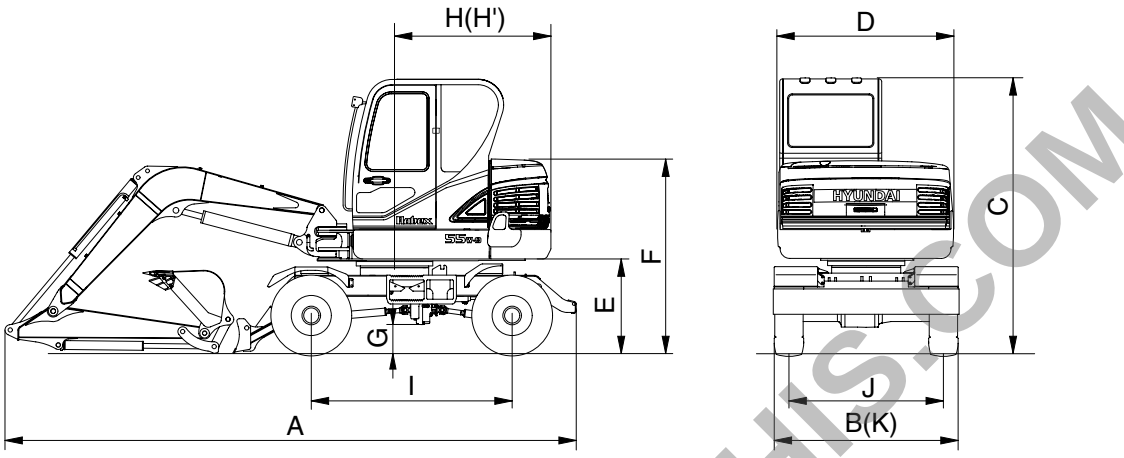
2. SPECIFICATIONS

1) 3.0 m (9'10") ONE PIECE BOOM, 1.6 m (5' 3") ARM WITH BOOM SWING POST



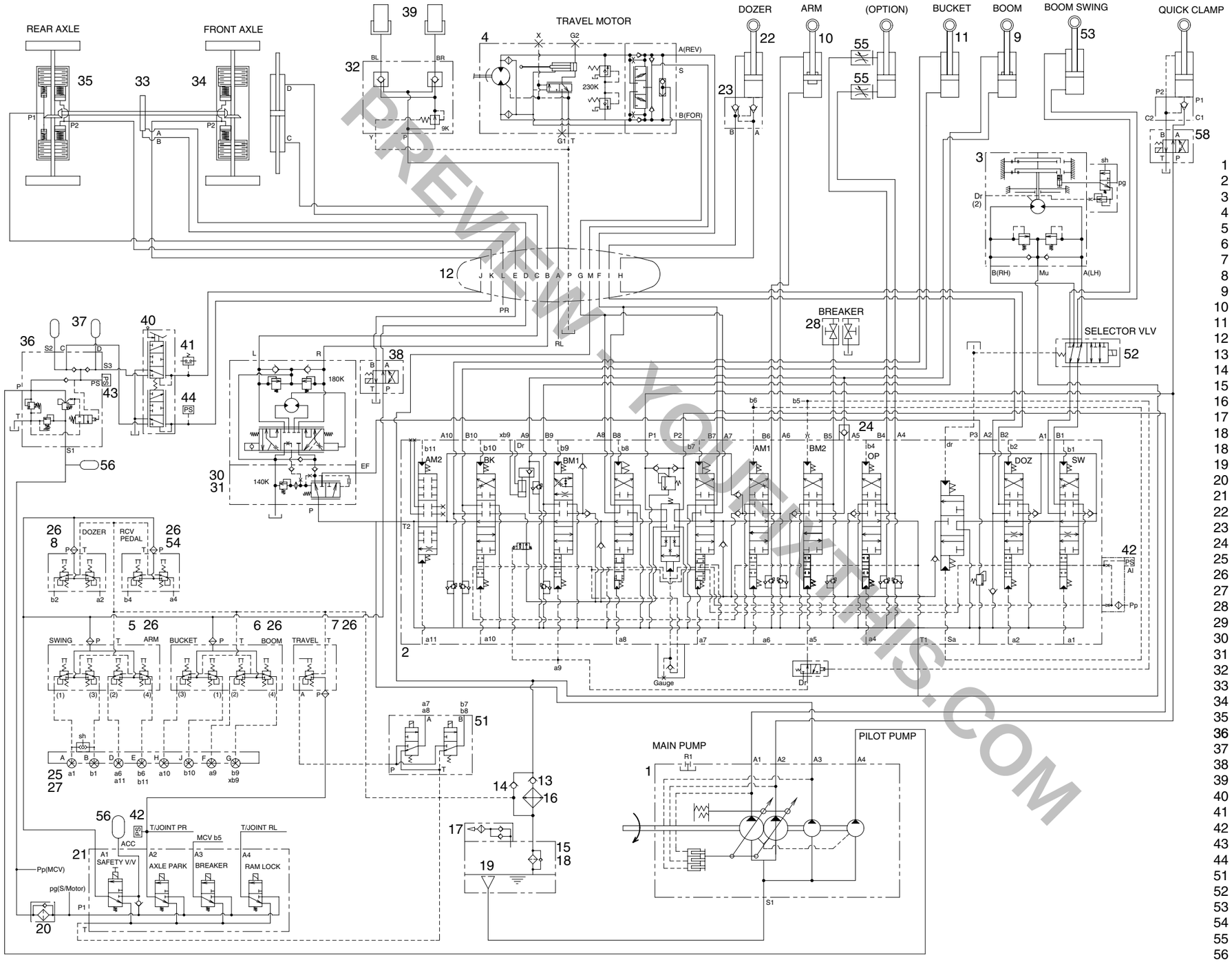
55W92SP02

Description		Unit	Specification
Operating weight		kg (lb)	5550 (12240)
Bucket capacity(SAE heaped), standard		m^3 (yd^3)	0.18 (0.24)
Overall length	A	mm (ft-in)	5970 (19' 6")
Overall width	B		1925 (6' 4")
Overall height	C		2850 (9' 4")
Upperstructure width	D		1850 (6' 1")
Ground clearance of counterweight	E		986 (3' 3")
Engine cover height	F		1970 (6' 6")
Minimum ground clearance	G		290 (11.4")
Rear-end distance	H		1650 (5' 5")
Rear-end swing radius	H'		1650 (5' 5")
Wheel base	I		2100 (6'11")
Tread	J		1600 (5' 3")
Dozer blade width	K		1925 (6' 4")
Travel speed	Low	km/hr (mph)	11.3 (7.0)
	High		30 (18.6)
Swing speed		rpm	9.1
Gradeability		Degree (%)	35 (70)
Max traction force		kg (lb)	3500 (7720)

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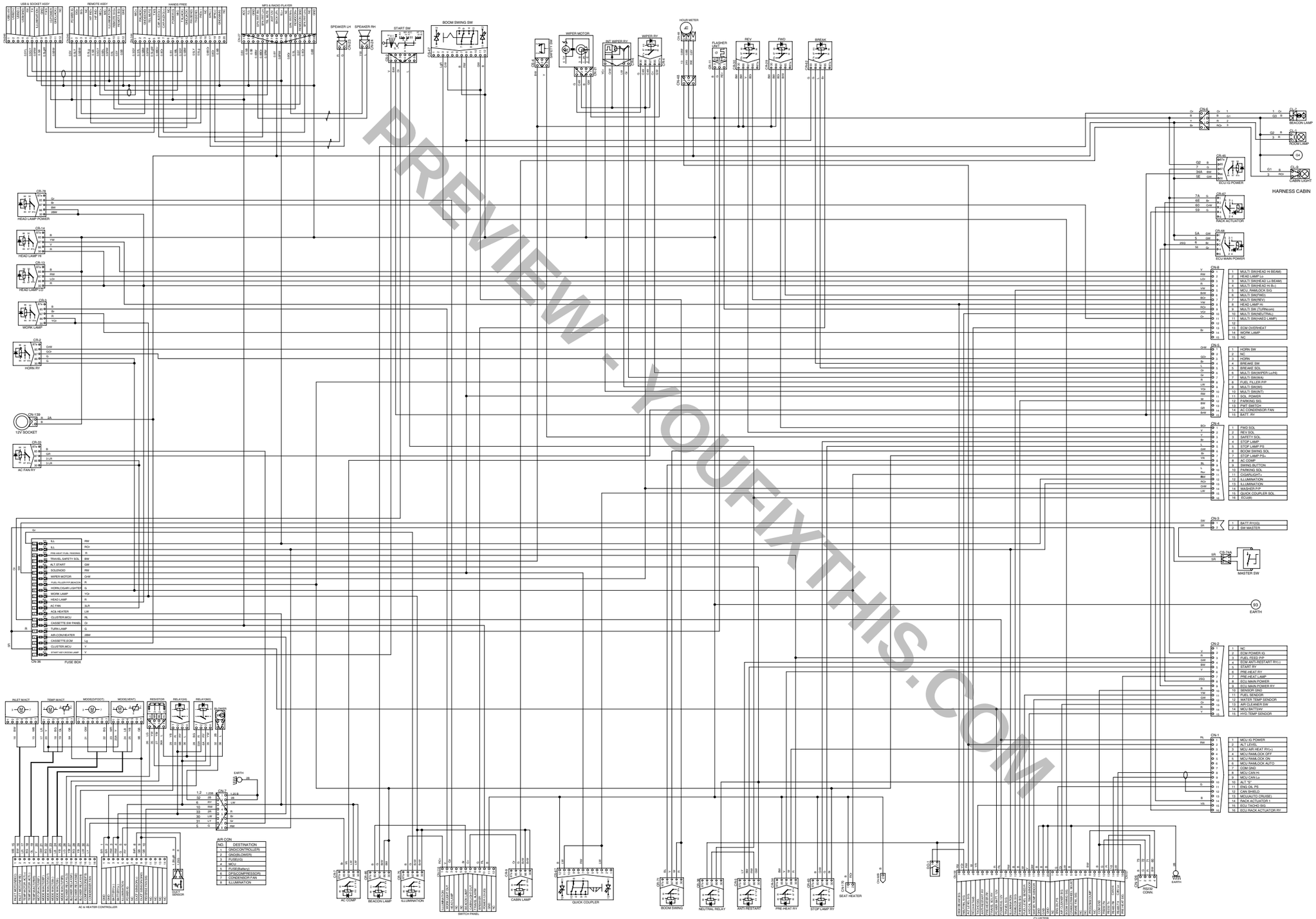
GROUP 1 HYDRAULIC CIRCUIT



1 Main pump
2 Main control valve
3 Swing motor
4 Travel motor
5 RCV lever(LH)
6 RCV lever(RH)
7 RCV pedal
8 RCV dozer
9 Boom cylinder
10 Arm cylinder
11 Bucket cylinder
12 Turning joint
13 Check valve
14 Check valve
15 Hydraulic tank
16 Oil cooler
17 Air breather
18 Bypass valve
18 Return element
19 Suction strainer
20 Pilot filter
21 Solenoid valve
22 Dozer cylinder
23 Check valve
24 Check valve
25 Terminal
26 Last guard filter
27 Shuttle valve
28 Stop valve
29 Selector valve
30 Priority valve
31 Steering valve
32 Locking valve
33 Gear box
34 Front axle
35 Rear axle
36 Cut off vlave
37 Accumulator
38 Solenoid valve
39 Oacillating cylinder
40 Brake valve
41 Pressure switch
42 Pressure sensor
43 Pressure sensor
44 Pressure sensor
51 Solenoid valve
52 Selector valve
53 Boom swing cylinder
54 2 Way padal
55 Variable orifice
56 Accumulator
58 Solenoid valve

55W93HC01

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55W94EL03

3. DISASSEMBLY PROCEDURE

1) DISASSEMBLING THE GEARED PUMP

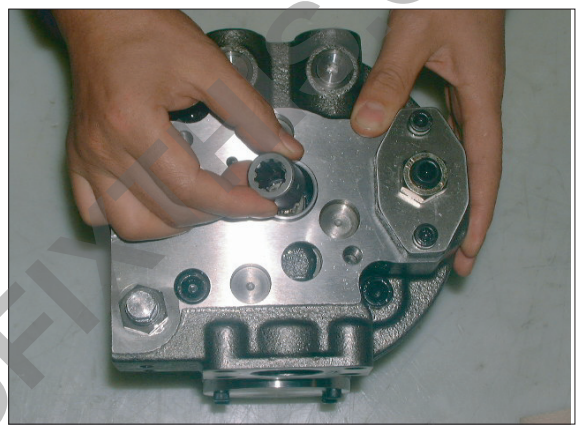
① Remove the hexagonal socket headed bolts (M10 × 25, 2 pieces).
Hexagonal bar spanner
(Hex. side distance : 8)

※ Be careful because the O-ring and filter are provided to the match surface of the geared pump.



R55NM7HP03

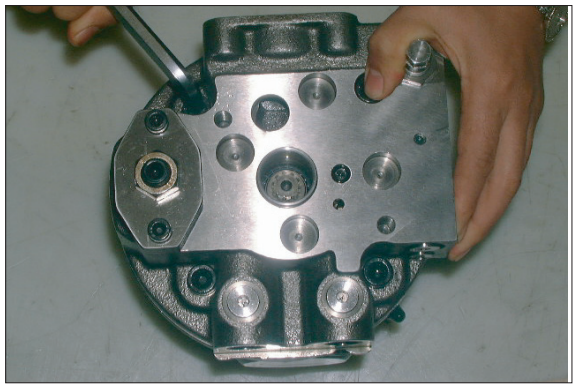
② Remove the coupling.



R55NM7HP04

2) DISASSEMBLING THE MAIN PUMP

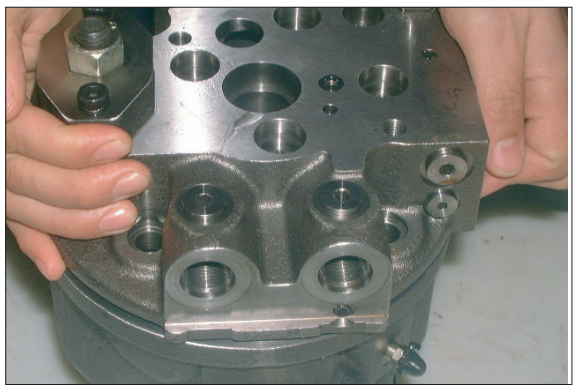
① Remove the cover.
Remove the hexagonal socket headed bolts. (M12 × 30, 3pieces) and (M12× 55, 1piece).
Hexagonal bar spanner
(Hex. side distance : 10)



R55NM7HP05

② Remove the cover in a horizontal condition.
Connect motor to work table.

※ Be careful because the control plate is provided to the backside.
When the cover is difficult to remove, knock lightly with a plastic hammer.



R55NM7HP06

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GROUP 2 TIGHTENING TORQUE

1. MAJOR COMPONENTS

No.	Descriptions		Bolt size	Torque	
				kgf · m	lbf · ft
1	Engine	Engine mounting bolt (engine-Bracket)	M10 × 1.5	6.9±1.0	50±7.2
2		Engine mounting bolt (bracket-Frame)	M16 × 2.0	25±2.5	181±18.1
3		Radiator mounting bolt, nut	M10 × 1.5	6.9±1.4	50±10.0
4		Coupling mounting bolt	M10 × 1.5	6.0±1.0	43.4±7.2
5	Hydraulic system	Main pump mounting bolt	M12 × 1.75	12.3±3.0	92±22.0
6		Main control valve mounting bolt	M12 × 1.75	12.8±3.0	93±22.0
7		Travel motor mounting bolt	M12 × 1.75	14.7±2.2	106±15.9
8		Fuel tank mounting bolt	M16 × 2.0	29.7±4.5	215±33
9		Hydraulic oil tank mounting bolt	M16 × 2.0	29.7±4.5	215±33
10		Turning joint mounting bolt, nut	M12 × 1.75	14.7±2.2	106±16.0
11	Power train system	Swing motor mounting bolt	M16 × 2.0	29.7±4.5	215±33.0
12		Swing bearing upper mounting bolt	M16 × 2.0	29.7±4.5	215±33.0
13		Swing bearing lower mounting bolt	M16 × 2.0	29.7±4.5	215±33.0
15		Front axle mounting bolt, nut	M16 × 2.0	29.7±4.5	215±33.0
16		Rear axle mounting bolt, nut	M16 × 2.0	29.7±4.5	215±33.0
17		Gear box mounting bolt	M14 × 2.0	19.6±2.9	142±21.0
18		Oscillating cylinder mounting bolt	M16 × 2.0	29.7±4.5	215±33.0
19		Oscillating cylinder support bolt	M12 × 1.75	12.8±3.0	92.6±22.0
20		Wheel nut	M18 × 1.5	46.0±3.0	333±22.0
21		Front drive shaft mounting bolt, nut	M10 × 1.25	7.4±1.5	53.5±11.0
22		Rear drive shaft mounting bolt, nut	M10 × 1.25	7.4±1.5	53.5±11.0
23	Others	Counterweight mounting bolt	M20 × 2.5	57.8±6.4	418±46.3
24		Cab mounting bolt, nut	M12 × 1.75	12.8±3.0	92±22.0
25		Operator's seat mounting bolt	M 8 × 1.25	1.17±0.1	8.5±0.7

※ For tightening torque of engine and hydraulic components, see each component disassembly and assembly.

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⑦ Machine fault code

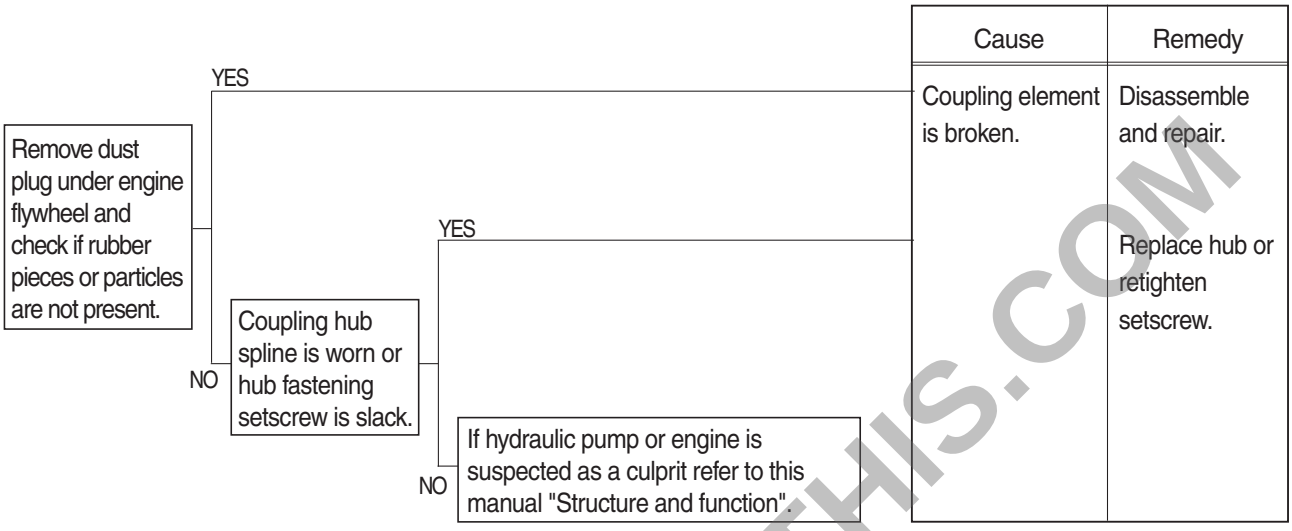
Fault code		Description
HCESPN	FMI	
105	0	Working pressure sensor data above normal range (or open circuit)
	1	Working pressure sensor data below normal range
	2	Working pressure sensor data error
	4	Working pressure sensor circuit - voltage below normal, or shorted to low source
	14	Working pressure sensor circuit - special instructions
	16	Working pressure sensor circuit - voltage valid but above normal operational range
	18	Working pressure sensor circuit - voltage valid but below normal operational range
167	4	Travel speed solenoid circuit - voltage below normal, or shorted to low source (or open circuit)
	6	Travel speed solenoid circuit - current above normal
503	0	Brake pressure sensor data above normal range (or open circuit)
	1	Brake pressure sensor data below normal range
	2	Brake pressure sensor data error
	4	Brake pressure sensor data - voltage below normal, or shorted to low source
	16	Brake pressure sensor data - voltage valid but above normal operational range
	18	Brake pressure sensor data - voltage valid but below normal operational range
505	0	Working brake pressure sensor data above normal range (or open circuit)
	1	Working brake pressure sensor data below normal range
	2	Working brake pressure sensor data error
	4	Working brake pressure sensor circuit - voltage below normal, or shorted to low source
	16	Working brake pressure sensor circuit - voltage valid but above normal operational range
	18	Working brake pressure sensor circuit - voltage valid but below normal operational range
525	4	Ram lock solenoid circuit - voltage below normal, or shorted to low source (or open circuit)
	6	Ram lock solenoid circuit - current above normal
530	0	Travel fwd pilot pressure sensor data above normal range (or open circuit)
	1	Travel fwd pilot pressure sensor data below normal range
	2	Travel fwd pilot pressure sensor data error
	4	Travel fwd pilot pressure sensor circuit - voltage below normal, or shorted to low source
	14	Travel fwd pilot pressure sensor circuit - special instructions
	16	Travel fwd pilot pressure sensor circuit - voltage valid but above normal operational range
	18	Travel fwd pilot pressure sensor circuit - voltage valid but below normal operational range
701	4	Hour meter circuit - voltage below normal, or shorted to low source
705	0	MCU input voltage high
	1	MCU input voltage low
707	1	Alternator node I voltage low (or open circuit)
714	3	Acc. dial circuit - voltage above normal, or shorted to high source (or open circuit)
	4	Acc. dial circuit - voltage below normal, or shorted to low source
830	12	MCU internal memory error
840	2	Cluster communication data error
841	2	ECM communication data error
850	2	RMCU communication data error

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2. DRIVE SYSTEM

1) UNUSUAL NOISE COMES OUT OF PUMP CONNECTION



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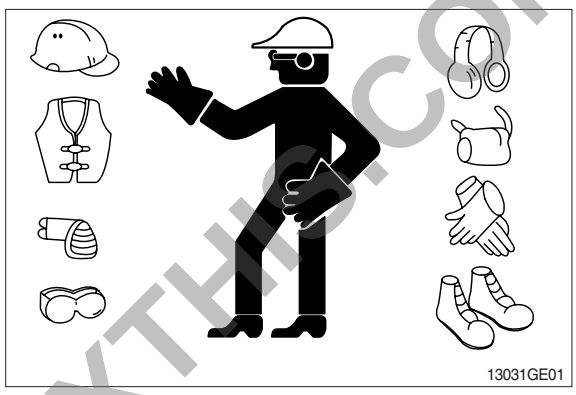
GROUP 1 SAFETY

FOLLOW SAFE PROCEDURE

Unsafe work practices are dangerous. Understand service procedure before doing work; do not attempt shortcuts.

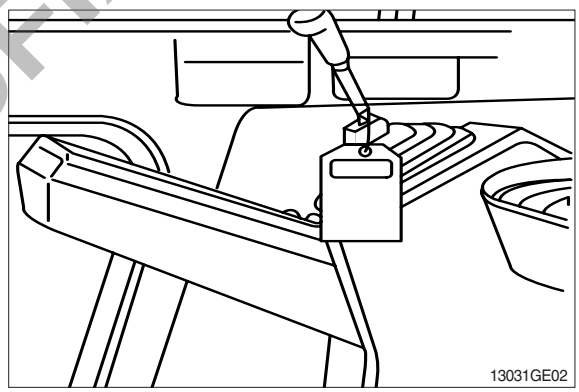
WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.



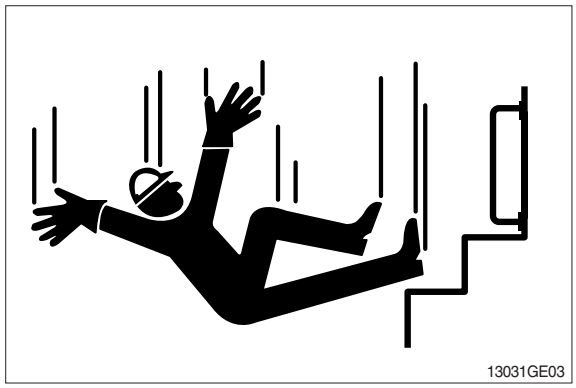
WARN OTHERS OF SERVICE WORK

Unexpected machine movement can cause serious injury.
Before performing any work on the excavator, attach a 「**Do Not Operate**」 tag on the right side control lever.



USE HANDHOLDS AND STEPS

Falling is one of the major causes of personal injury.
When you get on and off the machine, always maintain a three point contact with the steps and handrails and face the machine. Do not use any controls as handholds.
Never jump on or off the machine. Never mount or dismount a moving machine.
Be careful of slippery conditions on platforms, steps, and handrails when leaving the machine.



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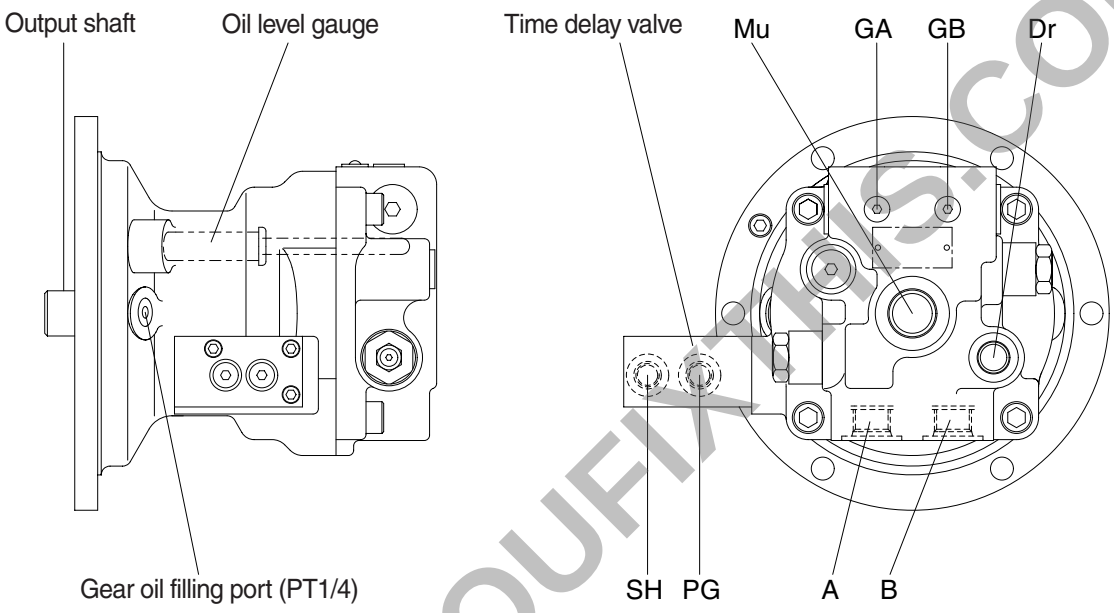
GROUP 3 SWING DEVICE

1. STRUCTURE

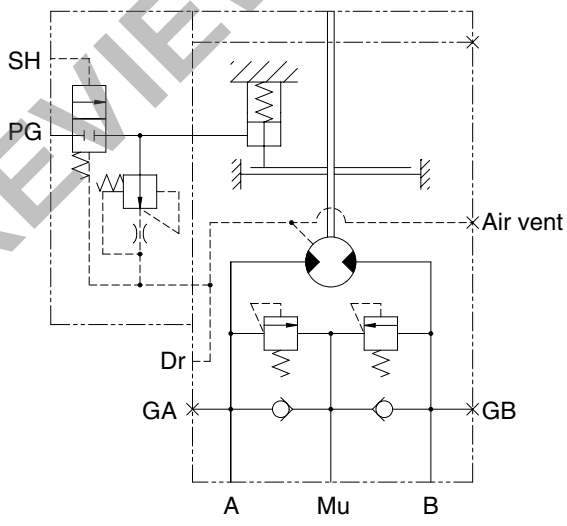
Swing device consists swing motor, swing reduction gear.

1) SWING MOTOR

Swing motor include mechanical parking valve, relief valve, make up valve and time delay valve.



555K2SM01



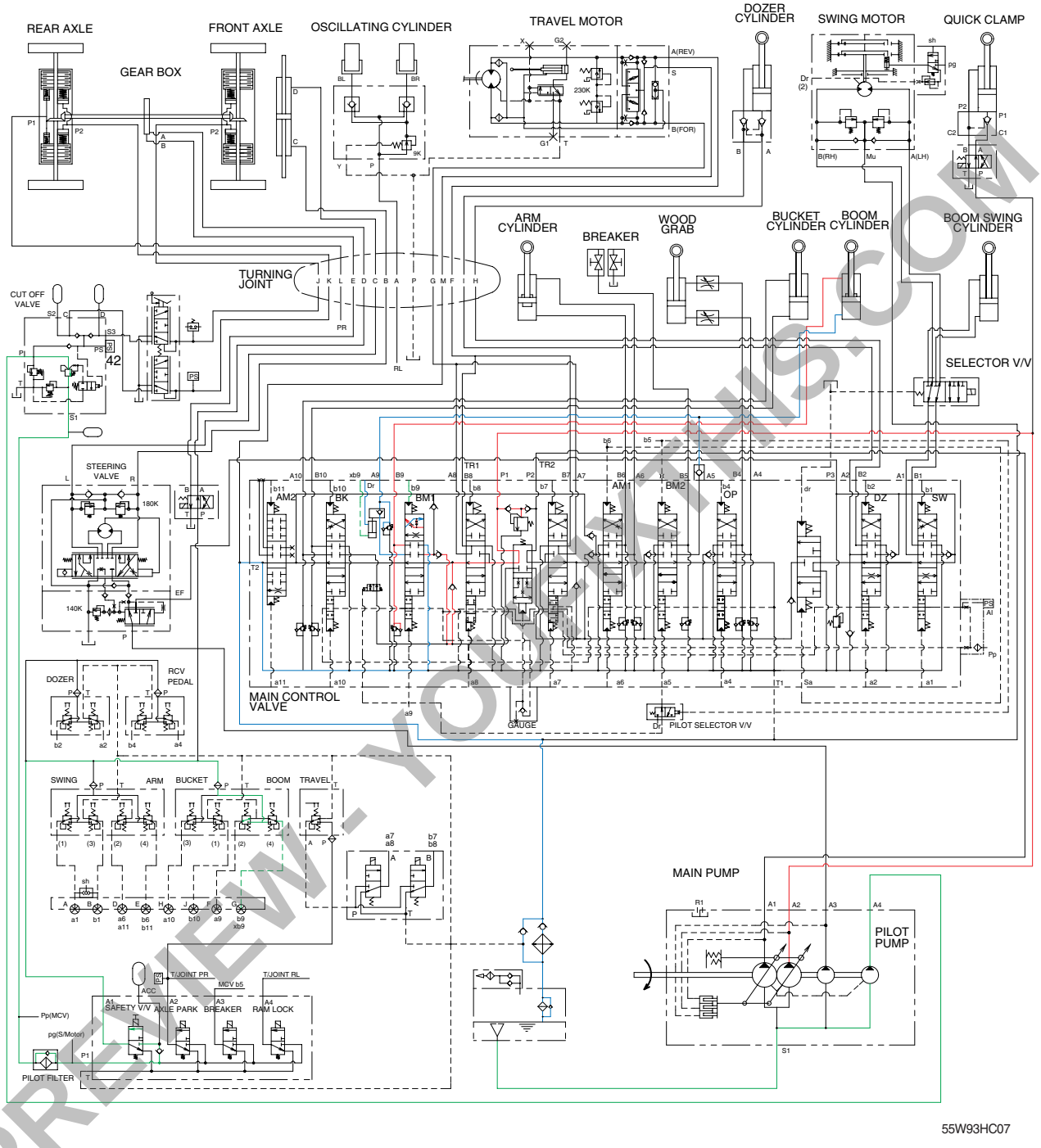
Hydraulic circuit

Port	Port name	Port size
A	Main port	SAE PF 1/2
B	Main port	SAE PF 1/2
Dr	Drain port	PF 3/8
Mu	Make up port	PF 3/4
PG	Brake release port	PF 1/4
SH	Brake pilot port	PF 1/4
GA,GB	Gauge port	PF 1/4

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2. BOOM DOWN OPERATION



When the right control lever is pushed forward, the boom spools in the main control valve are moved to the down position by the pilot oil pressure from the remote control valve.

The oil from the A2 pump flows into the main control valve and then goes to the small chamber of boom cylinder. At the same time, the oil from the large chamber of boom cylinder returns to the hydraulic tank through the boom spool in the main control valve.

The excessive pressure in the boom cylinder rod end circuit is prevented by the relief valve.

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6. WIPER AND WASHER CIRCUIT

1) OPERATING FLOW

(1) Key switch ON

Fuse box (No.14) → Wiper motor [CN-21 (3)]
→ Int wiper relay [CR-6 (4)]
→ Wiper relay [CR-4 (86)]
→ Wiper relay [CR-4 (87)]
→ I/conn [CN-4 (11)] → Washer pump [CN-22 (21)]

(2) Wipe switch ON : 1st step (intermittent)

Multifunction switch left lever (2) → I/conn [CN-98 (7)] → I/conn [CN-5 (10)]
→ Int wiper relay [CR-6 (6)] : Wiper motor intermittently operating → Int wiper relay [CR-6 (6)→(3)]
→ I/conn [CN-5 (9)] → I/conn [CN-98 (4)] → Multifunction switch left lever (6)→(2)
→ I/conn [CN98 (6)] → I/conn [CN-5 (6)] → Wiper relay [CR-4 (85)] : Wiper relay operating
→ Wiper relay [CR-4 (87)→(30)] → Wiper motor [CN-21 (4)] : Wiper motor operating

(3) Wiper switch ON : 2nd or 3rd step

Multifunction switch left lever (2) → I/conn [CN-98 (5)] → I/conn [CN-5 (6)]
→ Wiper relay [CR-4 (85)] : Wiper relay operating → Wiper relay [CR-4 (87)→(30)]
→ Wiper motor operating [CN-21(1)] : Wiper motor operating

(4) Auto parking (when switch OFF)

Wiper switch OFF → Wiper relay OFF
→ Int wiper relay OFF
→ Wiper motor [CN-21 (3)→(1)] → Wiper relay [CR4 (87a)→(30)]
→ Wiper motor [CN-21 (4)] : Wiper motor parking position

(5) Washer switch ON

Multifunction sw left lever (7) → I/conn [CN-98 (8)] → Washer pump [CN-22 (1)] : Washer pump operating

2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (wiper motor)	10~12.5V

※ GND : Ground

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5) IT IS NOT POSSIBLE TO REDUCE THE MOTOR SMOOTHLY

It is not possible to reduce the motor smoothly

Cause	Remedy
The orifice for closing the counterbalance is clogged. The opening of the neutral position of the spool is clogged.	Remove the foreign matter by disassembling and cleaning.
Wrong setting of pressure of the relief valve.	Adjust at the correct value. If the relief valve turns out to be out of order, the new one should be used.

6) EXTRAORDINARY NOISE IS HEARD WHEN SUDDENLY REDUCING THE SPEED FROM THE HIGH-SPEED MODE

It takes time to accelerate the motor

Cause	Remedy
The anti-cavitation valve does not not work properly.	Screw the fitting bolts one more time with correct tightening torque. If the valve turns out to be damaged, is should be repaired.

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(3) Tightening torque

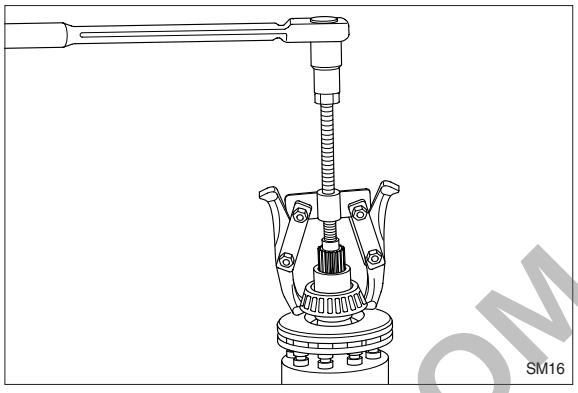
Part name	Bolt size	Torque		Wrench size	
		kgf · m	lbf · ft	in	mm
Hexagon socket head bolt	M 6	1.2	8.7	0.20	5
	M 8	3.0	21.7	0.24	6
	M12	10.0	72.3	0.39	10
	M16	24.0	174	0.55	14
	M18	34.0	246	0.55	14
PT Plug	PT 1/16	0.9	6.5	0.16	4
PF Plug	PF 1/8	1.5	10.8	0.20	5
	PF 1/4	3.0	21.7	0.24	6

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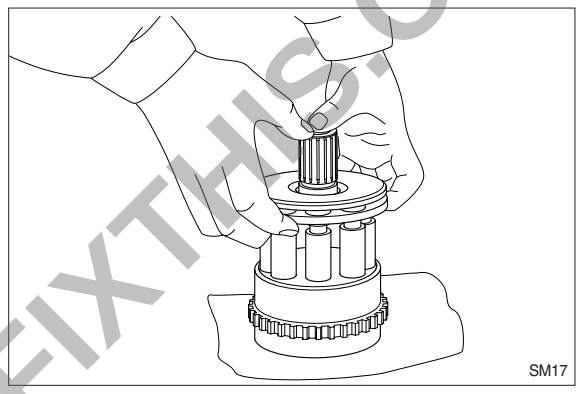
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(16) Disassembly of cylinder assembly

① Removal of inner race of taper roller bearing (5).
Lift out cylinder block (3) with 2 inner race of roller bearing (5) by applying gear puller at the end of spline in the cylinder.

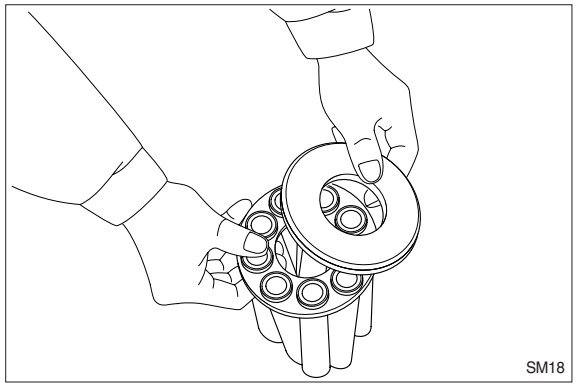

SM16

② Separate shoe plate (7), piston assembly (10), set plate (9) from cylinder block (3).

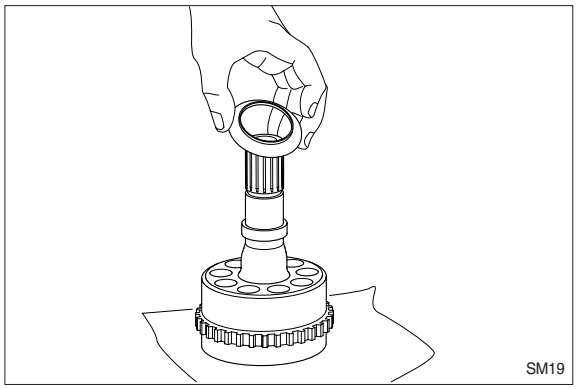

SM17

③ Get shoe plate (7) slide on sliding face of piston assembly (10) and remove it.

※ Be cautious not to damage on sliding face of cam plate.


SM18

④ Remove ball guide (11) from cylinder block (3).

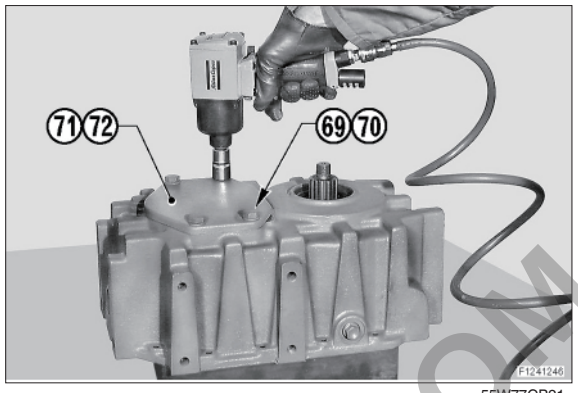

SM19

This completes disassembly.

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(24) Loosen screws (69) and washers (70); remove the cover (71) and the O-ring (72).

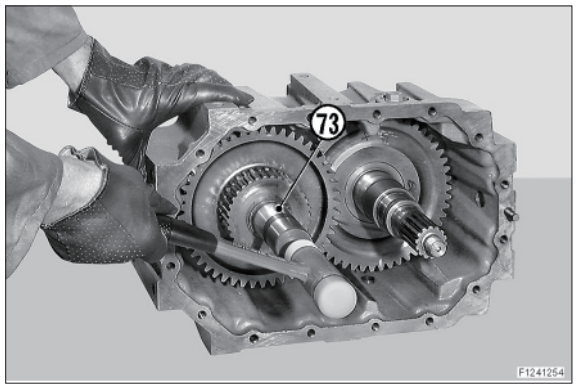


55W77GB21

(25) Completion of disassembly

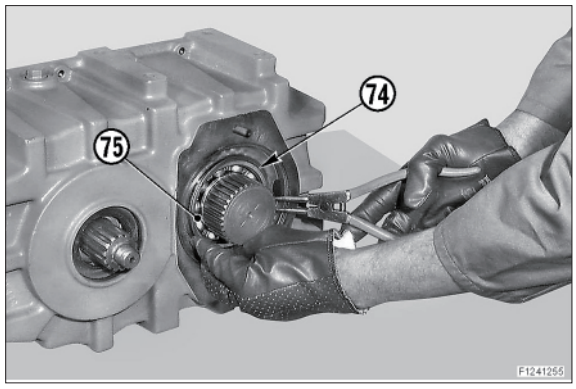
※ The illustrations refer to a gearshift with negative brake but the disassembly procedure applies to all versions, except for the operations illustrated in the notes.

(26) Place the gearshift on its side and hit the input shaft (73) with a plastic hammer until it pushes outwards by a few millimeters.



55W77GB30

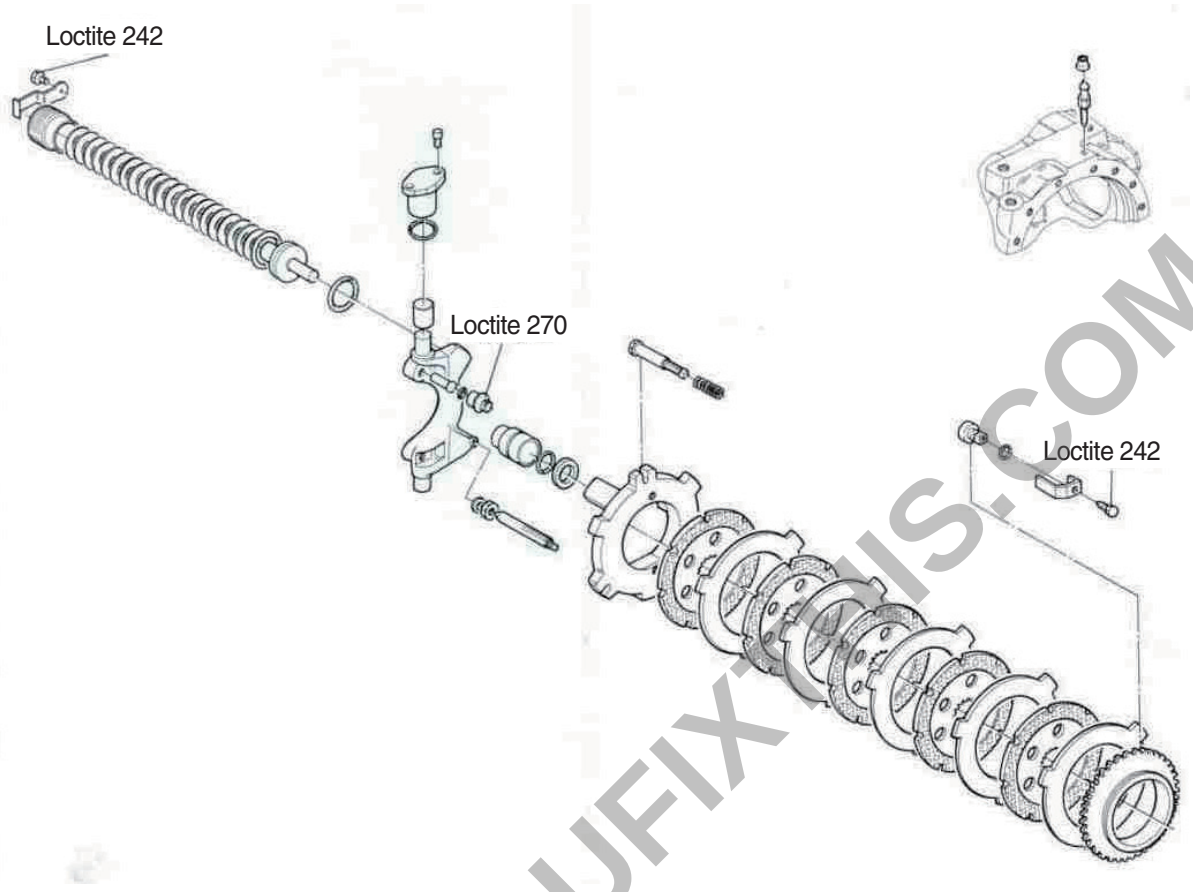
(27) Remove the snap ring (74) of bearing (75).



55W77GB31

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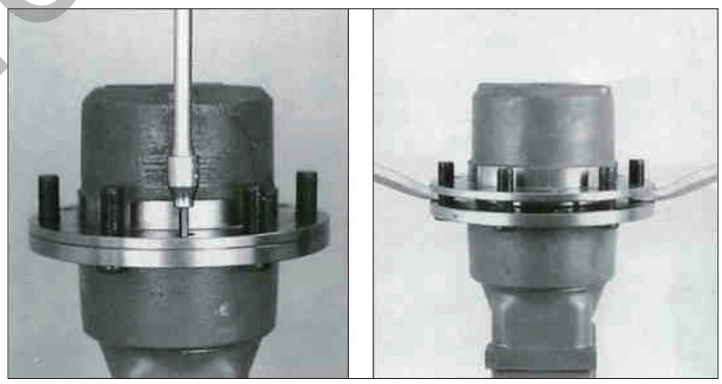


AXLE023

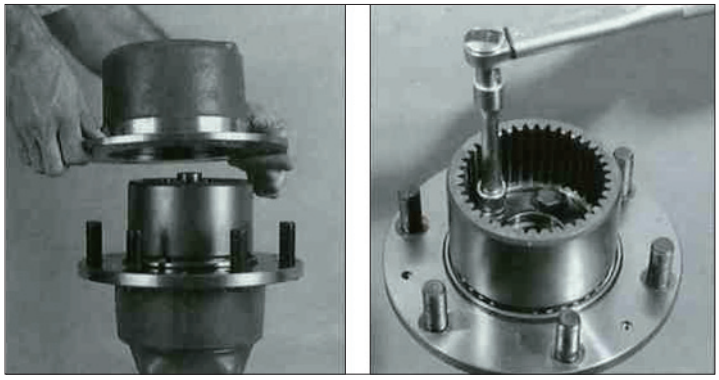
5. WHEEL HUB

DISASSEMBLING AND ASSEMBLING

1) Disassembling of wheel hub, seal and center ring.



AXLE024

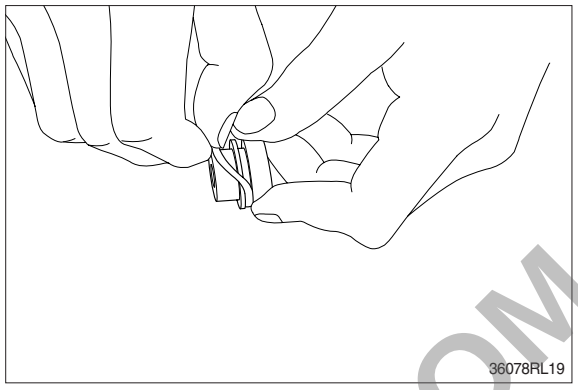


AXLE025

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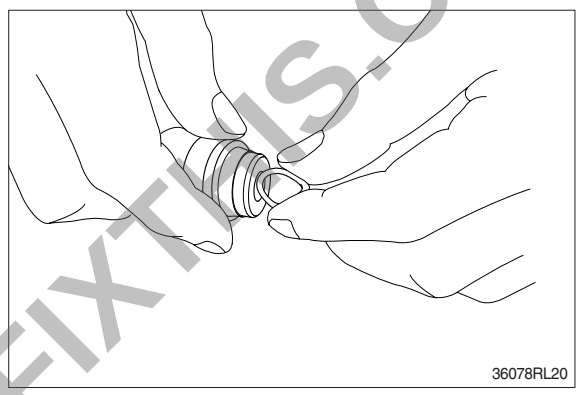
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(5) Assemble O-ring (15) onto plug (14).



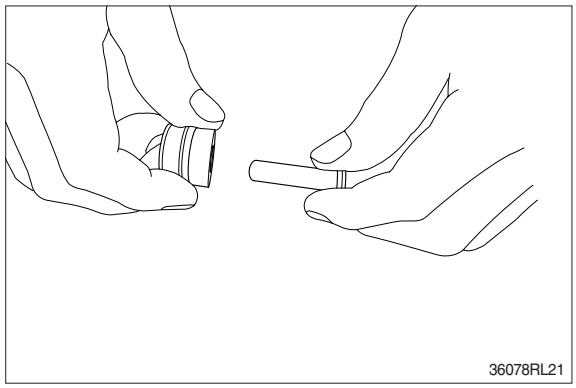
(6) Assemble seal (16) to plug (14).

※ Assemble seal in such lip direction as shown below.



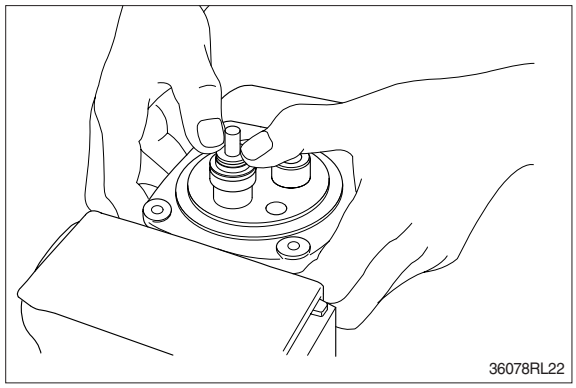
(7) Assemble push rod (11) to plug (14).

※ Apply working oil on push-rod surface.



(8) Assemble plug subassembly to casing.

※ When return spring is weak in force, subassembly stops due to resistance of O-ring.



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