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## 2001 MAZDA Xedos 9 OEM Service and Repair Workshop Manual

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| Troubleshooting item |   | Control system (PCM input signal) |           |   |                 |           |   |              |
|----------------------|---|-----------------------------------|-----------|---|-----------------|-----------|---|--------------|
|                      |   | MAP sensor No.1                   |           |   | MAP sensor No.2 |           |   | Fuel tempera |
|                      |   | High input                        | Low input | Open or short circuit in signal circuit | High input      | Low input | Open or short circuit in signal circuit | High input   |
| 30                   | SCR system warning indication turned on or flashes/message related to SCR system indicated in display | —                                 | —         | —                                       | —               | —         | —                                       | —            |
| 31                   | SCR system warning indication turned on/[Overfilled DEF] indicated in display                         | —                                 | —         | —                                       | —               | —         | —                                       | —            |

×: Applicable—: Not applicable

| Troubleshooting item |  | Control system (PCM input signal)   |           |   |                                  |           |   |                |
|----------------------|--|-------------------------------------|-----------|---|----------------------------------|-----------|---|----------------|
|                      |  | Exhaust gas temperature sensor No.1 |           |   | Exhaust gas pressure sensor No.1 |           |   | Engine oil tem |
|                      |  | High input                          | Low input | Open or short circuit in signal circuit | High input                       | Low input | Open or short circuit in signal circuit | High input     |
| 1                    | Blown fuses  | —                                   | —         | —                                       | —                                | —         | —                                       | —              |
| 2                    | Check engine light illuminates   | ×                                   | ×         | ×                                       | ×                                | ×         | ×                                       | ×              |
| 3                    | Diesel particulate filter indicator light illuminated frequently/message related to accumulation condition in diesel particulate filter indicated in display | —                                   | —         | —                                       | —                                | —         | —                                       | —              |

| Troubleshooting item |   | Control system (PCM input signal)   |           |   |                                  |           |   |                               |
|----------------------|---|-------------------------------------|-----------|---|----------------------------------|-----------|---|-------------------------------|
|                      |   | Exhaust gas temperature sensor No.1 |           |   | Exhaust gas pressure sensor No.1 |           |   | Engine oil temperature sensor |
|                      |   | High input                          | Low input | Open or short circuit in signal circuit | High input                       | Low input | Open or short circuit in signal circuit | High input                    |
| 23                   | Cooling system concerns-runs cold   | -                                   | -         | -                                       | -                                | -         | -                                       | -                             |
| 24                   | Excessive black smoke   | -                                   | -         | -                                       | -                                | -         | -                                       | -                             |
| 25                   | Fuel odor (in engine compartment)   | -                                   | -         | -                                       | -                                | -         | -                                       | -                             |
| 26                   | Engine noise  | -                                   | -         | -                                       | -                                | -         | -                                       | -                             |
| 27                   | Vibration concerns (engine)   | -                                   | -         | -                                       | -                                | ×         | -                                       | -                             |
| 28                   | Sulphuric odor  | -                                   | -         | -                                       | -                                | -         | -                                       | -                             |
| 29                   | Ammonia odor  | -                                   | -         | -                                       | -                                | -         | -                                       | -                             |
| 30                   | SCR system warning indication turned on or flashes/message related to SCR system indicated in display | -                                   | -         | -                                       | -                                | -         | -                                       | -                             |
| 31                   | SCR system warning indication turned on/[Overfilled DEF] indicated in display                         | -                                   | -         | -                                       | -                                | -         | -                                       | -                             |

×: Applicable—: Not applicable

| Troubleshooting item |             | Control system (PCM input signal)   |           |   |                                     |           |   |                                  |
|----------------------|-------------|-------------------------------------|-----------|---|-------------------------------------|-----------|---|----------------------------------|
|                      |             | Exhaust gas temperature sensor No.2 |           |   | Exhaust gas temperature sensor No.3 |           |   | Exhaust gas pressure sensor No.2 |
|                      |             | High input                          | Low input | Open or short circuit in signal circuit | High input                          | Low input | Open or short circuit in signal circuit | High input                       |
| 1                    | Blown fuses | -                                   | -         | -                                       | -                                   | -         | -                                       | -                                |

| Troubleshooting item |   | Control system (PCM input signal)   |           |   |                                     |           |   |             |
|----------------------|---|-------------------------------------|-----------|---|-------------------------------------|-----------|---|-------------|
|                      |   | Exhaust gas temperature sensor No.2 |           |   | Exhaust gas temperature sensor No.3 |           |   | Exhaust gas |
|                      |   | High input                          | Low input | Open or short circuit in signal circuit | High input                          | Low input | Open or short circuit in signal circuit | High input  |
| 16                   | Engine stalls/quits, engine runs rough, misses, buck/jerk, hesitation/stumble, surges | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 17                   | Lack/loss of power-acceleration /cruise   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 18                   | Knocking/pinging-acceleration /cruise   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 19                   | Poor fuel economy   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 20                   | Emission compliance   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 21                   | High oil consumption/leakage  | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 22                   | Cooling system concerns-overheating   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 23                   | Cooling system concerns-runs cold   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 24                   | Excessive black smoke   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 25                   | Fuel odor (in engine compartment)   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 26                   | Engine noise  | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 27                   | Vibration concerns (engine)   | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 28                   | Sulphuric odor  | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |
| 29                   | Ammonia odor  | —                                   | —         | —                                       | —                                   | —         | —                                       | —           |



| Troubleshooting item |  | Control system (PCM input signal) |           |   |                                  |   |   |   |
|----------------------|--|-----------------------------------|-----------|---|----------------------------------|---|---|---|
|                      |  | BARO sensor (built-into PCM)      |           |   | Regulating valve position sensor |   | EGR cooler bypass valve position sensor |   |
|                      |  | High input                        | Low input | Open or short circuit in signal circuit | Erratic signal input             | Open or short circuit in signal circuit | Erratic signal input                    | Open or short circuit in signal circuit |
| 8                    | Engine oil warning light illuminated/message related to engine hydraulic pressure indicated in display | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 9                    | Will not crank   | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 10                   | Hard to start/long crank/erratic start/erratic crank   | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 11                   | Engine stalls-after start/at idle  | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 12                   | Cranks normally but will not start   | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 13                   | Engine runs rough/rolling idle   | ×                                 | ×         | —                                       | —                                | —                                       | —                                       | —                                       |
| 14                   | Fast idle/runs on  | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 15                   | Low idle/stalls during deceleration  | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 16                   | Engine stalls/quits, engine runs rough, misses, buck/jerk, hesitation/stumble, surges                  | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 17                   | Lack/loss of power-acceleration/cruise   | ×                                 | ×         | —                                       | ×                                | ×                                       | —                                       | —                                       |
| 18                   | Knocking/pinging-acceleration/cruise   | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |
| 19                   | Poor fuel economy  | —                                 | —         | —                                       | —                                | —                                       | —                                       | —                                       |

| Troubleshooting item |   | Control system (PCM input signal) |           |   |                 |                            |            |              |
|----------------------|---|-----------------------------------|-----------|---|-----------------|----------------------------|------------|--------------|
|                      |   | Refrigerant pressure sensor       |           |   | Check connector | Brake switch (No.1 signal) |            | Brake switch |
|                      |   | High input                        | Low input | Open or short circuit in signal circuit | Open circuit    | Always on                  | Always off | Always on    |
| 7                    | Charging system warning light illuminated/message related to charging system malfunction indicated in display | -                                 | -         | -                                       | -               | -                          | -          | -            |
| 8                    | Engine oil warning light illuminated/message related to engine hydraulic pressure indicated in display        | -                                 | -         | -                                       | -               | -                          | -          | -            |
| 9                    | Will not crank  | -                                 | -         | -                                       | -               | -                          | -          | -            |
| 10                   | Hard to start/long crank/erratic start/erratic crank  | -                                 | -         | -                                       | -               | -                          | -          | -            |
| 11                   | Engine stalls-after start/at idle   | -                                 | -         | -                                       | -               | -                          | -          | -            |
| 12                   | Cranks normally but will not start  | -                                 | -         | -                                       | -               | -                          | -          | -            |
| 13                   | Engine runs rough/rolling idle  | -                                 | -         | -                                       | -               | -                          | -          | -            |
| 14                   | Fast idle/runs on   | -                                 | -         | -                                       | -               | -                          | -          | -            |
| 15                   | Low idle/stalls during deceleration   | -                                 | -         | -                                       | -               | -                          | -          | -            |

| Troubleshooting item |  | Control system (PCM output signal)   |                                      |                                       |                          |                                      |                                      |                                       |
|----------------------|--|--------------------------------------|--------------------------------------|---------------------------------------|--------------------------|--------------------------------------|--------------------------------------|---------------------------------------|
|                      |  | A/C relay circuit                    |                                      |                                       | Generator control signal | Starter relay circuit                |                                      |                                       |
|                      |  | Open circuit in circuit on coil side | Circuit on switch side constantly on | Circuit on switch side constantly off | Open or short circuit    | Open circuit in circuit on coil side | Circuit on switch side constantly on | Circuit on switch side constantly off |
| 3                    | Diesel particulate filter indicator light illuminated frequently/message related to accumulation condition in diesel particulate filter indicated in display | -                                    | -                                    | -                                     | -                        | -                                    | -                                    | -                                     |
| 4                    | Diesel particulate filter indicator light flashes/message related diesel particulate filter malfunction indicated in display                                 | -                                    | -                                    | -                                     | -                        | -                                    | -                                    | -                                     |
| 5                    | Wrench indicator light illuminated/message related to sedimentor indicated in display  | -                                    | -                                    | -                                     | -                        | -                                    | -                                    | -                                     |
| 6                    | Master warning light illuminated/message related to vehicle system malfunction indicated in display  | -                                    | -                                    | -                                     | -                        | -                                    | -                                    | -                                     |

| Troubleshooting item |   | Control system (PCM output signal)   |                                      |                                       |                          |                                      |                                      |                                       |
|----------------------|---|--------------------------------------|--------------------------------------|---------------------------------------|--------------------------|--------------------------------------|--------------------------------------|---------------------------------------|
|                      |   | A/C relay circuit                    |                                      |                                       | Generator control signal | Starter relay circuit                |                                      |                                       |
|                      |   | Open circuit in circuit on coil side | Circuit on switch side constantly on | Circuit on switch side constantly off | Open or short circuit    | Open circuit in circuit on coil side | Circuit on switch side constantly on | Circuit on switch side constantly off |
| 30                   | SCR system warning indication turned on or flashes/message related to SCR system indicated in display | —                                    | ×                                    | —                                     | —                        | —                                    | —                                    | —                                     |
| 31                   | SCR system warning indication turned on/[Overfilled DEF] indicated in display                         | —                                    | ×                                    | —                                     | —                        | —                                    | —                                    | —                                     |

×: Applicable—: Not applicable

| Troubleshooting item |  | Control system (PCM output signal)   |   |                                   |                                |                   |            |
|----------------------|--|--------------------------------------|---|-----------------------------------|--------------------------------|-------------------|------------|
|                      |  | Glow control module control signal   |   |                                   |                                | A/F sensor heater |            |
|                      |  | Open circuit in power supply circuit | Control signal circuit constantly energizes (FET malfunction) | Control signal circuit always off | Open circuit in ground circuit | Always on         | Always off |
| 1                    | Blown fuses  | —                                    | —   | —                                 | —                              | —                 | —          |
| 2                    | Check engine light illuminates   | ×                                    | ×   | ×                                 | ×                              | ×                 | ×          |
| 3                    | Diesel particulate filter indicator light illuminated frequently/message related to accumulation condition in diesel particulate filter indicated in display | —                                    | —   | —                                 | —                              | —                 | —          |

| Troubleshooting item |  | Mechanical                  |                           |                           |                                     |                                 |                                      |                                  |
|----------------------|--|-----------------------------|---------------------------|---------------------------|-------------------------------------|---------------------------------|--------------------------------------|----------------------------------|
|                      |  | Each engine internal part   |                           |                           |                                     |                                 |                                      |                                  |
|                      |  | Large mechanical resistance | Deviation in valve timing | High compression pressure | No compression in specific cylinder | No compression in all cylinders | Bad compression in specific cylinder | Bad compression in all cylinders |
| 3                    | Diesel particulate filter indicator light illuminated frequently/message related to accumulation condition in diesel particulate filter indicated in display | -                           | -                         | -                         | -                                   | -                               | -                                    | -                                |
| 4                    | Diesel particulate filter indicator light flashes/message related diesel particulate filter malfunction indicated in display                                 | -                           | -                         | -                         | -                                   | -                               | -                                    | -                                |
| 5                    | Wrench indicator light illuminated/message related to sedimentor indicated in display  | -                           | -                         | -                         | -                                   | -                               | -                                    | -                                |
| 6                    | Master warning light illuminated/message related to vehicle system malfunction indicated in display  | -                           | -                         | -                         | -                                   | -                               | -                                    | -                                |

| Troubleshooting item |   | Mechanical                  |                           |                           |                                     |                                 |                                      |                                  |
|----------------------|---|-----------------------------|---------------------------|---------------------------|-------------------------------------|---------------------------------|--------------------------------------|----------------------------------|
|                      |   | Each engine internal part   |                           |                           |                                     |                                 |                                      |                                  |
|                      |   | Large mechanical resistance | Deviation in valve timing | High compression pressure | No compression in specific cylinder | No compression in all cylinders | Bad compression in specific cylinder | Bad compression in all cylinders |
| 30                   | SCR system warning indication turned on or flashes/message related to SCR system indicated in display | —                           | —                         | —                         | —                                   | —                               | —                                    | —                                |
| 31                   | SCR system warning indication turned on/[Overfilled DEF] indicated in display                         | —                           | —                         | —                         | —                                   | —                               | —                                    | —                                |

×: Applicable—: Not applicable

| Troubleshooting item |  | Mechanical     |            |                               |                                |                  |                   |                              |
|----------------------|--|----------------|------------|-------------------------------|--------------------------------|------------------|-------------------|------------------------------|
|                      |  | Blow-by heater |            | Engine oil solenoid valve     |                                |                  |                   | Belts for engine accessories |
|                      |  | Always on      | Always off | Open circuit in drive circuit | Short circuit in drive circuit | Valve stuck open | Valve stuck close | Slippage                     |
| 1                    | Blown fuses  | —              | —          | —                             | —                              | —                | —                 | —                            |
| 2                    | Check engine light illuminates   | —              | ×          | ×                             | ×                              | ×                | ×                 | ×                            |
| 3                    | Diesel particulate filter indicator light illuminated frequently/message related to accumulation condition in diesel particulate filter indicated in display | —              | —          | —                             | —                              | —                | —                 | —                            |