NEW HOLLAND

CRAWLER EXCAVATOR

E135B TIER 3 REVISION 1

SERVICE MANUAL

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NEW HOLLAND CONSTRUCTION

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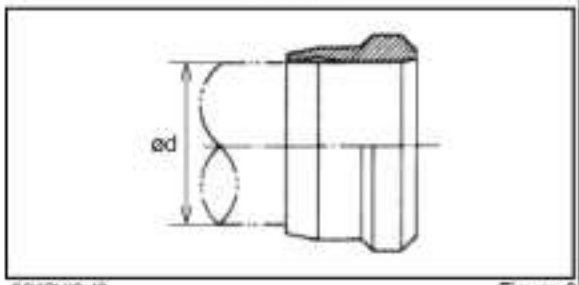
TIGHTENING TORQUES FOR NUTS AND SLEEVES

Table 3 indicates standard tightening torques applicable to cases where no particular note is given.
Overtightening or undertightening of nuts and sleeves in FLARELESS JOINT may develop oil leaks through pipe connections.
Always tighten nuts and sleeves to proper torques.

Table -3

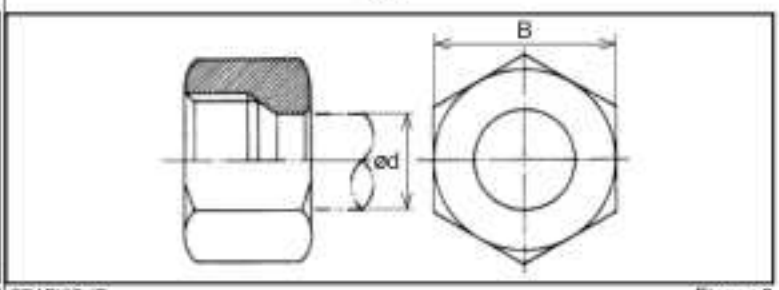
Manufacturer's name	Working pressure MPa (psi)	Tube size OD × thickness mm (in)	Opposing flats (HEX) mm	Tightening torque Nm (pound-ft)
Nippon A.M.C.	29.4 (4270)	ø10×1.5 (0.394×0.059)	19	49.0±9.8 (36±7.2)
		ø15×2.0 (0.591×0.079)	27	118±12 (87±8.7)
		ø18×2.5 (0.709×0.098)	32	147±15 (110±11)
		ø22×3.0 (0.866×0.118)	36	216±22 (160±16)
		ø28×4.0 (1.10×0.157)	41	275±27 (200±20)
Ihara Koatu	29.4 (4270)	ø35×5.0 (1.38×0.197)	55	441±44 (330±33)

SLEEVE



GRAPHIC_ID Figure 8

NUT



GRAPHIC_ID Figure 9

Tube size ød	Parts No.		Tube size ød	Opposing flats (HEX) mm	Parts No.	
	Ihara Koatu	Nippon A.M.C.			Ihara Koatu	Nippon A.M.C.
6	ZF93S06000	—	6	14	ZF93N06000	—
8	ZF93S08000	—	8	17	ZF93N08000	—
10	ZF93S10000	ZA93S10000	10	19	ZF93N10000	ZA93N10000
12	ZF93S12000	—	12	22	ZF93N12000	—
15	ZF93S15000	ZA93S15000	15	27	ZF93N15000	ZA93N15000
18	ZF93S18000	ZA93S18000	18	32	ZF93N18000	ZA93N18000
22	ZF93S22000	ZA93S22000	22	36	ZF93N22000	ZA93N22000
28	ZF93S28000	ZA93S28000	28	41	ZF93N28000	ZA93N28000
32	ZF93S32000	—	32	50	ZF93N32000	—
35	ZF93S35000	ZA93S35000	35	55	ZF93N35000	ZA93N35000
38	ZF93S38000	—	38	60	ZF93N38000	—

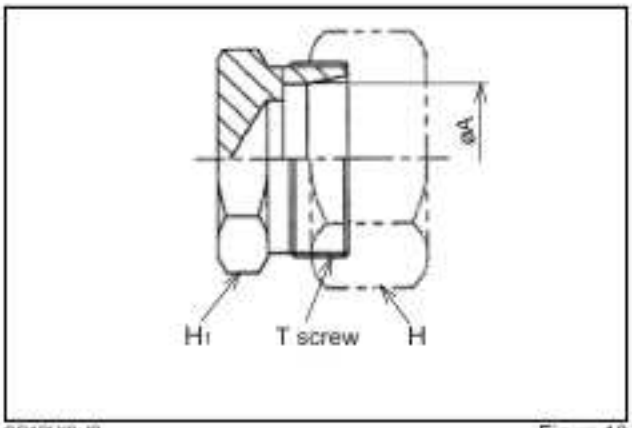
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PLUGS

PLUG FOR HYDRAULIC PIPE JOINT

1. Cap nut (Joint plug)

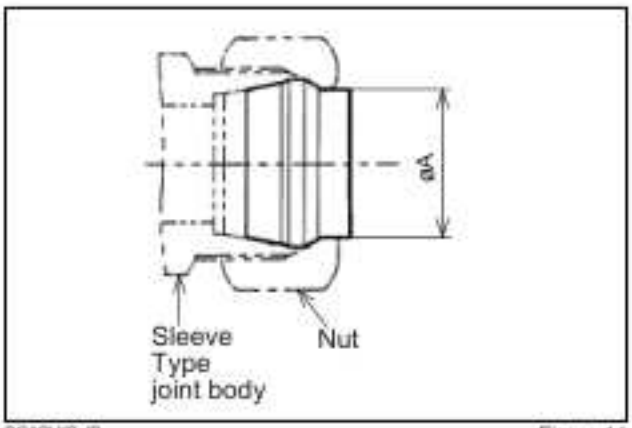
Applicable tube O.D.: A	Cap nut parts No.	T screw	Opposing flats	
			H_1	H
6	ZF83H06000	M12x1.5	14	14
8	ZF83H08000	M14x1.5	17	17
10	ZF83H10000	M16x1.5	17	19
12	ZF83H12000	M18x1.5	19	22
15	ZF83H15000	M22x1.5	24	27
18	ZF83H18000	M26x1.5	27	32
22	ZF83H22000	M30x1.5	32	36
28	ZF83H28000	M36x1.5	38	41



GRAPHIC_ID Figure 10

2. Plug (Tube plug)

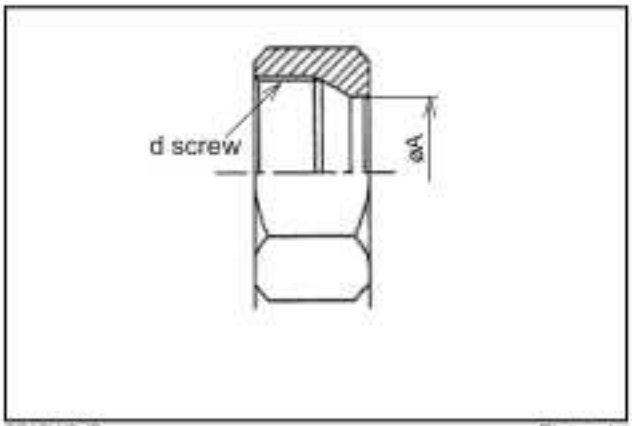
Applicable tube O.D.: A	Plug parts No.
6	ZF83P06000
8	ZF83P08000
10	ZF83P10000
12	ZF83P12000
15	ZF83P15000
18	ZF83P18000
22	ZF83P22000
28	ZF83P28000



GRAPHIC_ID Figure 11

3. Nut

Applicable tube O.D.: A	Cap nut parts No.	d screw	Opposing flats
6	ZF93N06000	M12x1.5	14
8	ZF93N08000	M14x1.5	17
10	ZF93N10000	M16x1.5	19
12	ZF93N12000	M18x1.5	22
15	ZF93N15000	M22x1.5	27
18	ZF93N18000	M26x1.5	32
22	ZF93N22000	M30x1.5	36
28	ZF93N28000	M36x1.5	41
32	ZF93N32000	M42X1.5	50
35	ZF93N35000	M45X1.5	55
38	ZF93N38000	M48X1.5	60



GRAPHIC_ID Figure 12

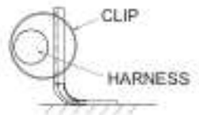
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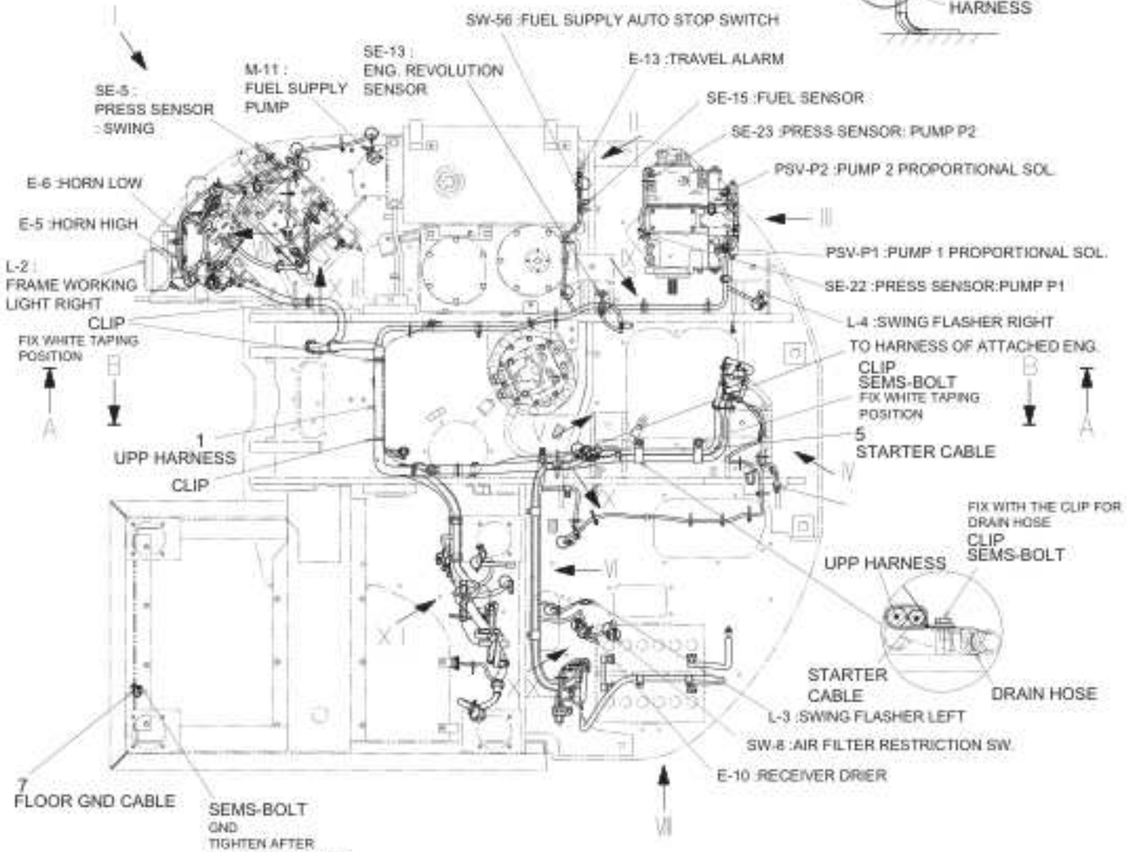
SECTION 3 - SYSTEMS
CHAPTER 3 - ELECTRIC SYSTEM

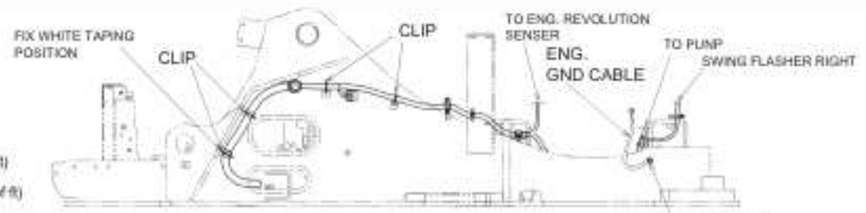
Upper Harness Assembly (1/8)

UPPER HARNESS ASSY		YY13E00052F1	(01)	
ITEM	PART NAME	PART No.	Q'TY	REMARKS
1	HARNESS	YY13E01172P1	1	UPP
1-3	FUSE	YY73S00003P1	1	
1-4	BOX,FUSE	LE73E00001S001	1	
2	CABLE	YY13E01144P1	1	BATTERY-BATTERY
3	CABLE	YY13E01130P1	1	BATTERY-GND
4	CABLE	YY13E01139P1	1	BATTERY-RELAY
5	CABLE	YY13E01138P1	1	STARTER
6	HARNESS	YY13E01148P1	1	SUB HARNESS (ECU)
7	CABLE	LE13E01006P1	1	FLOOR GND

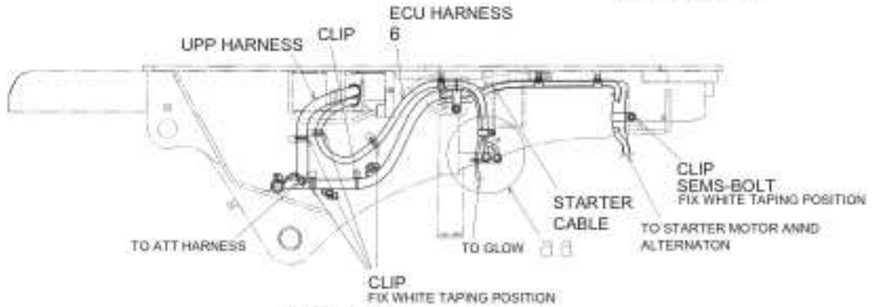
NOTES:
(1) TIGHTENING TORQUE OF BATTERY TERMINALS ARE 3.4N·m. (2.5lbf·ft)
(2) TIGHTENING TORQUE OF GROUNDING CABLES ARE 10.7N·m. (7.89lbf·ft)
(3) UNLESS OTHERWISE SPECIFIED TIGHTENING TORQUE IS SHOWN BELOW.
M6 : 9.6N·m (7.08lbf·ft)
M8 : 23.5N·m (17.3lbf·ft)
M10 : 46.1N·m (34lbf·ft)
M12 : 79.4N·m (58.6lbf·ft)
(4) UNLESS OTHERWISE SPECIFIED, THE INSTALLING PROCEDURE IS SHOWN BELOW.



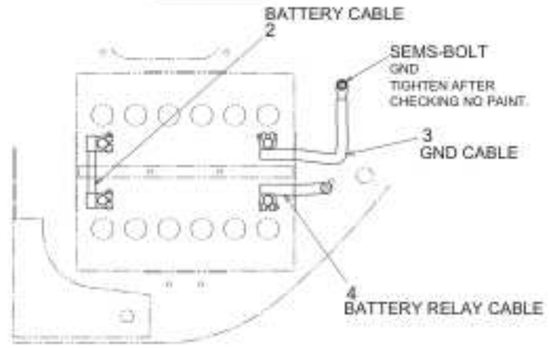




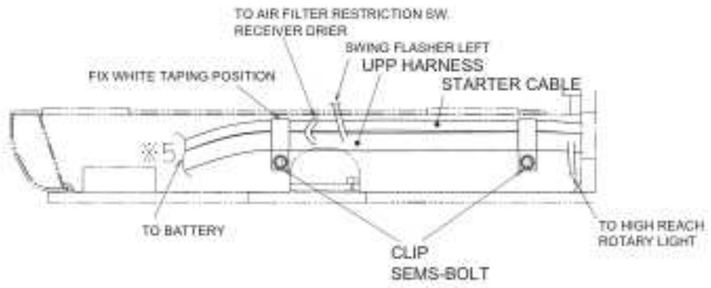
SECTION AA



SECTION BB



DERAIL OF BATTERY



VIEW Ⅵ

GRAPHIC_1D

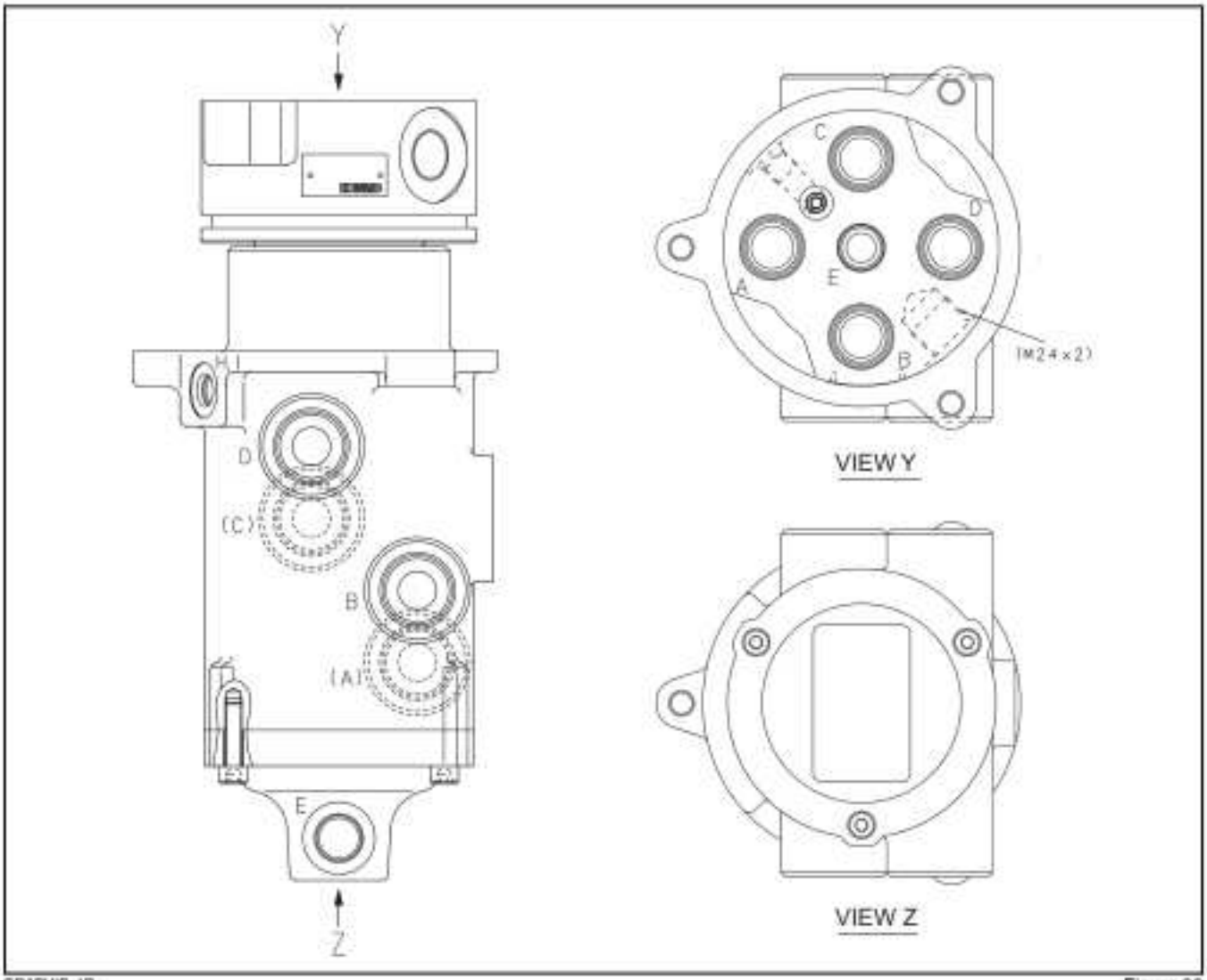
Figure 15

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SWIVEL JOINT

General View



GRAPHIC_1D

Figure 99

Specifications

Item		Specifications
Assy parts No.		YN55V00053F1
High pressure ports A, B, C, D	Working pressure Max. impact pressure Rated flow	34.3 MPa (4970 psi) 51.5 MPa (7470 psi) 255 L/min (67 gal/min)
Low pressure ports E	Working pressure Rated flow	0.5 MPa (73 psi) 50 L/min (13 gal/min)
Low pressure ports H, I	Working pressure Rated flow	5 MPa (725 psi) 30 L/min (8 gal/min)
Revolution speed		15 min^{-1} (15 rpm)
Ports size	A, B, C, D (Body) A, B, C, D (Stem) E F	PF1 PF3/4 PF1/2 PF1/4
Length : L		368 mm (14.5")
Weight		25 kg (55 lbs)

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Table 77

Error code	H013		
Trouble	Accel potentiometer is disconnected.		
Judging condition	The input voltage from accel potentiometer is 0.1V or less.		
Symptom	LOW idling is fixed.		
Control in the event of failure	LOW idling is fixed.		
Returned in normal condition	It returns automatically in normal condition.		
Service diagnosis checking screen	Screen No.	2	H-1 ACCEL VOLT.
	Screen No.		
	Screen No.		

Checking object		Checking contents and remedy
1	Accel potentiometer SE-16	Measure the resistance between terminals of speed sensor. 1.6–2.4k Ω Turn the potentiometer and measure resistance between signal and GND.
2	Wiring between accel potentiometer and controller CN-402F CN-102F	Check wiring for possible failure according to the wiring checking procedure and repair it if necessary.
3	Mechatro controller	Check that the error is corrected after replacement of controller.

Table 78

Error code	H014		
Trouble	Accel potentiometer's power source is shortcut.		
Judging condition	The input voltage from accel potentiometer is 4.7V or more.		
Symptom	LOW idling is fixed.		
Control in the event of failure	LOW idling is fixed.		
Returned in normal condition	It returns automatically in normal condition.		
Service diagnosis checking screen	Screen No.	2	H-1 ACCEL VOLT.
	Screen No.		
	Screen No.		

Checking object		Checking contents and remedy
1	Accel potentiometer SE-16	Measure the resistance between terminals of accel potentiometer. 1.6–2.4k Ω Turn the potentiometer and measure resistance between signal and GND.
2	Wiring between accel potentiometer and controller CN-402F CN-102F	Check wiring for possible failure according to the wiring checking procedure and repair it if necessary.
3	Mechatro controller	Check that the error is corrected after replacement of controller.

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9. Remove fulcrum plug and feedback lever
   Remove fulcrum plug (614) and feedback lever (611).


GRAPHIC_ID Figure 119

10. Drawing out the spool and the sleeve.
    Draw out spool (652) and sleeve (651) from the sleeve hole of the regulator casing.


GRAPHIC_ID Figure 120

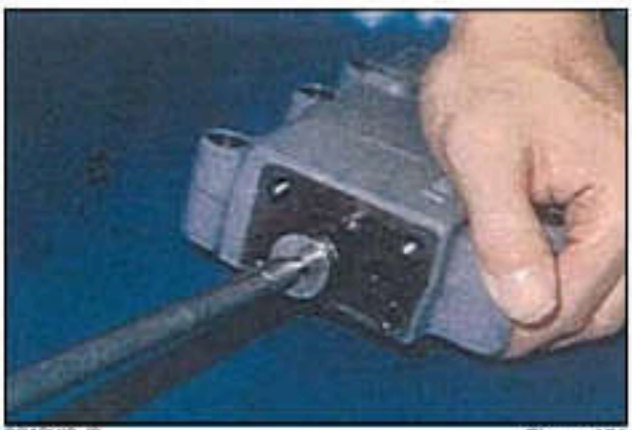
11. Remove plunger, pilot spring and spring seat
    Draw out plunger (627). Then take out pilot spring (646) and spring (624).

NOTE: *The plunger comes off easily if an M4 bolt is used.*

12. Drawing out the check valve
    The disassembly is complete when the check valve [seat (541), ball (545), and stopper (543)] have been drawn out.

NOTE: *The check valves are placed on two places; the mating surface of the pump casing and on the matching surface of the valve casing.*

IMPORTANT: *Do not lose the parts because they are small.*


GRAPHIC_ID Figure 121

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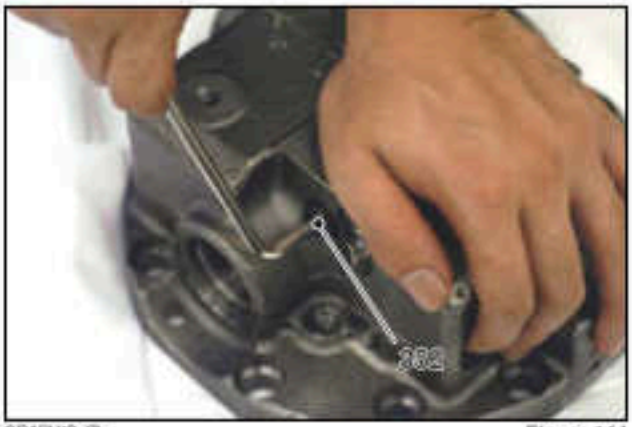
C. Remove piston (381) from rear flange (301).



GRAPHIC_ID Figure 143

18. Disassembling ball check part
    A. Remove plugs (352) (2 pcs) from rear flange (301).
    B. Remove O-ring (358) from plug (352).

NOTE: *Do not reuse O-ring (358) which have been removed.*



GRAPHIC_ID Figure 144

C. Remove steel balls (353) from rear flange (301).

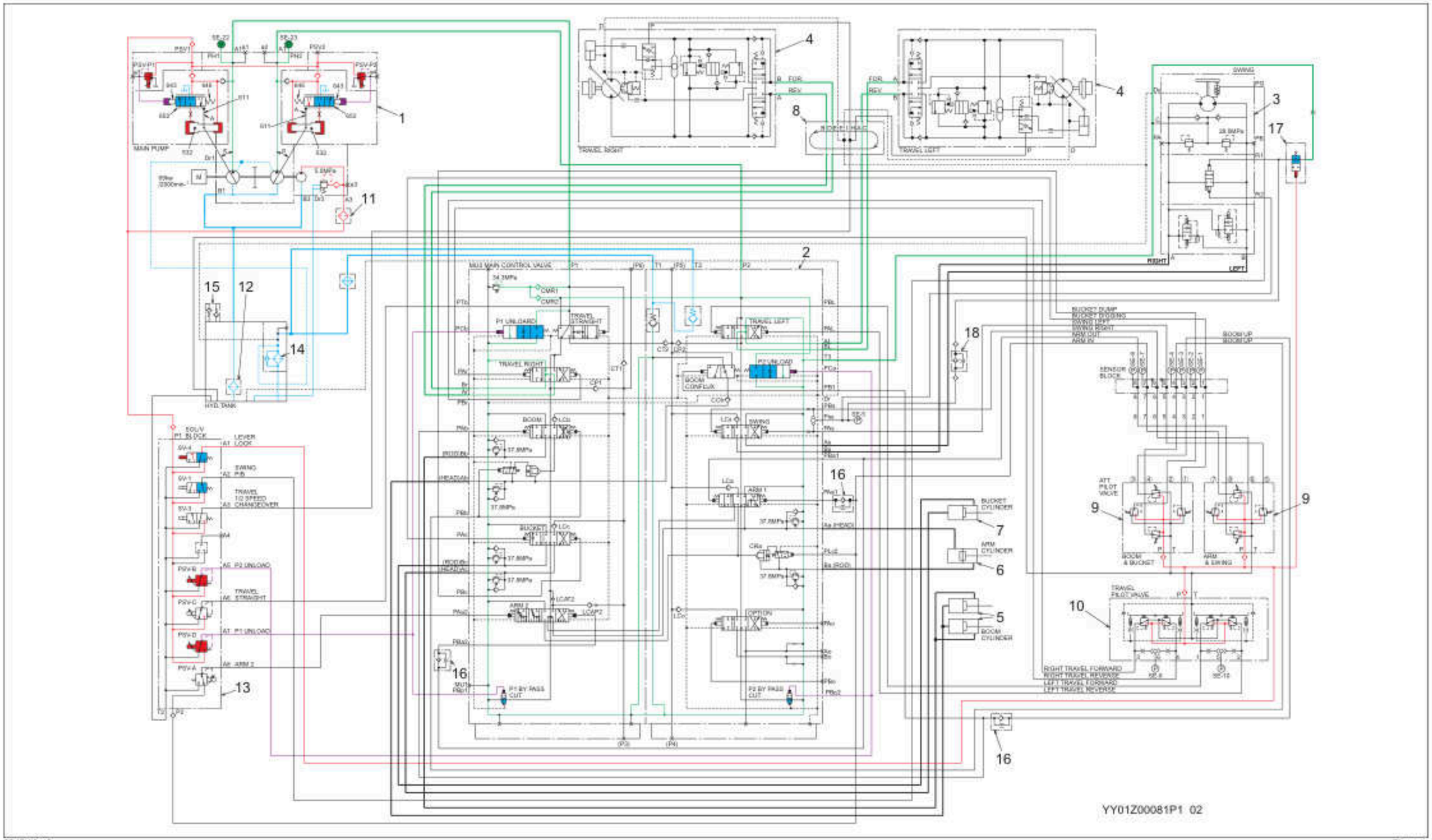
NOTE: *When it is hard to remove steel balls (353), remove them using the magnet etc.*



GRAPHIC_ID Figure 145

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SECTION 3 - SYSTEMS
CHAPTER 2 - HYDRAULIC SYSTEM



GRAPHIC_10

Figure 5

NEUTRAL CIRCUIT : POSITIVE CONTROL FUNCTION AT SAFETY LOCK LEVER DOWN (UNLOCKED POSITION)

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