CEBM031301

Shop Manual

KOMATSU®

WA270-8

WHEEL LOADER

SERIAL NUMBERS **WA270-8 A28001 and up**

ENGINE **6D107E-3**

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INDEX

00 INDEX AND FOREWORD 00-1
ABBREVIATION LIST 00-21
FOREWORD, SAFETY, BASIC INFORMATION 00-26
HOW TO READ THE SHOP MANUAL 00-26
SAFETY NOTICE FOR OPERATION 00-28
PRECAUTIONS TO PREVENT FIRE 00-36
ACTIONS IF FIRE OCCURS 00-38
PRECAUTIONS FOR DISPOSING OF WASTE MATERIALS 00-39
ACTIONS TAKEN TO MEET EXHAUST GAS REGULATIONS 00-40
PRECAUTIONS FOR DEF 00-41
STORE AdBlue/DEF 00-42
PRECAUTIONS FOR HANDLING HYDRAULIC EQUIPMENT 00-43
PRECAUTIONS FOR DISCONNECTION AND CONNECTION OF PIPINGS 00-46
PRECAUTIONS FOR HANDLING ELECTRICAL EQUIPMENT 00-52
PRECAUTIONS FOR HANDLING FUEL SYSTEM EQUIPMENT 00-54
PRECAUTIONS FOR HANDLING INTAKE SYSTEM EQUIPMENT 00-55
PRACTICAL USE OF KOMTRAX 00-56
DISCONNECT AND CONNECT PUSH-PULL TYPE COUPLER 00-57
PRECAUTIONS FOR DISCONNECTION AND CONNECTION OF CONNECTORS 00-61
METHOD FOR DISCONNECTING AND CONNECTING DEUTSCH CONNECTOR 00-65
METHOD FOR DISCONNECTING AND CONNECTING SLIDE LOCK TYPE CONNECTOR 00-66
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH LOCK TO PULL ... 00-68
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH LOCK TO PUSH .. 00-69
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH HOUSING TO ROTATE 00-71
HOW TO READ ELECTRICAL WIRE CODE 00-72
EXPLANATION OF TERMS FOR MAINTENANCE STANDARD 00-76
STANDARD TIGHTENING TORQUE TABLE 00-79
CONVERSION TABLE 00-86
01 SPECIFICATIONS 01-1
CONTENTS 01-2
ABBREVIATION LIST 01-3
SPECIFICATIONS 01-8
SPECIFICATION DRAWING 01-8
SPECIFICATIONS 01-10
WEIGHT TABLE 01-15
TABLE OF FUEL, COOLANT, AND LUBRICANTS 01-17
10 STRUCTURE AND FUNCTION 10-1
CONTENTS 10-2
ABBREVIATION LIST 10-6
UREA SCR SYSTEM 10-11
LAYOUT DRAWING OF UREA SCR SYSTEM 10-11
UREA SCR SYSTEM DIAGRAM 10-13
FUNCTION OF UREA SCR SYSTEM 10-14
COMPONENT PARTS OF UREA SCR SYSTEM 10-32
BOOT-UP SYSTEM 10-41
LAYOUT DRAWING OF BOOT-UP SYSTEM 10-41
SYSTEM OPERATING LAMP SYSTEM 10-43
BATTERY DISCONNECT SWITCH 10-44
PREHEATING SYSTEM 10-45
ENGINE SYSTEM 10-47
LAYOUT DRAWING OF ENGINE SYSTEM 10-47
ENGINE CONTROL SYSTEM 10-49
AUTOMATIC IDLE STOP SYSTEM 10-56
COMPONENT PARTS OF ENGINE SYSTEM 10-57
COOLING SYSTEM 10-76

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LAYOUT DRAWING OF COOLING SYSTEM 10-76
COOLING FAN CONTROL SYSTEM 10-78
COMPONENT PARTS OF COOLING SYSTEM 10-83
CONTROL SYSTEM 10-96
LAYOUT DRAWING OF CONTROL SYSTEM 10-96
MACHINE MONITOR SYSTEM 10-98
REARVIEW MONITOR SYSTEM 10-100
KOMTRAX SYSTEM 10-101
COMPONENT PARTS OF CONTROL SYSTEM 10-102
HYDRAULIC SYSTEM 10-144
LAYOUT DRAWING OF HYDRAULIC SYSTEM 10-144
CLSS 10-145
COMPONENT PARTS OF HYDRAULIC SYSTEM 10-148
POWER TRAIN SYSTEM 10-196
LAYOUT DRAWING OF POWER TRAIN SYSTEM 10-196
OPERATION OF POWER TRAIN SYSTEM 10-198
DIRECTIONAL SELECTOR SWITCH CONTROL FUNCTION 10-199
HST CONTROL SYSTEM 10-201
HST CHARGE SYSTEM 10-203
HST PUMP CONTROL SYSTEM 10-204
HST CONTROLLER GEAR SHIFT CONTROL FUNCTION 10-206
TRANSFER CLUTCH CONTROL FUNCTION 10-209
HST SYSTEM PROTECTION FUNCTION 10-210
MAXIMUM SPEED LOW FUEL CONSUMPTION CONTROL 10-213
KOMATSU TRACTION CONTROL SYSTEM (KTCS) 10-216
COMPONENT PARTS OF POWER TRAIN SYSTEM 10-221
WORK EQUIPMENT SYSTEM 10-267
LAYOUT DRAWING OF WORK EQUIPMENT SYSTEM 10-267
WORK EQUIPMENT CONTROL SYSTEM 10-269
WORK EQUIPMENT LOCK SYSTEM 10-270
BUCKET POSITIONER SYSTEM 10-272
FORK POSITIONER SYSTEM 10-276
REMOTE POSITIONER SYSTEM 10-280
ECSS 10-283
COMPONENT PARTS OF WORK EQUIPMENT SYSTEM 10-285
STEERING SYSTEM 10-300
LAYOUT DRAWING OF STEERING SYSTEM 10-300
STEERING COLUMN 10-301
COMPONENT PARTS OF STEERING SYSTEM 10-302
BRAKE SYSTEM 10-316
LAYOUT DRAWING OF BRAKE SYSTEM 10-316
PARKING BRAKE CONTROL SYSTEM 10-318
COMPONENT PARTS OF BRAKE SYSTEM 10-322
AUTO-GREASING SYSTEM 10-340
LAYOUT DRAWING OF AUTO-GREASING SYSTEM 10-340
SPECIFICATIONS OF AUTO-GREASING SYSTEM 10-341
FUNCTION OF AUTO-GREASING SYSTEM 10-342
COMPONENT PARTS OF AUTO-GREASING SYSTEM 10-343
UNDERCARRIAGE AND FRAME 10-344
FRAME, AXLE MOUNT AND CENTER HINGE PIN 10-344
TIRE 10-347
WORK EQUIPMENT 10-349
STRUCTURE OF WORK EQUIPMENT 10-349
STRUCTURE OF BUCKET 10-350
CAB AND ITS ATTACHMENTS 10-351
ROPS CAB 10-351
CAB MOUNT 10-352
20 STANDARD VALUE TABLE 20-1

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CONTENTS 20-2
ABBREVIATION LIST 20-3
STANDARD VALUE TABLE FOR ENGINE 20-8
STANDARD VALUE TABLE FOR ENGINE: WA270-8 20-8
STANDARD VALUE TABLE FOR MACHINE 20-13
STANDARD VALUE TABLE FOR MACHINE: WA270-8 20-13
MACHINE POSTURE AND PROCEDURE FOR MEASURING PERFORMANCE 20-27
30 TESTING AND ADJUSTING 30-1
CONTENTS 30-2
ABBREVIATION LIST 30-6
RELATED INFORMATION ON TESTING AND ADJUSTING 30-11
TOOLS FOR TESTING AND ADJUSTING 30-11
SKETCH OF TOOLS FOR TESTING AND ADJUSTING 30-20
ENGINE AND COOLING SYSTEM 30-21
TEST ENGINE SPEED 30-21
TEST BOOST PRESSURE 30-24
TESTING EXHAUST GAS TEMPERATURE 30-27
TEST EXHAUST GAS COLOR 30-29
TEST AND ADJUST VALVE CLEARANCE 30-33
TEST COMPRESSION PRESSURE 30-35
TEST BLOWBY PRESSURE 30-40
TEST ENGINE OIL PRESSURE 30-43
TEST EGR VALVE AND VGT OIL PRESSURE 30-45
TEST FUEL PRESSURE 30-47
TEST FUEL DISCHARGE, RETURN AND LEAKAGE 30-53
BLEED AIR FROM FUEL SYSTEM 30-60
TEST FUEL CIRCUIT FOR LEAKAGE 30-62
HANDLE CYLINDER CUT-OUT MODE OPERATION 30-64
HANDLE NO-INJECTION CRANKING OPERATION 30-65
TEST KDPF, SCR AND MUFFLER STACK FOR LOOSENESS AND DAMAGE 30-66
TEST INSTALLED CONDITION OF CYLINDER HEADS AND MANIFOLDS 30-67
TEST ENGINE PIPING FOR DAMAGE AND LOOSENESS 30-68
TEST AND ADJUST AIR CONDITIONER COMPRESSOR BELT TENSION 30-69
WRITE ASH IN SOOT ACCUMULATION CORRECTION TO ENGINE CONTROLLER 30-71
TEST SCR RELATED FUNCTIONS 30-72
CLEAN AdBlue/DEF TANK 30-104
POWER TRAIN 30-108
TEST AND ADJUST HST OIL PRESSURE 30-108
TEST THE CONTROL PRESSURE OF TRANSFER CLUTCH 30-112
TEST DRIVE SHAFT FOR LOOSENESS, BACKLASH, AND DAMAGE 30-114
STEERING SYSTEM 30-115
TEST STEERING WHEEL 30-115
TEST AND ADJUST STEERING CIRCUIT OIL PRESSURE 30-117
BLEED AIR FROM STEERING CYLINDER CIRCUIT 30-120
BRAKE SYSTEM 30-121
RELEASE REMAINING PRESSURE IN BRAKE ACCUMULATOR CIRCUIT 30-121
TEST WHEEL BRAKE OIL PRESSURE 30-122
TEST AND ADJUST BRAKE ACCUMULATOR CHARGE PRESSURE 30-124
TEST BRAKING PERFORMANCE 30-126
TEST BRAKE PEDAL 30-127
BLEED AIR FROM BRAKE CIRCUIT 30-128
TEST LOWERING OF WHEEL BRAKE PRESSURE 30-129
TEST WEAR OF WHEEL BRAKE DISC 30-132
TEST PARKING BRAKE OIL PRESSURE 30-134
TEST PARKING BRAKE PERFORMANCE 30-136
RELEASE PARKING BRAKE MANUALLY 30-137
TEST WEAR AMOUNT OF PARKING BRAKE DISC 30-138
HYDRAULIC SYSTEM 30-139

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Items available for Option Selection function

Item name	Default	Remarks
3rd Spool	NO ADD	When an optional component is installed, select ADD.
Load Meter	NO ADD	When an optional component is installed, select ADD.
Boom Specification	PZ	• Select PZ for the STD boom. • Select the items other than PZ for other specifications.
Tire Size Compensation	0 %	**NOTICE** **Adjust the tire size, if the display of travel speed is different from the actual travel speed. (Increasing the setting by 1 increases the travel speed by 1 from 0 setting.)** See step 4.
Tire Type	20.5	As 17.5 tire installation, select 17.5.
Secondary S/T	NO ADD	When an optional component is installed, select ADD.
2nd directional selector switch	NON	Select ADD for North America specification.
Komatsu SmartLoader Logic	ADD	Keep ADD unchanged.
Remote Positioner	ADD	Keep ADD unchanged.
PZ Auto Tilt-in Function	ADD	Keep ADD unchanged.
Quick Coupler	NO ADD	When an optional component is installed, select JAPAN SPEC or OTHERS.
Auto Idle Stop Timer Setting	NO ADD	Select ADD for North America specification.

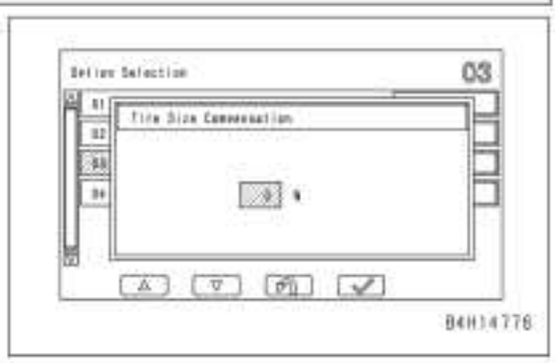
4. Select tire size compensation for compensation.

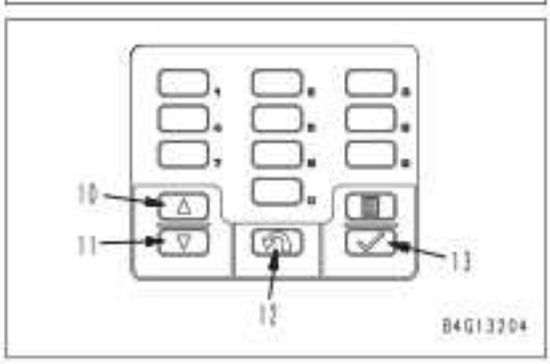
   UP switch (10): Increases the set value by 1 %

   DOWN switch (11): Decreases the set value by 1 %

   RETURN switch (12): Cancels the setting operation before validation and returns the display to the "Option Selection" screen

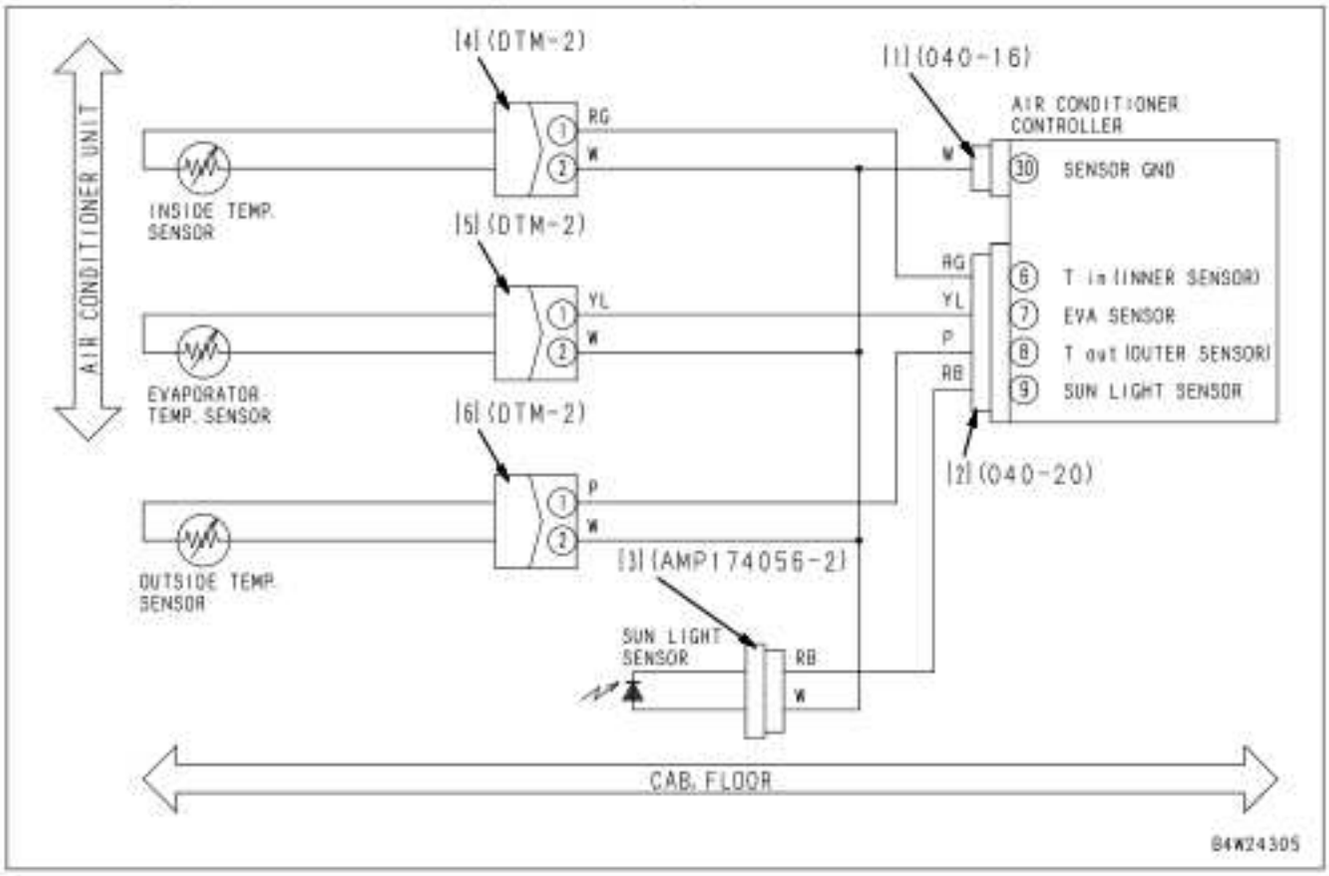
   ENTER switch (13): Enters the setting and the screen returns to "Option Selection"





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Circuit diagram related to evaporator temperature sensor electrical circuit



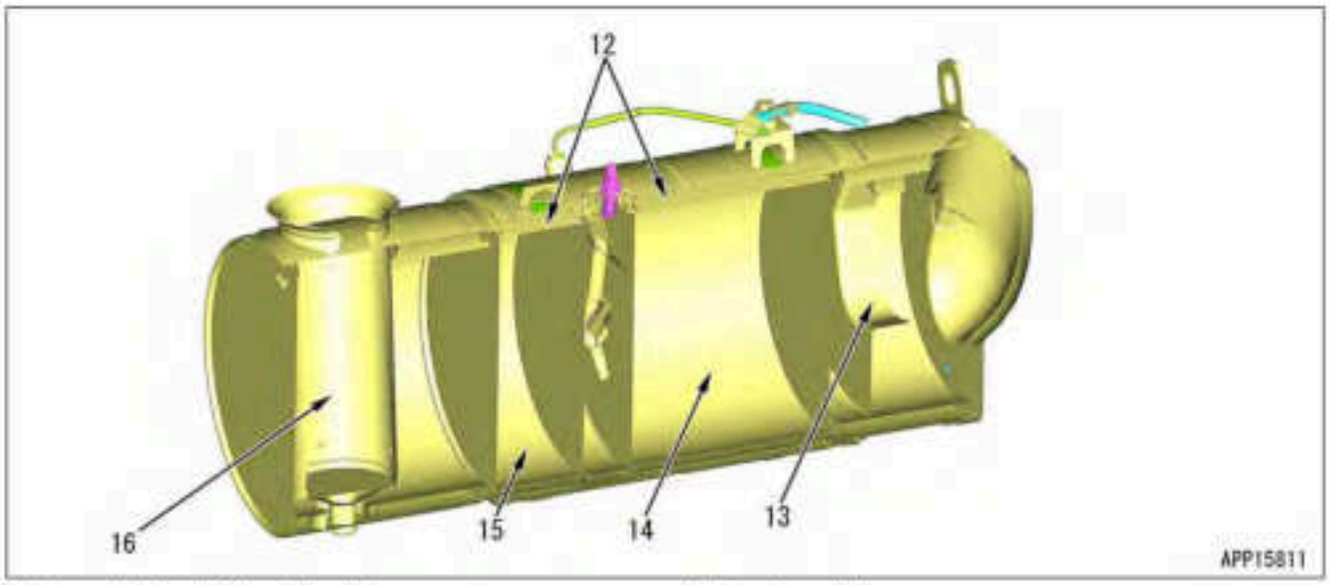
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FAILURE CODE [CA1881] KDPF Differential Pressure Sensor Low Error

Action level	Failure code	Failure	KDPF Differential Pressure Sensor Low Error (Engine controller system)
L03	CA1881		
Details of failure	Low voltage error is detected in signal circuit of KDPF differential pressure sensor.		
Action of controller	• Operates at estimated value of KDPF differential pressure sensor. (If other failure code also is displayed, operation may be performed at 0 kPa.) • EGR valve closes and KVGT opens fully. • Engine power deration • Regeneration control stops.		
Phenomenon on machine	Engine power deration		
Related information	⚠ **KDPF becomes hot (Min. 500 °C). Be careful not to get burned.** • KDPF differential pressure sensor and KDPF outlet pressure sensor are provided as a unit. • If failure code [CA3134] is also displayed instead of failure code [CA1696], it is highly possible that sensor connector is removed or wire breakage (defective contact of connector) occurs in 5 V line. • This failure code is displayed if sensor connector is disconnected. • Signal voltage from KDPF differential pressure sensor can be checked by monitoring function. (Code: 47101 (V)) • Differential pressure in KDPF differential pressure sensor can be checked by monitoring function. (Code: 47100 (kPa)) • Engine power deration is canceled when the failure code is cleared and the starting switch is turned OFF (not canceled only by deactivation of the failure code). • After repairing, check if the failure code is cleared by the following procedure. Procedure: Turn starting switch to ON position.		

No.	Cause	Procedure, measuring location, criteria and remarks		
1	Defective wiring harness connector	1. See descriptions of wiring harness and connectors in "c: Electrical equipment" in "CHECKS BEFORE TROUBLESHOOTING" of "RELATED INFORMATION ON TROUBLESHOOTING", and check it. 2. Turn starting switch to ON position.		
		If this failure code is cleared, wiring harness connector is defective.		
2	Defective sensor power supply system	If failure code [CA1695] or [CA1696] is displayed, perform troubleshooting for [CA1695] or [CA1696] first.		
		1. Turn starting switch to OFF position. 2. Disconnect connector PDPF and connect T-adapter to female side. 3. Turn starting switch to ON position.		
		Voltage	Between PDPF (female) (4) and (1)	4.75 to 5.25 V

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A: From AdBlue/DEF mixing tube
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
B: To exhaust pipe
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.

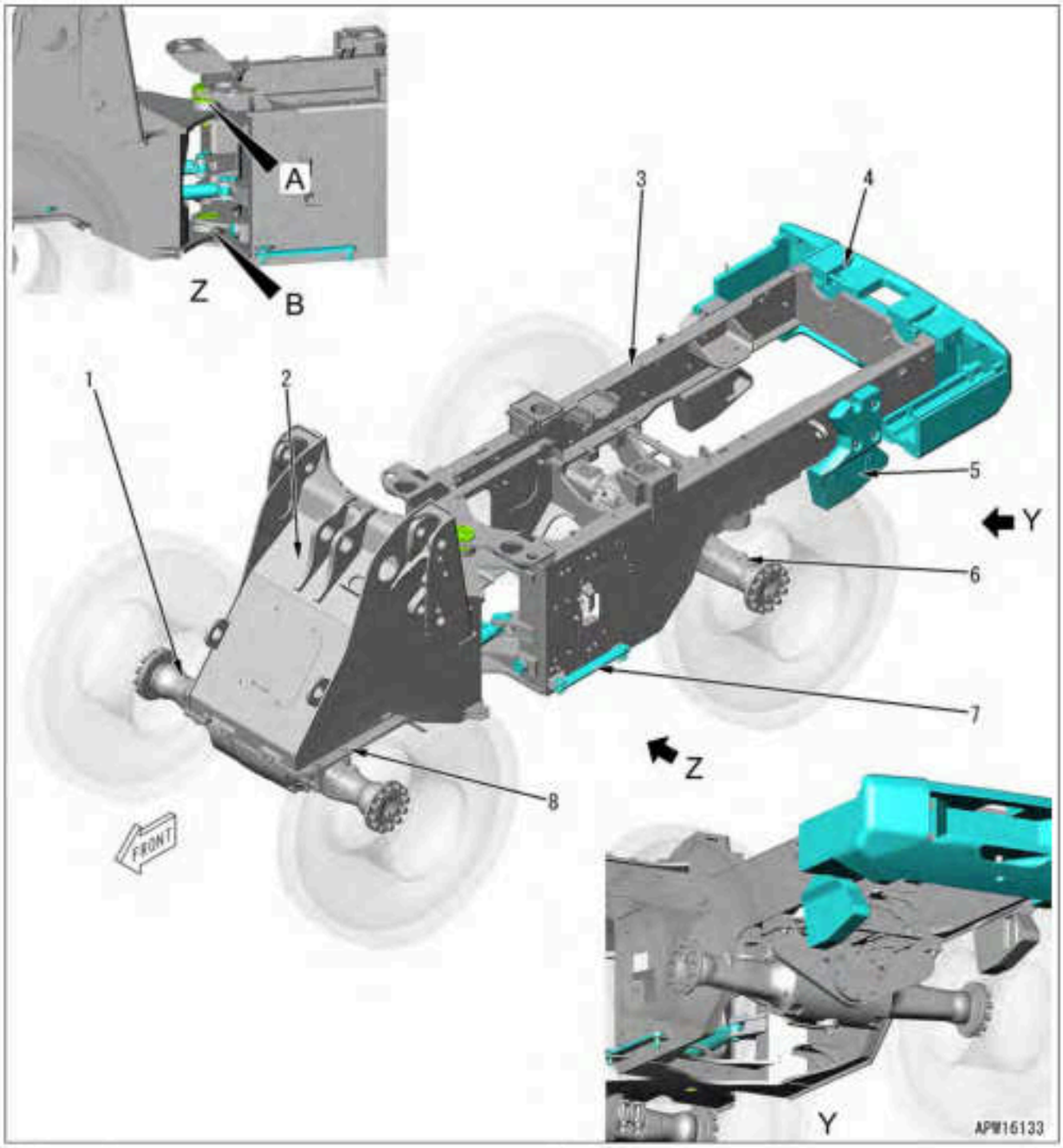
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UNDERCARRIAGE AND FRAME

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)

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REMARK

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



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