SEN00783-10

Shop Manual

WHEEL LOADER

WA470-6
WA480-6

SERIAL NUMBERS

WA470-85001 to 90000
WA480-85001 to 90000

ecot3

KOMATSU®

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Table of contents

00 Index and foreword
Index SEN00802-10
Composition of shop manual 2
Table of contents 4
Foreword and general information SEN00803-03
Safety notice 2
How to read the shop manual 7
Explanation of terms for maintenance standard 9
Handling of electric equipment and hydraulic component 11
Handling of connectors newly used for engines 20
How to read electric wire code 23
Precautions when carrying out operation 26
Method of disassembling and connecting push-pull type coupler 29
Standard tightening torque table 32
Conversion table 36

01 Specification
Specification and technical data SEN00804-02
Specification dimension drawing 3
Specifications 4
Weight table 8
Table of fuel, coolant and lubricants 10

10 Structure, function and maintenance standard
Engine and cooling system SEN01301-01
Engine mount and transmission mount 2
Cooling system 3
Cooling fan pump 4
Cooling fan motor 12
Power train SEN01302-02
Power train 3
Power train system diagram 4
Drive shaft 6
Power train piping diagram 7
Torque converter 8
Transmission 16
Flow control valve 33
Transmission control valve 34
ECMV 38
Main relief valve and torque converter relief valve 44
Axle 46
Differential 50
Limited slip differential 55
Final drive 62
Steering system SEN01303-02
Steering piping diagram 2
Steering column 3
Steering pump 4
Steering valve 17
Orbit-roll valve 32
Stop valve 40
Steering relief valve 41
Steering cylinder 42
Emergency steering motor 44
Emergency steering pump 45

MidWestTech | Komatsu WA470-6, WA480-6 Wheel Loader Service Manual | Publicati... Order the manual at mid-west-tech.com >

Joystick steering lever linkage 46
Steering electric lever 47
Joystick EPC valve 48
Brake system SEN01304-01
Brake piping diagram 2
Charge valve 3
Brake valve 10
Accumulator (for brake) 15
Slack adjuster 16
Brake 18
Parking brake control 23
Parking brake 24
Parking brake solenoid valve 26
Emergency parking brake release valve 28
Undercarriage and frame SEN01305-02
Axle mount and center hinge pin 2
Tires 6
Hydraulic system, Part 1 SEN01306-03
Hydraulic piping diagram 2
Work equipment control lever linkage 5
Hydraulic tank 8
Power train pump 10
Work equipment pump 12
Work equipment control valve 32
CLSS 43
Each function and operation of each valve 48
Hydraulic system, Part 2 SEN01307-01
PPC valve 2
Accumulator (for PPC circuit) 8
Accumulator (for ECSS) 9
Work equipment PPC cut-off solenoid valve 10
Work equipment SEN01308-01
Work equipment linkage 2
Bucket 5
Bucket positioner and boom kick-out 6
Work equipment cylinder 12
Cab and its attachments SEN01309-02
Cab 3
Air conditioner 4
Electrical system, Part 1 SEN01310-03
Machine monitor system 2
Machine monitor 6
Electrical system, Part 2 SEN01311-03
Electrical system (Transmission controller system) 2
Transmission controller 34
Electrical system (Work equipment controller system) 36
Work equipment controller 42
Electrical system, Part 3 SEN01312-02
Electric transmission control 4
Combination switch 6
Kickdown switch and hold switch 8
Loadmeter cancel switch and loadmeter subtotal switch 8
Multi-function knob 9
Joystick steering knob 10
KOMTRAX system 12
Engine starting circuit 14
Engine stopping circuit 16

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Preheating circuit 17
Engine power mode selector circuit 18
Engine output derating function 19
Automatic warm-up function 19
Parking brake circuit 20
Sensor 22

20 Standard value table
Standard service value table SEN01313-03
Standard value table for engine 2
Standard value table for chassis 3

30 Testing and adjusting
Testing and adjusting, Part 1 SEN01589-02
Tools for testing, adjusting, and troubleshooting 3
Testing engine speed 8
Testing exhaust gas color 10
Testing exhaust temperature 11
Adjusting valve clearance 13
Testing compression pressure 15
Testing blow-by pressure 17
Testing engine oil pressure 18
Testing EGR valve drive pressure 19
Testing intake air (boost) pressure 20
Handling fuel system equipment 21
Releasing residual pressure in fuel system 21
Testing fuel pressure 22
Testing fuel return and leak amount 23
Bleeding air from fuel circuit 26
Testing fuel circuit for leakage 29
Handling of reduced cylinder mode operation 30
Handling of no injection cranking operation 30
Handling controller voltage circuit 31
Check of muffler and muffler stack for looseness and damage 32
Check of muffler function 32
Check of installed condition of cylinder head and manifolds 33
Check of engine piping for damage and looseness 33
Testing and adjusting air conditioner compressor belt tension 34
Testing and adjusting alternator belt tension 35
Adjusting transmission speed sensor 36
Adjusting directional lever length 37
Adjusting gear shift lever length 37
Testing directional lever 38
Testing and adjusting power train oil pressure 40
Procedure for flushing torque converter and transmission hydraulic circuit 55
Method of moving machine when transmission valve is broken 56
Check of axle final drive for oil leakage 58
Check of drive shafts for looseness, play and damage 58
Testing and adjusting steering stop valve 59
Testing and adjusting steering wheel 61
Testing steering oil pressure 63
Bleeding air from steering circuit 66
Testing and adjusting, Part 2 SEN01590-02
Testing hydraulic drive fan 3
Bleeding air from hydraulic drive fan circuit 5
Testing brake pedal 7
Testing and adjusting brake pedal linkage 8

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TRANSMISSION [Transmission controller system]		
Contents of indication in normal state	Unit (*4)	Remarks (*5)
As per part No. of software	Indication of condition	
As per version No. of application software	Indication of condition	
As per version No. of data	Indication of condition	
0: Power mode 2: Economy mode	Indication of condition	
0 – 1000 [mA] When engine speed is below 500 rpm = 670 mA While engine is cranked (C terminal is operated) = 800 mA While fan is being prepared for reverse operation = 800 mA While fan is operated in reverse = 0 mA	mA	
0: When fan reverse switch is in FORWARD 1: While manual reverse switch is operated 2: When fan reverse switch is in AUTO REVERSE	Indication of condition	
When work equipment is in neutral: 2.0 ± 2.0 MPa When work equipment circuit is relieved: 34.3 ± 2.0 MPa	MPa	
When work equipment is in neutral: 0.70 ± 0.2 V When work equipment circuit is relieved: 3.26 ± 0.2 V	V	
P-mode: 0 ± 10 mA E-mode: 350 ± 10 mA	mA	
When steering is in neutral: 2.0 ± 2.0 MPa When steering circuit is relieved: 24.4 ± 2.0 MPa	Nm	
When steering is in neutral: 0.70 ± 0.2 V When steering circuit is relieved: 2.44 ± 0.2 V	V	Not used
0 – 32767 [min-1] 0 km/h = 0 rpm 10 km/h = 738 rpm 20 km/h = 1476 rpm 30 km/h = 2215 rpm 40 km/h = 2953 rpm	rpm	Equipped with 26.5 – 25 tires
0.00 – 50.0 [MPa]	MPa	Indicated value changes according to cut-off setting operation
0.00 – 5.00 [MPa]	MPa	When foot brake is released: 0.00 ± 0.1 MPa When foot brake is pressed: Indicated value changes according to brake pressing operation
0.00 – 5.00 [V]	V	When foot brake is released: 1.00 ± 0.1 V When foot brake is pressed: Indicated value changes according to brake pressing operation
0 – 150 [°C]	°C	
0.00 – 5.00 [V] 4.72 V = 0°C 4.33 V = 30°C 3.55 V = 60°C 2.20 V = 100°C 1.61 V = 120°C	V	

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Failure code [15SGLH] (ECMV 3rd clutch: When command current is ON, fill signal is OFF)

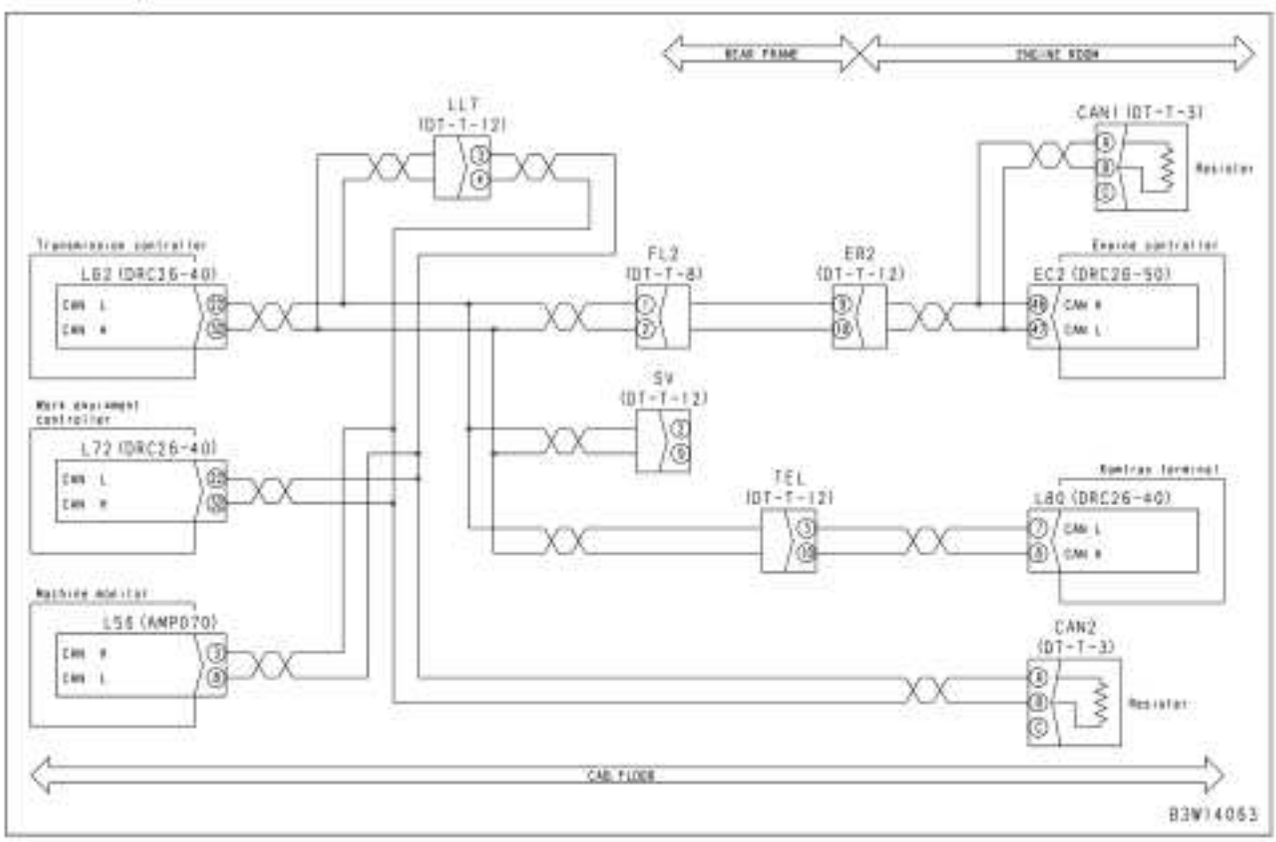
Action code	Failure code	Trouble	ECMV 3rd clutch: When command current is ON, fill signal is OFF (Transmission controller)
E01	15SGLH		
Contents of trouble	• When 3rd ECMV solenoid output is turned ON, clutch does not mesh because 3rd ECMV fill switch ON signal is not input and the condition requires to set the engine speed at 500 rpm or below.		
Action of controller	• Judges that the 3rd ECMV fill switch signal is turned OFF. • If problem is removed, system is returned to normal operating state.		
Problem that appears on machine	• The machine may not travel at 3rd speed. • When the 3rd gear speed is changed, a shock or a time lag may be made.		
Related information	• This code may also be displayed immensely after replacement of the transmission oil. • The output state (current value) to the 3rd clutch ECMV solenoid can be checked with the monitoring function (Code: 31604, ECMV 3 DIR). • The input state (ON/OFF) from the 3rd fill switch can be checked with the monitoring function (Code: 40908, D-IN-28). • Method of reproducing failure code: Start engine, set the manual/auto shift selector switch in the MANUAL position, set FNR (directional) lever, joystick steering FNR (directional) switch or right FNR (directional) switch to the F (forward), R (reverse), and then set shift lever to 3rd speed position.		

	Causes		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	3rd clutch oil pressure error	This failure code is displayed if 3rd clutch oil pressure were absent when 3rd ECMV solenoid output is turned ON. (See Troubleshooting of hydraulic and mechanical system (H-mode)		
	2	Defective 3rd ECMV fill switch (Internal disconnection)	★ Prepare with starting switch OFF, then start engine and carry out troubleshooting. • Turn transmission cut-off switch OFF. • Turn parking brake switch OFF. • Keep pressing brake pedal to prevent machine from traveling.		
			3.SW (male)	Shift lever	Resistance
			Between (1) and chassis ground	3rd (3rd speed)	Max. 1 Ω
				Other than above	Min. 1 MΩ
	3	Disconnection in wiring harness (Disconnection or defective contact in connector)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Wiring harnesses between L62 (female) (13) – 3.SW (female) (1)	Resistance	Max. 1 Ω
	4	Defective transmission controller	★ Prepare with starting switch OFF, then start engine and carry out troubleshooting. • Turn transmission cut-off switch OFF. • Turn parking brake switch OFF. • Keep pressing brake pedal to prevent machine from traveling. • Set the auto shift and manual shift selector switch in the MANUAL position. • Set FNR (directional) lever, joystick steering FNR (directional) switch or right FNR (directional) switch to the F (forward) or R (reverse) position.		
			L62	Shift lever	Voltage
			Between (13) and chassis ground	3rd (3rd speed)	Max. 1 V
				Other than above	8 – 10 V

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	Causes		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	3	Grounding fault in wiring harness (Contact with ground circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Wiring harness between L62 (female) (22), (32) – L56 (female) (3), (8) and chassis ground	Resistance	Min. 1 MΩ
			Wiring harness between L62 (female) (22), (32) – L72 (female) (22), (32) and chassis ground	Resistance	Min. 1 MΩ
			Wiring harness between L62 (female) (22), (32) – EC2 (female) (46), (47) and chassis ground	Resistance	Min. 1 MΩ
			Wiring harness between L62 (female) (22), (32) – L80 (female) (7), (8) and chassis ground	Resistance	Min. 1 MΩ
			Wiring harness between L62 (female) (22), (32) – CAN1 (female) (A), (B) and chassis ground	Resistance	Min. 1 MΩ
			Wiring harness between L62 (female) (22), (32) – CAN2 (female) (A), (B) and chassis ground	Resistance	Min. 1 MΩ
	4	Defective power supply circuit of transmission controller	★ Power supply circuit or grounding circuit may be defective. Confirm that there is no disconnection of the circuit or defective mating of the connector.		
	5	Defective machine monitor, transmission controller, work equipment controller, engine controller or KOMTRAX terminal	★ If above troubleshootings 1 – 4 have not identified the cause of the trouble, failure on the machine monitor, transmission controller, work equipment controller, engine controller or KOMTRAX terminal should be suspected. (Since trouble is in system, troubleshooting cannot be carried out.)		

Circuit diagram related to CAN communication

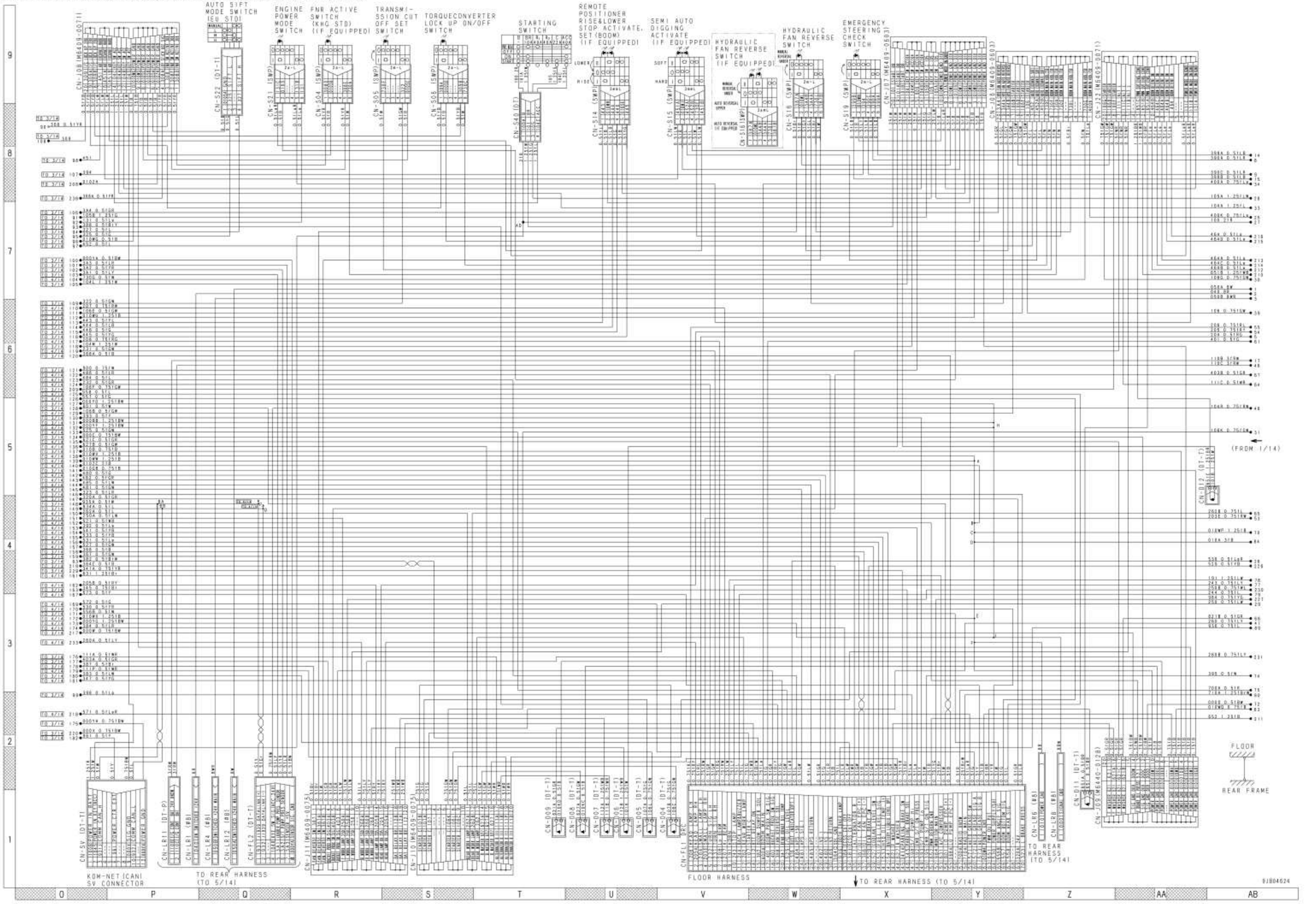


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Electrical circuit diagram (2/14)

Common to WA380-6, WA430-6, WA470-6 and WA480-6

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



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