CEAM031801

Operation & Maintenance Manual

Machine Intervention System

860E-1K
860E-1KT
960E-1K
960E-2K
960E-2KT

KOMATSU®

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Alerts Page



This ALERT symbol is used in this manual, along with the signal words "CAUTION", "DANGER" and "WARNING", to alert the reader to hazards arising from improper operating and maintenance practices.

⚠DANGER

"DANGER" identifies a specific potential hazard
WHICH WILL RESULT
in either INJURY OR DEATH
if proper precautions are not taken.

⚠WARNING

"WARNING" identifies a specific potential hazard
WHICH MAY RESULT
in either INJURY OR DEATH
if proper precautions are not taken.

⚠CAUTION

"CAUTION" is used for general reminders
of proper safety practices
OR
to direct the reader's attention to avoid unsafe
or improper practices which may result
in damage to the equipment.

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Hydraulic System Checkout Procedure Data Sheet

Acceptable values of each measurement are shown in (parenthesis).

Machine Model _____ Unit Number _____ Serial Number _____

2. Precharge and temperature for brake accumulator:

Front brake accumulator	(1400 PSI @ 70° F)	_____ PSI @ _____	° F
Rear brake accumulator	(1400 PSI @ 70° F)	_____ PSI @ _____	° F

4. BF and BR port pressures at auto apply valve release:

Pressure at port BF	(1650 +375/-75 PSI)	_____	PSI
Pressure at port BR	(1650 +375/-75 PSI)	_____	PSI

6. Low brake accumulator pressure at LAP1 port after 2 minutes:

Pressure at port LAP1	(≥ 2100 PSI)	_____	PSI

8. Is fault A260 displayed for front brake? (circle one) (Yes) YES NO

8a. Front brake port pressures during bleed down:

Pressure at port LAP1 when fault A261 displays	(1850 ±75 PSI)	_____	PSI
Pressure at port LAP1 when the auto apply valve releases	(1650 ±75 PSI)	_____	PSI
Pressure at port BF when the LAP1 port reaches 1650 ±75 PSI	(≥ 1425 PSI)	_____	PSI
Pressure at port BR when the LAP1 port reaches 1650 ±75 PSI	(≥ 2400 PSI)	_____	PSI

10. Is fault A260 displayed for rear brake? (circle one) (Yes) YES NO

10a.Rear brake port pressures during bleed down:

Pressure at port LAP1 when fault A261 displays	(±100 PSI of step 7)	_____	PSI
Pressure at port LAP1 when the auto apply valve releases	(±100 PSI of step 7)	_____	PSI
Pressure at port BF when the LAP1 port reaches 1650 ±75 PSI	(≥ 2400 PSI)	_____	PSI
Pressure at port BR when the LAP1 port reaches 1650 ±75 PSI	(≥ 1425 PSI)	_____	PSI

14. Front brake accumulator pressure at LAP1 port:

Pressure at port LAP1	(2000 +200/-0 PSI)	_____	PSI

16. Front brake pilot pressures with brake lock switch ON:

Braking Status Icon	(Solid Amber)	_____	
Pressure at port PX or PX2	(≥ 2500 PSI)	_____	PSI
Pressure at port BF	(≥ 1900 PSI)	_____	PSI
Pressure at port BR	(2400 ±75 PSI)	_____	PSI

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EXISTING SELECTOR SWITCH WIRING

EXISTING KEY SWITCH WIRING

EXISTING HOIST LIMIT WIRING

EXISTING RETARD PEDAL WIRING

EXISTING OVERRIDE SWITCH WIRING

EXISTING POWER WIRING

EXISTING DIMMER WIRING

BRAKE CABINET

SAFETY CAN NETWORK

RPC CAN NETWORK

58B-06-02711 MAR 17

ELECTRICAL SCHEMATIC

Collision Avoidance System

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FIGURE 4-2. CONFIGURING STATIC IP ADDRESS

1. Step 4 2. Step 5

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Machine Intervention Controller Intervention Checkout

Intervention checkout allows MIC intervention functions to be commanded from the Intervention test web page if the truck is stationary with the park brake applied. Pressing a button activates the intervention. Real time data, updated once per second, is available to help during checkout.

NOTE: See the CHECKOUT PROCEDURE chapter of this manual for instructions on using this function.

Available inhibitions are:

- Forward Propel Inhibit ON/OFF
- Reverse Propel Inhibit ON/OFF
- Front PPC Brakes (IFAVAILABLE) PRE/FULL/OFF
- Rear PPC Brakes (IFAVAILABLE) PRE/FULL/OFF
- Service Brakes ON/OFF
- 100% Retard/0% Retard
- Hoist Inhibit ON/OFF
- Crank Inhibit ON/OFF
- Remote Shutdown ON/OFF
- Warning Beeper ON/OFF

Intervention Test

Pressing the buttons below will activate (or de-activate) the intervention. The truck must be stopped and in park.				Status
FORWARD PROPEL INHIBIT:	ON	OFF		Not Testing
REVERSE PROPEL INHIBIT:	ON	OFF		
FRONT PPC BRAKES:	FULL-BRAKE	PRE-BRAKE	OFF	
REAR PPC BRAKES:	FULL-BRAKE	PRE-BRAKE	OFF	
SERVICE BRAKES:	ON	OFF		
RETARD:	100%	0%		
HOIST INHIBIT:	ON	OFF		
CRANK INHIBIT:	ON	OFF		
REMOTE SHUTDOWN:	ON	OFF		
WARNING BEEPER:	ON	OFF		

Retarder Application %	Front Service Brake %	Active Interventions	MIC Diagnostics	Key Switch
100%	33%	No Intervention	No Faults	ON
	Rear Service Brake Switch	Gear Select Switch	Ground Guidance Mode Switch	Override Switch
Not Used	ON	Neutral	OFF	OFF

FIGURE 4-6. INTERVENTION TEST

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WIRE TABLE

WIRE NAME	SHT-ZONE
0-074	1-K16
0-190	1-J2
0-197	1-J1
0-313	1-N3
0-801	1-H9
0-802	1-H9
0-803	1-H20
0-805	1-H4
0-806	1-H5
0-807	1-H7
0-808	1-C18
0-809	1-C18
0-810	1-C18
0-813	1-C18
0-813	1-I7
0-814	1-C16
0-815	1-H4
0-816	1-I5
0-830	1-I8
0-834	1-K14
0-903	1-P5
0RET-000	1-L2
0RET-002	1-L4
0RET-005	1-L6
0RET-006	1-L8
10V2-000	1-L4
10V2-002	1-L2
11-040	1-G4
11-041	1-G4
11-042	1-G5
11-043	1-G5
11-046	1-G4
11-047	1-G5
11CA1-000	1-G7
11CA2-000	1-G7
11CA4-000	1-H9
11KS-001	1-F6
18A-000	1-A12
18A-001	1-A13
18B-000	1-A12
18B-001	1-A13
18C-000	1-B12
18C-001	1-B13
18D-000	1-B12
18D-001	1-B13
18E-000	1-B12
18E-001	1-B13
18F-000	1-B12
18F-001	1-B13
18G-000	1-B12
18G-001	1-B13
21S-001	1-P9
21S-002	1-P8
21S-010	1-G12
21S-011	1-G13
21SI-000	1-H13
21SIR-000	1-F13
21SIR-002	1-F12
25MM1-001	1-P5
25MM1-002	1-P6
25MM2-001	1-P5
25MM2-002	1-P6
31AL-000	1-K13
33BS1G-001	1-I14
33BS1G-002	1-I11
33BS1P-001	1-I14
33BS1P-002	1-I11
33BS2G-001	1-I14
33BS2G-002	1-I11
33BS2P-001	1-I14
33BS2P-002	1-I11
41TS-001	1-J16
49-000	1-K16
49-007	1-N4
49-020	1-K13
53H-000	1-J4
53H-001	1-I4
53H-002	1-J1
53H-003	1-J2
53H-010	1-I6
53H-011	1-J5
71AA-001	1-I11
71AA-002	1-I14
71AA-003	1-I17
71AA-004	1-I17
71AA-005	1-I16
71H-002	1-N4
71H-005	1-N5
71P-003	1-N3
71SS-004	1-C5
72P-000	1-D8
72F-001	1-D7
72F-002	1-D6
72F-003	1-D8
72F-010	1-D15
72F-011	1-D13
72F-012	1-G11
72F-013	1-D12
72FBR-000	1-C13
72FBR-001	1-C12
72I-000	1-H11
72N-000	1-D8
72N-001	1-D7
72N-002	1-C6
72N-003	1-D8
72N-102	1-C13
72N-103	1-C16
72N-104	1-C12
72N-105	1-C16
72NF-000	1-C17
72NR-000	1-D17
72P-000	1-C8
72P-001	1-C7
72P-002	1-C6
72P-003	1-C8
72R-000	1-D8
72R-001	1-D8
72R-002	1-D7
72R-003	1-C6
72R-004	1-D8
72R-010	1-E16
72R-011	1-E13
72R-012	1-G11
72R-013	1-E12
72RIR-000	1-D13
72RIR-001	1-D12
74N-001	1-L2
74N-003	1-L4
74N-005	1-K5
74N-006	1-L6
74N-007	1-L8
74ND-005	1-K4
79BI-000	1-H11
712H-000	1-I3
712H-001	1-I3
712H-002	1-I2
712K-000	1-P8
712K-001	1-F8
712K-006	1-F9
712K-020	1-F12
712K-021	1-F13
712K-022	1-G11
712K-023	1-F16
712K-024	1-L16
712KI-000	1-H11
712KIR-000	1-E13
712KIR-003	1-E12
712MM-000	1-O8
712MM-001	1-O5
7125P-000	1-L15
939GP-015	1-P11
939GP-016	1-P13
939GP-017	1-P13
939GS-000	1-N11
939GS-009	1-M14
939GS-010	1-M15
939GS-011	1-M13
939GS-015	1-M16
939GS-016	1-N14
939GS-021	1-M18
939YP-015	1-O11
939YP-016	1-O12
939YP-017	1-O12
939YS-000	1-N11
939YS-009	1-M13
939YS-015	1-M16
939YS-016	1-N14
939YS-021	1-M18

TERMINAL BOARD TABLE

CONN	WIRE ID'S	SHT-ZONE
SP617	712K	1-F12
SP621	21S	1-G12
SP622	712K	1-F16
SP623	74ND	1-K4
SP624	72RIR	1-D12
SP625	0	1-H7
SP627	0	1-C18
SP630	0	1-I6
SP639	72FBR	1-C12
SP640	72F	1-D15
SP642	72R	1-E16
SP643	72N	1-C16
SP907	0	1-I20
SP908	71AA	1-I17
SP909	939GS	1-M14
SP922	939YS	1-M18
SP923	939GS	1-M18
SP924	SHIELD	1-M18
SP925	939YS	1-M16
SP926	939GS	1-M16
SP927	SHIELD	1-M16
SP931	939YP	1-O12
SP932	939GP	1-P13
SP933	SHIELD	1-P13
TB10-A3	41TS	1-I16
TB10-D2	49	1-K16
TB10-D4	49	1-K15
TB23-D1	74N	1-L6
TB23-D2	74N	1-L5
TB23-E2	10V2	1-L5
TB23-F1	0RET	1-L6
TB23-F2	0RET	1-L5
TB23-G1	SHIELD	1-M6
TB23-G2	SHIELD	1-M5
TB25-N1	72R	1-D8
TB25-N2	72R	1-D8
TB25-N3	72R	1-D8
TB25-N4	72R	1-E12
TB25-V1	72F	1-D8
TB25-V2	72F	1-D8
TB25-V3	72F	1-D8
TB25-V4	72P	1-D12
TB28-E1	53H	1-J6
TB28-E3	53H	1-J4
TB28-E4	53H	1-J4
TB28-M1	712H	1-I3
TB28-M2	712H	1-I3
TB37-B	712KIR	1-E12
TB37-B1	712K	1-F10
TB37-M1	712MM	1-O6
TB37-M2	712MM	1-O6
TB43-D1	72N	1-D8
TB43-D2	72N	1-C12
TB43-D3	72N	1-D8
TB43-D4	72N	1-D8
TB43-H2	72P	1-C8
TB43-H3	72P	1-C8
TB43-J	21SIR	1-F12
TB43-J4	21S	1-P10
TB60-J2	53H	1-I4
TB60-J4	53H	1-I5
TB60-K2	712H	1-I3
TB60-K4	712H	1-I3

DEVICE TABLE

DEVICE	SHEET-ZONE
24VDC AUXBOX BUS5	1-G4
24VDC AUXBOX BUS5	1-G4
CAS ALARM	1-K14
D1	1-K5
D2	1-J2
D3	1-J19
D4	1-C17
D5	1-D17
FB1-F5	1-I1
FB1-F21	1-O7
GB8	1-I21
GB10	1-K16
GB31-B AUXBOX GND BLOCK	1-H4
GND2	1-I2
GND2	1-J2
MACHINE INTERVENTION CONTROLLER (MIC)	1-P9
MIC STATUS PANEL	1-M13
RETARD PEDAL	1-L2
RHEOSTAT DASH LT	1-K17
RTMR3	1-C19
RTMR3	1-F19
RTMR3	1-G7
RTMR3	1-L15
RTMR3	1-G7
RTMR3	1-E19
RTMR3	1-D19
RTMR3	1-H7
RTMR3-F1	1-G7
RTMR3-F2	1-G7
RTMR3-F3	1-H7
RTMR3-R1	1-C19
RTMR3-R2	1-D19
RTMR3-R3	1-E19
RTMR3-R4	1-F19
RTMR3-R5	1-L15
SIEMENS INTERFACE	1-C9
SOLENOID AUTO APPLY BRAKE	1-H19
SOLENOID HOIST LIMIT	1-I3
SWITCH BODYUP OVERRIDE / RESET (ORS)	1-N4
SWITCH HOIST LIMIT	1-I4
SWITCH KEY	1-F7
SWITCH SELECTOR	1-C5
TR31	1-M20

CONNECTOR TABLE

CONN	SHT-ZONE
24VDC-D2	1-G4
24VDC-D4	1-G4
AASOL	1-I19
AASOL	1-I18
CASA(+)	1-K14
CASA(-)	1-K14
CN3XD	1-C9
D1	1-K5
D1	1-K5
D2	1-J2
D2	1-J2
D3	1-I18
D3	1-I19
D4	1-C17
D4	1-C17
D5	1-D17
D5	1-D17
FB1-F5	1-I2
FB1-F21	1-O7
GB8-A2	1-I21
GB10-D1	1-K16
GB31B-C3	1-H4
GND2-A2	1-I2
GND2-A4	1-J1
HLS	1-I4
HLS	1-I4
HLSOL	1-I3
HLSOL	1-I3
J01	1-L3
J02	1-P9
J03	1-P9
J06	1-D7
J13	1-L2
J18	1-K17
J207B	1-O14
J241	1-I16
J531	1-I14
J657	1-L8
J657	1-I5
J657	1-I7
J657	1-G5
J657	1-P6
J657	1-G15
J657	1-P6
J700	1-P4
KEYSW-B	1-F7
KEYSW-BR	1-F8
KEYSW-C	1-F8
MIC-A	1-P11
MIC-A	1-I19
MIC-B	1-G11
MIC-B	1-N9
MIC-B	1-I13
MIC-C	1-P9
MIC-C	1-I11
MIC-C	1-I9
MIC-D	1-P9
MICSP	1-M13
ORS	1-N5
ORS-A	1-N4
ORS-B	1-N4
ORS_1-3	1-N4
ORS_1-4	1-N4
P01	1-L4
P02	1-P9
P03	1-P9
P06	1-D7
P08	1-D6
P08	1-C5
P215B	1-P14
P241	1-I16
P531	1-I14
P657	1-G5
P657	1-P6
P657	1-I7
P657	1-G13
P657	1-P6
P657	1-L7
P657	1-I5
P717	1-C8
RTMR3	1-F19
RTMR3	1-E19
RTMR3	1-E20
RTMR3	1-D19
RTMR3	1-H7
RTMR3	1-F20
RTMR3	1-G6
RTMR3	1-L15
RTMR3	1-C20
RTMR3	1-G7
RTMR3	1-H6
RTMR3	1-D20
RTMR3	1-C19
RTMR3	1-L14
RTMR3	1-G6
RTMR3	1-G7
SPARE1	1-A12
SPARE2	1-A12
SPARE3	1-B12
SPARE4	1-B12
SPARE5	1-B12
SPARE6	1-B12
SPARE7	1-B12
SPARE14	1-A15
SPARE15	1-A15
SPARE16	1-B15
SPARE17	1-B15
SPARE18	1-B15
SPARE19	1-B15
SPARE20	1-B15
TR31	1-M20

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Collision Avoidance System

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