

# SERVICE SPECIFICATIONS

8002A-01

## SERVICE DATA

|                                  |   |   |
|----------------------------------|---|---|
| Fuel pressure regulator          | Fuel pressure<br>at no vacuum   | <b>226 – 265 kPa</b><br><b>(2.3 – 2.7 kgf/cm<sup>2</sup>, 33 – 38 psi)</b>  |
| Fuel pump                        | Resistance  | <b>0.2 – 3.0 Ω</b>  |
| Cold start injector              | Resistance<br>Fuel leakage  | <b>2 – 4 Ω</b><br><b>One drop or less per minute</b>  |
| Injector                         | Resistance<br>Injection volume<br>Difference between each cylinder<br>Fuel leakage  | <b>Approx. 2 – 4 Ω</b><br><b>95 – 120 cm<sup>3</sup> (5.8 – 7.3 cu in.) per 15 sec.</b><br><b>5 cm<sup>3</sup> (0.3 cu in.) or less</b><br><b>One drop or less per minute</b>   |
| Air flow sensor                  | Resistance<br>Terminals<br>VS – E2<br>VS – E2<br>VC – E2<br>THA – E2<br>THA – E2<br>THA – E2<br>THA – E2<br>THA – E2  | <b>Resistance</b><br><b>200 – 600 Ω (Measuring plate fully closed)</b><br><b>20 – 1,200 Ω (Measuring plate fully open)</b><br><b>200 – 400 Ω</b><br><b>10 – 20 kΩ at –20°C (–4°F)</b><br><b>4 – 7 kΩ at 0°C (32°F)</b><br><b>2 – 3 kΩ at –20°C (68°F)</b><br><b>0.9 – 1.3 kΩ at 40°C (104°F)</b><br><b>0.4 – 0.7 kΩ at 60°C (140°F)</b> |
| Throttle body                    | Throttle body fully closed angle,<br>Throttle opener setting speed  | <b>6°</b><br><b>900 – 1,900 rpm ( w/ Cooling fan OFF)</b>   |
| Throttle position sensor         | Clearance between stop screw and lever Terminal<br>0 mm (0 in.) VTA – E2<br>0.50 mm (0.020 in.) IDL–E2<br>0.70 mm (0.028 in.) IDL – E2<br>Throttle valve fully open VTA – E2<br>VC – E2 | <b>Resistance</b><br><b>0.2 – 5.7 kΩ</b><br><b>2.3 kΩ or less</b><br><b>Infinity</b><br><b>2.0 – 10.2 kΩ</b><br><b>2.5 – 5.9 kΩ</b>   |
| IACV                             | Resistance<br>+ B – RSC or RSO  | <b>17.7 – 23.9 Ω</b>  |
| Cold start injector time switch  | Resistance<br>STA – STJ<br>STA – STJ<br>STA – Ground  | <b>30 – 50 Ω below 15°C (59°F)</b><br><b>70 – 90 Ω above 30°C (86°F)</b><br><b>30 – 90 Ω</b>  |
| ECTS                             | Resistance  | <b>10 – 20 kΩ at 20°C (–4°F)</b><br><b>4 – 7 kΩ at 0°C (32°F)</b><br><b>2 – 3 kΩ at 20°C (68°F)</b><br><b>0.9 – 1.3 kΩ at 40°C (104°F)</b><br><b>0.4 – 0.7 kΩ at 60°C (140°F)</b><br><b>0.2 – 0.4 kΩ at 80°C (176°F)</b>  |
| Solenoid resistor                | Resistance<br>→B – #10, #20, #30 or #40   | <b>4 – 6 Ω</b>  |
| Fuel pump resistor               | Resistance (Cold)   | <b>Approx. 0.73 Ω</b>   |
| VSV (for T – VIS)                | Resistance (Cold)   | <b>33 – 39 Ω</b>  |
| VSV (for Turbocharging pressure) | Resistance (Cold)   | <b>24 – 30 Ω</b>  |

|   |   |   |                         |
|---|---|---|-------------------------|
| VSV<br>(for EGR)                            | Resistance (Cold)                             | <b>33 – 39 Ω</b>  |                         |
| A/C idle-up<br>valve                        | Resistance (Cold)                             | <b>30 – 34 Ω</b>  |                         |
| EGR function<br>sensor<br><br>(Calif. only) | Resistance                                    | <b>69 – 89 kΩ at 50°C (122°F)</b><br><b>11 – 15 kΩ at 100°C (212°F)</b><br><b>2 – 4 kΩ at 150°C (302°F)</b> |                         |
| Oxygen sensor                               | Heater coil resistance                        | <b>5.1 – 6.3 Ω at 20°C (68°F)</b>   |                         |
| PCME  | Condition                                     | Terminals   |                         |
|   |   | <b>Voltage</b>  |                         |
|   | IG SW ON                                      | +B-E1   | <b>9 – 14 V</b>         |
|   | IG SW ON                                      | +B1 – E1  | <b>9 – 14 V</b>         |
|   | –   | BATT – E1   | <b>9 – 14 V</b>         |
|   | IG SW ON – Throttle valve open                | IDL – E2  | <b>9 – 14 V</b>         |
|   | IG SW ON – Throttle valve fully closed        | VTA – E2  | <b>0.3 – 0.8 V</b>      |
|   | (Throttle opener must be cancelled first)     |   |                         |
|   | IG SW ON – Throttle valve fully open          | VTA – E2  | <b>3.2 – 4.9 V</b>      |
|   | IG SW ON                                      | VC – E2   | <b>4.5 – 5.5 V</b>      |
|   | IG SW ON – Measuring plate fully closed       | VS – E2   | <b>4.0 – 5.5 V</b>      |
|   | IG SW ON – Measuring plate fully open         | VS – E2   | <b>0.2 – 0.5 V</b>      |
|   | Idling  | VS – E2   | <b>1.6 – 4.1 V</b>      |
|   | 3,000 rpm                                     | VS – E2   | <b>1.0 – 2.0 V</b>      |
|   | IG SW ON                                      | #1, #2, #3 or #4 – E01  | <b>9 – 14 V</b>         |
|   | IG SW ON                                      | #1, #2, #3 or #4 – E02  | <b>9 – 14 V</b>         |
|   | IG SW ON – Intake air temp. 20°C (68°F)       | THA – E2  | <b>0.5 – 3.4 V</b>      |
|   | IG SW ON – Coolant temp. 80° C (176° F)       | THW – E2  | <b>0.2 – 1.0 V</b>      |
|   | Cranking                                      | STA – E1  | <b>6 V or more</b>      |
|   | Idling  | IGT – E1  | <b>Pulse generation</b> |
|   | IG SW ON                                      |   |                         |
|   | – PCM E connectors disconnected               | RSC – E1  | <b>9 – 14 V</b>         |
|   | IG SW ON                                      |   |                         |
|   | – PCM E connectors disconnected               | RSO – E1  | <b>9 – 14 V</b>         |
|   | No trouble ("CHECK" engine warning light off) |   |                         |
|   | and engine running                            | W – E1  | <b>9 – 14 V</b>         |
|   | IG SW ON                                      | PIM – E2  | <b>2.5 – 4.5 V</b>      |
|   | IG SW ON – Air conditioning ON                | AC – E1   | <b>9 – 14 V</b>         |
|   | IG SW ON– Throttle valve fully closed         | *1TVIS – E1   | <b>2.0 V or less</b>    |
|   | (Throttle opener must be cancelled first)     |   |                         |
| IG SW ON – Throttle valve open "            | *1TVIS – E1                                   | <b>9 – 14 V</b>   |                         |
| Idling                                      | *2TVIS – E1                                   | <b>2.0 V or less</b>  |                         |
| 4,200 rpm or more                           | *2TVIS – E1                                   | <b>9 – 14 V</b>   |                         |
| IG SW ON                                    |   |   |                         |
| – DLC1 TE1 – E1 not connected               | TE1 – E1                                      | <b>9 – 14 V</b>   |                         |
| IG SW ON                                    |   |   |                         |
| – DLC1 TE1 – E1 connected                   | TE1 – E1                                      | <b>0.5 V or less</b>  |                         |

Remarks: \*1 w/ Regular Gasoline \*2 'w/ Premium Gasoline

| PCME         | Condition                                 | Terminals             | Resistance              |
|--------------|---|-----------------------|-------------------------|
|              | Throttle valve open                       | IDL - E2              | <b>Infinity</b>         |
|              | Throttle valve fully closed               | IDL - E2              | <b>2,300 Ω or less</b>  |
|              | (Throttle opener must be cancelled first) |                       |                         |
|              | Throttle valve fully open                 | VTA - E2              | <b>2,000 - 10,200 Ω</b> |
|              | Throttle valve fully closed               | VTA - E2              | <b>200 - 5,700 Ω</b>    |
|              | (Throttle opener must be cancelled first) |                       |                         |
|              | -   | VC - E2               | <b>2,500 - 5,900 Ω</b>  |
|              | Measuring plate fully closed              | VS - E2               | <b>200 - 600 Ω</b>      |
|              | Measuring plate fully open                | VS - E2               | <b>20 - 1,200 Ω</b>     |
|              | Intake air temp. 20° C (68° F)            | THA - E2              | <b>2,000 - 3,000 Ω</b>  |
|              | Coolant temp. 80° C (176° F)              | THW - E2              | <b>200 - 400 Ω</b>      |
|              | Cold (-10° C (14° F) to 50° C (104° F))   | G1 or G2-G-           | <b>125 - 200 Ω</b>      |
|              | Hot (50° C (104° F) to 100° C (212° F))   | G1 or G2-G-           | <b>160 - 235 Ω</b>      |
|              | Cold (-10° C (14° F) to 50° C (104° F))   | NE - G-               | <b>155 - 250 Ω</b>      |
|              | Hot (50° C (104° F) to 100° C (212° F))   | NE - G-               | <b>190 - 290 Ω</b>      |
|              |   | +1B or +B1-RSC or RSO | <b>17.7 - 23.9 Ω</b>    |
| Fuel cut rpm | Fuel return rpm                           |                       | <b>1,600 rpm</b>        |

800EE-02

## TORQUE SPECIFICATIONS

| Part tightened                                 | N·m        | kgf·cm     | ft·lbf            |
|--|------------|------------|-------------------|
| Fuel line (Union bolt type)                    | <b>29</b>  | <b>300</b> | <b>22</b>         |
| Fuel line (Flare nut type)                     | <b>30</b>  | <b>310</b> | <b>22</b>         |
| Drain plug x Fuel tank                         | <b>13</b>  | <b>130</b> | <b>9</b>          |
| Fuel pump x Fuel tank                          | <b>3.4</b> | <b>35</b>  | <b>30 in.·lbf</b> |
| Fuel sender gauge x Fuel tank                  | <b>1.5</b> | <b>15</b>  | <b>13 in.·lbf</b> |
| Fuel evaporation vent tube x Fuel tank         | <b>1.5</b> | <b>15</b>  | <b>13 in.·lbf</b> |
| Fuel tank filler pipe x Fuel tank              | <b>3.4</b> | <b>35</b>  | <b>30 in.·lbf</b> |
| Fuel tank band x Body                          | <b>29</b>  | <b>300</b> | <b>22</b>         |
| No.2 center floor crossmember x Body           | <b>29</b>  | <b>300</b> | <b>22</b>         |
| Cold start injector x Intake manifold          | <b>5.9</b> | <b>60</b>  | <b>52 in.·lbf</b> |
| Cold start injector pipe x Cold start injector | <b>12</b>  | <b>125</b> | <b>9</b>          |
| Fuel pressure regulator x Delivery pipe        | <b>29</b>  | <b>300</b> | <b>22</b>         |
| Injector cover x Delivery pipe                 | <b>7.8</b> | <b>80</b>  | <b>69 in.·lbf</b> |
| Delivery pipe x Cylinder head                  | <b>19</b>  | <b>195</b> | <b>14</b>         |
| Fuel inlet pipe x Delivery pipe                | <b>29</b>  | <b>300</b> | <b>22</b>         |
| EGR valve x Intake manifold                    | <b>19</b>  | <b>195</b> | <b>14</b>         |
| EGR pipe x Cylinder head                       | <b>25</b>  | <b>260</b> | <b>19</b>         |
| Throttle body x Intake manifold                | <b>19</b>  | <b>195</b> | <b>14</b>         |
| Intake air connector stay x Throttle body      | <b>19</b>  | <b>195</b> | <b>14</b>         |
| Intake air connector stay x Cylinder head      | <b>7.8</b> | <b>80</b>  | <b>69 in.·lbf</b> |
| Intake air connector x Intake air connector    | <b>19</b>  | <b>195</b> | <b>14</b>         |
| No.1 intake manifold stay x Intake manifold    | <b>25</b>  | <b>260</b> | <b>19</b>         |
| No.1 intake manifold stay x Cylinder block     | <b>25</b>  | <b>260</b> | <b>19</b>         |