SEBM032411

# SHOP MANUAL

KOMATSU®

# PC27MR-2, PC30MR-2 PC35MR-2, PC40MR-2 PC50MR-2

| MACHINE MODEL | SERIAL NUMBER |
|---|---|
| **PC27MR-2** | **15001 and up** |
| **PC30MR-2** | **20001 and up** |
| **PC35MR-2** | **5001 and up** |
| **PC40MR-2** | **8001 and up** |
| **PC50MR-2** | **5001 and up** |

- This shop manual may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require.
  Materials and specifications are subject to change without notice.

- PC27MR-2 mount the 3D82AE-5M engine.
  PC30MR-2 mount the 3D84E-5N engine.
  PC35MR-2 mount the S3D84E-5PBA and 3D88E-5P engine.
  PC40, 50MR-2 mounts the 4D88E-5X engine.
  For details of the engine, see the 68E-88E Series Engine Shop Manual.

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# CLASSIFICATION AND PROCEDURES OF TROUBLESHOOTING

## Classification of troubleshooting

| Mode | Contents |
|---|---|
| E-mode | Troubleshooting for electric system |
| H-mode | Troubleshooting for hydraulic and mechanical system |
| M-mode | Troubleshooting for monitor panel |
| S-mode | Troubleshooting for engine unit |

## Procedure for troubleshooting

If a possible fault is detected in the machine, find a corresponding fault in the table of "Possible faults and troubleshooting Nos.", then go to the indicated troubleshooting section.

## Possible faults and troubleshooting Nos.

| No. | Possible fault | | Troubleshooting | | | |
|---|---|---|---|---|---|---|
| | | | E-mode | H-mode | M-mode | S-mode |
| **Possible faults related to engine** | | | | | | |
| 1 | Engine does not start easily (It always takes time to start) | | | | | S-1 |
| 2 | Engine does not start | Engine does not crank | E-1 | | | S-2 |
| 3 | | Engine cranks but exhaust smoke does not come out | | | | S-2 |
| 4 | | Exhaust smoke comes out but engine does not start | | | | S-2 |
| 5 | Engine speed does not rise sharply (Follow-up performance is low) | | | | | S-3 |
| 6 | Engine stops during operation | | | | | S-4 |
| 7 | Engine rotation is abnormal (Engine hunts) | | | | | S-5 |
| 8 | Output is insufficient or power is low | | | | | S-6 |
| 9 | Exhaust gas color is bad (Incomplete combustion) | | | | | S-7 |
| 10 | Oil is consumed much or exhaust gas color is bad | | | | | S-8 |
| 11 | Oil becomes dirty quickly | | | | | S-9 |
| 12 | Fuel is consumed much | | | | | S-10 |
| 13 | Coolant contains oil , blows back, or reduces | | | | | S-11 |
| 14 | Engine oil pressure caution lamp lights up (Oil pressure lowers) | | | | | S-12 |
| 15 | Oil level rises (Water or fuel is mixed in oil) | | | | | S-13 |
| 16 | Coolant temperature rises too high (Overheating) | | | | | S-14 |
| 17 | Abnormal sound comes out | | | | | S-15 |
| 18 | Vibration is excessive | | | | | S-16 |
| 19 | Engine does not stop | | E-2 | | | |
| 20 | Engine is not preheated normally | | | | M-6 | |
| **Possible faults related to work equipment, travel, swing, and blade** | | | | | | |
| 21 | Speed or power of whole work equipment, travel, swing, and blade is low | | | H-1 | | |
| 22 | Engine speed lowers extremely or engine stalls | | | H-2 | | |
| 23 | Work equipment, travel, swing, and blade systems do not work | | | H-3 | | |



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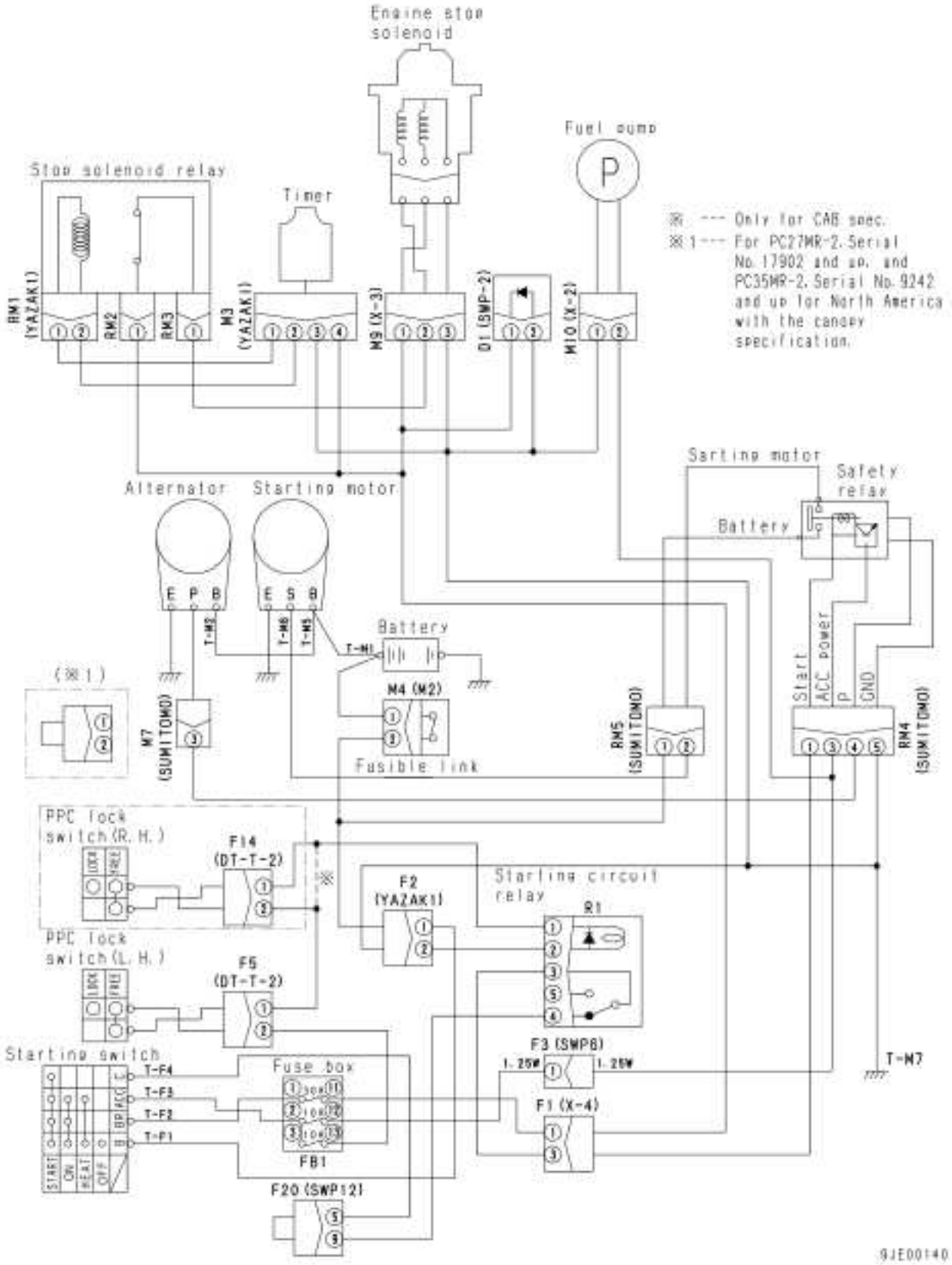
Unit: kg

| PC40MR-2 | | PC50MR-2 | | | |
|---|---|---|---|---|---|
| Canopy specification | Cab specification | Canopy specification | Cab specification | Canopy specification | Cab specification |
| 11975 and up | | 5001 – 8765 | | 8766 and up | |
| 254 | 254 | 254 | 254 | 254 | 254 |
| 205 | 205 | 205 | 205 | 205 | 205 |
| 12 | 12 | 12 | 12 | 12 | 12 |
| 8 | 8 | 8 | 8 | 8 | 8 |
| 29 | 29 | 29 | 29 | 29 | 29 |
| 32 | 32 | 32 | 32 | 32 | 32 |
| 24 | 24 | 24 | 24 | 24 | 24 |
| 561 | 561 | 561 | 561 | 561 | 561 |
| 125 | — | 125 | — | 125 | — |
| 127 | — | 127 | — | 127 | — |
| 6 | — | 6 | — | 6 | — |
| — | 356 | — | 356 | — | 356 |
| 12 | 12 | 12 | 12 | 12 | 12 |
| 31 | 31 | 31 | 31 | 31 | 31 |
| 35 | 35 | 35 | 35 | 35 | 35 |
| 45 | 45 | 45 | 45 | 45 | 45 |
| 567 | 567 | 716 | 716 | 716 | 716 |
| 250 | 250 | 250 | 250 | 250 | 250 |
| 15 | 15 | 15 | 15 | 15 | 15 |
| 26 | 26 | 26 | 26 | 26 | 26 |
| 969 | 969 | 950 | 950 | 969 | 969 |
| 558 | 558 | 539 | 539 | 558 | 558 |
| 46 x 2 | 46 x 2 | 46 x 2 | 46 x 2 | 46 x 2 | 46 x 2 |
| 16 x 2 | 16 x 2 | 16 x 2 | 16 x 2 | 16 x 2 | 16 x 2 |
| 3 x 2 | 3 x 2 | 3 x 2 | 3 x 2 | 3 x 2 | 3 x 2 |
| 10 x 8 | 10 x 8 | 10 x 8 | 10 x 8 | 10 x 8 | 10 x 8 |
| 50 x 2 | 50 x 2 | 50 x 2 | 50 x 2 | 50 x 2 | 50 x 2 |
| 12 x 2 | 12 x 2 | 12 x 2 | 12 x 2 | 12 x 2 | 12 x 2 |
| 59 | 59 | 59 | 59 | 59 | 59 |
| 18 | 18 | 18 | 18 | 18 | 18 |



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**Relative circuit diagram (PC27, 30, 35MR-2)**






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# INFORMATION CONTAINED IN TROUBLESHOOTING TABLE

★ The troubleshooting table and the related circuit diagrams contain the following information. Grasp their contents fully before proceeding to actual troubleshooting work.

| | |
|---|---|
| Failure information | Phenomena occurring on machine |
| Relative information | Information on the failure occurred as well as the troubleshooting |

| | Cause | | Standard value in normalcy and references for troubleshooting |
|---|---|---|---|
| Presumed cause and standard value in normalcy | 1<br>2<br>3<br>4<br>5 | Cause that presumably triggered failure in question (The assigned No. is for filing purpose only. It does not stand for any priority) | <Content Included><br>• Standard value in normalcy by which to pass "Good" or "No good" judgement over the presumed cause<br>• Reference for passing the above "Good" or "No Good" judgement<br><br><Phenomenon of Wiring Harness Failure><br>• Disconnection<br>There is a faulty contact at the connector or disconnection of wiring harness occurred.<br>• Defective grounding<br>A wiring harness that is not connected with a grounding circuit has a contact with the grounding circuit.<br>• Short-circuiting<br>A wiring harness that is not connected with a 12 V electric circuit has a contact with the electric circuit.<br><br><Precaution for Troubleshooting><br>1) Connector No. display method and handling of T-adapter<br>Insert or connect T-adapters in the following manner before starting troubleshooting unless otherwise instructed.<br>• If there is no indication of "male" or "female" in a specific connector No., disconnect the connector and insert the T-adapter into both male and female sides.<br>• If there is an indication of "male" or "female" in a specific connector No., disconnect the connector and connect the T-adepter with only one side of either "male" or "female".<br>2) Entry sequence of pin No. and handling of circuit tester lead<br>Connect the positive (+) lead and the negative (–) lead OFF a circuit tester in the following manner unless otherwise instructed.<br>• Connect the positive (+) lead with the pin No. indicated at the front or the wiring harness.<br>• Connect the negative (–) lead with the pin No. indicated at the front or the wiring harness. |

**Relative circuit diagram**

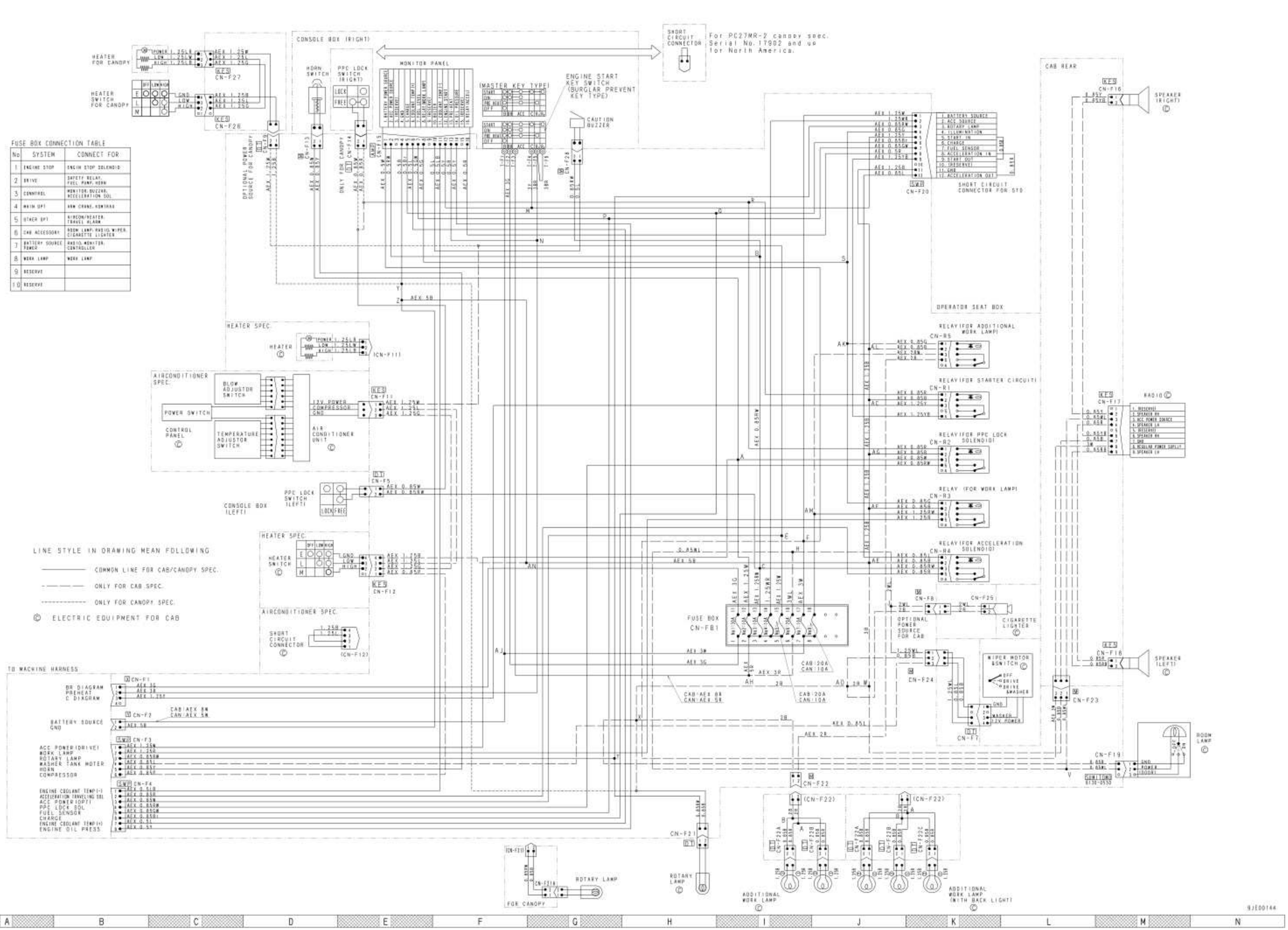
This is part of the electrical circuit diagram which shows the portion where the failure occurred.
• Connector No.: Indicates (Type - numbers of a pin) (color)



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# ELECTRICAL CIRCUIT DIAGRAM

**PC27MR, 30MR-2**
**(1/2)**







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