

CRAWLER CRANE

SHOP
MANUAL

model

CKE1800

CK2000

KOBELCO

BOOK CODE : S5JC00002ZE05

SAFETY

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SAFETY

This section explains "Explanation of Warning Description", "Warning Labels" and "General safety"

EXPLANATION OF WARNING DESCRIPTION

This manual indicates the contents of warnings concerned in safety with the following three stages according to the degree of personal harm and material damage.

Since the very important matters for safety are described, understand the contents sufficiently and observe them without fail.



Warning to avoid dangerous condition resulting in instantaneous death or serious personal injury.



Warning to avoid dangerous condition which has possibility of death or serious personal injury.



Warning to avoid dangerous condition which has possibility to cause slight or medium injury or damage of the machine and equipments.

This manual describes safety warnings sufficiently, but dangerous conditions which are impossible to be anticipated are considered.

Therefore, take measures for safety not only regarding the machine, but also including the working environment.

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 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.

SAFETY

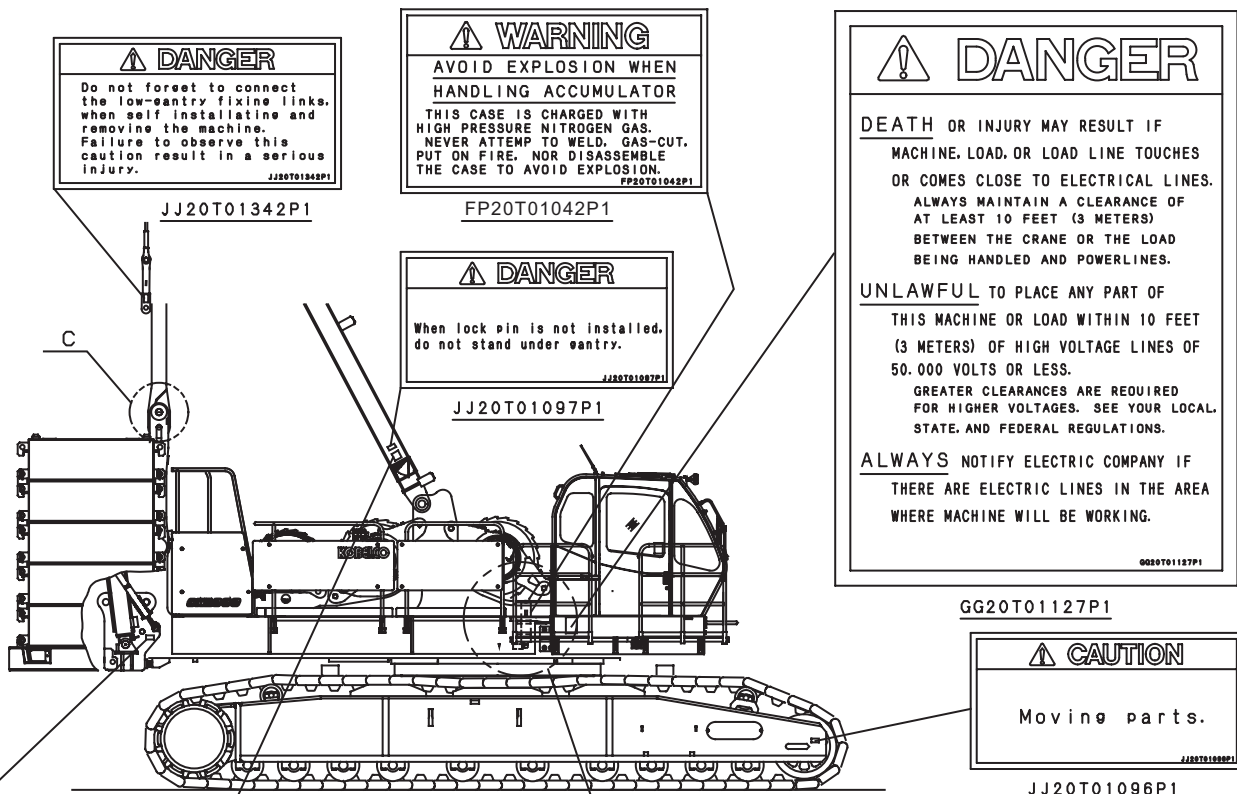
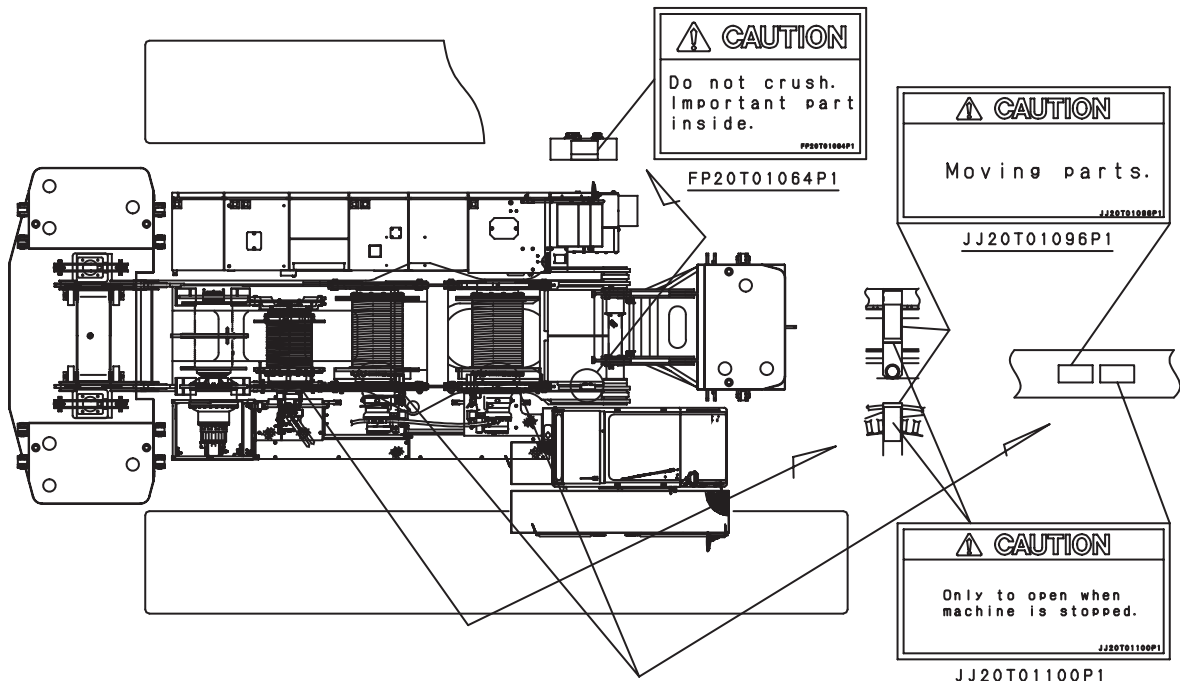
PRECAUTIONS FOR INSPECTION AND MAINTENANCE

1. Service and maintenance must be performed only by authorized personnel who are qualified in compliance with a relevant law or regulation.
2. Regular maintenance or inspection should be quickly performed after shutting down the machine and ensuring safety to personnel and equipment.
Post an "INSPECTION IN PROGRESS. DO NOT START." warning sign on a readily visible location.

GENERAL SAFETY PRECAUTIONS

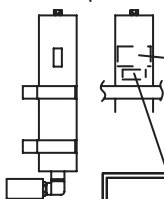
1. Wear safety shoes, helmets and clothing suitable for the job. Also use protective goggles, mask, gloves, etc., as required.
2. To ensure safe and correct maintenance, carefully study this SHOP MANUAL and get fully familiar with the instructions in it.
3. Place the machine in a safe place. Always maintain safe clearance around the machine.
4. Before starting crane operation, hold a safety meeting. Also, make agreement on standardized hand signals.
5. When inspecting or handling the battery or oil, do not use exposed flame nearby.
To avoid fire accident, only use explosion-proof lighting equipment.
6. Start an inspection or maintenance work only after shutting down the engine.
7. Certain machine components remain hot immediately after the engine is shut down. Do not touch them.
8. Before removing the radiator cap, wait until the coolant water gets sufficiently cool. Next, carefully loosen the cap and release radiator pressure, and then remove the cap.
9. Before inspecting or maintaining an electrical system on the machine, power off the machine by, for example, disconnecting the battery cables.
10. When working at a high lift area, always wear a safety belt.
11. When leaving the operator's cab for an inspection or maintenance work, post an "INSPECTION IN PROGRESS. DO NOT START." warning sign on a readily visible location. Also, lock the cab for security.
12. Before starting a cleaning or lubrication work on the machine, always shut down the engine.
13. While adjusting tire pressure, be absolutely careful about rupture of a tire, flying of wheel part.
14. Use genuine KOBELCO replacement parts and oils only.
15. Always keep the oil containers clean. Protect them against ingress of dust or moisture. Also, fill clean, fresh oils only.
16. Once a maintenance work is complete, clean the machine.
Protect grease nipples, breathers, and oil level gages against ingress of dust.
17. Always keep the subjects of regular inspection clean to allow problems such as oil leakage, crack, looseness, etc., to be readily detected.
18. During car washing, do not allow high pressure steam to be directly applied to electrical components and connectors.
19. After removing O-rings, oil seals, gaskets, etc., clean the mounting seats. Then, install fresh O-rings, oil seals, gaskets, etc. Also, remember to thinly apply oil to the seal faces of these parts before installation.
20. Before disconnecting pressurized piping, release the inside pressure.
21. CAUTIONs for repair work with welding: Turn OFF the key switch, disconnect the negative terminal on battery to power off the electrical circuit; provide grounding within 1 meter from a weld area; in advance, remove electronic components (for example, controller) to prevent possible damage.
22. Dispose industrial wastes according to a relevant law or regulation.
23. Extremely careful during an inspection or maintenance work under the carrier. Remember the possibility of being crushed.
When jacking up the machine for an inspection or maintenance work, place blocks below it to prevent accidental falling.
24. Provide positive ventilation when refilling oils or fuel, rinsing parts, or starting the engine.

25. To remove a heavy component (20 kg or heavier), use a crane, etc. Always keep safety in mind.
26. Illegal or unauthorized, or otherwise nonconforming modification is strictly inhibited.
27. Do not allow oil or dust to deposit around the engine. Otherwise, fire accident can result.
28. Store removed attachments and components safely so that they do not drop or fall down.
29. Always use correct tools that have been well maintained.
30. To prevent personnel from being caught by a running fan, belt, shaft or the like, shut down the engine before starting an inspection or maintenance work.
31. Battery liquid and oils are harmful to human health. If touching any of these materials, immediately wash it away.
32. Make sure to use the light oil for fuel.




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

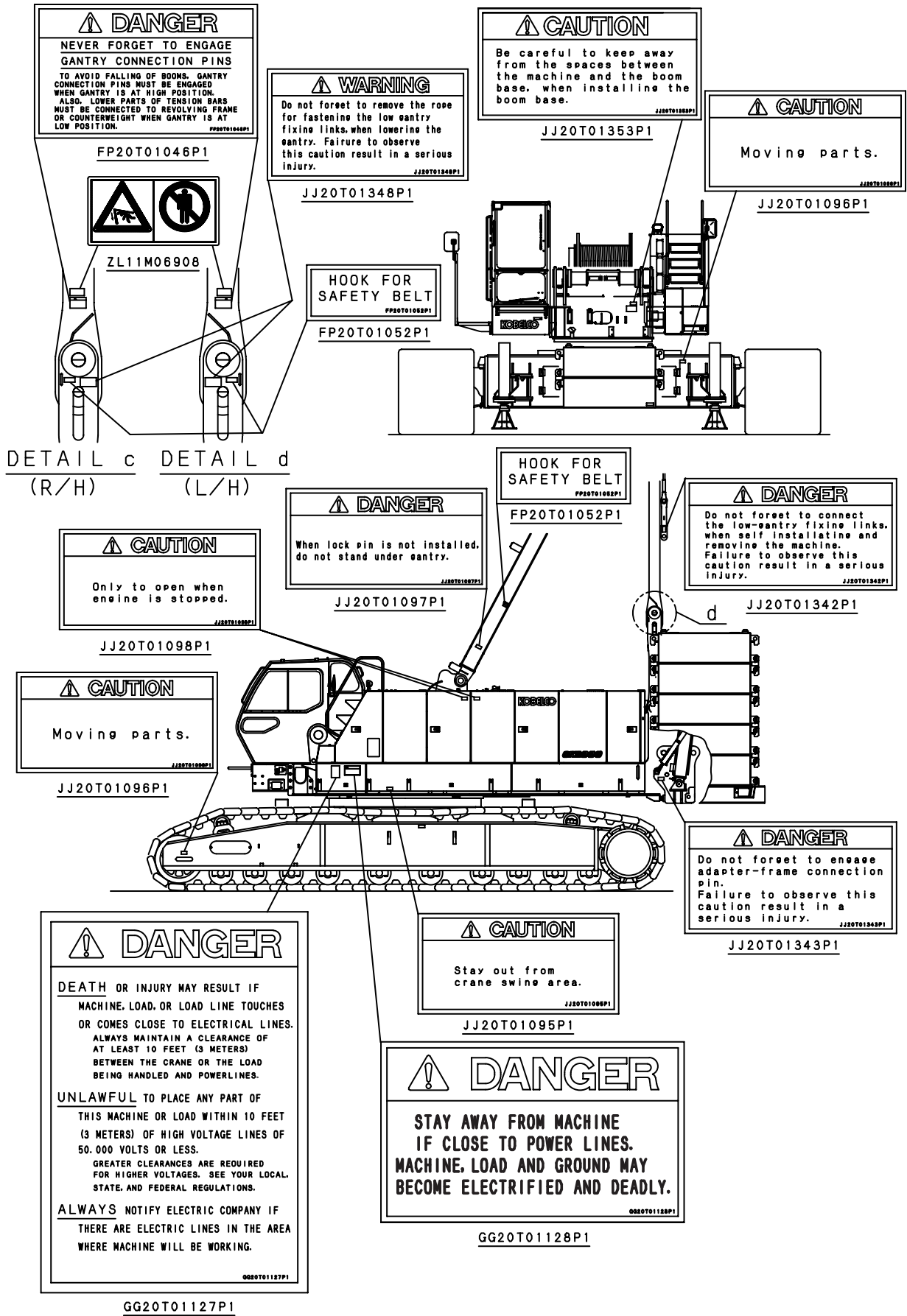
WARNING
Description of the colored area of the angle indicator on the gantry during rising and lowering the gantry.
Red Area
Do not lower the gantry without the gantry cylinders.
Yellow Area
When the boom-base is grounded and connected the more than 10ft insert boom, it is possible to rise and lower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



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

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

CAUTION
Moving parts.
JJ20T01096P1



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

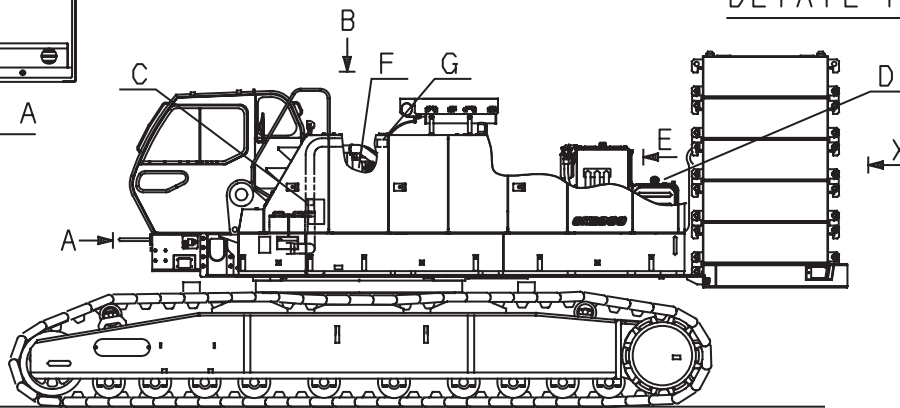
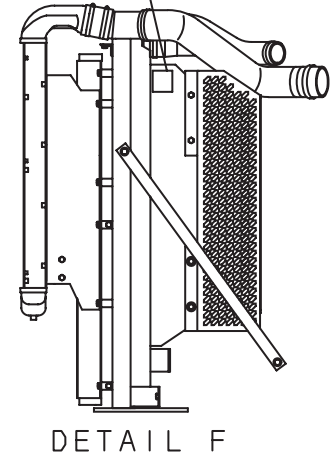
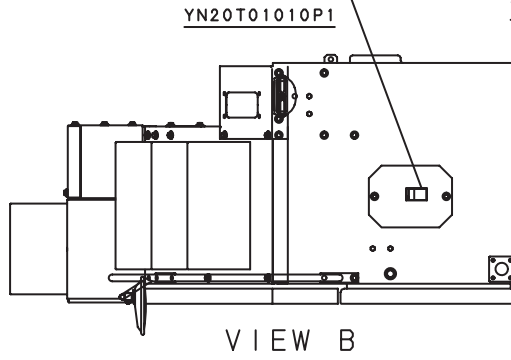
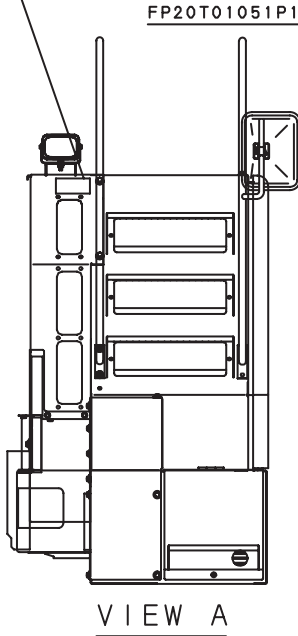
Steam of hot coolant can cause injury or blindness.
 Never loosen or open radiator cap when coolant is hot and under pressure.
 Before opening radiator cap:
 -Cool down engine completely.
 -Cover radiator with cloth rag.
 -Loosen cap slowly to relieve pressure.

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

DANGER

-ALL COUNTERWEIGHTS MUST BE REMOVED BEFORE OPERATING THE LIFTER.

GN20T01041P1

CAUTION

CAUTION FOR HIGH TEMPERATURE

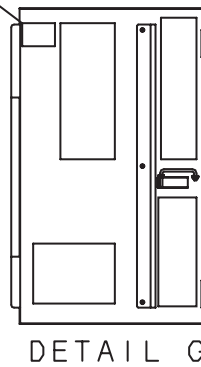
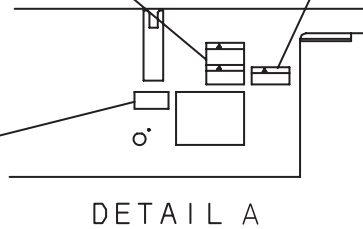
AS ENGINES AND MUFFLERS MAY BE HEATED TO HIGH TEMPERATURES, DO NOT DIRECTLY TOUCH THEM BY HAND.

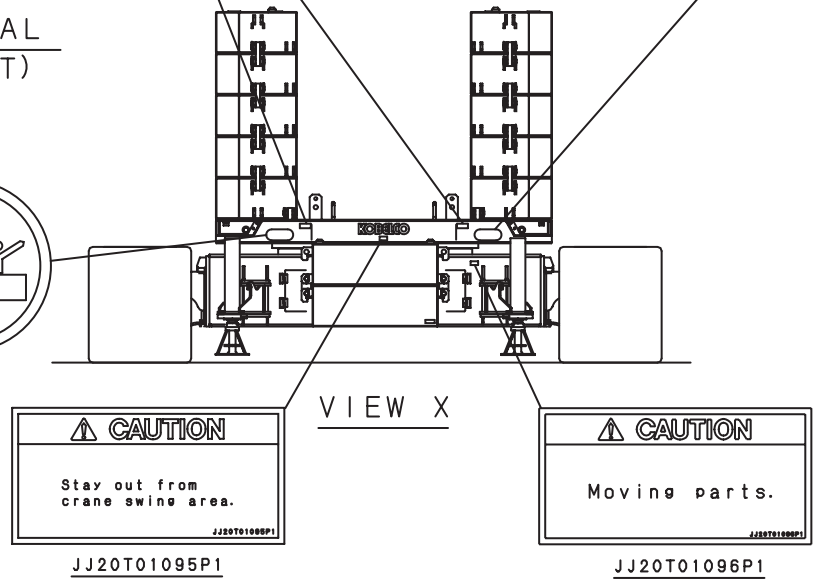
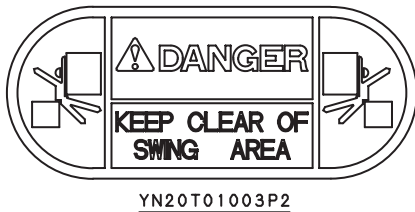
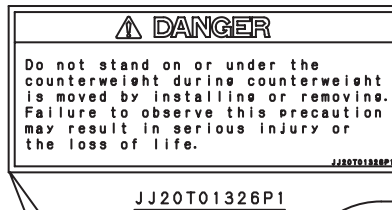
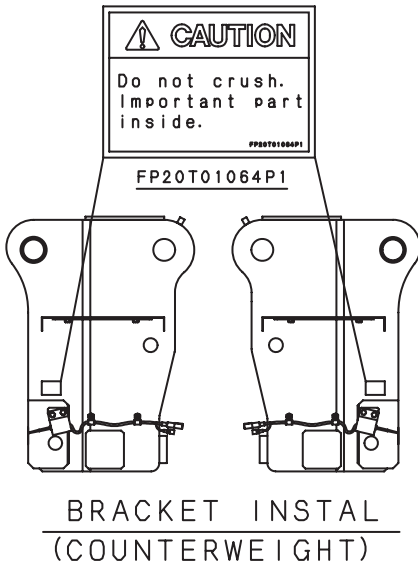
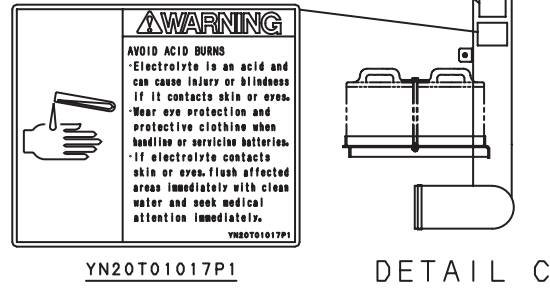
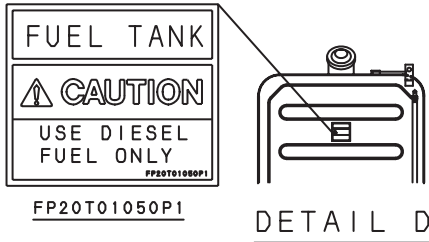
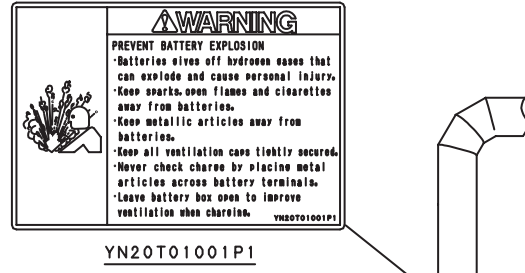
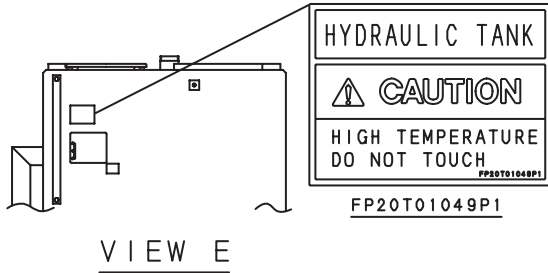
FP20T01043P1

CAUTION

Stay out from crane swing area.

JJ20T01095P1





SAFETY

CAUTION

STRUCTURAL FAILURE
Gantry must be in high position
Read operators manual for boom connectline length

BOOM TIP ONLY
50ft and shorter

CK2000

CAUTION

BE SURE TO SET THE FREE FALL INCREASED SELECTOR SWITCH TO THE 'LOCK' SIDE WHEN RE-REEVING THE WIRE ROPE.

WHEN THE BRAKE IS RELEASED WITH THE FREE FALL INCREASED SELECTOR SWITCH SET TO THE 'RELEASE' SIDE, THE DRUM IS AUTOMATICALLY ROTATED WITHOUT LOAD.

GG20T01291P1

WARNING

Do not support the boom in cantilever style when the gantry is in the middle or low position.

JJ20T01344P1

DANGER

CRANE WORK SHOULD BE EXERCISED ON 'NEUTRAL BRAKE MODE'. OPERATIONS ON 'FREE FALL MODE' MAY CAUSE FALLING OF LOADS DUE TO OPERATIONAL ERROR.

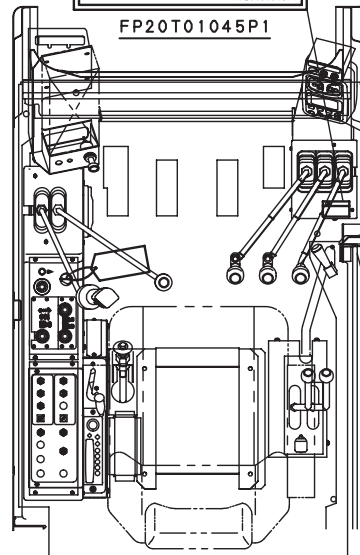
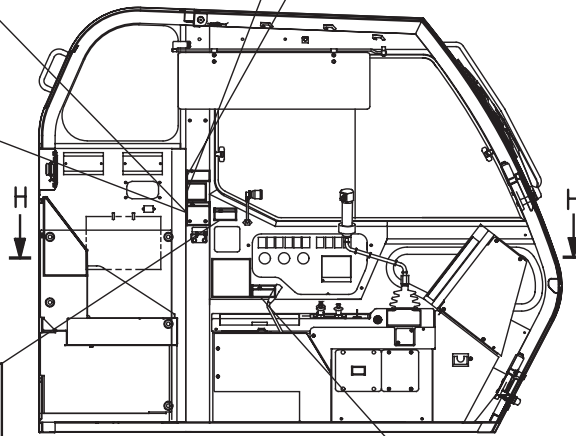
FP20T01045P1

CAUTION

STRUCTURAL FAILURE
Gantry must be in high position
Read operators manual for boom connectline length

BOOM TIP ONLY
15.2m and shorter

CKE1800



CAUTION

READ BEFORE OPERATION
OPERATORS MANUAL SHOULD BE READ AND UNDERSTOOD BEFORE OPERATION. DAILY MAINTENANCE SHOULD ALWAYS BE EXERCISED. ALSO, CAUTIONS NOTED IN RATING PLATES MUST BE OBSERVED DURING OPERATION.

FP20T01047P1

FP20T01047P1

DANGER

WHEN THE GANTRY IS IN THE MIDDLE LOWERD POSITION, DO NOT HOIST THE BOOM, NOR DO NOT LIFT ANY LOAD.

JJ20T01325P1

JJ20T01325P1

CAUTION

THIS MACHINE CONTAINS ALLOY AND HEAT TREATED STEELS. DO NOT WELD OR APPLY HEAT WITHOUT CHECKING WITH YOUR AUTHORIZED DEALER. UNAUTHORIZED MODIFICATIONS MAY WEAKEN THE MACHINE.

2432T4671

2432T4671

DANGER

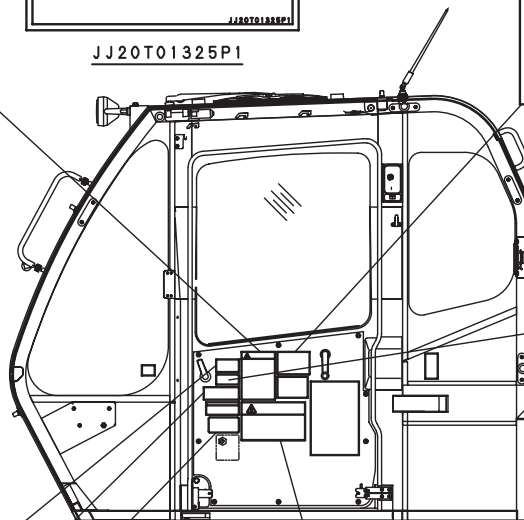
DEATH OR INJURY MAY RESULT IF MACHINE, LOAD, OR LOAD LINE TOUCHES OR COMES CLOSE TO ELECTRICAL LINES. ALWAYS MAINTAIN A CLEARANCE OF AT LEAST 10 FEET (3 METERS) BETWEEN THE CRANE OR THE LOAD BEING HANDLED AND POWERLINES.

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

GG20T01127P1



CAUTION

Do not tighten the boom hoist rope when self installing and removing the counterweights.

JJ20T01346P1

JJ20T01346P1

DANGER

Do not swing with the vertical cylinders retracted to avoid turn-over of the trailer. Failure to observe this precaution may result in a serious accident.

JJ20T01347P1

JJ20T01347P1

CAUTION

WHEN LOCKING THE BRAKE PEDAL, STEP ON THE PEDAL FULLY TO LOCK THE PAWL AT THE BOTTOM NOTCH.

2432T5113

2432T5113

CAUTION

DO NOT LIFT PEOPLE WITH THIS CRANE. FAILURE TO DO SO MAY CAUSE SERIOUS INJURY.

2432T4668

2432T4668

DANGER

STAY AWAY FROM MACHINE IF CLOSE TO POWER LINES. MACHINE, LOAD AND GROUND MAY BECOME ELECTRIFIED AND DEADLY.

GG20T01128P1

GG20T01128P1