

OPERATION MANUAL

CRAWLER CRANE LC785M-6B BLADE

Serial No. 31460 and up

WARNING

Unsafe use of this machine may cause serious injury or death. Operators must read this manual before operating this machine. This manual should be kept near the machine for reference and periodically reviewed by all personnel who will come into contact with it.

NOTICE

MAEDA has Operation Manual written in some other languages. If a foreign language manual is necessary, contact your local distributor for availability.

M A E D A



M A D A

BLADE

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1. PRECAUTION OF BLADE OPERATION

WARNING

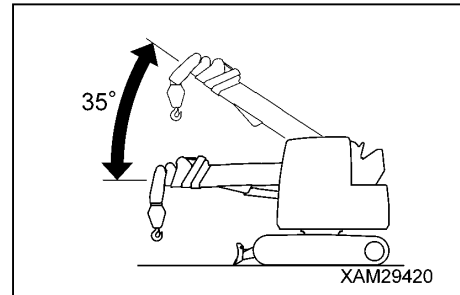
[BASIC POSTURE OF THE BLADE MODEL]

- Always clear the Blade from the ground during the hoisting operation. Failure to do so may result a serious hazard including damaging the machine or its tipping over.
- Avoid ground leveling operations at the same time as hoisting operations. Otherwise, it may cause a serious hazard including damaging the machine or its tipping over.

- A basic posture as below shall be observed for ground leveling operations using the Blade.

- Keep the Blade ahead.
- Retract the boom to the minimum and stow the hook.
- Lower the boom to the range between “full lowered to 35 degrees”.

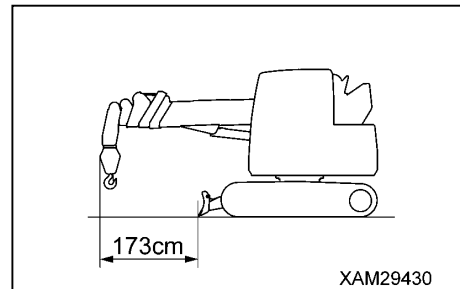
Where the boom is raised in excess, the machine may tip over to result a serious hazard.



- Any leveling operations other than in the basic posture may cause a machine tipping or damage to the wire rope which triggers a serious accident.

[SAFETY PRECAUTIONS FOR GROUND LEVELING]

- In the condition that the boom is “full lowered”, its end exceeds the Blade end by “173cm”. It is essential to ensure that no obstacles lie ahead. Else, the boom may hit an obstacle and bring a critical accident.

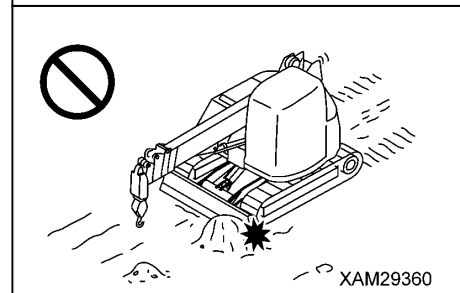


- After leveling operations finish or during transportation, position the Blade to touch the ground. The Blade may unforeseeably fall down to cause critical accident due to a spontaneous Blade cylinder slack or hydraulic system error.

- Do not attempt to travel backward while the Blade touches the ground, which can damage the hydraulic hose. The Blade may be led into inoperability.

- Avoid the Blade to hit obstacles such as stones and rocks.

Immediate damage of the Blade or cylinder may follow such an event.



CAUTION

- The machine weight depends on the machine configuration.
Refer to the Table below for the machine weight and the loads per 2 part hanging and 4 part hanging of the machine body.

LC785M-6 MACHINE WEIGHT	
Model	Weight
LC785M-6F	9990kg
LC785M-6B	10250kg
LC785M-6BF	10420kg

556-4575400

Model names of the table above represent the respective machine configurations:

- LC785M-6F stands for a Fly-Jib model.
- LC785M-6B stands for a Blade model.
- LC785M-6BF stands for a Blade and Fly-Jib model.

- For all other safety precautions not covered in this section, refer to the section: "SAFETY" of the LC785M-6 operation manual.

Load per single line of
4 part hanging

3.0 t

556-4575500

Load per single line of
2 part hanging

5.5 t

556-4575600

2. SAFETY LABEL LOCATION

CAUTION

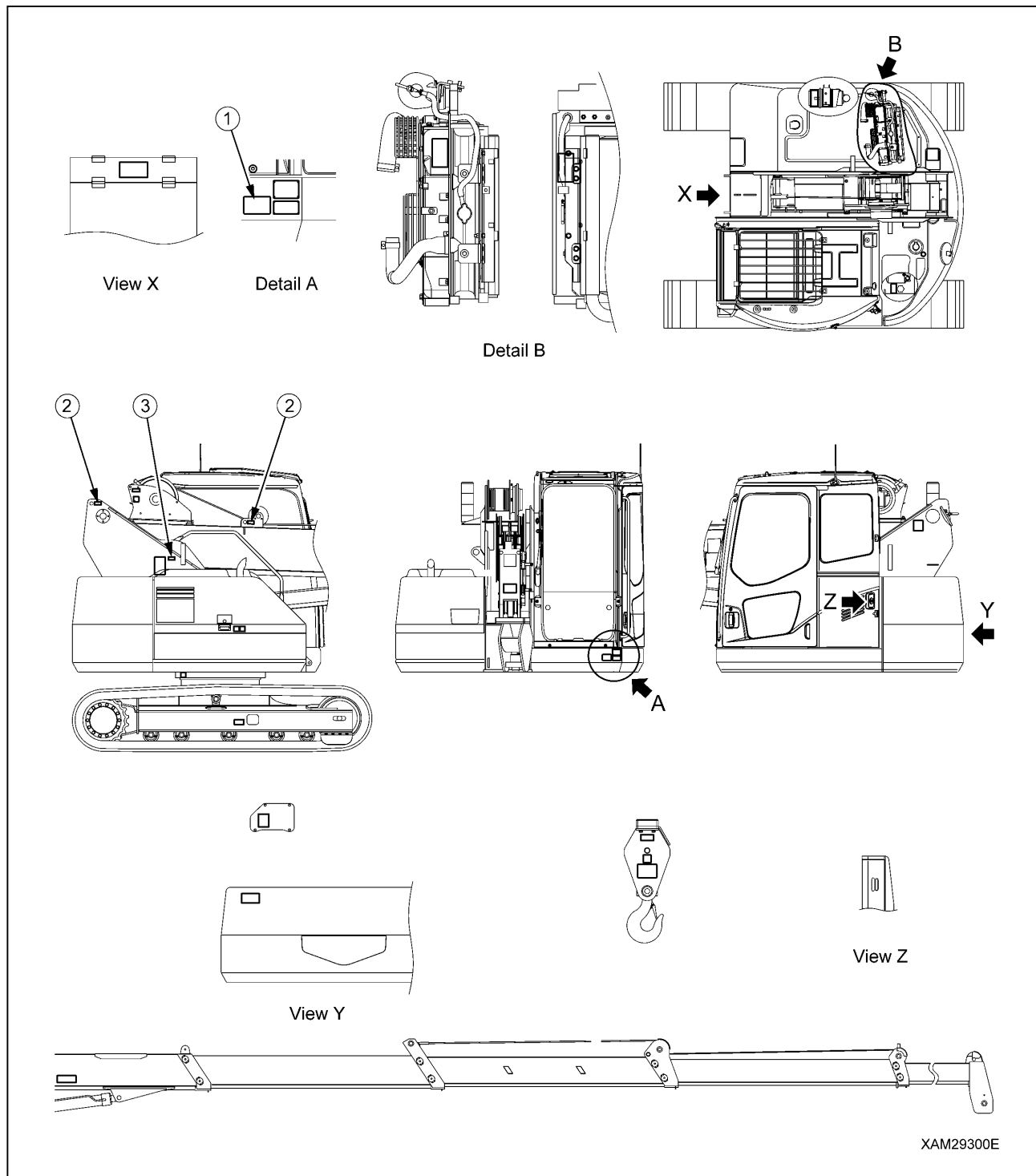
In this section, the safety labels indicated are exclusive for a Blade model but different from those of a standard model. For labels other than these, refer to the section: "SAFETY – SAFETY LABEL LOCATION" of the LC785M-6 operation manual.

Keep these safety labels clean and legible at all times.

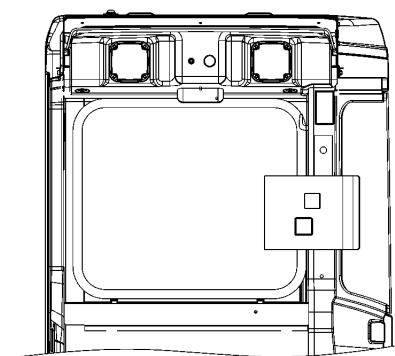
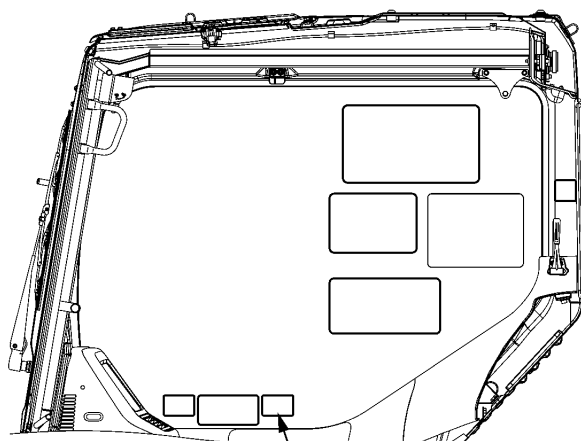
When a safety label is degraded, missing or illegible, replace with a new label.

In addition to the safety labels shown below, some other labels are required to post. Control them in the same manner.

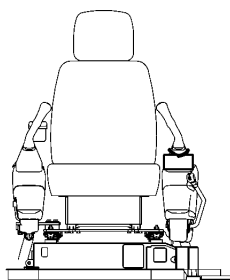
2.1 SAFETY LABEL LOCATIONS IN THE MACHINE EXTERIOR



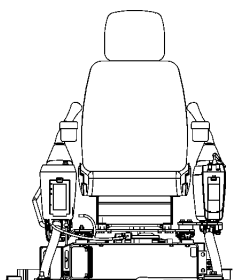
2.2 SAFETY LABEL LOCATIONS INSIDE THE CABIN



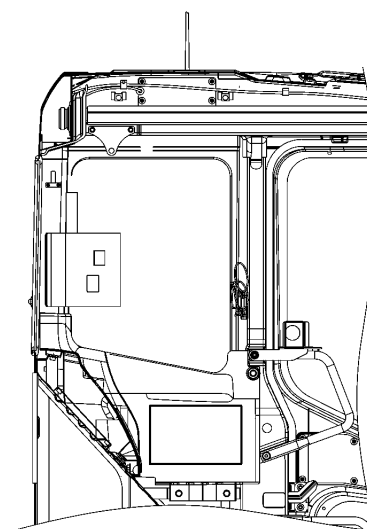
View W



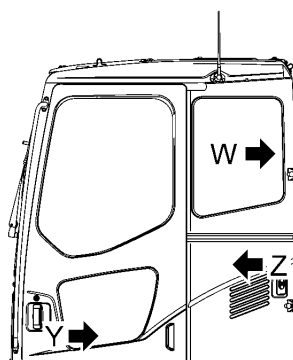
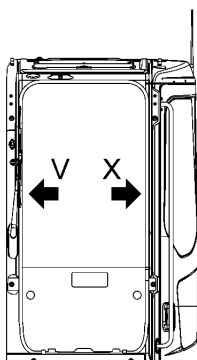
View Y



View Z



View X



XAM29310E

(1) Machine weight (556-4575400)

LC785M-6 MACHINE WEIGHT	
Model	Weight
LC785M-6F	9990kg
LC785M-6B	10250kg
LC785M-6BF	10420kg

556-4575400

(4) Caution when blade operating (556-4575300)

**WARNING**

Never use the blade as an outrigger.
It could cause damage to the crane
or it could tip over.

556-4575300

(2) Loads on 4-rope machine hoisting
(556-4575500) (4 places)

Load per single line of
4 part hanging

3.0 t

556-4575500

(3) Loads on 2-rope machine hoisting
(556-4575600) (2 places)

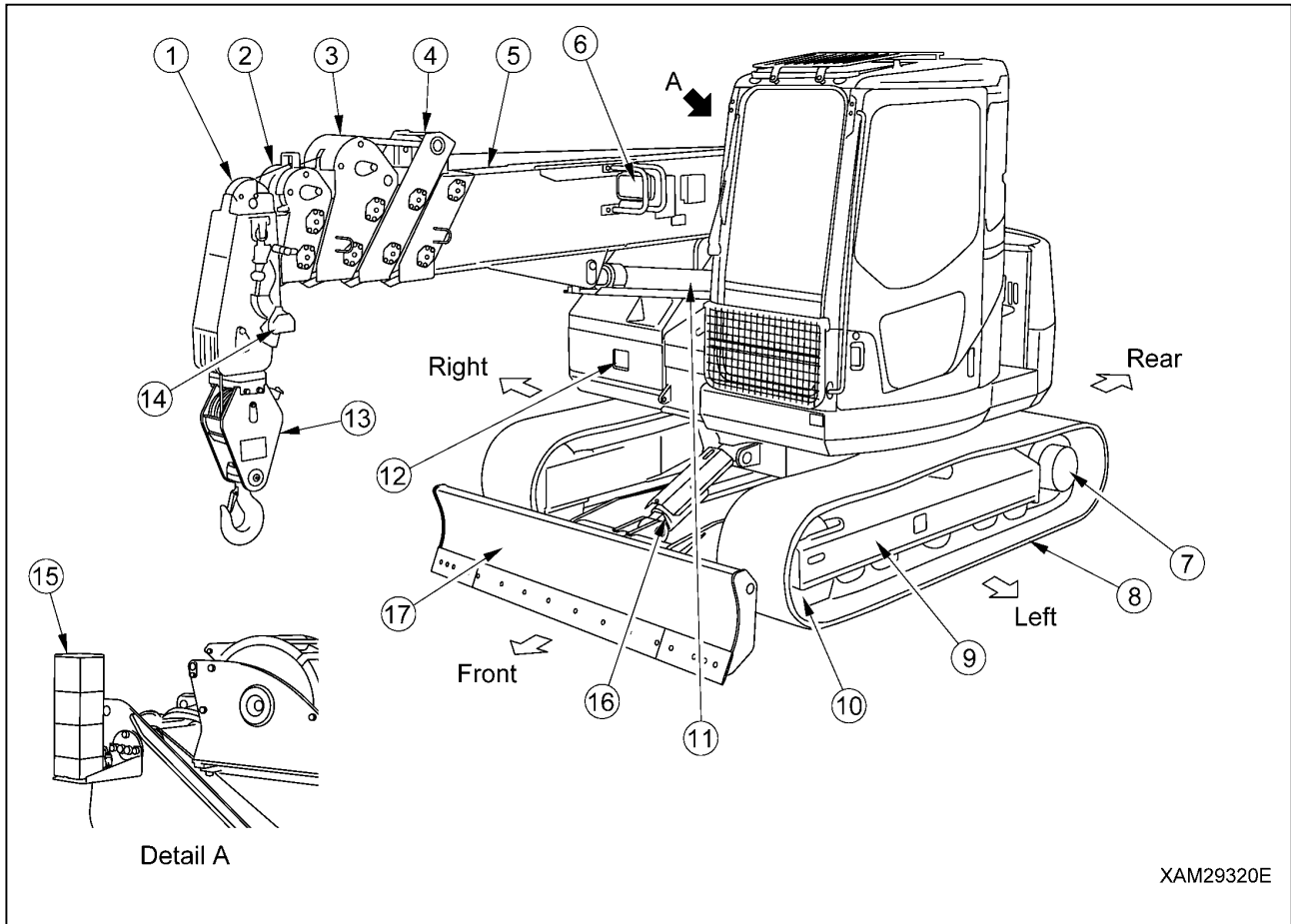
Load per single line of
2 part hanging

5.5 t

556-4575600

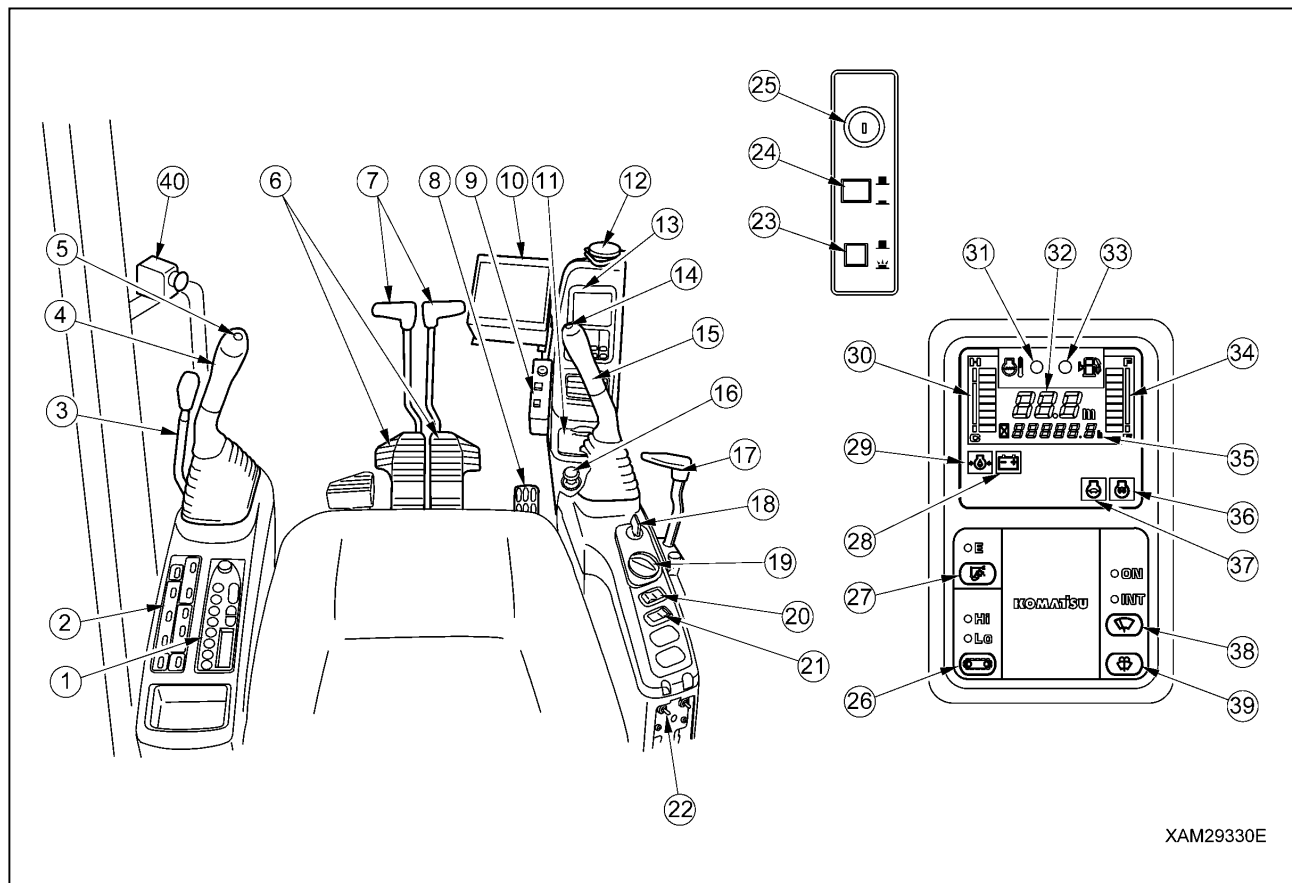
3. MACHINE EACH SECTION

3.1 MACHINE OVERALL VIEW



- | | |
|-------------------|-------------------------------|
| (1) Top boom | (10) Idler |
| (2) Fourth boom | (11) Boom derricking cylinder |
| (3) Third boom | (12) Headlight |
| (4) Second boom | (13) Hook |
| (5) First boom | (14) Overwinding detector |
| (6) Working light | (15) Rotary lamp |
| (7) Sprocket | (16) Blade cylinder |
| (8) Track shoe | (17) Blade |
| (9) Track frame | |

3.2 CONTROLLING DEVICE OVERALL VIEW



XAM29330E

- | | |
|-----------------------------------|--|
| (1) Car radio | (21) Warning buzzer stop switch |
| (2) Air conditioner control panel | (22) Swing brake release switch |
| (3) Safety lock lever | (23) Winch two-speed switch |
| (4) Left side control lever | (24) Hook stowage switch |
| (5) One-touch deceleration switch | (25) Moment limiter emergency release switch |
| (6) Traveling pedals | (26) Traveling speed selector switch |
| (7) Traveling levers | (27) Operation mode selector switch |
| (8) Acceleration pedal | (28) Battery charge monitor |
| (9) Switch box | (29) Engine oil pressure monitor |
| (10) Moment limiter device | (30) Engine water temperature gauge |
| (11) Ashtray | (31) Engine water temperature monitor |
| (12) Level | (32) Display (For failures) |
| (13) Machine monitor | (33) Fuel level monitor |
| (14) Horn switch | (34) Fuel gauge |
| (15) Right side control lever | (35) Service meter |
| (16) Cigarette lighter | (36) Warm-up monitor |
| (17) Blade control lever | (37) One-touch deceleration monitor |
| (18) Starter switch | (38) Wiper switch |
| (19) Fuel adjustment dial | (39) Window washer switch |
| (20) Lamp switch | (40) EMO switch |

4. DESCRIPTION OF EACH DEVICE

CAUTION

In this section, the devices indicated are exclusive for a Blade model but different from those of a standard model. For devices other than those, refer to the section: "HANDLING – DESCRIPTION OF EACH DEVICE" of the LC785M-6 operation manual.

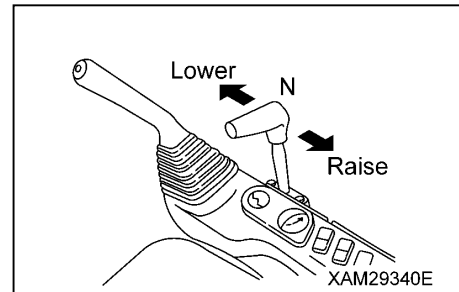
[1] BLADE CONTROL LEVER

Use this lever to operate the blade.

Lower: Push the lever to forward.

Neutral: The Blade stops tilting and is held in the position.

Raise: Draw the lever backward.



5. OPERATIONS

CAUTION

In this section, the devices indicated are exclusive for a Blade model but different from those of a standard model. For devices other than those, refer to the section: "HANDLING – OPERATIONS" of the LC785M-6 operation manual.

5.1 OPERATION OF BLADE

⚠ WARNING

- Always clear the Blade from the ground during the hoisting operation. Failure to do so may result a serious hazard including damaging the machine or its tipping over.
- Avoid ground leveling operations at the same time as hoisting operations. Otherwise, it may cause a serious hazard including damaging the machine or its tipping over.

Shift back and forth the Blade control lever in the right side of the operator's seat to actuate the Blade.

CAUTION

- Indications and warning are issued against a load hoisting operation in a condition where the Blade is lowered and a certain load is imposed. At the same time, crane functions below are interrupted:

Indications and warnings:

- Rated total load display in the Moment limiter will blink and indicate "bld".
- Buzzer sounds intermittently.
- A red lamp of the rotary lamplights.

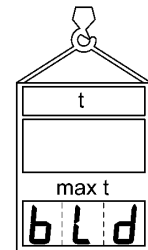
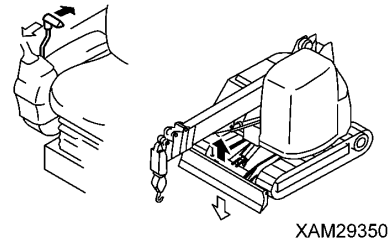
Functions to be interrupted:

- Winch hoisting
- Boom derricking
- Boom extending

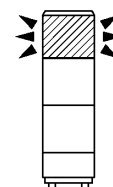
While a certain load is imposed to the Blade in addition to that a load is hoisted, the above conditions continue.

Either to clear the Blade from the ground or to fall the hoisted load on the ground will release these indications and warnings, then the crane resumes these functions.

- During traveling not for ground leveling operations, keep the Blade clear from the ground. Road surface may be damaged in such a condition.



External Indicator



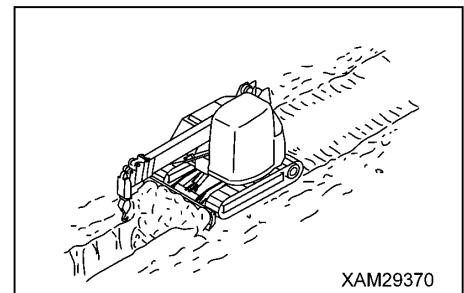
5.2 WORKS WITH A BLADE

[1] GROUND LEVELING

⚠ WARNING

Secure the safety of surroundings, first. Accident to third persons, machine tipping over due to off-track, or the Main boom crashing may happen, to result a serious hazard, including injury or death.

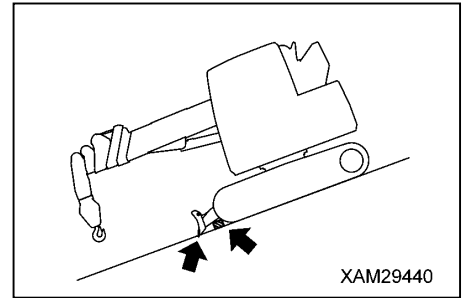
The Blade is employed to ground leveling operations.



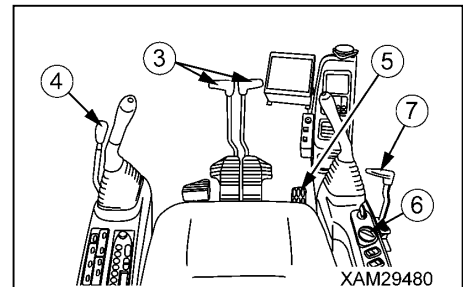
5.3 PARKING THE MACHINE

! WARNING

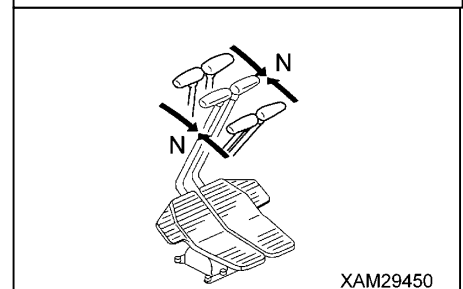
- Park the machine on a level and solid ground but avoid a slope. If you have no choice but to park on a slope, apply a block to prevent the machine to come-down; and direct the Blade downward and make it bite the ground, as shown on the figure on the right.
- To touch operation levers carelessly may cause a sudden motion of the crane or machine body which incurs a serious hazard. Always shift the safety lock lever to the lock position securely before you leave the operator's seat.



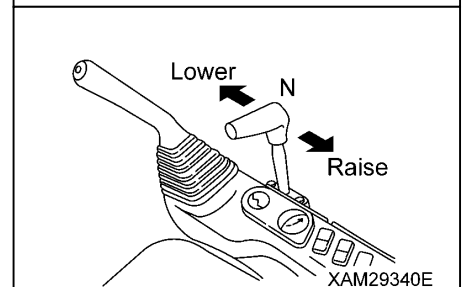
1. Release your foot from the acceleration pedal (5).



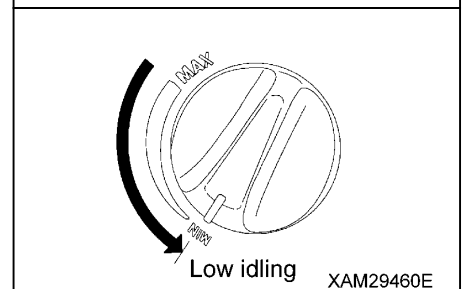
2. Return the left and right traveling levers (3) to N (neutral) position.



3. Shift the Blade control lever (7) to "lower" direction so that the Blade touches the ground.

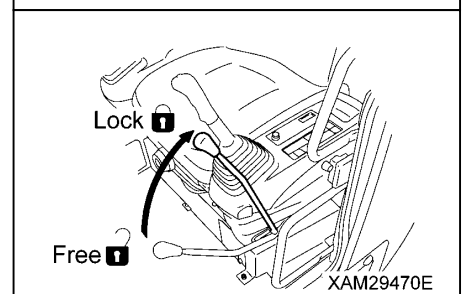


4. Turn the fuel adjustment dial (6) to "low idling" position and decrease the engine speed.



5. Turn the starter switch key to the "OFF" position and stop the engine, then pull out the starter switch key.

6. Lock the control levers securely with the safety lock lever (4) to the lock position.



6. TRANSPORTATION

CAUTION

In this section, the devices indicated are exclusive for a Blade model but different from those of a standard model. For devices other than those, refer to the section: "HANDLING – OPERATIONS" of the LC785M-6 operation manual.

6.1 HOW TO HOIST THE MACHINE

6.1.1 HOW TO THE MACHINE WITH THE BOOM LOWERED

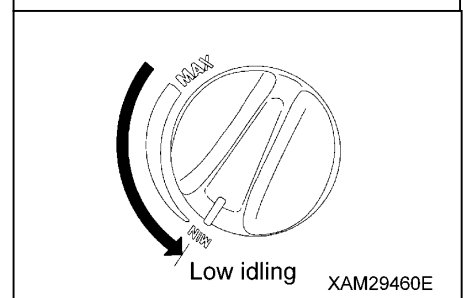
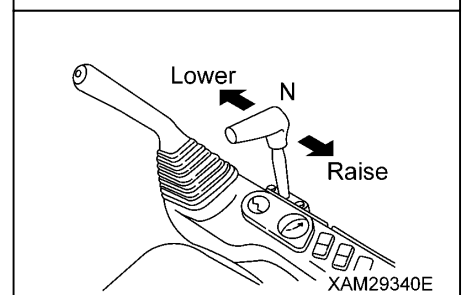
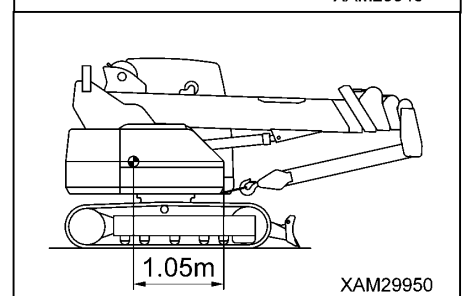
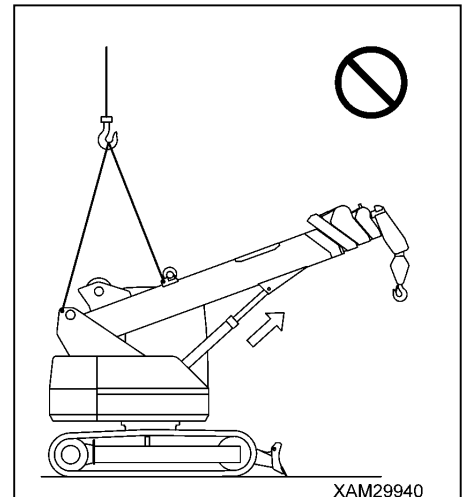
NOTES

- Use four hoisting wire ropes of the same standard.
- Breaking force: 18.7 ton or more
- $\phi 18 \times 2.0$ m or more
- Use four shackles of the same standard.
- Working load: 3.0 ton or more

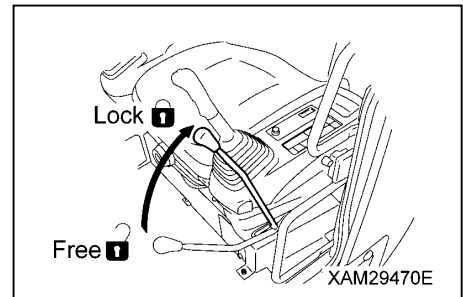
CAUTION

When the machine is hoisted with the hook stored at the end of the hook, the boom will raise due to the machine weight, preventing the machine from being hoisted. When hoisting the machine with the boom lowered, always secure the hook and boom to the machine body using the hooking wire rope.

1. Slew the crane superstructure so that the boom end comes to the Blade side and the superstructure and track frame are parallel.
2. Hang the hook over the hooking wire rope and move the boom to take the posture shown in the figure on the right. Secure the hook and boom to the machine body.
3. Shift the Blade control lever to "lower" direction so that the Blade touches the ground.
4. Turn the fuel adjustment dial to "low idling" position and decrease the engine speed.
5. Turn the starter switch key to the "OFF" position and stop the engine, then pull out the starter switch key.



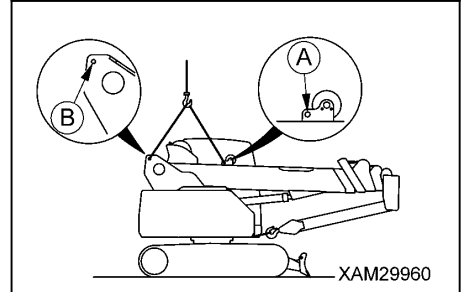
6. Lock the control levers securely with the safety lock lever (4) to the lock position.



7. Install shackles at two locations (A) on the crane boom and two locations (B) on the crane frame, to hook the hoisting wire rope in a manner such that the hoisting angle is "60 degrees or less".

NOTES

The hoisting hook should come to the center of the gravity at this point.



8. Verify that there is no posture change caused by the leakage from the hydraulic circuit on the derricking cylinder head side when the machine is hoisted.
9. After the machine left the ground, verify the hook condition and hoisting posture. Then slowly hoist the machine.

NOTES

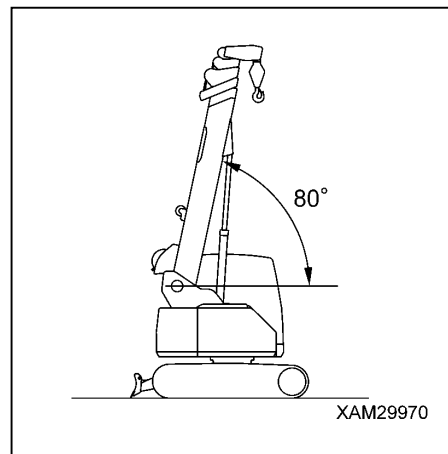
When the crane is hoisted in the above posture, it inclines about "1 degree" backward.

6.1.2 HOW TO HOIST THE MACHINE WITH THE BOOM RAISED

NOTES

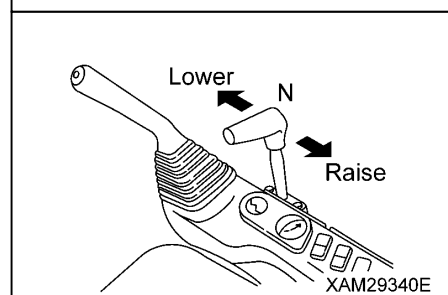
- Use two hoisting wire ropes of the same standard.
 - Breaking force: 36 ton or more
 - $\phi 25 \times 8.6$ m or more
- Use two shackles of the same standard.
 - Working load: 7.0 ton or more

1. Retract all the booms and raise the boom to 80 degrees. Stow the hook block to the boom top end.

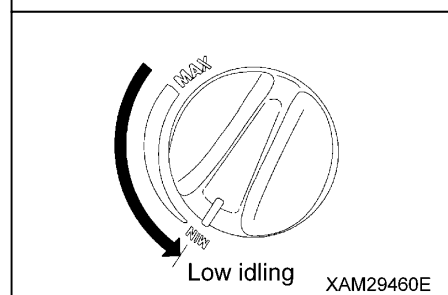


2. Slew the crane superstructure so that the boom end comes to opposite the Blade side and the superstructure and track frame are parallel.

3. Shift the Blade control lever (7) to “lower” direction so that the Blade touches the ground.

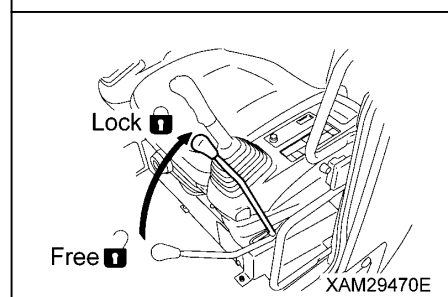


4. Turn the fuel adjustment dial to “low idling” position and decrease the engine speed.



5. Turn the starter switch key to the “OFF” position and stop the engine, then pull out the starter switch key.

6. Lock the control levers securely with the safety lock lever (4) to the lock position.



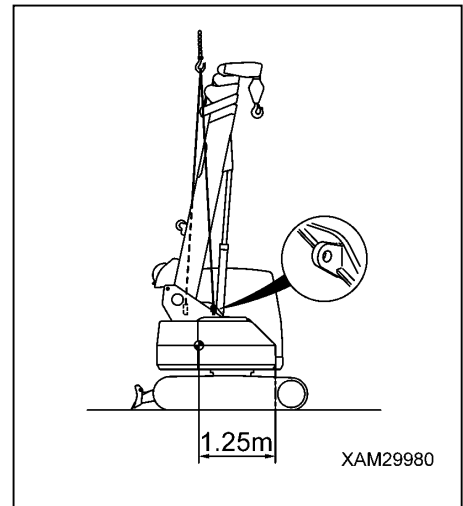
7. Install shackles at two locations on the crane frame to hook the hoisting wire rope.

NOTES
Before hoisting the machine, place some cushion where the hoisting wire rope and the machine come into contact.

8. Verify that there is no posture change caused by the leakage from the hydraulic circuit on the derricking cylinder head side when the machine is hoisted.

9. After the machine left the ground, verify the hook condition and hoisting posture. Then slowly hoist the machine.

NOTES
When the crane is hoisted in the above posture, it inclines about "6 degree" forward.



7. INSPECTION AND MAINTENANCE

CAUTION

In this section, the devices indicated are exclusive for a Blade model but different from those of a standard model. For devices other than those, refer to the section: "INSPECTION AND MAINTENANCE" of the LC785M-6 operation manual.

7.1 MAINTENANCE EVERY 50 HOURS

[1] GREASING

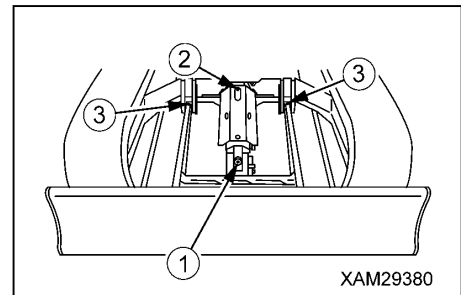
CAUTION

- Grease every 10 hours until a new machine operated for 100 hours, that is the time when the machine gets used to being run.
- Any unusual noise at greasing points shall require immediate greasing regardless of the maintenance period.

Use a grease type in the following table depending on the greasing point.

No.	Greasing Point		Grease Type
1	Blade cylinder foot pin greasing	1 pt	Lithium grease
2	Blade cylinder rod end pin greasing	1 pt	
3	Blade foot pin greasing	2 pt	

1. Lower the Blade to contact the ground prior to stop the engine.
2. Grease, by using a grease pump, to the grease fitting with arrow.
3. Cleanly wipe off the old grease that was pushed out after greasing.



8. SPECIFICATIONS

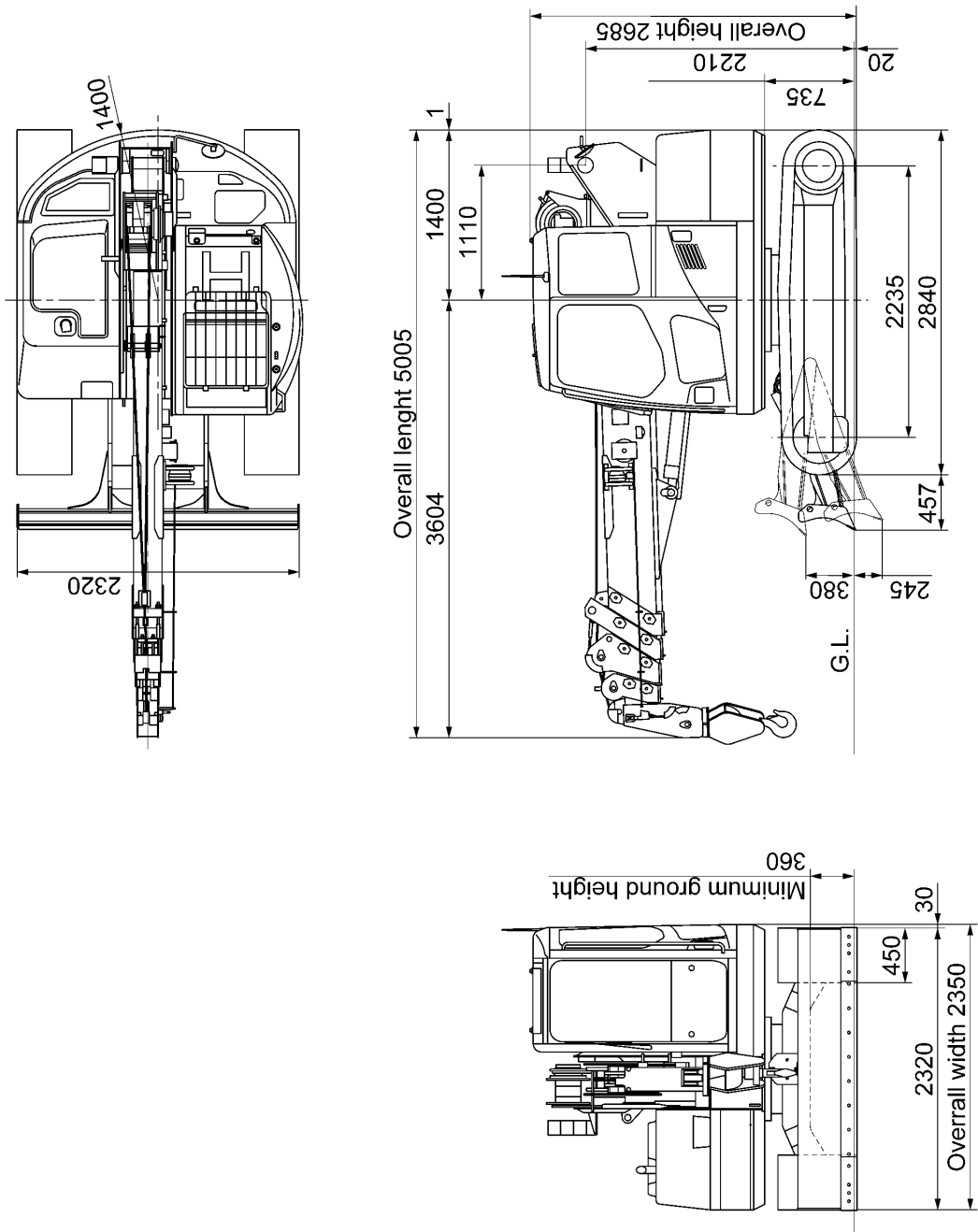
CAUTION

In this section, the data indicated are exclusive for a Blade model but different from those of a standard model. For data other than those, refer to the section: "SPECIFICATIONS" of the LC785M-6 operation manual.

8.1 SPECIFICATIONS

System / Item		LC785M-6B
Mass and dimensions	Machine mass	10,250kg
	Overall length x width x height	5,005mm x 2,350mm x 2, 685mm
	Distance between idler and sprocket	2,235mm
	Track gauge	1,870mm
	Track width	450mm
	Lowest height from ground	360mm
Blade system	Method	Direct push with hydraulic cylinder
	Blade maximum rising stroke	380mm
	Blade maximum lowering stroke	245mm
Hydraulic system	Hydraulic pump	Variable piston pump + dual gear pump (Winch / Travel-right / Telescoping & Winch / Derricking / Travel-left, Slewing & Control valves)
	Relief set pressure	20.6MPa (210kgf/cm ²) (telescope, derrick), 24.6MPa (250kgf/cm ²) (winch, travel), 19.2MPa (195kgf/cm ²) (swing), 3.2MPa (32kgf/cm ²) (control)
	Hydraulic oil tank capacity	126 liters

8.2 DIMENSIONS



XAM29490E

MAEDA CRAWLER CRANE LC785M-6B BLADE OPERATION MANUAL

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