SEN06600-04

Shop Manual

WHEEL LOADER **WA270-8**

SERIAL NUMBERS 83001 and up

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INDEX

00 INDEX AND FOREWORD 00-1
ABBREVIATION LIST 00-21
FOREWORD, SAFETY, BASIC INFORMATION 00-27
HOW TO READ THE SHOP MANUAL 00-27
SAFETY NOTICE FOR OPERATION 00-29
PRECAUTIONS TO PREVENT FIRE 00-37
ACTIONS IF FIRE OCCURS 00-39
PRECAUTIONS FOR DISPOSING OF WASTE MATERIALS 00-40
ACTIONS TAKEN TO MEET EXHAUST GAS REGULATIONS 00-41
PRECAUTIONS FOR DEF 00-42
STORE AdBlue/DEF 00-43
PRECAUTIONS FOR HANDLING HYDRAULIC EQUIPMENT 00-44
PRECAUTIONS FOR DISCONNECTION AND CONNECTION OF PIPINGS 00-47
PRECAUTIONS FOR HANDLING ELECTRICAL EQUIPMENT 00-53
PRECAUTIONS FOR HANDLING FUEL SYSTEM EQUIPMENT 00-55
PRECAUTIONS FOR HANDLING INTAKE SYSTEM EQUIPMENT 00-56
PRACTICAL USE OF KOMTRAX 00-57
DISCONNECT AND CONNECT PUSH-PULL TYPE COUPLER 00-58
PRECAUTIONS FOR DISCONNECTION AND CONNECTION OF CONNECTORS 00-62
METHOD FOR DISCONNECTING AND CONNECTING DEUTSCH CONNECTOR 00-66
METHOD FOR DISCONNECTING AND CONNECTING SLIDE LOCK TYPE CONNECTOR 00-67
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH LOCK TO PULL ... 00-69
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH LOCK TO PUSH .. 00-70
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH HOUSING TO ROTATE 00-72
HOW TO READ ELECTRICAL WIRE CODE 00-73
EXPLANATION OF TERMS FOR MAINTENANCE STANDARD 00-77
STANDARD TIGHTENING TORQUE TABLE 00-80
CONVERSION TABLE 00-87
01 SPECIFICATIONS 01-1
CONTENTS 01-2
ABBREVIATION LIST 01-3
SPECIFICATIONS 01-9
SPECIFICATION DRAWING 01-9
SPECIFICATIONS 01-11
WEIGHT TABLE 01-16
TABLE OF FUEL, COOLANT, AND LUBRICANTS 01-18
10 STRUCTURE AND FUNCTION 10-1
CONTENTS 10-2
ABBREVIATION LIST 10-6
UREA SCR SYSTEM 10-12
LAYOUT DRAWING OF UREA SCR SYSTEM 10-12
UREA SCR SYSTEM DIAGRAM 10-14
FUNCTION OF UREA SCR SYSTEM 10-15
COMPONENT PARTS OF UREA SCR SYSTEM 10-33
BOOT-UP SYSTEM 10-42
LAYOUT DRAWING OF BOOT-UP SYSTEM 10-42
SYSTEM OPERATING LAMP SYSTEM 10-44
BATTERY DISCONNECT SWITCH 10-45
PREHEATING SYSTEM 10-46
ENGINE SYSTEM 10-48
LAYOUT DRAWING OF ENGINE SYSTEM 10-48
ENGINE CONTROL SYSTEM 10-50
AUTOMATIC IDLE STOP SYSTEM 10-57
COMPONENT PARTS OF ENGINE SYSTEM 10-58
COOLING SYSTEM 10-77

MidWestTech | Komatsu WA270-8 Wheel Loader Service Manual | Publication SEN06... Order the manual at mid-west-tech.com >

LAYOUT DRAWING OF COOLING SYSTEM 10-77
COOLING FAN CONTROL SYSTEM 10-79
COMPONENT PARTS OF COOLING SYSTEM 10-84
CONTROL SYSTEM 10-97
LAYOUT DRAWING OF CONTROL SYSTEM 10-97
MACHINE MONITOR SYSTEM 10-99
REARVIEW MONITOR SYSTEM 10-101
KOMTRAX SYSTEM 10-102
COMPONENT PARTS OF CONTROL SYSTEM 10-103
HYDRAULIC SYSTEM 10-145
LAYOUT DRAWING OF HYDRAULIC SYSTEM 10-145
CLSS 10-146
COMPONENT PARTS OF HYDRAULIC SYSTEM 10-149
POWER TRAIN SYSTEM 10-197
LAYOUT DRAWING OF POWER TRAIN SYSTEM 10-197
OPERATION OF POWER TRAIN SYSTEM 10-199
DIRECTIONAL SELECTOR SWITCH CONTROL FUNCTION 10-200
HST CONTROL SYSTEM 10-202
HST CHARGE SYSTEM 10-204
HST PUMP CONTROL SYSTEM 10-205
HST CONTROLLER GEAR SHIFT CONTROL FUNCTION 10-207
TRANSFER CLUTCH CONTROL FUNCTION 10-210
HST SYSTEM PROTECTION FUNCTION 10-211
MAXIMUM SPEED LOW FUEL CONSUMPTION CONTROL 10-214
KOMATSU TRACTION CONTROL SYSTEM (KTCS) 10-217
COMPONENT PARTS OF POWER TRAIN SYSTEM 10-222
WORK EQUIPMENT SYSTEM 10-268
LAYOUT DRAWING OF WORK EQUIPMENT SYSTEM 10-268
WORK EQUIPMENT CONTROL SYSTEM 10-270
WORK EQUIPMENT LOCK SYSTEM 10-271
BUCKET POSITIONER SYSTEM 10-273
FORK POSITIONER SYSTEM 10-277
REMOTE POSITIONER SYSTEM 10-281
ECSS 10-284
COMPONENT PARTS OF WORK EQUIPMENT SYSTEM 10-286
STEERING SYSTEM 10-301
LAYOUT DRAWING OF STEERING SYSTEM 10-301
STEERING COLUMN 10-302
COMPONENT PARTS OF STEERING SYSTEM 10-303
BRAKE SYSTEM 10-317
LAYOUT DRAWING OF BRAKE SYSTEM 10-317
PARKING BRAKE CONTROL SYSTEM 10-319
COMPONENT PARTS OF BRAKE SYSTEM 10-323
AUTO-GREASING SYSTEM 10-341
LAYOUT DRAWING OF AUTO-GREASING SYSTEM 10-341
SPECIFICATIONS OF AUTO-GREASING SYSTEM 10-342
FUNCTION OF AUTO-GREASING SYSTEM 10-343
COMPONENT PARTS OF AUTO-GREASING SYSTEM 10-344
UNDERCARRIAGE AND FRAME 10-345
FRAME, AXLE MOUNT AND CENTER HINGE PIN 10-345
TIRE 10-348
WORK EQUIPMENT 10-350
STRUCTURE OF WORK EQUIPMENT 10-350
STRUCTURE OF BUCKET 10-351
CAB AND ITS ATTACHMENTS 10-352
ROPS CAB 10-352
CAB MOUNT 10-353
20 STANDARD VALUE TABLE 20-1

MidWestTech | Komatsu WA270-8 Wheel Loader Service Manual | Publication SEN06... Order the manual at mid-west-tech.com >

CONTENTS 20-2
ABBREVIATION LIST 20-3
STANDARD VALUE TABLE FOR ENGINE 20-9
STANDARD VALUE TABLE FOR ENGINE: WA270-8 20-9
STANDARD VALUE TABLE FOR MACHINE 20-14
STANDARD VALUE TABLE FOR MACHINE: WA270-8 20-14
MACHINE POSTURE AND PROCEDURE FOR MEASURING PERFORMANCE 20-28
30 TESTING AND ADJUSTING 30-1
CONTENTS 30-2
ABBREVIATION LIST 30-6
RELATED INFORMATION ON TESTING AND ADJUSTING 30-12
TOOLS FOR TESTING AND ADJUSTING 30-12
SKETCH OF TOOLS FOR TESTING AND ADJUSTING 30-21
ENGINE AND COOLING SYSTEM 30-22
TEST ENGINE SPEED 30-22
TEST BOOST PRESSURE 30-25
TESTING EXHAUST GAS TEMPERATURE 30-28
TEST EXHAUST GAS COLOR 30-30
TEST AND ADJUST VALVE CLEARANCE 30-34
TEST COMPRESSION PRESSURE 30-36
TEST BLOWBY PRESSURE 30-41
TEST ENGINE OIL PRESSURE 30-44
TEST EGR VALVE AND VGT OIL PRESSURE 30-46
TEST FUEL PRESSURE 30-48
TEST FUEL DISCHARGE, RETURN AND LEAKAGE 30-54
BLEED AIR FROM FUEL SYSTEM 30-61
TEST FUEL CIRCUIT FOR LEAKAGE 30-63
HANDLE CYLINDER CUT-OUT MODE OPERATION 30-65
HANDLE NO-INJECTION CRANKING OPERATION 30-66
TEST KDPF, SCR AND MUFFLER STACK FOR LOOSENESS AND DAMAGE 30-67
TEST INSTALLED CONDITION OF CYLINDER HEADS AND MANIFOLDS 30-68
TEST ENGINE PIPING FOR DAMAGE AND LOOSENESS 30-69
TEST AND ADJUST AIR CONDITIONER COMPRESSOR BELT TENSION 30-70
TEST ALTERNATOR BELT 30-72
TEST AUTOMATIC TENSIONER 30-74
WRITE ASH IN SOOT ACCUMULATION CORRECTION TO ENGINE CONTROLLER 30-77
TEST SCR RELATED FUNCTIONS 30-78
CLEAN AdBlue/DEF TANK 30-111
POWER TRAIN 30-115
TEST AND ADJUST HST OIL PRESSURE 30-115
TEST THE CONTROL PRESSURE OF TRANSFER CLUTCH 30-119
TEST DRIVE SHAFT FOR LOOSENESS, BACKLASH, AND DAMAGE 30-121
STEERING SYSTEM 30-122
TEST STEERING WHEEL 30-122
TEST AND ADJUST STEERING CIRCUIT OIL PRESSURE 30-124
BLEED AIR FROM STEERING CYLINDER CIRCUIT 30-127
BRAKE SYSTEM 30-128
RELEASE REMAINING PRESSURE IN BRAKE ACCUMULATOR CIRCUIT 30-128
TEST WHEEL BRAKE OIL PRESSURE 30-129
TEST AND ADJUST BRAKE ACCUMULATOR CHARGE PRESSURE 30-131
TEST BRAKING PERFORMANCE 30-133
TEST BRAKE PEDAL 30-134
BLEED AIR FROM BRAKE CIRCUIT 30-135
TEST LOWERING OF WHEEL BRAKE PRESSURE 30-136
TEST WEAR OF WHEEL BRAKE DISC 30-139
TEST PARKING BRAKE OIL PRESSURE 30-141
TEST PARKING BRAKE PERFORMANCE 30-143
RELEASE PARKING BRAKE MANUALLY 30-144

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Symbol	Item to be displayed	Range and method for display	Remarks

*1: Only for European Union specification

*2: Only for machines with quick coupler

*3: Only for machines with 2-stage low idle.

*4: Only for machines with secondary steering system.

OPERATOR MODE FUNCTION OF MACHINE MONITOR

These items are normally displayed. The operator can display, set these items with switch operation. Some items may require special switch operation.

Items available in the operator mode are as follows.

Category (*1)	Item	Display order (*2)	
		Y	Z
A	Display of KOMATSU logo	1	1
	Display of password input	2	-
	Display of standard screen	3	2
	Display of engine shutdown secondary switch screen		
	Display of end screen		
B	Operation of air conditioner		
	Setting and display of user menu • Energy Saving Guidance • Machine Setting and Information • Aftertreatment Devices Regeneration • SCR Information • Maintenance • Monitor Setting • User Message (including KOMTRAX messages for user)		
C	ECO Guidance		
	Display of alarm monitor		
	Display of maintenance due time over		
	Display of aftertreatment devices regeneration		
	Display of Low AdBlue/DEF Level guidance		
D	Checking function of LCD (Liquid Crystal Display)		
	Checking function of service meter and odometer		
	Function of usage limitation setting and password change		

*1: The operator mode items are classified as follows.

A: Display which is displayed from the time when the starting switch is turned to "ON" position to the time when display changes to the standard screen, and display which is displayed after starting switch is turned to "OFF" position

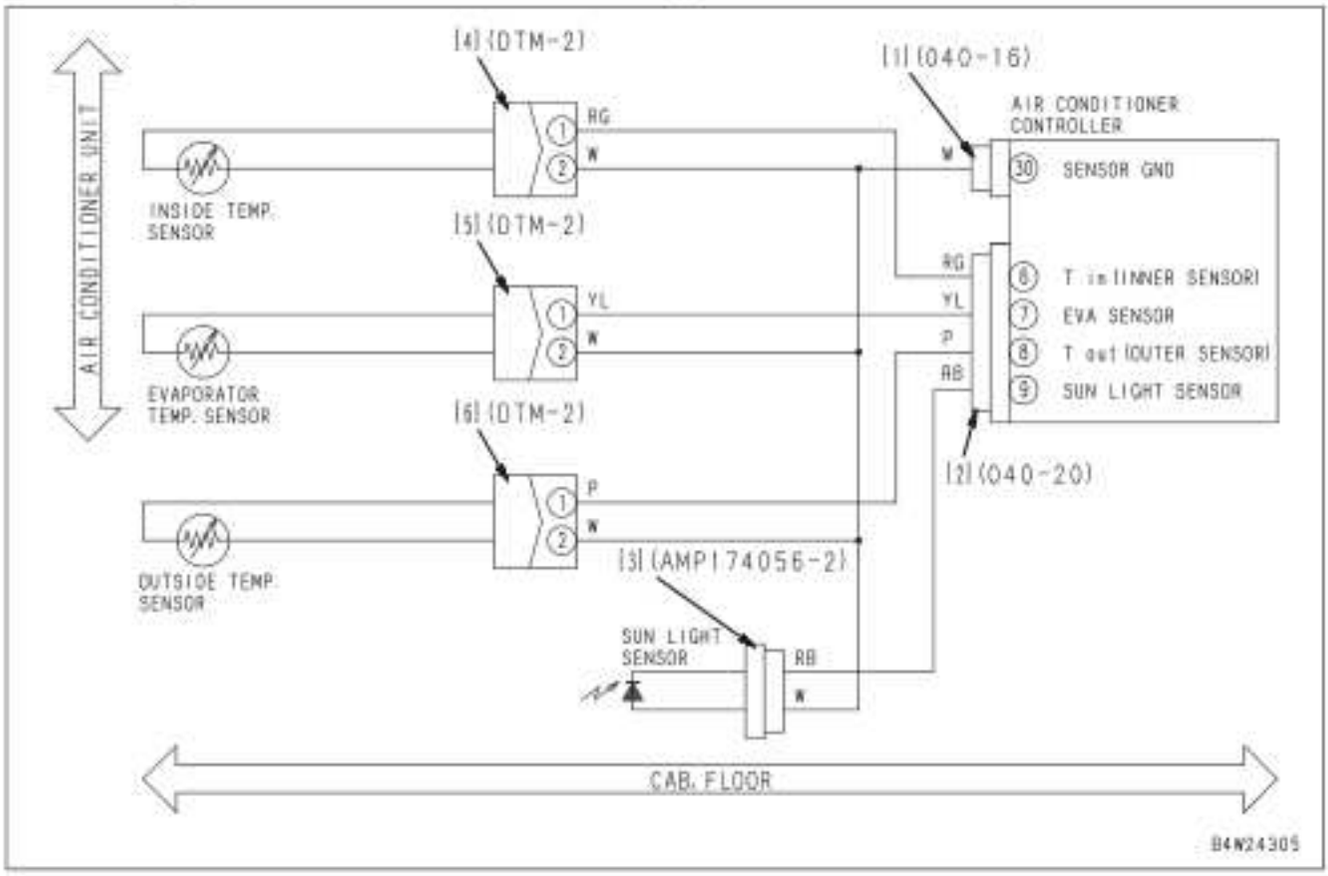
B: Display when the machine monitor switch is operated

C: Display when condition is satisfied

D: Display that requires special operations of switches

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Circuit diagram related to outside air temperature sensor electrical circuit



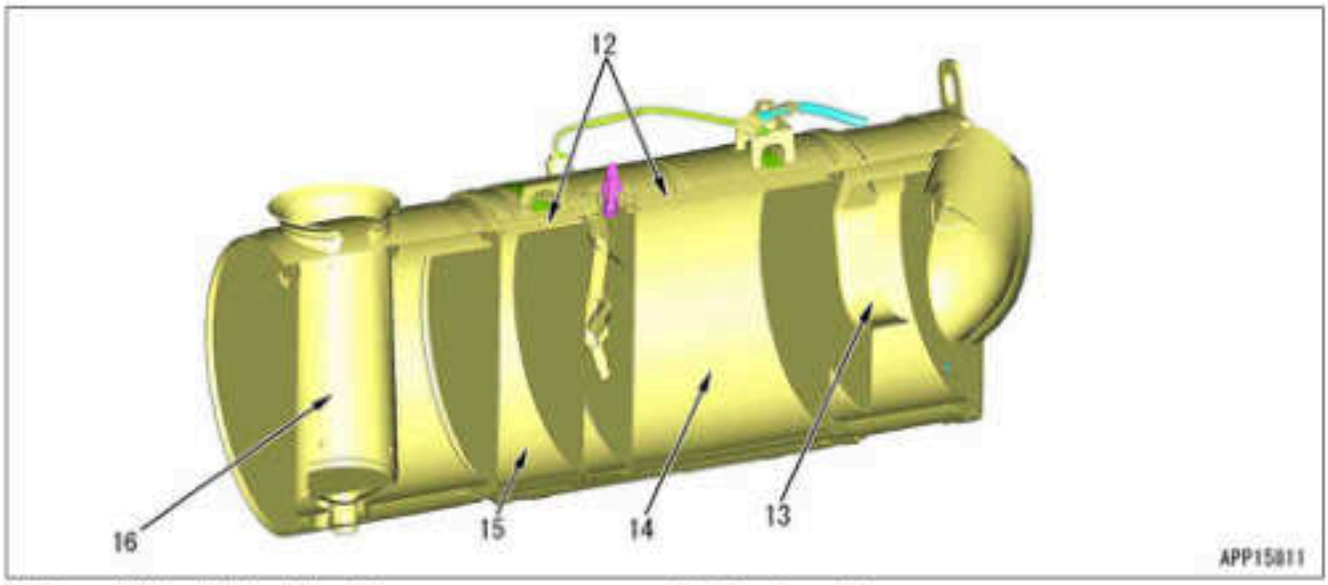
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FAILURE CODE [CA4169]

Action level	Failure code	Failure	AdBlue/DEF Pump Heater OFF Stuck Error (Engine controller system)
L01	CA4169		
Detail of failure	AdBlue/DEF pump thawing is not complete.		
Action of controller	None in particular		
Phenomenon on machine	• AdBlue/DEF pump is not thawed • NOx emission increases because AdBlue/DEF injection is disabled at low temperature.		
Related information	• On the Pre-defined Monitoring screen troubleshooting for AdBlue/DEF pump thawing control is used. • 19309 "AdBlue/DEF Pump Heater State", 1: Thawing 2: Heating 3 or 0: OFF (the figures below denote monitoring codes). Troubleshooting for AdBlue/DEF pump thawing control 19107 AdBlue/DEF Pump Heater Control Command 19309 AdBlue/DEF Pump Heater State 19136 AdBlue/DEF Pump Temperature 19304 AdBlue/DEF Pump State 19400 Ambient Temperature 03203 Battery Power Supply **NOTICE** **After investigating the cause of the problem and completing the repair, perform "Loaded Diagnostics Operation To Confirm Failure Correction" to check if the repair is completed. (Clearing the failure code does not determine the completion of repair.) (This failure code is not cleared by starting switch at ON position or "AdBlue/DEF pump heater relay drive test" only.)** • **If "AdBlue/DEF pump temperature " is 45 °C or higher when starting switch is turned to ON position, "Loaded Diagnostics Operation To Confirm Failure Correction" cannot determine if the repair is completed successfully, therefore, wait until "AdBlue/DEF pump temperature" becomes 45 °C or lower.** • **In addition, if "AdBlue/DEF pump temperature " is 55 °C or higher, "AdBlue/DEF pump heater relay drive test" in "Loaded Diagnostics Operation To Confirm Failure Correction" is disabled.**		

No.	Cause	Procedure, measuring location, criteria and remarks
1	Defective AdBlue/DEF pump system	Perform troubleshooting for failure code [CA3558] or [CA3559] or [CA2976].
2	Defective AdBlue/DEF pump heater relay system	Perform troubleshooting for failure codes [CA4155] and [CA4156].
3	Defective AdBlue/DEF pump heater	1. Perform "Loaded Diagnostics Operation To Confirm Failure Correction". 2. If the AdBlue/DEF pump temperature does not rise by at least 5 °C during the test, replace the AdBlue/DEF pump. 3. Perform "Loaded Diagnostics Operation To Confirm Failure Correction".
4	Defective engine controller	If no failure is found by above checks, engine controller is defective. (Since this is an internal defect, troubleshooting cannot be performed.)

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A: From AdBlue/DEF mixing tube
B: To exhaust pipe
1: SCR body
2: SCR temperature sensor
3: SCR outlet NOx sensor
4: SCR outlet temperature sensor
5: Temperature sensor controller
6: Ammonia sensor
7: Hanger plate
8: water baffle
9: Water drain port
10: Sensor table
11: Sensor table band
12: Catalyzer hold mat
13: Water dam
14: Downstream SCR catalyst and ammonia oxidation catalyst (integrated type)
15: Upstream SCR catalyst
16: Rectifier tube

- SCR assembly consists of rectifier tube (16) equalizing the distribution of flow speed by leading exhaust gas, upstream SCR catalyst (15), downstream SCR catalyst, ammonia oxidation catalyst (14), and water dam which prevents rain water from entering into downstream SCR catalyst and ammonia oxidation catalyst (14) while exhausting gas.
- Ammonia oxidation catalyst (a part of 14) oxidizes ammonia to water and nitrogen with ammonia oxidation catalyst (a part of 14) to prevent ammonia which is supplied to SCR assembly from being released out because SCR catalyst (a part of 14, 15)cannot completely consume it.
- Each 1 piece of SCR temperature sensor (2), SCR outlet temperature sensor (4), ammonia sensor (6), and SCR outlet NOx sensor (3) are installed. These sensors are usable for various troubleshooting, such as they are used to control the feedback of denitration efficiency or they monitor that SCR catalyst properly functions or not.
- Rectifying tube (16) equalizes the distribution of exhaust gas flow speed.
- SCR catalyst (15, a part of 14) uses the ceramic honeycomb.
- The catalyzer holding mat (12) is made of a specific fiber and protects the ceramic catalyst against vibrations by the engine and the machine body. It also protects the outer periphery of SCR assembly against a heat transfer of the ceramics during operation.
- Water dam (13) is located at the upstream side of the outlet and prevents rainwater from entering into downstream SCR catalyst unit and ammonia oxidation catalyst (14).
- Water baffle (8) is located at the downstream side of the outlet and prevents rainwater at outlet from splashing over the detection part of NOx sensor.

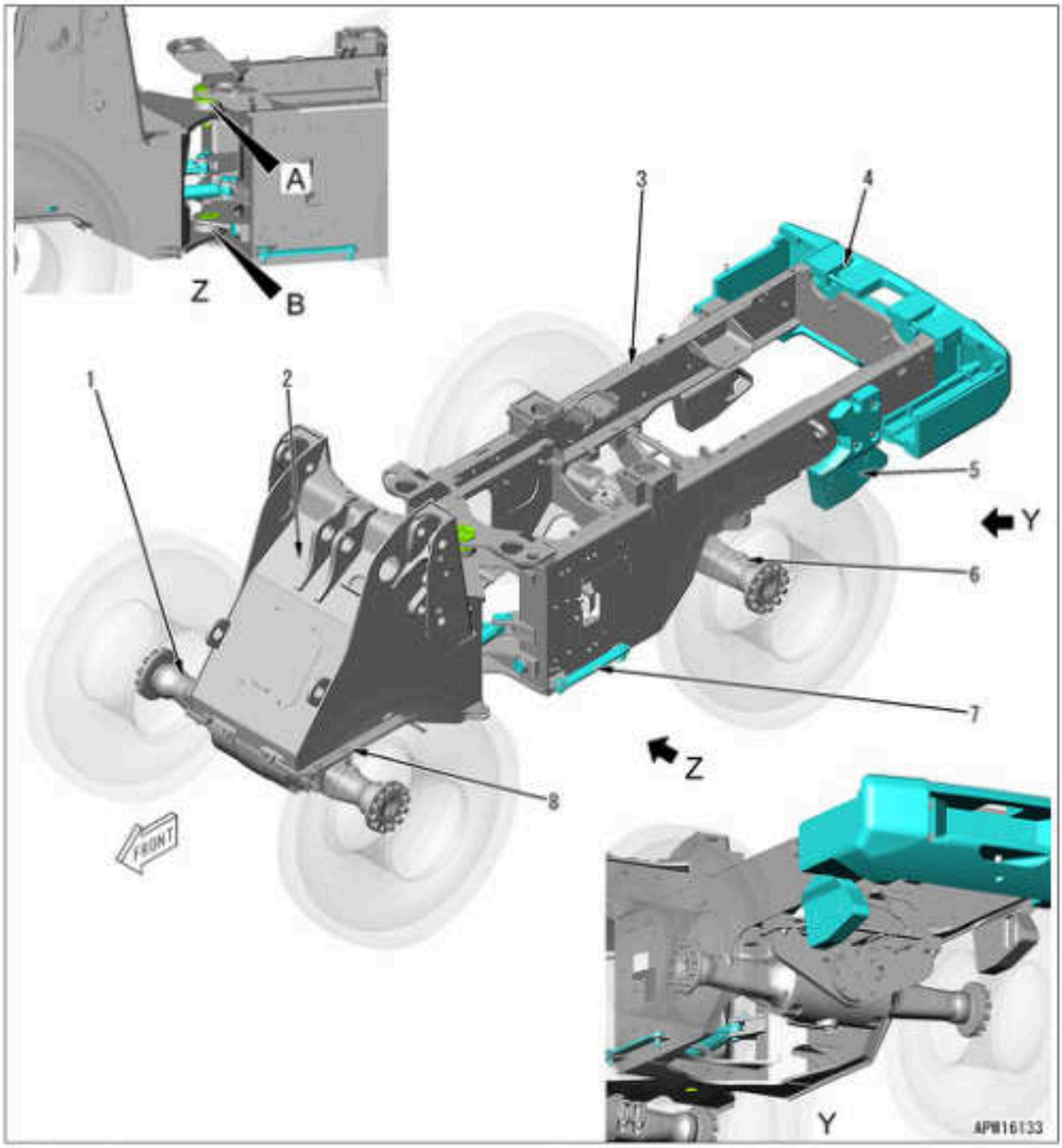
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UNDERCARRIAGE AND FRAME

FRAME, AXLE MOUNT AND CENTER HINGE PIN

STRUCTURE OF FRAME, AXLE MOUNT AND CENTER HINGE PIN

General view



1: Front axle
2: Front frame
3: Rear frame
4: Counterweight
5: Additional counterweight
6: Rear axle
7: Frame lock bar
8: Axle mount bolt

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ELECTRICAL CIRCUIT DIAGRAM OF FLOOR (1/9)

WA270–8

REMARK

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



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