

OPERATION & MAINTENANCE MANUAL

CK2000

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IMPORTANT INFORMATION

Thank you for your purchasing KOBELCO crawler crane. Our CK series full-hydraulically operated crawler crane, is manufactured based on our many years of experience and expertise. This manual describes important information about Model CK2000.

Before operating the machine, be sure to thoroughly read this manual in order to use the machine safely and efficiently.



Do not operate or maintain this machine until you read this manual and understand the instructions. Improper operation or maintenance of this machine may cause accidents and could result in serious injury or death.

Always keep this manual in the operator's cab.

If it is missing or damaged, place an order to a KOBELCO authorize distributor for a replacement.

If you have any questions, please consult your KOBELCO authorize distributor.

SAFETY INFORMATION

Most accidents, that occur during operation are due to neglect of precautionary measures and safety rules. Sufficient care should be taken to avoid these accidents.

Erroneous operation, lubrication or maintenance services are very dangerous and may cause injury to, or death of, personnel.

Precautionary measures or notes provided in this manual should be read and understood by personnel before starting each task.

Operation, inspection, and maintenance should be carefully carried out, and safety must be given first priority.

Safety labels are indicated with ▲ marks. The safety information contained in this manual is intended only general safety information.

Safety labels appear both in this manual and on the machine.

All safety labels are identified by the words "DANGER", "WARNING" and "CAUTION".

These words mean the following:



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against possible damage to the machine and its components.

Note

Supplementary explanation.

It is very difficult for us to forecast every danger that may occur during operation. However, safety can be ensured by operating this machine according to methods recommended by KOBELCO.

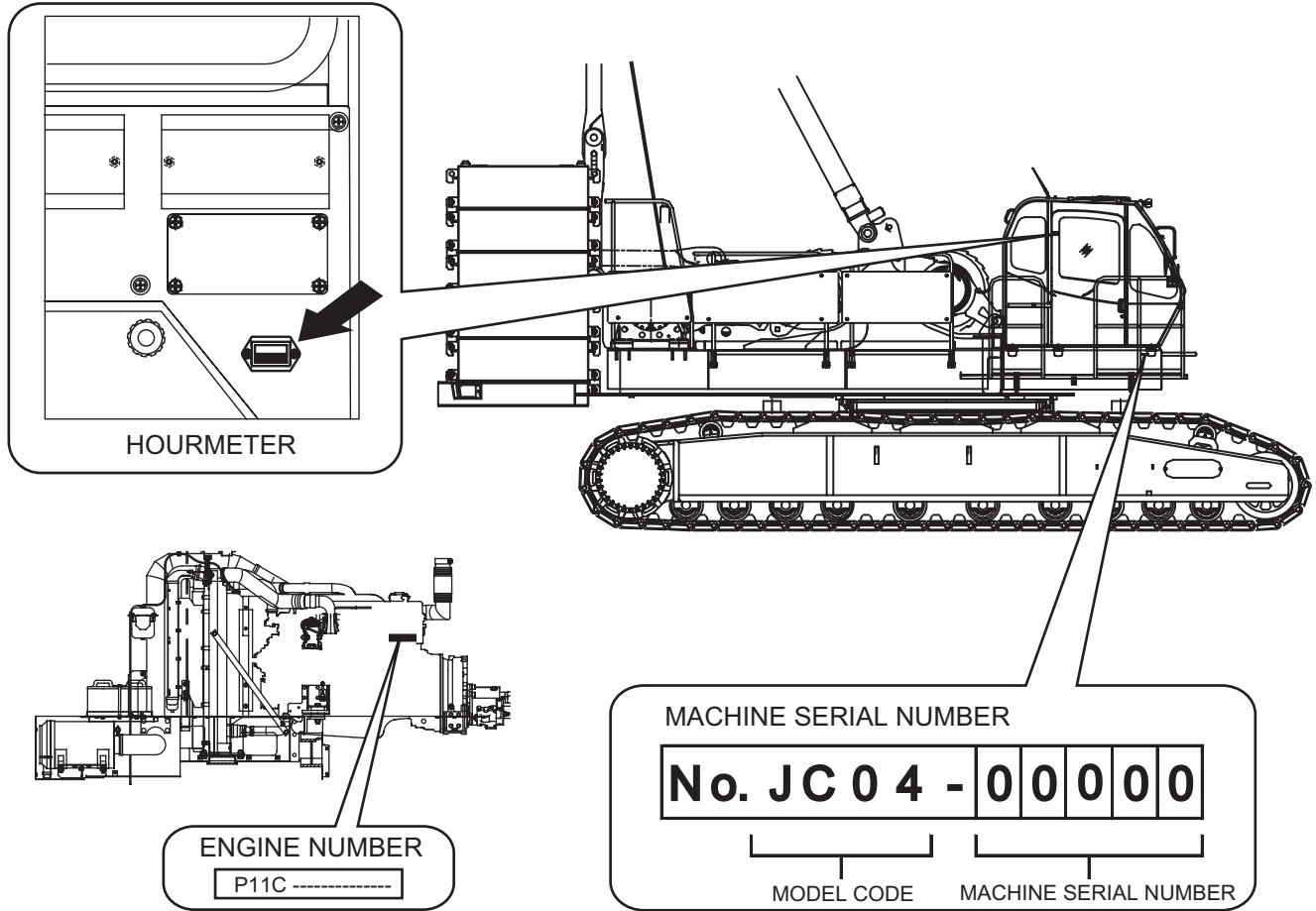
While operating the machine, be sure to perform work with great care, so as not to damage the machine or allow accidents to occur.

Please continue studying this manual until proper operation is completely understood.

IMPORTANT INFORMATION

MACHINE SERIAL NUMBER

When you order repair parts or need machine repair or service, always inform us of the machine serial number (stamped on the name plate) and the total number of hours indicated on the hourmeter (located on the gauge).



ENTER MACHINE SERIAL NUMBER OF THIS MACHINE

MACHINE MODEL	CK2000	MACHINE SERIAL No.	JC04-	ENGINE No.	P11C-
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WARRANTY

The terms under which this machine is guaranteed are clearly defined in the accompanying WARRANTY. Trouble and damage occurring during the terms of the guarantee shall be repaired at no cost to the purchaser, according to the warranty description, if the trouble or damage is determined to be our responsibility. However, if you use the machine contrary to the instructions of this manual, the WARRANTY does not cover any damage to the machine.

REPAIR PARTS

When servicing and repairing the machine, be sure to use genuine parts in order to make the machine performance display sufficiently.

Since the important security parts are prepared to ensure safety and to protect the machine from an serious accident, be sure to replace them every specified period of time.

EXPLANATION OF WARNING LABELS

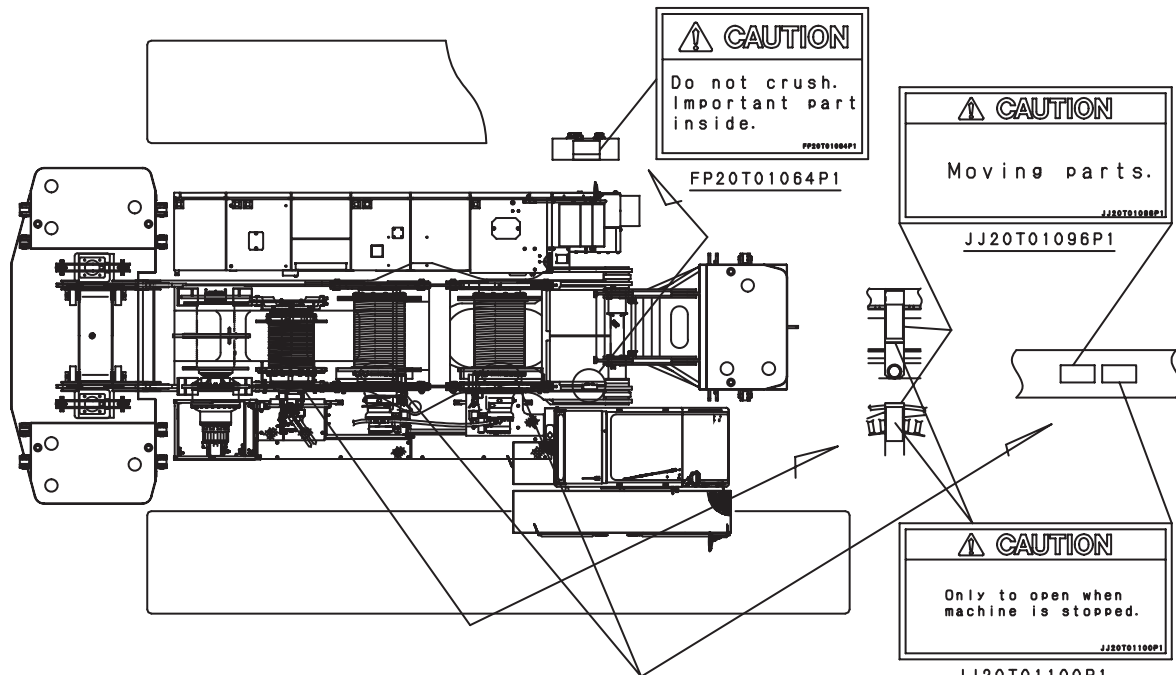
Since the warning labels are installed in the machine and indicated with the three stages in the same way as the warning description, confirm the positions and contents of all warning labels first.

Put them to the practical use to secure safety when operating, checking and performing maintenance.

HANDLING OF WARNING LABELS

- (1) When the warning label is damaged or stained, order it to the designated service shop.
- (2) Do not remove the warning labels.
- (3) When the surface of the warning label is soiled and difficult to be seen, wipe it cleanly.

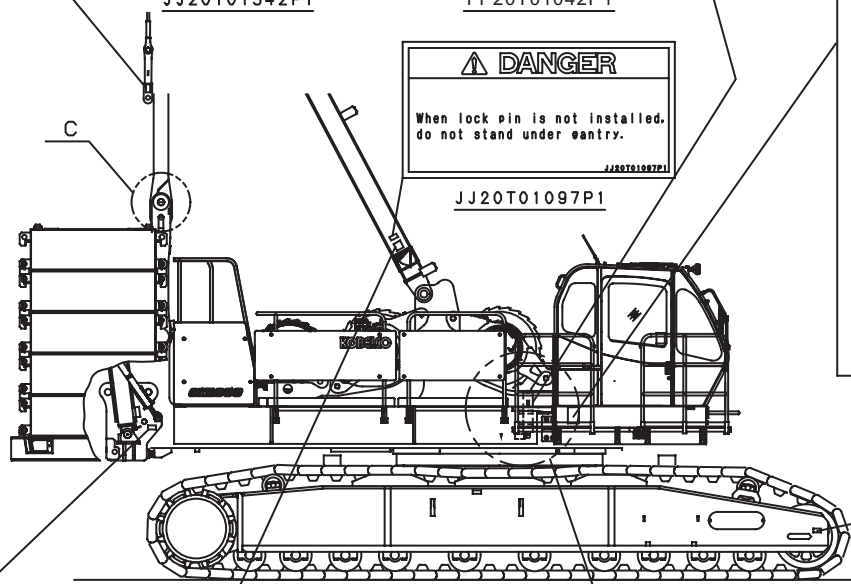
IMPORTANT INFORMATION



⚠ DANGER
 Do not forget to connect the low-gantry fixing links, when self installing and remove the machine. Failure to observe this caution result in a serious injury.
JJ20T01342P1

⚠ WARNING
AVOID EXPLOSION WHEN HANDLING ACCUMULATOR
 THIS CASE IS CHARGED WITH HIGH PRESSURE NITROGEN GAS. NEVER ATTEMPT TO WELD, GAS-CUT, PUT ON FIRE, NOR DISASSEMBLE THE CASE TO AVOID EXPLOSION.
FP20T01042P1

⚠ DANGER
DEATH OR INJURY MAY RESULT IF
 MACHINE, LOAD, OR LOAD LINE TOUCHES OR COMES CLOSE TO ELECTRICAL LINES. ALWAYS MAINTAIN A CLEARANCE OF AT LEAST 10 FEET (3 METERS) BETWEEN THE CRANE OR THE LOAD BEING HANDLED AND POWERLINES.
UNLAWFUL TO PLACE ANY PART OF THIS MACHINE OR LOAD WITHIN 10 FEET (3 METERS) OF HIGH VOLTAGE LINES OF 50,000 VOLTS OR LESS.
 GREATER CLEARANCES ARE REQUIRED FOR HIGHER VOLTAGES. SEE YOUR LOCAL, STATE, AND FEDERAL REGULATIONS.
ALWAYS NOTIFY ELECTRIC COMPANY IF THERE ARE ELECTRIC LINES IN THE AREA WHERE MACHINE WILL BE WORKING.
GG20T01127P1



⚠ DANGER
 When lock pin is not installed, do not stand under gantry.
JJ20T01097P1

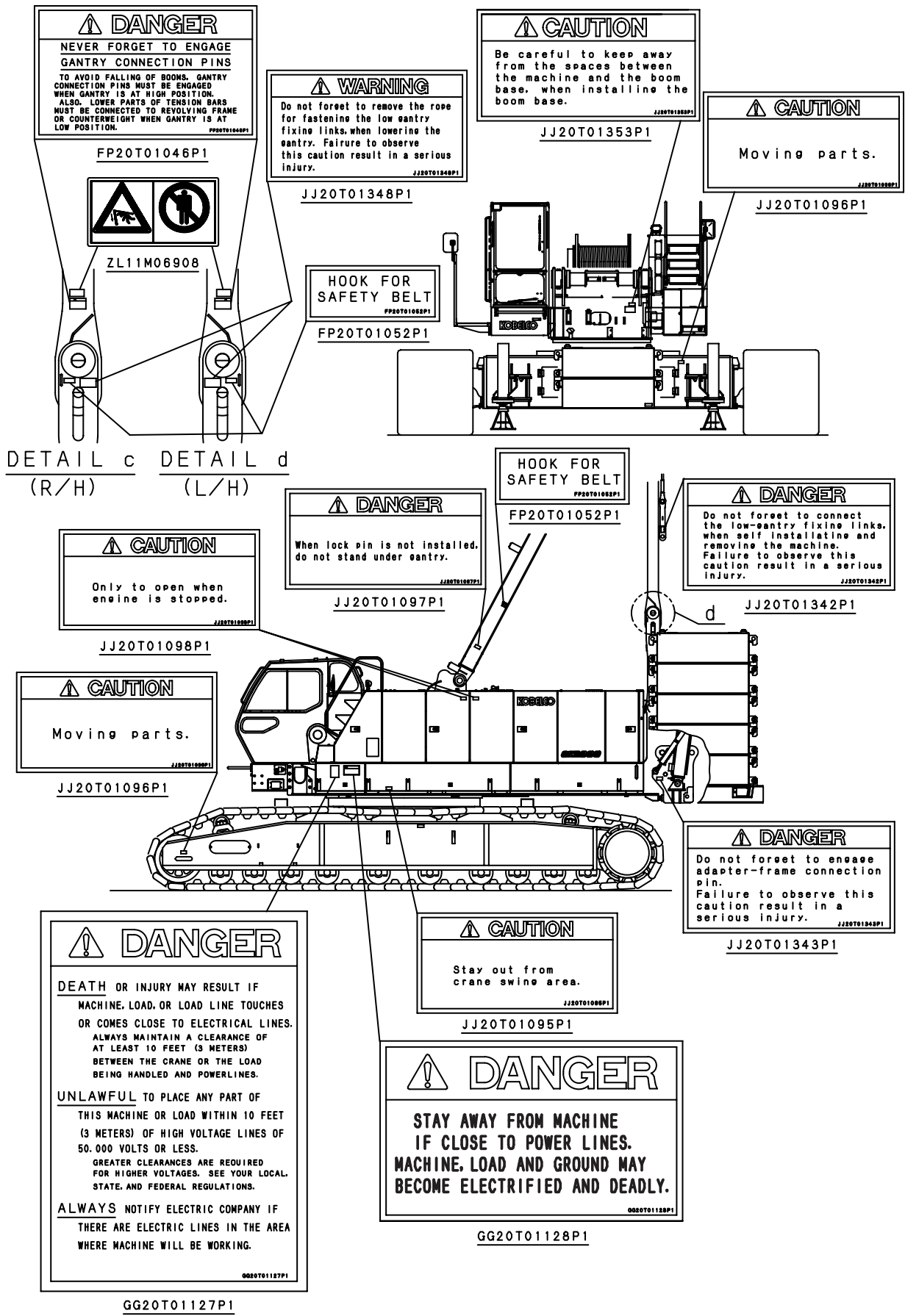
⚠ CAUTION
 Moving parts.
JJ20T01096P1

⚠ DANGER
 Do not forget to engage adapter-frame connection pin. Failure to observe this caution result in a serious injury.
JJ20T01343P1

⚠ WARNING
 Description of the colored area of the angle indicator on the gantry during rising and lowering the gantry.
Red Area:
 Do not lower the gantry without the gantry cylinders.
Yellow Area:
 When the boom-base is grounded and connected the more than 10ft insert boom, it is possible to rise and lower the gantry using the boom hoist rope.
JJ20T01349P1

ACCUMULATOR
CHARGING GAS PRESSURE.
 3.4 to 3.7MPa
 (493 to 537psi)
GG20T01540P1
GG20T01540P1

⚠ WARNING
COMPRESSED NITROGEN
 DO NOT WELD, FLAMECUT DISPOSE IN FIRE OR DISASSEMBLE.
GG20T01554P1



IMPORTANT INFORMATION

WARNING

WALKING ON GUARDS MAY CAUSE STUMBLING AT PROJECTED ITEMS AND SLIPPING BY OIL, WATER, OR GREASE.
 PROTECTOR SHOULD BE EMPLOYED WHEN WALKING FOR MAINTENANCE JOB, TO AVOID TIPPING OVER AND FALLING DOWN FROM THE MACHINE.

FP20T01051P1

WARNING

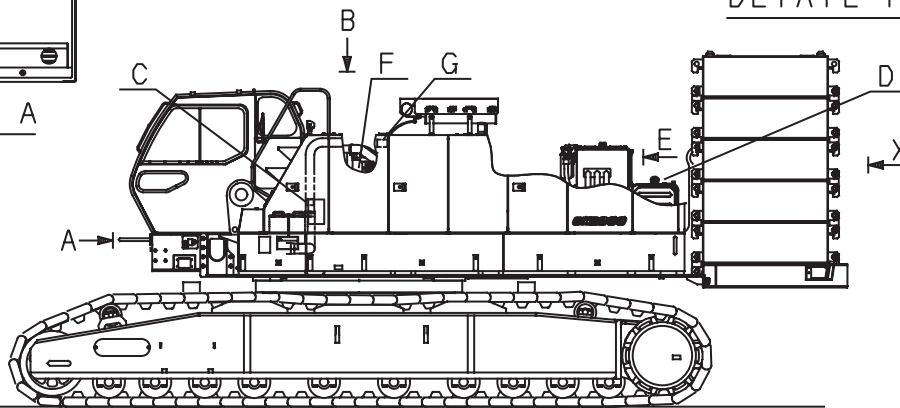
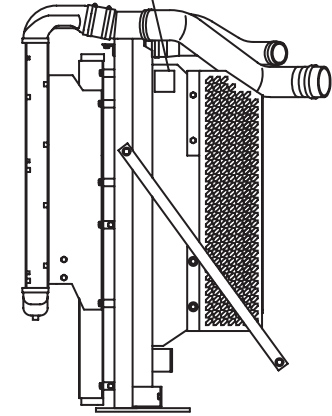
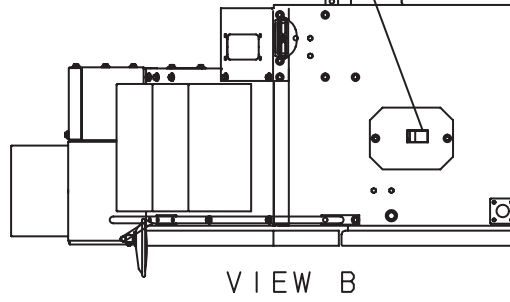
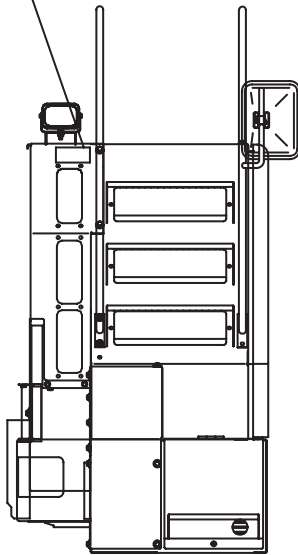
Steam of hot coolant can cause injury or blindness.
 Never loosen or open radiator cap when coolant is hot and under pressure.
 Before opening radiator cap:
 -Cool down engine completely.
 -Cover radiator with cloth rag.
 -Loosen cap slowly to relieve pressure.

YN20T01010P1

WARNING

Rotating parts can cause personal injury.
 Keep away from fan and belt when engine is running.
 Stop engine before servicing.

YN20T01009P1



DANGER

WHEN INSTALLATION AND REMOVAL OF THE CRAWLERS (1)

Do not stand under or near the crawlers being lifted.
 The lifter should be operated on the firm and level ground with the machine maintained horizontally.
 Steel plates may be needed under the floats unless the ground is concreted.

WARNING

WHEN INSTALLATION AND REMOVAL OF THE CRAWLERS (2)

Do not insert fingers into pin holes for alignment.
 The quick couplers must be connected completely.

JJ20T01102P1

CAUTION

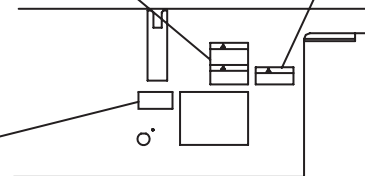
Stay out from crane swing area.

JJ20T01095P1

DANGER

ALL COUNTERWEIGHTS MUST BE REMOVED BEFORE OPERATING THE LIFTER.

GN20T01041P1

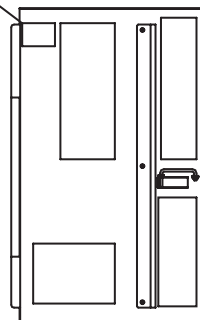


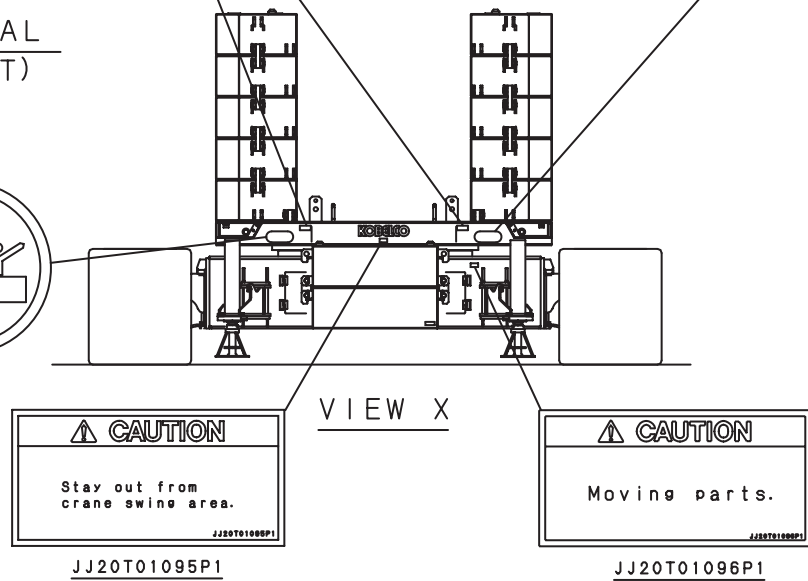
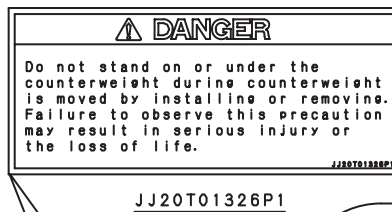
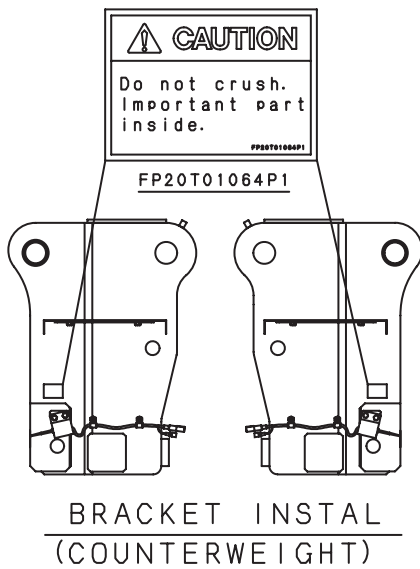
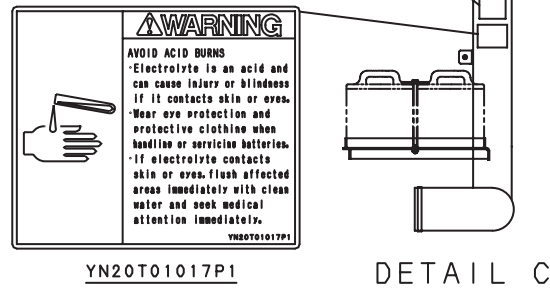
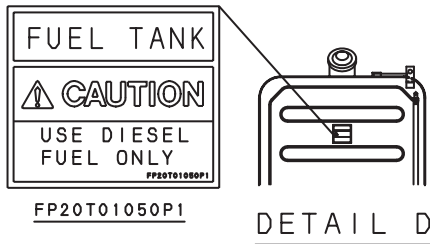
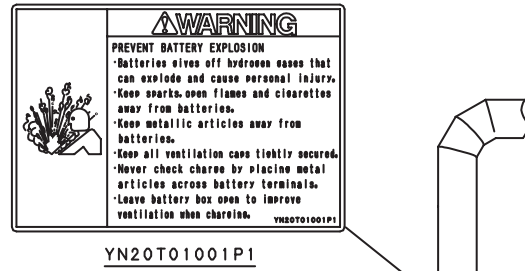
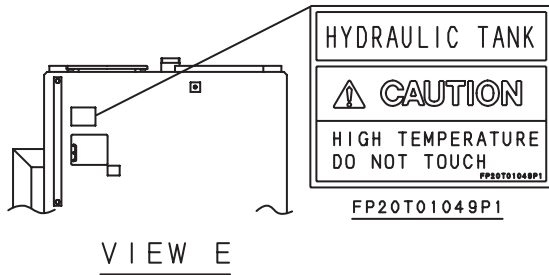
CAUTION

CAUTION FOR HIGH TEMPERATURE

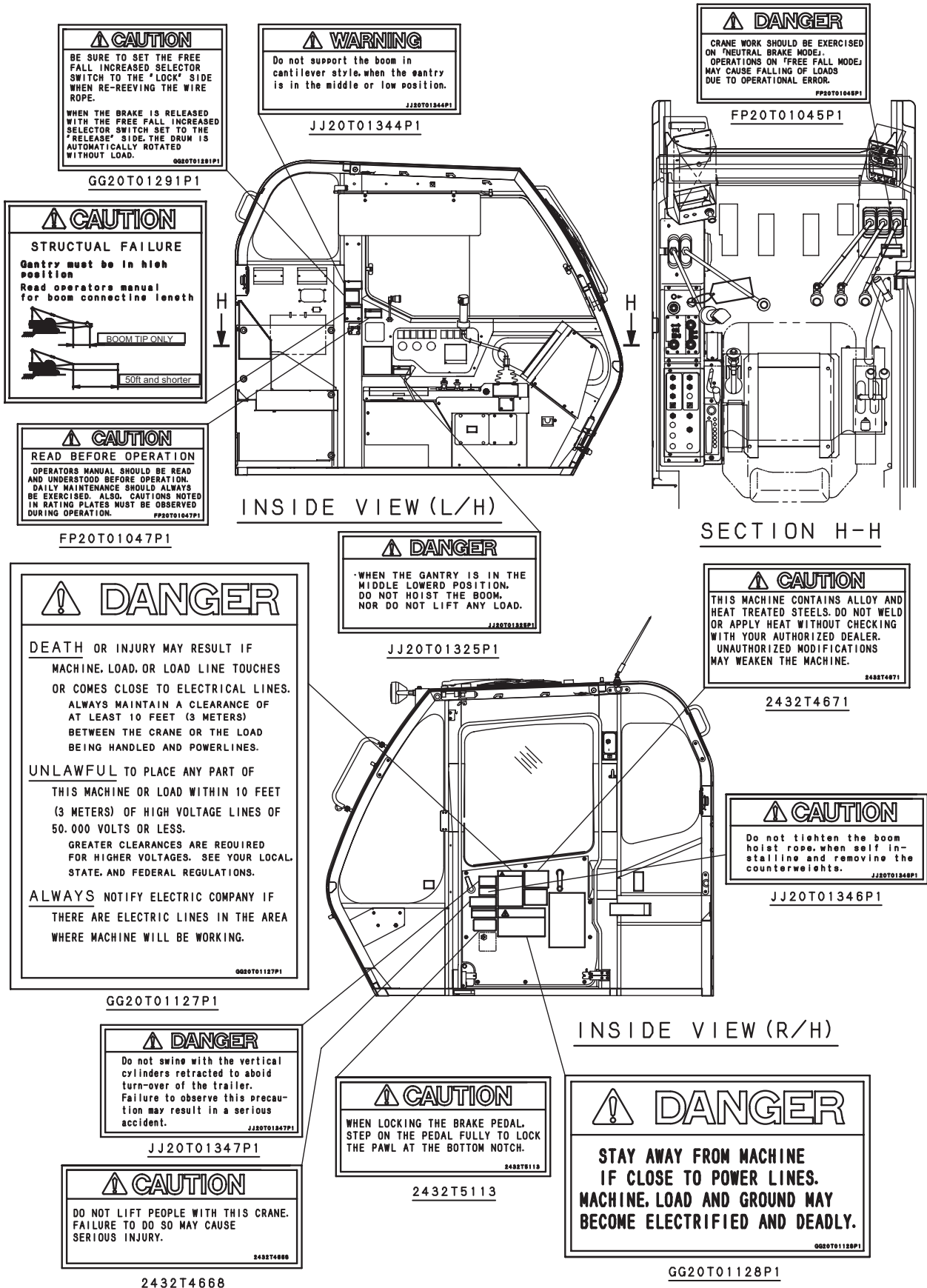
AS ENGINES AND MUFFLERS MAY BE HEATED TO HIGH TEMPERATURES, DO NOT DIRECTLY TOUCH THEM BY HAND.


FP20T01043P1





IMPORTANT INFORMATION




 **CAUTION**

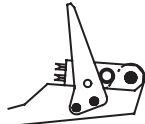
CAUTION FOR USING SPREADER GUIDES

TO AVOID DAMAGE TO SPREADER GUIDES, PLACE THE GUIDES TO STORING POSITION, AFTER SPREADER IS CONNECTED TO LOWER BOOM.

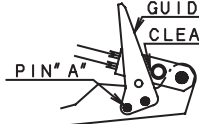
TO AVOID NIPPING OF HANDS OR FINGERS, AT FIRST THE GUIDES SHOULD BE HELD BY HANDS AND PINS DISENGAGED, AND THEN SHOULD BE PLACED IN STORING POSITION.



STORING POSITION



WORKING POSITION
(BOOM DISASSEMBLING
/ASSEMBLING)

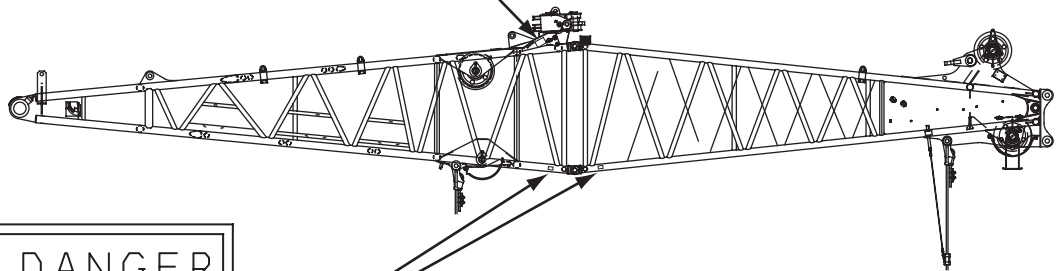


DISASSEMBLING
OF PIN "A"

GUIDE
CLEARANCE

FP20T01012P1

FP20T01012P1



 **DANGER**


**DO NOT ENTER
UNDER BOOM**

TO AVOID SERIOUS INJURY
CAUSED BY FALLING OF BOOM,
DO NOT ENTER UNDER BOOM
WHILE DISASSEMBLING/
ASSEMBLING OF BOOM.




FP20T01013P1

FP20T01013P1

 **CAUTION**

Be sure to place two (2) wooden blocks under the assembly, when transporting and laying on the ground.


Failure to observe this caution may lead to damage of the boom tip assembly.



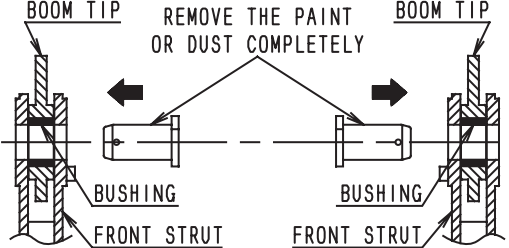
approx. 28" approx. 26-3/32"

JJ20T01352P1

JJ20T01352P1

 **CAUTION**

The bushing in the pin hole to install front strut is coated with plastic material. Insert a pin after the pin hole is aligned completely, and do not hit the pin hard. Failure to observe this caution may lead to damage of the coating of the bushing.



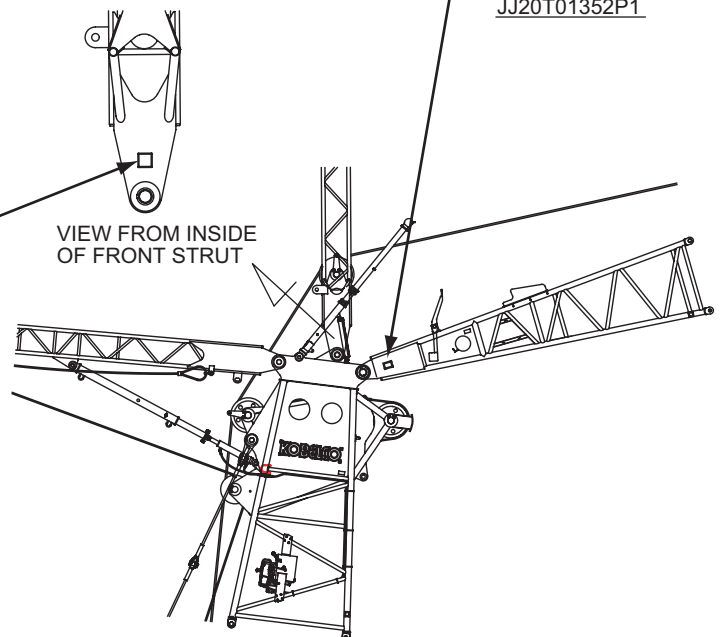
BOOM TIP REMOVE THE PAINT
OR DUST COMPLETELY BOOM TIP

BUSHING BUSHING

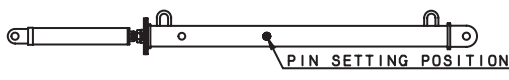

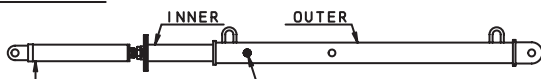
FRONT STRUT FRONT STRUT

JJ20T01262P1

JJ20T01262P1

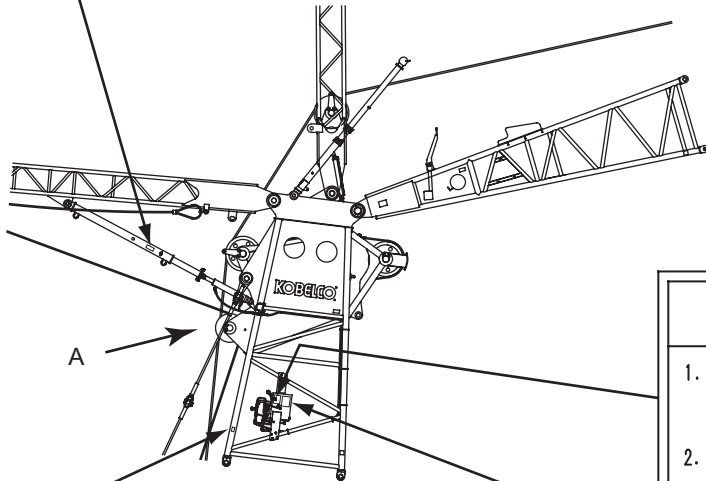


IMPORTANT INFORMATION

<p>⚠ DANGER</p> <p>SET THE STRUT BACKSTOP PIN IN THE CORRECT POSITION AS INDICATED. FAILURE TO OBSERVE WILL RESULT IN DAMAGE TO THE STRUT BACKSTOP, BOOM, JIB AND/OR THE STRUTS AND IN SERIOUS INJURY OR LOSS OF LIFE.</p>	<p>STRUT BACKSTOP PIN SETTING POSITION</p> <p>FOR TRANSPORTATION (FULL RETRACT)</p>  <p>PIN SETTING POSITION</p>	<p>INNER CONDITION</p>  <p>FOR TRANSPORTATION AND LIFTING</p>
	<p>FOR LIFTING</p>  <p>INNER OUTER</p> <p>HYDRAULIC CYLINDER BOOM LENGTH 70FT~180FT/21.34m~54.86m</p>	

JJ20T01365P1

JJ20T01365P1



⚠ CAUTION

1. CHECK THE OIL FOR PROPER LEVEL BEFORE BOOM ERECTION TO PREVENT OVER FLOWING AND/OR MALFUNCTION.
2. PROPER OIL LEVEL IS CENTER OF GAUGE AFTER THE CYLINDER FULLY RETRACTED.

JH20T01106P1

JH20T01106P1

⚠ DANGER

CLOSE THE COCK ABOVE TANK SURELY. IF THE COCK IS OPEN, IT IS IN DANGER OF JIB OVERHOISTING BECAUSE OF CYLINDER SHRINKING

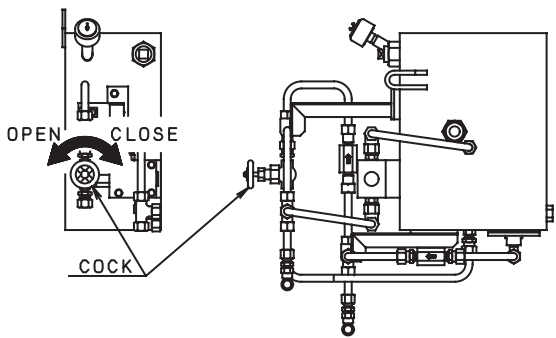
JH20T01087P1

JH20T01087P1

⚠ WARNING

- Open the Cock on the hydraulic tank to make allow the strut backstop cylinders to freely extend or retract when installing the cylinders to the main boom side or dismantling the cylinders from the main boom side.
- Securely Close the Cock on the hydraulic tank after installing the strut backstop cylinders to the main boom side and keep the cock closed during crane operation, otherwise the Jib may pulled over.

Failure to observe this warning may result in serious injury or loss of life.



JJ20T01351P1

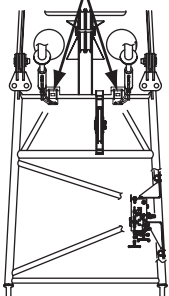
JJ20T01351P1

⚠ CAUTION

CONFIRM TO JOIN COUPLER SURELY

JH20T01088P1

JH20T01088P1

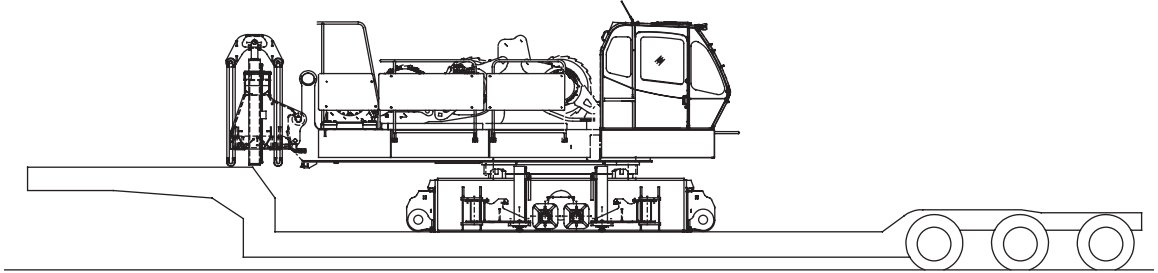


VIEW A

QUICK REFERENCE FOR ASSEMBLING OF THE MACHINE

A. INITIAL ASSEMBLING PROCEDURE

1. MACHINE IN THE TRANSPORTATION POSITION

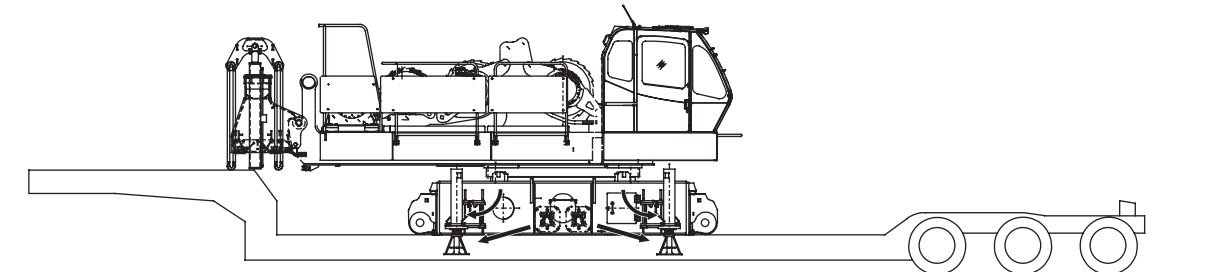


Description

Warning : Do not swing the machine on the trailer.

Refer page : 9-4

2. ARRANGEMENT OF THE TRANSLIFTER



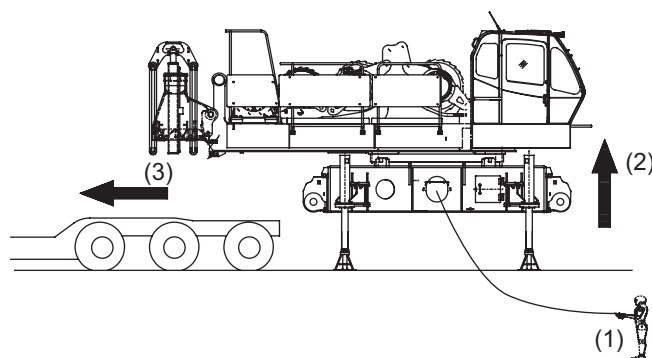
Description Unfold the translifter arms and install the floats to the cylinders.

Warning : Do not swing the machine on the trailer.

Refer page : 9-4, 9-5

IMPORTANT INFORMATION

3. EXTEND THE TRANSFLIFTER.

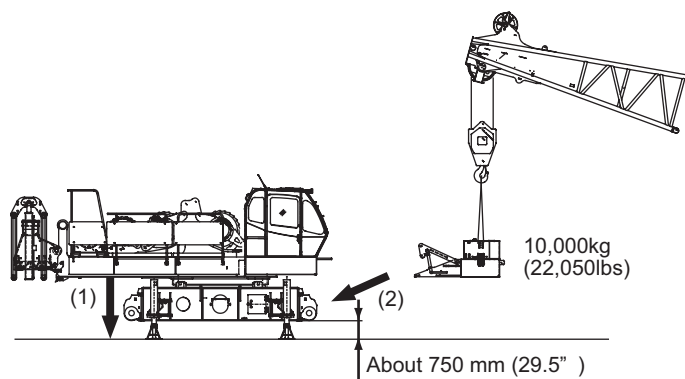


- Description
- (1) Connect a remote control box.
 - (2) Extend 4 cylinders fully with the machine kept horizontal.
 - (3) Drive trailer away.

Warning : Keep the machine horizontal during extending the transflifter cylinders.

Refer page : 9-6

4. INSTALL THE CARBODY WEIGHT ON FRONT AND REAR OF THE MACHINE.



- Description
- (1) Adjust the height between the ground and the bottom of the lower frame so that the height becomes about 30".
 - (2) Install the carbody weight on front and rear of the machine.

Warning Absolutely, do not install the crawler unit before installation of the carbody weight to avoid turn-over of the machine caused by machine unbalance.

Refer page : 9-8