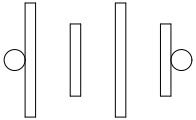
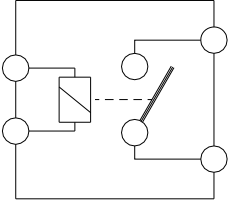
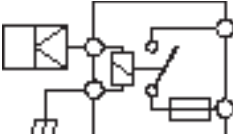
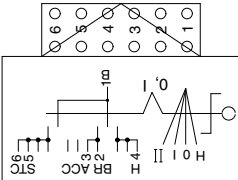
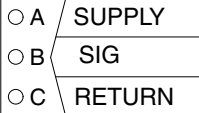
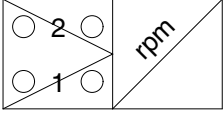
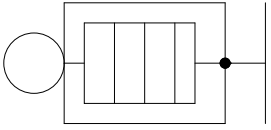
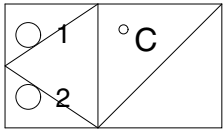
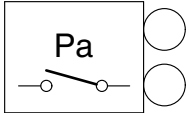
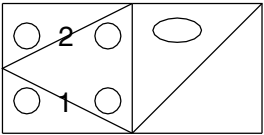
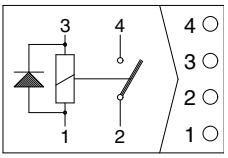
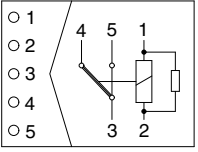
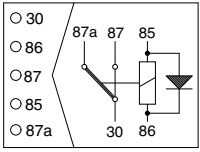
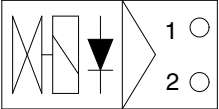
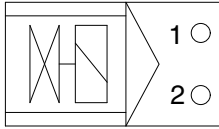
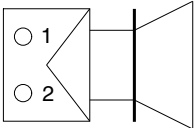
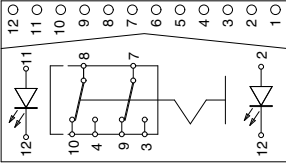
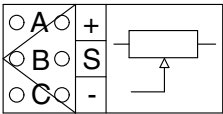
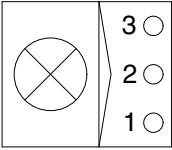
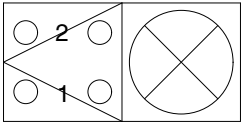
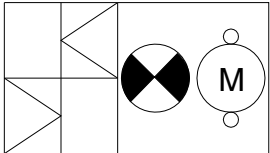
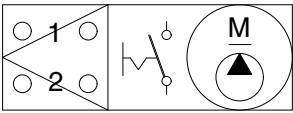
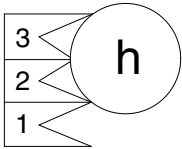
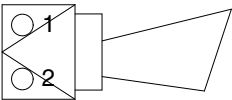


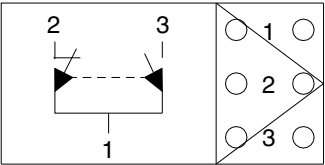
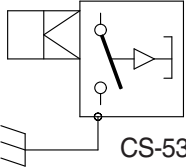
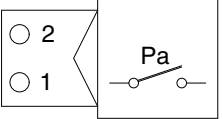
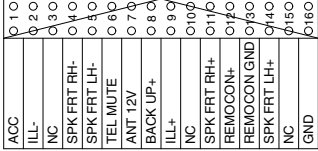
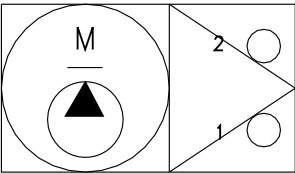
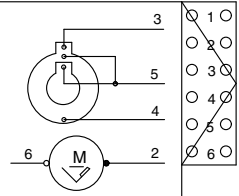
## GROUP 3 ELECTRICAL COMPONENT SPECIFICATION

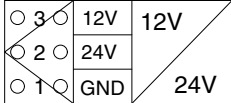
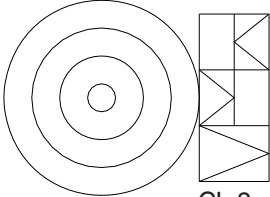
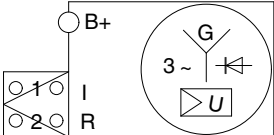
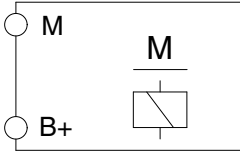
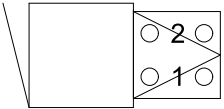
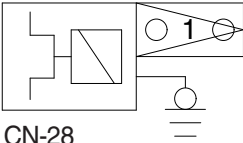
| Part name        | Symbol   | Specifications   | Check   |
|------------------|--|--|---|
| Battery          |   | 12V × 100Ah<br>(2EA)   | ※ Check specific gravity<br>1.280 over : Over charged<br>1.280 ~ 1.250 : Normal<br>1.250 below : Recharging               |
| Battery relay    |  <p style="text-align: center;">CR-1</p>  | Rated load :<br>24V<br>100A (continuity)<br>1000A<br>(30seconds) | ※ Check coil resistance(M4 to M4)<br>Normal : About 50 Ω<br>※ Check contact<br>Normal : ∞ Ω                               |
| Pre-heater relay |  <p style="text-align: center;">CR-24</p>  | 24V 200A   | ※ Check contact<br>Normal : 0.942 Ω<br>(For terminal 1-GND)   |
| Start key        |  <p style="text-align: center;">CS-2</p>  | B-BR : 24V 1A<br>B-ACC : 24V 10A<br>B-ST : 24V<br>40A            | ※ Check contact<br>OFF : ∞ Ω (for each terminal)<br>ON : 0 Ω (for terminal 1-3 and 1-2)<br>START : 0 Ω (for terminal 1-5) |
| Pressure sensor  |  <p style="text-align: center;">                     CD-6 CD-7 CD-24<br/>                     CD-31 CD-32 CD-42<br/>                     CD-43 CD-44 CD-69                 </p> | 8~30V  | ※ Check contact<br>Normal : 0.1 Ω   |
| Speed sensor     |  <p style="text-align: center;">CD-17</p>   | -  | ※ Check resistance<br>Normal : 300 Ω<br>(For terminal 1, 2)   |

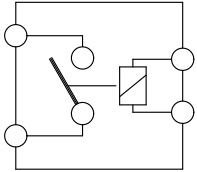
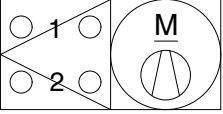
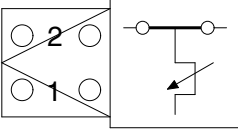
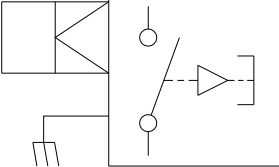
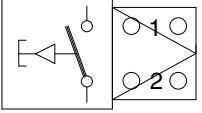
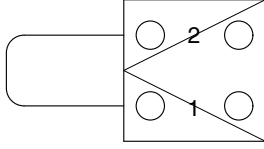
| Part name                                | Symbol   | Specifications | Check  |
|--|--|----------------|--|
| Pre-heater                               | <br>CN-80                 | 24V 200A       | ※ Check resistance<br>0.25~0.12 Ω  |
| Temperature sensor<br>(hydraulic, water) | <br>CD-1 CD-8             | -              | ※ Check resistance<br>50°C : 804 Ω<br>80°C : 310 Ω<br>100°C : 180 Ω  |
| Air cleaner pressure switch              | <br>CD-10                | (N.O TYPE)     | ※ Check contact<br>High level : ∞ Ω<br>Low level : 0 Ω   |
| Fuel sender                              | <br>CD-2                | -              | ※ Check resistance<br>Full : 50 Ω    6/12 : 350 Ω<br>11/12 : 100 Ω    5/12 : 400 Ω<br>10/12 : 150 Ω    4/12 : 450 Ω<br>9/12 : 200 Ω    3/12 : 500 Ω<br>8/12 : 250 Ω    2/12 : 550 Ω<br>7/12 : 300 Ω    1/12 : 600 Ω<br>Empty warning : 700 Ω |
| Relay<br>(air con blower)                |                         | 24V 20A        | ※ Check resistance<br>Normal : About 200 Ω<br>(for terminal 1-3)<br>0 Ω<br>(for terminal 2-4)  |
| Relay                                    | <br>CR-2 CR-36<br>CR-62 | 24V 16A        | ※ Check resistance<br>Normal : About 160 Ω<br>(for terminal 1-2)<br>0 Ω (for terminal 3-4)<br>∞ Ω (for terminal 3-5)   |

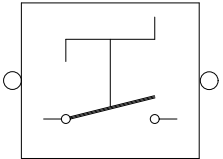
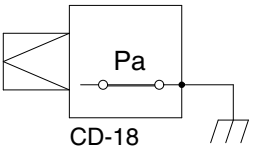
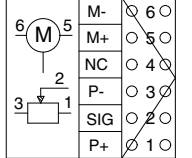
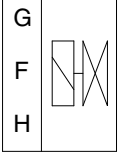
| Part name                | Symbol   | Specifications | Check  |
|--------------------------|--|----------------|--|
| Relay                    |  <p>CR-4 CR-5 CR-7 CR-9<br/>CR-13 CR-35 CR-46</p>                                     | 24V 16A        | ※ Check resistance<br>Normal : About 160 Ω<br>(for terminal 85-86)<br>0 Ω (for terminal 30-87a)<br>∞ Ω (for terminal 30-87)  |
| Solenoid valve           |  <p>CN-66 CN-68 CN-70<br/>CN-88 CN-135 CN-140<br/>CN-149 CN-236 CN-237<br/>CN-262</p> | 24V 1A         | ※ Check resistance<br>Normal : 15~25 Ω<br>(for terminal 1-2)   |
| EPPR valve               |  <p>CN-75 CN-133<br/>CN-242</p>  | 700mA          | ※ Check resistance<br>Normal : 15~25 Ω<br>(for terminal 1-2)   |
| Speaker                  |  <p>CN-23(LH)<br/>CN-24(RH)</p>   | 20W            | ※ Check resistance<br>Normal : A few Ω   |
| Switch<br>(locking type) |  <p>CS-23 CS-50 CS-52<br/>CS-67 CS-82 CS-83<br/>CS-99 CS-100</p>                    | 24V 8A         | ※ Check contact<br>Normal<br>ON : 0 Ω (for terminal 3-7, 4-8)<br>∞ Ω (for terminal 7-9, 8-10)<br>OFF : ∞ Ω (for terminal 3-7, 4-8)<br>0 Ω (for terminal 7-9, 8-10) |
| Accel dial               |  <p>CN-142</p>  | -              | ※ Check resist<br>Normal : About 5k Ω<br>(for terminal A-C)<br>※ Check voltage<br>Normal : About 5V<br>(for terminal A-C)<br>: 2~4.5V<br>(for terminal C-B)        |

| Part name                            | Symbol   | Specifications       | Check  |
|--------------------------------------|--|----------------------|--|
| Room lamp                            |  <p>CL-1</p>                              | 24V 10W              | ※ Check disconnection<br>Normal : 1.0 Ω<br>ON : 0 Ω (For terminal 1-2)<br>∞ Ω (For terminal 1-3)<br>OFF : ∞ Ω (For terminal 1-2)<br>0 Ω (For terminal 1-3) |
| Head lamp,<br>Work lamp,<br>Cab lamp |  <p>CL-3 CL-4 CL-5<br/>CL-6 CL-8 CL-9</p> | 24V 65W<br>(H3 Type) | ※ Check disconnection<br>Normal : 1.2 Ω  |
| Beacon lamp                          |  <p>CL-7</p>                             | 21V 70W<br>(H1 Type) | ※ Check disconnection<br>Normal : A few Ω  |
| Fuel filler pump                     |  <p>CN-61</p>                           | 24V 10A<br>35l /min  | ※ Check resistance<br>Normal : 1.0Ω  |
| Service meter                        |  <p>CN-48</p>                           | 16~32V               | ※ Check operation<br>Supply power(24V) to terminal<br>No.2 and connect terminal No.1<br>and ground   |
| Horn                                 |  <p>CN-20 CN-25</p>                     | DC22~28V<br>2A       | ※ Check operation<br>Supply power(24V) to each<br>terminal and connect ground.   |

| Part name          | Symbol   | Specifications        | Check  |
|--------------------|--|-----------------------|--|
| Safety switch      |  <p>CS-4</p>    | 24V 15A<br>(N.C TYPE) | ※ Check contact<br>Normal : 0Ω(for terminal 1-2)<br>∞Ω(for terminal 1-3)<br>Operating : ∞Ω(for terminal 1-2)<br>0Ω(for terminal 1-3) |
| Wiper cut switch   |  <p>CS-53</p>   | 24V<br>(N.O TYPE)     | ※ Check contact<br>Normal : 0Ω(one pin to ground)  |
| Receiver dryer     |  <p>CN-29</p>  | 24V 2.5A              | ※ Check contact<br>Normal : ∞Ω   |
| Radio & USB player |  <p>CN-27</p> | 24V 2A                | ※ Check voltage<br>20~25V<br>(for terminal 1-3, 3-8)   |
| Washer pump        |  <p>CN-22</p> | 24V 3.8A              | ※ Check contact<br>Normal : 10.7Ω(for terminal 1-2)  |
| Wiper motor        |  <p>CN-21</p> | 24V 2A                | ※ Check disconnection<br>Normal : 7Ω(for terminal 2-6)   |

| Part name         | Symbol   | Specifications     | Check   |
|-------------------|--|--------------------|---|
| DC/DC Converter   |  <p>CN-138</p>  | 12V 3A             | 24V (1-2)<br>12V (1-3)  |
| Cigar lighter     |  <p>CL-2</p>    | 24V 5A 1.4W        | ※ Check coil resistance<br>Normal : About 1MΩ<br>※ Check contact<br>Normal : ∞Ω<br>Operating time : 5~15sec |
| Alternator        |  <p>CN-74</p>  | 24V 70A            | ※ Check contact<br>Normal : 0Ω (for terminal B <sup>+</sup> -I)<br>Normal : 24~27.5V                        |
| Starter           |  <p>CN-45</p> | Denso<br>24V 4.5kW | ※ Check contact<br>Normal : 0.1Ω  |
| Travel alarm      |  <p>CN-81</p> | 24V 0.5A           | ※ Check contact<br>Normal : 5.2Ω  |
| Aircon compressor |  <p>CN-28</p> | 24V 79W            | ※ Check contact<br>Normal : 13.4Ω   |

| Part name   | Symbol  | Specifications    | Check   |
|---|---|-------------------|---|
| Start relay   |  <p>CR-23</p>                        | 24V 300A          | ※ Check contact<br>Normal : 0.94Ω(for terminal 1-2)   |
| Blower motor  |                                      | 24V 9.5A          | ※ Check resistance<br>Normal : 2.5Ω(for terminal 1-2)   |
| Duct sensor (switch)                                  |                                     | 1°C OFF<br>4°C ON | ※ Check resistance<br>Normal : 0Ω(for terminal 1-2),<br>the atmosphere temp :<br>Over 4°C                 |
| Door switch   |  <p>CS-1</p>                       | 24V 2W            | ※ Check resistance<br>Normal : About 5MΩ  |
| Switch<br>(power max, one touch decal, horn, breaker) |  <p>CS-5 CS-19<br/>CS-26 CS-29</p> | 24V 6A            | ※ Check resistance<br>Normal : ∞Ω   |
| Fusible link  |  <p>CN-60 CN-95</p>                | 60A               | ※ Check disconnection<br>normal : 0Ω<br>(connect ring terminal and check resist between terminal 1 and 2) |

| Part name                           | Symbol   | Specifications                       | Check   |
|-------------------------------------|--|--------------------------------------|---|
| Master switch                       |  <p>CS-74</p>   | 6-36V                                | ※ Check disconnection<br>Normal : 0.1Ω  |
| Pressure switch<br>(for engine oil) |  <p>CD-18</p>   | 0.5kgf/cm <sup>2</sup><br>(N.C TYPE) | ※ Check resistance<br>Normal : 0Ω(CLOSE)  |
| Accel actuator                      |  <p>CN-76</p>  | -                                    | ※ Check resistance<br>Normal : 1-2 Ω (for terminal 5-6)<br>0.8-1.2k Ω<br>(for terminal 1-3) |
| Fuel cut-off solenoid               |  <p>CN-79</p> | 24V                                  | ※ Check resistance<br>Normal : 15-25 Ω  |