

HX300S L MH

Material Handler Service Instruction Manual

This Instruction manual is introduced by DAEMO Engineering Ltd. Contents in the manual can be revised by HYUNDAI CONSTRUCTION EQUIPMENT If it is necessary.

INTRODUCTION

Thank you for purchasing hydraulic material handler product.

The 'Material Handler' for crawler excavator is developed for scrap and bulk material handling equipped with a grapple, clamshell bucket' or magnets. Hydraulic Elevating Cabin is also intended to improve working area visibility.

Two-piece Material Handler offers exceptional lift performance and range of operation. The purpose of this instruction manual is to provide the user with detailed information on how to operate, inspect, maintain and adjust 'Material Handler' and 'Elevating Cabin'.

Be sure to refer to this manual before operating the equipment and products for safe operation and maintenance of 'Material Handler' and 'Elevating Cabin'.

1. Be sure to refer to this instruction manual before operating the machine.
2. Check the environment of the workplace and follow the safety regulations to ensure safe operation.

If you have any questions about this manual, please contact HYUNDAI CONSTRUCTION EQUIPMENT.

Model	HX300S L MH	Remarks
Manufactured Year	2021	

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General Cautions

Safety notices follow ISO standard for safety warnings

- 1) ' **Danger**' mark (red) indicates a hazardous situation which will result in death or serious injury, if it is not followed safety regulation.
- 2) ' **Warning**' mark (orange) indicates a potentially hazardous situation which may result in death or serious injury, if it is not followed safety regulation.
- 3) ' **Caution**' mark (yellow) indicates a potentially hazardous situation which may result in minor or moderate injury, if it is not followed safety regulation.
- 4) ' **Attention**' mark (black) indicate a potentially risk situation which may result shortening lifespan of machine components, if it is not followed safety regulation.

Read this manual prior to operation

1-1. Basic Precautions

Check and gain full knowledge of safety labels in this Manual and on the equipment. Material handler equipment must be maintained in standard state at all times, and no alteration is allowed. If safety is not secured, operational performance and durability of the equipment will gradually decrease. Pay particular attention to safety over any other contents presented in this Manual.

Prohibition of remodeling

Remodeling the equipment without discussing with HYUNDAI CONSTRUCTION EQUIPMENT can cause serious safety risks, and the equipment owner is responsible. Please discuss with HYUNDAI CONSTRUCTION EQUIPMENT if you would like to remodel the equipment.

Safe clothing

Appropriate safety clothing such as helmet are required during work. Inappropriate attire and accessories can induce unintended operation of the lever or other operating units. If the operator loses focus, a serious accident can occur. To keep safety, prohibit the use of radio or headset.

Caution for attachments

Make sure to contact HYUNDAI CONSTRUCTION EQUIPMENT before attaching special attachments to the equipment. Do not use attachments that have not been approved by HYUNDAI CONSTRUCTION EQUIPMENT. We are not held responsible for accidents and failures caused by the use of unapproved attachments.

Caution for handling oil

Oil is very dangerous because of flammability. Since there is a concern for ignition nearby firearms, be extremely careful when handling oil. Keep the equipment clean by removing foreign substance and grease.

Securing working ground condition

Operator or service personnel should check working ground condition in advance before locating the equipment to prevent rollover accidents, operate equipment on a flat ground after securing safe place.

SERVICE INSTRUCTION MANUAL**Keep limited lifting weight spec range**

Operate equipment within the operating weight spec range otherwise it may cause serious accident such as rollover of equipment or human injury due to overweight effect. Lifting capacities are based on the machine and the load both remaining level at all times. Never exceed the limited lifting spec stated in this instruction manual

Operating speed

Operate equipment as slowly as possible for safe operation. Quick movement of front attachment may lead object falling down or rollover accident.

Precaution for inspection and maintenance of hydraulic parts

Stop the equipment on a flat and solid ground. Put attachments down on the ground and stop the engine. Do not perform maintenance immediately after work. Wait until the entire equipment is completely cooled down. If the equipment is still hot and hydraulic parts have residual pressure, the user can be seriously injured by spurting of hot operating oil. Residual pressure inside the operating oil tank must be removed before performing maintenance on hydraulic parts. Operate the working lever in the operating room many times to remove pressure remaining in the hydraulic circuit. Keep body parts and face away from the workplace when loosening plugs and screws on the hydraulic line.

Warning sign during inspection and maintenance

To prevent persons other than the maintenance worker from moving the equipment during inspection or maintenance, hang a warning sign for "Under maintenance" or "Inspection in process" in the operating room or on the work lever.

Use appropriate tools.

Stop the engine to conduct inspection or maintenance on the equipment.

Keep the equipment clean.

Water can cause malfunctioning of electric devices.

Do not touch moving parts of the equipment with hands.

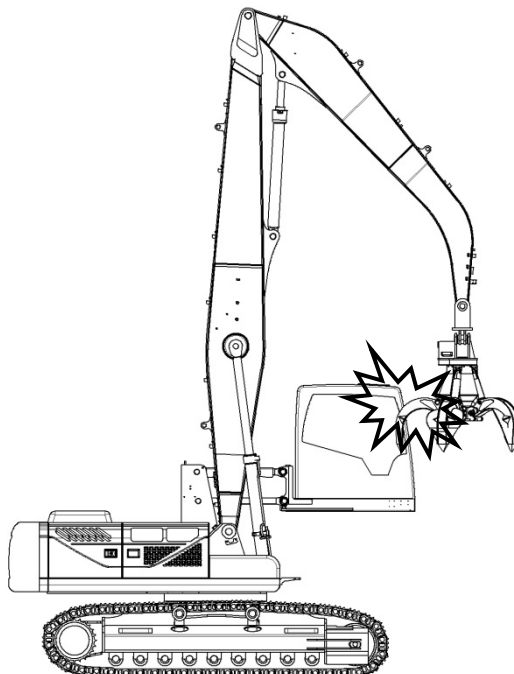
Be careful about high pressure of operating oil in the hydraulic circuit.

SERVICE INSTRUCTION MANUAL

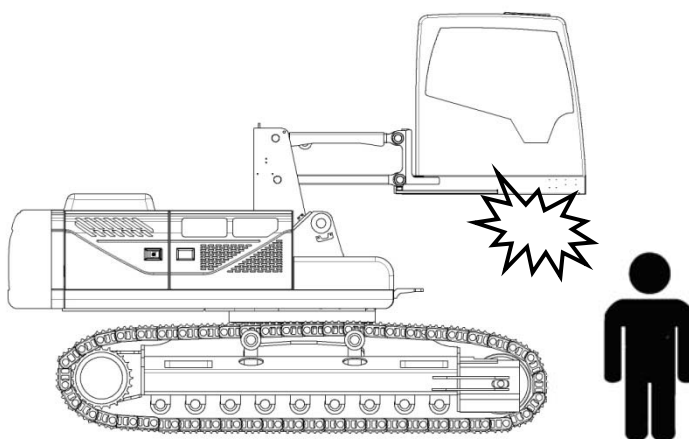
1-2. Precautions for front Attachment Operation

⚠ Danger**Need to be careful when operating elevating cabin or front attachment**

Please be sure to keep safe operating position when operating front attachment or elevating cabin otherwise it may lead serious personal injury or death from a crash.

**⚠ Danger****Need to be careful when operating elevating cabin to downward position**

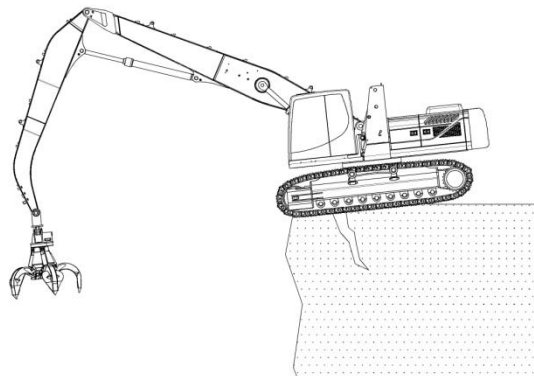
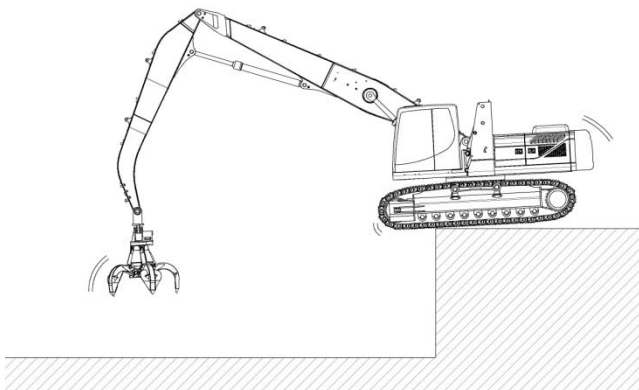
Careless operation may lead serious personal injury or death from crash.



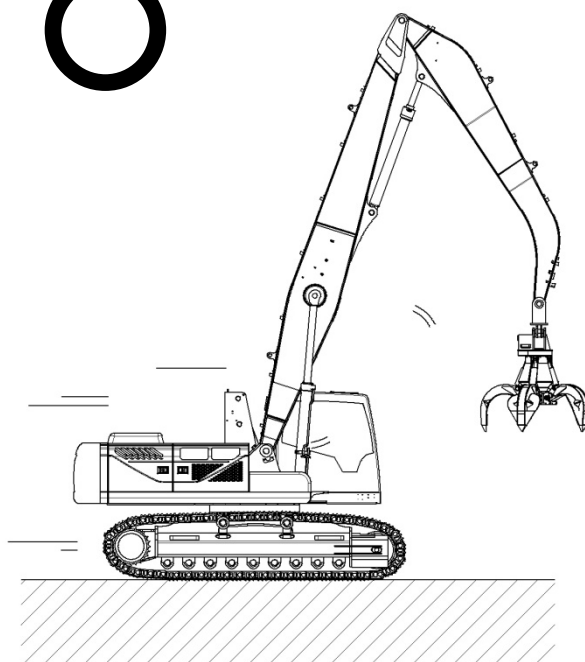
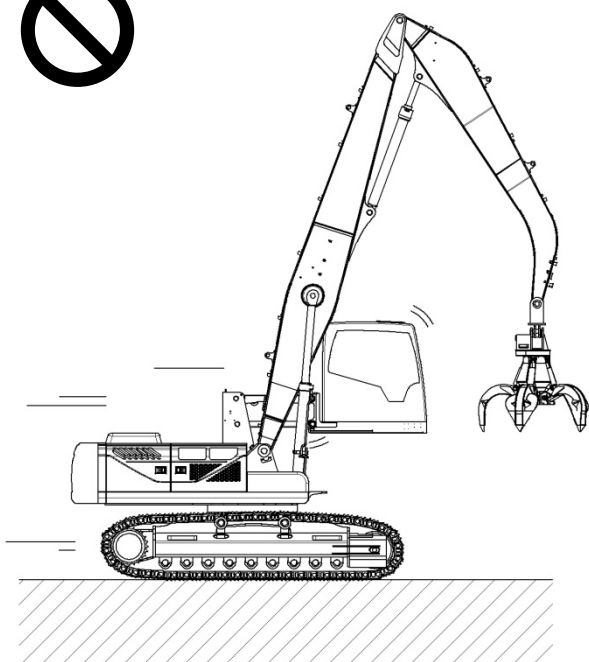
SERVICE INSTRUCTION MANUAL

⚠ Danger**Need to be careful when operating on high ground condition**

Careless operation may lead serious personal injury or death from crash accident.

**⚠ Warning****Need to be careful when driving**

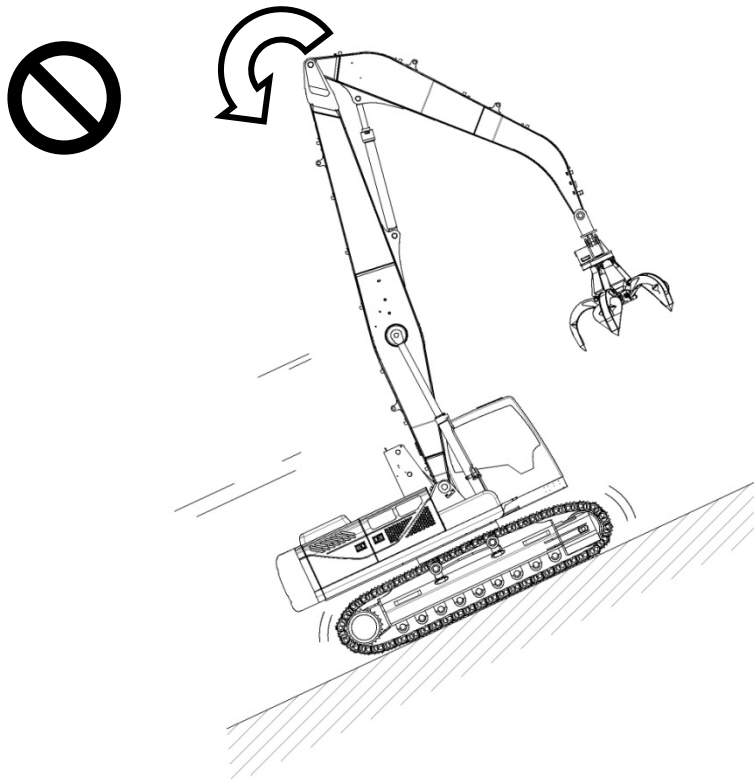
Do not drive machine with elevating cabin's upward positioned



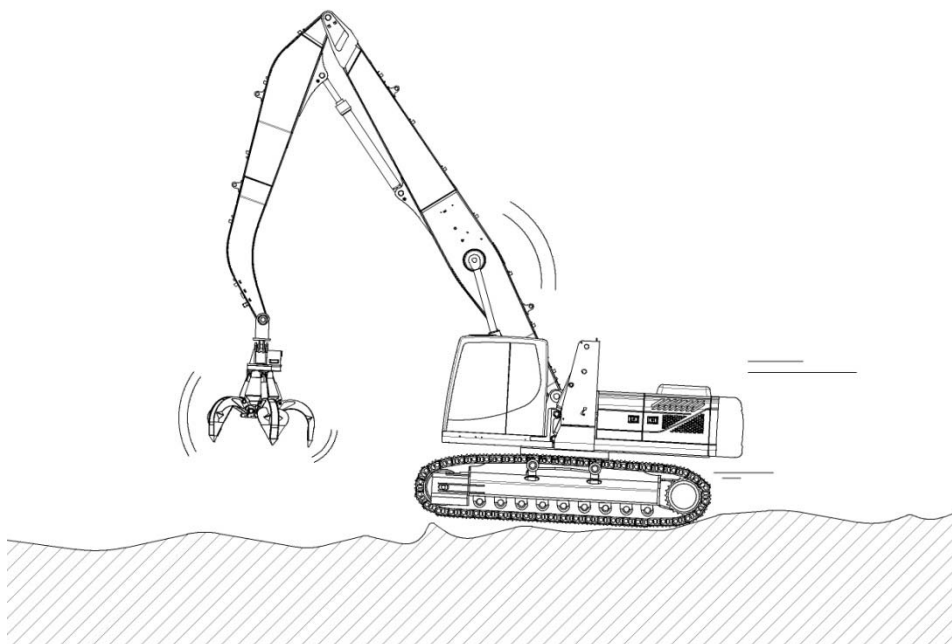
SERVICE INSTRUCTION MANUAL

⚠ Warning**Need to be careful when driving**

Do not drive machine on a slope. Machine may have a risk of falling over due to center of gravity change.

**⚠ Caution****Need to be careful when driving**

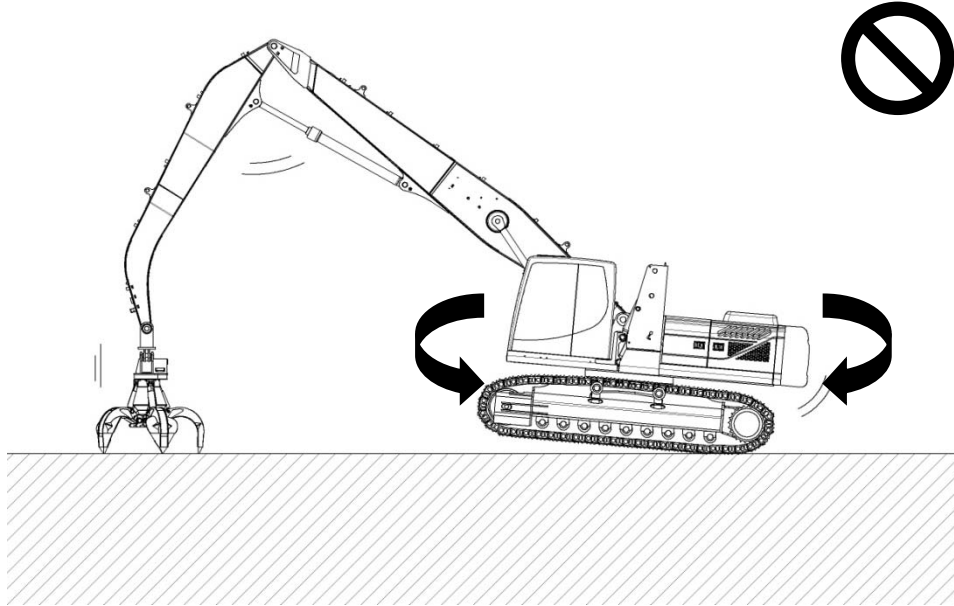
Drive machine as slowly as possible on a rough and bumpy area. Otherwise it may cause damage of machine



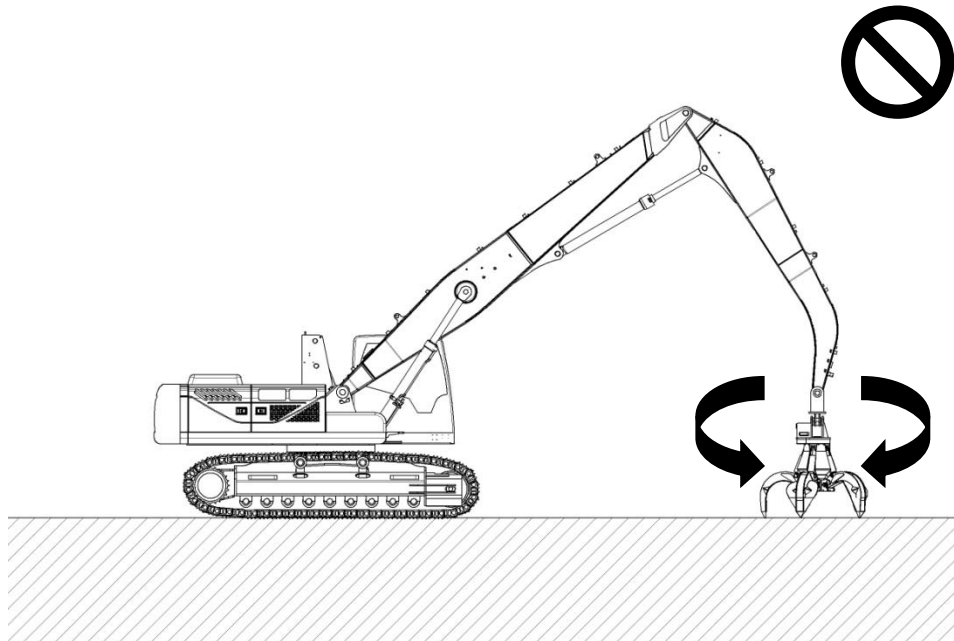
SERVICE INSTRUCTION MANUAL

⚠ Attention**Do not rotate machine by using grapple or front attachment.**

This operation method may lead risk situation which may result shortening lifespan of machine components, if it is not avoided.

**⚠ Attention****Do not rotate grapple attachment with its arm touched to the ground position.**

This operation method may lead risk situation which may result shortening lifespan of machine components, if it is not avoided.



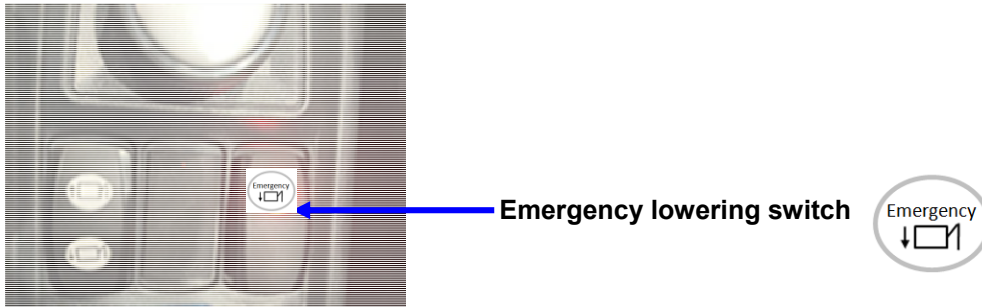
SERVICE INSTRUCTION MANUAL

1-3. Emergency Lowering of Elevating Cabin

Emergency condition;

When the engine is shut down condition, hydraulic system will be deactivated because hydraulic pump would not discharge the required oil to the system. In this case, cabin is able to be lowered by using emergency switch.

Before lowering any equipment with the engine stopped, please check if there is any person around or underneath elevating cabin. To keep away any object or person from the elevating cabin before emergency cabin lowering operation.



- 1) Please turn the Key-Switch to the ON position on the dashboard.
- 2) Sound a horn by using relevant joy stick button switch for any persons around outside cabin to take care of themselves if exist.
- 3) Push the emergency switch to lower the cabin
In this condition, the hydraulic oil in the elevating cylinder will be returned to the tank passage by using the weight of cabin so that the cabin is to be able to be seated lower position safely.

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1-4. Safety pin

Safety pin will need to be used when repairing cabin elevating system.

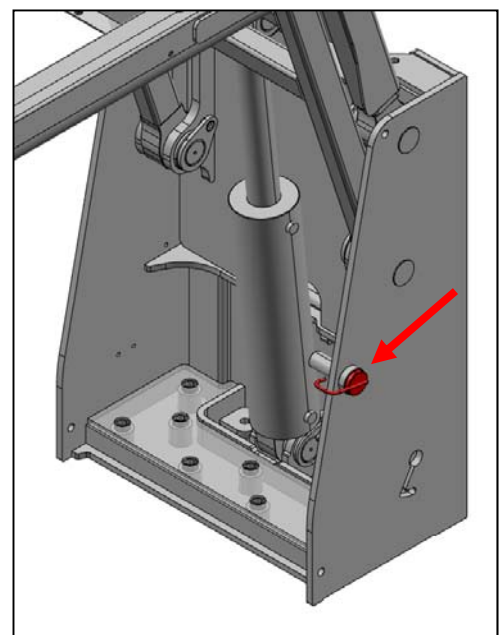
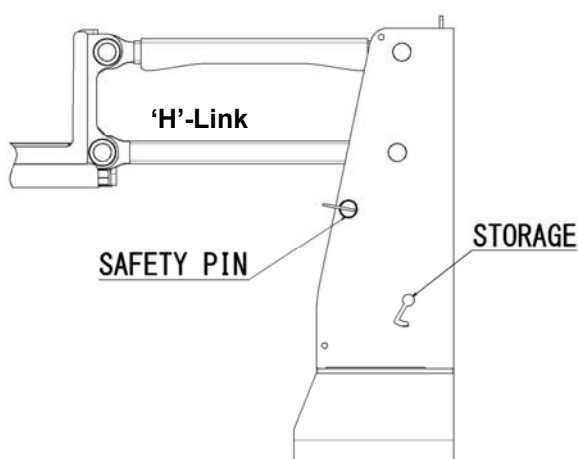
In any case of performing elevating system inspection & maintaining cabin elevating system, Please be sure safety pins are mounted on supporting hole properly.

***Elevated Height : 2.5m**

⚠ Danger,

Please follow the safety instruction introduced as shown in the list below.

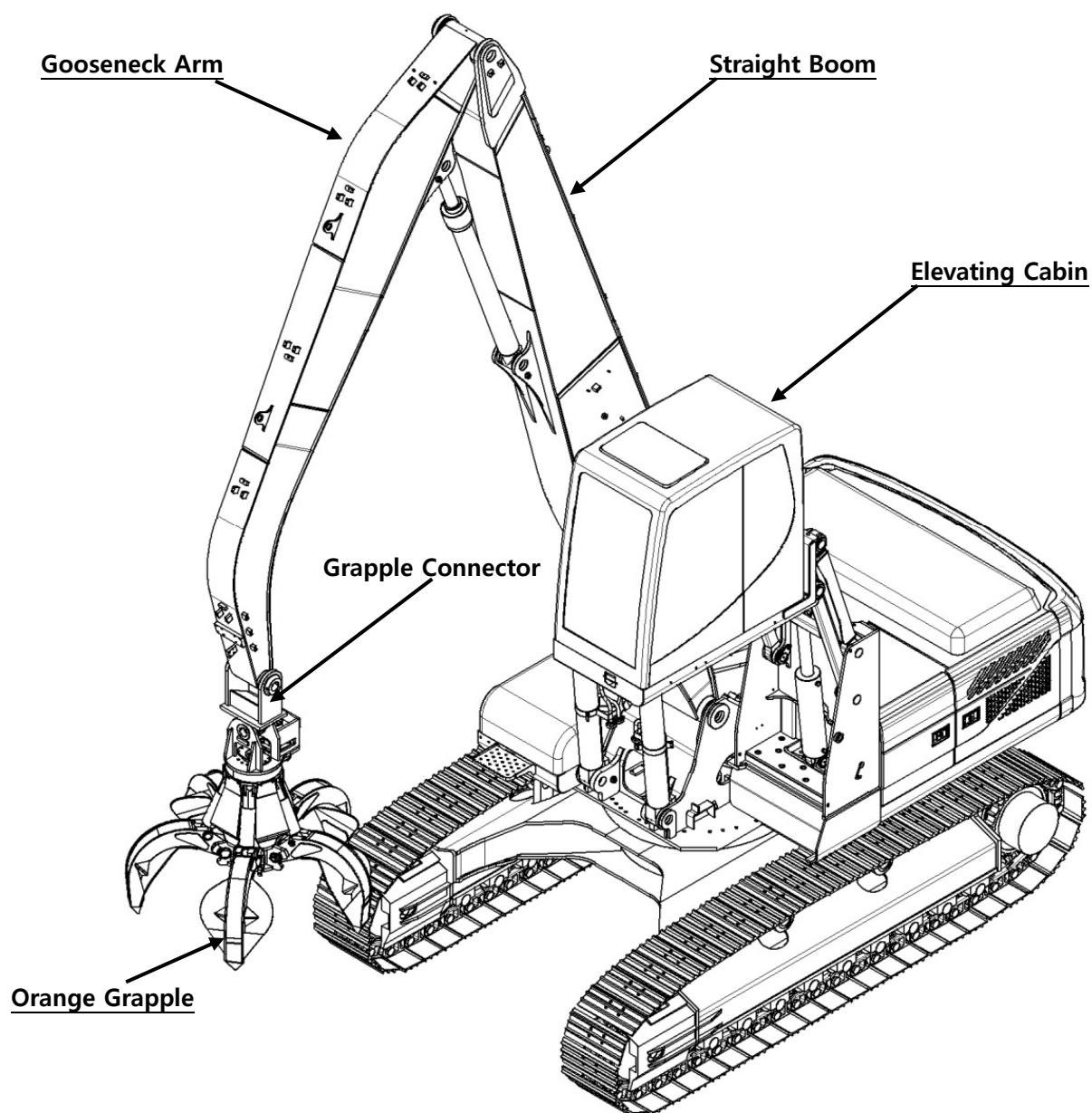
- Before starting any inspection or maintenance work, install a standing signboard near the work area for alert and warning for bystanders in advance.
- Safety pin has to be used when any maintenance or repair work is required only. (Please do not operate when the safety pin is installed condition.)
- Please always be sure to keep a distance between safety pin and 'H'-Link to prevent pin damage due to interference when inspecting work or maintenance work.
- If the 'H'-Link has any deformation then, please replace the 'H'-link for safe operation.
- Please note that the grapple function for open and close would not be operated at 'Work-mode' condition on the dashboard however, rotating function is able to be activated even in this condition. So, please be sure that it's required to be extremely careful not to operate this function.
- In any case when requiring elevating function after completing inspection or maintenance work then, deactivate '**Auto Idle**' function by using relative button switch on cluster switch panel in the cabin.



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2. Specification

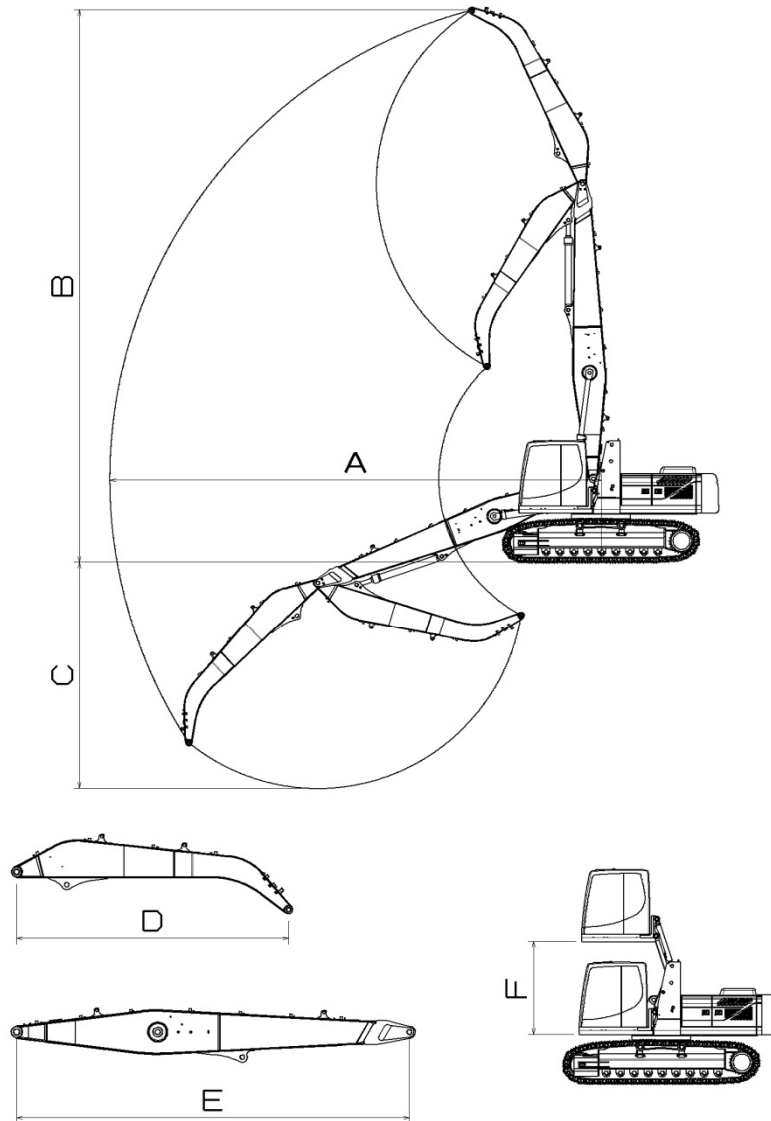
2-1. Major parts location



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2-2. Specifications

-. Working range distance (meter) and Boom & Arm Length spec.

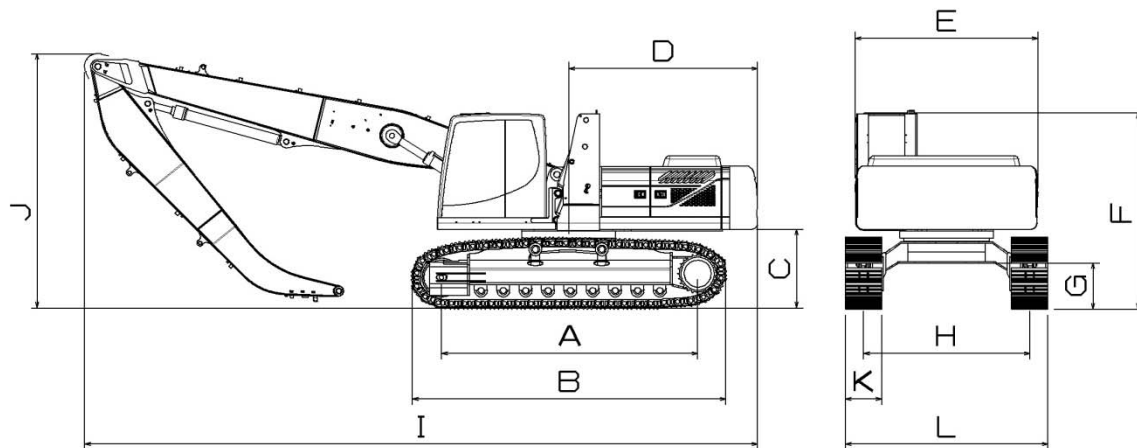


HX300S L MH Working attachment spec table.

ITEM	DISTANCE (Unit: mm)	Remarks
Working Radius Max. (A)	13,090	
Working Height Max. (B)	14,590	
Working Depth Max. (C)	6,190	
Goose-neck Arm (D)	7,800	
Straight Boom (E)	5,400	
Lifting Cabin (F)	2,500	
Boom Cylinder spec.	2- Ø 140 X 1,465	bore X stroke
Arm Cylinder spec.	1- Ø 150 X 1,765	bore X stroke
Grapple spec.	5 Tines, Hydraulic rotation type	

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- Transportation Spec' information

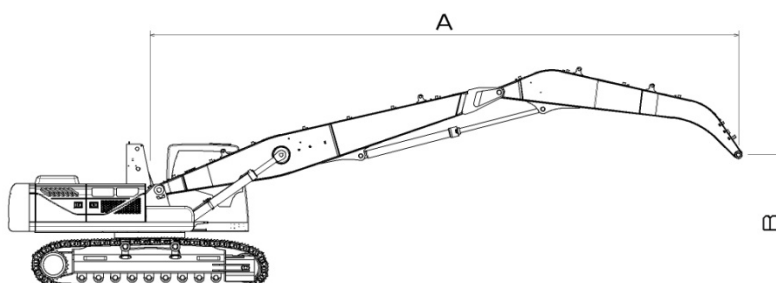


Item		Specification	Unit
Tumbler distance	A	4,030	mm
Track length	B	4,940	mm
Counterweight clearance	C	1,185	mm
Turning radius	D	3,120	mm
Top width	E	2,980	mm
Driving height	F	3,130	mm
Minimum ground clearance	G	500	mm
Track center distance	H	2,600	mm
Overall length	I	11,085	mm
Overall height	J	4,170	mm
Shoe width	K	600	mm
Overall width	L	3,200	mm

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2-3. Lifting capacities

- Load point is the pin end point of front.
- Rated load values are based on hydraulic capacity
- Rated load values do not exceed 87% of hydraulic or 75% of tipping load capacity.
- Lifting capacity is based on SAE J1097, ISO 10567.
- (*) indicates load limited by hydraulic capacity.



- '(@F)': Rating over front
- '(@S)': Rating over side or 360°(degree)

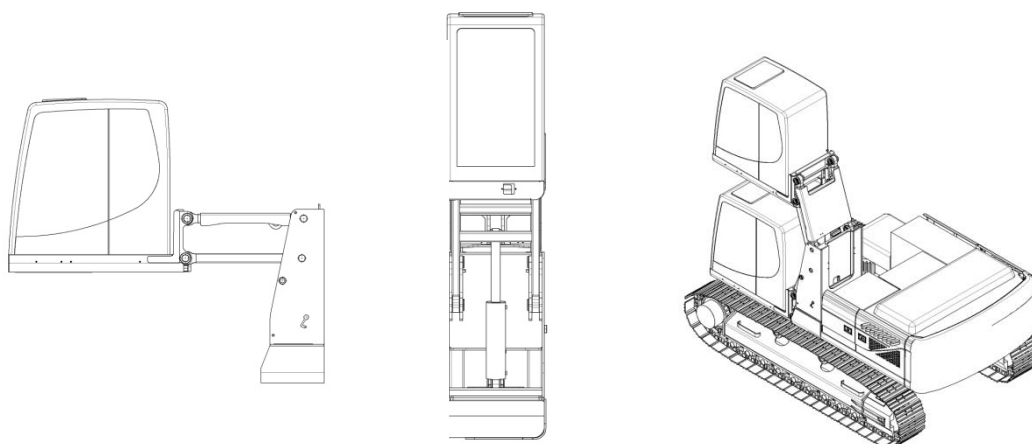
A \ B	3m (@F)	3m (@S)	4.5m (@F)	4.5m (@S)	6m (@F)	6m (@S)	7.5m (@F)	7.5m (@S)	9.0m (@F)	9.0m (@S)
12.0m					*7367	*7367	*6892	*6892		
10.5m							*6502	*6502	*6181	6110
9.0m					*6967	*6967	*6458	*6458	*6057	*6057
7.5m					*7342	*7342	*6673	*6673	*6147	6092
6.0m			*9504	*9504	*8087	*8087	*7106	*7106	*6384	5965
4.5m			*11525	*11525	*9136	*9136	*7691	7561	*6712	5789
3.0m			*13830	*13830	*10275	9888	*8315	7225	*7059	5588
1.5m			*4895	*4895	*11165	9333	*8820	6906	*7334	5395
0m			*3841	*3841	*11528	8942	*9062	6656	*7448	5235
-1.5m	*1928	*1928	*4522	*4522	*11286	8734	*8945	6499	*7319	5128
-3.0m	*3381	*3381	*5693	*5693	*10470	8673	*8414	6435	*6870	5083
-4.5m			*7098	*7098	*9092	8725	*7408	6457	*5996	5105
-6.0m					*7077	*7077	*5801	*5801	*4484	*4484

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A B	10.5m (@F)	10.5m (@S)	12.0m (@F)	12.0m (@S)	Max. (@F)	Max. (@S)	Max. Reach (m)
12.0m					*6202	*602	8.34
10.5m					*5584	5188	9.89
9.0m	*5755	4768			*5250	4373	11.02
7.5m	*5727	4767			*5073	3876	11.85
6.0m	*5826	4702	*5364	3788	*5000	3559	12.44
4.5m	*5990	4600	*5403	3743	4989	3559	12.83
3.0m	*6163	4480	*5445	3679	4840	3245	13.03
1.5m	*6282	4362	5394	3614	*4791	3206	13.05
0m	*6281	4264	*5304	3562	*4625	3237	12.9
-1.5m	*6083	4199	*4957	3539	*4414	3346	12.57
-3.0m	*5593	4181	*4176	3566	*4120	3553	12.04
-4.5m	*4629	4225			*3684	*3684	11.29
-6.0m					*4376	*4376	9.11

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2-4. Elevating Cabin System Spec.



Cabin lifting system		
Lifting height		Max. 2,500 mm
Forward protrusion length (Compared to standard)		Max. 1,706 mm
		Min. 872 mm
Cabin under frame weight		Up to 367 kg
Lifting assembly weight		Up to 1,714 kg
Lifting assembly fixed bolt quantity		M24 x 9 EA
Lifting cylinder	Cylinder quantity	1 EA
	Cylinder stroke	955 mm – 1565 mm (610 mm)
Cabin Moving speed	Upward direction	39 sec +/-10% @ E-Mode
	Downward direction	51 sec +/-10% @ E-Mode

SERVICE INSTRUCTION MANUAL

3. Operation Method**3-1. Machine Operating Precautions****⚠ Attention****Before starting work**

- Pay attention in a workplace where there is a concern for falling objects.
- Check proper operation of the equipment.
- Check leaking of operating oil, cooling water and engine oil.
- Check that the warning sign is lighted on the dashboard in the operator cabin.
- To prevent injury, close the operator cabin door or fragment protection device. Work piece can fly into the operating room during operation.
- Operate on the operator's seat. Do not operate until the equipment and accessories are placed in the proper position.
- Do not operate in poor conditions such as medication and drinking.

During work

- Remove any obstacles within the work scope.
- Do not perform dangerous operations presented in this Manual.
- Contact HYUNDAI CONSTRUCTION EQUIPMENT for remodeling of the equipment.

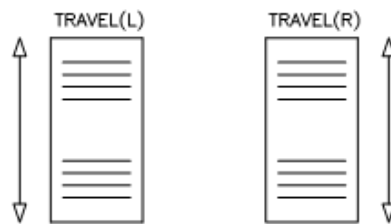
After work

- During maintenance and repair, guarantee stable working conditions and equipment.
- Inspect leaking of operating oil, cooling water and engine oil, as well as loosening of the hydraulic hose, bolts and nuts.
- Check the oil level of the operating oil tank.
- Clean the equipment and important parts.

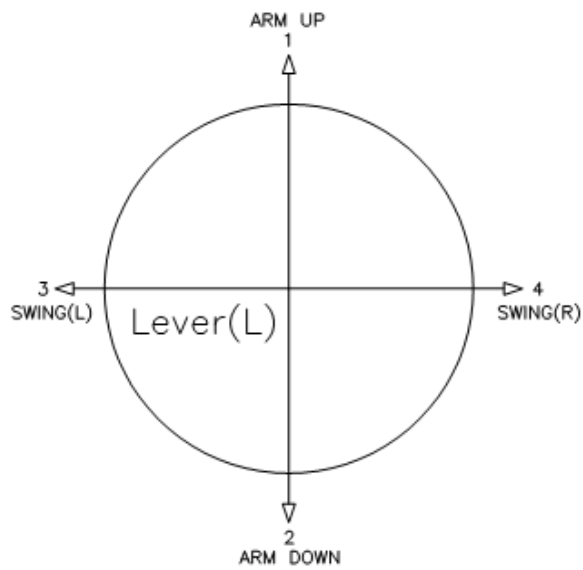
SERVICE INSTRUCTION MANUAL

3-2. Control lever and Joystick

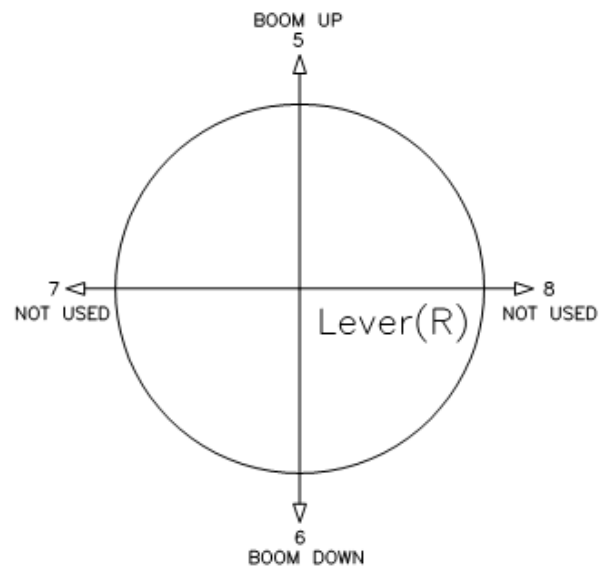
Joystick travel pedal (LH/RH side)



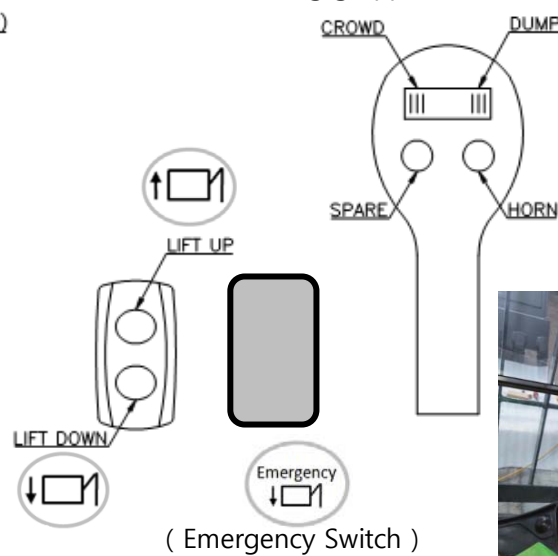
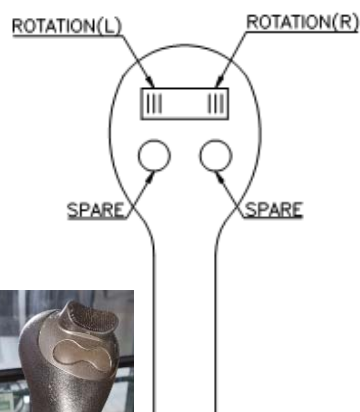
Joystick Control Level (LH-side)



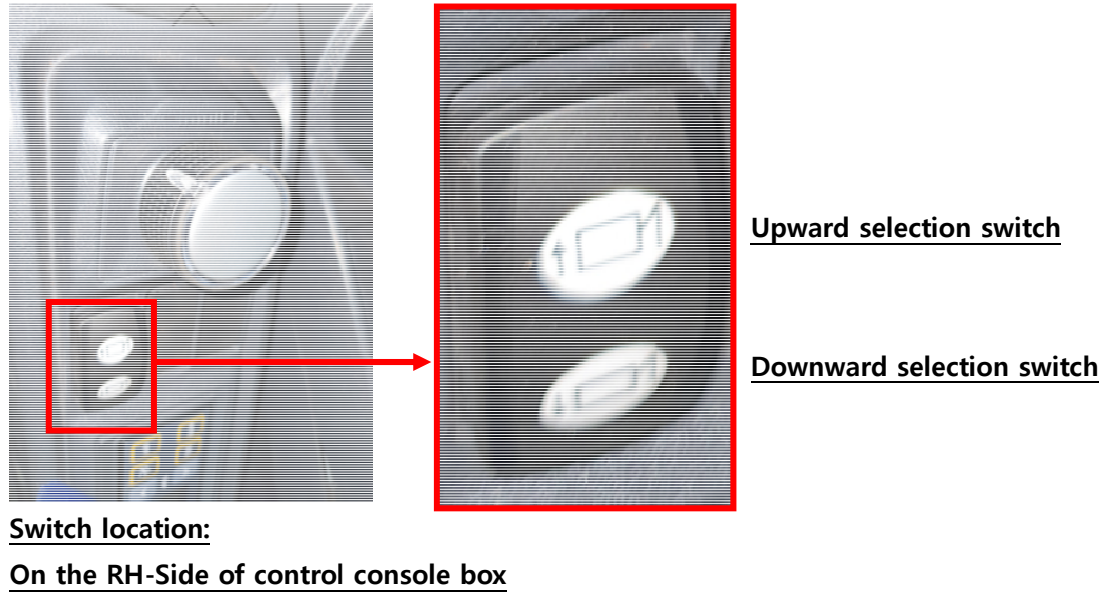
Joystick Control Level (RH-side)



(Button for Folding grapple) (Button for Unfolding grapple)



SERVICE INSTRUCTION MANUAL

3-3. Elevating cabin operation**Elevating operator cabin**

- 1) Close the door and fasten the seat belt.
- 2) Lock the pilot cutoff lever.
- 3) Start the engine.
- 4) Sound horn before elevating cabin operation to notify any people around the cabin if exist.
- 5) Press and hold cabin elevating switch.
- 6) When the station arrives intended height, release the elevating switch.

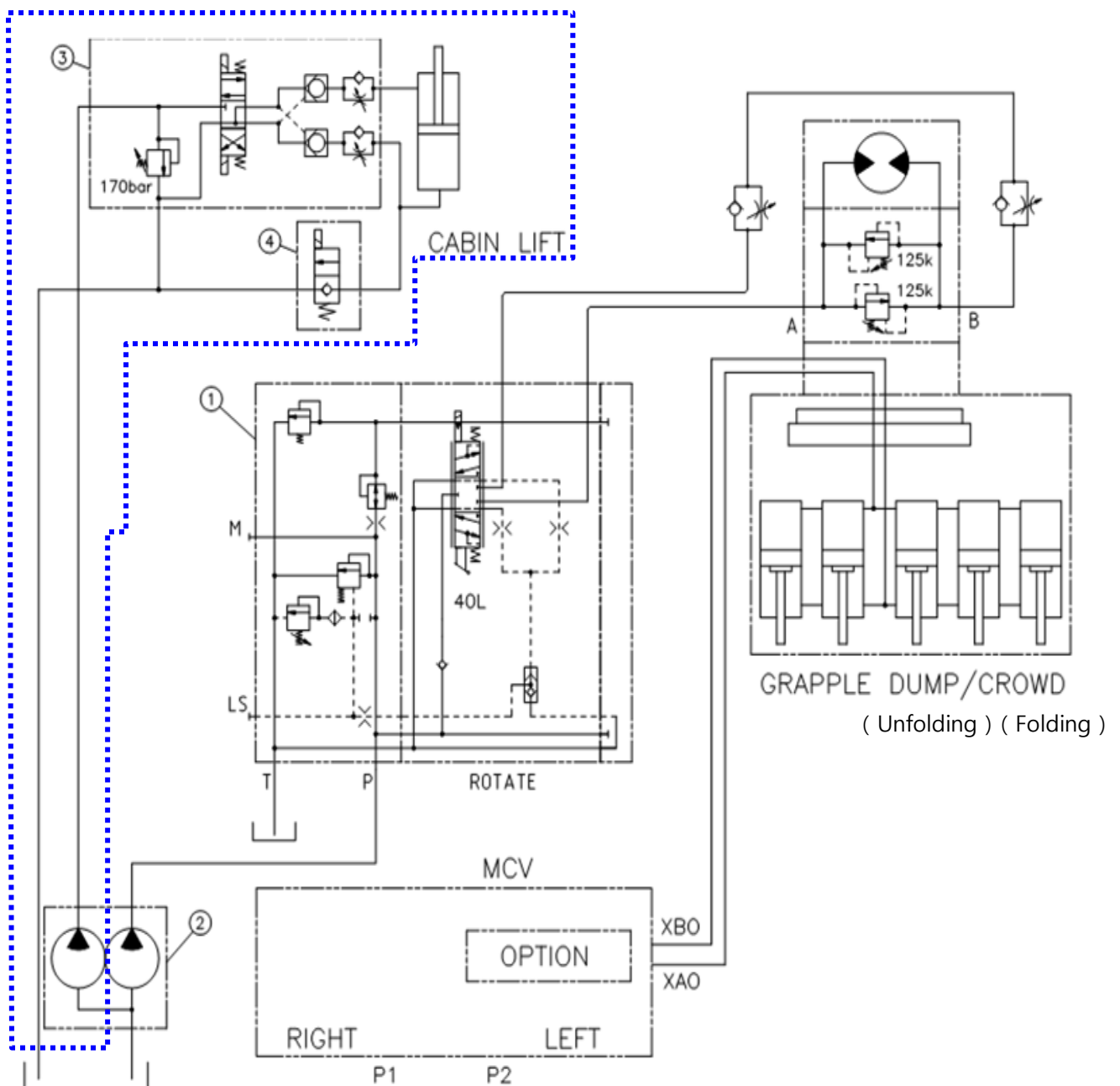
Lowering operator cabin

- 1) Close the door and fasten the seat belt.
- 2) Lock the pilot cutoff lever.
- 3) Sound horn before elevating cabin operation to notify any people around the cabin if exist.
- 4) Press and hold cabin elevating switch downward.
- 5) After lowering completed, release the elevating switch.

4. Circuit Diagram

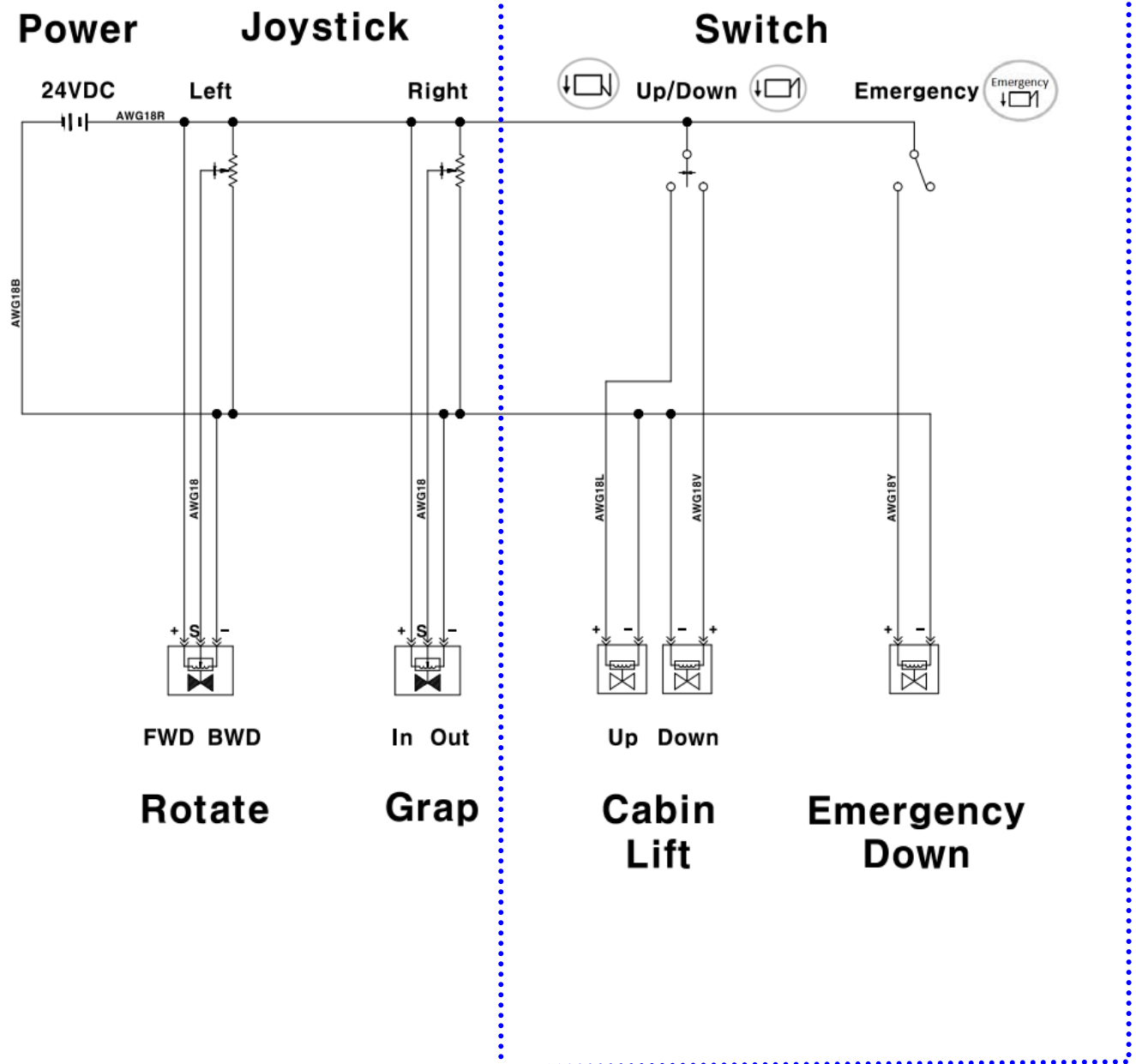
4-1. Hydraulic Circuit Diagram for Elevating Cabin

- | | |
|------------|------------------------------|
| Item No. 1 | Additional Valve – PVG 32 |
| Item No. 2 | Double Pump (PTO pump) |
| Item No. 3 | Motion Control Valve |
| Item No. 4 | Solenoid valve for Emergency |



SERVICE INSTRUCTION MANUAL

4-2. Electric Circuit Diagram



SERVICE INSTRUCTION MANUAL

5. Inspection and Maintenance**5-1. General cautions**

Inspection and maintenance help fully exhibit functions of the equipment and extend service life of the equipment. Pay particular attention to the following while operating the equipment.

- Are operating devices and meters functioning properly?
- Are there abnormalities in appearance, strange noise and heating?
- Are there loosened bolts and nuts?
- Have structures and parts been damaged, worn or disassembled?
- Is each part operating smoothly?

If an abnormality is discovered during operation or inspection, identify the cause and then perform maintenance work immediately. If the cause is unclear or there is a problem in the hydraulic unit, contact HYUNDAI CONSTRUCTION EQUIPMENT.

5-2. Inspection Method

- Be especially careful about safety.
- Devise appropriate inspection and maintenance plans considering the conditions and environment of use for effective inspection and maintenance.
- Only use parts approved by HYUNDAI CONSTRUCTION EQUIPMENT.
- Do not allow water and moisture to infiltrate into electric parts.

Caution:

Malfunctioning of electric parts is related to safety.
 Never disassemble electronic parts.
 Remodeling and alteration of the equipment is strictly prohibited.

5-3. Preparations before maintenance

Before starting maintenance work described in this Manual, stop the equipment as below for maintenance unless described otherwise.

- Place the equipment on a safe and flat place.
- Attach a "Do not start" tag to the work lever.
- Wear appropriate protective clothing when working on a dangerous task.
- Wear safety helmet, safety shoes, protective glasses, tight work trousers, ear protection, industrial gloves and breathing mask.

5-4. Periodic Inspection of Important Parts

Periodic inspection must be conducted to secure safety during work and operation.

Inspection Points
1) Injection of grease into each part
2) Deformation, damaging and abnormal noise of each part
3) Loosening, loss and falling of bolts, nuts and stoppers
4) Abrasion and damaging of pin, bush and pad
5) Operating status and oil leakage of hydraulic valve
6) Oil leakage of hydraulic cylinder and deformation and damaging of rod
7) Deformation of wood grapple structure
8) Abrasion and damaging of grapple of wood grapple

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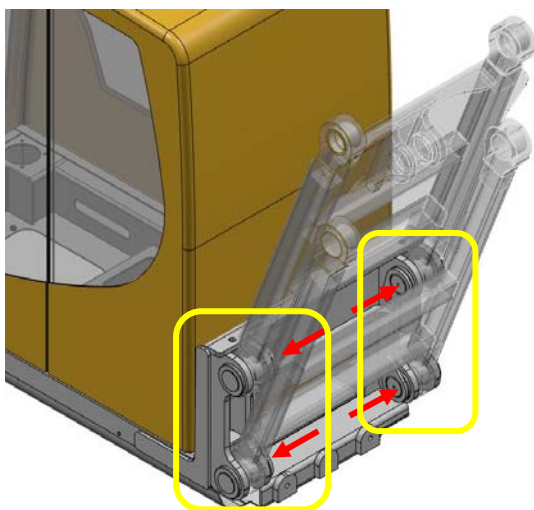
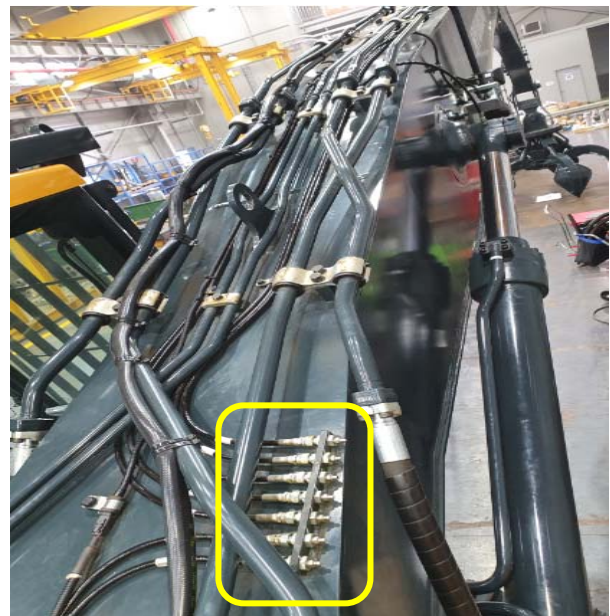
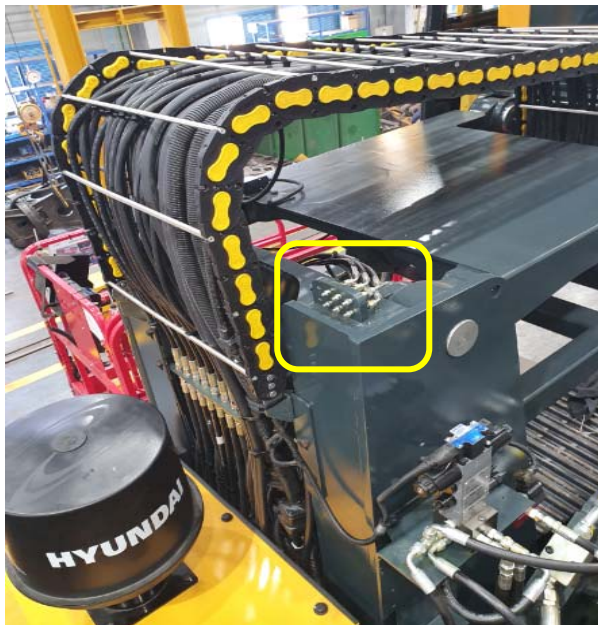
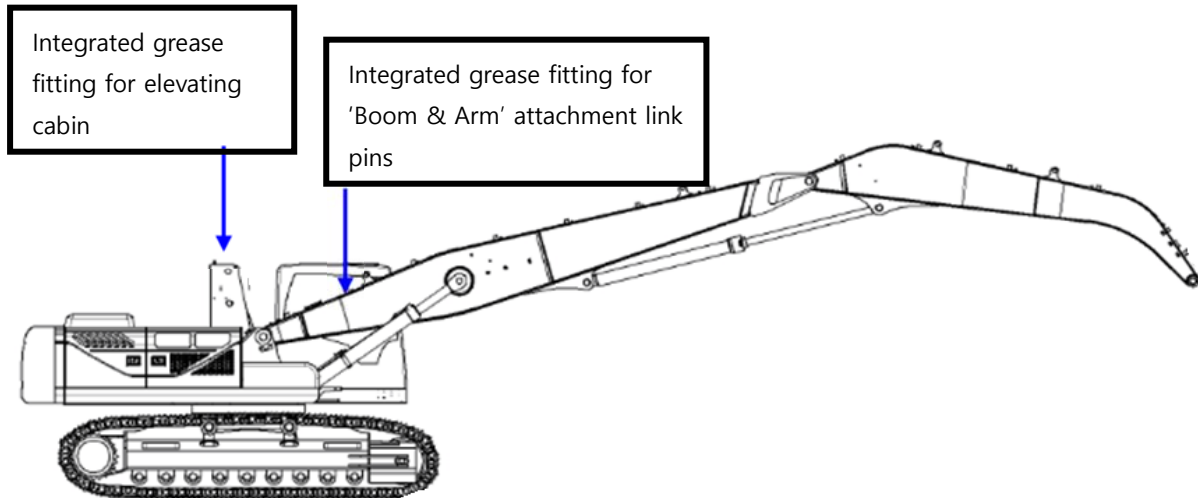
5-5. Types and Causes of Ordinary Troubles

Failure Type	Cause of Failure
Poor hydraulic performance	Temperature of operating oil fails to reach normal level.
	RPM of the engine is too low.
	Flow of operating oil is low.
	There is an obstacle on the hydraulic line.
	The cooling system, pump control system or pilot line is damaged.
	Oil is leaking internally (control block, valve, power unit, etc.).
	The hydraulic hose is entangled or twisted.
	The spool of the control valve is not opened maximally.
	The relief valve is damaged or cannot be adjusted.
	Internal oil leak occurs due to aging of the cylinder.
	The hydraulic pump is damaged.
Poor equipment power	The cylinder rod is bent.
	The piston is jammed.
	The cylinder tube has partially increased inner diameter or flaw.
	Air exists in the hydraulic line.
	Temperature of operating oil is too low.
	The valve spool is jammed or the spring is broken.
	The pump or engine control system is damaged.
	The power control valve is damaged.
	Engine oil is insufficient or improper lubricant is used.
Generation of abnormal noise	The bearing is damaged.
	The gear tooth of the turning reducer is worn and broken.
	The gear tooth of the driving reducer is worn and broken.

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5-6. Greasing

1) Integrated grease fitting location : Four locations as shown in the pictures below




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2) Greasing interval

Time based condition	Greasing interval	Remarks
For 1 st 100 hours operation	Every 10 hours	-
After 100 hours operation	Every 50 hours	-

- Put a rease to the required greasing point on a regular base as shown below.

- ① Locate the machine on a flat and safe ground for greasing work.
- ② Stop engine running
- ③ Put grease through integrated grease fitting

 **Attention** Please note that when a machine attachment is operated underwater working condition then the front attachment has to be greased on every 10 hour and daily basis.

HX300S L MH

Parts Manual

C. HYDRAULIC GROUP

BOOM PIPING	-----C070
GREASE PIPING	-----C080
ARM PIPING	-----C140

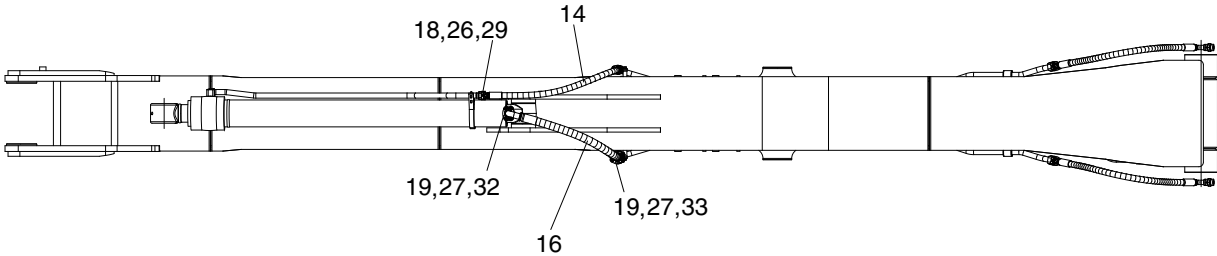
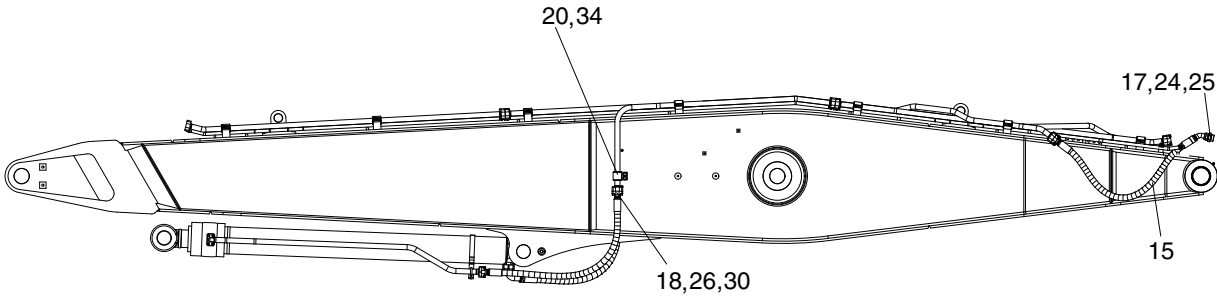
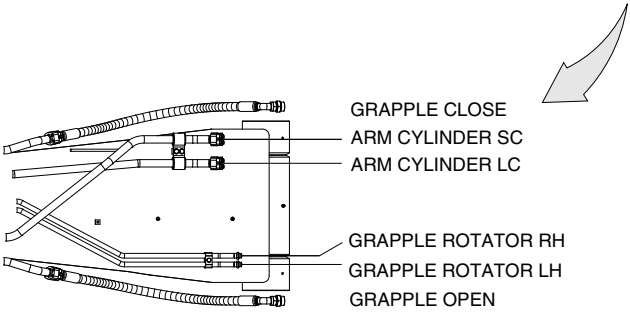
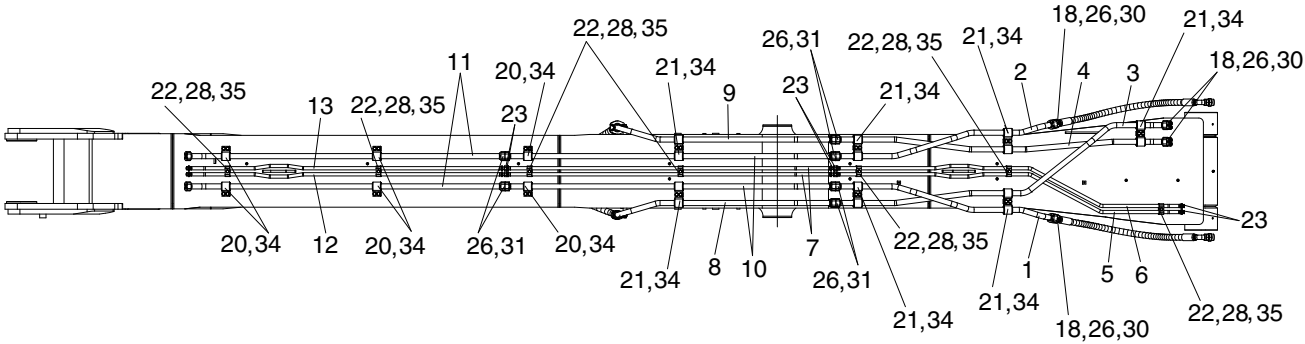
G. STRUCTURE GROUP

LIFTING CABIN	-----G010
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H. ATTACHMENT GROUP

BOOM MOUNT GROUP 1	-----H010
BOOM MOUNT GROUP 2	-----H011
BOOM ASSY	-----H020
ARM ASSY	-----H030

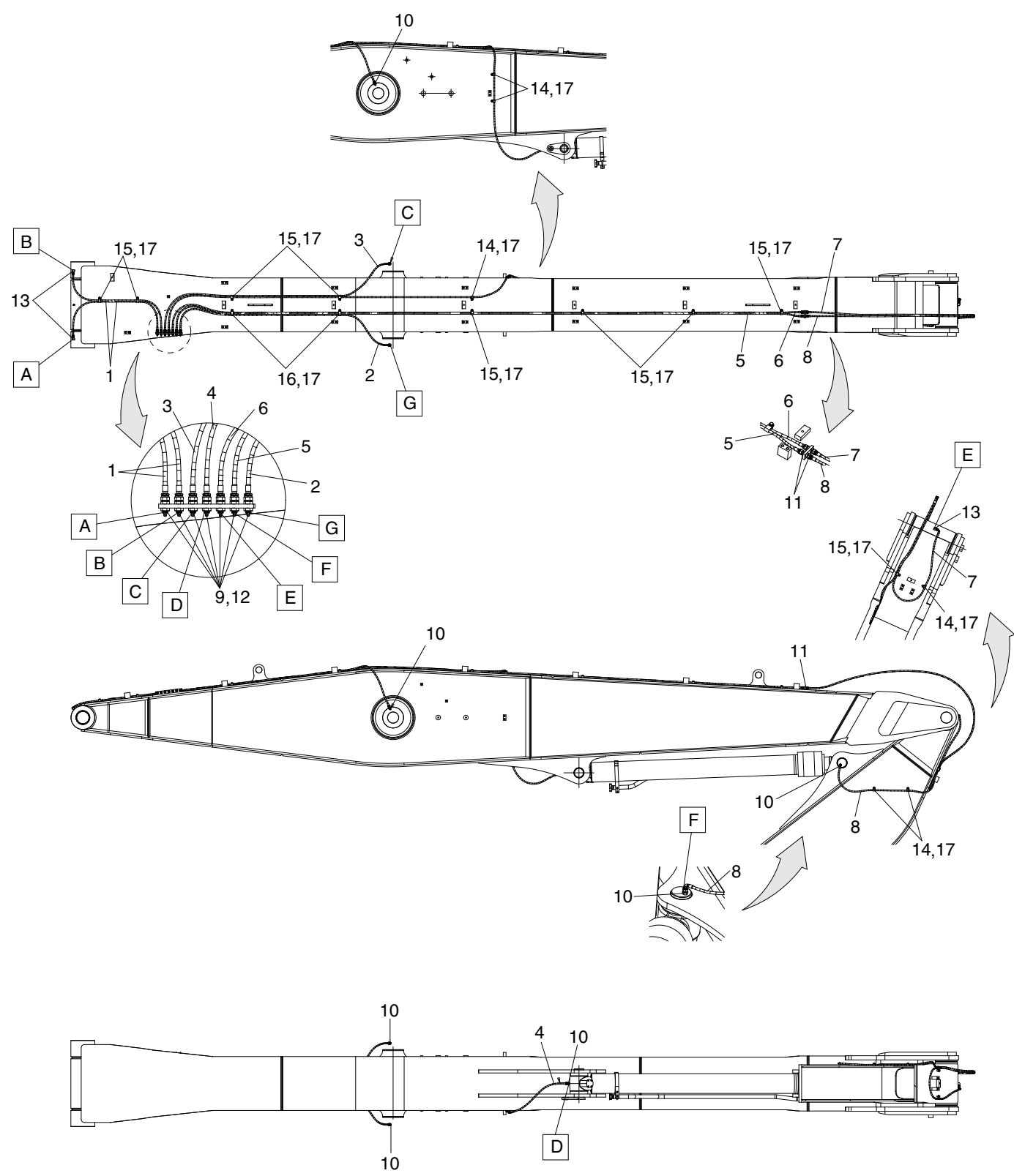
BOOM PIPING



BOOM PIPING

HX300S L MH

ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
* 1 2 3 4	XKBN-06073 XKBN-06074 XKBN-06075 XKBN-06076 XKBN-06077	PIPE-BOOM . PIPE ASSY . PIPE ASSY . PIPE ASSY . PIPE ASSY	1 1 1 1 1			
5 6 7 8 9	XKBN-06078 XKBN-06079 XKBN-06080 XKBN-06081 XKBN-06082	. PIPE ASSY . PIPE ASSY . PIPE ASSY . PIPE ASSY . PIPE ASSY	1 1 2 1 1			
10 11 12 13 14	XKBN-06083 XKBN-06084 XKBN-06085 XKBN-06086 XKBN-06087	. PIPE ASSY . PIPE ASSY . PIPE ASSY . PIPE ASSY . HOSE-OIL	2 2 1 1 1			1350L
15 16 17 18 19	XKBN-06088 XKBN-06089 XKBN-04497 P173-160104 P174-200106	. HOSE-P.D . HOSE-OIL . CONNECTOR . FLANGE-SPLIT . FLANGE-SPLIT	2 1 2 12 4			1400L 1250L
20 21 22 23 24	31E7-01711 31E7-01750 31M6-65100 XKBN-02075 XKBN-06090	. CLAMP ASSY-BAND . CLAMP ASSY-BAND . CLAMP . O-RING . O-RING	16 14 7 6 2			
25 26 27 28 29	S631-038001 Y470-160000 Y470-200000 XKBN-06091 XKBN-04534	. O-RING . SEAL-TRAP . SEAL-TRAP . BOLT-HEX . BOLT-SOCKET	2 12 2 7 4			
30 31 32 33 34	XKBN-06092 XKBN-06093 XKBN-06094 XKBN-03064 S037-123526	. BOLT-SOCKET . BOLT-SOCKET . BOLT-SOCKET . BOLT-SOCKET . BOLT-W/WASHER	20 24 4 4 30			
35	XKBN-00065	. WASHER-SPRING	7			

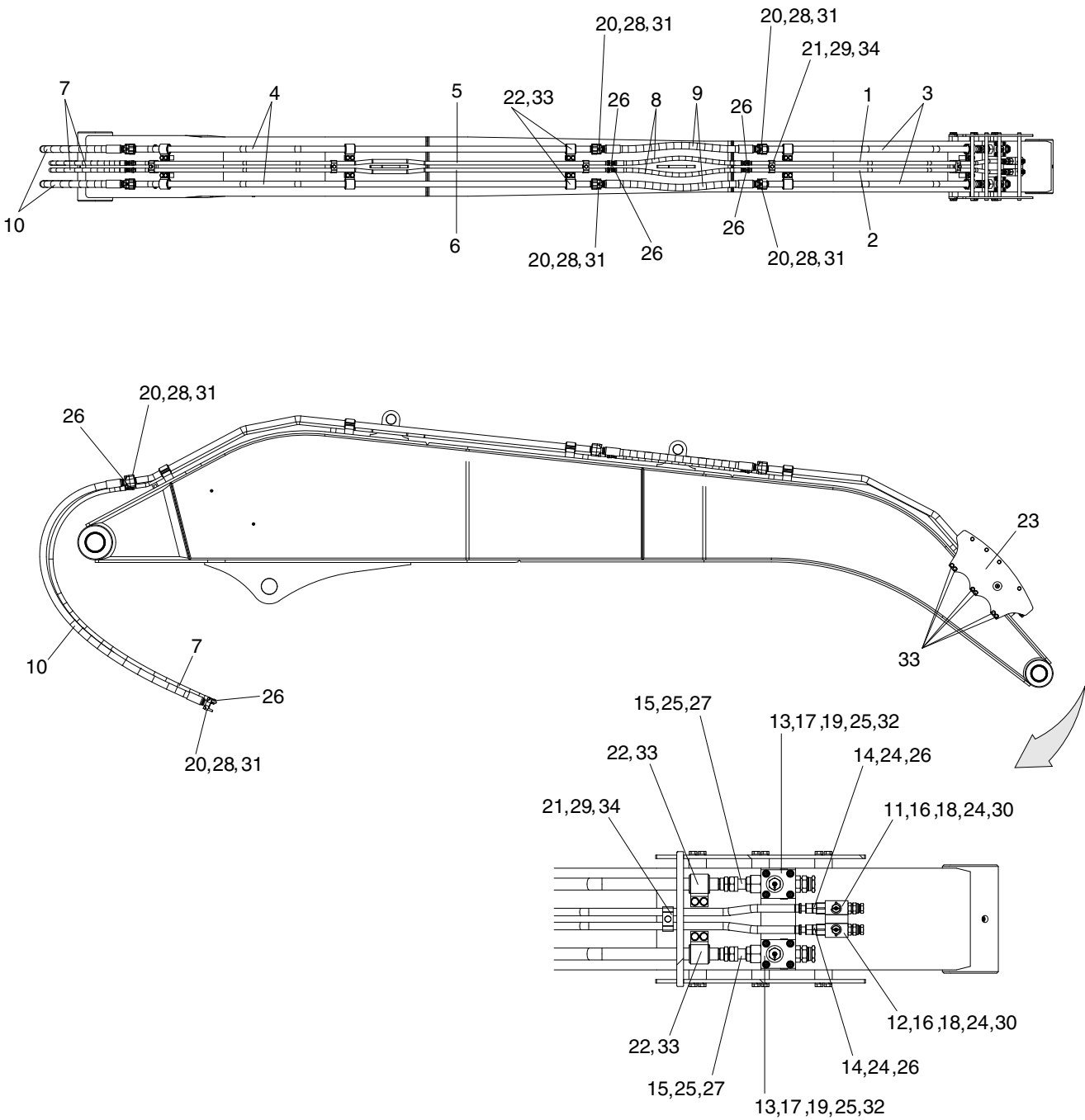


GREASE PIPING

HX300S L MH

ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
* 1 2 3 4	XKBN-06113 P840-042024 P840-042048 P840-042052 P840-042098	PIPE-GREASE . HOSE ASSY-SYNF&THD . HOSE ASSY-THD . HOSE ASSY-SYNF&THD . HOSE ASSY-SYNF&THD	1 2 1 1 1			
5 6 7 8 9	XKBN-06114 XKBN-06115 P860-042069 P860-042072 XKBN-00009	. HOSE ASSY-THD . HOSE ASSY-THD . HOSE ASSY-SYNF&THD . HOSE ASSY-SYNF&THD . NIPPLE-GREASE	1 1 1 1 7			
10 11 12 13 14	P010-430011 XKBN-06116 XKBN-06117 XKBN-06118 31Q6-50370	. CONNECTOR . CONNECTOR . CONNECTOR . ELBOW . CLAMP-HOSE	4 2 7 3 6			
15 16 17	31Q6-50380 31Q6-50390 S035-082026	. CLAMP-HOSE . CLAMP-HOSE . BOLT-W/WASHER	9 2 17			

ARM PIPING

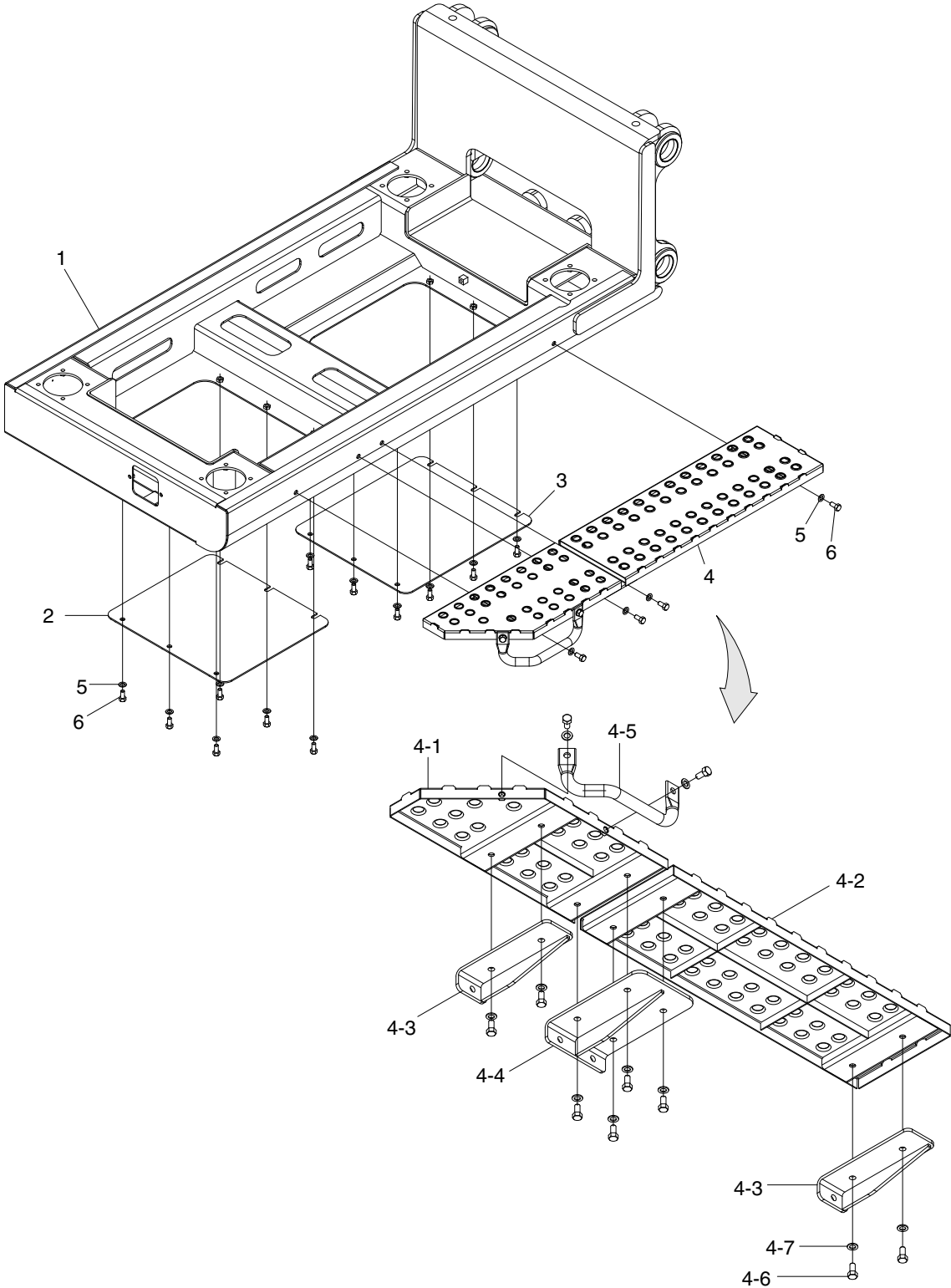


ARM PIPING

HX300S L MH

ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
* 1 2 3 4	XKBN-06095 XKBN-06096 XKBN-06097 XKBN-06098 XKBN-06099	PIPE-ARM . PIPE ASSY . PIPE ASSY . PIPE ASSY . PIPE ASSY	1 1 1 2 2			
5 6 7 8 9	XKBN-06100 XKBN-06101 XKBN-06102 XKBN-06103 XKBN-06104	. PIPE ASSY . PIPE ASSY . HOSE-P.D . HOSE-OIL . HOSE-OIL	1 1 2 2 2			
10 11 12 13 14	XKBN-06105 XKBN-06106 XKBN-06107 XKBN-06108 XKBN-06109	. HOSE-P.D . VALVE-STOP . VALVE-STOP . VALVE-STOP . CONNECTOR	2 1 1 2 2			
15 16 17 18 19	XKBN-06110 P010-110004 P010-110006 XKBN-02867 XKBN-02390	. CONNECTOR . CONNECTOR . CONNECTOR . CAP-UNION . CAP-UNION	2 2 2 2 2			
20 21 22 23 24	P173-160104 31M6-65100 31E7-01711 XKBN-06111 S631-018004	. FLANGE-SPLIT . CLAMP . CLAMP ASSY-BAND . COVER-PIPE . O-RING	16 5 20 1 4			
25 26 27 28 29	S631-029001 XKBN-02075 XKBN-06090 Y470-160000 XKBN-06091	. O-RING . O-RING . O-RING . SEAL-TRAP . BOLT-HEX	4 10 2 8 5			
30 31 32 33 34	XKBN-03080 XKBN-06092 XKBN-06112 S037-123526 XKBN-00065	. BOLT-SOCKET . BOLT-SOCKET . BOLT-SOCKET . BOLT-W/WASHER . WASHER-SPRING	8 32 8 32 5			

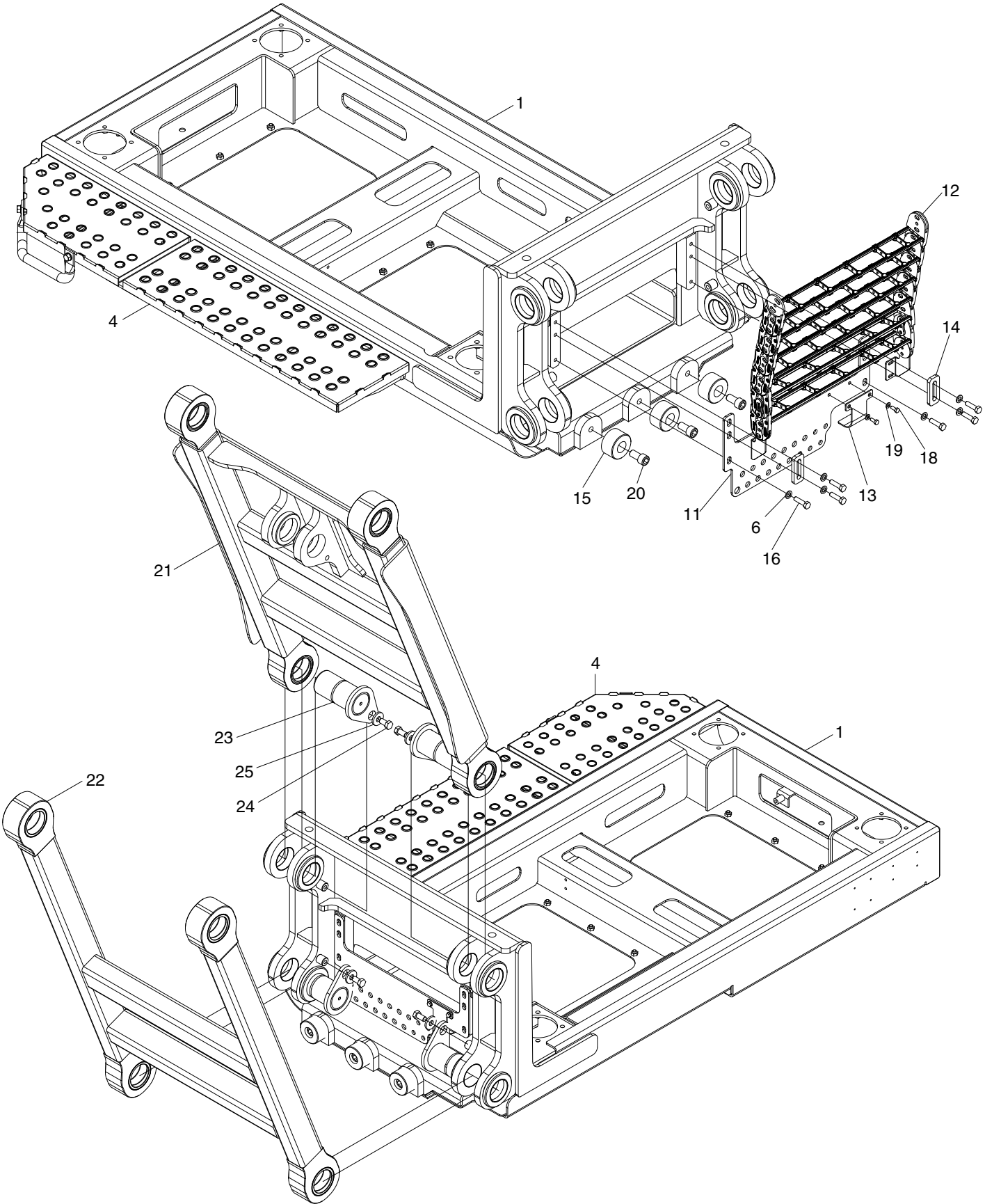
LIFTING CABIN (1/3)



LIFTING CABIN

HX300S L MH

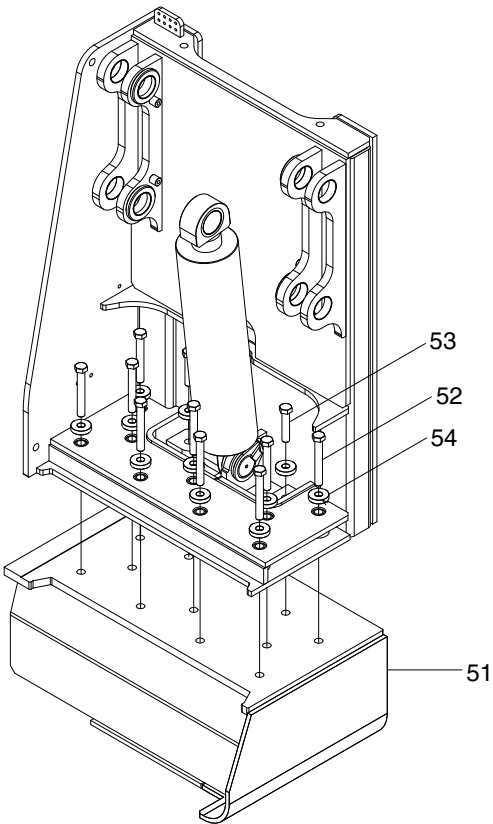
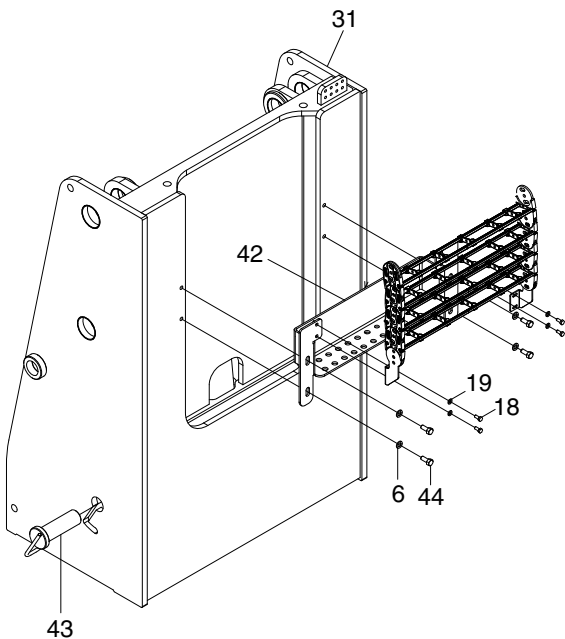
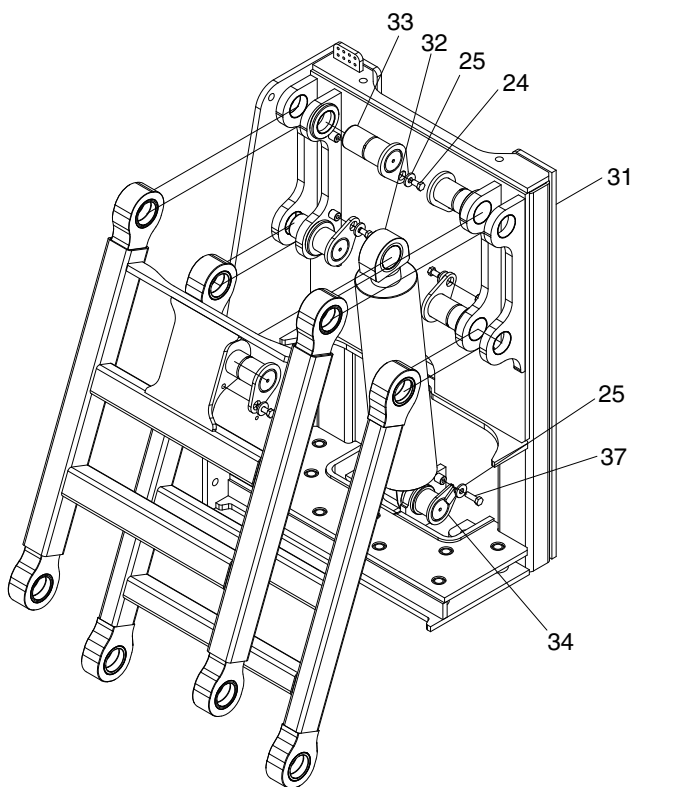
ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
*	XKBN-06134	CABIN-LIFTING	1			
1	XKBN-06135	. FRAME-UNDER CABIN	1			
2	XKBN-06136	. COVER-UNDER FRONT	1			
3	XKBN-06137	. COVER-UNDER REAR	1			
4	XKBN-06138	. STEP ASSY-SIDE	1			
4-1	XKBN-06139	.. STEP ASSY	1			
4-2	XKBN-06140	.. STEP ASSY	1			
4-3	XKBN-06141	.. PLATE-SUPPORT	2			
4-4	XKBN-06142	.. PLATE-SUPPORT	1			
4-5	XKBN-06143	.. HANDLE	1			
4-6	XKBN-06144	.. BOLT-HEX	10			
4-7	XKBN-06145	.. WASHER	10			
5	XKBN-06144	. BOLT-HEX	16			
6	XKBN-06145	. WASHER	28			
11	XKBN-06146	. BRACKET-FRONT	1			
12	XKBN-06147	. CARRIER-CABLE	1			
13	XKBN-06148	. PLATE	1			
14	XKBN-06149	. SHIM	2			
15	XKBN-06150	. STOPPER	3			
16	XKBN-06151	. BOLT	6			
18	XKBN-06152	. BOLT-HEX	6			
19	XKBN-06153	. WASHER	2			
20	XKBN-06154	. BOLT-SOCKET	3			
21	XKBN-06155	. LINK ASSY-UPPER	1			
22	XKBN-06156	. LINK ASSY-LOWER	1			
23	XKBN-06157	. PIN ASSY-BASE LINK	4			
24	XKBN-06158	. BOLT-HEX	9			
25	XKBN-06159	. WASHER	10			
31	XKBN-06160	. CYLINDER ASSY	1			
32	XKBN-06161	. PIN ASSY-SUPPORT	5			
33	XKBN-06162	. PIN ASSY-CYL	1			
34	XKBN-06163	. BOLT-HEX	1			
37	XKBN-06164	. BRACKET-REAR	1			
42	XKBN-06165	. PIN-SAFETY	1			
43	XKBN-06166	. BOLT-HEX	4			
44	XKBN-06167	. BASE-LIFTING	1			
51	XKBN-06168	. BOLT-HEX	9			
52	XKBN-06169	. BOLT-HEX	2			
53	XKBN-06170	. WASHER	11			
54	XKBN-06172	. FRAME-LIFTING	1			



LIFTING CABIN

HX300S L MH

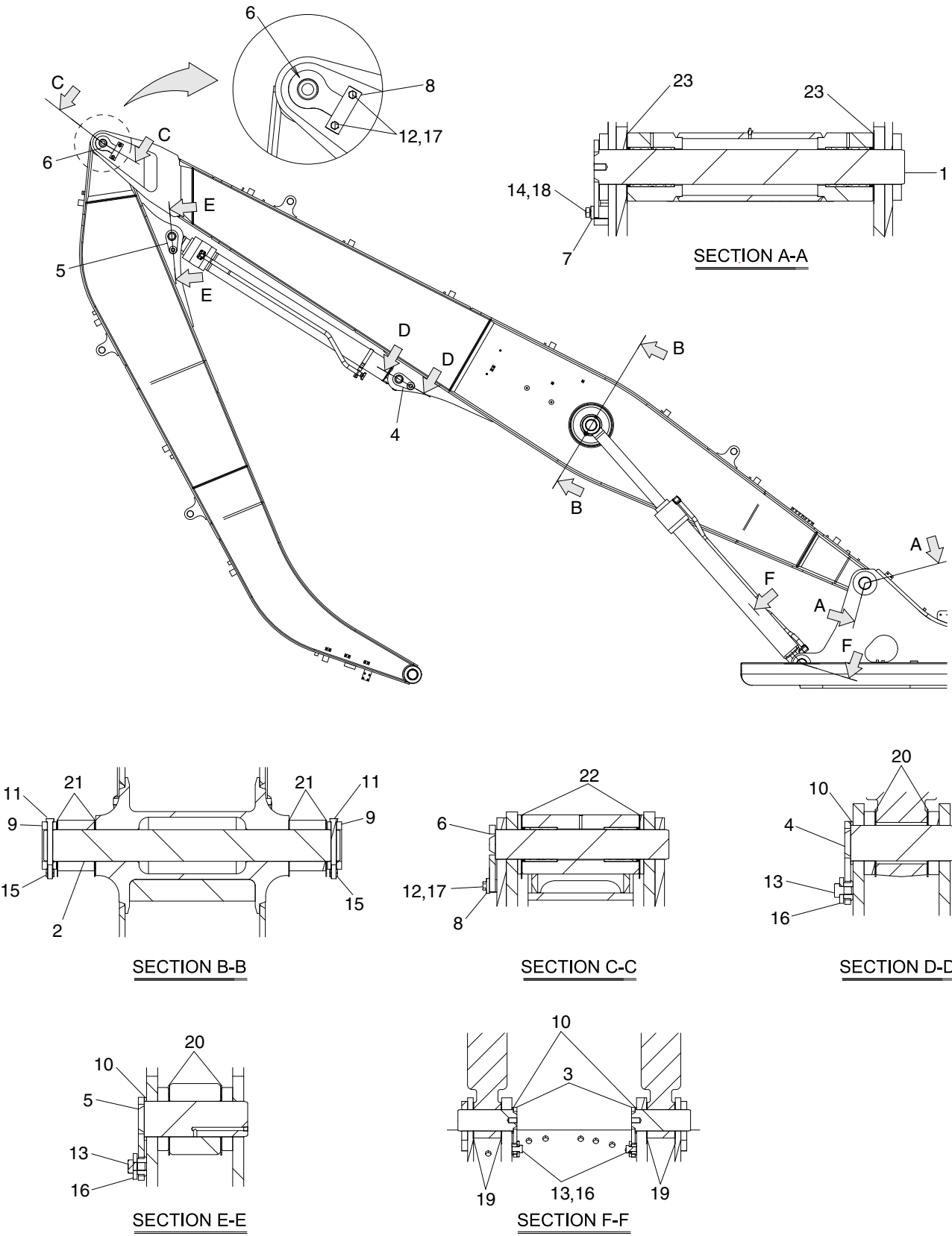
ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
*	XKBN-06134	CABIN-LIFTING	1			
1	XKBN-06135	. FRAME-UNDER CABIN	1			
2	XKBN-06136	. COVER-UNDER FRONT	1			
3	XKBN-06137	. COVER-UNDER REAR	1			
4	XKBN-06138	. STEP ASSY-SIDE	1			
4-1	XKBN-06139	.. STEP ASSY	1			
4-2	XKBN-06140	.. STEP ASSY	1			
4-3	XKBN-06141	.. PLATE-SUPPORT	2			
4-4	XKBN-06142	.. PLATE-SUPPORT	1			
4-5	XKBN-06143	.. HANDLE	1			
4-6	XKBN-06144	.. BOLT-HEX	10			
4-7	XKBN-06145	.. WASHER	10			
5	XKBN-06144	. BOLT-HEX	16			
6	XKBN-06145	. WASHER	28			
11	XKBN-06146	. BRACKET-FRONT	1			
12	XKBN-06147	. CARRIER-CABLE	1			
13	XKBN-06148	. PLATE	1			
14	XKBN-06149	. SHIM	2			
15	XKBN-06150	. STOPPER	3			
16	XKBN-06151	. BOLT	6			
18	XKBN-06152	. BOLT-HEX	6			
19	XKBN-06153	. WASHER	2			
20	XKBN-06154	. BOLT-SOCKET	3			
21	XKBN-06155	. LINK ASSY-UPPER	1			
22	XKBN-06156	. LINK ASSY-LOWER	1			
23	XKBN-06157	. PIN ASSY-BASE LINK	4			
24	XKBN-06158	. BOLT-HEX	9			
25	XKBN-06159	. WASHER	10			
31	XKBN-06160	. CYLINDER ASSY	1			
32	XKBN-06161	. PIN ASSY-SUPPORT	5			
33	XKBN-06162	. PIN ASSY-CYL	1			
34	XKBN-06163	. BOLT-HEX	1			
37	XKBN-06164	. BRACKET-REAR	1			
42	XKBN-06165	. PIN-SAFETY	1			
43	XKBN-06166	. BOLT-HEX	4			
44	XKBN-06167	. BASE-LIFTING	1			
51	XKBN-06168	. BOLT-HEX	9			
52	XKBN-06169	. BOLT-HEX	2			
53	XKBN-06170	. WASHER	11			
54	XKBN-06172	. FRAME-LIFTING	1			



LIFTING CABIN

HX300S L MH

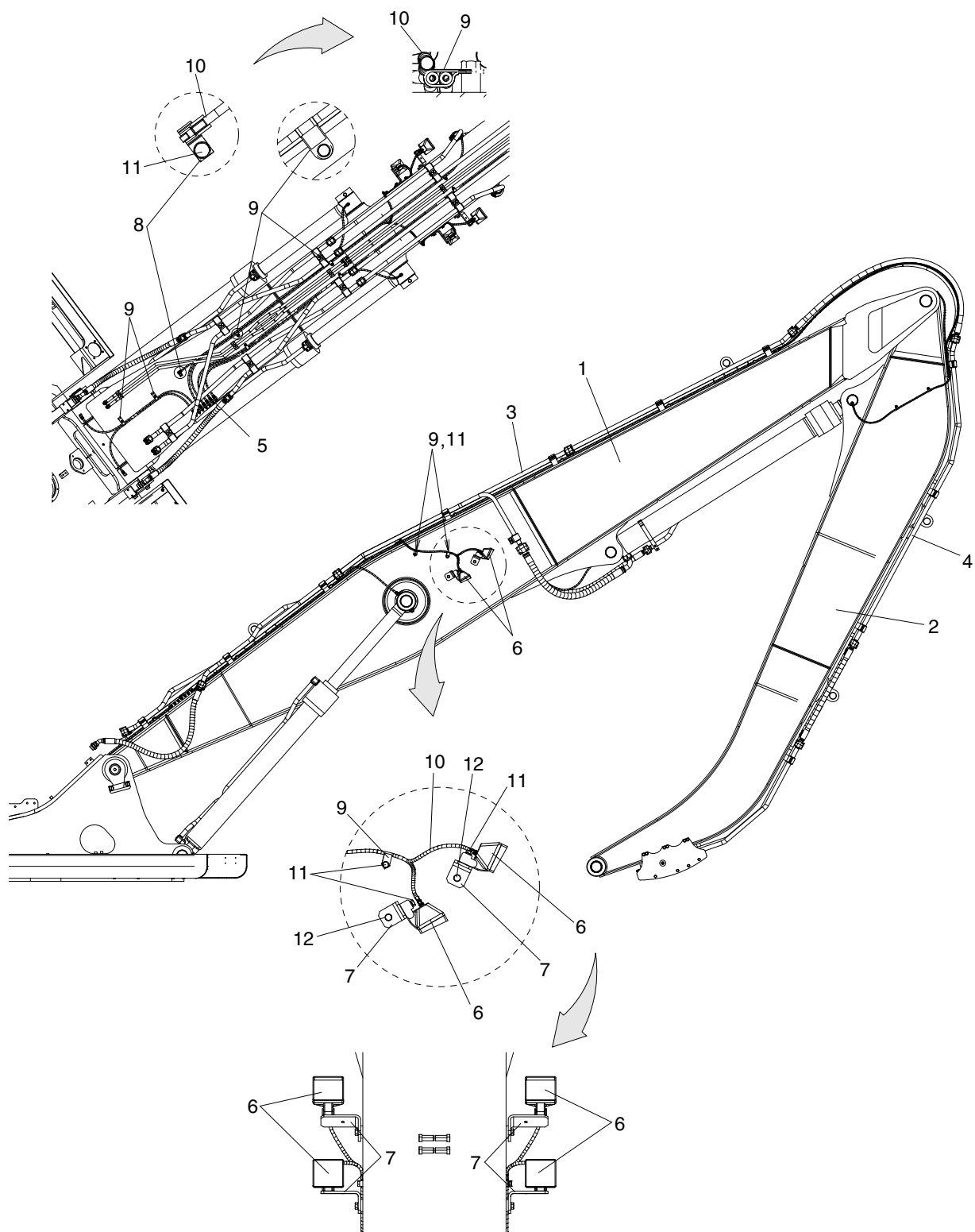
ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
* 1 2 3 4	XKBN-06134 XKBN-06135 XKBN-06136 XKBN-06137 XKBN-06138	CABIN-LIFTING . FRAME-UNDER CABIN . COVER-UNDER FRONT . COVER-UNDER REAR . STEP ASSY-SIDE	1 1 1 1 1			
4-1 4-2 4-3 4-4 4-5	XKBN-06139 XKBN-06140 XKBN-06141 XKBN-06142 XKBN-06143	.. STEP ASSY .. STEP ASSY .. PLATE-SUPPORT .. PLATE-SUPPORT .. HANDLE	1 1 2 1 1			
4-6 4-7 5 6 11	XKBN-06144 XKBN-06145 XKBN-06144 XKBN-06145 XKBN-06146	.. BOLT-HEX .. WASHER . BOLT-HEX . WASHER . BRACKET-FRONT	10 10 16 28 1			
12 13 14 15 16	XKBN-06147 XKBN-06148 XKBN-06149 XKBN-06150 XKBN-06151	. CARRIER-CABLE . PLATE . SHIM . STOPPER . BOLT	1 1 2 3 6			
18 19 20 21 22	XKBN-06152 XKBN-06153 XKBN-06154 XKBN-06155 XKBN-06156	. BOLT-HEX . WASHER . BOLT-SOCKET . LINK ASSY-UPPER . LINK ASSY-LOWER	6 2 3 1 1			
23 24 25 31 32	XKBN-06157 XKBN-06158 XKBN-06159 XKBN-06160 XKBN-06161	. PIN ASSY-BASE LINK . BOLT-HEX . WASHER . CYLINDER ASSY . PIN ASSY-SUPPORT	4 9 10 1 5			
33 34 37 42 43	XKBN-06162 XKBN-06163 XKBN-06164 XKBN-06165 XKBN-06166	. PIN ASSY-CYL . BOLT-HEX . BRACKET-REAR . PIN-SAFETY . BOLT-HEX	1 1 1 1 4			
44 51 52 53 54	XKBN-06167 XKBN-06168 XKBN-06169 XKBN-06170 XKBN-06172	. BASE-LIFTING . BOLT-HEX . BOLT-HEX . WASHER . FRAME-LIFTING	1 9 2 11 1			



BOOM MOUNT GROUP 1

HX300S L MH

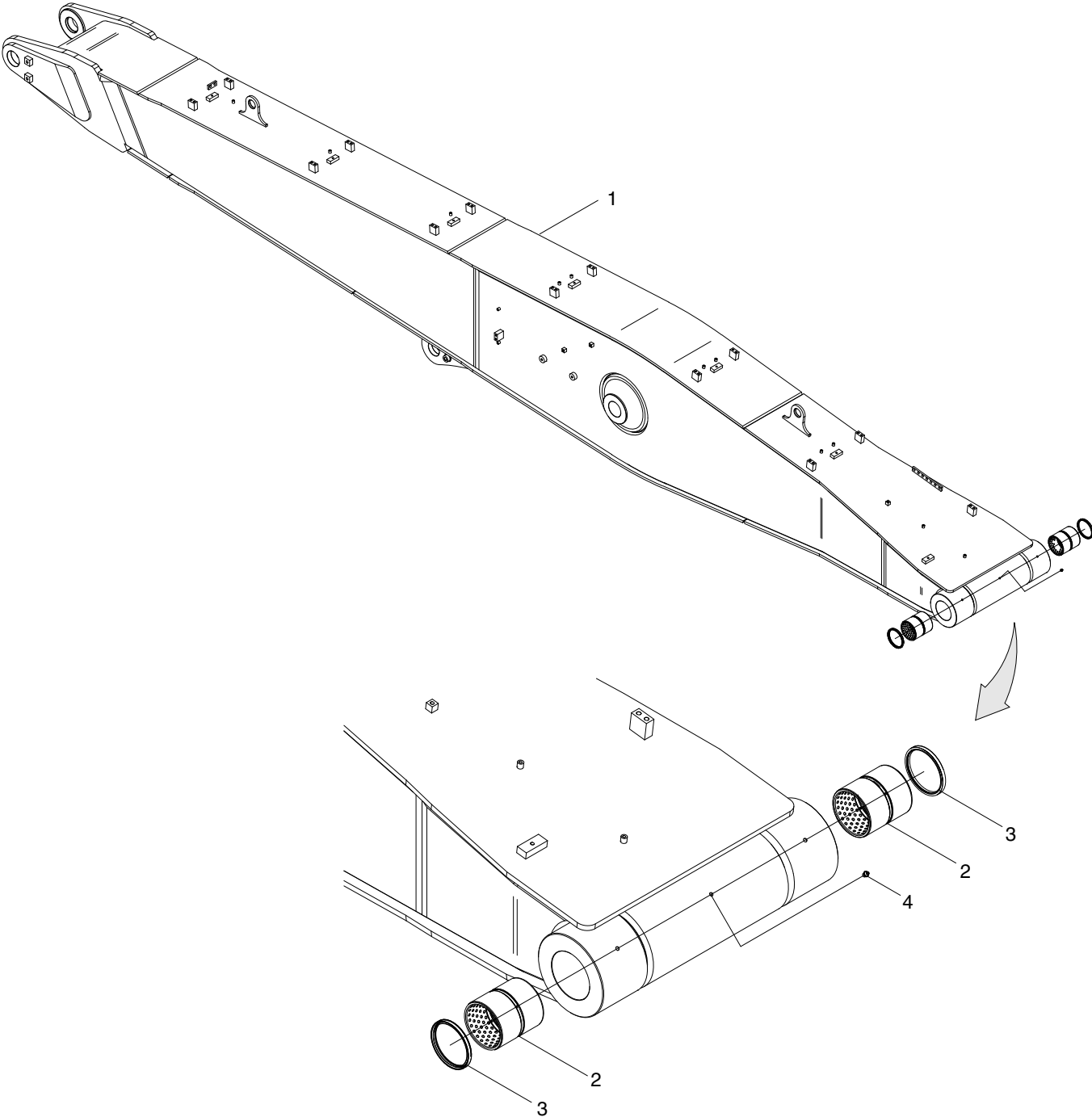
ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
* 1 2 3 4	XKBN-06171 61Q8-00010 61E9-11021 61Q6-01700GG XKBN-06120	MOUNT-BOOM . PIN-JOINT . PIN-JOINT . PIN-JOINT . PIN-JOINT	1 1 1 2 1			
5 6 7 8 9	XKBN-06121 XKBN-06122 61Q8-00310 61Q8-00320 61Q6-00330	. PIN-JOINT . PIN-JOINT . PLATE . PLATE . PIN-STOP	1 1 1 1 2			
10 11 12 13 14	61Q8-00150 XKBN-06123 S017-16035D S017-20030D S017-20035D	. SPACER-PIN . BOLT-HEX . BOLT-HEX . BOLT-HEX . BOLT-HEX	4 2 2 4 2			
15 16 17 18 19	XKBN-00665 61N8-00320-DA XKBN-06124 XKBN-06125 S991-090150	. NUT-HEX . WASHER-HARDEN . WASHER-SPRING . WASHER-SPRING . SHIM-POLYMER 1.0	4 4 2 2 4			
19 20 20 20 21	S993-090150 S991-090170 S992-090170 S993-090170 S991-100160	. SHIM-POLYMER 2.0 . SHIM-POLYMER 1.0 . SHIM-POLYMER 1.5 . SHIM-POLYMER 2.0 . SHIM-POLYMER 1.0	4 4 4 4 4			
21 22 22 22 22	S993-100160 S991-100200 S992-100200 S993-100200 S994-100200	. SHIM-POLYMER 2.0 . SHIM-POLYMER 1.0 . SHIM-POLYMER 1.5 . SHIM-POLYMER 2.0 . SHIM-POLYMER 2.5	4 2 2 2 2			
23 23 23 23	S991-110210 S992-110210 S993-110210 S994-110210	. SHIM-POLYMER 1.0 . SHIM-POLYMER 1.5 . SHIM-POLYMER 2.0 . SHIM-POLYMER 2.5	2 2 2 2			



BOOM MOUNT GROUP 2

HX300S L MH

ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
*	XKBN-06126	MOUNT-BOOM	1			
1	XKBN-06069	. BOOM ASSY	1			SEE PH020
2	XKBN-06071	. ARM ASSY	1			SEE PH030
3	XKBN-06073	. PIPE-BOOM	1			SEE PC070
4	XKBN-06095	. PIPE-ARM	1			SEE PC140
5	XKBN-06113	. PIPE-GREASE	1			SEE PC080
6	21QB-60700	. LAMP ASSY-WORK	4			
7	XKBN-06132	. BRACKET-LAMP	4			
8	25D1-10640	. CLIP	1			
9	31L7-10350	. CLAMP	8			
10	XKBN-06133	. HARNESS	1			
11	S037-102026	. BOLT-W/WASHER	9			
12	S037-122526	. BOLT-W/WASHER	4			

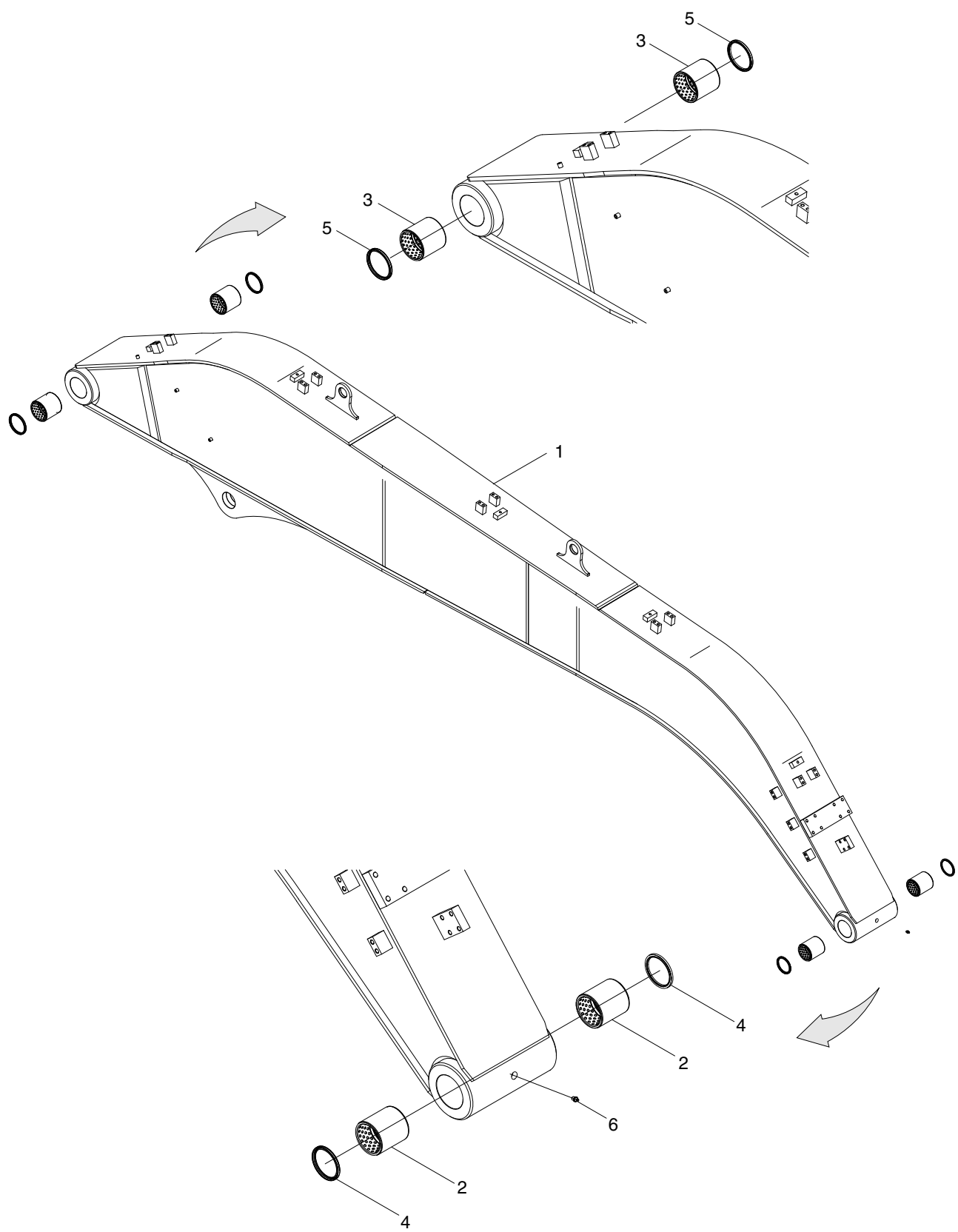


BOOM ASSY

HX300S L MH

ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
* 1 2 3 4	XKBN-06069 XKBN-06070 X172-223140 Y020-110111 XKBN-00009	BOOM ASSY . BODY-BOOM . BUSHING-DIMPLE . SEAL-DUST . NIPPLE-GREASE	1 1 2 2 1			7.8M

ARM ASSY



ARM ASSY

HX300S L MH

ITEM	PART NO	DESCRIPTION	QTY	SERIAL NO	ITC	REMARK
* 1 2 3 4	XKBN-06071 XKBN-06072 X171-163100 X171-203110 Y020-080011	ARM ASSY . BODY-ARM . BUSHING-DIMPLE . BUSHING-DIMPLE . SEAL-DUST	1 1 2 2 2			5.4M
5 6	Y020-100111 XKBN-00009	. SEAL-DUST . NIPPLE-GREASE	2 1			

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31E7-01711	C070	20	S991-090150	H010	19	XKBN-06074	C070	1
31E7-01711	C140	22	S991-090170	H010	20	XKBN-06075	C070	2
31E7-01750	C070	21	S991-100160	H010	21	XKBN-06076	C070	3
31L7-10350	H011	9	S991-100200	H010	22	XKBN-06077	C070	4
31M6-65100	C070	22	S991-110210	H010	23	XKBN-06078	C070	5
31M6-65100	C140	21	S992-090170	H010	20	XKBN-06079	C070	6
31Q6-50370	C080	14	S992-100200	H010	22	XKBN-06080	C070	7
31Q6-50380	C080	15	S992-110210	H010	23	XKBN-06081	C070	8
31Q6-50390	C080	16	S993-090150	H010	19	XKBN-06082	C070	9
61E9-11021	H010	2	S993-090170	H010	20	XKBN-06083	C070	10
61N8-00320-DA	H010	16	S993-100160	H010	21	XKBN-06084	C070	11
61Q6-00330	H010	9	S993-100200	H010	22	XKBN-06085	C070	12
61Q6-01700GG	H010	3	S993-110210	H010	23	XKBN-06086	C070	13
61Q8-00010	H010	1	S994-100200	H010	22	XKBN-06087	C070	14
61Q8-00150	H010	10	S994-110210	H010	23	XKBN-06088	C070	15
61Q8-00310	H010	7	X171-163100	H030	2	XKBN-06089	C070	16
61Q8-00320	H010	8	X171-203110	H030	3	XKBN-06090	C070	24
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P010-430011	C080	10	XKBN-00009	H020	4	XKBN-06091	C140	29
P173-160104	C070	18	XKBN-00009	H030	6	XKBN-06092	C070	30
P173-160104	C140	20	XKBN-00065	C070	35	XKBN-06092	C140	31
P174-200106	C070	19	XKBN-00065	C140	34	XKBN-06093	C070	31
P840-042024	C080	1	XKBN-00665	H010	15	XKBN-06094	C070	32
P840-042048	C080	2	XKBN-02075	C070	23	XKBN-06095	C140	*
P840-042052	C080	3	XKBN-02075	C140	26	XKBN-06095	H011	4
P840-042098	C080	4	XKBN-02390	C140	19	XKBN-06096	C140	1
P860-042069	C080	7	XKBN-02867	C140	18	XKBN-06097	C140	2
P860-042072	C080	8	XKBN-03064	C070	33	XKBN-06098	C140	3
S017-16035D	H010	12	XKBN-03080	C140	30	XKBN-06099	C140	4
S017-20030D	H010	13	XKBN-04497	C070	17	XKBN-06100	C140	5
S017-20035D	H010	14	XKBN-04534	C070	29	XKBN-06101	C140	6
S035-082026	C080	17	XKBN-06069	H011	1	XKBN-06102	C140	7
S037-102026	H011	11	XKBN-06069	H020	*	XKBN-06103	C140	8
S037-122526	H011	12	XKBN-06070	H020	1	XKBN-06104	C140	9
S037-123526	C070	34	XKBN-06071	H011	2	XKBN-06105	C140	10
S037-123526	C140	33	XKBN-06071	H030	*	XKBN-06106	C140	11
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XKBN-06111	C140	23	XKBN-06154	G010	20			
XKBN-06112	C140	32	XKBN-06155	G010	21			
XKBN-06113	C080	*	XKBN-06156	G010	22			
XKBN-06113	H011	5	XKBN-06157	G010	23			
XKBN-06114	C080	5	XKBN-06158	G010	24			
XKBN-06115	C080	6	XKBN-06159	G010	25			
XKBN-06116	C080	11	XKBN-06160	G010	31			
XKBN-06117	C080	12	XKBN-06161	G010	32			
XKBN-06118	C080	13	XKBN-06162	G010	33			
XKBN-06120	H010	4	XKBN-06163	G010	34			
XKBN-06121	H010	5	XKBN-06164	G010	37			
XKBN-06122	H010	6	XKBN-06165	G010	42			
XKBN-06123	H010	11	XKBN-06166	G010	43			
XKBN-06124	H010	17	XKBN-06167	G010	44			
XKBN-06125	H010	18	XKBN-06168	G010	51			
XKBN-06126	H011	*	XKBN-06169	G010	52			
XKBN-06132	H011	7	XKBN-06170	G010	53			
XKBN-06133	H011	10	XKBN-06171	H010	*			
XKBN-06134	G010	*	XKBN-06172	G010	54			
XKBN-06135	G010	1	Y020-080011	H030	4			
XKBN-06136	G010	2	Y020-100111	H030	5			
XKBN-06137	G010	3	Y020-110111	H020	3			
XKBN-06138	G010	4	Y470-160000	C070	26			
XKBN-06139	G010	4-1	Y470-160000	C140	28			
XKBN-06140	G010	4-2	Y470-200000	C070	27			
XKBN-06141	G010	4-3						
XKBN-06142	G010	4-4						
XKBN-06143	G010	4-5						
XKBN-06144	G010	4-6						
XKBN-06144	G010	5						
XKBN-06145	G010	4-7						
XKBN-06145	G010	6						
XKBN-06146	G010	11						
XKBN-06147	G010	12						
XKBN-06148	G010	13						
XKBN-06149	G010	14						
XKBN-06150	G010	15						