

CX350C Crawler Excavator

SERVICE MANUAL

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English

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CASE
CONSTRUCTION



SERVICE MANUAL

CX350C Crawler excavators LC version (TIER4) - APAC Region - ANZ Market

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INTRODUCTION

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Foreword - Important notice regarding equipment servicing

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The manufacturer reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication but are subject to change without notice.

In case of questions, refer to your CASE CONSTRUCTION Sales and Service Networks.

Safety rules


Personal safety





This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules – General information

Cleaning

Clean the metal parts with cleaning solution that meets the standard and steam cleaning. (except for bearings)

After cleaning, dry well, and inject oil in all parts.

Also inject oil into the bearings after drying.

Inspection

When disassembling parts, check all the parts.

If there are any worn or damaged parts, replace them.

Inspect carefully to prevent initial breakdowns.

Bearing

Replace any loose bearings.

Air dry bearings before installing them.

Needle bearing

When inserting needle bearings, be very careful not to damage them.

Apply grease to the section where the needle bearing will be inserted.

Gear

Check that there is no wear and no damage.

Oil seal, O-ring, gasket

Always install new oil seals, O-rings, and gaskets.

Apply grease to sections where oil seals and O-rings will be inserted.

Shaft

Check that there is no wear and no damage.

Check the bearings and check for damaged oil seals on the shaft.

Service parts

Install CASE CONSTRUCTION genuine service parts.

When placing an order, check the parts catalog. It contains the CASE CONSTRUCTION genuine part numbers.

Any breakdowns arising from the installation of non-genuine parts are not covered by the warranty.

Lubricants (fuel, hydraulic oil)

Use the oil from the specified company or specified in the operator's manual or service Manual.

Any breakdowns arising from any fuel or hydraulic oil other than those specified are not covered by the warranty.

Safety rules – Personal safety

 **WARNING:**

This symbol indicates a precaution.
It gives information concerning the safety of the operator and those in the surroundings.
Read and understand these precautions thoroughly before performing the work.

Always comply with warnings and precautions so as to avoid any accidents.

This section covers information related to overall safety.

Check whether all warning labels are in place.

Additional labels can be ordered from Service Parts.

 **WARNING:**

Read the operator's manual to gain a thorough understanding of machine control operations.

 **WARNING:**

Perform any machine operations from the seating position.
Any other method may cause severe injuries.

 **WARNING:**

Only the one operator is to ride on the machine. No one else is to ride on it.

 **WARNING:**

Check the safety messages in the operator's manual before starting the engine.
Check all the warning labels on the machine.
Check that no one is within the machine's operating range.
Check the operating methods in a safe location before starting the actual work.
Understand the machine operations well, then operate in compliance with all service-related laws and regulations.
The operator's manual can be purchased at your CASE CONSTRUCTION dealer.

 **WARNING:**

Working with sloppy clothes or clothes with which safety cannot be ensured leads to damage to the machine and injury to the operator.
Always wear clothes that ensures safety.
In order to work more safely, it is recommended to wear additional safety equipment.
Helmet, safety shoes, ear protection, goggles, work clothes, and gloves

 **WARNING:**

Pay careful attention when working with the engine running.

 **WARNING:**

Check hydraulic equipment.
Work according to the procedure.
Do not change the procedure.

INTRODUCTION

 WARNING:

Check that there is no one in the surroundings before draining the pressure from hydraulic circuits during machine hydraulic cylinder inspection.

 WARNING:

Use gloves when handling high-temperature parts.

 WARNING:

Bring the lower parts or attachments in contact with the ground before inspecting or repairing them.

 WARNING:

Check that hoses and tubes are securely connected.
If there is any damage to a hose or tube, replace it.
Do not check for oil leaks by hand. Use cardboard or wood.

 WARNING:

When removing an attachment pin or other hardened pin, use a hammer that has a soft head.

 WARNING:

Wear eye protection when using a hammer to install a pin or when working with a grinder.
At this time, use goggles or eye protectors that meet standards.

 WARNING:

Park the machine in a safe location when repairing or inspecting it.

 WARNING:

Use work site protection when repairing the machine.
Check the oil, coolant, grease, and tools.
Recover materials and parts as necessary.
Pay enough attention to safety.

 WARNING:

Some of the machine's parts are extremely heavy.
Use an appropriate lifting equipment for such parts.
For weights and procedures, see the Service Manual.

 WARNING:

Exhaust gases are toxic.
Always provide good ventilation when working indoors or in any other enclosed space.

 WARNING:

If the electrolytic battery solution freezes, it may explode.

Safety rules – ROPS judgment

1. Purpose

Check against the ROPS judgment criteria to judge whether the machine satisfies the ROPS criteria or not.

The weight and boom of the machine greatly effects whether the ROPS judgment criteria is satisfied or not.

The ROPS test assumes that the weight being used is the weight of the machine when the maximum number of selectable options are mounted (as of 2009).

However, depending on the derivative machinery or the order details, the weight and boom position may differ from the assumed weight or position.

2. Criteria for judging whether a machine satisfies the ROPS criteria

Weight

The weight must not be over the weight shown below for each class.

If the weight is exceeded, there is a danger that the cab could be damaged and the operator could die or sustain a serious injury when the machine falls over.

If the weight exceeds the stipulated weight, the machine will not satisfy the ROPS criteria.

- Weight (X3 model)

To satisfy the ROPS criteria, the weight must not be over the indicated weight. (The below weights are the weights indicated on the plate within the ROPS cab.)

Machine body total weight	Class
16000 kg (35273.96 lb) max.	CX75C
	CX80C
	CX145C
20500 kg (45194.76 lb) max.	CX130C
	CX160C
28000 kg (61729.43 lb) max.	CX235C
31000 kg (68343.30 lb) max.	CX210C
	CX250C
	CX250C LR
	CX300C
50000 kg (110231.13 lb) max.	CX470C

* The ROPS test assumes that the CX470C has a cage guard (alone).

- Weight (X2 model)

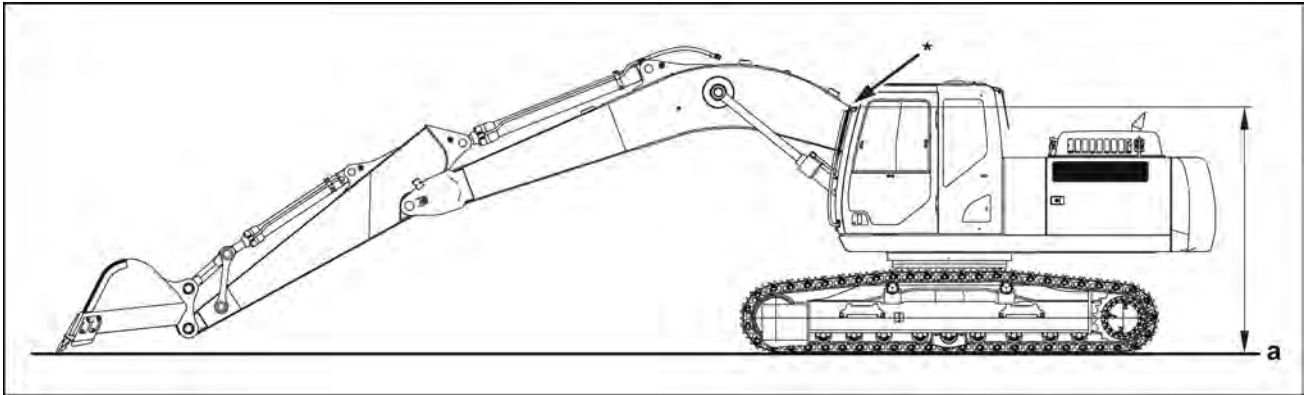
To satisfy the ROPS criteria, the weight must not be over the indicated weight. (The below weights are the weights indicated on the plate within the ROPS cab.)

Machine body total weight	Class
26600 kg (58642.96 lb) max.	CX130B
	CX160B
	CX180B
	CX210B
	CX240B

Boom position

⚠ WARNING:

- If the machine has been modified so that the boom position has been lowered, the machine will not satisfy the ROPS criteria.
- It is necessary to consult with us if it is possible that the boom's position has been lowered by modification.
- The extent to which a boom position has moved cannot be determined in the same way for all machines.



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(a) Ground point

With the tip of the bucket in contact with the ground surface at maximum work radius, if the position (* in the diagram) that overlaps with the cab when viewed from the side is markedly lower than that of a standard machine (standard arm), the machine will not satisfy the ROPS criteria.

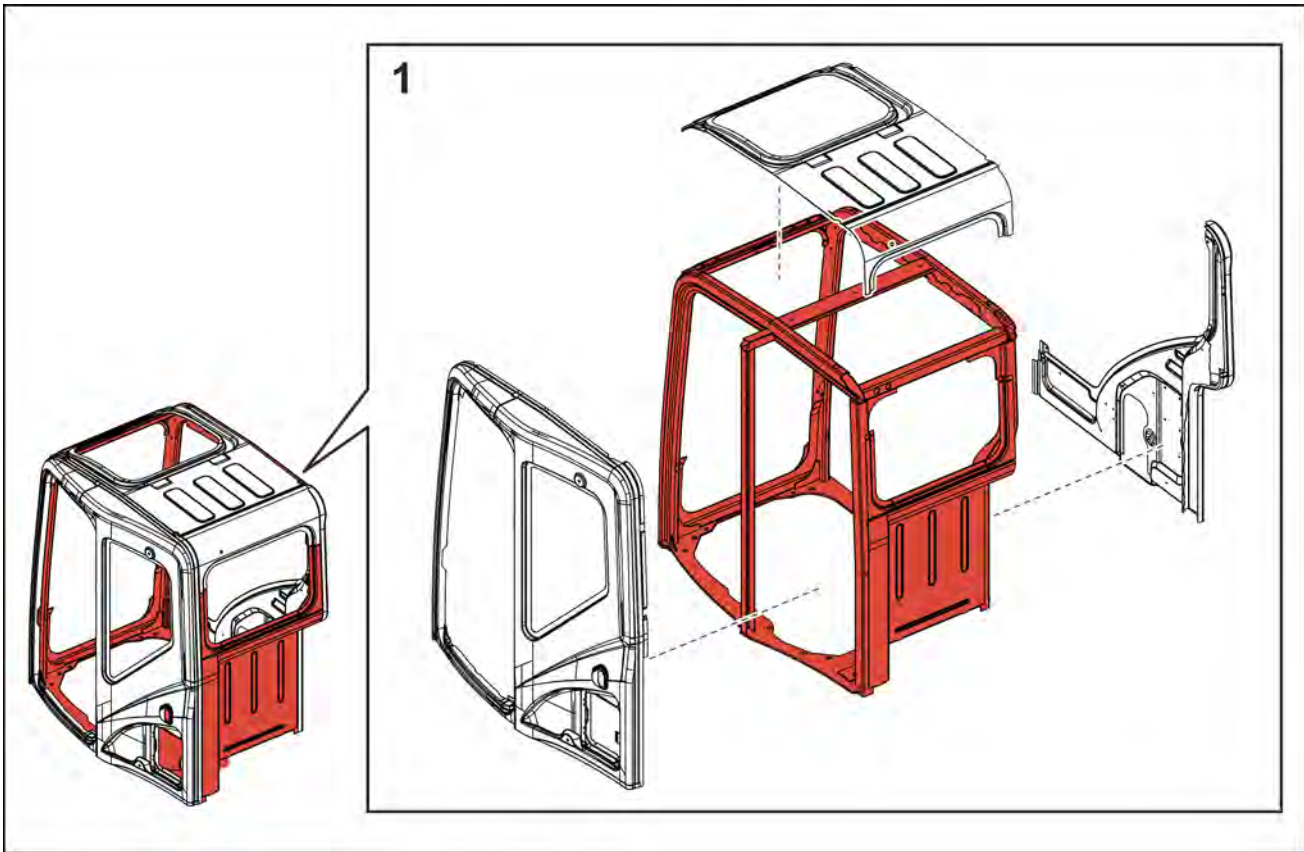
Also, with a machine body with a cab mounted that can withstand up to **31 ton**, the effect of mounting a **24 ton** machine, which is near the restriction weight, and a **21 ton** machine to the same cab will not be the same.

3. Prohibited items

- Modifications that reduce the strength of a platform that has a cab with a ROPS mounted to it. (Actions or modifications that reduce the functionality of the anchoring part at the left-rear of the cab)
- Modifications that effect the strength of the ROPS of a cab.

Modification prohibited (Red part)	All modifications (grinding, welding, drilling holes, removing, etc.) are prohibited.
Modification permitted under conditions (Gray part)	Removal of parts is prohibited. Bar welding and making holes (up to diameter 20 mm (0.787 in)) by drilling are possible.

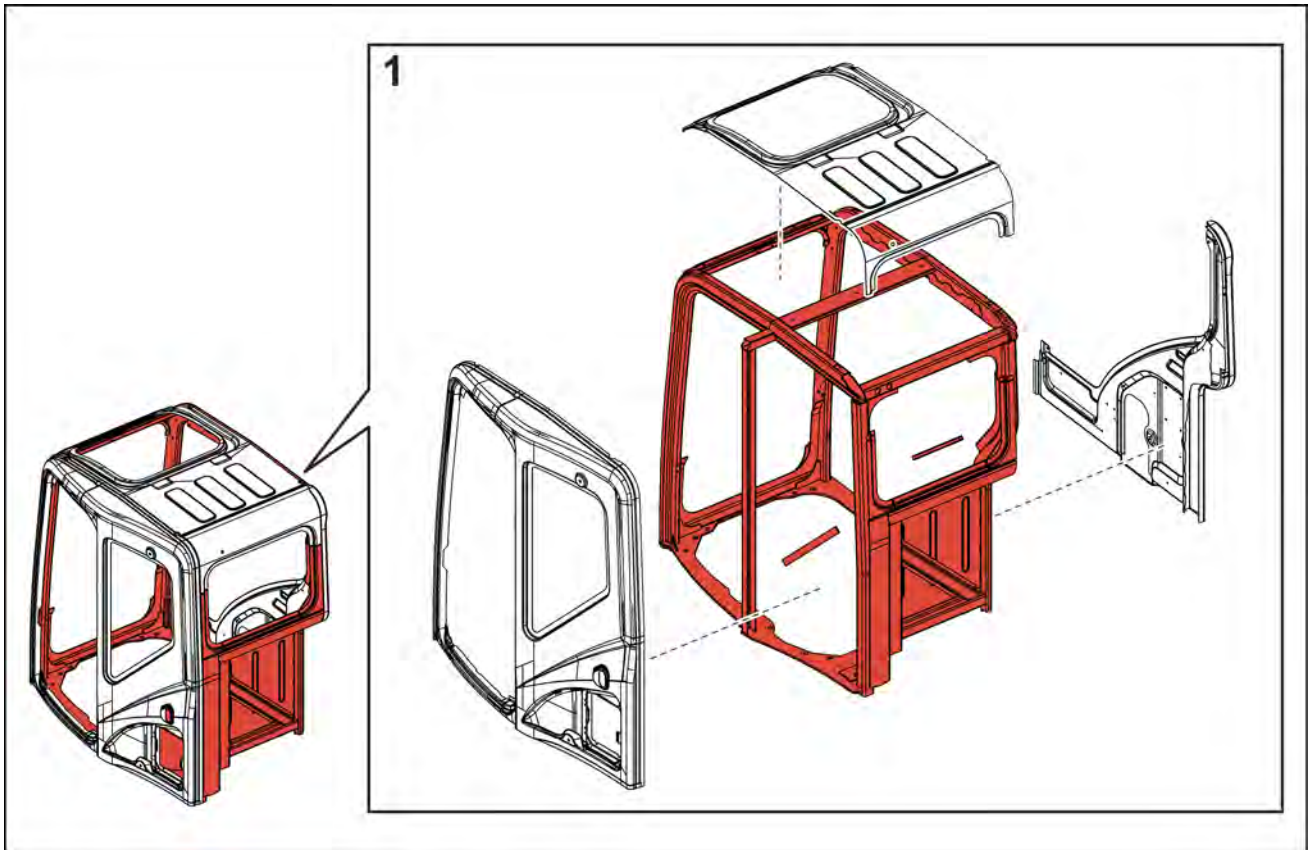
[X3 cab (CX75C/CX80C/CX145C)]



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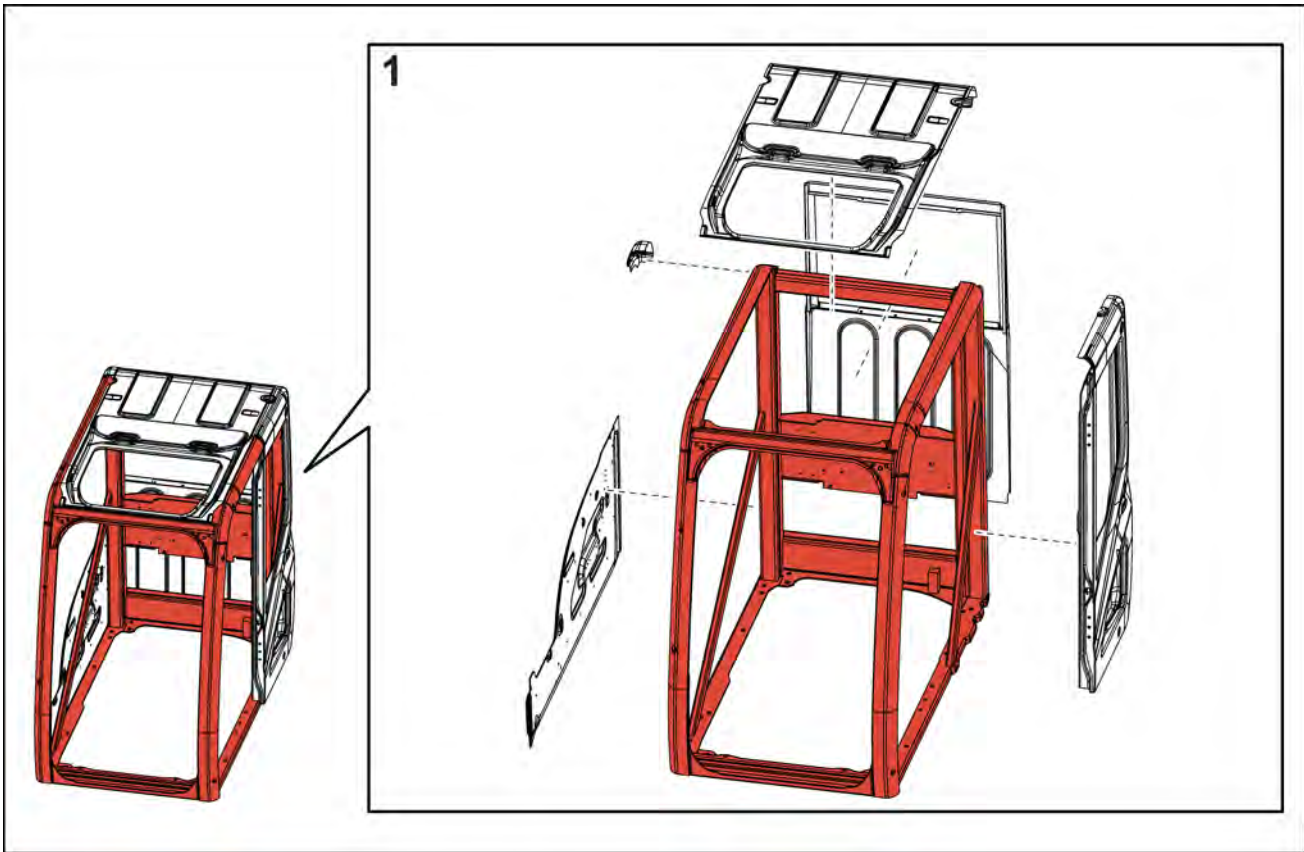
[X3 cab (CX235C)]

The cab for the MSR model (CX235C) is the cab of the MSR model on the diagram (CX75C/ CX80C/CX145C) with reinforcement materials added in 3 locations.



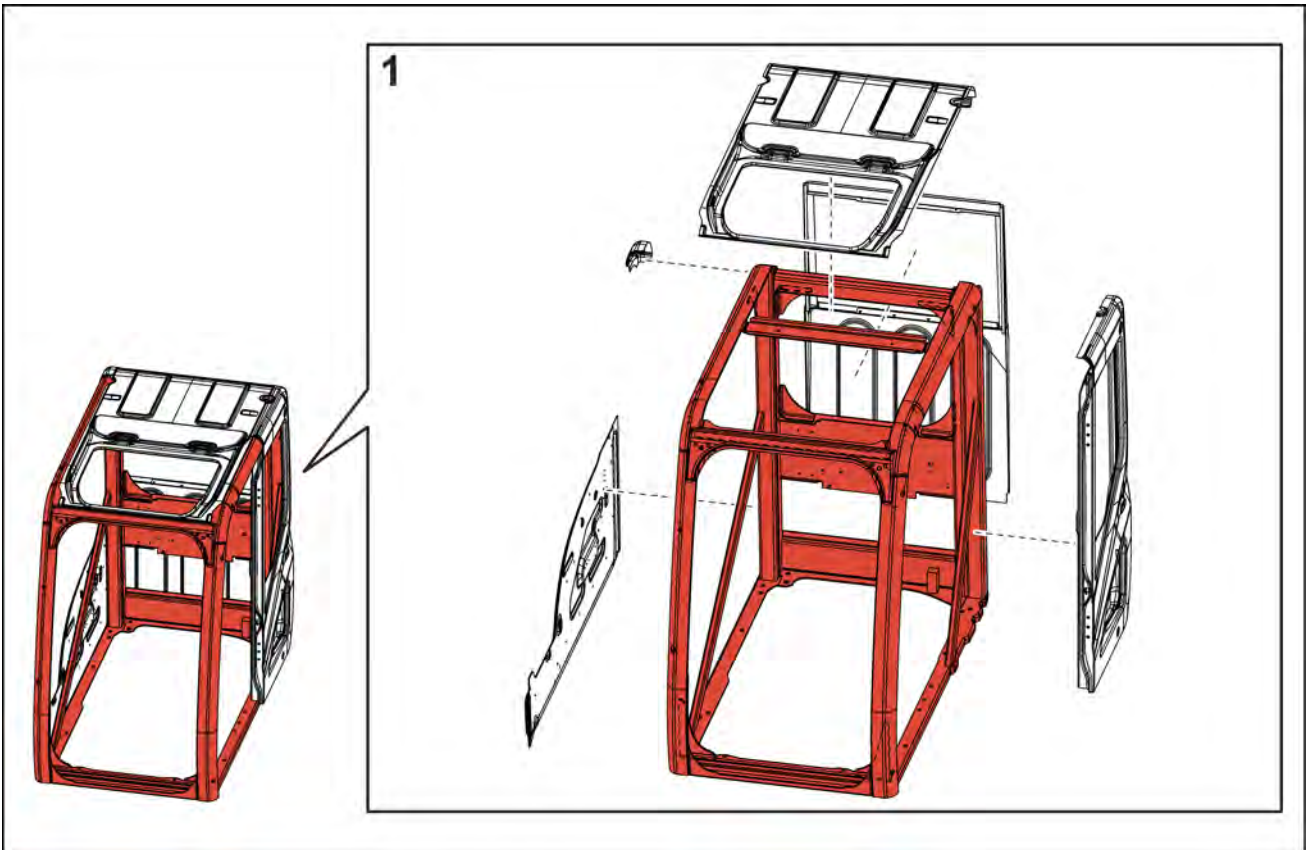
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[X3 cab (CX130C/CX160C)]



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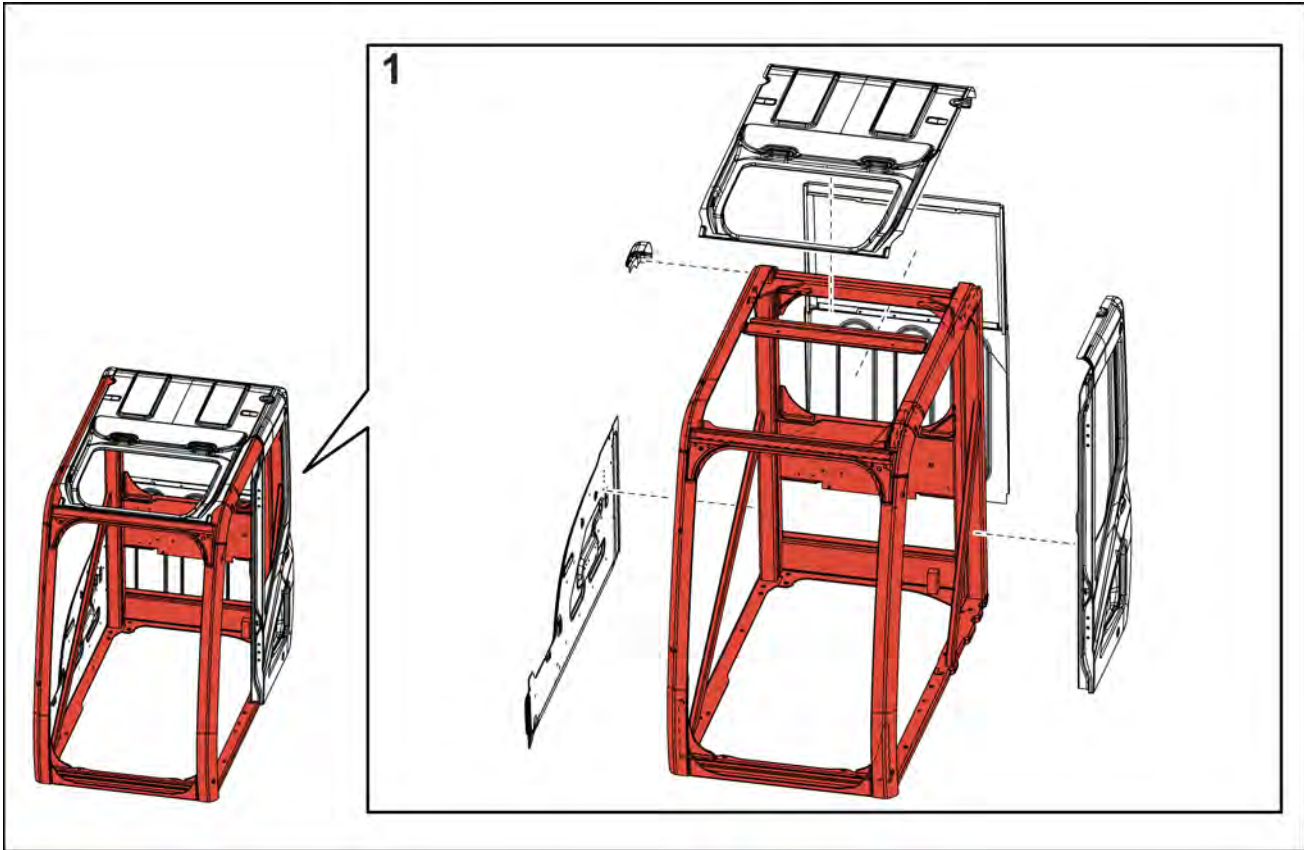
[X3 cab (CX210C/CX240C/CX290C)]



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[X3 cab (CX350C)]

The cab for the large-sized model (CX350C) is the cab of the medium-sized model on the diagram (CX210C - CX290C) with reinforcement materials added in 7 locations.



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