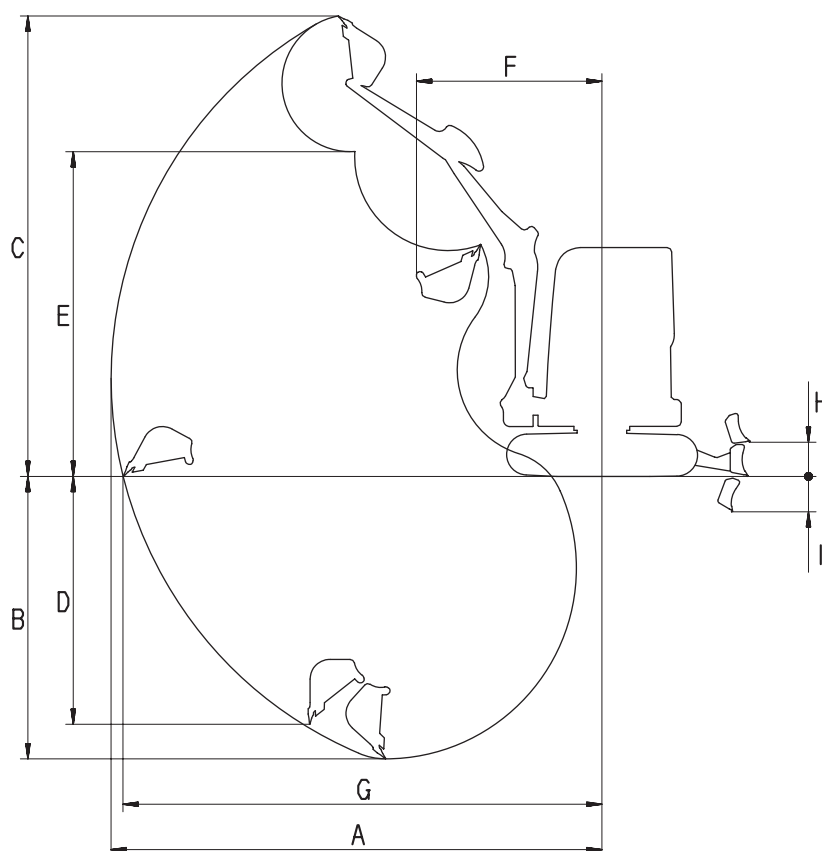


WORKING RANGE DRAWING



9JA05394

	Working range (mm)	PC27MR-2	PC30MR-2	PC35MR-2	PC35MR-2 (High altitude spec.) (S/No. 6736 and up)
A	Max. digging radius	4,700	5,150	5,360	5,360
B	Max. digging depth	2,650	2,910	3,170	3,170
C	Max. digging height	4,500	4,950	5,010	5,010
D	Max. vertical wall depth	2,185	2,475	2,720	2,720
E	Max. dumping height	3,230	3,450	3,530	3,530
F	Swing radius of work equipment <Values in () are boom swing radii>	1,910 (1,510)	2,010 (1,510)	2,080 (1,590)	2,080 (1,590)
G	Max. reach at ground level	4,550	5,060	5,225	5,225
H	Blade lifting height	360	360	360	360
I	Blade lowering depth	315	310	390	390

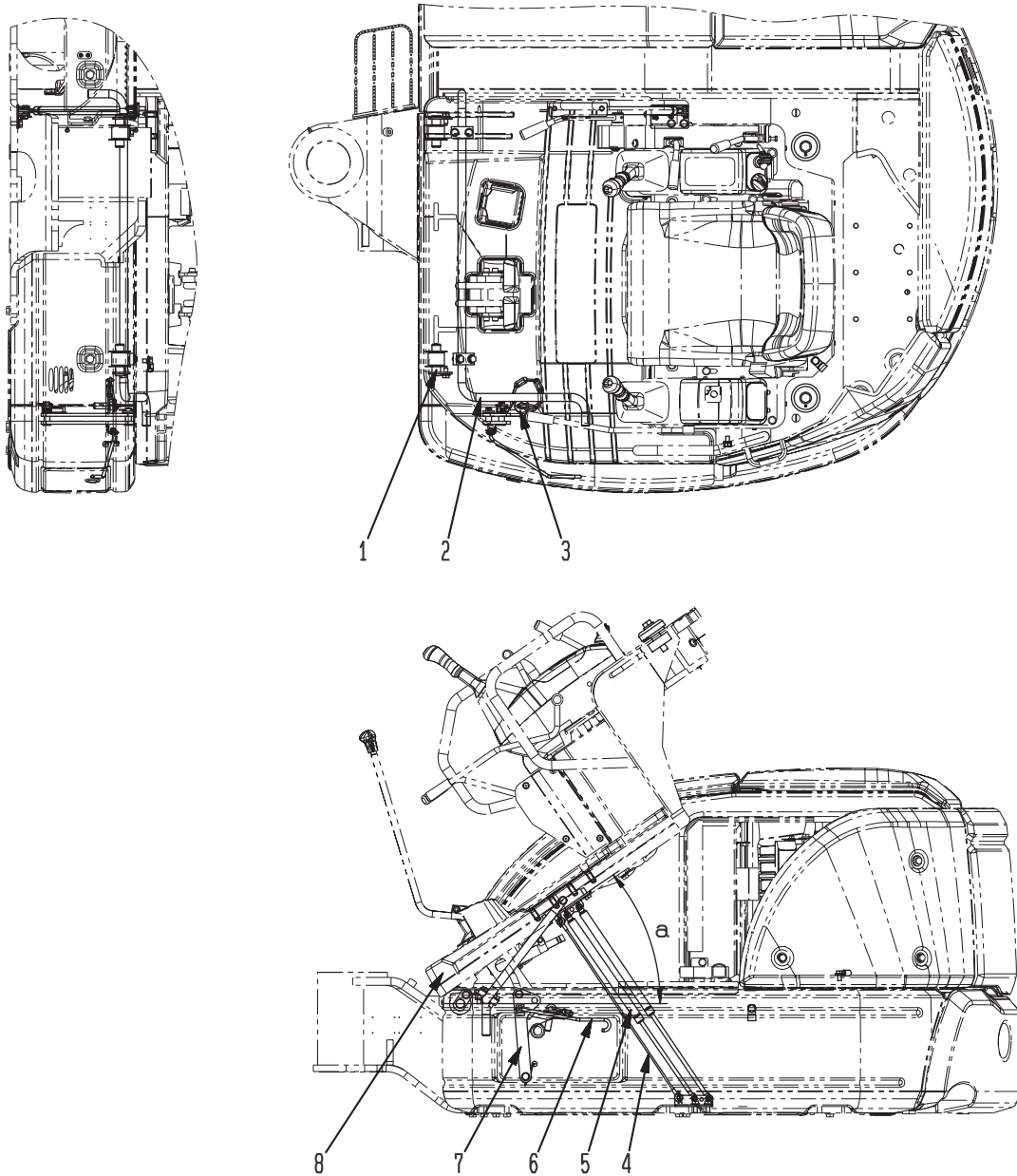
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FLOOR

TILT FLOOR

- ★ The following figure shows PC40MR with the canopy specification.
(Except PC27MR-2, Serial No. 17902 and up, and PC35MR-2, Serial No. 9242 and up for North America with the canopy specification.)



9JB01696

1. Hinge pin
2. Torsion bar
3. Lock pin
4. Wire
5. Gas spring
6. Reset lever
7. Tilt lock bracket
8. Floor assembly

OUTLINE

- The tilt floor can be tilted open for the ease of adjusting of the fan belt, inspection and maintenance such as replacement of the hydraulic hoses, etc.


Tilt open angle **a**: Approx. 35°


20 TESTING AND ADJUSTING


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★ Note the following when making judgements using the standard value tables for testing, adjusting, or troubleshooting.

1. The standard value for a new machine given in the table is the value used when shipping the machine from the factory and is given for reference. It is used as a guideline for judging the progress of wear after the machine has been operated, and as a reference value when carrying out repairs.
2. The service limit value given in the tables is the estimated value for the shipped machine based on the results of various tests. It is used for reference together with the state of repair and the history of operation to judge if there is a failure.
3. These standard values are not the standards used in dealing with claims.

 When carrying out testing, adjusting, or troubleshooting, park the machine on level ground, inset the safety pins, and use blocks to prevent the machine from moving.

 When carrying out work together with other workers, always use signals and do not let unauthorized people near the machine.

 When checking the water level, always wait for the water to cool down. If the radiator cap is removed when the water is still hot, the water will spurt out and cause burns.

 Be careful not to get caught in the fan, fan belt or other rotating parts.

STANDARD VALUE TABLE FOR ENGINE RELATED PARTS

Applicable model			PC27MR-2	
Engine			3D82AE-5M	
Item	Measurement condition	Unit	Standard value for new machine	Service limit value
Engine speed	High idle	rpm	2,780 ± 25	—
	Low idle		1,250 $^{+50}_0$	—
	Rated speed		2,600	—
Exhaust gas color	At sudden acceleration	Bosch index	Max. 4.0	5.5
	At high idle		Max. 1.0	2.0
Valve clearance (Normal temperature)	Intake valve	mm	0.20	—
	Exhaust valve		0.20	—
Compression pressure	Oil temperature: 40 – 60°C Engine speed: 250rpm	MPa {kg/cm ² }	3.16 {32}	2.45 {25}
Blow-by pressure	(Coolant temperature: operating range) At high idle	kPa {mmH ₂ O}	— {—}	— {—}
Oil pressure (SAE30W)	(Coolant temperature: operating range) At high idle	MPa {kg/cm ² }	0.29 – 0.39 {3.0 – 4.0}	Min. 0.2 {Min. 2.0}
	At low idle		Min. 0.15 {Min. 1.5}	Min. 0.1 {Min. 1.0}
Oil temperature	Whole speed range (inside oil pan)	°C	Max. 120	Max. 120
Fuel injection timing	Before Top Dead Center	°(degree)	16	—
Alternator belt tension	Deflection when pressed with finger force of approx. 98 N{10 kg}	mm	7 – 12	—

TESTING AND ADJUSTING

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LIST OF TESTING, ADJUSTING, AND TROUBLESHOOTING TOOLS

Testing/Adjusting item	Symbol	Part No.	Part Name	Q'ty	Remarks
Measuring engine speed	A	799-205-1100	Tachometer kit	1	Digital display: 6.0 – 99,999.9 rpm
Measuring coolant temperature, oil temperature, and exhaust temperature	B	799-101-1502	Digital thermometer	1	- 99.9 – 1,299°C
Measuring exhaust gas color	C	1 799-201-9001	Handy smoke checker	1	Bosch index 0 – 9 (With standard color)
		2 Commercially available	Smoke meter	1	
Adjusting valve clearance	D	Commercially available	Feeler gauge	1	—
Measuring compression pressure	E	1 795-502-1590	Compression gauge	1	0 – 6.9 MPa {0 – 70 kg/cm ² } KIT No.: 795-502-1205
		2 795-111-1110	Adapter	1	—
		3 795-101-1571	Joint	1	—
Measuring engine oil pressure	F	1 799-101-5002	Oil pressure gauge kit (Analog)	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm ² }
		790-261-1204	Oil pressure gauge kit (Digital)	1	Pressure gauge: 58.8 MPa {600kg/cm ² }
		2 799-401-2320	Oil pressure gauge	1	Pressure gauge: 0.98 MPa {10kg/cm ² }
Measuring and adjusting oil pressures in work equipment, travel, boom swing, swing, and blade circuits	G	1 799-101-5002	Oil pressure gauge kit (Analog)	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm ² }
		790-261-1204	Oil pressure gauge kit (Digital)	1	Pressure gauge: 58.8 MPa {600kg/cm ² }
		2 799-101-5220	Nipple	1	10 x 1.25 mm
		07002-11023	O-ring	1	—
Measuring LS differential pressure	H	1 799-101-5002	Oil pressure gauge kit (Analog)	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm ² }
		790-261-1204	Oil pressure gauge kit (Digital)	1	Pressure gauge: 58.8 MPa {600kg/cm ² }
		2 799-101-5220	Nipple	2	10 x 1.25 mm
		07002-11023	O-ring	2	—
		3 799-401-2701	Differential pressure gauge	1	—
		4 799-401-3100	Adapter	1	Face seal type (#02) Both male and female: 9/16-18UNF (Female: PT1/8)
		02896-11008	O-ring	1	
		5 799-401-3200	Adapter	1	Face seal type (#03) Both male and female: 11/16-16UNF (Female: PT1/8)
		02896-11009	O-ring	1	
Measuring control circuit oil pressure (oil pressure reduced by self pressure)	J	1 799-101-5002	Oil pressure gauge kit (Analog)	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm ² }
		790-261-1204	Oil pressure gauge kit (Digital)	1	Pressure gauge: 58.8 MPa {600kg/cm ² }
		2 799-401-3100	Adapter	1	Face seal type (#02) Both male and female: 9/16-18UNF (Female: PT1/8)
		02896-11008	O-ring	1	

MEASUREMENT OF OIL LEAKAGE FROM WORK EQUIPMENT CYLINDER

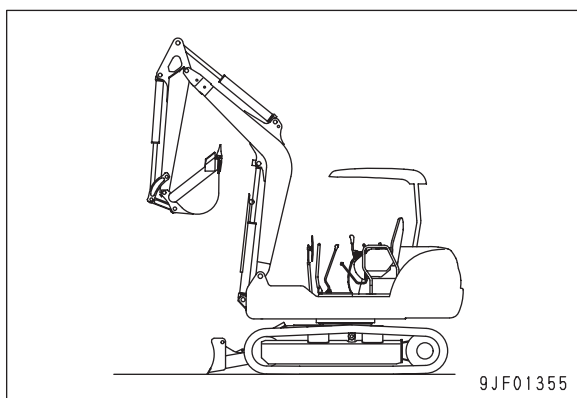
- ★ Measuring instruments for oil leakage from work equipment cylinder

Symbol	Part No.	Part name
N	Commercially available	Measuring cylinder

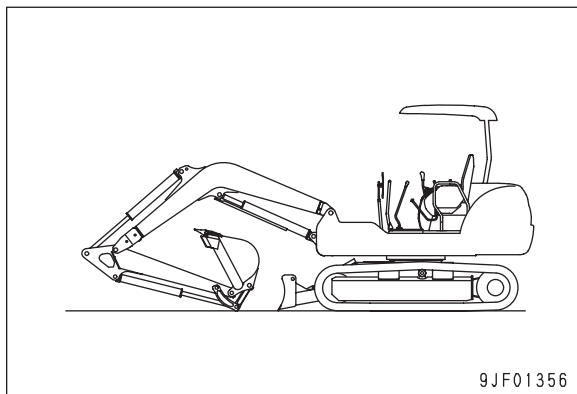
- ★ Hydraulic oil temperature for measurement:
45 – 55°C
- ★ If the hydraulic drift of the work equipment is out of the standard range, measure the leakage in the cylinder according to the following procedure to see if the cause of the hydraulic drift is on the control valve side.
- If the leakage is within the standard range, the cause is on the cylinder side.

1. Fully extend the rod of the cylinder to be measured and stop the engine.

Posture for measuring boom cylinder

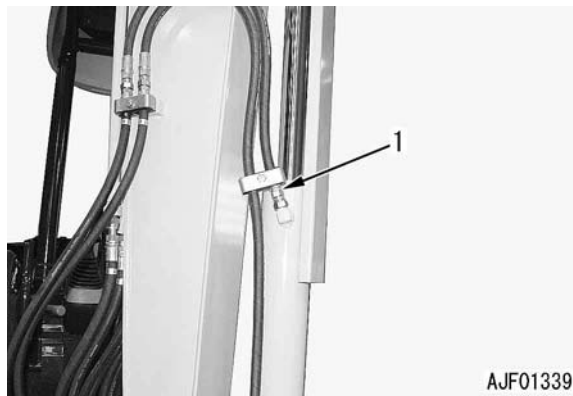


Posture for measuring arm cylinder and bucket cylinder

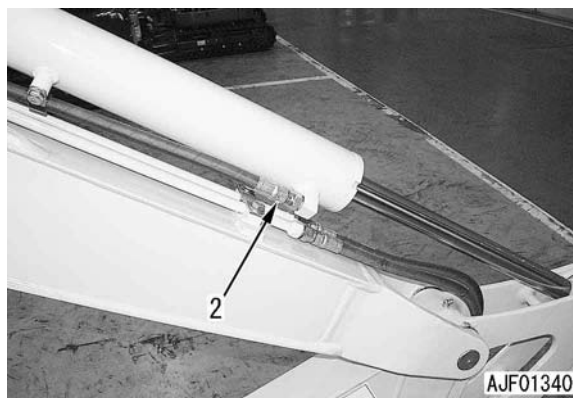


2. Disconnect the hose on the head side and plug the hose on the chassis side.
- Hose (1): Boom cylinder
 - Hose (2): Arm cylinder
 - Hose (3): Bucket cylinder

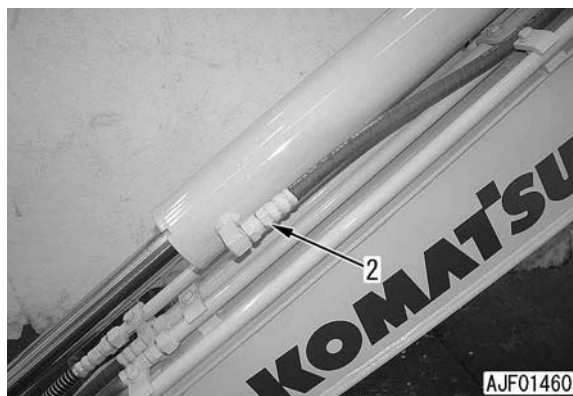
⚠ Take care not to disconnect the hose on the cylinder bottom side.



PC27, 30, 35MR-2

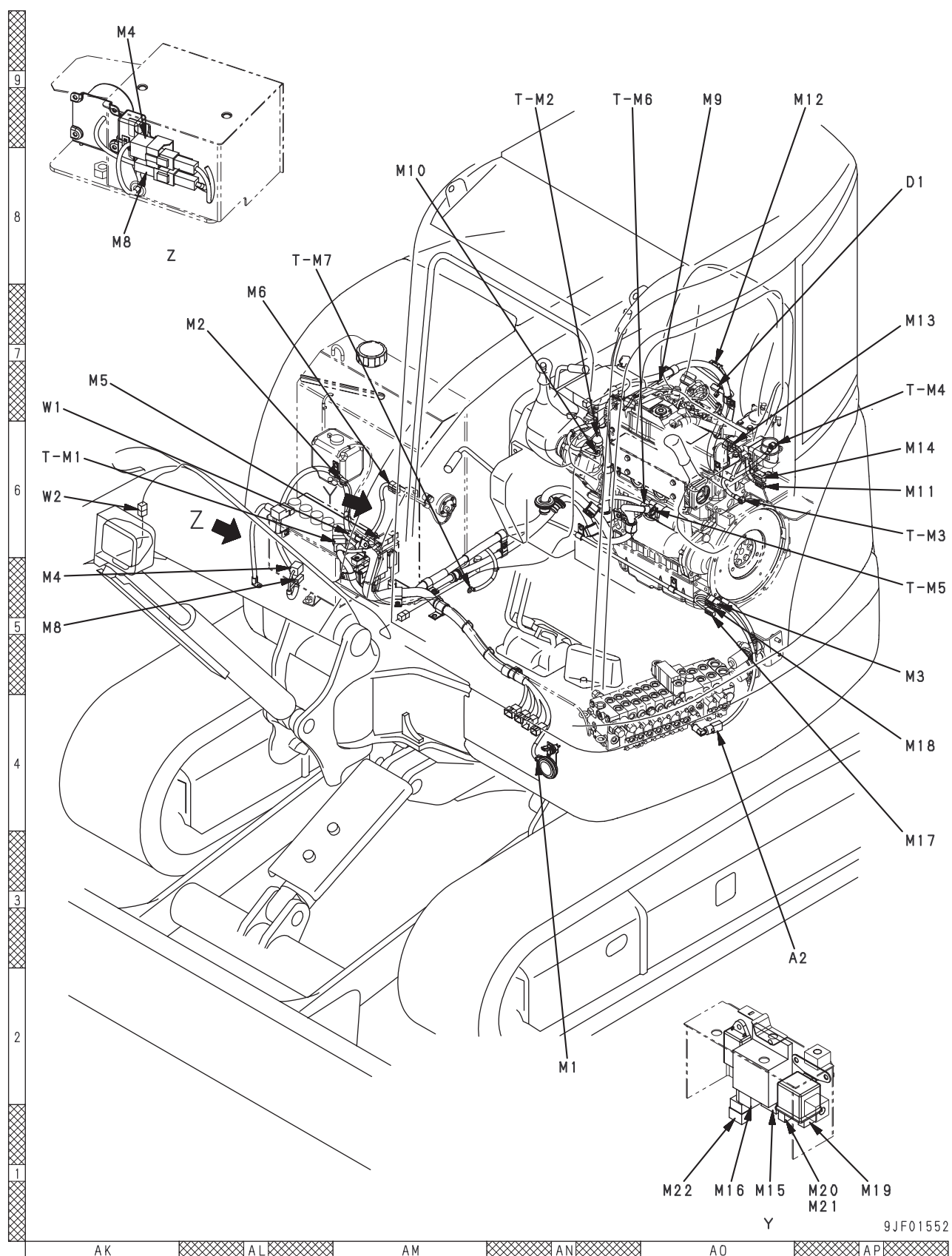


PC40, 50MR-2



PC40, 50MR-2

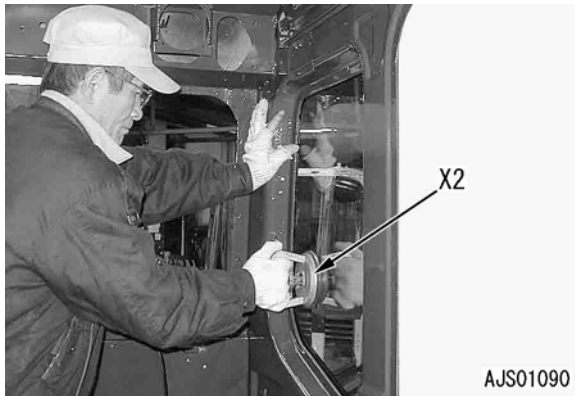
Cab specification



30 DISASSEMBLY AND ASSEMBLY

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(The figure shows the operator's cab of PC200-7.)

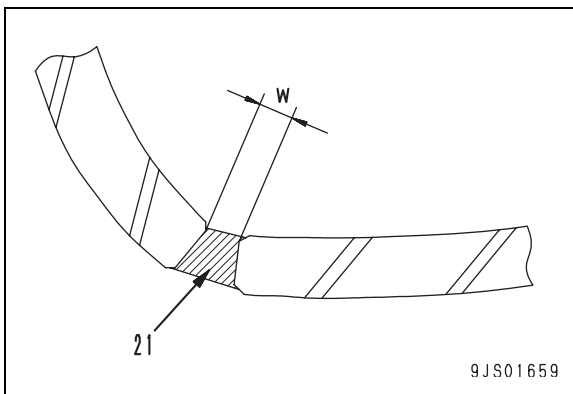


- ★ Make a clearance of the following dimension in each corner joint of the rear glass and fix the joint with caulking material (21).

- Dimension (w): 3 mm

 Caulking material:

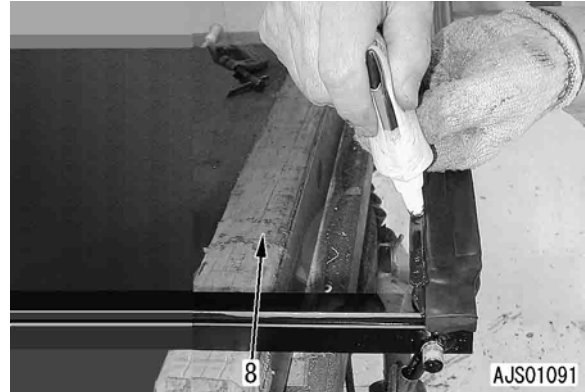
GE TOSHIBA SILICONE TOS SEAL 381



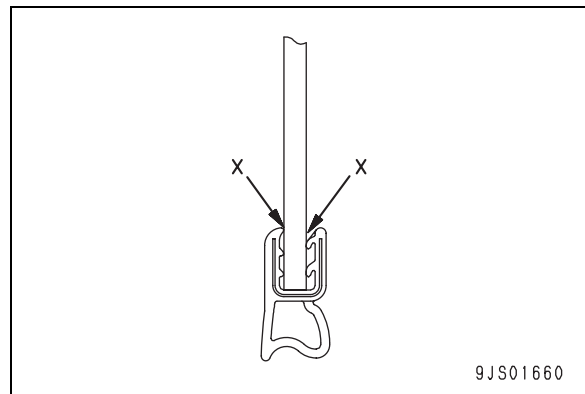
- ★ When caulking, neatly arrange the form of the adhesive at the right and left ends with a rubber spatula.

 Adhesive:

Sikaflex 256HV manufactured by Sika Japan



- ★ Apply caulking material all around the glass to fill part (x) between the glass and center trim seal.



- 7) After sticking the glass, fix it with bands, etc. for about 10 hours.
 8. Protect the stuck window glass.
 - 1) Keep the stopper rubbers, styrene foam blocks, and rubber bands installed for 10 hours (at temperature of 20°C and humidity of 60%).
 - 2) After removing the stopper rubbers, styrene foam blocks, and rubber bands, wait at least 14 hours, at least 24 hours in total, before operating the machine actually.
- ★ After installing front window glass (8), install the center trim seal to its bottom.

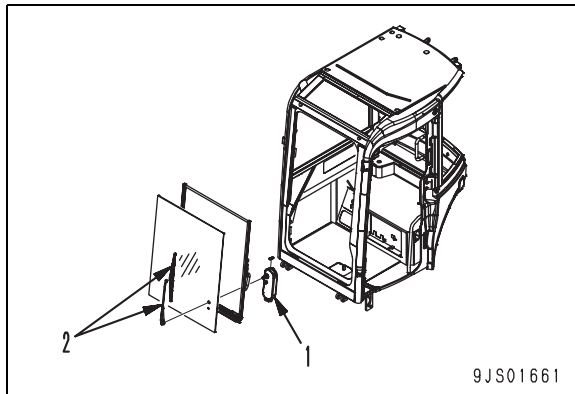
REMOVAL AND INSTALLATION OF FRONT WINDOW ASSEMBLY

⚠ Lower the work equipment to the ground and stop the engine.

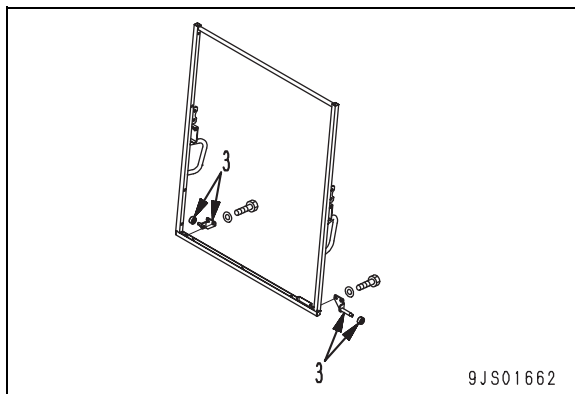
★ To replace the front window glass, the front window assembly must be removed from the operator's cab. The procedure for removing and installing the front window assembly (front frame and front window glass) is explained below.

REMOVAL

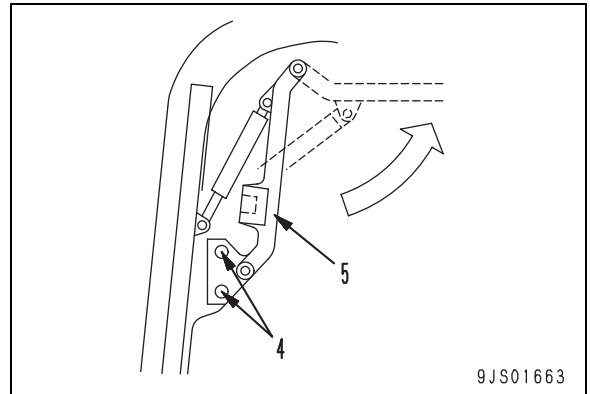
1. Lower the front window assembly.
2. Remove wiper motor (1) and wiper blade (2).
 - ★ Remove the coiled cable for the wiper from the sash and secure it in the operator's cab.



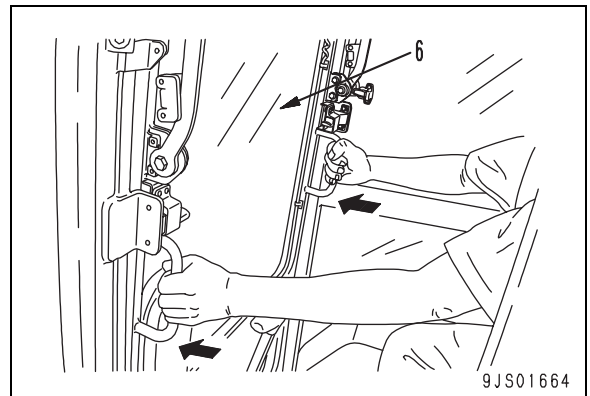
3. Remove rollers (3) (right and left) from the bottom of the sash.



4. Remove bolt (4) and separate pull-up link (5) from the sash and set it up toward the ceiling.



5. Holding the handle, release the latch and remove the front window assembly (6).



INSTALLATION

- Carry out installation in the reverse order to removal.

90 OTHERS

HYDRAULIC CIRCUIT DIAGRAM

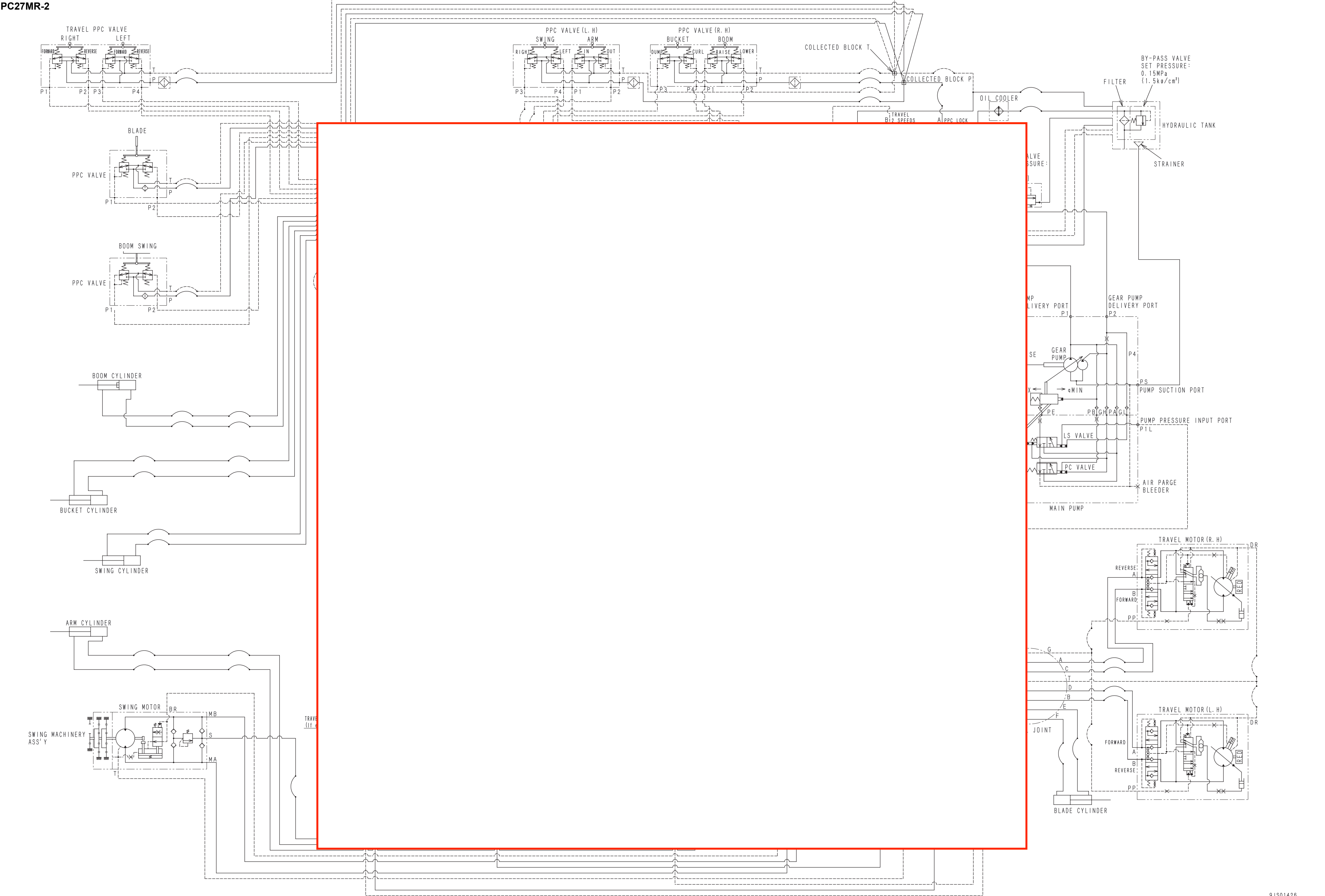
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HYDRAULIC CIRCUIT DIAGRAM

PC27MR-2



PC27MR, 30MR-2
(1/2) ☐

