SEN04409-07

Shop Manual

WHEEL LOADER

WA470-6
WA480-6

SERIAL NUMBERS WA470-90001 and up
WA480-90001

KOMATSU®

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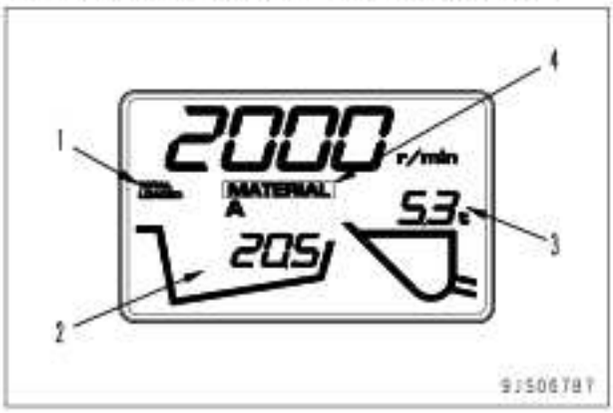
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3. Subtraction and addition modes

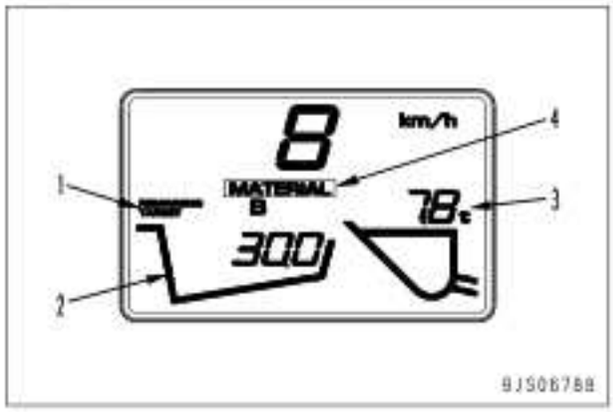
Display on monitor in addition mode
In this mode, the bucket load weight of each time is added and displayed.
This mode is used to grasp the production etc.



- If the addition mode is selected, addition mode (1) "TOTAL LOADED" is displayed and the calculated bucket load weight (3) is added to total load weight (2) and displayed.
- The calculated load weights of any 5 types of handled material can be integrated and displayed independently.
  The type of the handled material can be set by selecting one from types A – E in the handled material (4) when the mode is selected.
- Total load weight (2) displays up to 99,999t as long as the data are not cleared with the load meter subtotal switch.
  The load weight is displayed to the first decimal place (in units of 100 kg) up to 9,999.9t. If the load weight exceeds 10,000t, the decimal point disappears and then the load weight is displayed in units of 1 t.

★ For details of the total load weight display, see "Display of total load weight and remaining target load weight".

Display on monitor in subtraction mode
In this mode, the bucket load weight of each time is subtracted from the target load weight that is set in advance and then the remaining target load weight is displayed.
This mode is used for loading work of a specified weight etc.



- If the subtraction mode is selected, subtraction mode (1) "REMAINING TARGET" is displayed and the calculated load weight in bucket load weight (3) is subtracted from remaining target load weight (2) and displayed.
- The calculated load weights of any 5 types of handled material can be integrated and displayed independently.
  The type of the handled material can be set by selecting one from types A – E in the handled material (4) when the mode is selected.

★ For the display and calculation method when bucket load weight (3) exceeds remaining target load weight (2), see Operation and Maintenance Manual, "Handling of load meter".
★ For details of display of remaining target load weight, see "Display of total load weight and remaining target load weight".

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Failure code [CA325] (Injector #6 open/short error)

Action code	Failure code	Trouble	Injector #6 open/short error (Engine controller system)
E03	CA325		
Contents of trouble	• Disconnection or short circuit was detected in injector #6 circuit.		
Action of controller	• Turns the centralized warning lamp and alarm buzzer ON.		
Problem that appears on machine	• Engine output lowers. • Speed does not become stable.		
Related information	• Method of reproducing failure code: Start engine.		

	Cause		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	Defective injector #6 (Internal defect)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			CN6 (male)	Resistance		
			Between (1) and (2)	0.4 – 1.1 Ω		
			Between (1), (2) and chassis ground	Min. 1 MΩ		
	2	Disconnection in wiring harness (Disconnection in wiring or defective contact in connector)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between EC1 (female) (57) – CN6 (female) (1)	Resis-tance	Max. 1 Ω	
			Wiring harness between EC1 (female) (59) – CN6 (female) (2)	Resis-tance	Max. 1 Ω	
	3	Ground fault in wiring harness (Short circuit with GND circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between EC1 (female) (57) – CN6 (female) (1) and chassis ground	Resis-tance	Min. 1 MΩ	
			Wiring harness between EC1 (female) (59) – CN6 (female) (2) and chassis ground	Resis-tance	Min. 1 MΩ	
	4	Defective injector or wiring harness of another cylinder	If another failure code for injector abnormality is displayed, carry out troubleshooting for it.			
	5	Defective engine controller	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			EC1 (female)	Resistance		
			Between (57) and (59)	0.4 – 1.1 Ω		
			Between (57), (59) and chassis ground	Min. 1 MΩ		

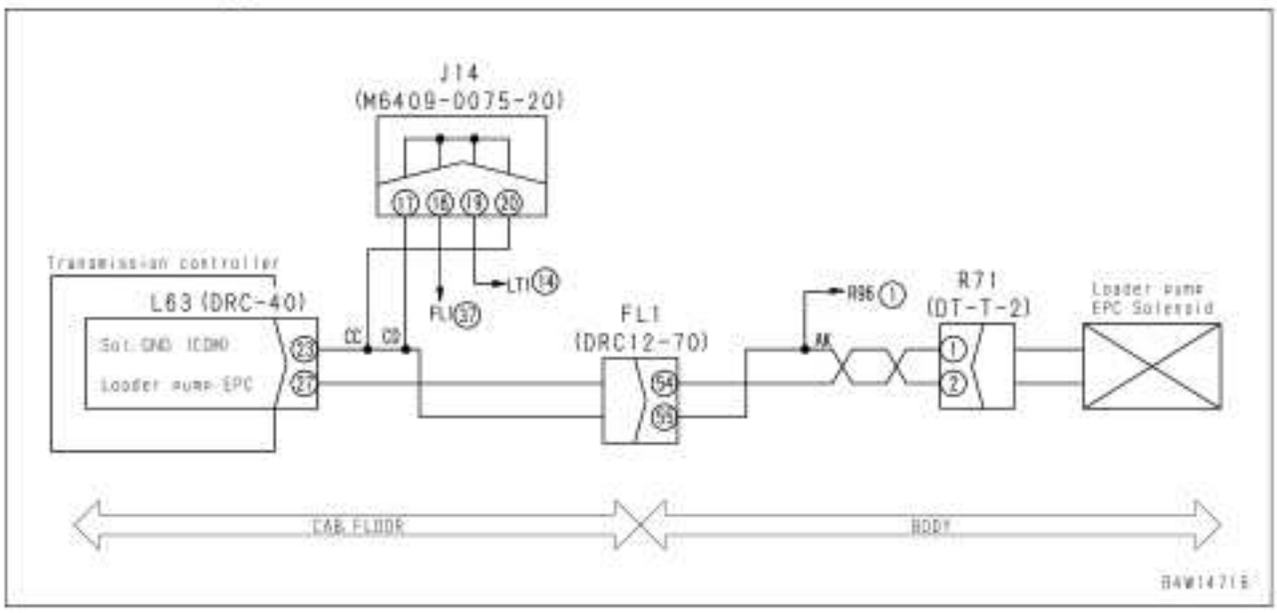
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E-21 Discharge from loader pump does not rise from minimum level

Contents of trouble	• Discharge from loader pump does not rise from minimum level.
Related information	• Since the loader pump PC-EPC solenoid system is shorted with the power source, the loader pump discharge is minimized. • The state (current) of the loader pump PC-EPC solenoid can be checked with the monitoring function (Code: 41401 PUMP EPC).

	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Short circuit with power source (Contact with 24V circuit) in wiring harness	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			Between L63 (female) (27) – R71 (female) (2) wiring harness and chassis ground	Voltage	Max. 1 V
	2	Defective transmission controller	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			L63 (female)	Resistance	
			Wiring harness between (27) – (23)	5 – 10 Ω	

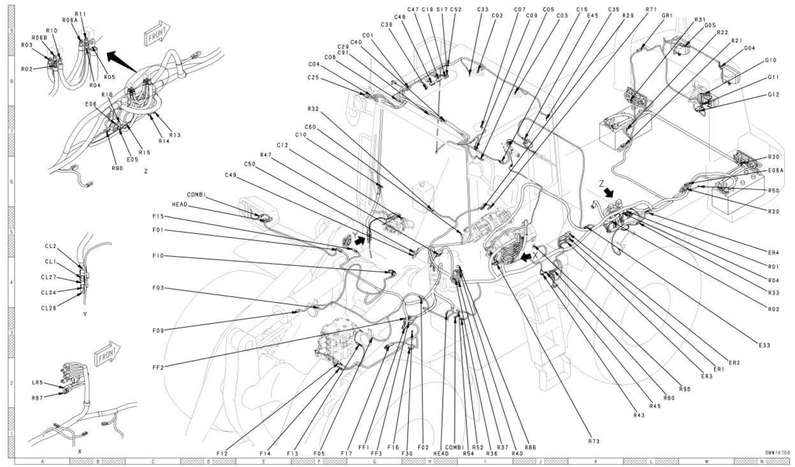
Related circuit diagram

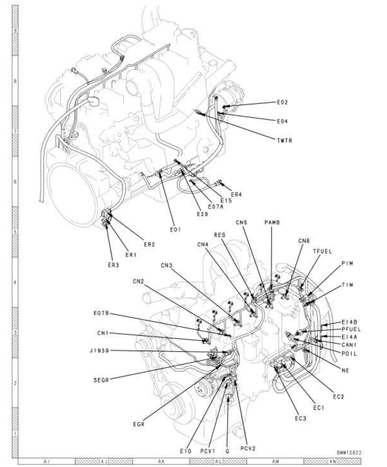


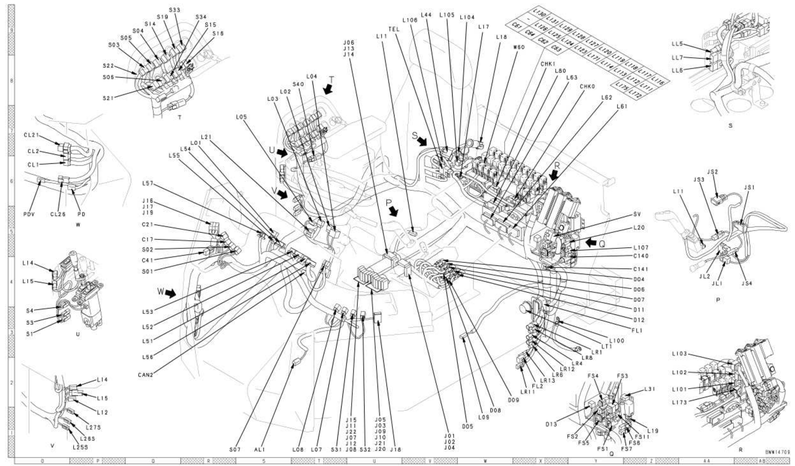
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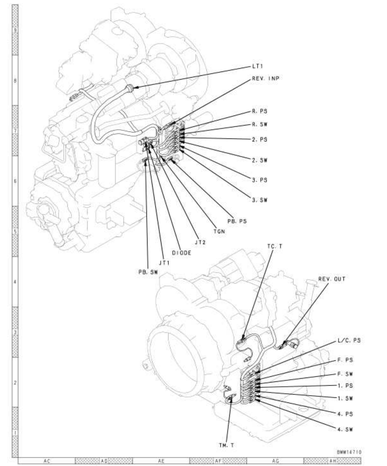
Connector list and stereogram WA470-6, WA480-6

Connector No.	Model	Number of pins	Component name	Address of stereogram
1.PS	DT	2	1st ECMV solenoid	AH-2
1.SW	DT	2	1st ECMV fill switch	AH-2
2.PS	DT	2	2nd ECMV solenoid	AG-7
2.SW	DT	2	2nd ECMV fill switch	AG-6
3.PS	DT	2	3rd ECMV solenoid	AG-6
3.SW	DT	2	3rd ECMV fill switch	AG-6
4.PS	DT	2	4th ECMV solenoid	AH-1
4.SW	DT	2	4th ECMV fill switch	AH-1
AL1	DT	6	Intermediate connector (Air conditioner wiring harness)	S-1
C01	YAZAKI	9	AM/FM radio	G-9
C02	M	2	Speaker, right	I-9
C03	M	2	Speaker, left	J-9
C04	DT-T	2	Front working lamp, right	F-8
C05	DT-T	2	Front working lamp, left	J-9
C07	KES1	2	Room lamp	J-9
C08	M	1	Door switch, right	F-8
C09	M	1	Door switch, left	J-9
C10	YAZAKI	2	Cigarette lighter	F-7
C12	M	6	Front wiper motor	E-7
C140	DT-T	4	Tachograph (if equipped)	Z-5
C141	DT-T	6	Tachograph (if equipped)	Z-4
C15	M	4	Rear wiper motor	K-9
C17	SWP	6	Caution lamp, yellow rotary lamp (if equipped)	O-5
C18	DT	2	Caution lamp (if equipped)	—
C18A	M	1	Beacon light	—
C19	SWP	6	Rear glass heater switch	H-9
C21	SWP	6	Caution lamp, rotary lamp (if equipped)	O-5
C22	DT	3	Rotary lamp (if equipped)	—
C25		4	Intermediate connector (Caution lamp, rotary lamp)	F-8
C29	M	1	Intermediate connector	F-9
C33	(Terminal)	1	Rear glass heater	I-9
C35	(Terminal)	1	Rear glass heater	K-9
C39	(Terminal)	1	GND (Radio body)	G-9
C40	(Terminal)	1	GND(-)	G-9
C41	SWP	6	Fog lamp (if equipped)	Q-4
C47	(Terminal)	1	GND (Beacon)	—
C47	JAE IL-AG5	22	Air conditioner controller	H-9
C48	JAE IL-AG5	14	Air conditioner controller	G-9
C49	DT2(B)	12	Intermediate connector (Air conditioner controller)	D-6
C50	DT2(Gr)	12	Intermediate connector (Air conditioner controller)	E-6
C52	S	3	Multi-coupler switch (if equipped)	H-9
C60	AMP	2	Daylight sensor	F-7
C61	SHINAGAWA	5	Caution lamp, yellow rotary lamp relay (if equipped)	X-9
C62	JIDOSYA DENKI KOGYO	5	Caution lamp, rotary lamp relay (if equipped)	X-9
C63	JIDOSYA DENKI KOGYO	6	Caution lamp, rotary lamp relay (if equipped)	X-9
C64	SHINAGAWA	6	Fog lamp relay (if equipped)	X-9
C65	DT	3	Rotary lamp (if equipped)	—
C91	M	1	Intermediate connector (Warning lamp)	—
CAN1	DT-T	3	Diode	AN-3
CAN2	DT-T	3	CAN terminal resistor	O-2
CHK0	X	1	KOMTRAX test connector	Y-8
CHK1	X	1	KOMTRAX test connector	X-8
CL1	SWP	8	Intermediate connector (Cab wiring harness)	A-4, O-6
CL2	SWP	12	Intermediate connector (Cab wiring harness)	A-5, O-7
CL21	SWP	16	Intermediate connector	O-7
CL24	X	2	Intermediate connector (Multi-coupler)	A-4
CL26	X	2	Intermediate connector (Cab wiring harness)	O-5
CL26	X	2	Intermediate connector	A-3
CL27	SWP	6	Side wiper (if equipped)	A-4
CN1	DT	2	Injector #1	AJ-3
CN2	DT	2	Injector #2	AK-4
CN3	DT	2	Injector #3	AK-4
CN4	DT	2	Injector #4	AL-5
CN5	DT	2	Injector #5	AL-5
CN6	DT	2	Injector #6	AM-5
COMBI	DT-T	3	Combination lamp, right	D-6
COMBI	DT-T	3	Combination lamp, left	H-1
D04	DT-T	2	Diode	Z-4
D05	DT-T	2	Diode	W-1
D06	DT-T	2	Diode	Z-4
D07	DT-T	2	Diode	Z-4
D08	DT-T	2	Diode	W-1
D09	DT-T	2	Diode	W-2
D11		11	Diode unit	—
D11	DT-T	2	Diode	Z-3
D12	DT-T	2	Diode	Z-3
D13	YAZAKI	3	Diode	X-1
DIODE	DT	2	Diode	AE-5
E01	DT-T	2	Starting motor	AK-5
E02	(Terminal)	1	Alternator R terminal	AM-8
E04	(Terminal)	1	Alternator E terminal	AM-7
E05	(Terminal)	1	Heater relay	C-6
E06	(Terminal)	1	Heater relay	B-8
E06A	DT-T	2	Diode	N-6
E07A	(Terminal)	1	Heater relay	AL-6
E07B	(Terminal)	1	Electrical intake air heater	AJ-3
E10	DT-T	2	Air conditioner compressor magnet clutch	AK-1
E14A	(Terminal)	1	GND (Engine)	AN-3
E14B	(Terminal)	1	GND (Engine)	AN-3
E15	(Terminal)	1	GND (Engine)	AL-6
E26	DT-T	2	Engine oil level sensor	AL-5
E33	DT-T	2	Intermediate connector	N-3
E45	DT-T	2	Dust indicator	K-9
EC1	DRC26	60	Engine controller	AN-2
EC2	DRC26	50	Engine controller	AN-2
EC3	DTP	4	Engine controller	AM-1
EGR	DT	2	EGR valve	AK-1
ER1	DT-T	4	Intermediate connector (Engine controller)	M-2, AJ-5
ER2	DT-T	12	Intermediate connector (Engine controller)	M-2, AK-5
ER3	L	2	Intermediate connector (Engine controller)	M-2, AJ-4
ER4	DT-T	6	Intermediate connector (Engine controller)	N-5, AL-6
F.PS	DT	2	F (Forward) ECMV solenoid	AH-2
F.SW	DT	2	F (Forward) ECMV fill switch	AH-2
F01	DT-T	6	Intermediate connector (Headlamp, right)	C-5
F02	DT-T	6	Intermediate connector (Headlamp, left)	H-1
F03	090II	2	Horn, Hi	C-4
F05	090II	2	Horn, Lo	F-1
F09	DT-T	3	Bucket proximity switch	C-3
F10	DT-T	3	Boom proximity switch	C-5
F12	DT-T	3	Work equipment pump pressure sensor	D-1
F13	DT-T	2	E.C.S.S. solenoid	F-1
F14	DT-T	2	E.C.S.S. cut-off switch	E-1
F15	DT-T	3	Boom potentiometer	C-5
F16	DT-T	3	Boom bottom pressure sensor	G-1
F17	DT-T	3	Boom head pressure sensor	G-1
F18	DT2	2	Lift arm angle potentiometer (Lift arm bucket EPC specification) (if equipped)	—
F19	DT2	2	Bucket positioner (Lift arm bucket EPC specification) (if equipped)	—
F20	DT2	2	Lift arm raise EPC (Lift arm bucket EPC specification) (if equipped)	—
F21	DT2	2	Lift arm lower EPC (Lift arm bucket EPC specification) (if equipped)	—
F22	DT2	2	Bucket tilt EPC (Lift arm bucket EPC specification) (if equipped)	—
F23	DT2	2	Bucket dump EPC (Lift arm bucket EPC specification) (if equipped)	—
F24	DT2	2	3-spool valve (Attachment) extension EPC (Lift arm bucket EPC specification) (if equipped)	—
F25	DT2	2	3-spool valve (Attachment) retraction EPC (Lift arm bucket EPC specification) (if equipped)	—
F26	DT2	2	Lift arm EPC cut-off solenoid (Lift arm bucket EPC specification) (if equipped)	—
F30	(Terminal)	1	GND (Front frame)	H-1
F30	(Terminal)	1	GND (Front frame)	—
F31	DT-T	2	Multi-coupler extension solenoid	—
F32	DT-T	2	Diode	—
F33	DT-T	2	Multi-coupler retraction solenoid	—
F34	DT-T	2	Diode	—
F35	(Terminal)	1	Fog lamp, right (if equipped)	—
F35A	(Terminal)	1	Fog lamp (right) (if equipped)	—
F36	(Terminal)	1	Fog lamp, left (if equipped)	—
F36A	(Terminal)	1	Fog lamp (left) (if equipped)	—
FF1	DT-T	12	Intermediate wiring harness (Front wiring harness – rear wiring harness)	G-1
FF2	DT-T	8	Intermediate wiring harness (Front wiring harness – rear wiring harness)	C-2
FF3	DT-T	6	Intermediate wiring harness (Front wiring harness – rear wiring harness)	G-1
FL1	DRC12	70	Intermediate connector (Floor wiring harness – rear wiring harness)	Z-3
FL2	DT-T	8	Intermediate connector (Floor wiring harness – rear wiring harness)	X-2
FL7	DT2(Br)	8	Intermediate connector (Lift arm EPC) (Joystick steering specification) (if equipped)	—
FL8	DT2(G)	8	Intermediate connector (Lift arm EPC) (Joystick steering specification) (if equipped)	—
FL9	DT2	4	Intermediate connector (3-spool valve) (Attachment EPC) (Joystick steering specification) (if equipped)	—
FS1	L	2	Intermediate connector (Fuse box B)	Y-1
FS11	X	3	Intermediate connector (Fuse box B)	Z-1
FS2	L	2	Intermediate connector (Fuse box A)	Y-1
FS3	SWP	16	Intermediate connector (Fuse box B)	Y-2
FS4	SWP	12	Intermediate connector (Fuse box A)	Y-2
FS5	SWP	6	Intermediate connector (Fuse box A)	Y-1
FS6	X	1	Intermediate connector (Fuse box B)	Z-1
FS7	X	1	Intermediate connector (Fuse box B)	Z-1
G	SUMITOMO	3	G sensor	AL-1
G04	DT-T	2	Left rear working lamp	N-9
G05	DT-T	2	Right rear working lamp	M-9
G10	DT-T	2	Backup buzzer	N-8
G11	DT-T	2	Fan reverse solenoid	N-8
G12	DT	2	Fan speed sensor	N-8
GR1	DT-T	4	Intermediate connector (Rear working lamp)	L-9
HEAD	DT-T	3	Headlamp, right	D-6
HEAD	DT-T	3	Headlamp, left	H-1
J01	M6409-0073	20	Junction connector	V-1
J02	M6409-0073	20	Junction connector	V-1
J03	M6409-0071	20	Junction connector	U-1
J04	M6440-0128	20	Junction connector	V-1
J05	M6409-0075	20	Junction connector	U-1
J06	M6409-0603	20	Junction connector	U-9
J07	M6409-0603	20	Junction connector	U-1
J08	M6409-0071	20	Junction connector	U-1
J09	M6440-0128	20	Junction connector	U-1
J10	M6409-0075	20	Junction connector	U-1
J11	M6409-0075	20	Junction connector	U-1
J12	M6409-0603	20	Junction connector	U-1
J13	M6409-0073	20	Junction connector	U-9
J14	M6409-0128	20	Junction connector	U-9
J15	M6409-0603	20	Junction connector	U-1
J16	M6409-0075	20	Junction connector	G-6
J17	M6440-0128	20	Junction connector	G-6
J18	M6409-0075	20	Junction connector	U-1
J19	M6409-0603	20	Junction connector	G-5
J20	M6409-0603	20	Junction connector	U-1
J21	M6409-0075	20	Junction connector	U-1
J22	M6409-0071	20	Junction connector	U-1
J41	M6409-0128	20	Junction connector (Joystick steering specification) (if equipped)	—
J42	M6409-0128	20	Junction connector (Joystick steering specification) (if equipped)	—
J44	M6409-0071	20	Junction connector (Joystick steering specification) (if equipped)	—
J45	DT2(B)	6	Junction connector (Joystick steering specification) (if equipped)	—
J46	DT2	6	Junction connector (Joystick steering specification) (if equipped)	—
J1939	DT	3	CAN	AJ-3
JL1	DT2(Gr)	8	Junction connector (Joystick steering specification) (if equipped)	AA-4
JL2	DTM	12	Joystick lever switch	AA-4
JS1	SWP	6	Joystick ON/OFF switch	AB-6
JS2	SWP	6	Steering speed mode switch	AA-6
JS3	DT2	4	Joystick lever potentiometer	AA-6
JS4	DT2	2	Joystick neutral lock switch	AB-4
JT1	DT	8	Junction connector	AE-4
JT2	DT	6	Junction connector	AF-5
L/C.PS	DT	2	Torque converter lockup ECMV solenoid	AH-3
L01	SWP	6	Parking brake switch	R-7
L02	SWP	6	Lighting switch	S-8
L03	SWP	6	Turn & Hazard switch	S-8
L04	SWP	14	Intermediate connector (Shift switch)	T-8
L05	DT-T	2	Steering wheel horn switch	S-7
L07	SWP	6	Machine monitor mode selector switch 1	T-1
L08	SWP	6	Machine monitor mode selector switch 2	T-1
L09	DT-T	2	Stop lamp switch	W-1
L11	DT-T	2	Intermediate connector (Air suspension seat)	U-9, AA-6
L12	DT-T	4	Right FNR (Directional) switch or multi-function lever (if equipped)	P-1
L13	DT2	2	Lift arm neutral lock switch (joystick steering specification) (if equipped)	—
L14	DT-T	4	Lift arm kick-down & hold switch or multi-function lever (if equipped)	O-4, P-2
L15	DT-T	4	Bucket lever (Load meter specification) (if equipped)	O-4, P-2
L17	M	4	DC24V/DC12V converter	W-9
L18	YAZAKI	2	12VDC socket	W-9
L19	M	4	Flasher unit	Z-1
L20	M	2	Caution buzzer	Z-5
L21	S	10	Intermediate connector (Front/Rear wiper switch)	R-7
L25E	DT2	2	Bucket dump detent solenoid (Joystick steering specification) (if equipped)	—
L25S	DT-T	2	Electrical detent PPC valve	P-1
L26E	DT2	2	Lift arm raise detent solenoid (Joystick steering specification) (if equipped)	—
L26S	DT-T	2	Electrical detent PPC valve	P-1
L27	DT2	2	Lift arm lower detent solenoid (Joystick steering specification) (if equipped)	—
L27S	DT-T	2	Electrical detent PPC valve	P-1
L28	DT2	4	Lift arm EPC lever (Joystick steering specification) (if equipped)	—
L29	DT2	4	Bucket EPC lever (Joystick steering specification) (if equipped)	—
L30	DT2	4	3-spool valve (Attachment) EPC lever (Joystick steering specification) (if equipped)	—
L31	M	6	Interval wiper timer	Z-2
L34	DT2	4	Joystick steering potentiometer (Joystick steering specification) (if equipped)	—
L35	DT2	2	Joystick steering right EPC (Joystick steering specification) (if equipped)	—
L36	DT2	2	Joystick steering left EPC (Joystick steering specification) (if equipped)	—
L36A	DT	4	Intermediate connector (Joystick steering EPC) (Joystick steering specification) (if equipped)	—
L37	DTM	12	Joystick steering lever switch (Joystick steering specification) (if equipped)	—
L38	DT2	3	Joystick steering neutral lock switch (Joystick steering specification) (if equipped)	—
L39	DT2	6	Joystick steering ON/OFF switch (Joystick steering specification) (if equipped)	—
L40	DT2	6	Joystick steering speed mode switch (Joystick steering specification) (if equipped)	—
L41	JIDOSYA DENKI KOGYO	6	Joystick steering cut-off relay (Joystick steering specification) (if equipped)	—
L44	M	6	Intermediate connector (Load meter printer wiring harness)	V-9
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L56	AMP 070	12	Machine monitor	Q-3
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L62	DRC26	40	Transmission controller	Y-8
L63	DRC26	40	Transmission controller	Y-8
L71	DRC26	24	Work equipment controller (Joystick steering specification) (if equipped)	—
L72	DRC26	40	Work equipment controller (Joystick steering specification) (if equipped)	—
L73	DRC26	40	Work equipment controller (Joystick steering specification) (if equipped)	—
L80	DRC26	40	KOMTRAX controller	—
L100	(Terminal)	1	GND (Floor)	Y-3
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L102	SWP	16	Intermediate connector (Relay)	Z-2
L103	SWP	16	Intermediate connector (Relay)	Z-3
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L118	YAZAKI	5	Relay No. 8, stop lamp	Z-8
L119	YAZAKI	5	Relay No. 9, horn	Y-8
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L124	YAZAKI	5	Relay No. 4, bucket detent	Y-9
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L130	YAZAKI	5	Relay No. 10, transmission bypass	X-9
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L143	DT	2	Diode	—
L144	DT	2	Diode	—
L145	DT	2	Diode	—
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R01	(Terminal)	1	Battery relay	N-4
R02	(Terminal)	1	Slow blow fuse	B-8
R02	(Terminal)	1	Emergency steering relay	N-3
R03	(Terminal)	1	Slow blow fuse	A-9
R04	(Terminal)	1	Battery relay	N-4
R04	(Terminal)	1	Slow blow fuse	B-8
R05	(Terminal)	1	Slow blow fuse	B-8
R06A	(Terminal)	1	Slow blow fuse	B-9
R06B	(Terminal)	1	Slow blow fuse	A-9
R10	(Terminal)	1	Slow blow fuse	A-9
R11	(Terminal)	1	Slow blow fuse	B-9
R13	(Terminal)	1	Emergency steering relay	C-7
R14	(Terminal)	1	Emergency steering relay	C-7
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