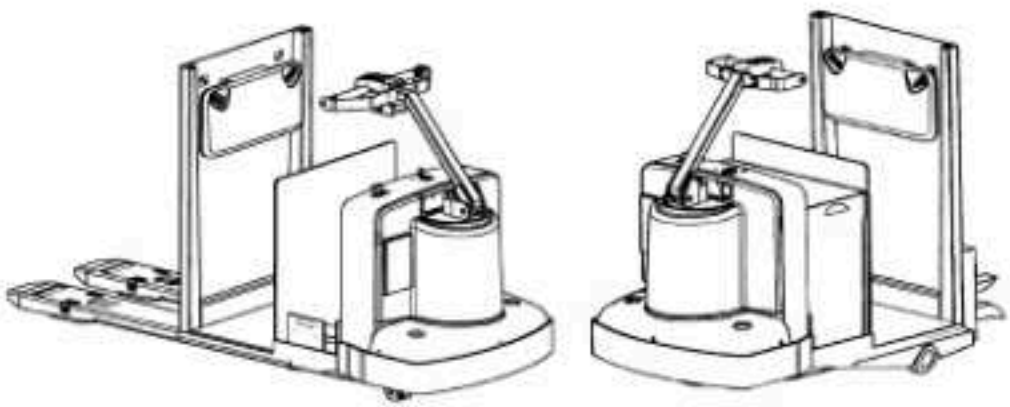
SERVICE MANUAL

B478 (C60ZAC)



FORM 1664971-B478 Rev. 03/14

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This section is for the following models:

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Battery Specifications and Adjustments

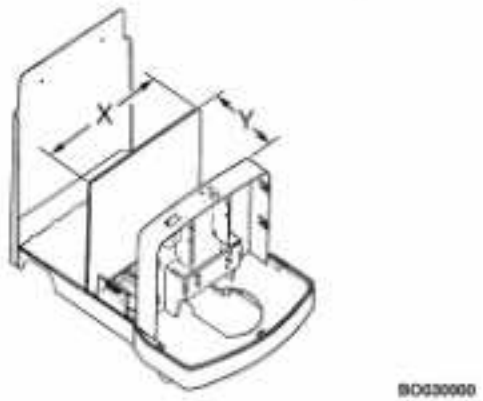


Figure 1. Battery Compartment

Battery and Battery Compartment Dimensions									
Model	Battery Compartment			Battery					
	Dimensions			Length (X)		Width (Y)		Capacity[2]	Weight
	Length (X) mm (in.)	Width (Y) mm (in.)	Height	Min[1] mm (in.)	Max mm (in.)	Min[1] mm (in.)	Max mm (in.)	Max kwh (amp hr)	Max kg (lb)
T5Z and T5Z[AC]	794 (31.25)	340 (13.4)	Open	648 (25.5)	785 (30.9)	218 (8.6)	330 (13)	11.9 (510)	469 (1035)
T7Z and T7Z[AC]	794 (31.25)	340 (13.4)	Open	648 (25.5)	785 (30.9)	218 (8.6)	330 (13)	17.6 (750)	658 (1450)
C60Z and C60Z[AC]	794 (31.25)	340 (13.4)	Open	663 (26.1)	785 (30.9)	325 (12.8)	330 (13)	11.9 (510)	469 (1035)
C80Z and C80Z[AC]	794 (31.25)	340 (13.4)	Open	663 (26.1)	785 (30.9)	325 (12.8)	330 (13)	17.6 (750)	658 (1450)

[1] Minimum battery dimensions allowed with standard battery spacer group.
[2] 6 hour rate.
NOTE: 24 Volt DC battery only.
Covered batteries required.
Battery connector type is 175 Amp, Red (Gray is optional).
Cable lead position B.
20-Inch cable length.
Maximum cable gauge of 1/0.

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GENERAL NOTES:

ALL PARTS ARE SHOWN IN THE NORMAL POSITION,
FOR THE FOLLOWING CONDITION:
- UNIT STOPPED
- BATTERY DISCONNECTED
- OPERATOR IS OFF THE UNIT
- STEERING IS SET FOR STRAIGHT TRAVEL
- ALL SWITCHES ARE SHOWN IN THE STATIC POSITION
- ALL WIRES ARE WHITE UNLESS OTHERWISE NOTED
- ALL POWER CABLES ARE BLACK UNLESS OTHERWISE NOTED
- REVERSE IS TRAVEL IN DIRECTION OF THE FORKS
- CHAIN LINES INDICATE "EE" ENCLOSURE
- DASH LINES INDICATE OPTIONAL EQUIPMENT

YOUR UNIT MODEL MAY NOT HAVE ALL THE OPTIONS SHOWN IN THIS SCHEMATIC - WIRING DIAGRAM.
SEE SCHEMATICH - WIRING DIAGRAM FOR EACH CONFIGURATION TO DETERMINE EXACT CONTENT.
ALL UNUSED TERMINALS AND CONNECTORS MUST BE SECURE TO A MAIN WIRE HARNESS.

FOR PROPER UNIT OPERATION FOLLOWING STEPS MUST BE TAKEN, OBSERVED AND FOLLOW. SEE INSTRUCTION NOTES ON THIS PAGE.

CIRCUIT I.D. LEGEND:

AMB	AMBER	ORN	ORANGE
BLK	BLACK	PNK	PINK
BLU	BLUE	PPL	PURPLE
BRN	BROWN	RED	RED
CLER	CLEAR	VLT	VIOLENT
GRA	GRAY	WHT	WHITE
GRN	GREEN	YEL	YELLOW
NAT	NATURAL		

CONNECTOR AND TERMINAL NAMING CONVENTION:

CRP##
C = CONNECTOR
R = RECEPTACLE
P = PIN
= SEQUENTIAL NUBER

CPS##
C = CONNECTOR
P = PLUG
S = SOCKET
= SEQUENTIAL NUBER

TR##
T = TERMINAL
R = RING
= SEQUENTIAL NUBER

TFK##
T = TERMINAL
FK = FORK
= SEQUENTIAL NUBER

TBM/F##
T = TERMINAL
B = BULET
M/F = MALE OR FEMALE
= SEQUENTIAL NUBER

TM/F##
T = TERMINAL
M/F = MALE OR FEMALE
= SEQUENTIAL NUBER

CAN BUSS CIRCUIT I.D.

TWISTED PAIR - WHETE = CAN HI CKT 901
TWISTED PAIR - BLACK = CAN LO CKT 900
UNLESS OTHERWISE NOTED.

CBL##/901 HI WHT
CBL = CABLE
= SEQUENTIAL NUBER
901 HI = BAN BUSS CIRCUIT
WHT = COLOR OF INTERNAL CONDUCTOR/S



A INSTRUCTION NOTES:

FOR PROPER TRUCK OPERATION FOLLOW FOLLOWING INSTRUCTIONS:

TRUCK EQUIPPED WITH BACKUP ALARM:
- CONNECT CONNECTOR CPS133 WITH CONNECTOR VCRP133,
WHICH IS PART OF BACKUP ALARM ASSEMBLY.
ROUTE WIRES FROM CONNECTOR CPS133 AS FOLLOWES:
- ROUTE WIRE W10-F RED TO KEY SWITCH AND CONNECT TO "START" POSITION.
- ROUTE WIRE W724-A RED ALONG THE MAIN WIRE HARNESS TO CONNECTOR CPS05
ON AC CONTROLLER AND INSERT INTO CONNECTOR CPS05, POSITION 17.
USE TY-WRAPS TO SECURE BOTH WIRES TO THE MAIN WIRE HARNESS.

CONDITION SETTING INSTRUCTIONS:
- ENTER TECHNICIAN PROGRAMMING MANU.
- GO TO GENERAL ITEMS.
- SET TO ACCESSORY CONDITION.
- SAVE AND EXIT.

TRUCK EQUIPPED WITH STROBE LIGHT:
- CONNECT CONNECTOR CPS135 WITH CONNECTOR VCRP135,
WHICH IS PART OF STROBE LIGHT ASSEMBLY.
ROUTE WIRES FROM CONNECTOR CPS135 AS FOLLOWES:
- ROUTE WIRE W10-G RED TO KEY SWITCH AND CONNECT TO "START" POSITION.
- ROUTE WIRE W724-AA RED ALONG THE MAIN WIRE HARNESS TO CONNECTOR CPS05
ON AC CONTROLLER AND INSERT INTO CONNECTOR CPS05, POSITION 17.
USE TY-WRAPS TO SECURE BOTH WIRES TO THE MAIN WIRE HARNESS.

CONDITION SETTING INSTRUCTIONS:
- ENTER TECHNICIAN PROGRAMMING MANU.
- GO TO GENERAL ITEMS.
- SET TO ACCESSORY CONDITION.
- SAVE AND EXIT.

TRUCK EQUIPPED WITH BACKUP ALARM AND STROBE LIGHT:
- CONNECT CONNECTOR CPS133 WITH CONNECTOR VCRP133,
WHICH IS PART OF BACKUP ALARM ASSEMBLY.
- CONNECT CONNECTOR CPS135 WITH CONNECTOR VCRP135,
WHICH IS PART OF STROBE LIGHT ASSEMBLY.
ROUTE WIRES FROM CONNECTOR CPS133 AND CPS135 AS FOLLOWES:
- ROUTE RED WIRE W10-F AND W10-G TO KEY SWITCH AND CONNECT TO "START" POSITION.
- ROUTE RED WIRE W724-A AND W724-AA ALONG THE MAIN WIRE HARNESS TO CONNECTOR CPS05
ON AC CONTROLLER AND INSERT WIRE W724-A RED INTO CONNECTOR CPS05, POSITION 17.
INSULATE AND SECURE WIRE W724-AA RED.
CONNECT CONNECTOR TBP36 WITH CONNECTOR TBM36,
USE TY-WRAPS TO SECURE BOTH WIRES TO THE MAIN WIRE HARNESS.

CONDITION SETTING INSTRUCTIONS:
- ENTER TECHNICIAN PROGRAMMING MANU.
- GO TO GENERAL ITEMS.
- SET TO ACCESSORY CONDITION.
- SAVE AND EXIT.

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Figure 9. Schematic / Wiring Diagrams (Sheet 4 of 8)

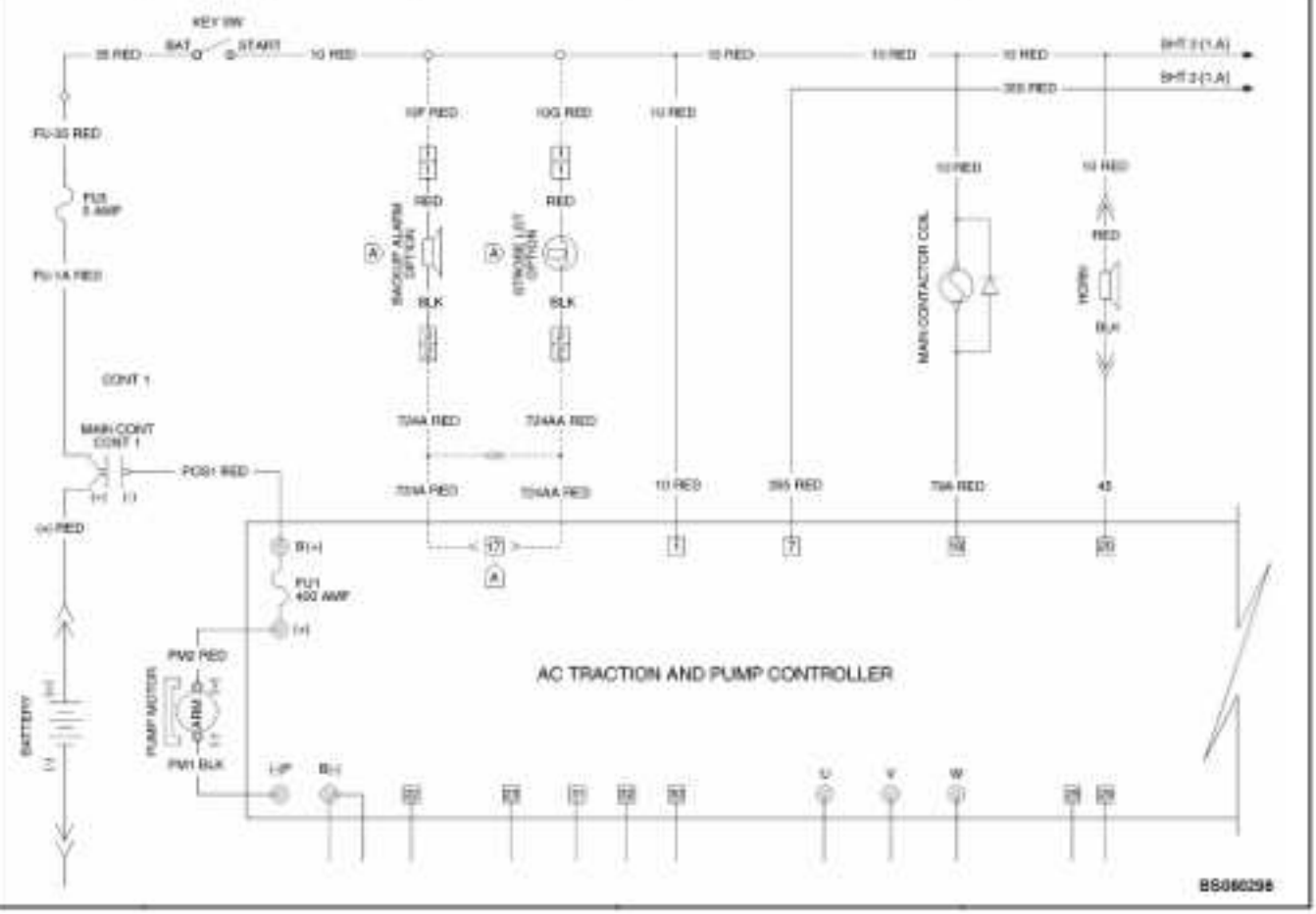
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STATUS CODE	DISPLAY MESSAGE	LED	CIRCUIT
9090	Overload	Flashing Red	Pump

DESCRIPTION	SYMPTOM
Controller has detected the hydraulic system is being operated at relief.	Hydraulics will not operate.

Probable Causes and Test Procedures

1. Verify weight of load does not exceed lift truck capacity on the nameplate.
   a. Reduce load weight.
2. Verify there is no binding in the lifting mechanism.
3. Install a 24.13 MPa (3500 psi) pressure gauge in the lift cylinder line.
   a. Verify the relief pressure is correct:
      - C60Z^{AC} = 18.96 MPa (2750 psi)
      - C80Z^{AC} = 23.44 MPa (3400 psi)
4. Adjust relief pressure to correct value.
   a. See **Walkie Hydraulic Systems** 1900 SRM 964.



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