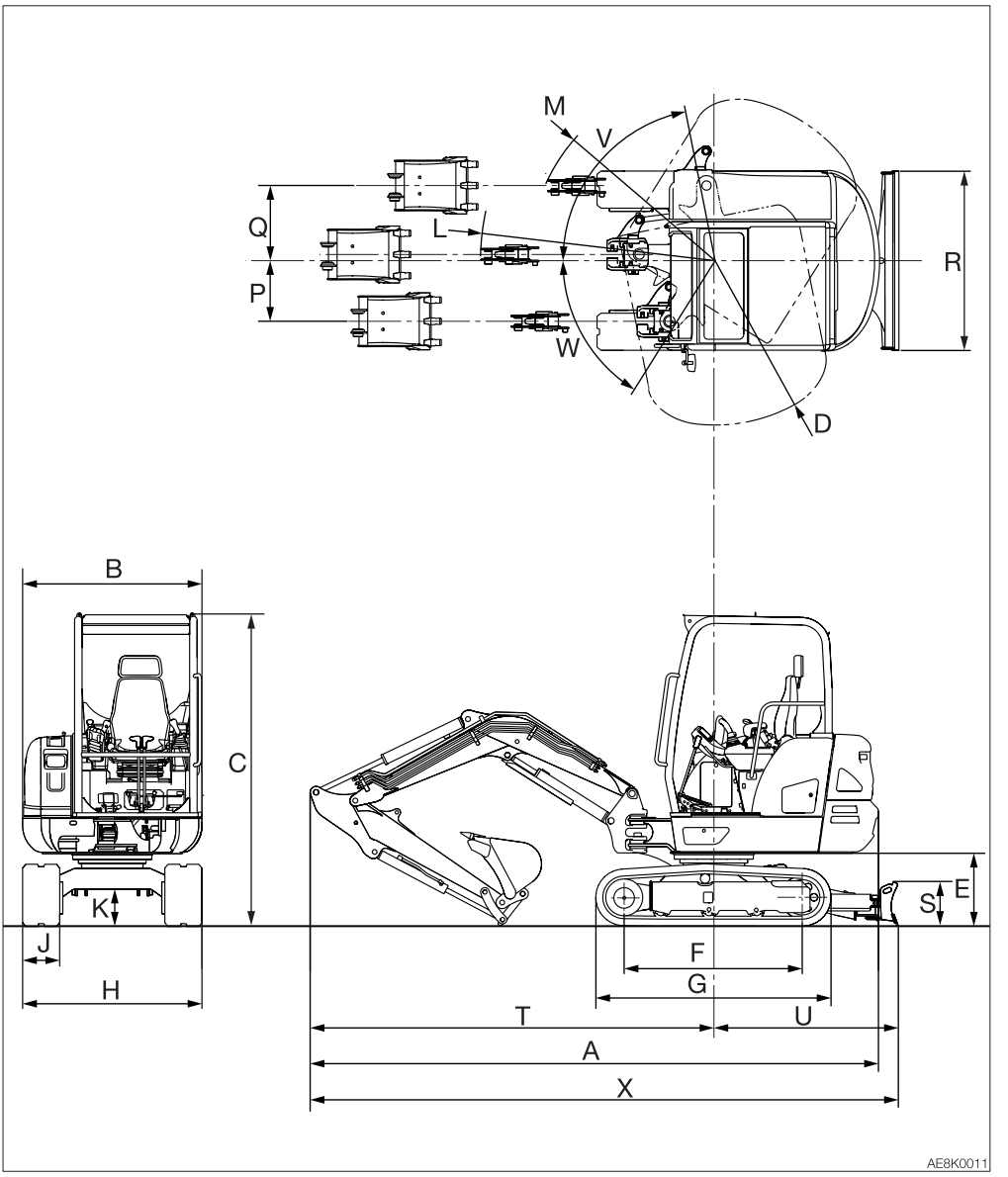
MACHINE DIMENSIONS

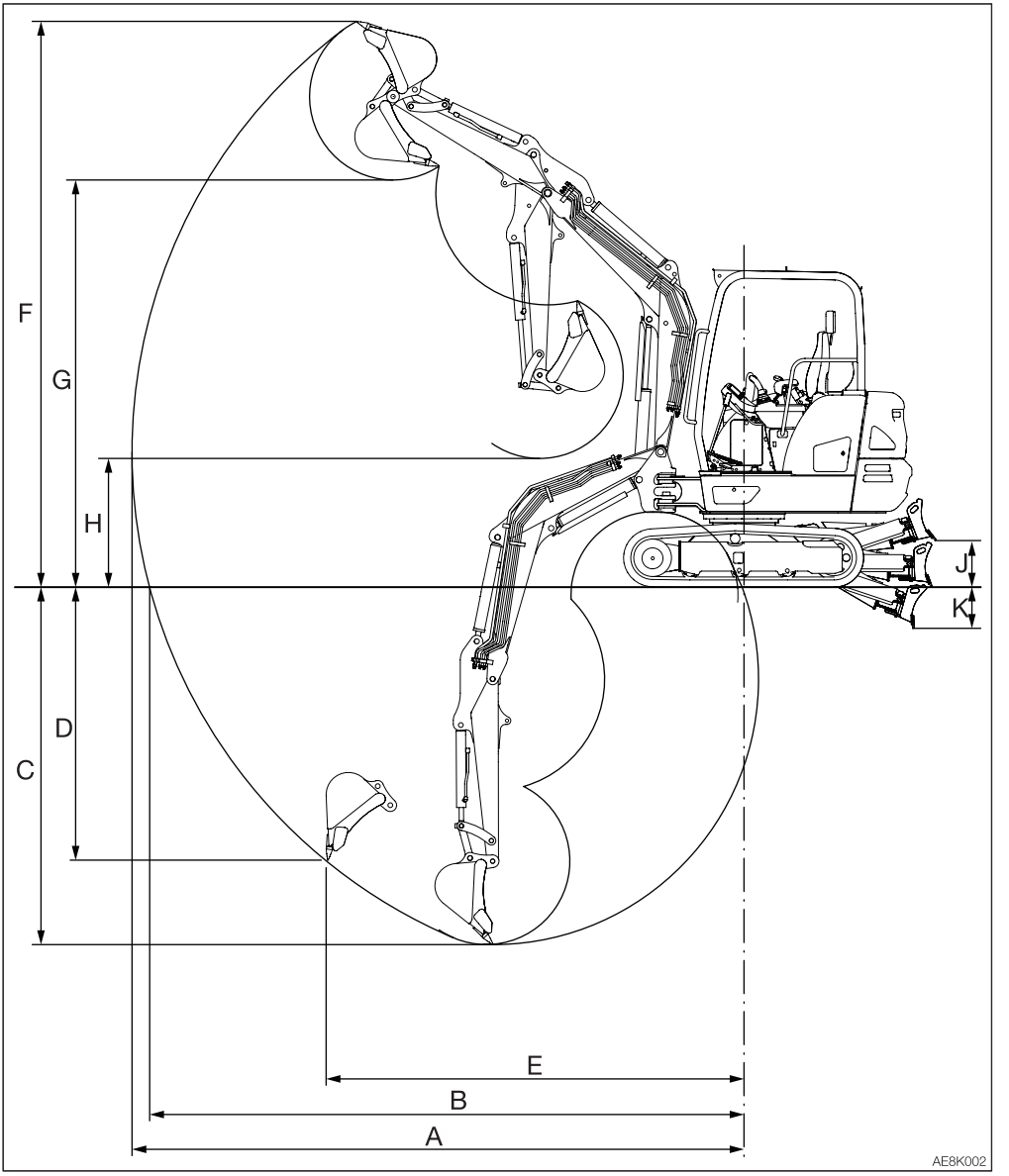


Unit: mm (inch)

	Item	Middle arm	Long arm
		Rubber crawlers	
A	Overall length	4565 (179.7)	4595 (180.9)
B	Upperstructure overall width	1460 (57.5)	←
C	Overall height	2540 (100)** 2525 (99.3)	←
D	Slew radius	1330 (52.4)	←
E	Clearance height under upperstructure	590 (23.2)	←
F	Crawler base	1440 (56.7)	←
G	Crawler overall length	1900 (74.9)	←
H	Crawler overall width	1450 (57.1)	←
J	Crawler shoe width	300 (11.8)	←
K	Ground clearance of undercarriage	305 (11.9)	←
L	Minimum radius of equipment and attachment	1880 (73.9)	1895 (74.7)
M	Minimum radius of equipment at maximum front offset	1485 (58.5)	1505 (59.2)
P	Offset distance of bucket (right swing)	490 (19.3)	←
Q	Offset distance of bucket (left swing)	610 (23.9)	←
R	Dozer blade width	1450 (57.1)	←
S	Dozer blade height	355 (14) 330 (13)*	←
T	Front distance to axis of rotation	3235 (127.4)	3265 (128.5)
U	Dozer blade distance to axis of rotation	1465 (57.8) 1480 (58.3)*	1455 (57.3) 1480 (58.3)*
V	Boom swing angle (Left)	79°	←
W	Boom swing angle (Right)	58°	←
X	Overall length (dozer blade at rear)	4705 (185.2) 4725 (186.1)*	4730 (186.3) 4755 (187.2)*

* : With an angle dozer blade
** : Canopy

OPERATING RANGES



Unit: mm (inch)

	Item	Middle arm	Long arm
		Rubber crawlers	
A	Maximum reach	4705 (185.2)	4850 (190.9)
B	Maximum reach at ground reference plane	4560 (179.5)	4710 (185.4)
C	Maximum digging depth	2680 (105.5)	2835 (111.6)
D	Maximum vertical digging depth	2015 (79.4)	2165 (85.2)
E	Reach at maximum vertical digging depth	3265 (128.6)	3310 (130.4)
F	Maximum height of cutting edge	4325 (170.4)	4490 (176.7)
G	Maximum dumping height	3145 (123.9)	3230 (127.2)
H	Minimum dumping height	1175 (46.3)	1020 (40.2)
J	Dozer blade maximum lifting	380 (15.0) 370 (14.5)*	←
K	Dozer blade maximum lowering	310 (12.2) 325 (12.9)*	←

*: With an angle dozer blade

LIFTING CAPACITIES

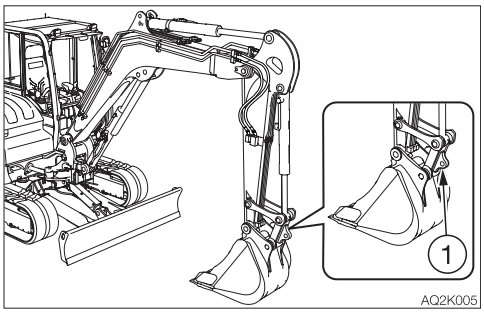
When an excavator is used to lift loads in Europe, it must comply with EN 474-1: 2022.
Install the following devices, and then turn on the overload warning switch before starting the lifting operation:
- Lifting device
- Lifting safety device

The lifting safety device must include two emergency shut-off valves, one for the boom and the other for the arm.
If the blade is used as an outrigger when lifting loads, the blade cylinder must be equipped with an emergency shut-off valve.
Refer to “Lifting safety device (If equipped)” on page 2-104.

Rated lift capacity chart

- The loads in the charts do not exceed 87% of hydraulic lift capacity or 75% of tipping load.
- Figures marked with an asterisk (*, ※) are hydraulically-limited capacities.
- The bucket mass is excluded.
- The mass of slings and any other lifting devices shall be deducted from the rated load to determine the net load that may be lifted.
- The load point is the bucket hinge pin.
- The bucket cylinder is fully extended.
- Unit: kg (lbs)

Lifting device (If equipped)



IMPORTANT: When a lifting operation is performed using a machine in Europe, you must use a machine equipped with a lifting device that complies with EN 474-1: 2022. Use a Takeuchi genuine lifting device (1).
If your machine is not equipped with our genuine lifting device (1), you must install an attachment that has a lifting device complying with EN 474-1: 2022.
When such an attachment is required, contact a Takeuchi sales or service dealer for advice.

When lifting loads, install the sling on the lifting device (1).

Load hooking system

A load hooking system must be provided with the following capabilities.
1. A system which can withstand two-and-a-half times the rated lift capacity no matter at what position the load is applied.
2. A system that poses no risk of the lifted load falling from the hooking device. For example, equipped with a hook slippage prevention device.
3. A system that poses no risk of the hooking system slipping from the hoe attachment.

Inspection before lifting loads

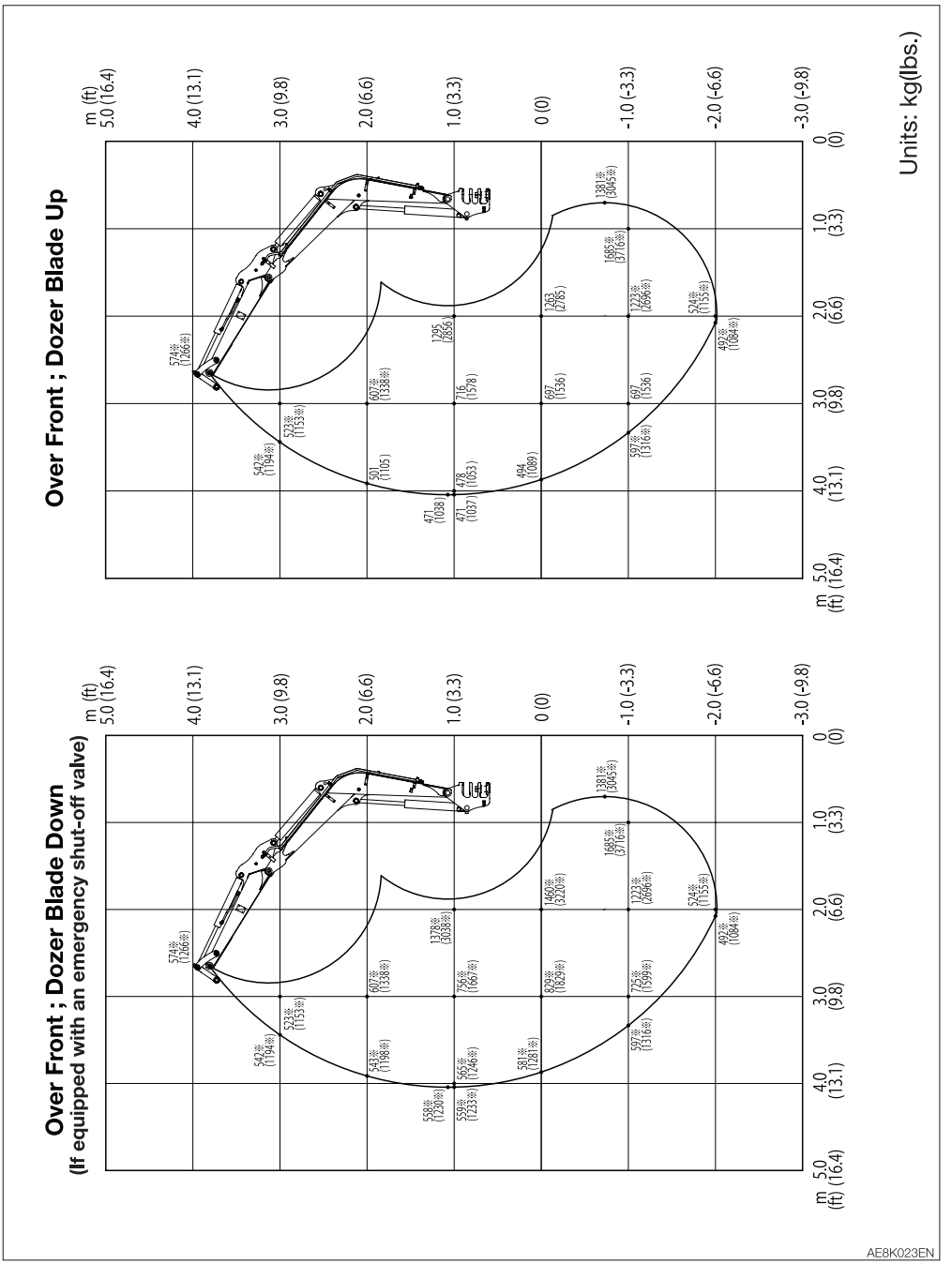
Before lifting loads, inspect the following items to ensure there is no abnormality:

- Inspect for any damage to the attachment, hose or lifting device.
- Confirm that the overload warning device operates.
  Turn on the overload warning switch, and then fully raise the boom. If the horn is sounded, the overload warning device is normal.

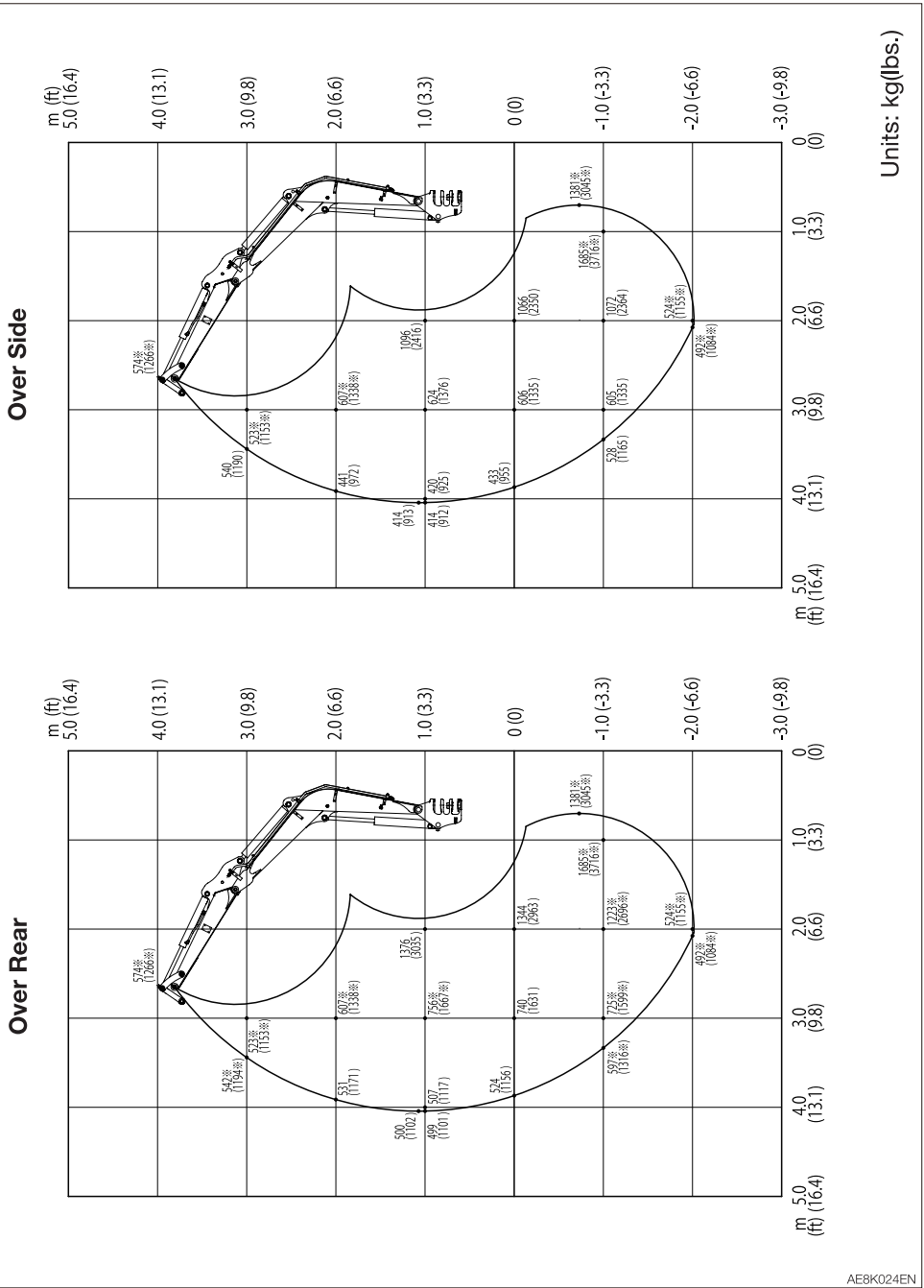
⚠ WARNING

- **Do not attempt to lift or hold any load that is greater than these rated values at their specified load radii and height.**
- **The rated lift capacities are based on the machine being level and situated on a firm supporting surface. For safe lifting, the operator is expected to make due allowance for the particular job conditions such as soft or uneven ground, non-level condition, load to the machine sides, hazardous conditions, experience of personnel, etc. The operator and other personnel should fully acquaint themselves with the operator's manual furnished by the manufacturer before operating this machine. When operating the machine, the safety rules of the equipment must also be followed.**
- **Do not travel while lifting a load; It is very dangerous.**
- **Do not lift loads when the boom is being swung to the right or left. Doing so could cause the machine to tip over.**

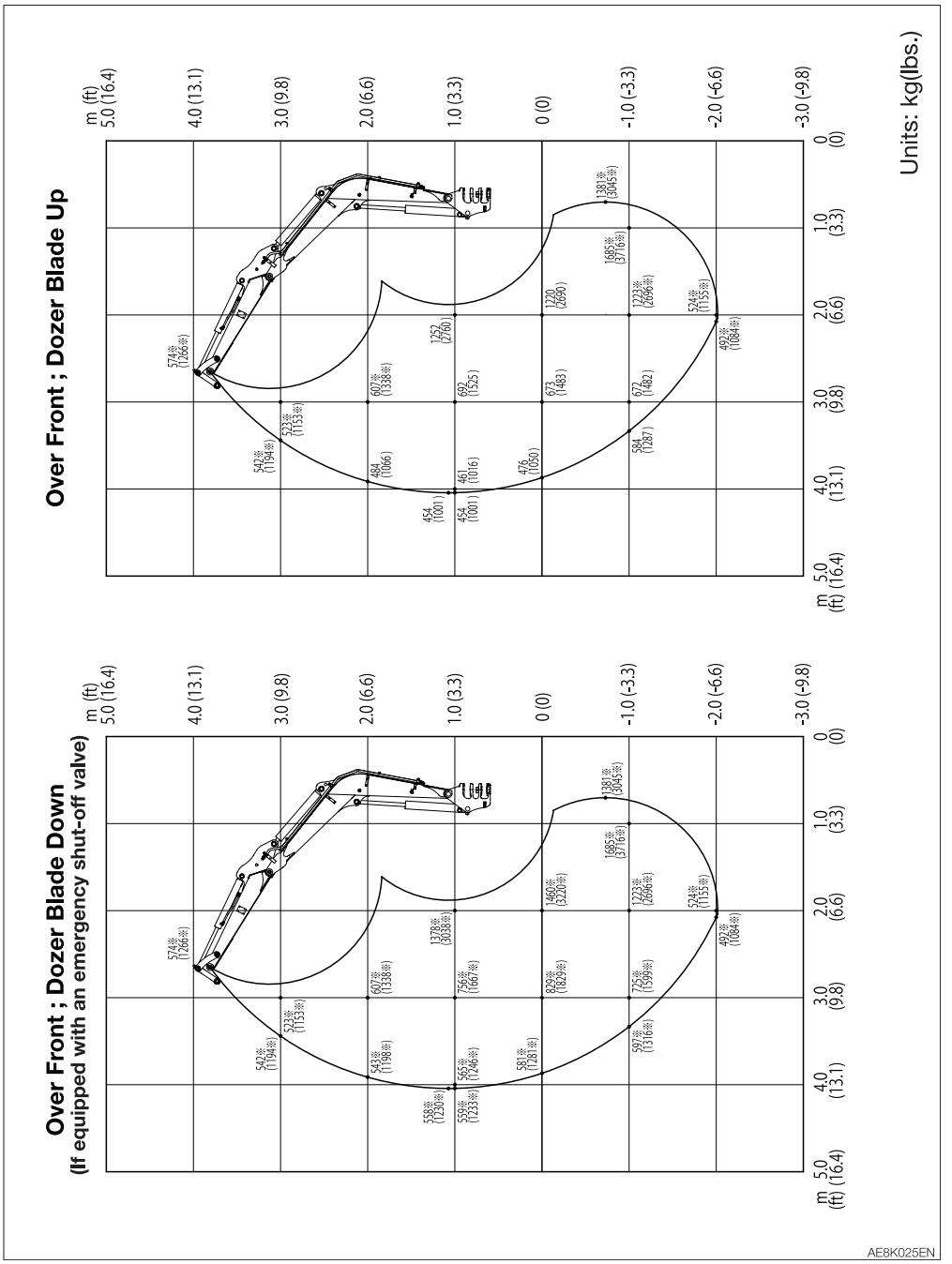
<Cab> Middle arm



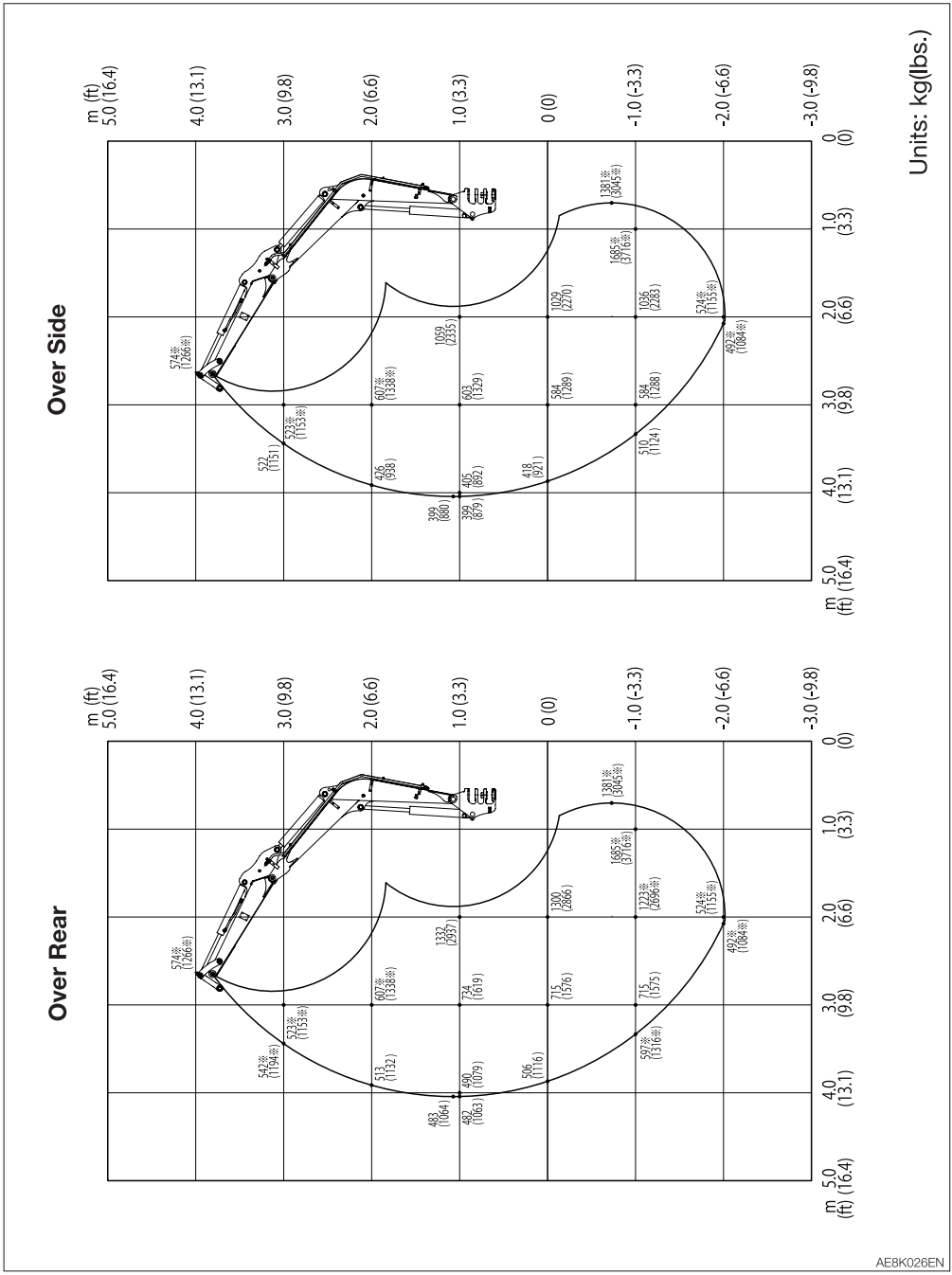
<Cab> Middle arm



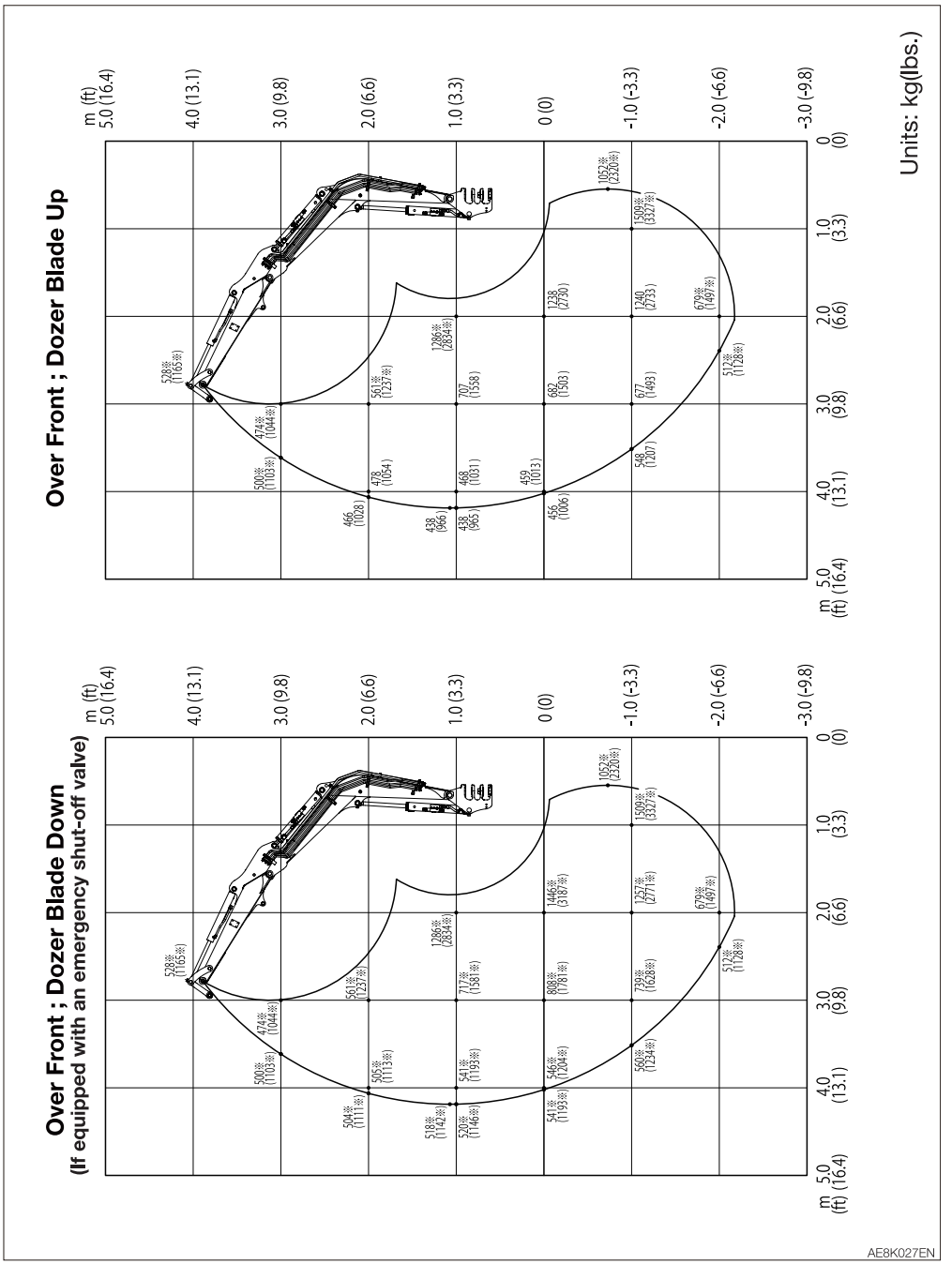
<Canopy> Middle arm



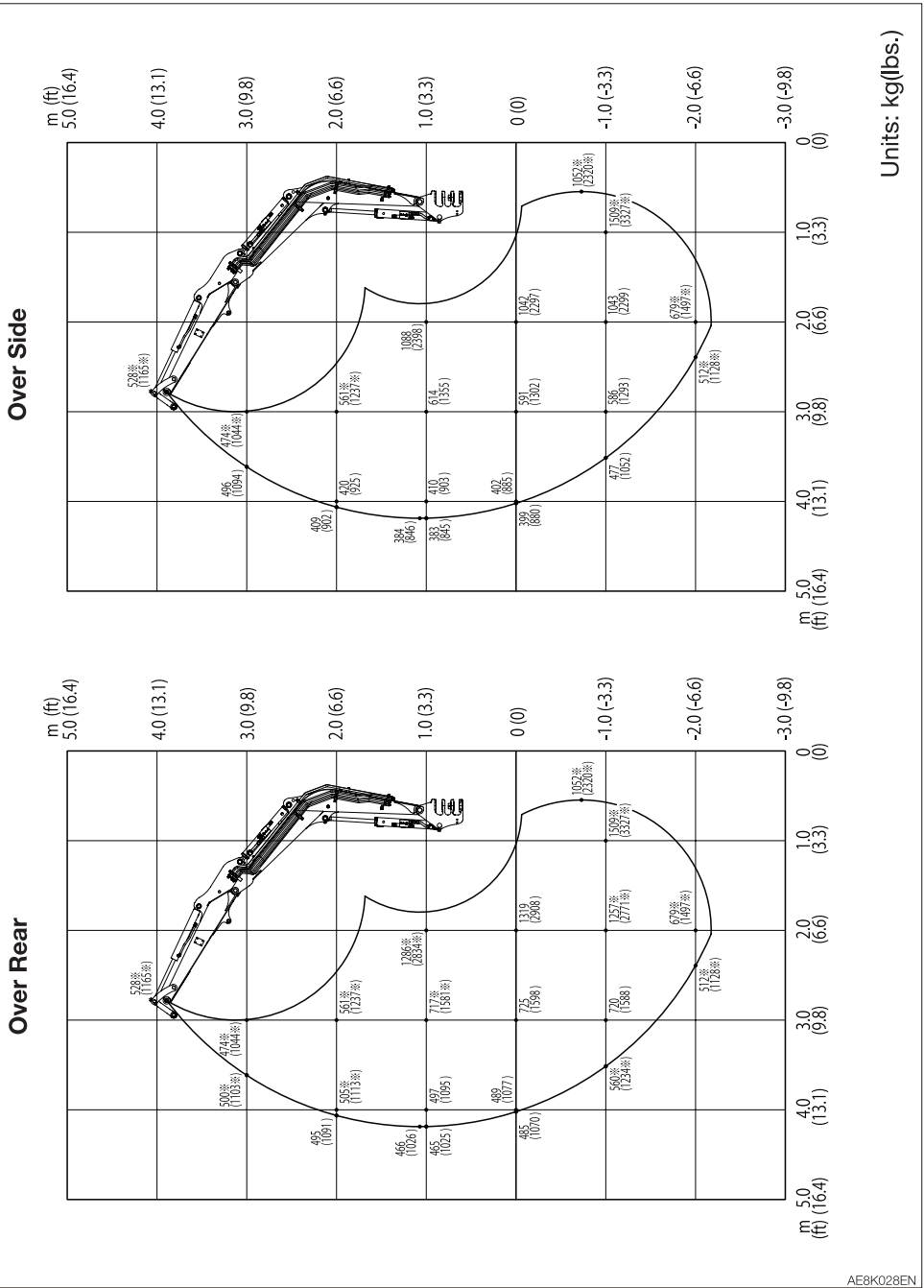
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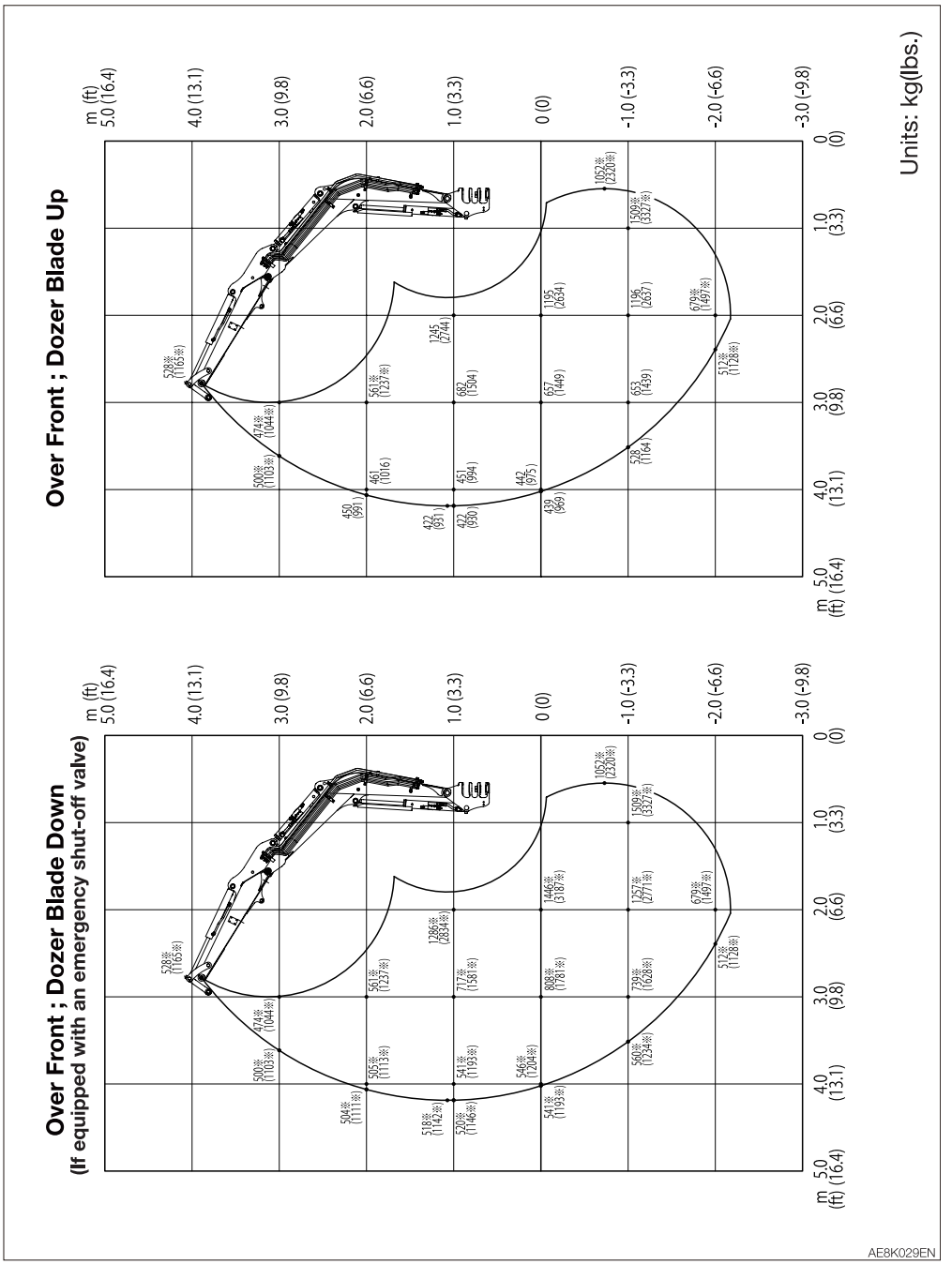
<Cab> Long arm


Over Front ; Dozer Blade Up
Over Front ; Dozer Blade Down
(If equipped with an emergency shut-off valve)
Units: kg(lbs.)
m (ft)
5.0 (16.4)
4.0 (13.1)
3.0 (9.8)
2.0 (6.6)
1.0 (3.3)
0 (0)
-1.0 (-3.3)
-2.0 (-6.6)
-3.0 (-9.8)
AE8K027EN

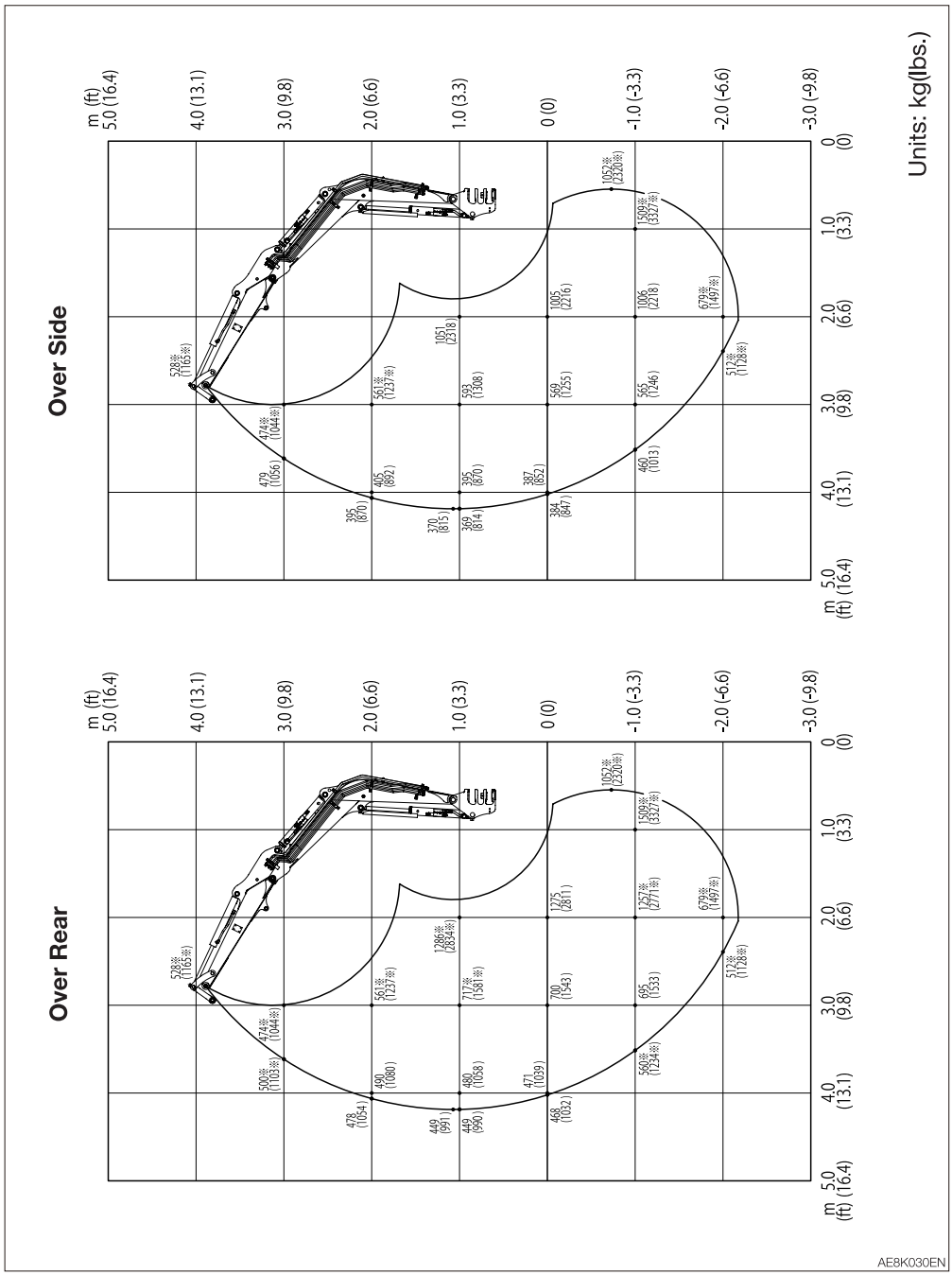
<Cab> Long arm


Over Rear
Over Side
Units: kg(lbs.)
m (ft)
5.0 (16.4)
4.0 (13.1)
3.0 (9.8)
2.0 (6.6)
1.0 (3.3)
0 (0)
-1.0 (-3.3)
-2.0 (-6.6)
-3.0 (-9.8)
AE8K028EN

<Canopy> Long arm



<Canopy> Long arm



OPTIONS

GENERAL PRECAUTIONS

SAFETY PRECAUTIONS

⚠ WARNING

When removing or installing an attachment or optional part, take the following precautions.

- Consult with Takeuchi before installing an optional attachment.
- Do not use any attachments not approved by Takeuchi. Doing so may cause safety problems. Or, it may adversely affect the machine's operation or service life.
- We will not be held responsible for any injuries, accidents or damage to its products caused by the use by a non-approved attachment.
- Select a firm, level work area. Also, be sure to park in a well ventilated place.
- Clear obstacles and dangerous objects, and clean up spilled fuel immediately.
- When lifting, be sure to designate a person to act as a signalman. Follow the instructions of the signalman regarding the procedure and measures.
- When it is necessary to temporally place a heavy object or an attachment on the ground during removal or installation, be sure to place it in a stable position.
- Keep everyone out of the area when lifting. There is a hazard of objects falling or contacting with people in the area.
- Use a crane to move heavy objects (25 kg (55 lb.) or greater).
- Before removing a heavy object, be sure to put a support to it. When lifting with a crane, pay attention to the center of gravity of the load to keep the machine in balance.
- Do not operate the machine while the load is lifted by a crane stand.
- Use the proper procedure when mounting a boom or arm; otherwise serious damage could result. Consult your sales or service dealer for help.

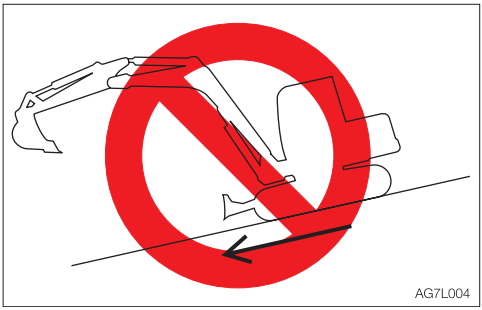
CAUTIONS WHEN INSTALLING ATTACHMENTS

Be sure to perform a test operation after an optional or other special attachment has been replaced. Inspect the hydraulic oil level and recharge it as necessary. Consult your sales or service dealer for detailed procedures on installing/removing attachments.

CAUTIONS WHEN OPERATING ATTACHMENTS

⚠ WARNING

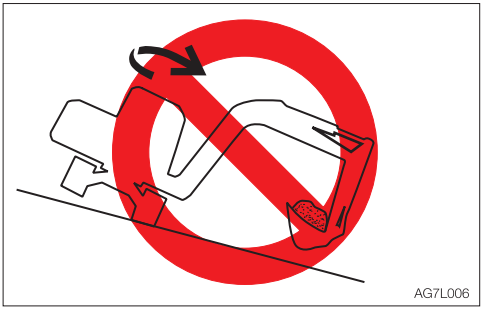
Long attachments reduce stability of the machine. The machine may tip over if it loses the balance when traveling or slewing on slopes.
Never perform the operations listed below as they are extremely dangerous.



- Traveling down the slopes with the attachment raised



- Traveling across slopes



- Slewing on slopes
- If there is a heavy attachment is installed, the machine takes longer distance than usual to come to a complete stop when the stopping operation is performed. Carefully judge the distance so as not to bump into an object around the machine. Keep a safe distance from surrounding obstacles. When a heavy attachment is installed, natural drop (the gradual dropping of the attachment under its own weight when it is stopped in midair) increases.
- The machine can tip over more easily in the lateral direction than in the longitudinal direction.
  - Do not slew sideways with a heavy load at the how attachment. In particular, do not slew sideways on slopes.
  - The attachment is heavier for machines equipped with breakers or crushers than for machines equipped with the standard bucket. Do not operate such machines sideways, especially digging downhill.
- When a long arm is installed, the operating range increases. Carefully judge the distance so as not to bump into an object around the machine. Keep a safe distance from surrounding obstacles.

ATTACHMENT COMBINATION TABLE

The table below shows which bucket should be installed when the machine is using a standard arm, middle arm or long arm. Select a proper bucket by following the table.

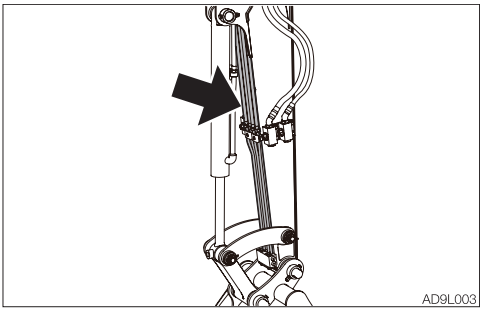
⚠ WARNING

- **Consult with Takeuchi before installing an optional attachment.**
- **Do not use any attachments not approved by Takeuchi. Doing so may cause safety problems. Or, it may adversely affect the machine's operation or service life.**
- **We will not be held responsible for any injuries, accidents or damage to its products caused by the use by a non-approved attachment.**
- **The swing stopper must be installed when a bucket wider than a 460W (standard) bucket is installed. Failure to do so may result in the bucket hitting the machine body.**

√ :Can be used.
Δ :Can be used only for light operations (digging and loading of dry and loose soil or mud)
— :Cannot be used.
Total bucket mass = Bucket mass + Heaped bucket load (specific gravity: 1.8)

Bucket	Rated capacity m^3 (cu.yd.)	Bucket cutting width mm (inch)	Middle arm 1290 mm (50.8 in.)	Long arm 1445 mm (56.9 in.)
460 W (S.T.D.)	0.068 (0.081)	460 (18.1)	√	√
Total bucket mass = Within 178 kg (392 lb.)		Within 460 (18.1)	√	√

PRECAUTIONS ON THE LOCATION OF THE AUXILIARY LINE



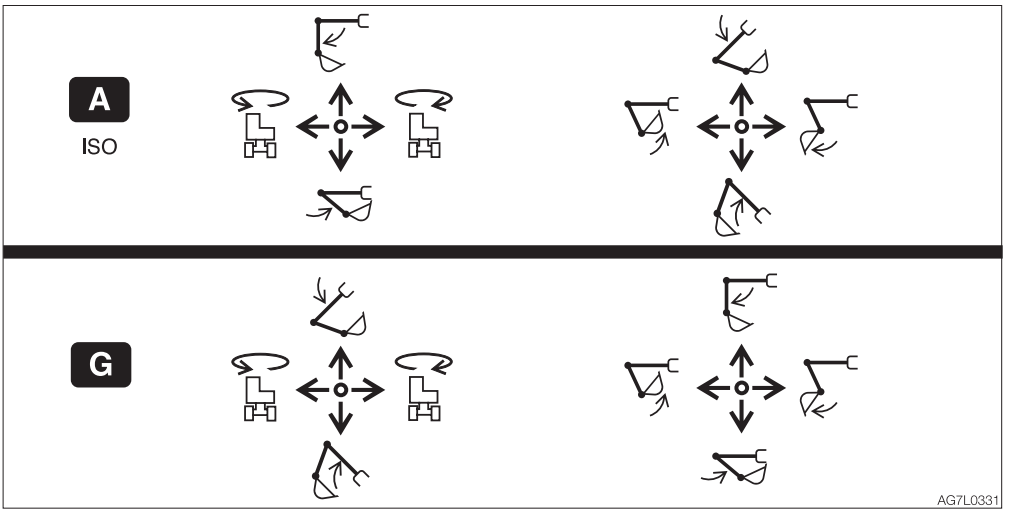
When the auxiliary line is located at the place shown in the figure above, the attachment may come in contact with the line.
Check the shape of the attachment, and install one that will not contact with the auxiliary line.

SELECTING A LEVER PATTERN

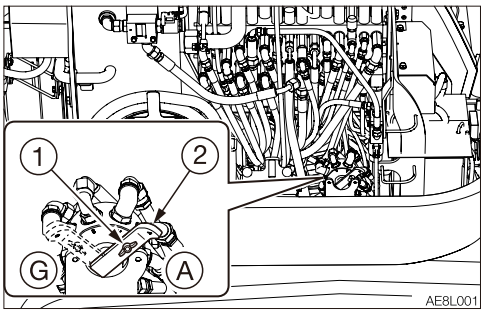
The operating pattern of the left and right operating levers can be changed.

⚠ WARNING

Before starting the engine, check the selector to see which operating pattern the left and right operating levers are set.



SWITCHING THE LEVER PATTERN



(A) : ISO pattern
(G) : G pattern

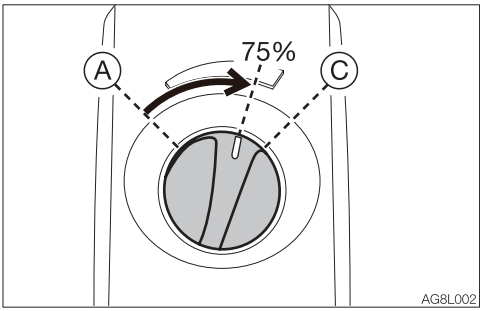
1. Park the machine on a flat and rigid ground, and stop the engine.
2. Open the right side cover.
3. Loosen the wing bolt (1).
4. Turn the selector valve lever (2) to change the pattern.
5. Tighten the wing bolt (1) and fasten the lever (2) in place.
6. Close the right side cover.
7. Confirm the lever pattern.

HYDRAULIC BREAKER

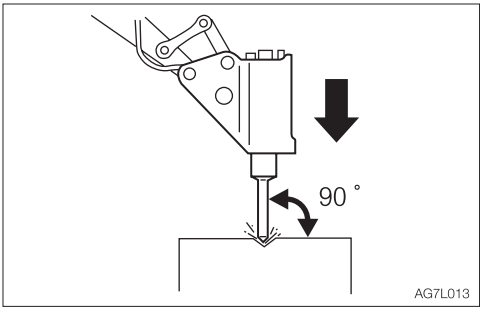
For handling of the breaker, read the hydraulic breaker's manual, provided separately.

IMPORTANT: When installing an attachment, make sure that it is appropriate for the machine being used. Contact your sales or service dealer for advice on selecting attachments.

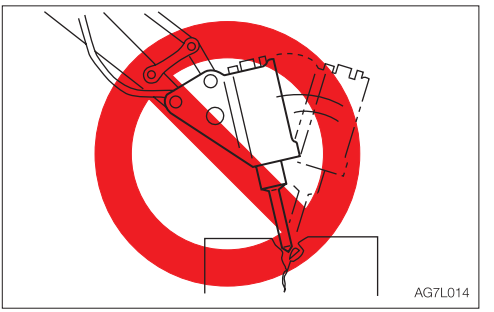
CAUTIONS ON OPERATING



- Start the engine and run it at 75% of the maximum speed.



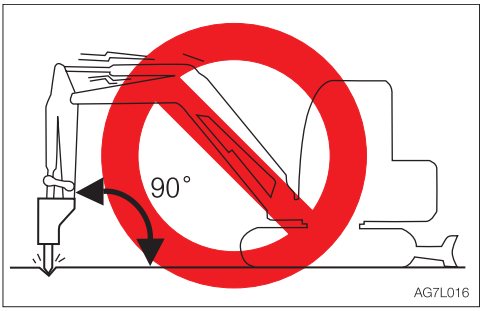
- Pound with the chisel pressed perpendicular to the surface to be pounded.
- When pounding, press the chisel properly against the object to be broken so as to avoid pounding the air.



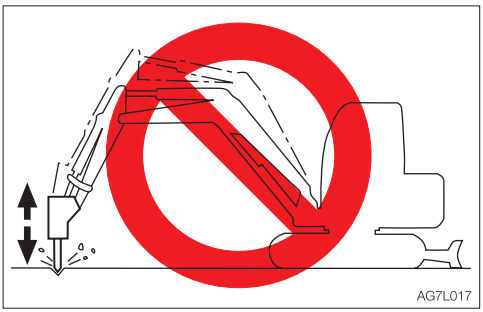
- Do not pry with the chisel or do not pry while pounding.
- Do not move the chisel while pounding.
- Do not pound continuously for over 30 seconds on the same surface.



- Do not pound with the cylinder fully extended or retracted (at the stroke end). Leave a margin of at least 50mm(2 in).



- Do not pound with the arm placed perpendicular to the ground surface.



- Do not drop the breaker itself on the object to be broken in order to break it.
- Do not move objects to be broken or rocks with the breaker itself.
- Slew the machine occasionally to cool the engine.
- If a hydraulic hose is vibrating abnormally, nitrogen gas may be leaking from the accumulator. Ask for an inspection early.

REPLACING THE HYDRAULIC OIL REGULARLY

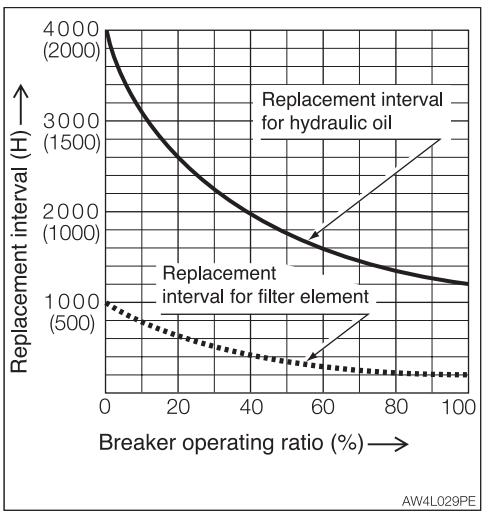
When a hydraulic breaker is used, the oil deteriorates more quickly than that used for a usual operation. Be sure to replace the hydraulic oil and the return filter elements.

- Failure to replace these in time can lead to damage to the machine and the breaker hydraulic system. To improve the service life of the hydraulic systems, be sure to replace the hydraulic oil and return filter element after the number of hours shown on the diagram below.
- When replacing the hydraulic oil, clean the suction strainer.

Replacement interval (hours)

Item	Hydraulic oil	Filter element
1st time	—	25
2nd time	—	100
Periodically	1200 (600)	200

When the breaker operating ratio is 100%.



( ): When using conventional antiwear hydraulic oil.

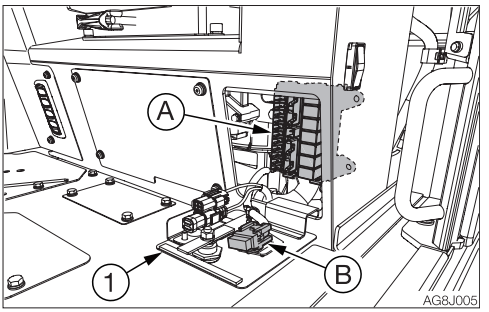
TRAVEL ALARM

The alarm sounds while the machine is traveling and stops when the machine stops traveling.
If the alarm does not sound when the machine travels, the fuse may be blown. Inspect the fuses.

⚠ WARNING

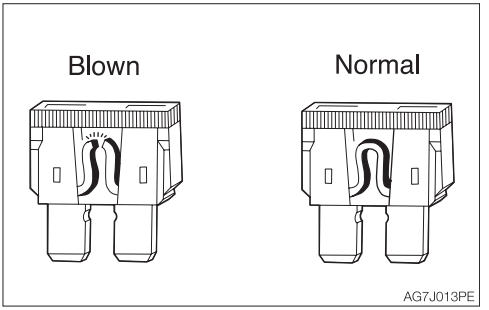
If the fuse blows again soon after replacement, then the electric system is likely faulty. It may pose a fire hazard if not properly repaired. Contact your sales or service dealer for advice.

1. Turn the starter key to the OFF position to stop the engine.



2. Open the fuse box cover (1).
3. Check for any blown fuses (2).

Note: Inspect the fuse (B) too if it is provided.



4. If a fuse is blown, replace it with a spare fuse of the same capacity.

Fuse layout and circuits protected (A)

<Cab>

Capacity	Symbol	Protected circuit
5A		Switch lighting
10A		Horn
10A		Starter switch
10A		Immobilizer
20A		Light
10A 15A*		Wiper
20A		Lever lock
10A	CTL (2)	Controller power supply (2), **Travel alarm**
10A	SOL	Solenoid
20A	CAB	Cab interior power supply
25A	OPT	Option
10A 20A**		Heater
10A		Feed pump
30A		Blower motor
20A	CAB	Cab light
20A	CTL (1)	Controller power supply (1)

*: Machines equipped with a rear wiper
**: If equipped

<Canopy>

Capacity	Symbol	Protected circuit
5A		Switch lighting
10A		Horn
5A		Starter switch
10A		Immobilizer
20A	 (1)	Light (1)
20A		Lever lock
15A	CTL 	Controller power supply, **Travel alarm**
25A	SOL 	Solenoid
20A	OPT (1)	Option (1)
25A	OPT (2)	Option (2)
10A		Feed pump
15A	 (2)	Light (2)

Fuse layout and circuits protected (B)*

Capacity	Symbol	Protected circuit
25A		Rear defroster

*: If equipped

OPTIONAL EQUIPMENT MASS

OPTION	
Angle blade	89 (196)
Long arm	9 (20)
Roof guard (Level II: ISO 10262)	47 (104)
Front guard (Level II: ISO 10262)	42 (91)

Units: kg (lb)

*: Mass of optional equipment is added to the standard machine mass.
*: This table only contains the optional equipment of 10kg (20lb) or more in mass.

BIODEGRADABLE OIL

Biodegradable oil is a new type of hydraulic oil that is decomposed into carbon dioxide and water by microorganisms in the soil and water. It is highly safe for living organisms and offers advantages in term of environmental protection.

- Recommended biodegradable oil: Mobile EAL Envirosyn 46H (an ester synthetic oil) and Panolin HLP Synth 46 (an ester synthetic oil).
  When replacing the mineral oil with biodegradable oil, use either of the above brand oil.
  Note that there are oils of other brands, even among ester synthetic oils, which may damage O-rings, packings and seals.
- When switching from a mineral oil to a biodegradable oil, the parking brake torque decreases by about 30%.

REPLACING THE MINERAL OIL WITH BIODEGRADABLE OIL

- A mixture of mineral oil and biodegradable oil or a mixture of different brands of biodegradable oils will result in a decrease in performance of the hydraulic oil, biodegradability and safety. The inside of the hydraulic oil system must be flushed (cleaned) before replacing. The residual mineral oil in the machine should be about 2% or less, as complying with the ISO 15380.
- This operation is dangerous and requires experience. Ask a Takeuchi sales or service dealer for help.

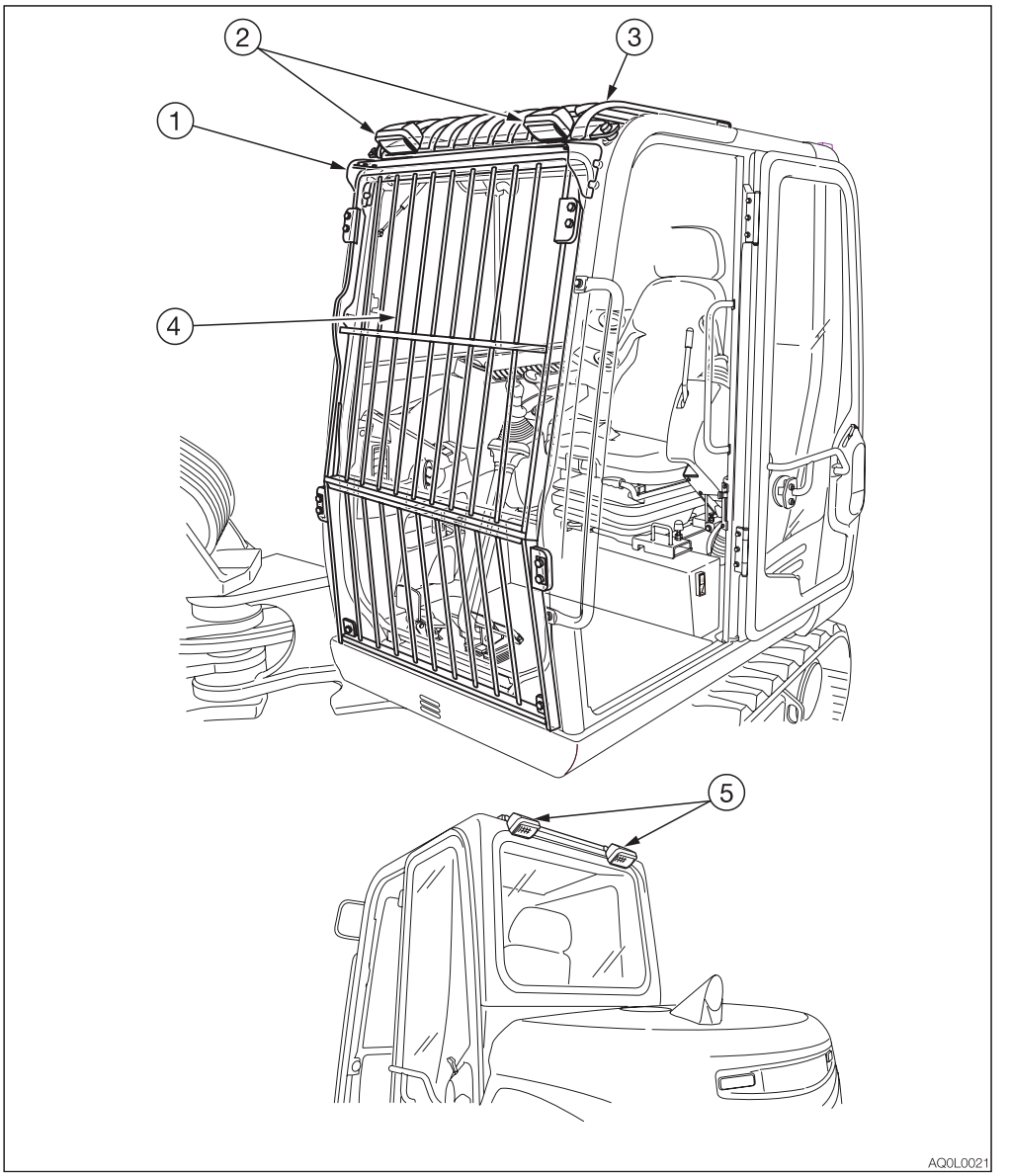
Flushing

To be performed by a Takeuchi sales or service outlet

1. Drain the hydraulic oil (mineral oil) from the hydraulic oil tank and clean the inside of the tank and suction strainer.
   Refer to “Replacing the hydraulic oil and cleaning the suction strainer” on page 5-50.
2. Remove the cylinder hoses and drain the hydraulic oil (mineral oil) from inside the cylinders.
3. Supply new biodegradable oil to the hydraulic oil tank.
4. Bleed the air from the hydraulic oil system.
5. Operate the hydraulic devices for 30 minutes.
6. Drain the biodegradable oil from the tank and cylinders.
7. Replace the hydraulic oil return filter with a new filter.
8. Repeat steps 3 and 4.
9. Operate the hydraulic devices for 30 minutes.
10. Drain the biodegradable oil from the tank and cylinders.
11. Repeat steps 3 and 4.
12. Operate the hydraulic devices for 1 hour.
13. Drain the biodegradable oil from the tank and cylinders.
14. Replace the return filter with a new filter.
15. Repeat steps 3 and 4.
16. Operate the hydraulic devices, then check for oil leakage.

There is no need to flush the hydraulic oil system when switching from biodegradable to mineral hydraulic oil.

CAB OPTIONS



1. Rain guard
2. Front light
3. Roof guard (Level II: ISO 10262)
4. Front guard (Level II: ISO 10262)
5. Rear light

ANGLE DOZER BLADE

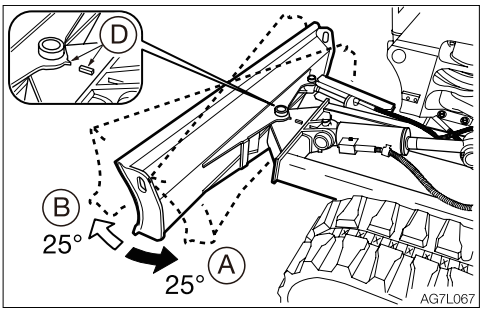
⚠ WARNING

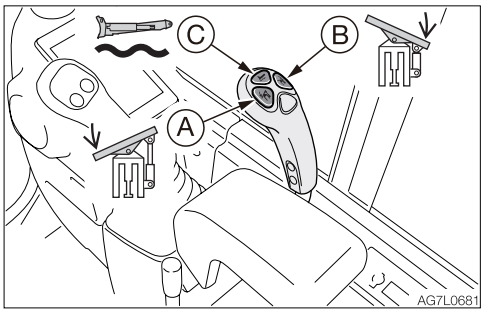
- **Do not press the float button while the machine is raised by the dozer blade. Doing so will cause the machine to fall. If you must work beneath the raised machine, always use a secure support to keep the machine raised.**
- **Do not press the float button while the dozer blade is raised. Doing so will cause the dozer blade to fall. Lower the dozer blade to the ground before pressing the float button.**
- **Do not travel forward while the dozer blade is in the float mode.**

IMPORTANT: Do not raise the machine by using the angled dozer blade. Or, the dozer blade may be damaged due to the load concentrated onto a point on the dozer blade.

This dozer blade can be angled (to 25° right or left). Also, it can be used in the float mode.

Angle operation



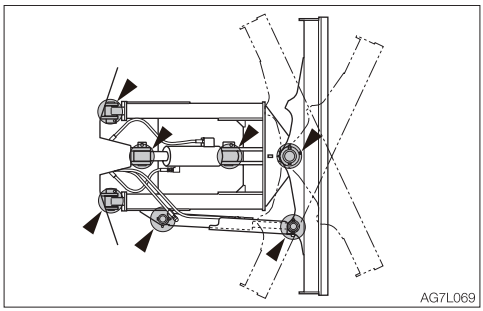


Button (A) .....Left angle (0 to 25°)
Button (B) .....Right angle (0 to 25°)
The dozer blade angle is increased/decreased between 0 and 25° as long as the button is pressed.
To position the dozer blade at a right angle, align the matching marks (D) as shown in the figure.

Float operation

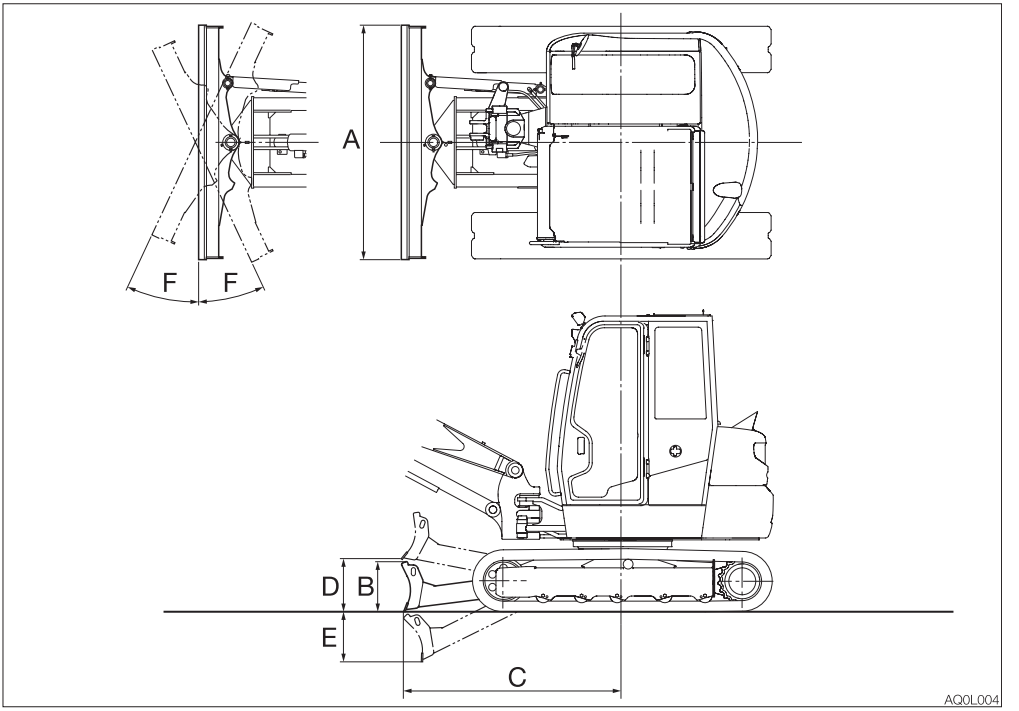
Button (C).....Float mode
To cancel the float mode, press the button again.

Daily inspection (every 10 hours)
Lubricating



1. Lower the working equipment to the ground and stop the engine.
2. Use the grease gun to lubricate the grease fitting.
3. Wipe off the excess grease.

SPECIFICATIONS

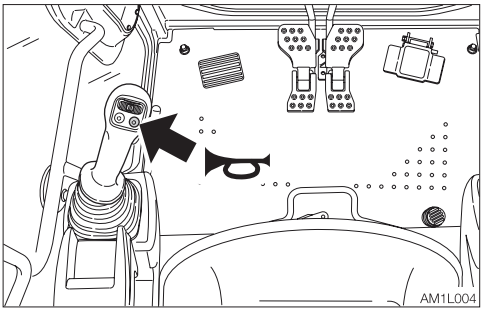


	Item	Rubber crawlers
A	Dozer blade width	1450 (57.1)
B	Dozer blade height	355 (14)
C	Dozer blade distance to axis of rotation	1480 (58.3)
D	Dozer blade maximum lifting	370 (14.5)
E	Dozer blade maximum lowering	325 (12.9)
F	Angle degree (Left/Right)	25°

Unit: mm (inch)

OPERATING LEVER SWITCH KIT 1

HORN BUTTON

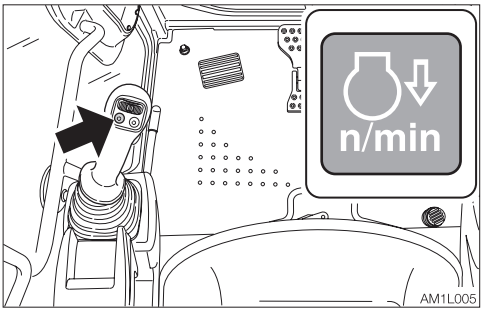


Press the button situated on the left operating lever to blow the horn.

DECELERATION BUTTON

⚠ WARNING

Before operating the deceleration button, set the operating lever to the neutral position and take your foot off the pedals. If the deceleration button is pressed while driving, the machine's operating speed will abruptly change to result in a dangerous situation.



Press this button on the left operating lever to lower the engine speed to low idling. Press the button again to return to the engine speed set with the throttle controller.

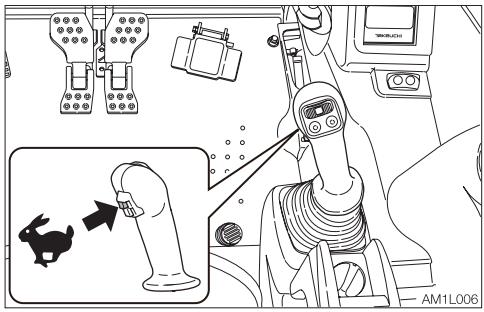
For safety reasons, it is designed that the deceleration function is activated to set the engine revolutions to low idling whenever the engine is started.
Cancel the deceleration mode by pressing the deceleration button as necessary.

Note: This deceleration button is capable of decreasing the engine speed and reducing the fuel consumption, with a simple operation, in a situation such as when little engine output is required and thus the operating or the travel levers are in neutral.

TRAVEL SPEED BUTTON

⚠ WARNING

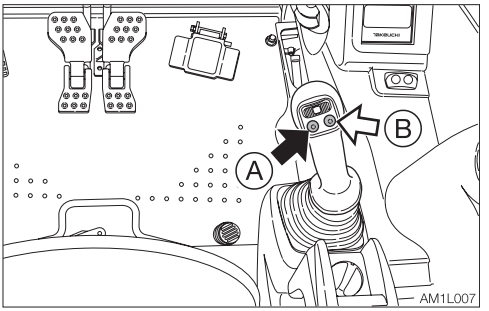
When a load greater than a set value is applied during traveling in 2nd (high) speed, the speed will automatically slow down to 1st (low) speed. When the load becomes lighter, the speed will increase and return to 2nd (high) speed. It should be noted that the travel speed changes depending on the load condition (for machines with the automatic travel shift-down system).



Press this switch to set the travel speed to 2nd (high) speed. Press it again to return to 1st (low) speed.

AUXILIARY 1ST SWITCHES

Auxiliary hydraulic buttons



Press those buttons to control the flow of the oil in the first auxiliary hydraulic lines.

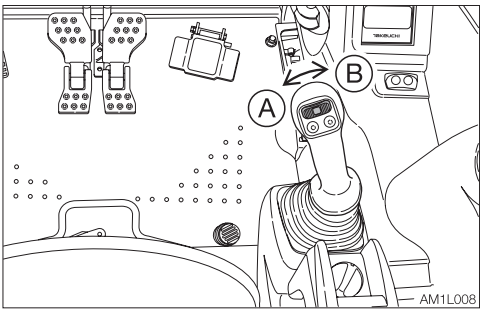
- Proportional control of the auxiliary hydraulic circuit is not possible.

(A).....Hydraulic oil flows to the left auxiliary line (a).

(B) .....Hydraulic oil flows to the right auxiliary line (b).

Slider switch (Proportional control)

Proportional control allows for slow-to-fast/ fast-to-slow movement of attachment. Example: If you move the slider switch half way, the attachment will move at approximately one-half the speed.



Move this switch to control the flow of the oil in the first auxiliary hydraulic lines.

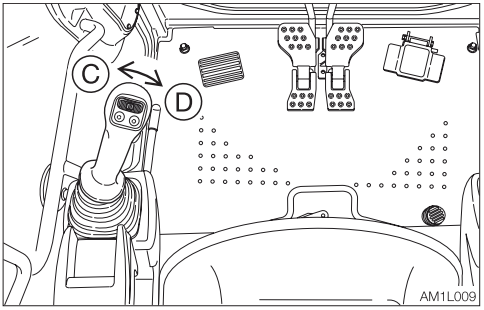
(A).....Hydraulic oil flows to the left auxiliary line (a).

(B) .....Hydraulic oil flows to the right auxiliary line (b).

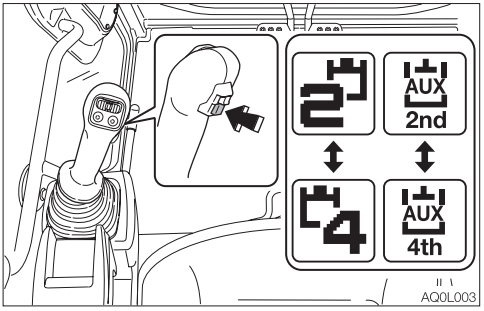
Refer to “Auxiliary hydraulic lines (If equipped)” on pages 2-98 to 2-102.

AUXILIARY 2ND/4TH SWITCH

Slider switch
(Proportional control)
Proportional control allows for slow-to-fast/ fast-to-slow movement of attachment.
Example: If you move the slider switch half way, the attachment will move at approximately one-half the speed.

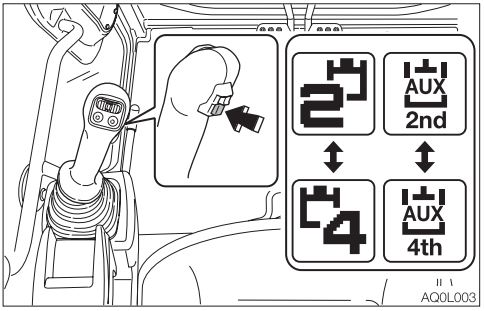


Move this switch to control the flow of the oil in the second auxiliary hydraulic lines.
(C): .....Hydraulic oil flows to the left auxiliary line (c).
(D): .....Hydraulic oil flows to the right auxiliary line (d).

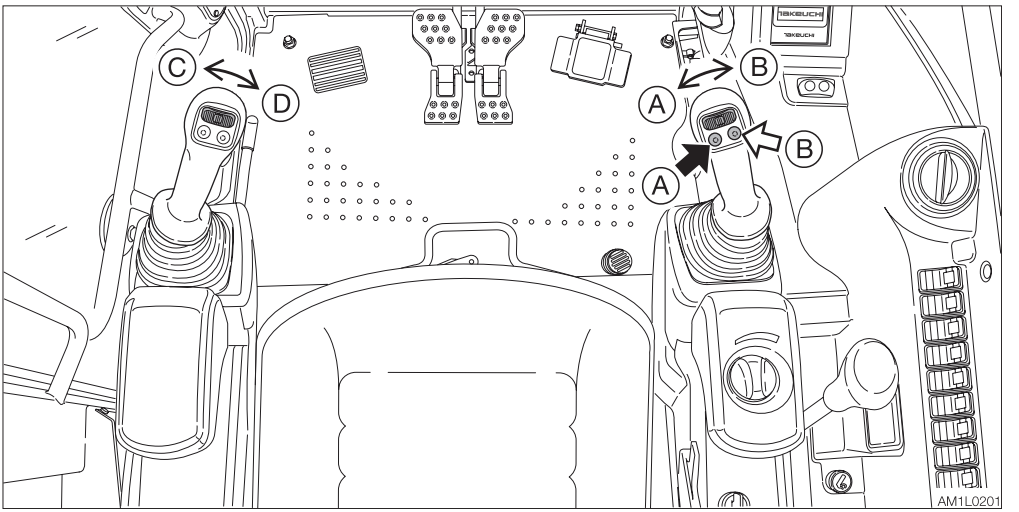


To use the auxiliary 4th hydraulic line, press the auxiliary 2/4 select button to change to the operation of the auxiliary 4th.
Refer to “Auxiliary hydraulic lines (If equipped)” on pages 2-98 to 2-102.

AUXILIARY 2/4 SELECT BUTTON



This button is used to change from the second auxiliary operation to the fourth auxiliary operation.
Pressing this button displays the second auxiliary on the display to indicate that the second auxiliary operation is enabled.
Pressing this button one more time displays the fourth auxiliary on the display to indicate that the fourth auxiliary operation is enabled.
The actual operation is performed with the auxiliary 2nd/4th switch (slider switch).



Operating

Press those buttons to control the flow of the oil in the first/second auxiliary hydraulic lines.

(A).....Hydraulic oil flows to left auxiliary line (a).

(B) .....Hydraulic oil flows to right auxiliary line (b).

(C) .....Hydraulic oil flows to left auxiliary line (c).

(D) .....Hydraulic oil flows to right auxiliary line (d).

Refer to “Auxiliary hydraulic lines (If equipped)” on pages 2-98 to 2-102.

Releasing the residual pressure

After the auxiliary hydraulic circuits have been used, pressure remains in the circuits. This is called the residual pressure. Release this residual pressure before disconnecting the lines.

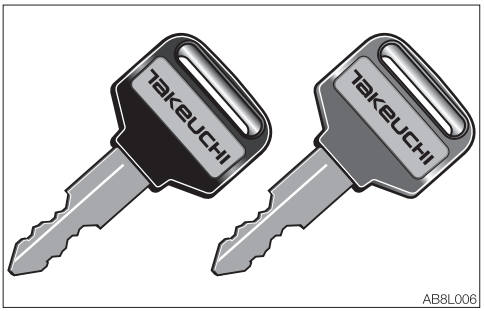
Perform the residual pressure releasing within 10 minutes after the engine stopping.

1. Park the machine on a flat, rigid and safe ground.
2. Stop the engine.
3. Lower the safety lock lever to the unlocked position.
4. Turn the starter switch to the ON position.
5. Press the auxiliary hydraulic switches several times to release the residual pressure in the auxiliary hydraulic circuitry.

TAKEUCHI SECURITY SYSTEM

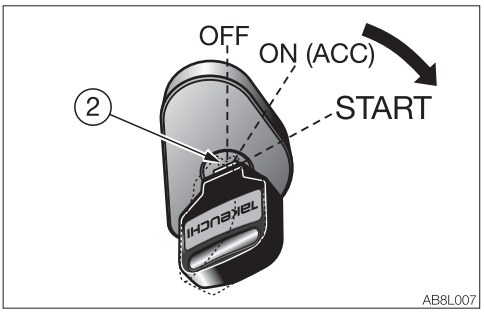
The Takeuchi Security System is a system that allows only registered starter keys to be used for starting the engine.
The engine cannot be started with any unregistered or counterfeit starter keys. If a registered starter key is lost or stolen, you can set the system to delete the registered key information, so that the lost or stolen key cannot be used to start the engine. Although machine theft cannot be completely prevented, the system certainly helps reduce the risk of theft.

STARTER KEY



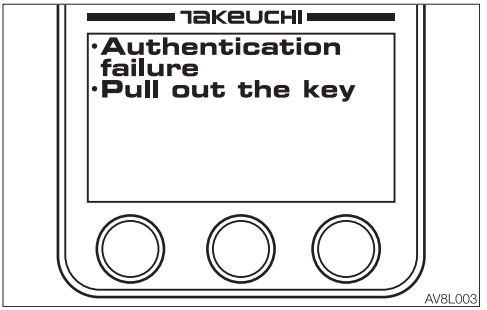
There are two types of starter key, red and black, which can be registered in the Takeuchi Security System.
The red key is the master key. The black key is the starting key.

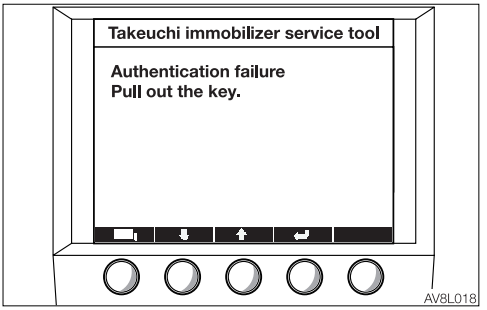
STARTING THE ENGINE



The engine can be started using the normal method with a registered BLACK key.
The engine cannot be started using the RED master key.
Refer to Chapter 3, “Starting and stopping the engine”.

If an attempt is made to start the engine with an unregistered key:





If an unregistered starter key is turned from the OFF to the ON (ACC) position, the message “Authentication failure” appears and the alarm starts sounding.
If this attempt is repeated five times in a row, the horn sounds for two minutes, and the engine cannot be started. The horn stops when the key is turned to the OFF position.

REGISTERING AND DELETING THE STARTER KEY

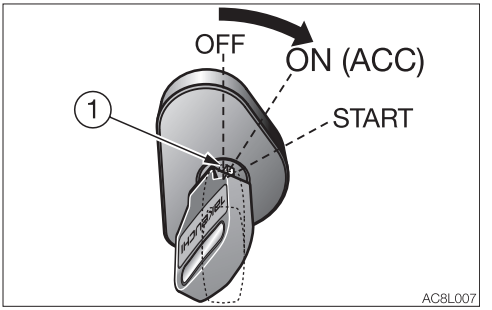
⚠ WARNING

- **Sit on the operator's seat.**
- **Raise the safety lock lever to the locked position.**
- **Clear all people from the machine and the area.**
- **Sound the horn to warn people around the machine.**

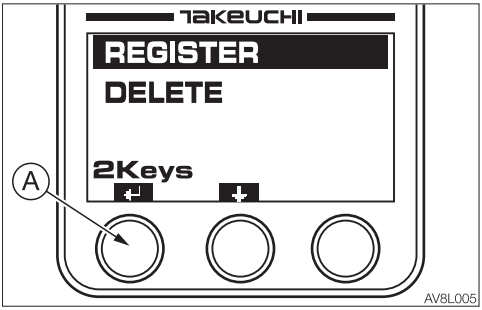
Registration may fail if the starter key is on a keyring or keychain; remove it before starting registration.
A malfunction could occur if multiple starter keys are brought near to the key cylinder. Be sure that no starter keys other than the correct key are near the key cylinder during registration.

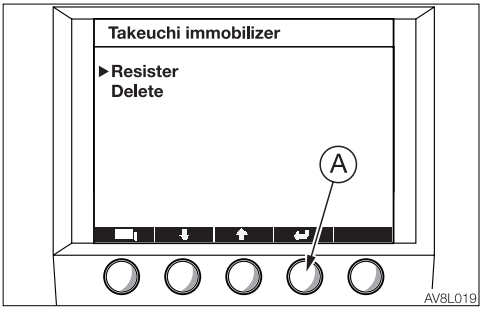
Starter key registration procedure

For Steps 1 to 6 below, complete each step and proceed to the next one within five minutes. If no operation is performed for five minutes during this procedure, the system returns to the initial state.
From Step 7 onward, the system automatically ends the operation if no operation is performed for five minutes.

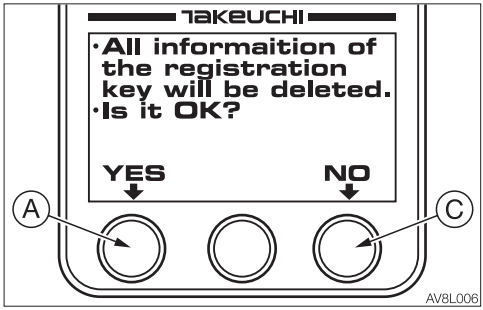


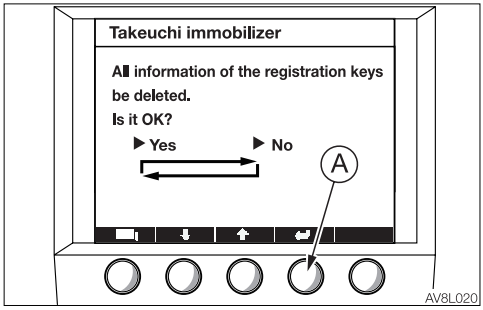
1. Insert the master key (1) into the starter switch and turn the key from the OFF to the ON (ACC) position.





2. On the LCD, select “REGISTER” and press (A).





3. Select whether to delete all of the existing registration information.

<Canopy>

YES (A): All registration information will be deleted; register a new key.

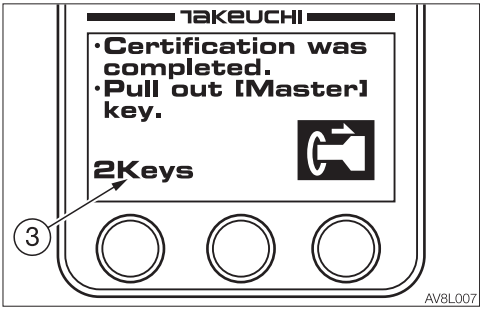
NO (C): A new starter key registration will be added to the existing registration information.

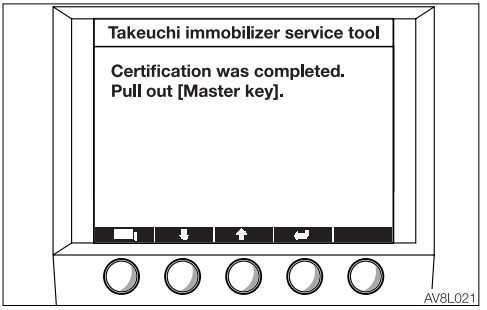
Do not remove the master key (1) before making a selection, otherwise registration could fail.

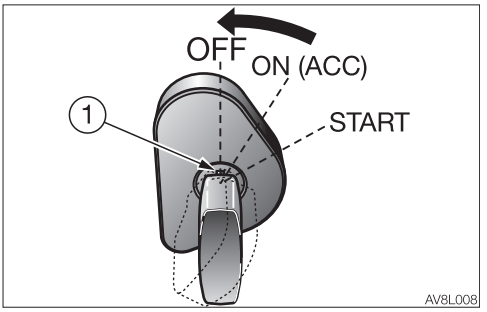
<Cab>

On the LCD, select “YES” and press (A): All registration information will be deleted; register a new key.

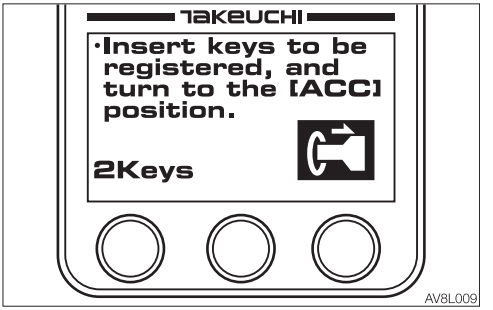
On the LCD, select “NO” and press (A): A new starter key will be added to the existing registration information.

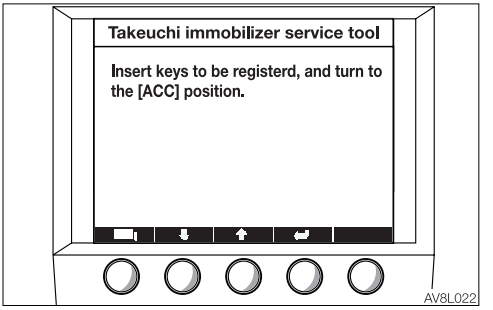


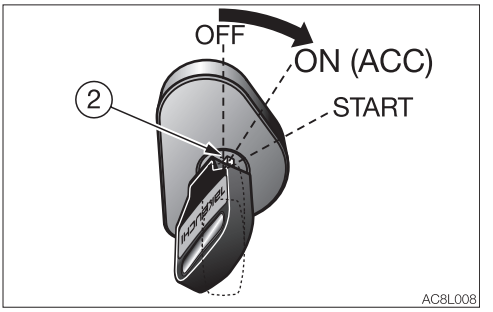




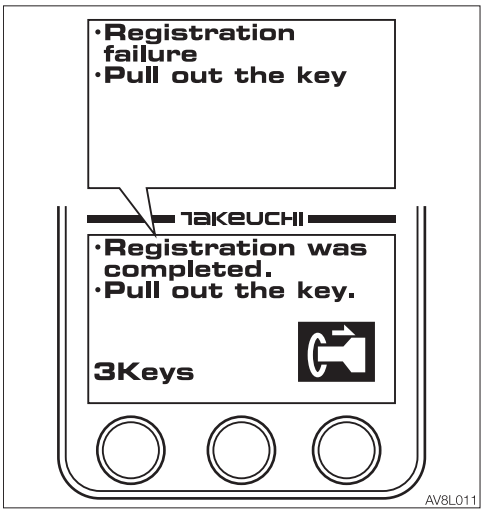
4. When the message "Certification was completed" appears on the LCD, turn the master key (1) from the ON (ACC) to the OFF position, and then remove it from the starter switch.
   The number (3) in the lower left indicates the number of starter keys currently registered (only for canopy). Up to 13 starter keys can be registered.

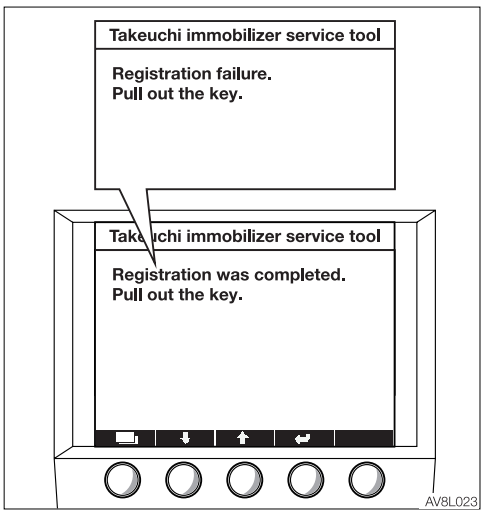




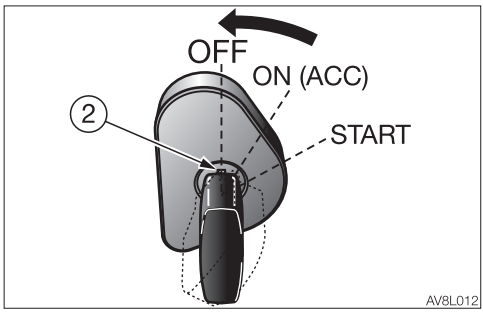


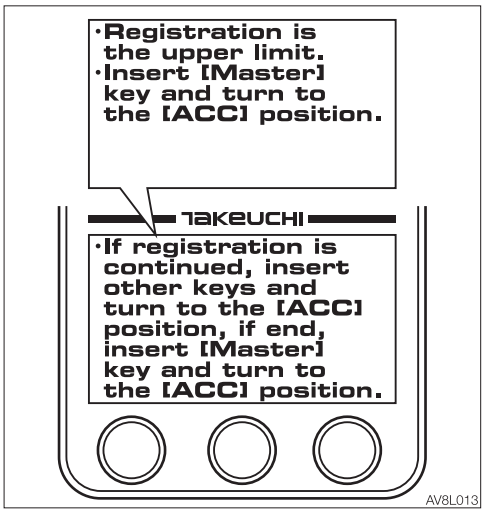
5. Insert the starter key (2) to be registered into the starter switch and turn the key from the OFF to the ON (ACC) position.

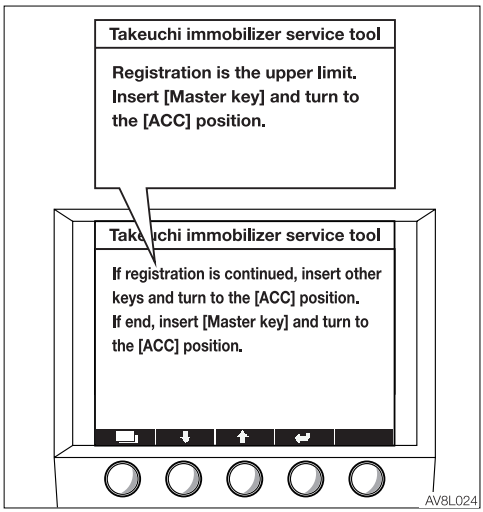




6. If the registration was successfully completed, the message “Registration was completed” appears. This means that the starter key (2) currently inserted has been registered.
   If the registration fails, the message “Registration failure” appears.

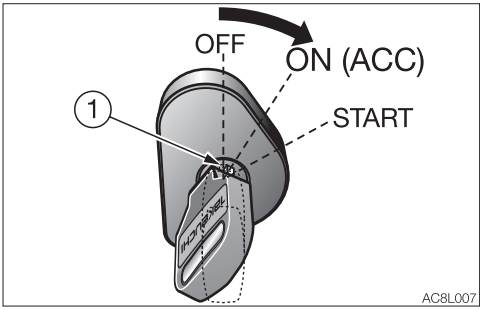




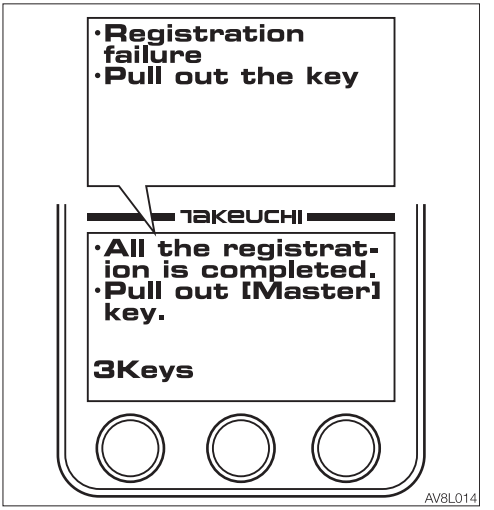


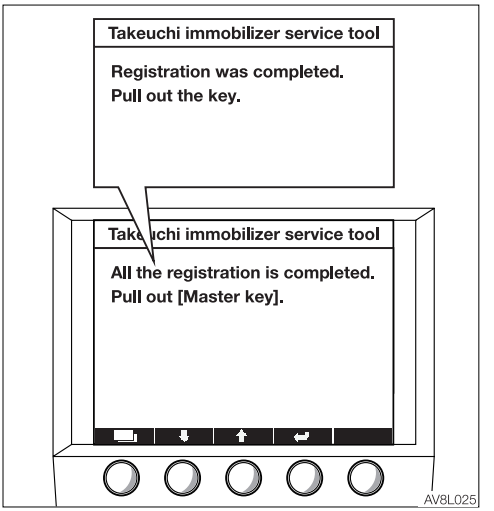
7. Turn the starter key (2) from the ON (ACC) to the OFF position, and then remove it from the starter switch.

To continue registration, repeat the steps from Step 5.
To end registration, proceed to Step 8.



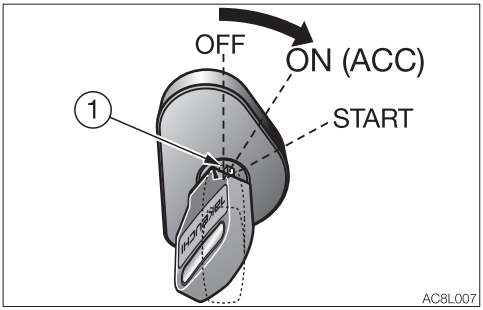
8. Insert the master key (1) into the starter switch and turn the key from the OFF to the ON (ACC) position. Or, wait for five minutes or more.



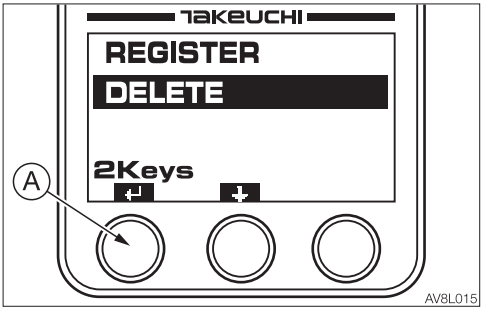


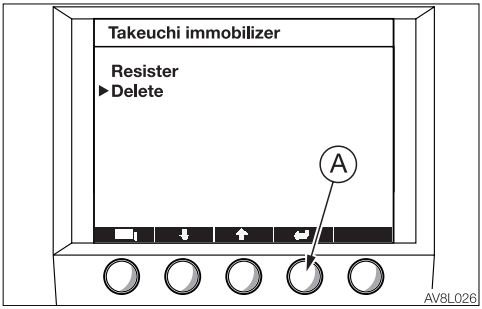
9. If any starter key has been registered, the message “All the registration is completed” appears. Turn the master key (1) from the ON (ACC) to the OFF position, and then remove it from the starter switch to complete the registration.
   If no starter key has been registered, the message “Registration failure” appears, and the registration information is returned to the initial state.

Deleting a registered starter key
The information of each registered starter key can be deleted to cancel its ability to start the engine.

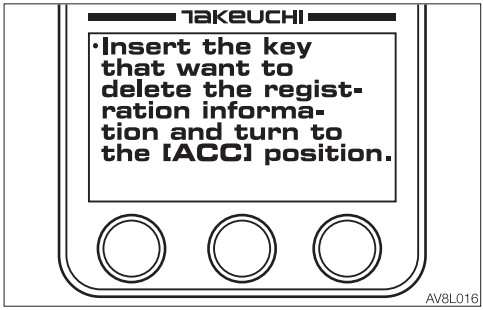


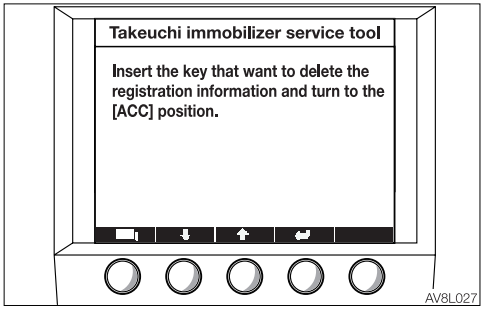
1. Insert the master key (1) into the starter switch and turn the key from the OFF to the ON (ACC) position.

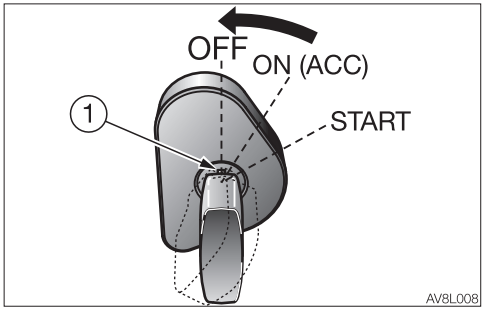




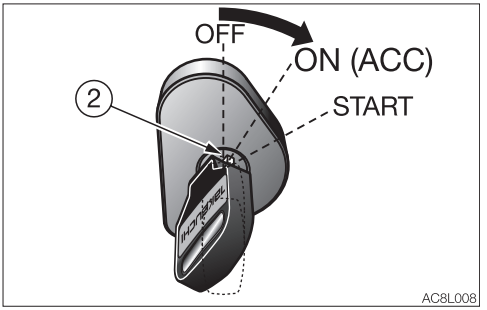
2. On the LCD, select “DELETE” and press (A).



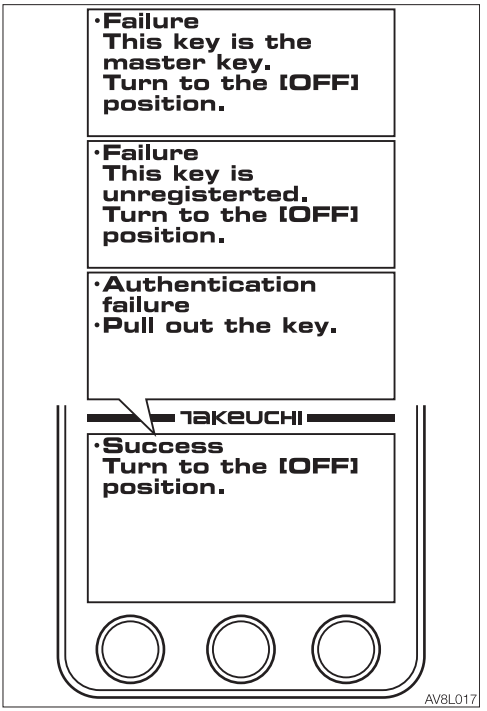


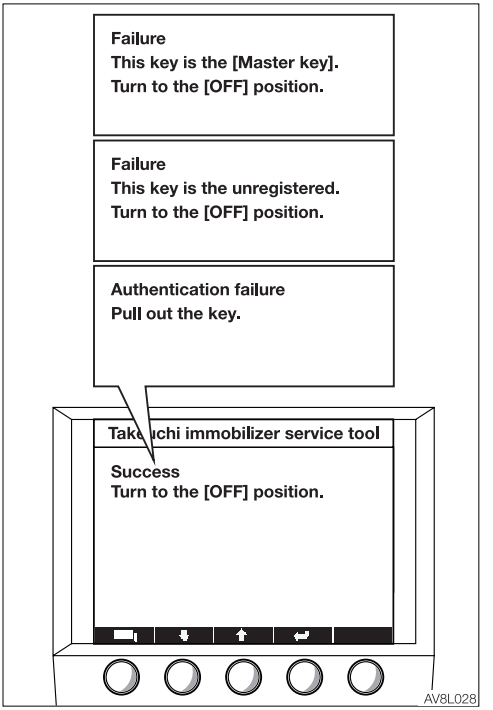


3. When the display shown as the illustration appears on the LCD, turn the master key (1) from the ON (ACC) to the OFF position, and then remove it from the starter switch.
Note: If the registered key is lost and you want to delete all registration information, please refer to STEP 3 (A) on page 8-21.

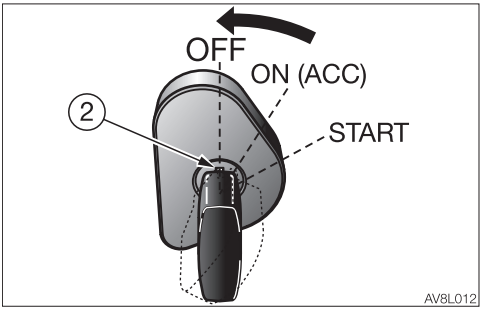


4. Insert the starter key (2) to be deleted into the starter switch and turn the key from the OFF to the ON (ACC) position.





5. If the deletion is successful, the message “Success” appears. This means that the information registered for the starter key (2) currently inserted has been deleted. If the deletion fails, the message “Failure” or “Authentication failure” appears on the LCD. Remove the starter key, and then repeat the steps from Step 1 again.



6. Turn the starter key (2) from the ON (ACC) to the OFF position, and then remove it from the starter switch.
   To continue deletion, repeat the steps from Step 1.

IF THE MASTER KEY IS LOST

If you lose your master key, contact your service or sales dealer for assistance.

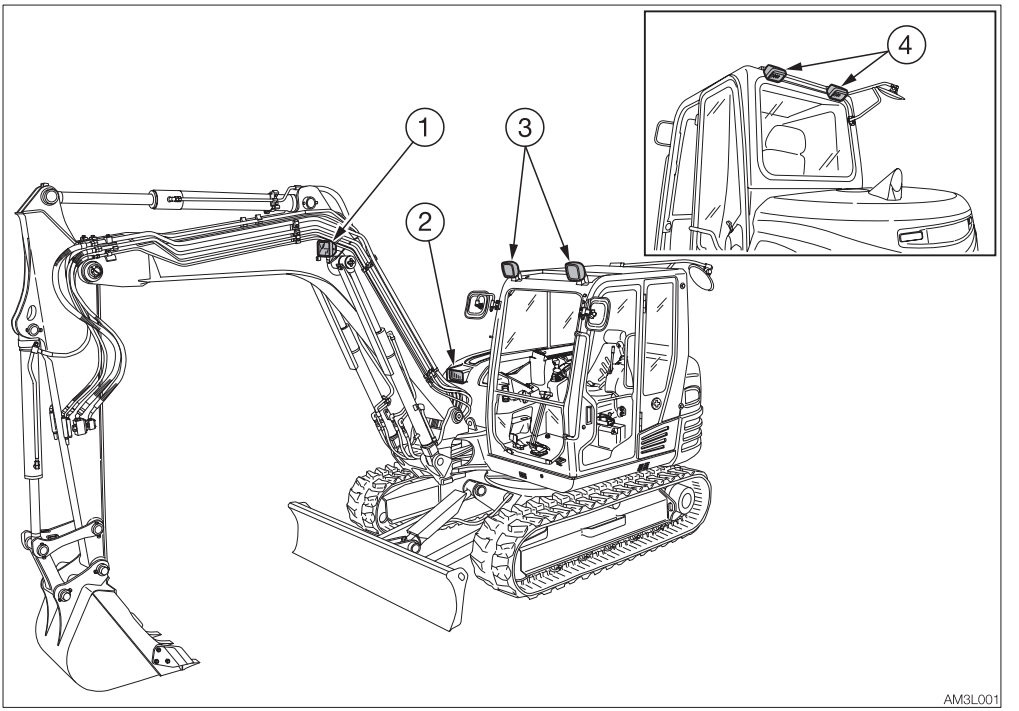
COUNTRIES WHERE THE SYSTEM CAN BE USED

To use the Takeuchi Security System, “radio wave authentication” must be obtained in the country where the system is to be used. The system can be used in the countries listed below, as of January 2017. Do not use the system in other countries. For details on how to disable the system, please contact your service or sales dealer for assistance.

Countries where the system can be used:
Ireland, Italy, UK, Estonia, Austria, Holland, Cyprus, Greece, Croatia, Sweden, Spain, Slovakia, Slovenia, Czech, Denmark, Germany, Hungary, Finland, France, Bulgaria, Belgium, Poland, Portugal, Malta, Latvia, Lithuania, Rumania, Luxemburg, Iceland, Norway, Liechtenstein, Switzerland, Turkey

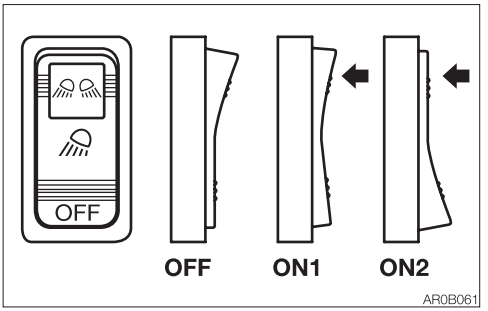
LED LIGHTS

The power consumption can be reduced by replacing the lights, such as the working light, with LED lights.
If the light fails to turn on after replacement, please contact your sales or service dealer for help.



LED lights package 1
The LED lights are used for the boom light (1), working light (2) and front light (3).
Note: The rear light (4) is not included in the LED lights package 1.

LED lights package 2
The LED lights are used for the boom light (1), working light (2), front light (3) and rear light (4).
The light switch is also changed.



OFF ....Off
ON1 ...The boom light (1), working light (2), front light (3), side lights, tail lamps and the switch lamp are turned on.
ON2 ...The boom light (1), working light (2), front light (3), rear light (4), side lights, tail lamps and the switch lamp are turned on.

TAKEUCHI FLEET MANAGEMENT (TFM)

⚠ CAUTION

- **Never disassemble the TFM. It may cause injury or failure.**
- **Any damage to the TFM device or wire harness may cause damage to the device and surrounding equipment.**



- Takeuchi Fleet Management (TFM) is a system that manages machine position information, operation information, and machine status using a communication device installed in the machine.
- Machines that support TFM are equipped with communication devices and are labeled as above.
- A communication contract is required to use TFM. Please contact our sales service for information regarding the contract.

IMPORTANT:

- **The TFM equipment has been tested and found to comply with the limits for a Class A and Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against signal interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can emit radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause signal interference to radio communications.**
- **Operation of this equipment in a residential area may cause signal interference in which the user may be required to take additional steps to correct the interference. To correct any interference issue, move the TFM equipped machine away from the affected device, or, if possible; relocate the affected device away from the TFM equipped machine.**
- **The TFM device uses mobile communication. Therefore, it may not function properly in places where the signal is weak (buildings, tunnels, underground, etc.).**
- **The TFM device complies with the RF radiation exposure limits of the FCC Rules. The product is tested for a separation distance of 0 mm from human bodies. It is advised for those with specific sensitive conditions to avoid close device-body exposure.**
- **Please be aware that storing a machine long-term may result in the loss of communication from the TFM device if its internal battery is drained.**
- **The TFM device consumes a small amount of machine battery power even when the key is in the OFF position. For extended storage, see “Maintenance during extended storage period” on page 5-64.**

Specification

Applicable machine models 130005588 to 130007208

M8HZT-E (For Europe)

Frequency	Power
UMTS:	
900 MHz	0.316 W
1900 MHz	0.316 W
GSM:	
900 MHz	2 W
1800 MHz	2 W

M8LZT-E (For North America)

Frequency	Power
LTE:	
700 MHz	0.2 W
850 MHz	0.2 W
1700/2100 MHz (AWS)	0.2 W
1900 MHz	0.2 W
UMTS:	
850 MHz	0.224 W
1900 MHz	0.224 W
1700/2100 MHz (AWS)	0.224 W

Applicable machine models 130007209 or later

M7H (For Europe)

Frequency	Power
UMTS/HSPA:	
900 MHz	0.25 W
2100 MHz	0.25 W
GSM/GPRS:	
900 MHz	2 W
1800 MHz	1 W
GSM/EDGE:	
900 MHz	0.5 W
1800 MHz	0.4 W

M7L (For North America)

Frequency	Power
LTE Band:	
700 MHz	0.2 W
850 MHz	0.2 W
1700 MHz (AWS)	0.2 W
1900 MHz	0.2 W
UMTS Band:	
850 MHz	0.25 W
1900 MHz	0.25 W

M7MG

Frequency	Power
LTE Band:	
700 MHz	0.2 W
850 MHz	0.2 W
1700 MHz (AWS)	0.2 W
1900 MHz	0.2 W
UMTS Band:	
850 MHz	0.25 W
1900 MHz	0.25 W

First Published August 2014
Thirty-first Published August 2025

AE8EN030

OPERATOR'S MANUAL

TB230 Mini excavator

Edited and issued by TAKEUCHI MFG. CO., LTD.

Printed in Japan by STATION M Co., Ltd.

ZTR Control Systems, LLC

955 Green Valley Road
London, Ontario, N6N 1E4
Tel: 1-519-452-1233
FAX: 1-519-452-7764

www.ztr.com
info@ztr.com

February 1, 2018

RE: M8HZT / M8HZT-E / M8HBZ / M8HBZ-E Radio Equipment Directives (RED)

To whom it may concern,

This letter is to confirm that ZTR products **M8HZT / M8HZT-E / M8HBZ / M8HBZ-E** sufficiently demonstrate compliance to the Radio Equipment Directives (RED). The M8HZT-E is a superset of functionality of these other three devices and thereby is represented of compliant performance for the other three models.

The results of these tests can be found in **EMC Test Report (EMC_SL17052501-CAL-004-TTU4531HEW)**, issued on June 20, 2017. The tests were carried out by a notarized 3rd party certification lab **Siemic**.

This Declaration of Conformity is issued under the sole responsibility of ZTR Control Systems (or the manufacturer)

Please direct any test results questions or concern to ZTR's Engineering Group for clarification.

Regards,

Brent Horne
Director of Product Development
ZTR Control Systems

ZTR Control Systems, LLC

955 Green Valley Road
London, Ontario, N6N 1E4
Tel: 1-519-452-1233
FAX: 1-519-452-7764

www.ztr.com
info@ztr.com

April 5, 2019

RE: M7H

To whom it may concern,

This letter is to confirm that ZTR product **M7H** sufficiently demonstrate compliance to CE and the Radio Equipment Directives (RED). The M7H satisfies all the technical regulations applicable to the product within the scope of Council Directives 2014/53/EU, 2015/35/EU and 2014/30/EU. The following tests were completed successfully.

EN 60950-1: 2006+A11: 2009+A1: 2010+A12: 2011+A2: 2013
EN62311:2008
ETSI EN 300 328 V2.1.1 (2016-05)
ETSI EN 303 413 V1.1.1 (2017-06)
Draft ETSI EN 301 489-52 V1.1.0 (2016-11)
Draft ETSI EN 301 489-17 V3.2.0 (2017-03)
Draft ETSI EN 301 489-1 V2.2.0 (2017-03)
Draft ETSI EN 301 489-19 V2.1.0 (2017-03)
EN 55032: 2015
ETSI EN 301 511 V12.5.1 (2017-03)
ETSI EN 301 908-1 V11.1.1 (2016-07)
ETSI EN 301 908-2 V11.1.2 (2017-08)

(Title(s) of regulations, standards, etc.)

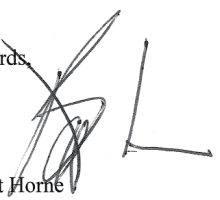
All essential radio test suites have been carried out.

The tests were carried out by a notarized 3rd party certification lab MiCOM Labs inc.

This Declaration of Conformity is issued under the sole responsibility of ZTR Control Systems (or the manufacturer).

Please direct any test results questions or concern to ZTR's Engineering Group for clarification.

Regards,



Brent Horne
Director of Product Development
ZTR Control Systems

Trackunit Aps
Gasvaerksvej 24 4.sal, 9000 Aalborg, Denmark
www.trackunit.com

EU declaration of conformity

Hereby, Trackunit Aps declares that the radio equipment type **Trackunit M7MG** complies with the essential requirements of Directive 2014/53/EU.

3.1 (a) protection of health and safety of persons and of domestic animals and the protection of property, including the objectives with respect to safety requirements set out in Directive 2014/35/EU

Standard used: EN 62368-1:2020+A11:2020
EN 62311:2020
EN 62133-2:2012

3.1 (b) adequate level of electromagnetic compatibility as set out in Directive 2014/30/EU

Standard used: EN 301 489-1 V2.2.3
EN 301 489-17 V3.2.4
EN 301 489-19 V2.2.0
EN 301 489-52 V1.2.1

3.2 the equipment is so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference.

Spectrum used:	Bluetooth:	2,402 – 2,480 GHz,	Max. 10 dBm EIRP
	Positioning:	1,559 – 1,610 GHz,	Receive only
	Cellular 4G:	B1, B3, B5, B8, B20, B28,	Max. 27 dBm EIRP
	Cellular 2G:	GSM/GPRS/EDGE; 900 / 1800	Max. 33 dBm EIRP

Standard used: EN 300 328 V2.2.2
EN 303 413 V1.2.1
EN 301 511 V12.5.1
EN 301 908-1 V13.1.1
EN 301 908-13 V13.1.1

Complies with the essential requirements of Directive 2011/65/EU and Directive 2015/863/EU on the Restriction of use of certain Hazardous Substances (RoHS 3).

Complies with the essential requirements of the Regulation 1907/2006/EC regarding Registration, Evaluation, Authorization and Restriction of Chemicals (REACh).

Complies with Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE).

Signed for and on behalf of Trackunit Aps
Aalborg, 01 December 2022

DocuSigned by:
Søren Brogaard
DBFCD953D519425...

Søren Brogaard, CEO

ASAHI DENSO
6-2-1 Somejidai, Hamakita-ku, Hamamatsu, Shizuoka 434-0046, Japan

EU DECLARATION of CONFORMITY (DoC)

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Name:	ASAHI DENSO CO.,LTD
Address:	6-2-1 Somejidai, Hamakita-ku, Hamamatsu, Shizuoka, 434-0046 Japan

We declare that the DoC is issued under our sole responsibility and belongs to the following product.

Object of the declaration:

Product Name	Meter panel Immobilizer
Model Name	CZ131,CZ131A
Accessories	N/A

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Radio Equipment (RE) Directive (2014/53/EU)

The following harmonized standards and technical specifications have been applied:

Health & Safety (Article 3.1(a)):	EN 60065: 2014
EMC (Article 3.1(b)):	EN 301 489-1 V2.1.1 EN 301 489-3 V2.1.1 (Final draft)
Radio Spectrum (Article 3.2):	EN 300 330 V2.1.1

Japan, Shizuoka	May 29, 2017	Tomohiro Yaguchi
Place of Issue:	Date of Issue:	Tomohiro Yaguchi Section chief Engineering Department

ASAHI DENSO
6-2-1 Somejidai, Hamakita-ku, Hamamatsu, Shizuoka 434-0046, Japan

UK DECLARATION of CONFORMITY (DoC)

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Name:	ASAHI DENSO CO.,LTD.
Address:	6-2-1 Somejidai, Hamakita-ku, Hamamatsu, Shizuoka, 434-0046 Japan

We declare that the DoC is issued under our sole responsibility and belongs to the following product.

Object of the declaration:

Product Name	Meter panel Immobilizer
Model Name	CZ131 CZ131A
Accessories	N/A

The object of the declaration described above is in conformity with the relevant statutory requirements:

STATUTORY INSTRUMENTS 2017 No. 1206 TELECOMMUNICATIONS (The Radio Equipment Regulations 2017)

The following designated standards and technical specifications have been applied:

Health & Safety (Regulation 6.1(a)):	EN 62368-1: 2014
EMC (Regulation 6.1(b)):	EN 301 489-1 V2.1.1 EN 301 489-3 V2.1.1 (Final draft)
Radio Spectrum (Regulation 6.2):	EN 300 330 V2.1.1

Signed for and on behalf of:

Shizuoka, Japan	September 15, 2021	Tomohiro Yaguchi
Place of Issue:	Date of Issue:	Tomohiro Yaguchi Section chief Engineering Department

ASAHI DENSO
6-2-1 Somejidai, Hamakita-ku, Hamamatsu, Shizuoka 434-0046, Japan

EU DECLARATION of CONFORMITY (DoC)

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Name:	ASAHI DENSO CO.,LTD
Address:	6-2-1 Somejidai, Hamakita-ku, Hamamatsu, Shizuoka, 434-0046 Japan

We declare that the DoC is issued under our sole responsibility and belongs to the following product.

Object of the declaration:

Product Name	Immobilizer
Model Name	CZ156
Accessories	N/A

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Radio Equipment (RE) Directive (2014/53/EU)

The following harmonized standards and technical specifications have been applied:

Health & Safety (Article 3.1(a)):	EN 60065: 2014
EMC (Article 3.1(b)):	EN 301 489-1 V2.1.1 EN 301 489-3 V2.1.1 (Final draft)
Radio Spectrum (Article 3.2):	EN 300 330 V2.1.1

Japan, Shizuoka	May 29, 2017	Tomohiro Yaguchi
Place of Issue:	Date of Issue:	Tomohiro Yaguchi Section chief Engineering Department

ASAHI DENSO
6-2-1 Somejidai, Hamakita-ku, Hamamatsu, Shizuoka 434-0046, Japan

UK DECLARATION of CONFORMITY (DoC)

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Name:	ASAHI DENSO CO.,LTD.
Address:	6-2-1 Somejidai, Hamakita-ku, Hamamatsu, Shizuoka, 434-0046 Japan

We declare that the DoC is issued under our sole responsibility and belongs to the following product.

Object of the declaration:

Product Name	Immobilizer
Model Name	CZ156
Accessories	N/A

The object of the declaration described above is in conformity with the relevant statutory requirements:

STATUTORY INSTRUMENTS 2017 No. 1206 TELECOMMUNICATIONS (The Radio Equipment Regulations 2017)

The following designated standards and technical specifications have been applied:

Health & Safety (Regulation 6.1(a)):	EN 62368-1: 2014
EMC (Regulation 6.1(b)):	EN 301 489-1 V2.1.1 EN 301 489-3 V2.1.1 (Final draft)
Radio Spectrum (Regulation 6.2):	EN 300 330 V2.1.1

Signed for and on behalf of:

Shizuoka, Japan	September 8, 2021	Tomohiro Yaguchi
Place of Issue:	Date of Issue:	Tomohiro Yaguchi Section chief Engineering Department

Declaration of Conformity

We herewith declare that the following named machine, based on its conception and design, and in the form brought into service is in accordance with the relevant, basic safety and health requirements of the following EU directives. In case of any alteration of the machine not coordinated with us, this certificate loses its validity.

Designation of the machine	Compact Excavator
Manufacturer	TAKEUCHI MFG. CO., LTD 205 Uwadaira, Sakaki-machi, Hanishina-gun, Nagano 389-0605, Japan

Model	TB230 <S/N 130005588~>
Engine type	3TNV88F-EP (e13*2016/1628*2021/1068EV2/D*0032*Δ)
Engine performance	18.2 kW @ 2400 rpm

The machine is in accordance with the requirements of EU directives:

1) Machinery directive: 2006/42/EC and appendix
2) Electromagnetic Compatibility-Regulation 2014/30/EU and appendix.
3) Noise Directive 2000/14/EC (Evaluation procedure according to appendix VI), 2005/88/EC and appendices.
4) Regulations on engine emissions: Regulation (EU) 2016/1628, as last amended by Regulation 2017/656.

Harmonized norms: EN474-1:2022, EN474-5:2022

Compiler of the technical files:
Romain Loffredi
Takeuchi France S.A.S.
Parc d'Activités des Béthunes
3, avenue de la Mare 95310 SAINT OUEN L'AUMONE,
CS 29258 – SOA

Issued in Sakaki, Japan
Toshiya Takeuchi, President

Declaration of Conformity

We herewith declare that we take full responsibility that the following named machine, based on its conception and design, and in the form brought into service is compliant with the relevant, basic safety and health requirements of the following (UK) enactments. In case of any alteration of the machine not coordinated with us, this certificate loses its validity.

Designation of the machine	Compact Excavator
Manufacturer	TAKEUCHI MFG. CO., LTD 205 Uwadaira, Sakaki-machi, Hanishina-gun, Nagano 389-0605, Japan

Model	TB230 <S/N 130005588~>
Engine type	3TNV88F-EP (e13*2016/1628*2021/1068EV2/D*0032*Δ)
Engine performance	18.2 kW @ 2400 rpm

The machine is compliant with the following UK enactments:

1) Supply of Machinery (Safety) Regulations 2008 (S.I. 2008/1597)
2) Electromagnetic Compatibility Regulations 2016 (S.I. 2016/1091)
3) Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001 (S.I. 2001/1701)

And the Designated Standards referred to and adopted therein and particularly EN474-1:2022, EN474-5:2022

Compiler of the technical files:
Daniel Bryning (Product Manager)
TAKEUCHI MFG. (UK) Ltd.
Unit E2B, John Boyd Dunlop Drive
Kingsway Business Park Rochdale OL16 4NG

Issued in Sakaki, Japan
Toshiya Takeuchi, President