SEN05842-01

Shop Manual

HYDRAULIC
EXCAVATOR

PC210LC-10

SERIAL NUMBERS 450001 and up

KOMATSU®

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Index (ALL-0310-001-A-00-A)

00 Index and foreword 00-1
Index 00-2
Foreword, safety and general information 00-14
Important safety notice 00-14
How to read the shop manual 00-21
Explanation of terms for maintenance standard 00-23
Handling equipment of fuel system devices 00-25
Handling of intake system parts 00-26
Handling of hydraulic equipment 00-27
Method of disconnecting and connecting of push-pull type coupler 00-29
Handling of electrical equipment 00-32
How to read electric wire code 00-40
Precautions when performing operation 00-43
Practical use of KOMTRAX 00-47
Standard tightening torque table 00-48
List of abbreviation 00-52
Conversion table 00-57
01 Specification 01-1
Table of contents 01-2
Specifications 01-3
Specification drawing 01-3
Working range drawings 01-4
Specifications 01-5
Weight table 01-8
Table of fuel, coolant, and lubricants 01-9
10 Structure and function 10-1
Table of contents 10-2
Engine and cooling system 10-3
Engine related parts 10-3
KVGT 10-5
EGR system piping drawing 10-12
EGR system circuit diagram 10-14
EGR valve 10-16
EGR cooler 10-18
KCCV layout drawing 10-19
KCCV ventilator 10-21
KDPF 10-23
Cooling system 10-27
Power train 10-29
Power train system 10-29
Swing circle 10-31
Swing machinery 10-32
Final drive 10-34
Undercarriage and frame 10-36
Track frame and idler cushion 10-36
Hydraulic system 10-38
Hydraulic equipment layout drawing 10-38
Valve control 10-40
Hydraulic tank 10-42
CLSS 10-44
Main pump 10-49
Control valve 10-74
Swing motor 10-131
Travel motor 10-143
PPC valve 10-156
Solenoid valve 10-178
Attachment circuit selector valve (for high pressure circuit) 10-181

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Attachment circuit selector valve (for low pressure circuit) 10-183
Center swivel joint 10-186
Accumulator 10-188
Work equipment 10-189
Work equipment 10-189
Work equipment shim 10-190
Bucket play adjustment shim 10-191
Cab and its attachments 10-192
Cab mount and cab tipping stopper 10-192
ROPS cab 10-193
Electrical system 10-194
Electrical control system 10-194
Machine monitor system 10-245
KOMTRAX system 10-267
Sensor 10-270
20 Standard value tables 20-1
Table of contents 20-2
Standard service value table 20-3
Standard value table for engine 20-3
Standard value table for machine 20-5
Standard value table for electrical system 20-18
30 Testing and adjusting 30-1
Table of contents 30-2
General information on testing and adjusting 30-3
Tools for testing and adjusting 30-3
Sketch of tools for testing and adjusting 30-7
Engine and cooling system 30-8
Testing engine speed 30-8
Testing boost pressure 30-9
Testing exhaust gas color 30-11
Measuring and adjusting valve clearance 30-13
Testing compression pressure 30-16
Testing blowby pressure 30-20
Testing engine oil pressure 30-21
Testing EGR valve and KVGT oil pressures 30-22
Measuring fuel pressure 30-23
Measuring fuel delivery, return and leakage 30-29
Bleeding air from fuel system 30-34
Checking fuel circuit for leakage 30-36
Handling cylinder cutout mode operation 30-37
Handling no injection cranking operation 30-38
Checking and adjusting air conditioner compressor belt tension 30-39
Replacing fan belt 30-41
Power train 30-42
Testing swing circle bearing clearance 30-42
Undercarriage and frame 30-43
Testing and adjusting track shoe tension 30-43
Hydraulic system 30-44
Releasing remaining pressure from hydraulic circuit 30-44
Testing and adjusting oil pressure in work equipment, swing, and travel circuits 30-45
Testing oil pressure of control circuit 30-49
Testing and adjusting oil pressure in pump PC control circuit 30-52
Testing and adjusting oil pressure in pump LS control circuit 30-55
Testing output pressure of solenoid valve 30-60
Testing PPC valve output pressure 30-64
Adjusting play of work equipment and swing PPC valves 30-66
Testing pump swash plate sensor 30-67
Isolating the parts causing hydraulic drift in work equipment 30-68
Testing oil leakage 30-69

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Bleeding air from hydraulic circuit 30-72
Cab and its attachments 30-74
Checking cab tipping stopper 30-74
Adjusting mirrors 30-75
Electrical system 30-77
Special functions of machine monitor 30-77
Adjusting rearview camera angle 30-148
Handling voltage circuit of engine controller 30-150
Handling battery disconnect switch 30-151
Testing diodes 30-152
Pm clinic 30-153
Pm Clinic service 30-153
40 Troubleshooting 40-1
Table of contents 40-2
General information on troubleshooting 40-9
Troubleshooting points 40-9
Sequence of events in troubleshooting 40-11
Testing before troubleshooting 40-13
Inspection procedure before troubleshooting 40-15
Preparation work for troubleshooting of electrical system 40-34
Classification and procedure for troubleshooting 40-38
Symptom of probable failure and troubleshooting No. 40-41
Information in troubleshooting table 40-44
Diagnostic procedure for wiring harness open curcuit of pressure sensor system 40-46
Connector list and layout 40-48
Connector contact identification 40-59
T-branch box and T-branch adapter table 40-95
Fuse location table 40-101
Precautions for KDPF (KCSF and KDOC) Cleaning and Replacement 40-103
Fabrication of dummy temperature sensor (for KDOC and KDPF temperature sensors) 40-106
Fabrication of short-circuit connector (for CA1883 and CA3135) 40-107
Failure codes table 40-108
Troubleshooting by failure code (Display of code) 40-117
Failure code [879AKA] A/C Inner Sensor Open Circuit 40-117
Failure code [879AKB] A/C Inner Sensor Short Circuit 40-118
Failure code [879BKA] A/C Outer Sensor Open Circuit 40-119
Failure code [879BKB] A/C Outer Sensor Short Circuit 40-120
Failure code [879CKA] Ventilating Sensor Open Circuit 40-121
Failure code [879CKB] Ventilating Sensor Short Circuit 40-122
Failure code [879DKZ] Sunlight Sensor Open or Short Circuit 40-123
Failure code [879EMC] Ventilation Damper Abnormality 40-124
Failure code [879FMC] Air Mix Damper Abnormality 40-125
Failure code [879GKX] Refrigerant Abnormality 40-126
Failure code [989L00] Engine Controller Lock Caution1 40-127
Failure code [989M00] Engine Controller Lock Caution2 40-128
Failure code [989N00] Engine Controller Lock Caution3 40-129
Failure code [A1U0N3]: KDPF Dry Request (HC Release) 40-130
Failure code [A1U0N4] KDPF Dry Request (HC Release) 40-132
Failure code [AA10NX] Air Cleaner Clogging 40-134
Failure code [AB00KE] Charge Voltage Low 40-136
Failure code [B@BAZG] Engine Oil Pressure Low 40-138
Failure code [B@BAZK] Eng Oil Level Low 40-139
Failure code [B@BCNS] Engine Coolant Overheat 40-140
Failure code [B@BCZK] Radiator Coolant Level Low 40-141
Failure code [B@HANS] Hyd Oil Overheat 40-143
Failure code [CA115] Eng Ne and Bkup Speed Sens Error 40-144
Failure code [CA122] Chg Air Press Sensor High Error 40-145
Failure code [CA123] Chg Air Press Sensor Low Error 40-147

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Engine

Machine model		PC210LC-10
Serial number		450001 and up
Model		SAA6D107E–2
Type		4-cycle, water-cooled, in-line vertical, direct injection type with turbocharger and air-cooled aftercooler
No. of cylinders - bore x stroke	mm	6-107x124
Piston displacement	ℓ {cc}	6.69 {6,690}
Performance: Flywheel horsepower		
• Net [ISO 9249/SAE J1349]	kW {HP}/min^{-1} {rpm}	118 {158}/2,000 {2,000}
• Gross [SAE J1995]	kW {HP}/min^{-1} {rpm}	123 {165}/2,000 {2,000}
Max. torque	Nm {kgm}/in^{-1} {rpm}	634 {65}/1,500 {1,500}
Max. speed with no load		
• At mounted on machine	rpm	1,850 ± 50
• At bear engine	rpm	2,060 ± 50
Min. speed with no load	rpm	1,050 ± 25
Min. fuel consumption ratio	g/kWh {g/HPh}	215 {160}
Starting motor		24 V, 5.5 kW
Alternator		24 V, 60 A
Battery (*2)		12 V, 140 Ah x 2
Radiator core type		CF90-4

*4: When swing is locked.

*5: The battery capacity (Ah) is indicated in the 5-hour rate.

★ The engine flywheel horsepower is indicated in the net value and gross value. Gross value is the flywheel horsepower measured of the bear engine. While, net value is the value measured of the engine under the same condition essentially as the condition that it is installed on the machine.

Undercarriage

Machine model		PC210LC-10
Serial number		450001 and up
Carrier roller		2 (each side)
Track roller		9 (each side)
Track shoe		Assembly type triple grouser, 49 (each side)

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Related information	★ Failure code [CA2637] may be displayed at the same time, however, perform troubleshooting for this failure code [CA1691]. • Method of reproducing failure code: When KDOC is changed, there is no need to check completion of repair. When KDOC is not changed, start engine and turn manual stationary regeneration switch ON. (See cause 6.)

No.	Cause	Procedure, measuring location, criteria and remarks
1	Defective KDOC outlet temperature sensor	• If there is a significant difference between KDOC outlet temperature and KDOC inlet temperature and KDPF outlet temperature when KDPF is completely cool or engine running at idle (not regenerating), replace KDOC outlet temperature sensor.
2	Unusual exhaust gas color	1. Rapidly accelerate engine from low idle to high idle two times, and then keep engine running at high idle for five seconds. • If excessive black smoke is exhausted when accelerating engine or running it at high idle, perform troubleshooting for "S-9 KDPF gets clogged in a short time". ★ It does not matter that black smoke particles are exhausted during engine acceleration but are not exhausted during running at high idle.
3	Defective KDOC (KDOC drying)	★ Dry KDOC. 1. Turn starting switch to ON position. 2. Monitor signal voltages from KDOC inlet temperature sensor and KDPF outlet temperature sensor, note temperature values from each sensor with KDPF under initial condition and during manual stationary regeneration, and check that KDOC outlet temperature sensor is normal. (See "Related information".) 3. Perform manual stationary regeneration. (See "Related information".) ★ Since this is for drying KDOC, dosing fuel is not injected during regeneration.
4	Defective KDOC (dirty or cracked or damaged KDOC surface)	⚠ **Perform after KDPF and KDOC are sufficiently cooled.** 1. Remove KDPF. 2. Remove KDOC. 3. Blow air from KDOC outlet side to clean ceramic surfaces inside KDOC. 4. Check ceramic inside KDOC for cracks. If cracks are found in KDOC, KDOC is defective (replace KDOC). ★ Perform the following regardless whether KDOC is replaced or not.
5	Reset after KDOC change	1. Install KDOC and KDPF. 2. Turn starting switch to ON position. 3. From service menu of machine monitor, display the "Diagnostic Tests" screen, open "03 KDPF Memory Reset", and then perform "03 KDOC Change" (reset after KDOC change). ★ When reset after KDOC change is performed, failure codes [CA1691] and [CA2637] will not be displayed. At that time, remedy of not injecting dosing fuel when the failure code is displayed is released. ★ Check that reset after KDOC change is completed successfully (by reset count). If not, perform troubleshooting again. ★ When KDOC is replaced, finish troubleshooting without performing manual stationary regeneration.

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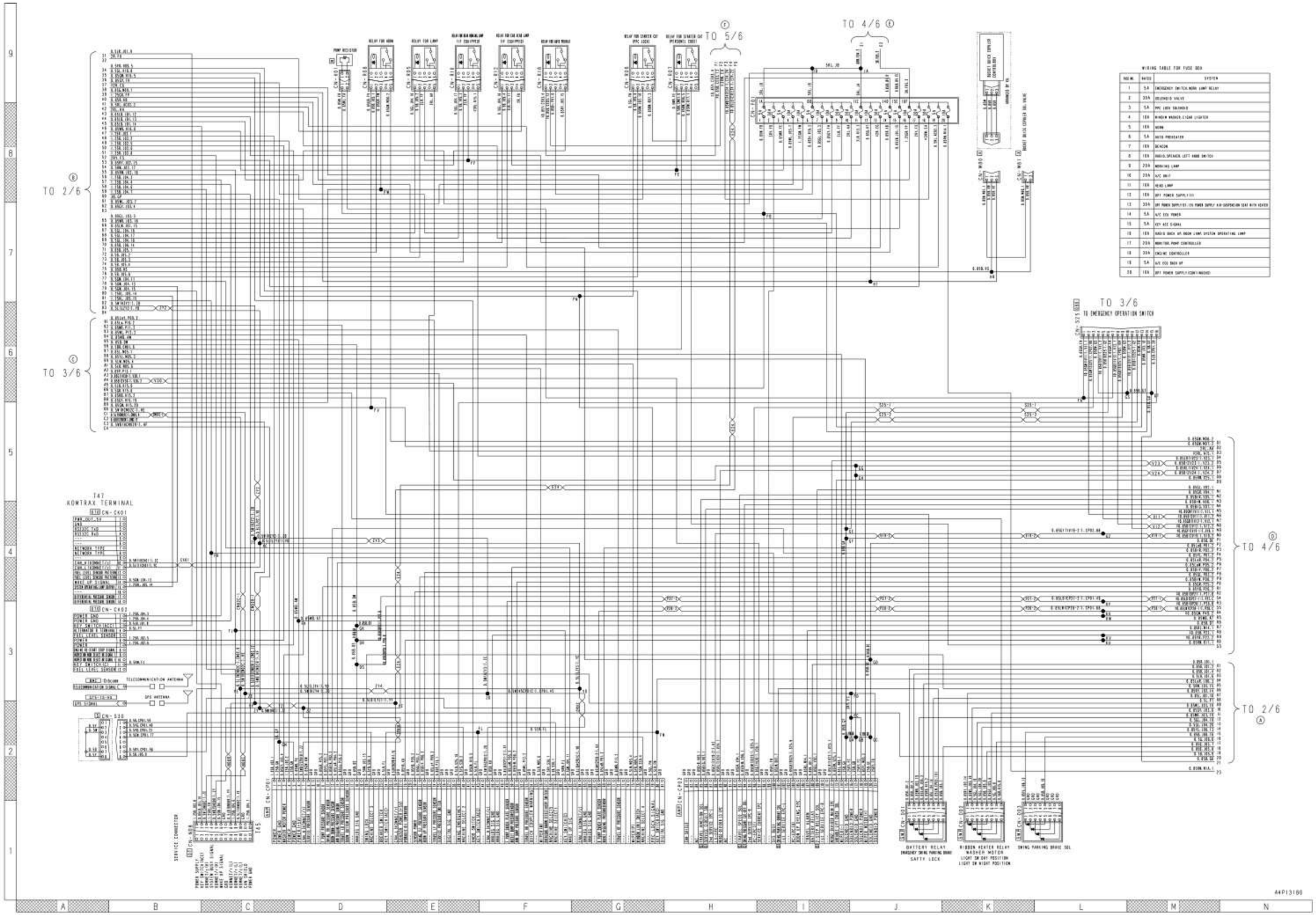
<table>
<tr><th>No.</th><th>Cause</th><th colspan="3">Procedure, measuring location, criteria and remarks</th></tr>
<tr><td rowspan="4">4</td><td rowspan="4">Open circuit in wiring harness
(wire breakage or defective contact of connector)</td><td colspan="3">1. Turn starting switch to OFF position.
2. Disconnect connectors CP01 and P06, and connect T-adapters to each female side.</td></tr>
<tr><td rowspan="3">Resistance</td><td>★ If power supply voltage in check on cause 2 is normal, this check is not required.
Between CP01 (female) (18) and P06 (female) (1)</td><td>Max. 1 Ω</td></tr>
<tr><td>Between CP01 (female) (32) and P06 (female) (2)</td><td>Max. 1 Ω</td></tr>
<tr><td>★ If power supply voltage in check on cause 2 is normal, this check is not required.
Between CP01 (female) (6) and P06 (female) (3)</td><td>Max. 1 Ω</td></tr>
<tr><td rowspan="2">5</td><td rowspan="2">Ground fault in wiring harness
(contact with GND circuit)</td><td colspan="3">1. Turn starting switch to OFF position.
2. Disconnect connectors CP01 and P06, and connect T-adapters to either female side.</td></tr>
<tr><td>Resistance</td><td>Between ground and CP01 (female) (32) or P06 (female) (2)</td><td>Min. 1 MΩ</td></tr>
<tr><td rowspan="2">6</td><td rowspan="2">Hot short circuit in wiring harness
(contact with 24 V circuit)</td><td colspan="3">1. Turn starting switch to OFF position.
2. Disconnect connector P06.
3. Connect T-adapters to female side of connector P06.
4. Turn starting switch to ON position.</td></tr>
<tr><td>Voltage</td><td>Between P06 (female) (2) and ground</td><td>Max. 1 V</td></tr>
<tr><td>7</td><td>Defective pump controller</td><td colspan="3">If no failure is found by above checks, pump controller is defective. (Since this is an internal defect, troubleshooting cannot be performed.)</td></tr>
</table>

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Electrical circuit diagram (1/6)

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★ This figure covers the equipment and devices that are unavailable as optional items in some areas.



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