SEBM023507

# SHOP MANUAL

KOMATSU®

# D375A-5

| Machine model | Serial number |
|---|---|
| **D375A-5** | **18001 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.

- D375A-5 mounts the SA6D170E-3 engine.
  For details of the engine, see the 170-3 Series Engine Shop Manual.

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## Phenomena considered to be failures and troubleshooting No.

| No. | Phenomena considered to be failures | | Troubleshooting | | | |
|---|---|---|---|---|---|---|
| | | | Service code | E mode | H mode | S mode |
| User code, service code related | | | | | | |
| 1 | User code is displayed on monitor panel | | Check service code | | | |
| 2 | Service code is displayed in service code display mode | | ● | | | |
| Engine related | | | | | | |
| 3 | Engine starting is poor (always takes time to start) | | | | | S-1 |
| 4 | Engine does not start | Engine does not turn | | E-1 | | S-2 1) |
| 5 | | Engine turns but no exhaust smoke comes out | | | | S-2 2) |
| 6 | | Exhaust smoke comes out but engine does not start | | | | S-2 3) |
| 7 | Engine pickup is poor (response is poor) | | | | | S-3 |
| 8 | Engine stops during operation | | | | | S-4 |
| 9 | Engine turns irregularly (hunting) | | | | | S-5 |
| 10 | Lack of output or no power | | | | | S-6 |
| 11 | Exhaust color is black (incomplete combustion) | | | | | S-7 |
| 12 | Oil consumption is excessive or exhaust color is blue | | | | | S-8 |
| 13 | Oil quickly becomes dirty | | | | | S-9 |
| 14 | Fuel consumption is excessive | | | | | S-10 |
| 15 | Oil mixed in cooling water, blows back, water level goes down | | | | | S-11 |
| 16 | Oil level rises | | | | | S-13 |
| 17 | There is abnormal noise | | | | | S-15 |
| 18 | Excessive vibration | | | | | S-16 |
| 19 | Preheating does not work | | | E-2 | | |
| Power train related | | | | | | |
| 20 | No power (no drawbar pull) | | | | H-1 | S-6 |
| 21 | Does not travel (when in 2nd or 3rd) | | | | H-2 | |
| 22 | Does not move off in any speed range | | | | H-3 | |
| 23 | Moves in only one direction (forward or reverse) | | | | H-4 | |
| 24 | Excessive time lag when shifting gear or shifting between forward and reverse | | | | H-5 | |
| 25 | Cannot turn (steering) | | | | H-6 | |
| 26 | Turns in only one direction (steering) | | | | H-7 | |
| 27 | Overruns when turning (steering) | | | | H-8 | |
| 28 | Brakes do not work | | | | H-9 | |
| 29 | Torque converter does not lock up | | | | H-10 | |
| 30 | Torque converter oil overheats | | | | H-11 | |
| Work equipment related | | | | | | |
| 31 | All work equipment speeds are slow | | | | H-12 | |
| 32 | No work equipment moves | | | | H-13 | |
| 33 | Blade RAISE speed is slow or lacks power | | | | H-14 | |
| 34 | Blade LOWER speed is slow or lacks power | | | | H-15 | |
| 35 | Ripper RAISE speed is slow or lacks power | | | | H-16 | |
| 36 | Ripper LOWER speed is slow or lacks power | | | | H-17 | |
| 37 | Excessive hydraulic drift of blade lift | | | | H-18 | |
| 38 | Excessive hydraulic drift of blade tilt | | | | H-19 | |
| 39 | Excessive hydraulic drift of ripper lift | | | | H-20 | |
| 40 | Ripper pin-puller cylinder does not work | | | E-3 | H-21 | |
| 41 | Blade pitch does not work | | | | H-22 | |
| 42 | Abnormal noise from around hydraulic pump | | | | H-23 | |



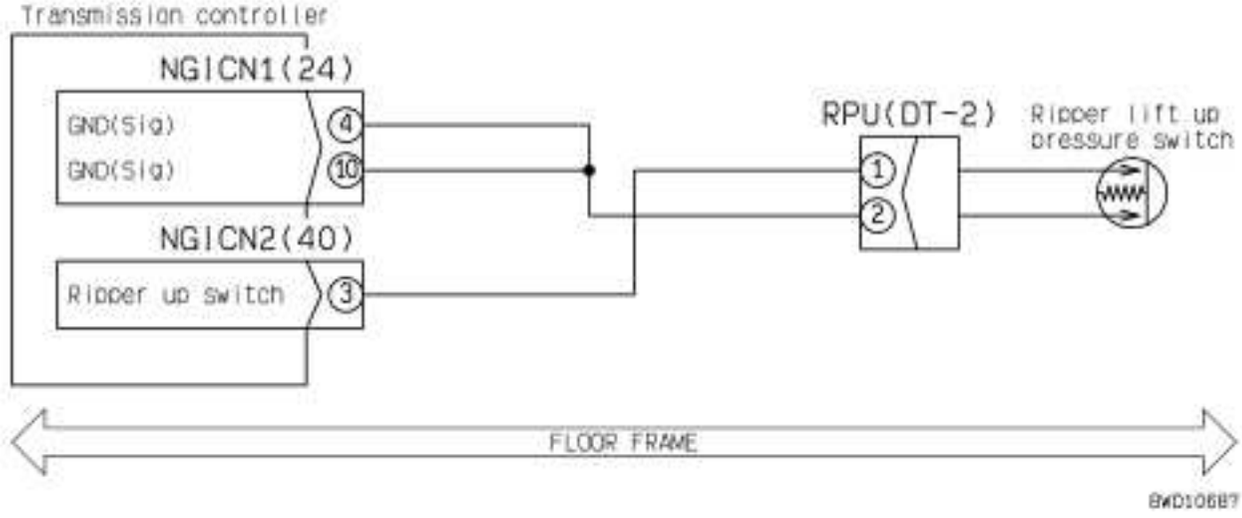
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# SERVICE CODE E0308 (SHORT CIRCUIT IN RIPPER LIFT RAISE OIL PRESSURE SWITCH SYSTEM)

| User code | Service code | Trouble | Short circuit in ripper lift raise oil pressure switch system (Steering controller system) |
|---|---|---|---|
| E02 | E0308 | | |
| Contents of trouble | • Signal of ripper lift raise oil pressure switch circuit was kept turned ON for 60 seconds. | | |
| Action of controller | • Judges that oil pressure switch is turned OFF. | | |
| Problem that appears on machine | • Shoe slip control (SSC) function does not work normally. | | |
| Related information | • Inputting from ripper lift raise oil pressure switch (ON-OFF) can be checked in monitoring mode. (Code R7: Ripper lever oil pressure switch input)<br>• Method of reproducing service code: Turn starting switch ON (Service code is reproduced after 60 seconds). | | |

| | Cause | | Standard value in normal state/Remarks on troubleshooting | | |
|---|---|---|---|---|---|
| Possible causes and standard value in normal state | 1 | Defective operation of lever (Electric system is normal) | After reproductive operation, if service code P is still displayed (to indicate that trouble is repaired), lever may have been so operated that error would be detected. | | |
| | 2 | Defective ripper lift raise oil pressure switch (Internal short circuit) | ★ Prepare with starting switch OFF, then start engine and carry out troubleshooting. | | |
| | | | RPU (male) | Ripper lever | Resistance |
| | | | Between ① – ② | Neutral | Min. 1 MΩ |
| | | | | Raise | Max. 1 Ω |
| | 3 | Short circuit with chassis ground in wiring harness (Contact with ground circuit) | ★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON. | | |
| | | | Short circuit of wiring harness between NGICN2 (female) ③ – RPU (female) ① with chassis ground | Resistance | Max. 1 MΩ |
| | 4 | Defective steering controller | ★ Prepare with starting switch OFF, then start engine and carry out troubleshooting. | | |
| | | | NGICN2, NGICN1 | Ripper lever | Voltage |
| | | | Between NGICN2 ③ – NGICN1 ④, ⑬ | Neutral | 5 – 11 V |
| | | | | Raise | Max. 1 V |

**Circuit diagram related to ripper lift raise oil pressure switch**






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## H-3 NO TRAVEL AT ALL GEAR SPEEDS

| | |
|---|---|
| Trouble | • No travel at all gear speeds |
| Related information | • Before troubleshooting, check that the power train oil level is normal. |

| | Cause | | Standard value in normal state/Remarks on troubleshooting | | |
|---|---|---|---|---|---|
| Possible causes and standard value in normal state | 1 | Defective power train pump | The power train pump is supposed to be defective. Check it directly. | | |
| | 2 | Incorrect pressure set to transmission main relief valve | ★ Set the starting switch to OFF for preparation and idle the engine at a high speed for troubleshooting. | | |
| | | | PCCS lever | Transmission main relief pressure | |
| | | | Full neutral | 2.45 – 2.94 MPa {25.0 – 30.0 kg/cm²} | |
| | 3 | Defective operation of transmission main relief valve | ★ Set the starting switch to OFF for preparation and troubleshoot while keeping it to OFF. | | |
| | | | Check it directly that the spring free length (120.3 mm) is normal and that the spool moves smoothly. | | |
| | 4 | Defective operation of transmission valve (ECMV) | ★ Set the starting switch to OFF for preparation and idle the engine at a low speed for troubleshooting (after checking that the transmission main relief pressure is normal). | | |
| | | | Transmission clutch | Clutch pressure | |
| | | | FWD | 2.35 – 2.94 MPa {24.0 – 30.0 kg/cm²} | |
| | | | REV | 2.35 – 2.94 MPa {24.0 – 30.0 kg/cm²} | |
| | | | 1ST | 1.96 – 2.55 MPa {20.0 – 26.0 kg/cm²} | |
| | | | 2ND | 2.35 – 2.94 MPa {24.0 – 30.0 kg/cm²} | |
| | | | 3RD | 2.35 – 2.94 MPa {24.0 – 30.0 kg/cm²} | |
| | 5 | Internal defect of transmission clutch | The inside of transmission clutch (2nd speed, 3rd speed) is supposed to be defective. Check it directly. | | |
| | 6 | Defective operation of brake | ★ Move the machine to a flat ground and idle the engine at a high speed for troubleshooting (after checking that the transmission main relief pressure is normal). | | |
| | | | Brake pedal | Brake oil pressure (right and left) | |
| | | | Release | Min. 2.4 MPa {Min. 24 kg/cm²} | |
| | | | Step on | 0 {0} | |
| | 7 | Defective seal of steering clutch | ★ Set the starting switch to OFF for preparation and idle the engine at a high speed for troubleshooting (after checking that the transmission main relief pressure is normal). | | |
| | | | PCCS lever | Left stroke end | Right stroke end |
| | | | Left clutch pressure | Min. 2.4 MPa {Min. 24 kg/cm²} | 0 {0} |
| | | | Right clutch pressure | 0 {0} | Min. 2.4 MPa {Min. 24 kg/cm²} |
| | | | Left brake pressure | 0 {0} | Min. 2.4 MPa {Min. 24 kg/cm²} |
| | | | Right brake pressure | Min. 2.4 MPa {Min. 24 kg/cm²} | 0 {0} |
| | 8 | Internal defect of steering clutch | The inside of the steering clutch is supposed to be defective, check it directly. | | |



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# UNDERCARRIAGE TROUBLESHOOTING REPORT (IMPACT)

(Program form No.: SELA195001)

KUC

**Komatsu**
**Undercarriage Inspection**



| | | | |
|---|---|---|---|
| Customer name: | | | |
| Address: | | | |
| Model | D375A-5 | Serial# | Equip# |
| Location | | SMR | |
| Soil condition | | Dealer | |
| Working condition | | Inspector | |
| Insp.Date(yy/mm/dd) | | (yy/mm/dd) | |
| Work Order No | | | |
| Wet,AR,HD or Dry | Wet | | |
| Shoe width (mm) | | | |
| Shoe type | SINGLE | | |
| Wear type | IMPACT | | |

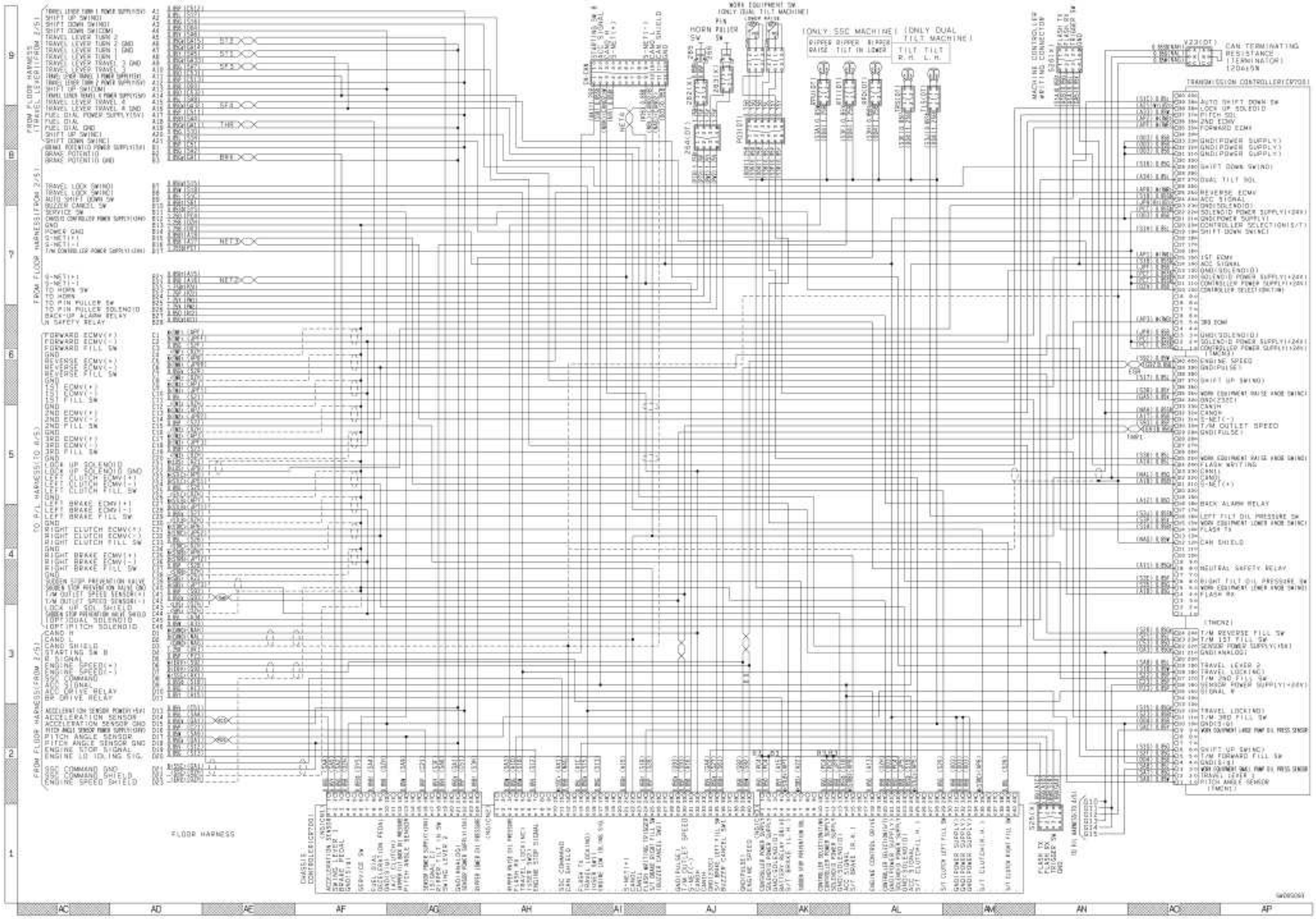
| | | | New | 100% Wear | Measured mm | Wear % | SMR New | SMR Rebuilt | Hours on Parts: | Comments/Observation |
|---|---|---|---|---|---|---|---|---|---|---|
| LINK PITCH | R | LH | 1121.2 | 1133.2 | | | | | | |
| | | RH | 1121.2 | 1133.2 | | | | | | |
| | M | LH | 280.30 | 283.30 | | | | | | |
| | | RH | 280.30 | 283.30 | | | | | | |
| LINK HEIGHT | | LH | 161.0 | 163.0 | | | | | | |
| | | RH | 161.0 | 163.0 | | | | | | |
| BUSHIN G | | LH | 98.5 | 92.5 | | | New | Turned | | |
| | | RH | 98.5 | 92.5 | | | New | Turned | | |
| GROUSER HEIGHT | | LH | 93.0 | 30.0 | | | | | | |
| | | RH | 93.0 | 30.0 | | | | | | |
| CARRIER | Front | LH | 210.0 | 185.0 | | | | | | |
| | | RH | 210.0 | 185.0 | | | | | | |
| | Rear | LH | 210.0 | 185.0 | | | | | | |
| | | RH | 210.0 | 185.0 | | | | | | |
| IDLER | Front | LH | 23.5 | 36.0 | | | | | | |
| | | RH | 23.5 | 36.0 | | | | | | |
| | Rear | LH | 23.5 | 36.0 | | | | | | |
| | | RH | 23.5 | 36.0 | | | | | | |
| TRACK ROLLER | 1 | LH | 270.0 | 200.0 | | | | | | |
| | 2 | LH | 270.0 | 200.0 | | | | | | |
| | 3 | LH | 270.0 | 200.0 | | | | | | |
| | 4 | LH | 270.0 | 200.0 | | | | | | |
| | 5 | LH | 270.0 | 200.0 | | | | | | |
| | 6 | LH | 270.0 | 200.0 | | | | | | |
| | 7 | LH | 270.0 | 200.0 | | | | | | |
| | 8 | LH | 270.0 | 200.0 | | | | | | |
| | 9 | LH | 270.0 | 200.0 | | | | | | |
| | 10 | LH | 270.0 | 200.0 | | | | | | |
| | 1 | RH | 270.0 | 200.0 | | | | | | |
| | 2 | RH | 270.0 | 200.0 | | | | | | |
| | 3 | RH | 270.0 | 200.0 | | | | | | |
| | 4 | RH | 270.0 | 200.0 | | | | | | |
| | 5 | RH | 270.0 | 200.0 | | | | | | |
| | 6 | RH | 270.0 | 200.0 | | | | | | |
| | 7 | RH | 270.0 | 200.0 | | | | | | |
| | 8 | RH | 270.0 | 200.0 | | | | | | |
| | 9 | RH | 270.0 | 200.0 | | | | | | |
| | 10 | RH | 270.0 | 200.0 | | | | | | |
| SPROCKET | | LH | 0.0 | 8.0 | | | | | | |
| | | RH | 0.0 | 8.0 | | | | | | |

Remarks:



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# ELECTRICAL CIRCUIT DIAGRAM 3/5







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