KOBELCO

SHOP MANUAL

CRAWLER EXCAVATOR

215SR

ACERA TIER 3

87728457 NA

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215SR ACERA SHOP MANUAL

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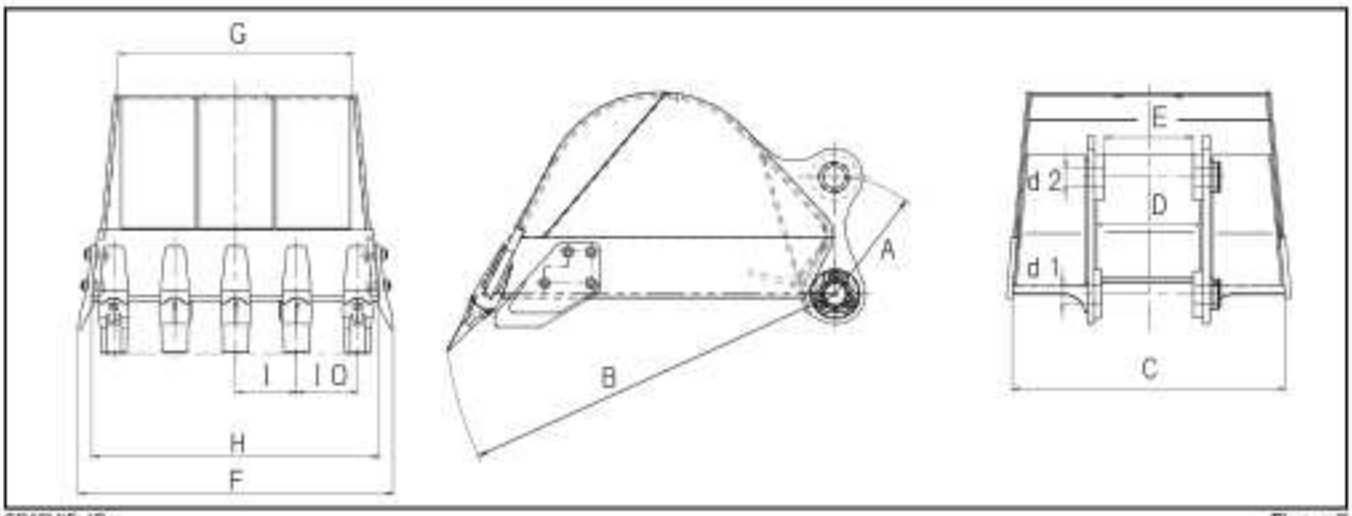
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BUCKET

Bucket Dimensional Drawing

1. Hoe bucket



GRAPHIC_1D

Figure 7

No.	NAME	No.	NAME
A	Distance between pin and bracket	G	Inner width of bucket bottom
B	Distance between bucket pin and tooth end	H	Bucket outer width of front side
C	Inner width of bucket top end	I	Pitch between teeth
D	Inner width of bracket	Io	Pitch between teeth
E	Inner width of lug	d1	Outer dia. of bushing
F	Outer width of side cutter	d2	Pin dia.

Bucket Dimensional Table

Unit : mm (ft-in)

Type	Normal digging				
Capacity	[STD] 0.80 (0.70)m^3	0.51 (0.45)m^3	0.70 (0.61)m^3	0.93 (0.80)m^3	1.05 (0.90)m^3
Part No.	YN61B00317F1	YN61B00191F1	YN61B00160F1	YN61B00158F1	YN61B00159F1
A	R430 (16.9 in)	←	←	←	←
B	R1,440 (4-9)	←	←	←	←
C	1,003 (3-3)	711 (2-4)	922 (3-0.3)	1,173 (3-10)	1,303 (4-3.3)
D	399 (1-3.7)	←	←	←	←
E	327 (12.9 in)	←	←	←	←
F	1,157 (4-0)	870 (2-10.3)	1,080 (3-6.5)	1,330 (4-4.4)	1,460 (4-9.5)
G	863 (34)	572 (1-10.5)	785 (2-6.9)	1,036 (3-4.8)	1,166 (3-9.9)
H	1,057 (3-6)	766 (2-6.2)	979 (3-2.5)	1,230 (4-0.43)	1,360 (4-5.5)
I	224 (8.82 in)	300 (11.8 in)	203 (8.0 in)	266 (10.5 in)	240 (9.45 in)
IO	224 (8.82 in)	300 (11.8 in)	203 (8.0 in)	266 (10.5 in)	238 (9.37 in)
d1	ø 95 (3.74 in)	←	←	←	←
d2	ø 80 (3.15 in)	←	←	←	←

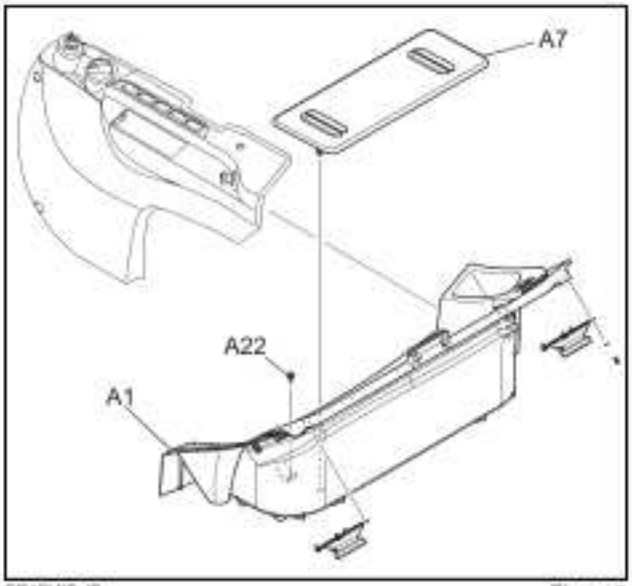
Bucket capacity : SAE heaped (Stuck)

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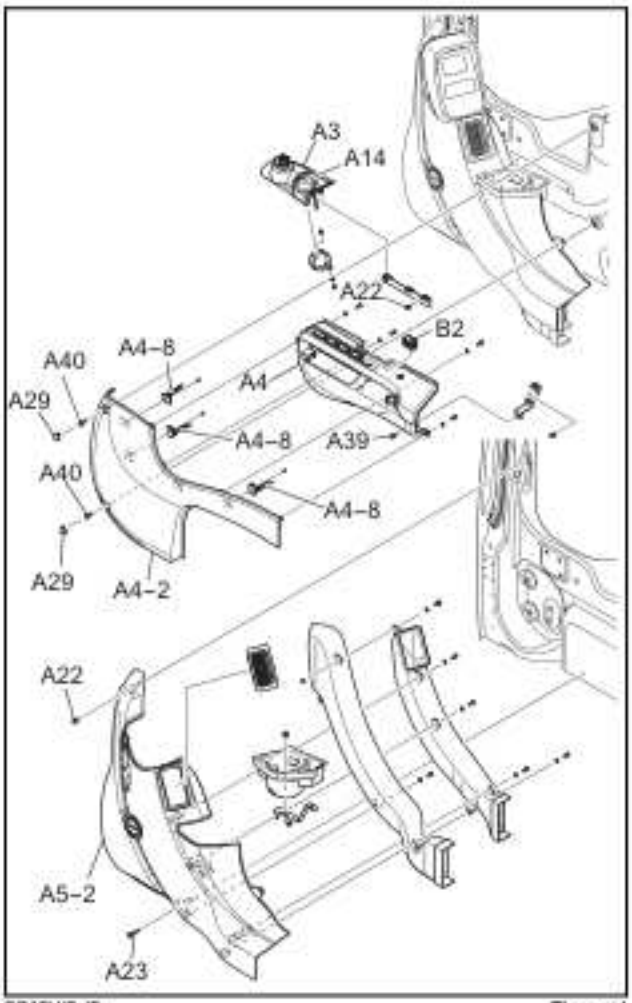
CAB

Removal

1. Remove floor mat.
2. Remove cover (A7)
   Lift cover (A7) upwards and remove it. (Fixed with 2 clips)
3. Remove cover assy (A1)
   A. Loosen 4 sems bolts (A22) M6×16 and lift cover assy (A1) up.
   B. Disconnect each connector for both speakers. Then remove cover assy (A1).
4. Remove the harness connector.
   A. Disconnect connectors of cab harness (CN-515), (CN-518), (CN-71) (CN-72) and (CN-500) at rear right of cab.
   B. Disconnect antenna cable coming from backside of tuner at rear left of cab.
5. Remove the plastic tube for the window washer from the rear left of cab.
6. Remove the right panel of cab
   A. Remove 2 caps (A29) loosen 2 sems bolts (A40) M6×30 and 1 sems bolt (A39) M6×16. And right panels (A4) and (A4-2) are freed.
   B. Lift cover (A3) upwards and remove it. (Fixed with 3 claws and 2 clips)
   C. Unfix 3 harness clips (A4-8) of inside on right panel (A4-2). And free the harnesses connected to key switch.
   D. With harnesses are connected condition, install key switch cover (A3) to bracket (A1) of rear cab temporally.
   E. Disconnect harness connectors of work light switch on right panel (A4), air conditioner panel and cigarette lighter, and remove right panel (A4) and (A4-2).
   F. Loosen sems bolts (A22) M6×16 and (A23) M6×45 one each, and remove front panel (A5-2) with air conditioner duct.



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Figure 3



GRAPHIC_ID
Figure 4

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Table 98

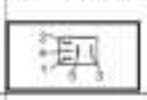
Error code	R034		
Trouble	Wiper motor reverse rotation relay error		
Judging condition	The Mechatro controller output line to wiper motor reverse rotation relay is short-circuited with the power source.		
Symptom	Wiper does not move after forward rotation.		
Control in the event of failure	Relay output is stopped.		
Returned in normal condition	When the power is OFF		
Service diagnosis checking screen	Screen No.	25	CCW MOTOR RLY
	Screen No.		
	Screen No.		
Checking object			Checking contents and remedy
1	• Wiper motor reverse rotation relay R-30		When error is cancelled after removing wiper motor reverse rotation relay, check relay unit for failure, replace it with new one if failed. When resistance between relays (1) and (2) is 0 Ω it is in abnormal condition. 
2	• Wiring between wiper motor forward rotation relay and controller CN-109F, CN2-1 •Fuse & relay box E-1		When R034 is left displayed with the relay removed Check that no power 24V is produced on relay (-) line according to the wiring checking procedure and replace it if necessary. When no failure found after checking on wiring and R034 is left displayed Replace fuse/relay box.
3	• Mechatro controller		Check that the error is corrected after replacement of controller.

Table 99

Error code	R044		
Trouble	Washer motor relay error		
Judging condition	The Mechatro controller output line to washer motor relay is short-circuited with the power source.		
Symptom	Washer motor does not move.		
Control in the event of failure	Relay output is stopped.		
Returned in normal condition	When the power is OFF		
Service diagnosis checking screen	Screen No.	25	MOTOR RELAY
	Screen No.		
	Screen No.		
Checking object			Checking contents and remedy
1	• Washer motor relay R-32		When error is cancelled after removing washer motor relay, check relay unit for failure, replace it with new one if failed. When resistance between relays (1) and (2) is 0Ω it is in abnormal condition. 
2	• Wiring between washer motor relay and controller CN-112F, CN2-1 •Fuse & relay box E-1		When R044 is left displayed with the relay removed Check that no power 24V is produced on relay (-) line according to the wiring checking procedure and replace it if necessary. When no failure found after checking on wiring and R044 is left displayed Replace fuse/relay box.
3	• Mechatro controller		Check that the error is corrected after replacement of controller.

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3. Installing feedback lever
   Insert pin (897) of feedback lever (611) into the pin hole of the sleeve and fix the feedback lever with fulcrum plug (614).

IMPORTANT: *Operate the feedback lever and make sure that it does not have much looseness and that it operates without catching.*

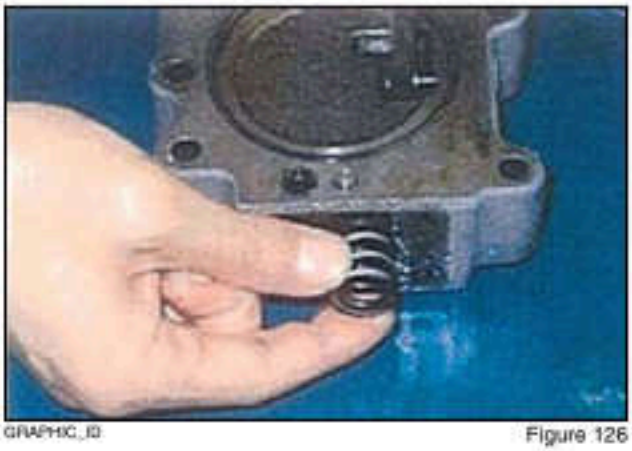


GRAPHIC_ID Figure 125

4. Installing spring seat, pilot spring and plunger
   Place spring seat (624), pilot spring (646) and plunger (627) into the hole in the sleeve.

5. Installing cover
   Attach cover (656) to casing (601) and fasten them together with socket bolts (402).

NOTE: *The cover is fitted with adjusting screw (924) and hex nut (801).*



GRAPHIC_ID Figure 126

6. Assembling the Pf sleeve and the pilot piston
   Assemble Pf sleeve (631) and pilot piston (643) into casing (601).



GRAPHIC_ID Figure 127

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Assembling spindle

1. Set spindle (101) on work bench.
2. Fit outer ring of taper roller bearing (149) into the center hole of spindle.
3. Place piston (161) in the cylinder hole of spindle.
4. Place steel balls (162) in piston hole.

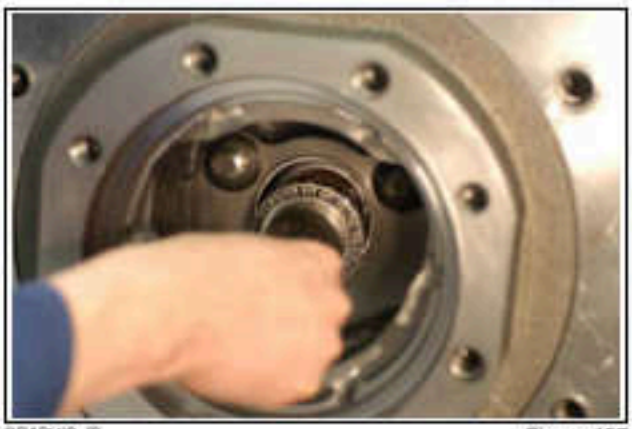
NOTE: *Apply grease to the steel ball to fix on the piston hole to be sure the steel ball does not drop out of the piston during assembly which will be carried out later.*



GRAPHIC_ID Figure 136

5. Attach L side of pivot (167) to the left side in the picture.
6. Insert shaft (102).

NOTE: *Apply grease to spline of shaft and slowly insert it taking care not to damage the lip of oil seal.*



GRAPHIC_ID Figure 137

Assembling rotary section

1. Apply grease to the sliding surface of swash plate (103) and pivot.
2. Tilt the swash plate and place it in spindle.

NOTE: *Make sure that the speed is changed in High and Low smoothly while blowing air through the drilled hole after assembling the swash plate in.*

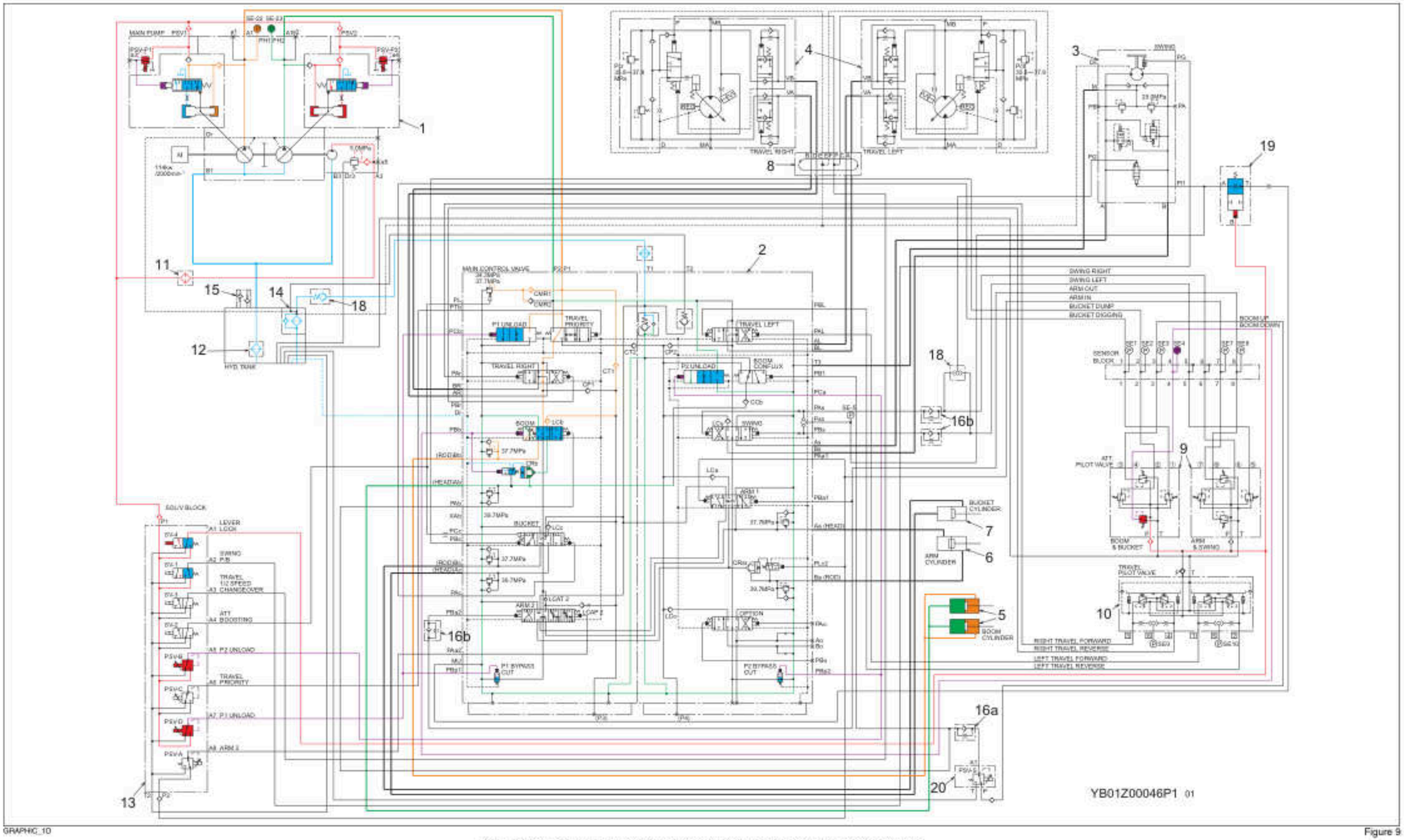
NOTE: *Apply clean hydraulic oil to the sliding surface of swash plate.*



GRAPHIC_ID Figure 138

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SECTION 3 - SYSTEMS
CHAPTER 2 - HYDRAULIC SYSTEM



GRAPHIC_10

Figure 9

BOOM CIRCUIT : BOOM DOWN OPERATION & PREVENTION OF NATURAL BOOM FALLING.

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