/terminals in positions FAT & TAT: Transmission control module (TCM) mounted separately.
- The ECM fault memory can also be checked and erased using diagnostic equipment connected to the data link connector (DLC).

Xedos 9 2,3

- Refer to the How to use this manual section for: general test conditions, terminology, detailed descriptions of wiring faults and a general trouble shooter for electrical and mechanical faults.
- Trouble codes are displayed by using an LED connected to the data link connector.
- Engine control module (ECM) displays all available diagnostic information for immobilizer system.
- Transmission control module (TCM) mounted separately.
- Data bus connecting ECM to TCM allows faults relating to both systems to be displayed when accessing ECM fault memory.
- The ECM/TCM fault memory can also be checked and erased using diagnostic equipment connected to the data link connector (DLC).

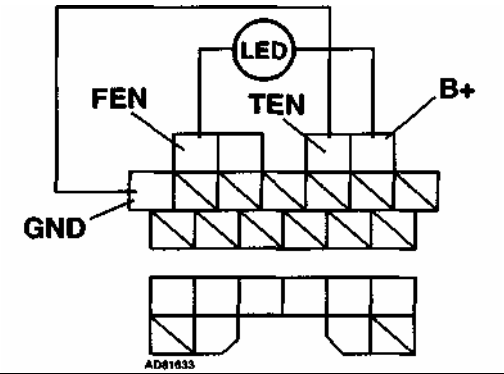
Engine management/transmission

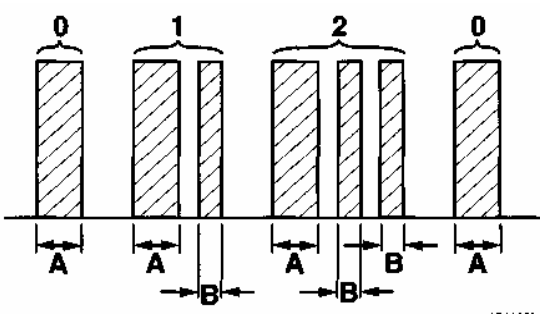
Accessing

- Ensure ignition switched OFF.
- Bridge data link connector (DLC) terminals GND and TEN
- Connect LED test lamp between terminals FEN and B+ D.

NOTE: Connect *LED test lamp positive connection to DLC terminal* B+.

- Switch ignition ON.
- Count LED flashes. Note trouble codes. Compare with trouble code table.
- Two digit trouble codes are displayed as follows:
- Long flashes indicate the 'tens' 2 [A].
- Short flashes indicate the 'units' 2 [C].
- For example: Trouble code 12 displayed 2.
- Four digit trouble codes are displayed as follows:
- Each trouble code consists of four groups.
- A long flash indicates the start of each group 3[A].
- Short flashes indicate the digits of each group 3 [B].
- No short flashes in a group indicate '0'.
- For example: Trouble code 0120 displayed 3.
- Switch ignition OFF. Rectify faults as necessary.

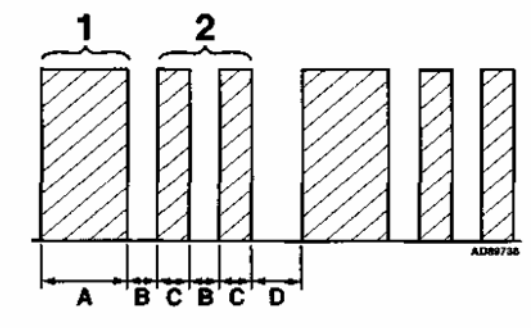




Erasing

Ensure ignition switched OFF.
Disconnect battery earth lead for at least 30 seconds.
Depress brake pedal for at least 20 seconds.
Reconnect battery earth lead.
Repeat checking procedure to ensure no data remains in ECM fault memory.

WARNING: *Disconnecting the battery may erase memory from electronic units (e.g. radio, clock).*



Engine management / transmission

Trouble code identification		
Flash type 2-digit	**Fault location**	**Probable cause**
01	Ignition pulse missing	Wiring, tachometer, ignition coil, distributor, ECM,
02	Diesel: Engine speed (RPM) sensor - no signal	Wiring, RPM sensor
02 1	Petrol: Crankshaft position (CKP) sensor/engine speed	Wiring, sensor supply voltage, CKP/RPM sensor
03	Camshaft position (CMP) sensor - no signal	Wiring, sensor supply voltage, CMP sensor
04	Diesel: Crankshaft position (CKP) sensor - no	Wiring, sensor supply voltage, CKP sensor
04 2	Petrol: Crankshaft position (CKP) sensor/engine speed (RPM) sensor - no signal	Wiring, sensor supply voltage, CKP/RPM sensor
05	Knock sensor (KS)	Wiring, KS
06	Vehicle speed sensor (VSS)	Wiring, speedometer, VSS
08	Mass air flow (MAP) sensor/volume air flow (VAF)	Wiring, MAF/VAF sensor
09	Engine coolant temperature (ECT) sensor	Wiring, ECT sensor
10	Intake air temperature (IAT) sensor	Wiring, IAT sensor
11	Intake air temperature (IAT) sensor	Wiring, IAT sensor
12	Throttle position (TP) sensor	Wiring, TP sensor adjustment, TP sensor
14	Barometric pressure (BARO) sensor	Wiring, BARO sensor, ECM
15	Except V6: Oxygen sensor (O2S)/heated oxygen sensor (HO2S) - no activity	Intake leak, fuel pressure/pump, wiring, O2S/HO2S, injector(s), ECT sensor, MAF sensor, spark plugs
	V6: Heated oxygen sensor (HO2S), bank 2 - no activity	Intake leak, fuel pressure/pump, wiring, O2S/HO2S, injector(s), ECT sensor, MAF sensor, spark plugs
16	Exhaust gas recirculation (EGR) valve position	Wiring, EGR valve position sensor
17	Except V6: Oxygen sensor (O2S)/heated oxygen sensor (HO2S) - incorrect signal	Intake leak, fuel pressure/pump, wiring, O2S/HO2S, injector(s), ECT sensor, MAF sensor, spark plugs
	V6: Heated oxygen sensor (HO2S), bank 2 - incorrect signal	Intake leak, fuel pressure/pump, wiring, O2S/HO2S, injector(s), ECT sensor, MAF sensor, spark plugs
18	Fuel quantity adjuster	Wiring, fuel quantity adjuster/position sensor
19	Fuel quantity adjuster position sensor	Wiring, fuel quantity adjuster position sensor
22	Fuel shut-off solenoid	Wiring, fuel shut-off solenoid
23	Diesel: Fuel temperature sensor	Wiring, fuel temperature sensor
	Petrol: Heated oxygen sensor (HO2S), bank 1 - no activity	Intake leak, wiring, O2S/HO2S, injector(s), ECT sensor, MAF sensor, spark plugs
24	Heated oxygen sensor (HO2S), bank 1 - incorrect signal	Intake leak, fuel pressure/pump, wiring, O2S/HO2S, njector(s), ECT sensor, MAF sensor, spark plugs
25	Fuel pressure regulator control solenoid	Wiring, fuel pressure regulator control solenoid
26	Evaporative emission (EVAP) canister purge valve	Wiring, EVAP canister purge valve
28	Exhaust gas recirculation (EC3R) solenoid -vacuum	Wiring, EGR solenoid
29	Exhaust gas recirculation (EGR) solenoid - vent	Wiring, EGR solenoid
34	Idle air control (IAC) valve	Wiring, IAC valve
35	Fuel pressure regulator control solenoid 2	Wiring, fuel pressure regulator control solenoid
36	Glow plug relay	Wiring, glow plug relay
41	Intake manifold air control solenoid 1	Wiring, intake manifold air control solenoid
43	Fuel injection timing sensor	Wiring, fuel injection timing sensor/solenoid

Model: 323 (BG) • 323 Estate 1,6/4x4 (BW) • 323 (BA/BJ) • 626/MX-6
626/Estate • Xedos 6/9 • MX-3/MX-5

Engine management / transmission

Flash type 2-digit	**Fault location**	**Probable cause**
46	Petrol: Intake manifold air control solenoid 2 Diesel: Closed throttle position (CTP) switch	Wiring, intake manifold air control solenoid Wiring, CTP switch
49	Engine control module (ECM) - defective	ECM
52	Module coding plug	Wiring, module coding plug
55	Input shaft speed (ISS) sensor/turbine shaft speed (TSS) sensor	Wiring, ISS/TSS sensor
56	323: Engine control module (ECM) - supply voltage 626: Transmission fluid temperature (TFT) sensor	Wiring, ECM Wiring, TFT sensor
57	Engine control relay	Wiring, engine control relay
60	Shift solenoid (SS) A, 1-2	Wiring, SS
61	Shift solenoid (SS) B, 2-3	Wiring, SS
62	Shift solenoid (SS) C, 3-4	Wiring, SS
63	Torque converter clutch (TCC) control solenoid	Wiring, TCC control solenoid
64	Shift timing solenoid, 3-2	Wiring, shift timing solenoid
65	Torque converter clutch (TCC) solenoid	Wiring, TCC solenoid
66	Transmission fluid pressure (TFP) solenoid	Wiring, TFP solenoid
67	Engine coolant blower motor relay - 1 /low temperature	Wiring, engine coolant blower motor relay
68	Engine coolant blower motor relay - high temperature	Wiring, engine coolant blower motor relay
69	Engine coolant blower motor temperature sensor	Wiring, engine coolant blower motor
71	Engine control module (ECM)/immobilizer control module - communication error	Wiring, immobilizer control module, ECM
72	Ignition key - not programmed into ECM	ECM incorrectly/not programmed
73	Engine control module (ECM)/immobilizer control module -	Incorrectly programmed immobilizer control
74	Engine control module (ECM)/immobilizer control module - ignition key codes not match	Incorrect/damaged key, ECM incorrectly programmed
75	Engine control module (ECM) - EEPROM error	ECM
76	Engine control module (ECM) — immobilizer code not stored	ECM incorrectly/not programmed
77	Immobilizer control module - communication error	Incorrect/damaged key, wiring, reader coil, immobilizer control unit

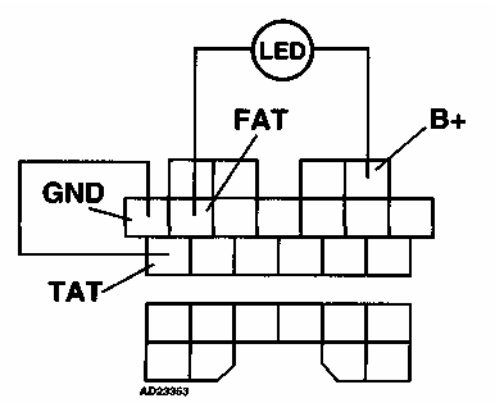
1 626/Xedos 6/9, engine codes KF/KL: Located in cylinder block.
2 626/Xedos 6/9, engine codes KF/KL: Located in distributor.

Trouble codes

transmission

General information

- Refer to the How to use this manual section for: general test conditions, terminology, detailed descriptions of wiring faults and a general trouble shooter for electrical and mechanical faults.
- Trouble codes are displayed by using an LED connected to the data link connector.
- The TCM fault memory can also be checked and erased using diagnostic equipment connected to the data link connector (DLC).

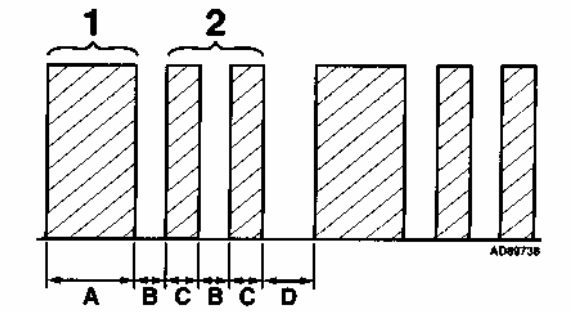


Accessing

- Ensure ignition switched OFF.
- Bridge data link connector (DLC) terminals GND and TAT1
- Connect LED test lamp between terminals FAT and B+1.

NOTE: ***Connect LED test lamp positive connection to DLC terminal*** **B+.**

Switch ignition ON.
Count LED flashes. Note trouble codes. Compare with trouble code table.
Long flashes indicate the 'tens' 2 [A].
Short flashes indicate the 'units' 2 [C].
For example: Trouble code 12 displayed 2.
Switch ignition OFF. Rectify faults as necessary.



323/Estate 1,6 8V/16V (BG/BW) • 323 1,8 16V (BG)
626/MX-6 2,5 V6 (GE) • Xedos 6 • Xedos 9 • MX-3 1,6

transmission

Erasing
• Ensure ignition switched OFF.
• Disconnect battery earth lead for at least 20 seconds.
• Depress brake pedal.
• Reconnect battery earth lead.
• Repeat checking procedure to ensure no data remains in ECM fault memory.
WARNING: Disconnecting the battery may erase memory from electronic *units (e.g. radio, clock).*

Trouble code	**Code identification**	
Flash type	**Fault location**	**Probable cause**
01	Ignition pulse missing	Wiring, tachometer, ignition coil, distributor, ECM, TCM
06	Vehicle speed sensor (VSS)	Wiring, speedometer, VSS
12	Throttle position (TP) sensor	Wiring, TP sensor adjustment, TP sensor
14	Barometric pressure (BARO) sensor	Wiring, BARO sensor, ECM
55	Input shaft speed (ISS) sensor/turbine shaft speed (TSS) sensor	Wiring, ISS/TSS sensor
56	Transmission fluid temperature (TFT) sensor	Wiring, TFT sensor
57	Engine control module (ECM) - gear shift, torque reduction signal 1	Wiring, ECM, TCM
58	Engine control module (ECM) - gear shift, torque reduction signal 2	Wiring, ECM, TCM
59	Engine control module (ECM) - ECT high, torque reduction signal	Wiring, ECM, TCM
60	Shift solenoid (SS) A, 1-2	Wiring, SS
61	Shift solenoid (SS) B, 2-3	Wiring, SS
62	Shift solenoid (SS) C, 3-4	Wiring, SS
63	Torque converter clutch (TCC) control solenoid	Wiring, TCC control solenoid
64	Shift timing solenoid, 3-2	Wiring, shift timing solenoid
65	Torque converter clutch (TCC) solenoid	Wiring, TCC solenoid
66	Transmission fluid pressure (TFP) solenoid	Wiring, TFP solenoid
71	Closed throttle position (CTP) switch	Wiring, CTP switch

Immobilizer

General information

323 ->1997, 626/MX-5 -»1996

- No Self-diagnosis information available from immobilizer control module.
- Access engine control module (ECM) fault memory for immobilizer related trouble codes.

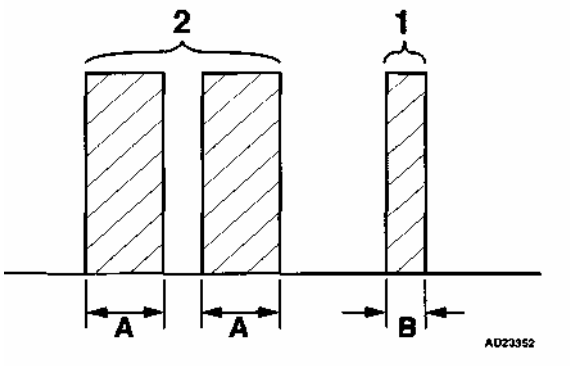
323 1998-*, 626/MX-5 1997 -*

- Refer to the How to use this manual section for: general test conditions, terminology, detailed descriptions of wiring faults and a general trouble shooter for electrical and mechanical faults.
- Trouble codes are displayed by the immobilizer warning lamp.
- System malfunction: During first three engine starts, engine runs for several seconds and then cuts out.
- After third attempt, engine will no longer start.

Accessing

323 1998 -s MX-5 1997 -»

- Turn ignition switch to START position for 2 seconds, then back to ON.
  Wait 2 minutes.
  Count warning lamp flashes. Note trouble codes. Compare with trouble code table.
  Long flashes indicate the LH digit 1 [A].
  Short flashes indicate the RH digit 1 [B].
  For example: Trouble code 21 displayed 1.
  Switch ignition OFF. Rectify faults as necessary.



626 1997 ->

- Trouble codes are displayed by the immobilizer warning lamp.
  Switch ignition ON.
  Count warning lamp flashes. Note trouble codes. Compare with trouble code table.
  Long flashes indicate the LH digit 1 [A].
  Short flashes indicate the RH digit 1 [B].
  For example: Trouble code 21 displayed 1.
  Switch ignition OFF. Rectify faults as necessary.

Erasing

323 1998 -s 626/MX-5 1997 -»

- Rectifying faults erases trouble codes.