Kubota

EXCAVATOR

GB

MODELS

KX91-3α2

KX101-3α2

U35-3α2

04/2007 RG538-8135-1

CE

OPERATOR'S MANUAL

Dear valued customer,

please fill in the form below. Your information will help us to help you.

Type:
YOC:
Serial number:
Shipment date:

Please contact your KUBOTA dealer for any additional information or troubleshooting procedures not mentioned in these operating instructions.

The content of this documentation does not constitute part of a previous agreement, promise or legal relationship, nor shall it constitute an amendment thereof. All responsibilities arise of the respective sales contract containing the complete and exclusively valid contractual warranty. See the "Duties, liability and warranty" section (page 13). This documentation does neither extend nor restrict the contractual warranty.

KUBOTA Baumaschinen GmbH reserves its right to change the information contained in this document with respect to future technical development without altering the basic characteristics of the excavators described herein and without amending this document.

Table of contents

Abbreviations

1/min	Revolutions per minute
%	Percent
°	Degree
°C	Degrees Celsius
A	Ampere
acc.	according
approx.	approximately
bar	Bar
BGR	Rules according to the German Accident Prevention & Insurance Association
CO_2	Carbon dioxide
dB	Decibel
e.g.	for example (exempli gratia)
GL	Ground level
i.e.	that is (id est)
incl.	including
ISO	International Organization for Standardization
kg	Kilogramme
km/h	Kilometre per hour
kN	Kilo Newton
kV	Kilovolt
kW	Kilowatt
L	Litre
L/min	Litres per minute
LpA	Noise level inside the cab
LwA	Detected sound power level
m	Metre
m/s^2	Metre per square second
m^3	Cubic metre
max.	maximum
mm	Millimetre
MPa	Megapascal
N	Newton
rad	Radius
resp.	respectively
s	Second
t	Ton
V	Volt

General symbols

	Warning light
	Fuel display
	Engine oil display
	Charge display
	Glow display
	Hydraulic oil
	Travel speed
	Low speed
	Forward travel
	Backward travel
	Raise boom
	Lower boom
	Arm out
	Arm in
	Bucket crowd
	Bucket dump

	Swivel boom (left)
	Swivel boom (right)
	Dozer blade up
	Dozer blade down
	Lever direction
	Control lever direction
	Rotary beacon indicator on/off
	Display selector switch
	Service port switch
	Working light button

GENERAL INFORMATION

Foreword

This operator's manual applies only to the KUBOTA excavator models KX91-3α2, KX101-3α2 and U35-3α2 which comply with the declaration of conformity.

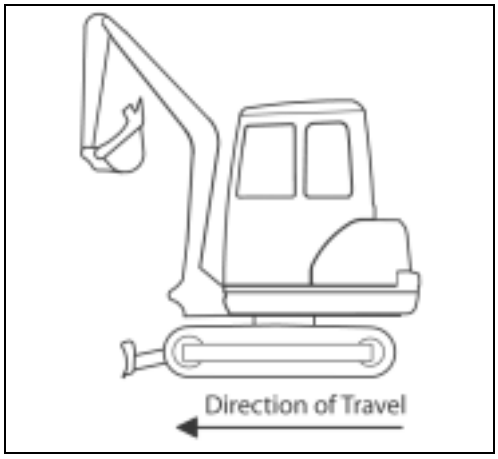
Safety instructions, and the rules and regulations for the use of excavators given in this operator's manual apply to the excavators mentioned in this documentation.

It is the responsibility of the owner(s):

- to ensure local, regional and national regulations are observed,
- to observe the bodies of rules (laws, regulations, guidelines, etc) stated in the operator's manual to ensure safe handling of the equipment,
- to ensure that the operator's manual is always available for the operating personnel and the information such as notes, warnings and safety rules and regulations are followed in all points.

The data in the operator's manual apply for all models. Any differences are highlighted (e.g. cab version or KX91-3α2, KX101-3α2, U35-3α2).

The terms "front" and "direction of travel" refer to the view of the operator when seated on the driver's seat. Forward direction of travel means that the dozer is at the front when driving forwards as shown in the figure.



The symbols for operating and safety instructions are listed under "Safety Symbols" (page 15).

Manufacturer

The manufacturer of the excavator described in this manual is:

KUBOTA Baumaschinen GmbH
Steinhauser Straße 100
D-66482 Zweibrücken

Phone: +496332487-0
Fax: +496332487-101
www.kubota-baumaschinen.de

EC declaration of conformity

With the EC declaration of conformity, KUBOTA Baumaschinen certifies that the excavator is in conformity with the valid standards and regulations at the time of marketing. The EC conformity marking is located on the excavator's type plate and it indicates that the above-mentioned regulations are met.

If the excavator is modified or retrofitted without the approval of the manufacturer, the safety of the excavator may be affected, thus invalidating the EC declaration of conformity.

Keep the EC declaration of conformity in a safe place and show it, if requested, to the responsible authorities.

You will find the EC declaration of conformity in the "EC declaration of conformity" section on page 160.

Date of issue of operator's manual

This version of the operating instructions was issued on 04/2007.

Operating personnel

The duties of personnel with respect to operation, servicing, repairs and safety inspections must be set forth clearly by the owner.

Personnel in training are allowed to work on or with the excavator only under the supervision of an experienced operator.

Operator

According to trade association regulations, only persons 18 years of age who were instructed in the operation of the excavator, who have proven their ability to the owner (employer) and who can be expected to perform their duties in a reliable way are allowed to operate the excavator independently.

Only trained and instructed personnel are allowed to work on or with the excavator.

Only instructed personnel are allowed to start the excavator and operate the controls.

Trained personnel

Trained personnel are skilled persons with a technical qualification who are able to determine damages to the excavator and perform repairs in their area of qualification (e.g. hydraulic or electrical engineering).

Skilled personnel

Based on their training and experience in their field, skilled personnel must have sufficient knowledge in excavator engineering and be familiar with the applicable national worker's protection regulations, safety regulations and the generally accepted technical rules so that they can assess the safe condition of the excavator.

Location of the operator's manual

The operator's manual must always be kept on the excavator. If the operator's manual has become illegible due to continuous use, the owner (operator) must order a replacement from the manufacturer.

SAFETY RULES

Basic safety instructions

- The EC machine utilisation directive (89/655/EEC in version 95/63/EC) dated 11/30/1989 and 12/05/1995 applies for the operation of the aforementioned excavator.
- The information in this operator's manual applies for maintenance and repairs.
- National rules and regulations apply where applicable.

Responsibilities, liability and warranty

A basic requisite for the safe handling and problem-free operation of the excavator is the knowledge of the safety instructions and safety regulations.

This operator's manual, in particular the safety instructions, must be followed by all persons working near or with the excavator. Above and beyond this, the safety rules and regulations applicable for the site must also be observed.

Hazards occurring during the handling of the excavator:

- The excavators are manufactured according to the state of technology and the recognized safety rules. Nevertheless, danger to the life and limbs of the operator or a third party, or damage to the excavator or to other property can occur. The excavator(s) may only be used

  → for the approved use and

  → in a completely safe operating state.

  Malfunctions which can reduce safety must be repaired immediately.

Warranty and liability

The scope, period and form of the warranty are set forth in the sales and delivery conditions of the manufacturer. The operator's manual valid at the time of delivery shall be the basis for any warranty claims arising from errors in the valid operating instructions (page 11). The following applies above and beyond the sales and delivery conditions: No warranty or liability shall be assumed for personnel and property damages resulting from one or more of the following reasons:

- unapproved use of the excavator,
- improper starting, operation and maintenance of the excavator,
- operation of the excavator with defective safety devices or improperly installed or non-operational safety and protective devices,
- ignorance or non-observance of this operator's manual,
- insufficiently qualified or insufficiently instructed operating personnel,
- improperly performed repairs,
- use of non-genuine replacement parts,
- unauthorised engineering changes to the excavator,
- poor surveillance of machine parts subject to wear,
- catastrophes caused by the effect of foreign objects or an act of God.

The owner must ensure at his own responsibility that

- the safety rules are observed (page 13),
- unapproved use and unauthorised operation (page 16) are excluded and
- the approved use (page 16) is ensured and the excavator is operated in accordance with the contractual conditions of use.

Safety symbols

The following terms and hazard symbols are used in this operator's manual:

Identifies important operating procedure information which may not be immediately evident to the operator.

Identifies operating procedures which must be followed exactly to prevent damage to the excavator or other property.

Identifies operating procedures which must be followed exactly to prevent danger to persons.

Identifies possible hazards in the handling of batteries.

Identifies possible hazards from caustic materials (battery acid).

Identifies possible hazards from explosive materials.

Prohibits the use of fire, open flames and smoking.

Prohibits the spraying of water.

Identifies operating procedures for the proper disposal and storage of ensuing waste materials.

Approved use

The excavators specified in this operator's manual may only be used for loosening, excavating, picking up, transporting and dumping earth, rocks and other materials, for work with the dozer or with a hydraulic hammer. The load may be transported largely without driving the excavator. Do not exceed the maximum lifting capacity.

Approved use also includes:

- the observation of all notes in this operator's manual,
- the exclusive use of genuine replacement parts and accessories, the use of other replacement parts and accessories is not allowed and may only be used in exceptional cases after obtaining the written permission of KUBOTA Baumaschinen GmbH.
- regular servicing,
- regular safety inspections.

Unapproved use

Any improper use - i.e. any deviation from the information in the "Approved use" section (page 16) of this operator's manual - is considered an unapproved use. This also applies to the non-observance of the standards and guidelines listed in this operator's manual.

Hazards can occur in case of improper use. Such improper uses are, for example:

- using the excavator to lift loads without suitable load lifting attachments,
- using the excavator for underground works,
- using the excavator to transport persons in the bucket, and
- using the excavator for tearing down walls with the bucket.

Special duties of the owner

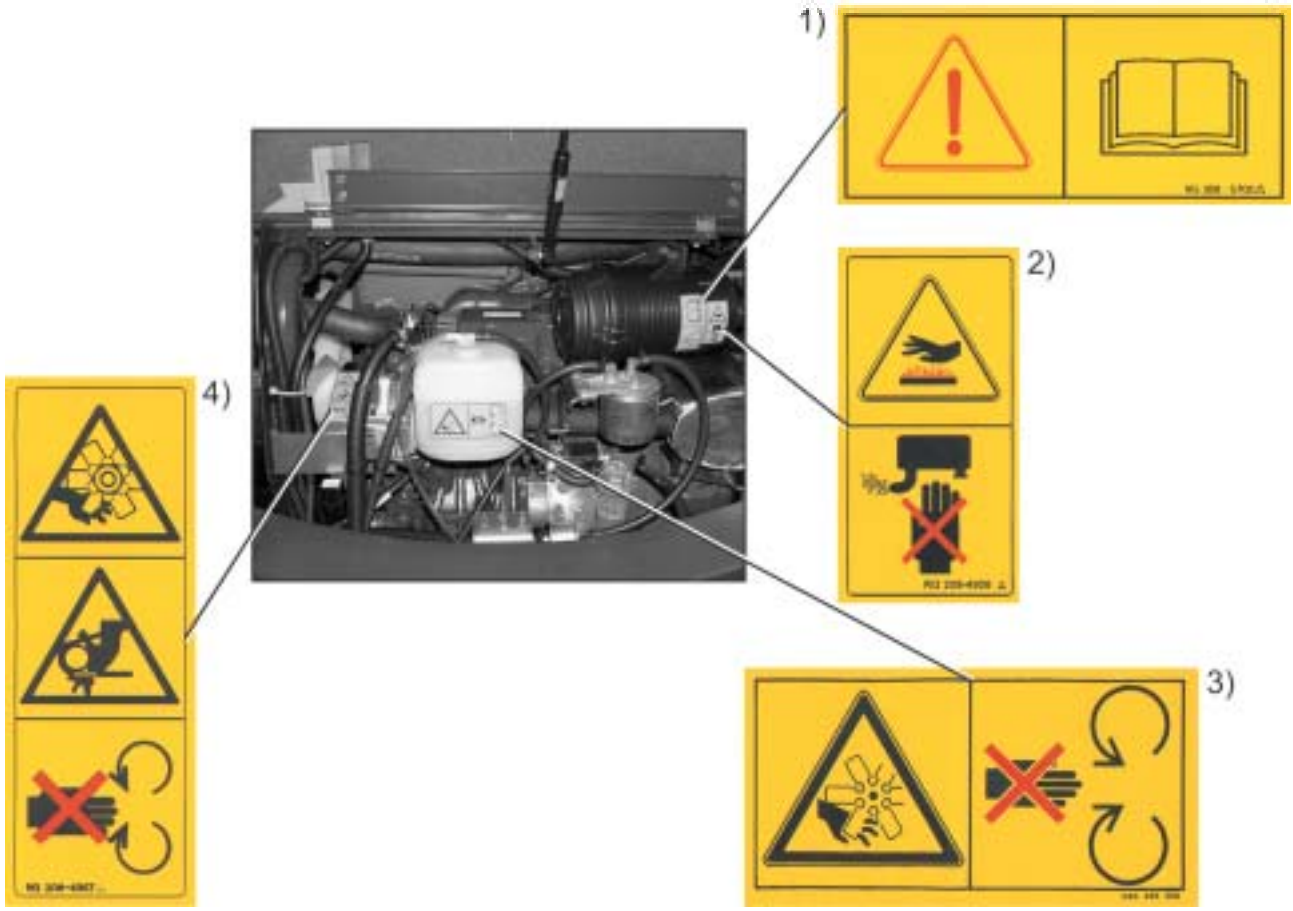
Owner of the excavator in the sense of this operator's manual is any natural person or company which uses the excavator itself or on whose order it is used. In special cases (e.g. leasing, rental), the owner is the person who must perform the duties arising from operation according to the conditions of the contract between owner and user of the excavator.

The owner must ensure that the excavator is only used properly and that any danger to the life and health of the user or others who are in the proximity of the user are eliminated. Furthermore, observance of the safety rules and observance of the operating, maintenance and repair regulations must be ensured. The owner must make sure that all operators and users have read and understood this operator's manual.

Safety labels on the excavator

Keep the safety and warning symbols (labels) on the excavator clean and legible, replacing them if necessary.

The positioning of the safety symbols is illustrated in the following figures.



1) Code #: RG 308 - 5702-0
Read the operator's manual and make sure you have understood the manual before starting or operating the excavator.

2) Code #: RG 208-4958-0
Do not touch hot parts, such as exhaust muffler, etc.

3) Code #: bsb 449 350
Before opening the engine compartment cover make sure the engine is stopped.

4) Code #: RG 208-4957-0
Keep away from fan and drive belt.

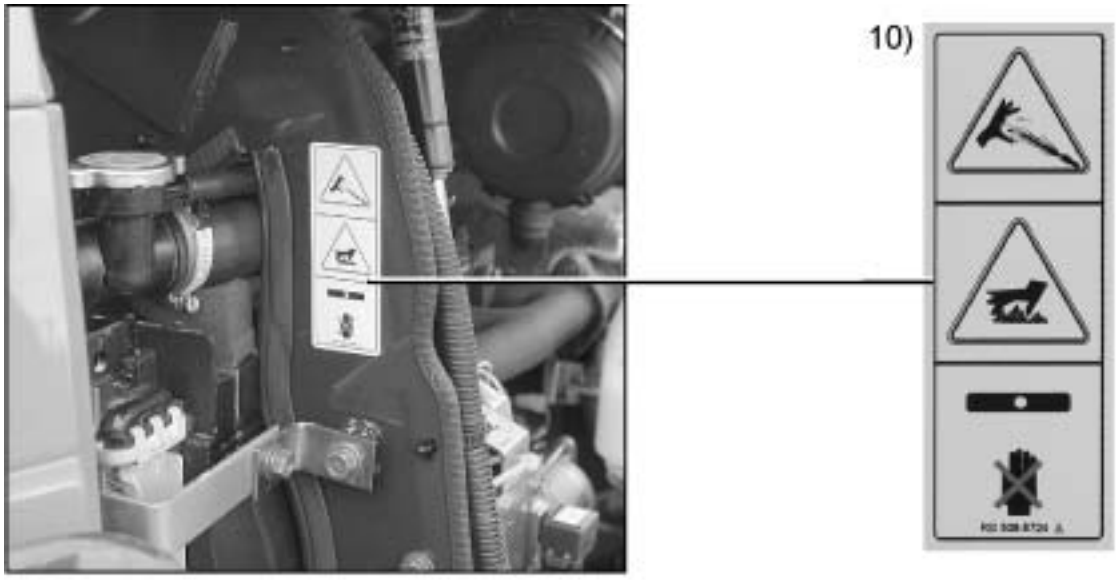
5) Code #: RG 5085723-0
Start the engine only from the driver's seat. Do not start the engine by shorting the starter terminals.

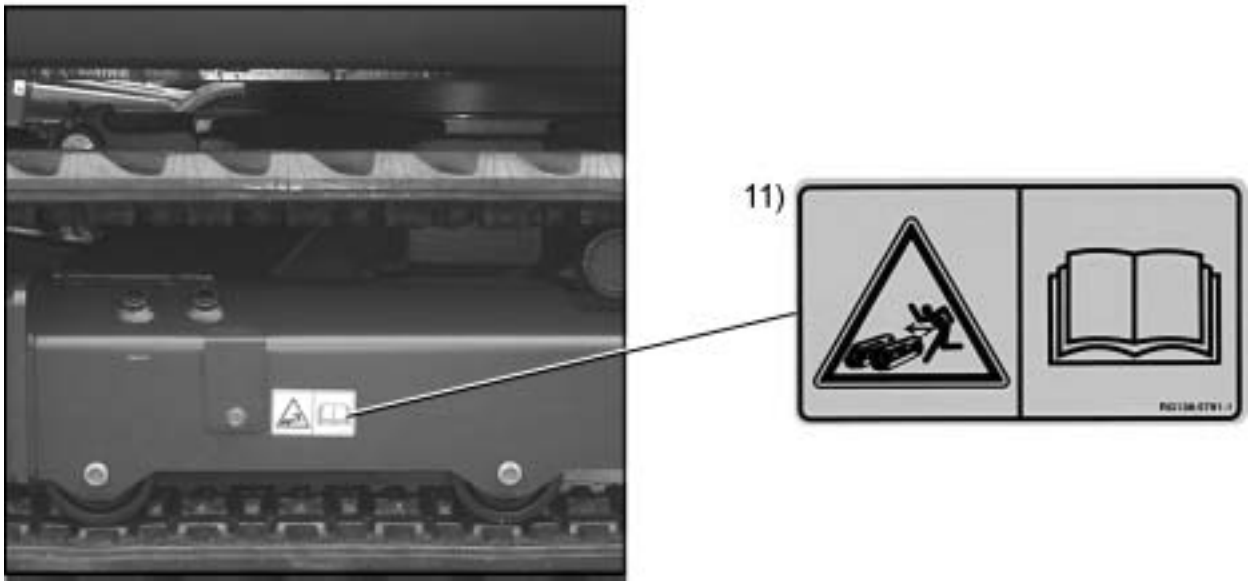
6) Code #: RG208-5727-0
Do not enter the manoeuvring area.

7) Code #: RG 508-5722-0
Do not enter the swivel area.

8) Code #: R 2491-5736-0

9) Code #: 69741-5753-0



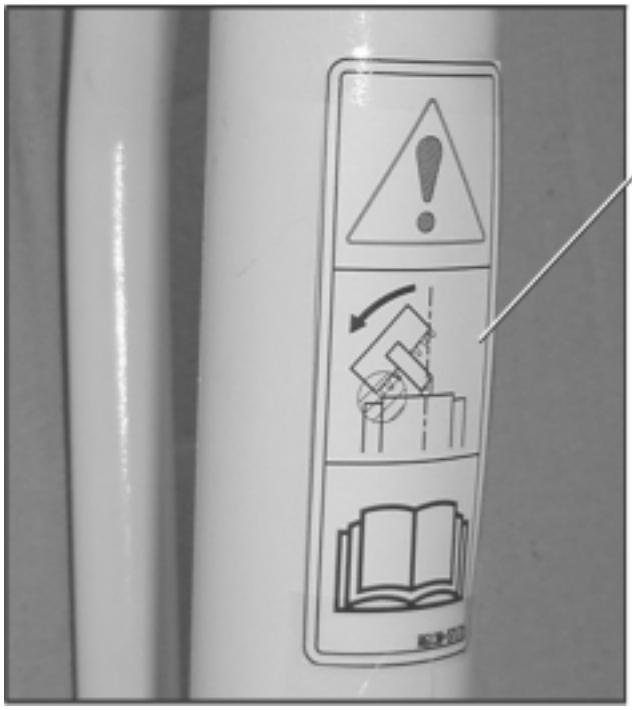


10) Code #: RG 508-5724-0
Radiator: Risk of scalding.

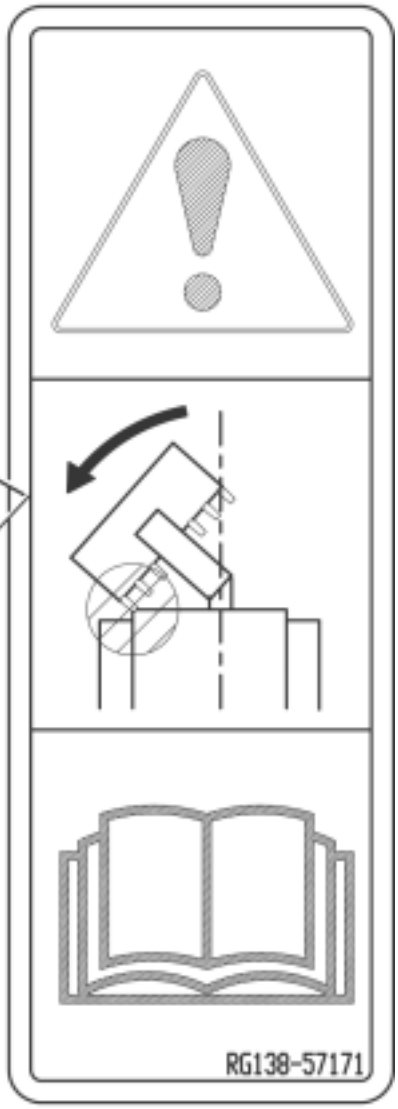
11) Code #: RG138-5791-0
For information about loosening the crawler, consult the operating instructions.

a)

b)



12)



a) Cab version
b) Canopy version

12) Code #: RG138-5717-0
When using a wider or deeper bucket take good care when swinging or pulling in the front attachments to make sure that the bucket does not hit the cabin or the canopy.

Code #: RG491-5796-0

Code #: RG109-5769-0

Safety devices

Before starting the excavator, all safety devices must be installed properly and operational. No manipulation of safety devices, e.g. the shorting of limit switches, is allowed.

Protective devices may only be removed after

- the excavator is standing still and shut down
- and secured against restarting (starter switch in STOP position and key switch removed).
- The excavator is equipped with an anti-theft system. The anti-theft system makes it difficult to steal the machine. However, it can not fully prevent theft.

Locking the controls

The control levers (1 and 3) on the right and left, the drive levers and the dozer control lever are not operational when the console (4) is raised. This circumstance allows safe mounting and dismounting. The console is unlocked and raised with the control lever lock (2).

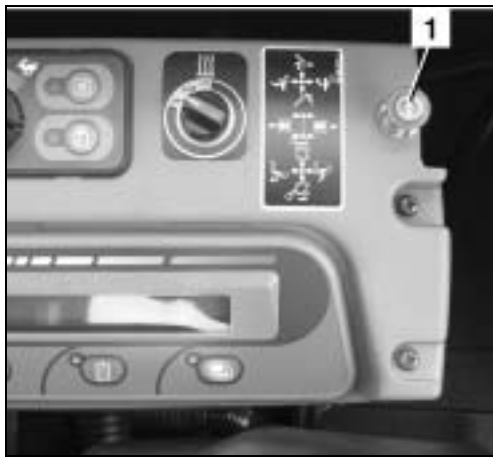
The boom swing and the dozer functions are not secured by the control lever lock.

Engine stop knob

If the electrical system fails, the engine can be shut off manually.

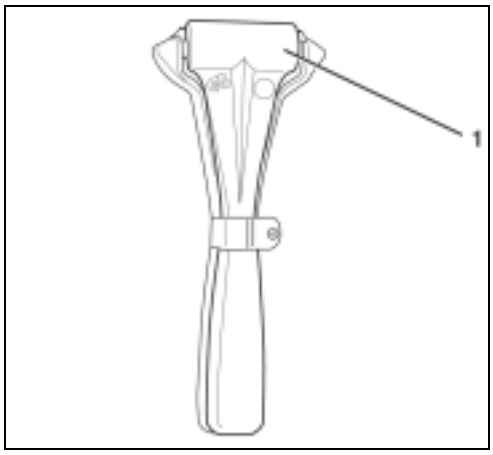
To stop the engine:

- Push the lever (1) upwards until the engine is stopped.



Emergency hammer

In case of an accident where the excavator cab door and windows can not be opened, the operator can break the window panes with the emergency hammer (1).



When breaking the window pane, close your eyes and cover them with an arm.

Hazards coming from the hydraulic system

If hydraulic oil gets into the eyes, rinse them immediately with clear water and subsequently seek medical aid.

Do not allow hydraulic oil to contact the skin or clothing. Skin parts which may have come in contact with hydraulic oil must be washed with water and soap immediately, if possible. Do this thoroughly and repeatedly, otherwise there is a risk of damage to the skin.

Immediately take off any clothes dirtied or soaked with hydraulic oil.

Persons who have inhaled hydraulic oil vapours (mist) should be taken to a doctor immediately.

If leaks have occurred in the hydraulic system, the excavator may not be taken into operation or, if in operation, operation must cease at once.

Do not use the naked hand to search for leaks; always use a piece of wood or cardboard. Protective clothing (eye protection and gloves) must be worn when seeking leaks.

Leaking hydraulic oil must be bound immediately with an oil binding agent. The contaminated oil binding agent must be stored in suitable containers and in accordance with the valid regulations.

Combating fire

In the event of fire in the electrical or hydraulic system, use a CO_2 fire extinguisher to combat the fire.

RECOVERY, LOADING AND TRANSPORT

Safety rules for recovery

- For recovery of the excavator, a towing vehicle of at least the same weight class as the excavator must be used.
- A tow bar must be used for the recovery. If a tow rope is used, a braking vehicle must also be attached. The tow bar or tow rope must be suitable for the recovery of the excavator in respect of the towed load. Do not use damaged recovery aids.
- Do not step into the danger zone between the vehicles during the recovery procedure. If a tow rope is used, keep a distance of at least 1½ times the length of the rope.
- Use the tow lug on the track frame for the recovery.
- The above safety rules also apply if the excavator is used as the towing or recovery vehicle.
- Observe the admissible values for the towed load and tongue load during recovery, see "Specifications" (page 33).

Safety rules for hoisting the excavator with a crane

- The lifting gear for hoisting must be suitable for the weight of the excavator.
- Before the lifting gear is attached, check that the specified safety inspections have been performed and the lifting gear is in perfect condition.
- The excavator may only be lifted at the points provided. Do not attach the lifting gear to the cab roof as this can lead to substantial damage.
- Always adhere to the valid safety regulations for the lifting of loads.
- The excavator must be secured with a holding rope when it is being lifted.
- The crane operator is responsible for the observance of these safety rules.

Safety rules for transport

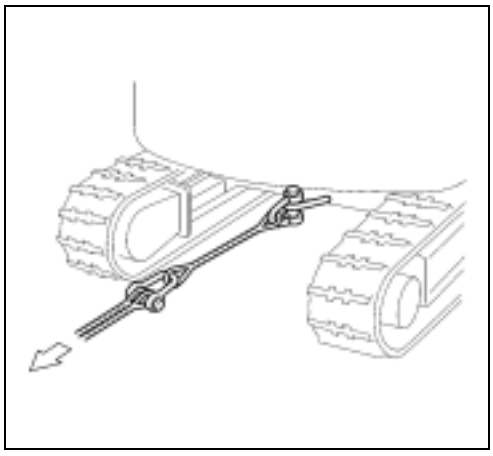
- The used ramps must have a sufficient load capacity for bearing the weight of the excavator. They must be placed securely on the transport vehicle and fastened.
- Support the loading area at the rear of the transport vehicle with sufficiently dimensioned supports.
- The ramps must be wider than the track of the excavator and have footboards on the side.
- The transport vehicle must be designed for the load of the excavator.
- Place the left and the right ramp so that the centre line of the transport vehicle is aligned with the centre line of the excavator to be loaded.
- Do not drive the excavator onto the transport vehicle without ramps and with the boom.
- Engage the parking brake of the transport vehicle and secure its front and rear wheels with chocks.
- Secure the excavator against sliding on the transport vehicle with chocks or chains or with suitable tiedown straps. The chocks must be secured at the crawlers and on the transport vehicle with suitable means. The driver of the transport vehicle is responsible for the secure fastening of the excavator on the vehicle.
- A guide is required for driving the excavator onto and off the transport vehicle. The guide is responsible for the safe loading. The excavator may only be moved on instruction of the guide; the operator and guide must always have eye contact. If this is not possible, the operator must stop the excavator immediately.
- When driving with an excavator loaded, always keep a clearance of 1.0 m to overhead power lines. Observe the applicable traffic rules and regulations.

Recovery

Adhere to the safety rules (page 13) and the safety rules for recovery (page 24).

A recovery is only allowed over a short distance and at walking speed.

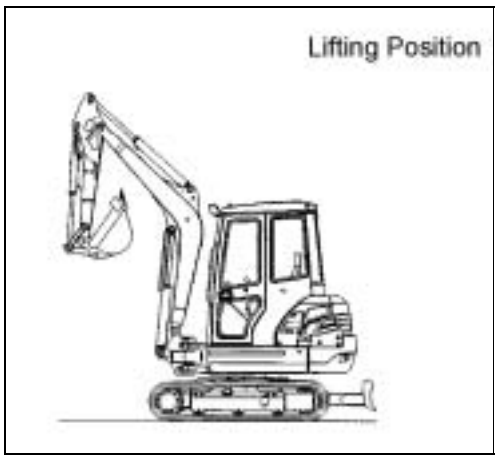
- Attach the tow bar or tow rope to the tow lug (see figure) on the excavator and to the towing vehicle. The tow bar should be mounted at a right angle to the vehicles.



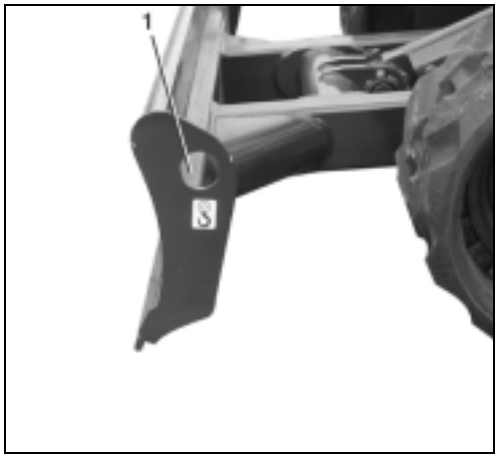
- During the recovery procedure, the operator must be seated in the driver's place.
- Drive slowly with the towing vehicle to avoid abrupt loads.

Hoisting the excavator with a crane

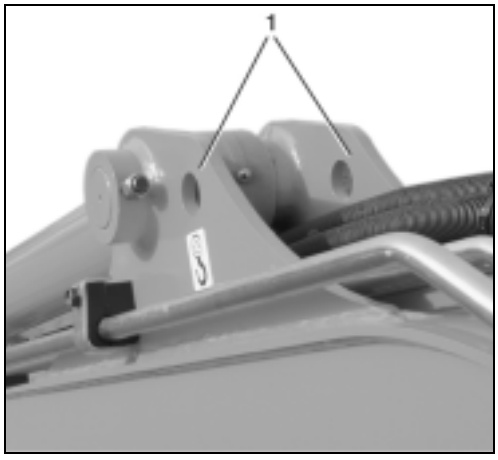
Adhere to the safety rules (page 13) and the safety rules for hoisting the excavator with a crane (page 24).



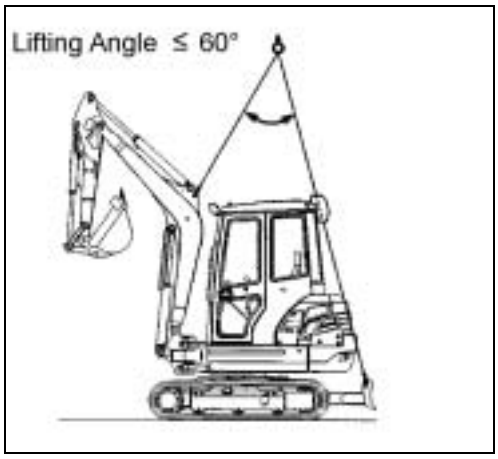
- Bring the excavator to the lifting position (see figure) on level ground.
- Lift the dozer until the dozer cylinders are fully retracted. See also the "Operating the controls during excavation work" section (page 68).
- Bring the boom in line with the longitudinal axis of the swivel frame.
- Completely extend the boom cylinder, arm cylinder and bucket cylinder.
- Swivel the swivel frame so that the dozer is located at the rear.
- Close and lock the door and covers.
- Attach the lifting gear with shackles to the lifting eyes (1) on each side of the dozer.



- Attach the lifting gear with shackles to the lifting eyes (1) on each side of the boom.



- Tension the lifting gear slightly with the crane (see figure). If a cab is fitted, place cloths between the lifting gear and the cab to protect it.
- Always keep the machine level. Be sure that the centre line of the crane hook is aligned as exactly as possible with the centre line of the excavator and that the lifting angle is as specified. Lift the excavator.

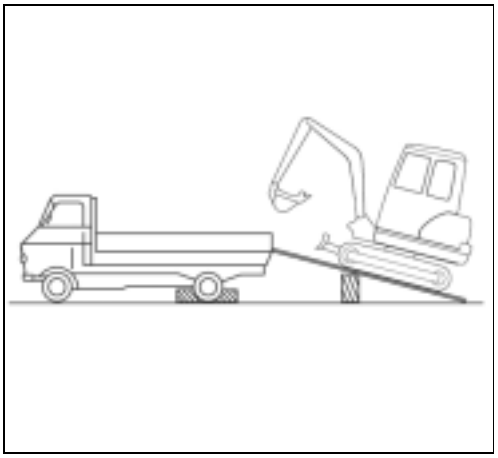


The lifting eyes on the cab are not provided for lifting the excavator. Do not hoist the excavator with these eyes.

Transport on a flat bed trailer

Adhere to the safety rules (page 13) and the safety rules for transport (page 25).

- Place the loading ramps on the transport vehicle at an angle of 10° to 15°. Observe the track width.
- Bring the excavator exactly into line with the ramps and drive up straight.



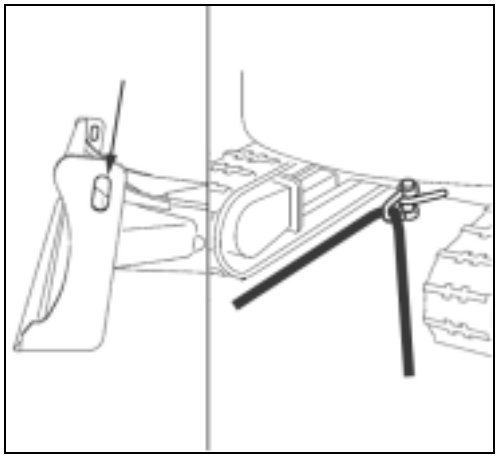
Do not turn or steer while driving up the ramps; if necessary, reverse the excavator and drive up again after realigning it.

DANGER
No person is allowed to stand in the loading area during movement. Risk of bruising.

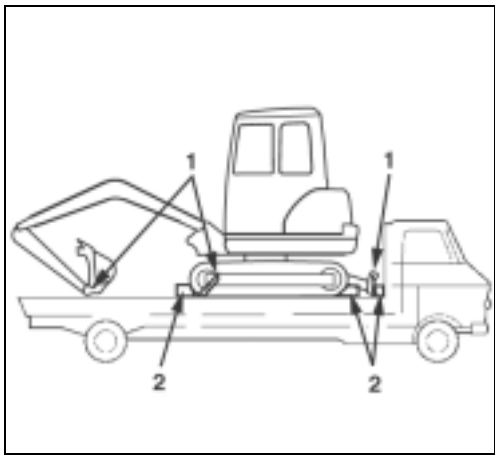
Take care during swivel operations, the front attachments could thrust against the transport vehicle. This could damage the transport vehicle and the excavator.

- Turn swivel frame by 180° until the front attachments face the rear of the transport vehicle.

For protecting the vehicle, use the points as shown in the figure.



- For safe attachment, swing out the arm and bucket and lower the boom to the ground until the bucket linkage touches the loading area.
- Secure the chains and the dozer with beams (2).
- Secure the excavator against sliding on the transport vehicle with chocks or chains (note the vehicle weight).



- Lock the excavator after hoisting.

DESCRIPTION OF THE EXCAVATOR

Model overview

The excavator is supplied in three different models – KX91-3α2, KX101-3α2 and U35-3α2. They are supplied optionally with a canopy or cab.

Model KX91-3α2

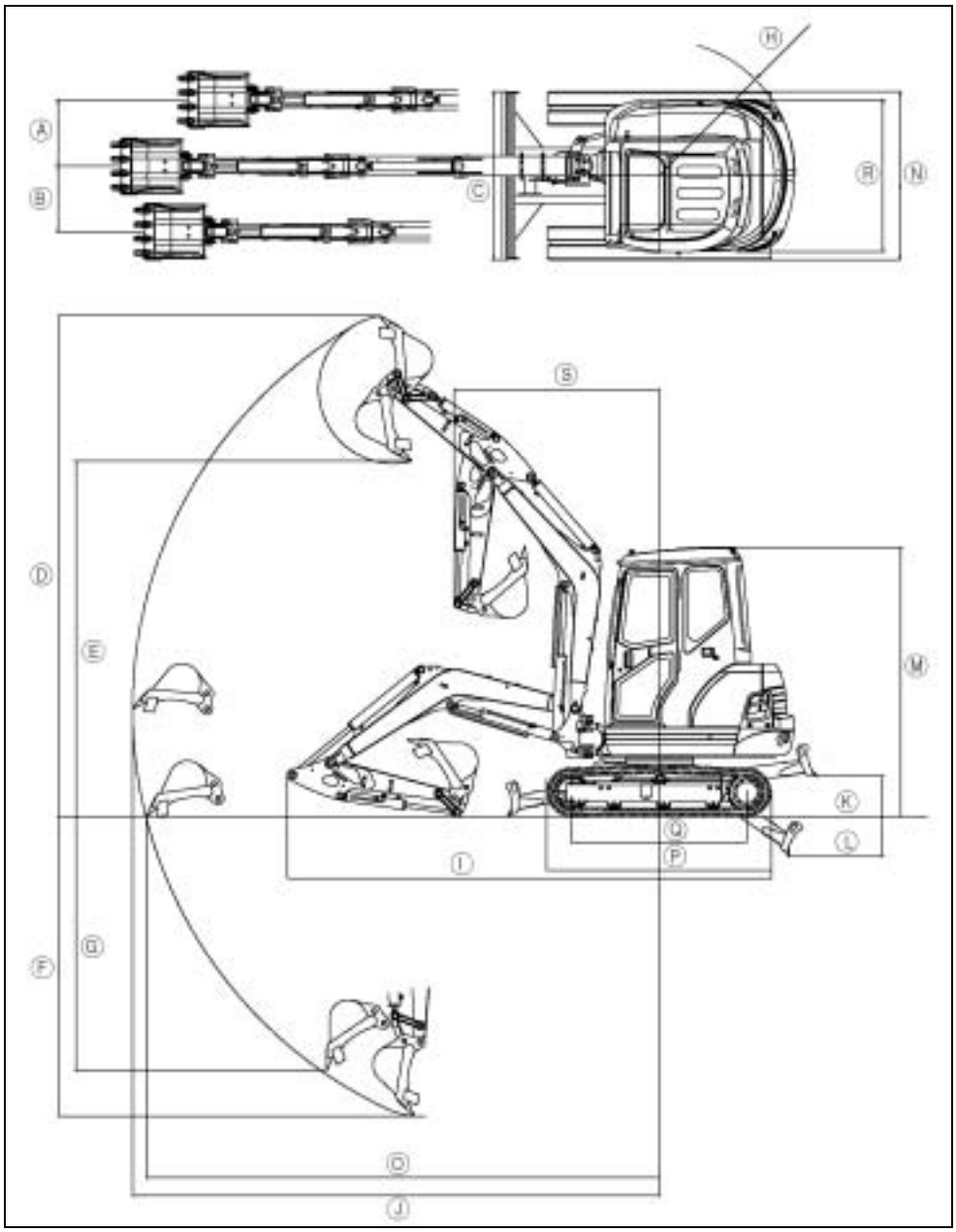
Model KX101-3α2

Model U35-3α2

Dimensions

For the dimensions of the KX91-3α2, KX101-3α2 and U35-3α2, refer to the following figure and the table.

Dimensions for the KX91-3α2/KX101-3α2/U35-3α2



All dimensions in mm

KX91-3α2	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1*	410	480	1550	4790	3410	2900	2170	1310	4760	5000	360	340	2440	1550	4880	2000	1560	1440	1910
2*				4920	3550	3180	2340			5240					5130				1880

KX101-3α2	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1*	410	480	1550	4980	3590	3100	2350	1310	4920	5210	360	340	2440	1550	5100	2100	1670	1440	1980
2*				5110	3720	3300	2530			5400					5300				2010

U35-3α2	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1*	600	600	1700	4830	3460	3150	2350	850	4865	5420	370	370	2440	1700	5300	2100	1670	1400	2250
2*				4970	3590	3350	2540			5610					5500				2270

1* Standard arm
2* Long arm

Specifications

Following are the specifications for these series.

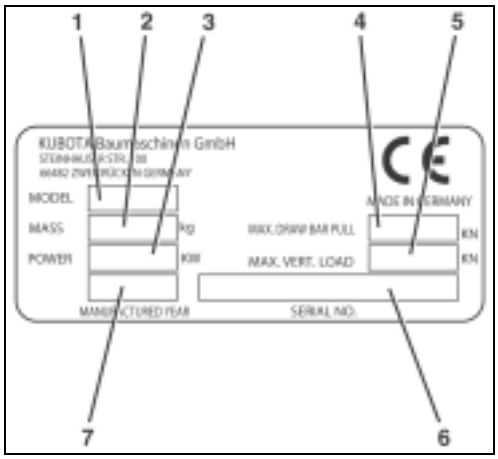
Specifications for the KX91-3α2/101-3α2/U35-3α2

			KUBOTA Excavator			
Model name			KX91-3α2		KX101-3α2	
Type (rubber crawler)			Canopy	Cab	Canopy	Cab
Operating weight	(without driver)	kg	3130	3240	3410	3520
Bucket	Volume	m³	0.1		0.107	
	Width	mm	470 (without teeth) 495 (with teeth)		550 (without teeth) 575 (with teeth)	
Engine	Type		Water-cooled diesel engine with 3 cylinders, E-TVCS		Water-cooled diesel engine with 3 cylinders, E-TVCS	
	Model name		D1503-M-EKBH-1-EC-N		D1503-M-EKBH-2-EC-N	
	Total volume	cm³	1499		1499	
	Engine performance DIN 70020	kW	19.6		20.3	
	Rated speed	1/min	2200		2300	
Performance	Swivel speed (swivel frame)	1/min	9.0		8.9	
	Vehicle speed	fast km/h	4.6		4.6	
		slow km/h	3.0		3.0	
	Ground pressure (without driver)	kPa (kgf/cm²)	31.2 0.32	32.3 0.33	31.8 0.32	32.8 0.33
	Climbing performance	% (degree)	36 (20)		36 (20)	
	Max. lateral sway	% (degree)	27% (15)		27% (15)	
Dozer (width x height)		mm	1550x335		1550x335	
Swing angle of the boom	Left	rad (degree)	1.40 (80)		1.40 (80)	
	Right	rad (degree)	0.87 (50)		0.87 (50)	
Service port	Max. volume (theoretical)	L/min	40		40	
	Max. pressure	MPa	23.5		24.5	
		bar	235		245	
Volume of the fuel reservoir		L	48		48	
Maximum towed load at the hitch		N	70540		70540	
Maximum tongue load at the hitch		N	7210		7210	
Noise level	LpA	dB (A)	79	76	78	76
	LwA (2000/14/EC)	dB (A)	93	93	94	93
Vibration at the drive lever		m/s²	< 2.5		< 2.5	
Vibration at the control lever		m/s²	< 2.5		< 2.5	
Vibration at the driver's seat		m/s²	< 0.5		< 0.5	
Vibration at the bottom plate		m/s²	< 0.9		< 0.9	

			KUBOTA Excavator	
Model name			U35-3α2	
Type (rubber crawler)			Canopy	Cab
Operating weight	(without driver)	kg	3480	3590
Bucket	Volume	m³	0.107	
	Width	mm	550 (without teeth) 575 (with teeth)	
Engine	Type		Water-cooled diesel engine with 3 cylinders, E-TVCS	
	Model name		D1503-M-EKBH-2-EC-N	
	Total volume	cm³	1499	
	Engine performance DIN 70020	kW	20.3	
	Rated speed	1/min	2300	
Performance	Swivel speed (swivel frame)	1/min	8.9	
	Vehicle speed	fast km/h	4.6	
		slow km/h	3.0	
	Ground pressure (without driver)	kPa (kgf/cm²)	32.0 0.33	33.0 0.34
	Climbing performance	% (degree)	36 (20)	
	Max. lateral sway	% (degree)	27% (15)	
Dozer (width x height)		mm	1700x335	
Swing angle of the boom	Left	rad (degree)	1.22 (70)	
	Right	rad (degree)	0.87 (50)	
Service port	Max. volume (theoretical)	L/min	40	
	Max. pressure	MPa	24.5	
		bar	245	
Volume of the fuel reservoir		L	41.5	
Maximum towed load at the hitch		N	70540	
Maximum tongue load at the hitch		N	7210	
Noise level	LpA	dB (A)	78	77
	LwA	(2000/14/EC) dB (A)	93	93
Vibration at the drive lever		m/s²	< 2.5	
Vibration at the control lever		m/s²	< 2.5	
Vibration at the driver's seat		m/s²	< 0.5	
Vibration at the bottom plate		m/s²	< 0.9	

Identification of the excavator

The type plate of the excavator is located at the front of the swivel frame. The owner should enter the stamped data in the field on the back of the front cover.



1. Model name
2. Operating weight
3. Engine performance
4. Pulling capacity of the tow lug
5. Maximum tongue load at the tow lug
6. Serial number
7. YOC

Equipment

The standard equipment of the excavator can be enhanced by optional equipment (accessories).

Standard equipment

The standard equipment of the models includes a grease gun, an oil filter wrench and a 50 A spare fuse. Stow it in the tool compartment (1) at the front left inside the flooring of the cab.

Accessories

The allowed accessories for this excavator are detailed in the following sections. For additional accessories, please contact your authorised dealer.

Accessories from other manufacturers may only be fitted after prior written approval from KUBOTA. See also the "Approved use" section (page 16).

Long arm

An optional elongated arm is available as an accessory for all models.

Device	Name	Part #	Type		Area of operation
[KX91-3α2]					
Arm	Long arm	RG518-6710-0		A=1550 mm	Deep digging and light excavation work
[KX101-3α2]					
Arm	Long arm	RG518-6710-0		A=1550 mm	Deep digging and light excavation work
[U35-3α2]					
Arm	Long arm	RG518-6710-0		A=1550 mm	Deep digging and light excavation work

Pipe safety valve

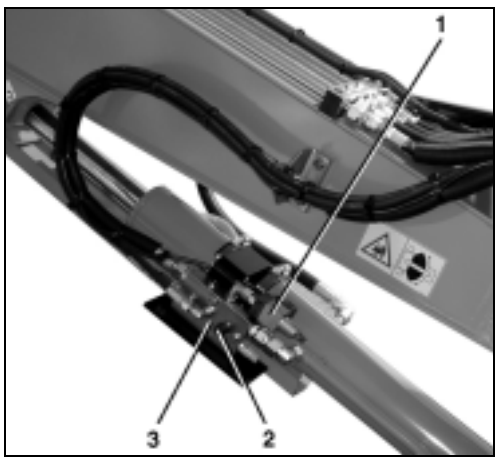
The pipe safety valve prevents the load from suddenly lowering during lifting in case a pipe or hose bursts. It is installed at the factory or can be retrofitted by your KUBOTA dealer.

The hydraulic cylinders for

- boom (2),
- arm (1), and
- dozer (3)

are each equipped with a pipe safety valve directly at the hydraulic port of the cylinders.

The pipe safety valve (3) is adjusted to the particular excavator at the factory and secured with a lead seal (2).



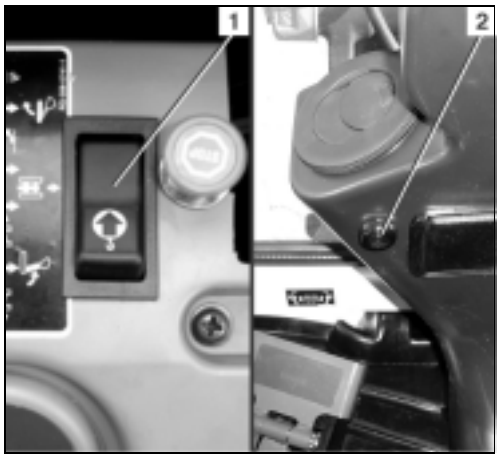
Removing the leaden seal or manipulating the pipe safety valve will void the warranty.

Any manipulation can result in substantial personal injuries, even death, and is therefore strictly forbidden.

The manipulation and repair of the pipe safety valves is forbidden. They may only be replaced by your KUBOTA dealer as a kit.

An optional warning device is available for the models KX91-3α2, KX101-3α2 and U35-3α2. The warning device is controlled by the pressure switch (figure above, position 1) at the pipe safety valve on the boom cylinder. The load is measured by the pressure at the base of the cylinder. Any overpressure triggers the warning device.

The warning device is activated with the warning device toggle switch (1). In the event of an overload, an acoustic signal sounds and the warning light (2) flashes.



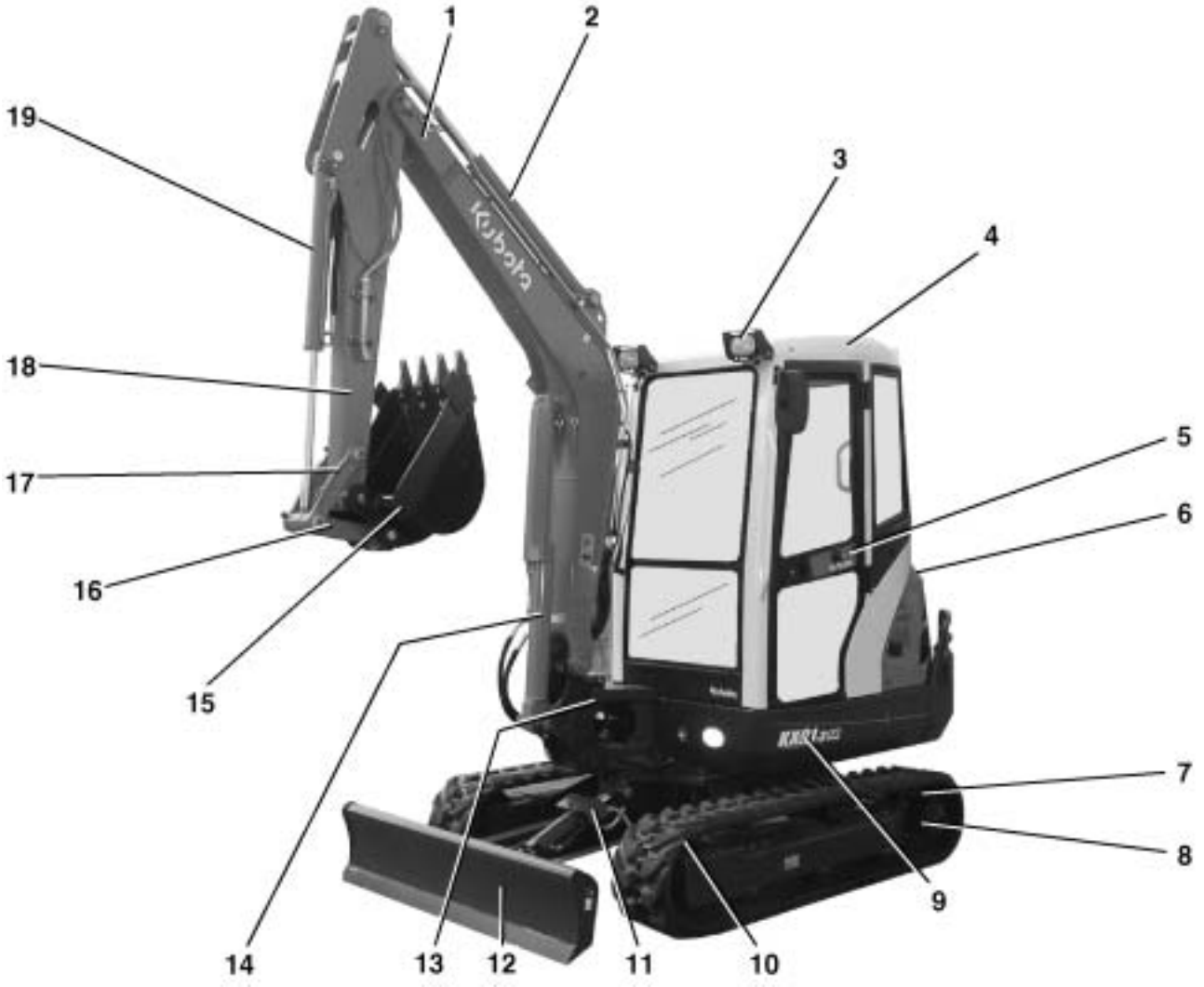
Note on the usage

- Check the lead seal of the pipe safety valve before using the excavator. Do not carry out any excavating work if the lead seal is not in place or the pipe safety valve is damaged.

- In case machines equipped with a warning device experience an overload, the boom must be lowered until the load rests on the ground. To prevent personal injuries and damage to equipment, do not operate any other functions (e.g. swivelling the swivel frame).

ASSEMBLY AND FUNCTIONS

Component overview

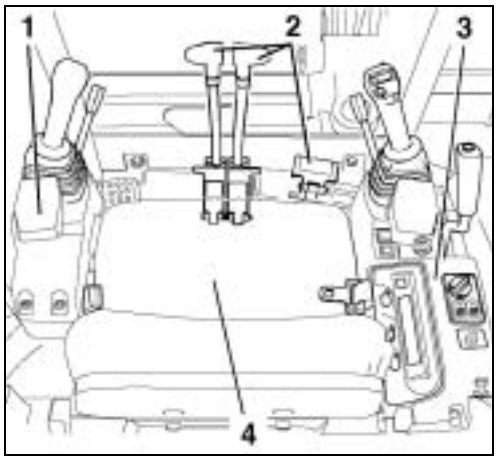


1. Boom
2. Arm cylinder
3. Working light
4. Cab
5. Cab door
6. Engine compartment cover
7. Drive sprocket
8. Drive unit
9. Swivel frame
10. Idler
11. Dozer cylinder
12. Dozer
13. Swing bracket
14. Boom cylinder
15. Bucket
16. Bucket linkage 1
17. Bucket linkage 2 and 3
18. Arm
19. Bucket cylinder

Driver's place

The driver's place is located in the middle of the cab. It includes the following control elements:

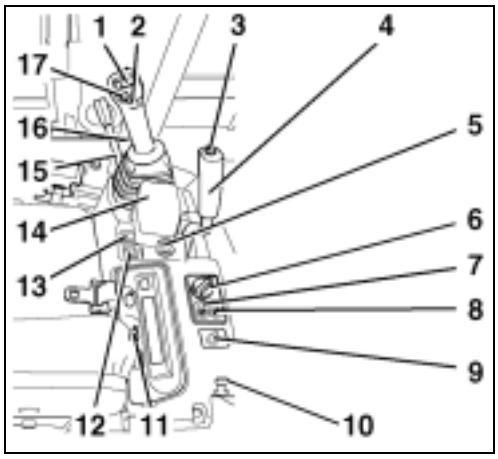
1. Left control console
2. Drive levers and control pedals
3. Right control console
4. Driver's seat



Right control console

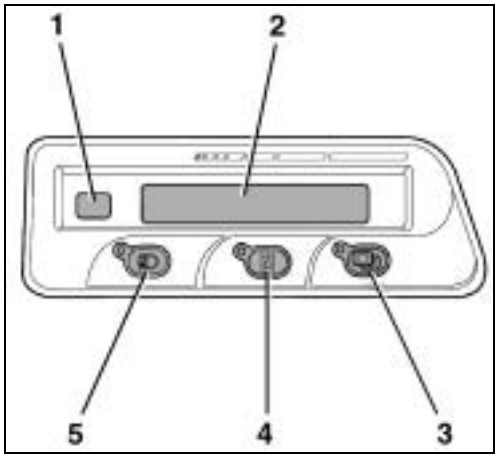
The right control console (see figure) includes the following components:

1. Rocker switch for the service port
2. Hammer switch
3. Travel speed button
4. Dozer control lever
5. Starter switch
6. Potentiometer for the adjustment of the engine speed
7. AUTO IDLE switch
8. Switch for the flow rate setting
9. Blower switch (cab version)
10. Emergency stopping device
11. Display
12. Travel speed indicator
13. Rotary beacon button
14. Arm rest
15. Right control lever lock (canopy version only)
16. Right control lever
17. Horn switch



The display contains the following displays and indicators:

1. Warning light
2. Display
3. Display selector switch
4. Service port switch
5. Working light button



Description of the components of the right control console

1. **Rocker switch for the service port**
   The functions of the rocker switch are described in the "Controls" section (page 42).

2. **Hammer switch**
   The functions of the hammer switch are described in the "Controls" section (page 42).

3. **Travel speed button**
   The travel speed button switches the HI speed mode on and off.

4. **Dozer control lever**
   The functions of the dozer control lever are described in the "Controls" section (page 42).

5. **Starter switch**
   The starter switch serves as the master switch for the entire machine and as switch for pre-glowing and starting the engine.

6. **Potentiometer for the adjustment of the engine speed**
   The operator can use this potentiometer to set the engine RPM to any desired speed.

7. **AUTO IDLE switch**
   Using the switch you can switch the AUTO IDLE control on or off. The AUTO IDLE control makes sure that the engine speed pre-selected with the potentiometer drops down to idle speed after approx. 4 seconds - provided that no control is being used. Immediately upon activating a control engine speed will be immediately set to the pre-selected speed. When the AUTO IDLE control is activated the indicator inside the switch lights up.

8. **Switch for the flow rate setting**
   Using this switch the operator can set the flow rate of the hydraulic oil for the service port.

9. **Blower switch (cab version)**
   The fan is turned on with the blower switch. The air flow can be set to HI or LO.

10. **Emergency stopping device**
    Using this device, the operator can switch off the engine manually.

11. **Display**
    The functions of the display are described in the "Displays and indicators - description" section (page 41).

12. **Travel speed indicator**
    The travel speed indicator lights up when the travel speed mode is activated.

13. **Rotary beacon button**
    The rotary beacon is switched on with this button.

14. **Arm rest**
    The arm rest allows fatigue-free operation of the control lever.

15. **Right control lever lock (canopy version only)**
    The operation of the control lever lock is described in the "Controls" section (page 42).

16. **Right control lever**
    The functions of the right control lever are described in the "Controls" section (page 42).

17. **Horn switch**
    Depressing the horn switch activates the horn.

Displays and indicators - description

1. **Warning light**
   The warning light flashes yellow or red when a fault occurs.

Operations must cease immediately when the warning light flashes red.

2. **Display**
   Depending on the operating situation, the display shows the fuel level, engine temperature, the hours of operation and various indicator symbols. The chapter for the operation gives a detailed description of the individual displays based on specific operating situations.

3. **Display selector switch**
   Toggles between two different types of display.

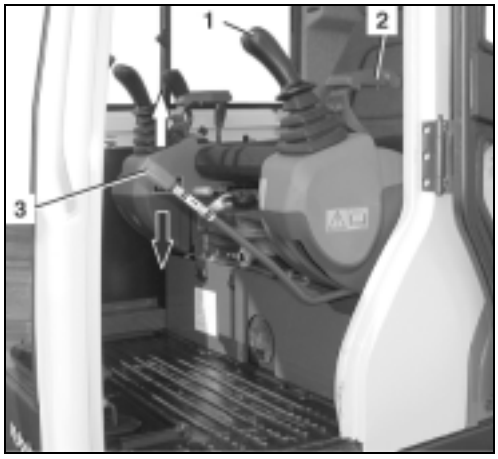
4. **Service port switch**
   Once the switch has been flipped you can use the right control lever to operate an attachment connected to the service port.

5. **Working light button**
   Switches the working lights on and off.

Left control console

The left control console includes the following components:

1. Left control lever
2. Arm rest
3. Control lever lock



Description of the components of the left control console

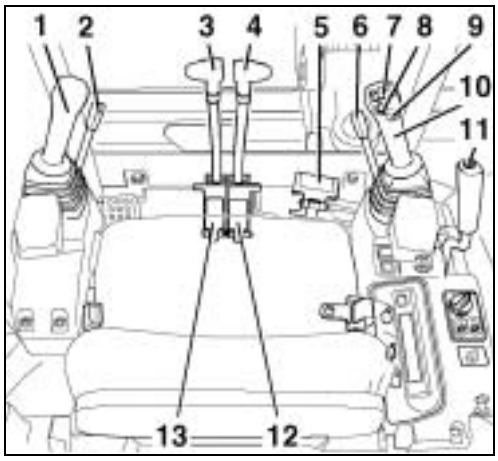
1. **Left control lever**
   The functions of the left control lever are described in the "Controls" section (page 42).

2. **Arm rest**
   The arm rest allows fatigue-free operation of the control lever.

3. **Control lever lock**
   The operation of the control lever lock is described in the "Controls" section (page 42).

Controls

The controls include the following components:

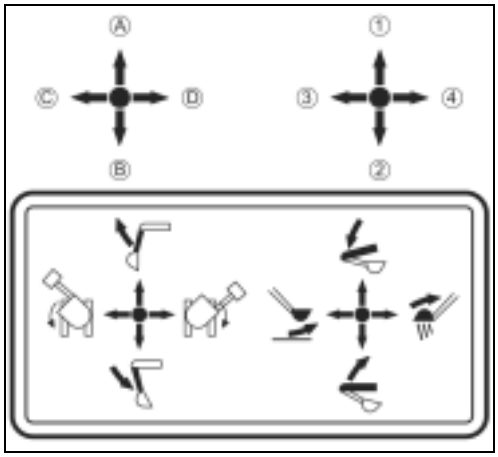


1. Left control lever
2. Left control lever lock
3. Left drive lever
4. Right drive lever
5. Boom swing pedal
6. Right control lever lock (canopy version only)
7. Rocker switch for the service port
8. Horn switch
9. Hammer switch
10. Right control lever
11. Dozer control lever
12. Pedal at the right crawler
13. Pedal at the left crawler

Description of the controls

1. **Left control lever**
   The left control lever is used to swivel the swivel frame and move the arm. See the table below for details.

The figure shows, in connection with the following table, the functions of the left and right control levers.



Control lever		Movement
Right control lever	1	Lower boom
	2	Raise boom
	3	Bucket crowd
	4	Bucket dump
Left control lever	A	Arm out
	B	Arm in
	C	Swivel frame to the left
	D	Swivel frame to the right

2. **Left control lever lock**
   To enter and leave the cab, the console must be raised by pulling up the control lever lock. The engine can only be started if the console is raised. The controls are only operational when the console is lowered and the control lever lock is in the "down" position.

3./4. **Left and right drive levers**
   With the drive levers the excavator can be driven forwards and backwards and also turned. The left drive lever controls the left track and the right drive lever the right track.

5. **Boom swing pedal**
   This pedal is used to swing the boom right and left.

6. **Right control lever lock (canopy version only)**
   To enter and leave the cab, the console must be raised by pulling up the control lever lock. The engine can only be started if the console is raised. The controls are only operational when the console is lowered and the control lever lock is in the "down" position.

7. **Rocker switch for the service port**
   The rocker switch controls the oil flow to the service port. When activating the left part the oil flows to the connector to the left of the arm. Activating the right part results in the oil flowing to the right.

8. **Horn switch**
   Depressing the horn switch activates the horn.

9. **Hammer switch**
   Use the hammer switch to switch hydraulic hammers on and off. Operating the pressure switch results in a continuous oil flow to the service port connector to the left of the arm. When you operate it again, the oil flow discontinues. Thus, you can operate the hydraulic hammer without continuously holding down the switch.

10. **Right control lever**
    The right control lever is used to move the boom and the bucket (see table for the control lever above).

11. **Dozer control lever**
    The dozer control lever is used to raise or lower the dozer. Pushing the lever forward lowers the dozer and pulling it back raises it.

12./13. **Pedals at the left crawler**
    The pedals allow the operator to foot-control the drive levers. The functions correspond to 3./4.

Further components in the cab

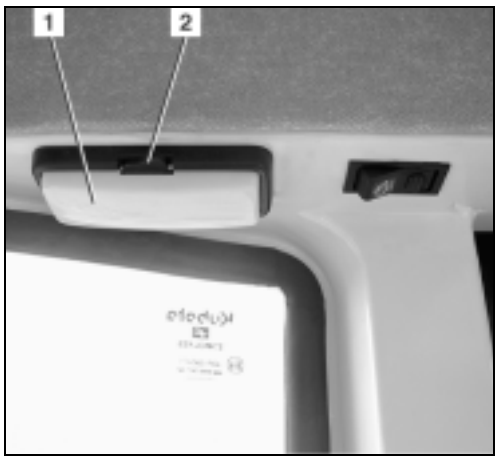
The following details the other components in the cabin.

Wiper/washer system

The front window is provided with a wiper/washer system. The system is operated with the wipe/wash switch (1) at the cab roof.

Interior lighting

An interior light (1) is located on the left side of the cab roof. It is turned on and off with the toggle switch (2).

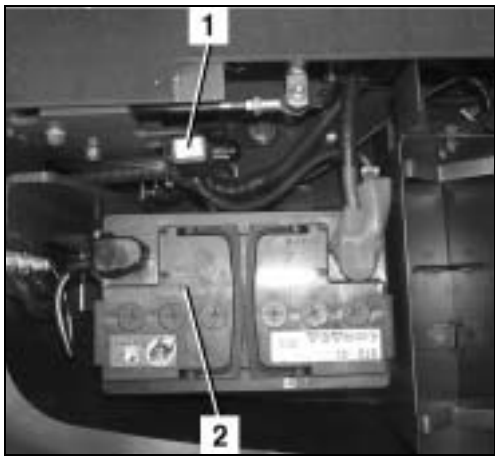


Fuse box

The fuse box (1) is located below the driver's seat behind a cover.

Main battery

The main battery (2) is located inside the flooring of the cab at the front left. The main fuse (1) for the electric system is located next to the main battery.

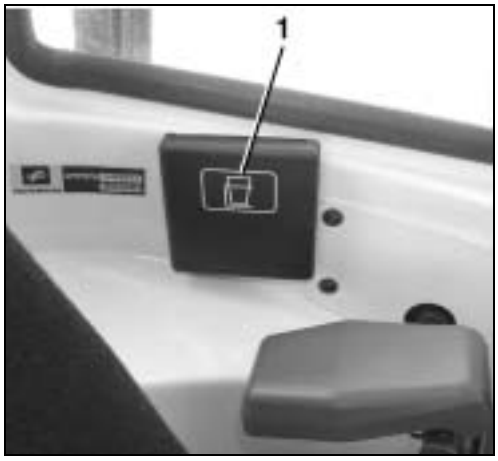


Tool compartment

The tool compartment (1) is positioned next to the main battery at the front left inside the flooring of the cab.

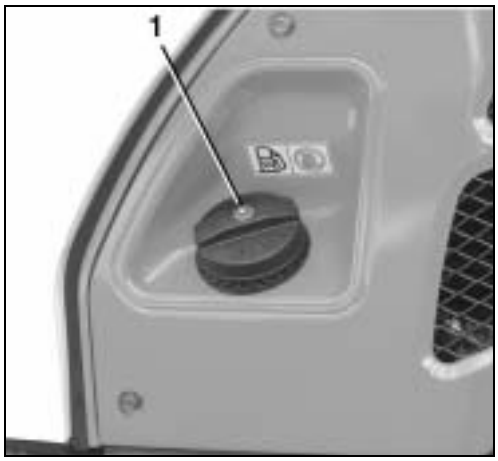
Cup holder

The cup holder (1) is mounted to the left of the driver's seat at the cabin wall. The holder can be opened and closed with a snap.



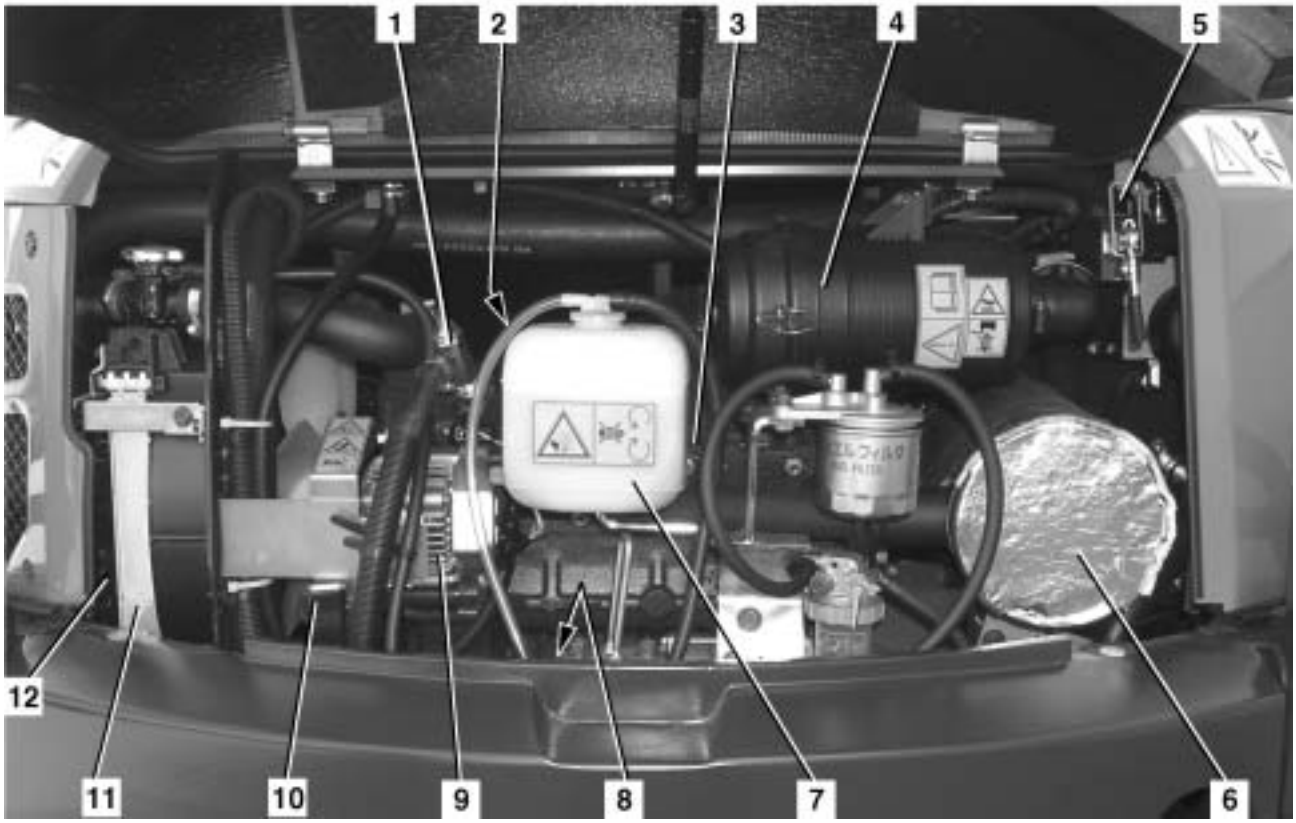
Fuel tank filler opening

The fuel tank filler opening is positioned to the left at the rear of the engine shroud. It is locked with a lockable filler cap (1).



Engine compartment

The engine compartment (see figure below) is positioned at the rear of the swivel frame; it is covered by a lockable hinged cover.



1. Heater valve
2. Oil filler opening
3. Engine
4. Air filter
5. Turnbuckle for the right valve chamber cover
6. Exhaust silencer
7. Coolant expansion reservoir
8. Oil dipstick
9. Alternator
10. Alternator circuit fuse
11. Radiator
12. Oil cooler

Hydraulic system

The controls, except the dozer control lever, the boom swing pedal, the service port pedal and the drive levers, activate a pilot control circuit.

The dozer control lever controls the valve via a Bowden cable.

The accumulator (figure below, position 1) allows the boom and arm to be lowered in case of an engine failure.

The hydraulic oil tank contains the suction filter and the return filter.

1. Accumulator
2. Breather filter and oil filter port for hydraulic oil
3. Sight glass for hydraulic oil level
4. Hydraulic oil tank
5. Valve block
6. Return change valve
7. Hydraulic oil pump

OPERATION

Safety rules for operation

- The safety instructions (page 13) must be followed.
- The excavator may only be operated according to its approved use (page 16).
- The excavator may only be operated by trained personnel (page 11).
- Do not operate the excavator when under the influence of drugs, medication or alcohol. Stop operation when getting tired. The operator must be physically capable of operating the excavator safely.
- The excavator should only be operated if all protective devices are fully operational.
- Before starting or working with the excavator, make sure that there is no danger for any person nearby.
- Before starting the excavator, it must be checked for external damage and operability, and the pre-start checks must be carried out. If defects are detected, the excavator should only be taken into operation after the defects have been repaired.
- Wear tightly fitting working clothes in accordance with the trade association regulations.
- During the operation of the excavator, nobody except the operator is allowed to be inside the cab or mount it.
- For mounting and dismounting, the swivel frame should be positioned in an angle which allows the operator to use the crawler or the step (if applicable) to enter the cab.
- Always stop the engine when leaving the cab. In exceptional cases, e.g. for troubleshooting, the cab can also be left with the engine running. The operator must make sure that the left control console remains in an upright position. The controls may only be used while the operator is sitting on the driver's seat.
- During operation, it is forbidden to stretch any part of the body out of the window or cab door, such as arms, legs, or the torso.
- If the operator leaves the excavator (e.g. for breaks or at the end of work), the engine must be stopped and the excavator must be secured against restarting by removing the key switch. The cab door must be locked. Before leaving the excavator, park the machine so that it can not roll.
- Whenever work is interrupted, the bucket must always be lowered to the ground.
- Do not allow the engine to run indoors, unless the room is equipped with an exhaust gas extraction system or otherwise well ventilated. The exhaust gas contains carbon monoxide, a colourless, odourless and fatal gas.
- Never crawl under the excavator before the engine is stopped, the key switch is removed and the excavator is secured against rolling.
- Never crawl under the excavator if it is only raised with the bucket or the dozer. Always use suitable supports.

Guiding the operator

- If the operator's working and driving area is obscured, the operator must be supported by a guide.
- The guide must be capable of performing this kind of work.
- Before starting work, the guide and the operator must agree the necessary signals.
- The guide's position must be clearly visible by the operator.
- The operator must stop the excavator immediately if the eye contact to the guide is interrupted.
  → As a rule, either the excavator or the guide may move, never both at once!

Working in the vicinity of overhead power lines

When working with the excavator in the vicinity of overhead power lines and tram lines, a minimum distance as specified in the following table must be maintained between the excavator and its attachments, and the power line.

Rated Voltage [V]		Safe Distance [m]
	up to 1000 V	1.0 m
over 1 kV	up to 110 kV	3.0 m
over 110 kV	up to 220 kV	4.0 m
over 220 kV	up to 380 kV or when rated voltage is unknown	5.0 m

If safe distances can not be maintained, the power lines must be switched off in coordination with their owner or provider and secured against making them live again.

When approaching overhead power lines, any possible movements of the excavator must be taken into consideration.

Unevenness of the ground or sloping the excavator can reduce the safe distance.

Wind can cause the overhead power lines to sway, thus reducing the safe distance.

In case of a power cross-over, leave the danger zone with the excavator, if possible, by taking suitable measures. If this is not possible, do not leave the driver's place, warn any approaching persons of the danger and have the power switched off.

Working in the vicinity of underground power lines

Before starting with excavation work, the owner of the excavator or the person responsible for the work must check if there are any underground power lines in the proposed working area.

If there are underground power lines present, the position and routing of the power lines must be determined together with the owners or operators and the required safety measures must be determined.

If power lines are encountered or accidentally damaged, the operator must stop working immediately and inform the responsible person.

Initial operation

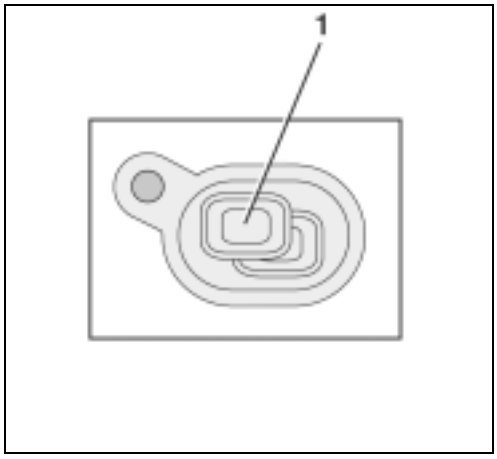
Before initial operation, the excavator must first be checked visually for external transit damages and checked if the shipped equipment is complete as ordered.

- Check fluid levels as described in the "Maintenance" section (page 99).
- For a description of all operation features, see the "Operating the excavator" section (page 52) as well as the following sections.

If defects are detected, please inform your dealer immediately.

Setting the display language

- Press and hold the display selector switch (1) and turn the starter switch to the RUN position at the same time. The model is shown in the display. Release the display selector switch to show the currently selected language.



- To select the desired language, repeatedly press the display selector switch until the desired language is shown. Press and hold the display selector switch to store the selected language.

Running-in of the excavator

During the first 50 hours of operation, the following points should be adhered to in all cases:

- Warm up the excavator at low engine speed and with a low load; do not let it warm up at standing position.
- Avoid any abusive use of the excavator.

Special maintenance instructions

- Change the oil in the final drives after the first 50 hours of operation.
- Change the return filter of the hydraulic system after the first 250 hours of operation.

Operating the excavator

For a safe excavator operation, see the following sections.

Pre-operational services

For the performance of the services, the excavator must be parked on level ground and the key switch must be removed.

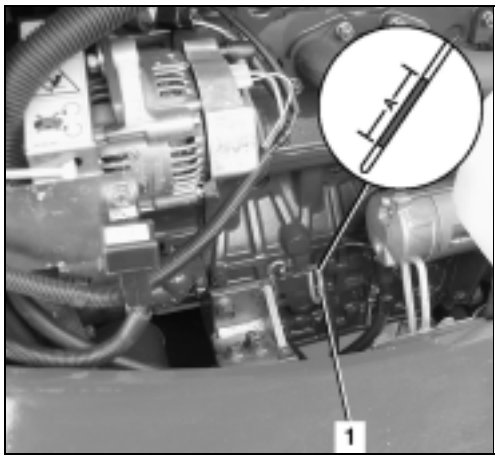
- Open the engine compartment cover (page 91). Always close the engine compartment cover after the work is done.

Walk-around inspection

- Check the excavator for visible damage and leaks.

Check the engine oil level

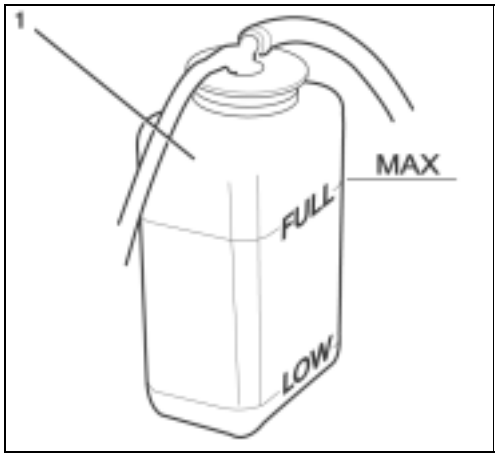
- Pull out the oil dipstick (1) and wipe it with a clean cloth.
- Insert the oil dipstick completely and pull it out again. The oil level should be in the "A" area. If the oil level is too low, add engine oil (page 107).



When the oil level is too high or too low, the engine might get damaged during operation.

Checking the coolant level

- Check the coolant level in the expansion reservoir (1). The fluid level must be between FULL and LOW.



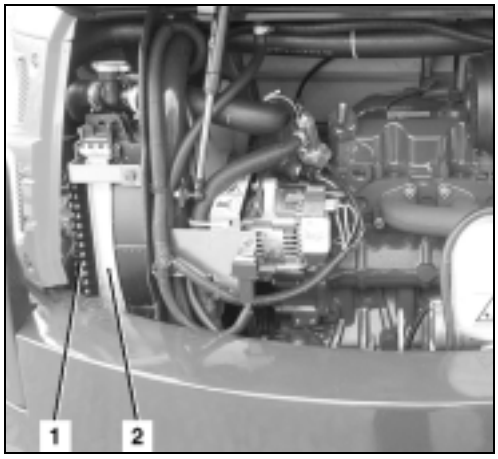
Do not open the radiator cap.

If the coolant level is below the LOW mark, refill (page 104).

If the coolant level is below the LOW mark a short time after adding coolant, the cooling system is leaky. The excavator may only be started again after the fault is repaired.

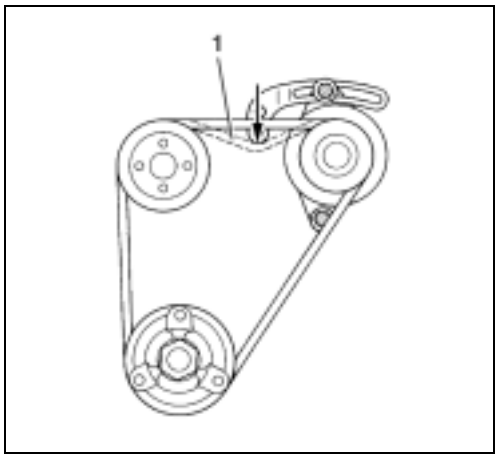
Checking the radiator and the oil cooler

- Check the radiator (2) and oil cooler (1) for leaks and debris (e.g. leaves).
- If there are leaves or other debris between the radiator and cooler, clean the radiator (page 105).



Checking the V-belt

- Check the V-belt (1) for cracks and proper tension. It should be possible to depress the V-belt for about 10 mm. Tighten the V-belt (page 105).



Checking the exhaust system for leaks

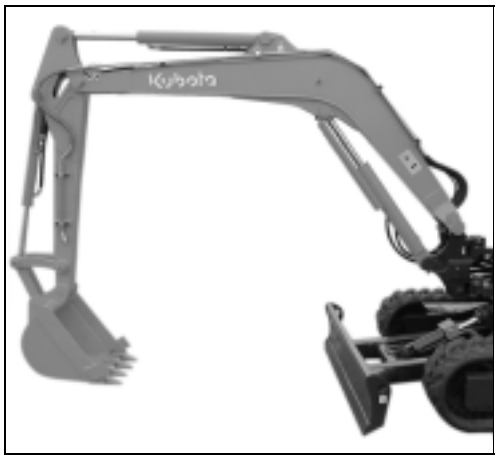
- Check the exhaust system for leaks and security (formation of cracks).

If the inspection is carried out when the engine is warm, there is a risk of burns at the exhaust system.

- If the exhaust system is leaky or loose, the excavator may only be taken into operation after the defects are eliminated.

Checking the oil level of the hydraulic system

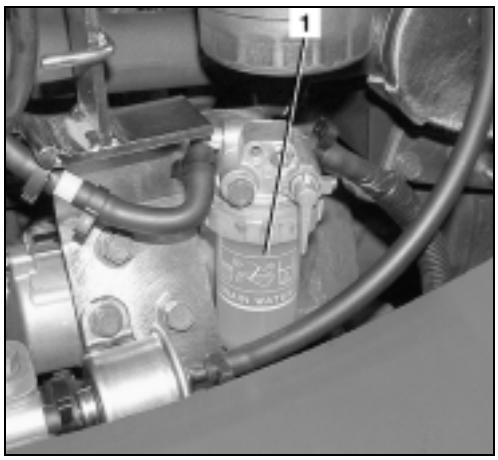
To determine the oil level exactly, extend all hydraulic cylinders half way.



Check the oil level in the sight glass (1). The oil level should be half way up the sight glass. Carefully check the position of the hydraulic cylinders again before topping up. For more information, see the "Topping up hydraulic oil" section (page 114).

Checking the water separator of the fuel system

- A red plastic ring in the water separator (1) floats up with the water level. If the ring is floating up, clean the water separator (page 110).

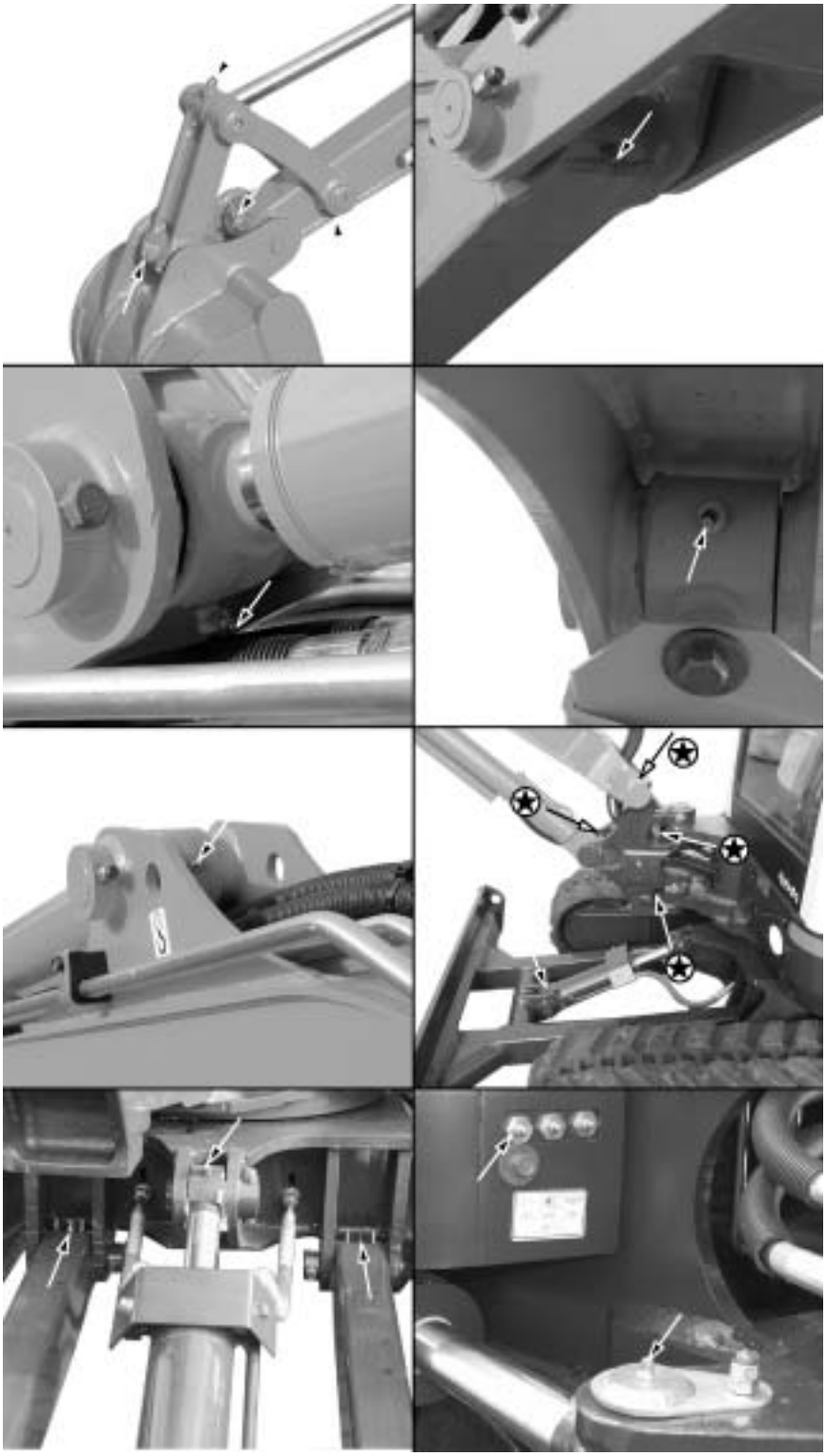


Lubrication

- Start the engine (page 61).
- Position the boom, arm, bucket and dozer as shown in the figure. Lock the control lever, stop the engine and remove the key switch. See the "Operating the controls during excavation work" section (page 68).
- Lubricate all grease points (see figure below) with grease - see the "Recommended lubricants" section (page 127) - until fresh grease emerges.

During the first 50 hours of operation, grease all grease nipples marked ⊛ using "Anti-Seize" grease.

Wipe emerged grease off immediately and store dirty cleaning cloths in the containers provided for disposal.



Checking the fuel level of the fuel tank

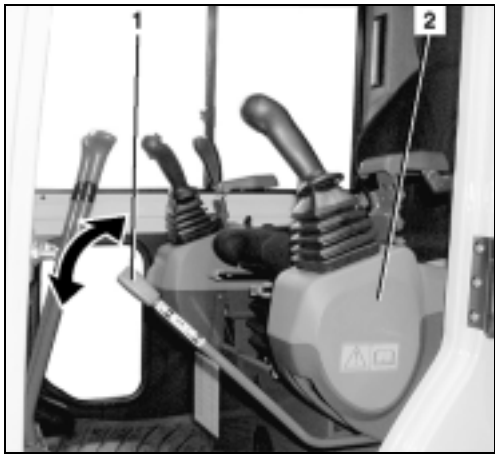
- Turn the starter switch (1) to the RUN position.
- Check the fuel level at the fuel gauge (2). If Fuel is shown in the display, there are only 7 L of fuel left in the fuel tank.

- If the fuel level is too low, refuel the excavator (page 88).

Setting up the workplace

For cab versions, refer to the "Opening and closing the cab door" section (page 83).

Mounting the excavator



- Move the left control console (2) up as far as possible by pulling the control lever lock (1) up.

The control console must remain in this position until the engine is started, as the engine can only be started in this position.

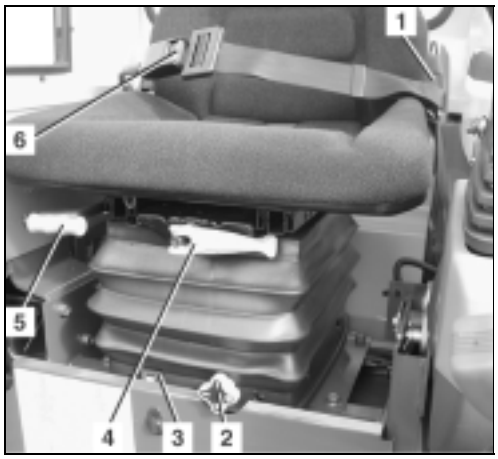
- Mount the excavator by using the crawler as a step.
- Sit down on the driver's seat.

Adjusting the driver's seat

Adjust the driver's seat so that fatigue-free and comfortable working is possible. It should be possible to operate all controls safely.

Horizontal seat adjustment (seat stand-off)

Pull the horizontal seat adjustment lever (5) up and move the seat to the desired position by moving it forward or back, then release the lever.



Check that the seat is locked into place.

Spring adjustment (driver's weight)

- The seat can be set to the weight of the driver with the spring adjustment grip (figure above, position 4). A weight indicator (figure above, position 3) is provided as an adjustment aid.
- Turning the grip clockwise increases spring tension (heavier operator), turning the grip anticlockwise reduces spring tension (lighter operator).
- Adjust the seat so that a comfortable cushioning is achieved.

Seat height adjustment (knee height)

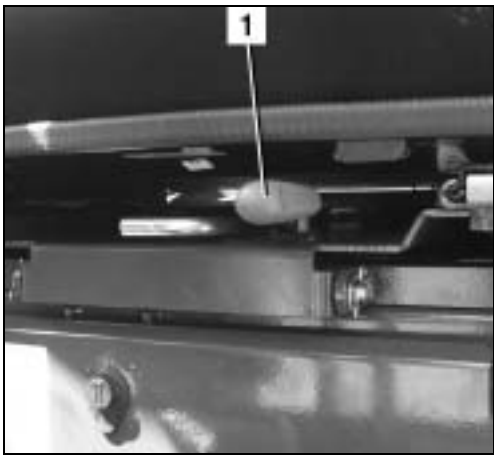
- The seat height is adjusted with the rotary knob (figure above, position 2). The seat height depends on the set number (0, I, II, III), position 0 being the lowest position. Adjust the seat height in relation to its horizontal position so that the foot controls can be operated safely.

Backrest adjustment

- Take the load off the backrest and pull up the backrest adjustment lever (figure above, position 1). Set the backrest to the desired sitting position and release the lever. The backrest should be adjusted so that the operator can safely operate the control levers with the back resting completely on the backrest.

Horizontal seat adjustment (seat stand-off) - U35-3α2

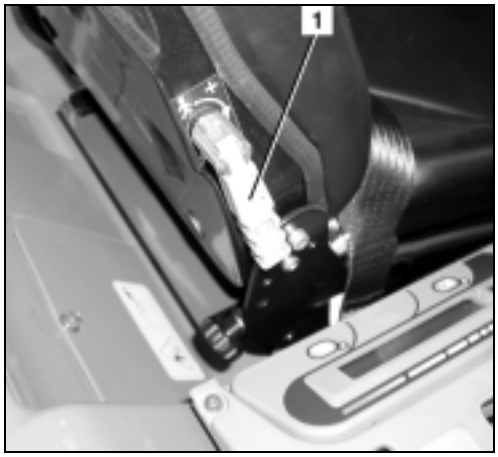
Pull the horizontal seat adjustment lever (1) sideways and move the seat to the desired position by moving it forward or back, then release the lever.



Check that the seat is locked into place.

Spring adjustment (driver's weight) - U35-3α2

The seat can be set to the weight of the driver with the spring adjustment grip (1). Turning the spring adjustment grip towards "+" increases spring tension (heavier operator), turning the grip towards "-" reduces spring tension (lighter operator). Adjust the seat so that a comfortable cushioning is achieved.



Backrest adjustment - U35-3α2

By turning the spring adjustment grip (1) you can adjust the desired position of the backrest. The backrest should be adjusted so that the operator can safely operate the control levers with the back resting completely on the backrest.

Tilting the driver's seat - U35-3α2

Pull lever (1) up and tilt the seat forward. When swinging the seat backwards, make sure the seat snaps in.

Seat belt

- Fasten the seat belt.
- Adjust the length of the seat belt by lengthening or shortening the belt so that the belt fits comfortably.

Do not operate the excavator without the seat belt fastened.

Exterior mirror adjustment

- Check the adjustment of the exterior mirrors. If necessary, adjust the mirrors until the optimum sight is ensured.

Safety instructions for starting the engine

The excavator is equipped with an anti-theft system (page 93).

When starting the excavator for the first time on a work day, carry out the pre-operational services (page 52).

Make sure that there are no persons within the excavator's working area. It is essential to warn persons in the vicinity of the excavator by briefly blowing the horn.

Make sure that all operational controls are in neutral position.

Starting the excavator is only allowed when the operator is sitting on the driver's seat.

Before starting the engine, make the necessary operator station adjustments (page 57).

If the engine does not start immediately, cease the starting procedure. Wait a short time before reattempting a start. If the engine does not start after several attempts, contact skilled personnel. If the batteries are discharged, jump-start the excavator (page 86).

Do not use a starting pilot or similar substances as a starting aid.

Starting the engine

- Move the potentiometer (1) towards . The AUTO IDLE switch (2) is switched off. The indicator does not light up.

The excavator is equipped with an anti-theft system. If someone tries to start the excavator with the wrong key, the following message will be displayed:

If the bunch of keys contains metal parts, such as key rings or other keys, the engine might fail to start.

If the control lever lock is not raised, the following message will be displayed:

- Insert the key switch (1) into the starter switch and turn it to the RUN position.

The glow indicator (display below, position 3) comes on briefly. The engine can be started after it goes off.

The engine oil pressure indicator (display below, position 1) lights up and goes off after the engine has started.

The charge lamp (display below, position 2) lights up and goes off after the engine has started.

If Fuel is shown in the display, there are only 7 litres of fuel left in the fuel tank. Refuel the excavator (page 88).

- Turn the starter switch to the START position and hold it there until the engine has started. Release the starter switch.

- Lower the left control console and make sure that the control lever lock engages.

For canopy models: Lower the right control console and make sure that the control lever lock engages.

Run the engine briefly at idling speed.

Operate the engine at low speed until operating temperature is reached.

Set the engine speed required for operation:

- Move the potentiometer towards until the engine reaches the required speed. The AUTO IDLE control makes sure that the pre-selected engine speed drops down to idle speed after approx. 4 seconds - provided that no control lever is being used.

- When the hydraulic oil is cold (i.e. in cold-weather conditions) the AUTO IDLE control may experience problems during the warm-up phase. This does not constitute a defect.

Check the displays and indicators during operation (page 63).

Stopping the engine

If the engine is to be stopped to take the excavator out of operation, the services for placing the excavator out of operation (page 79) must be carried out.

- Turn the starter switch to the STOP position and remove the key switch.

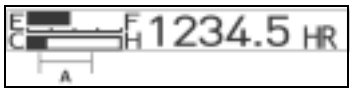
Observation of the displays after starting and during operation

The operator must observe the indicators and displays after starting and during operation.

If the Engine oil message appears during operation, stop the engine immediately and contact skilled personnel.

If the Charge message appears during operation, stop the engine immediately. Check if the V-belt is very loose or broken; if necessary, contact skilled personnel.

Watch the coolant temperature gauge, the bar should be inside the A range.



If the bar rises towards the H during excavator operation, stop the engine immediately and check the coolant level in the expansion reservoir. Do not open the radiator cap → risk of scalding. If the water level is below the LOW mark, allow the engine to cool completely and add coolant (page 104).

Check the cooling system for leaks; if necessary, contact skilled personnel.

Check if the V-belt is very loose or broken; if necessary, contact skilled personnel.

Check if the air intake in the right side panel, the radiator and the oil cooler are very dirty. If necessary, clean the radiator (page 105).

The same applies if the warning light flashes red and the following message displays:

Watch the fuel gauge. If the bar is near to the E mark, refuel the excavator (page 88). The same applies if the warning light (7 litres of fuel remaining) flashes yellow and the following message displays:

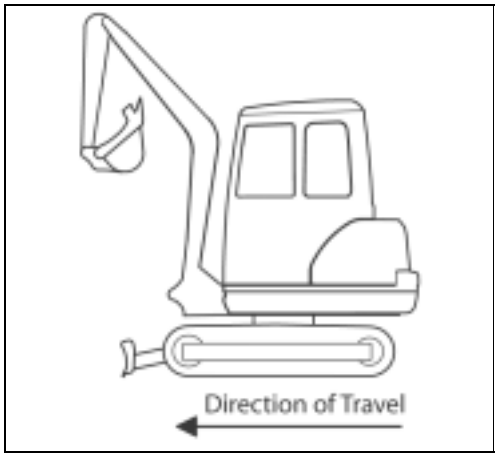
Also stop the engine immediately if

- the engine speed rises or drops suddenly,
- abnormal noises are heard,
- the excavating devices do not respond to the control lever as expected or
- the exhaust fumes are black or white. When the engine is still cold, white smoke for a short time is normal.

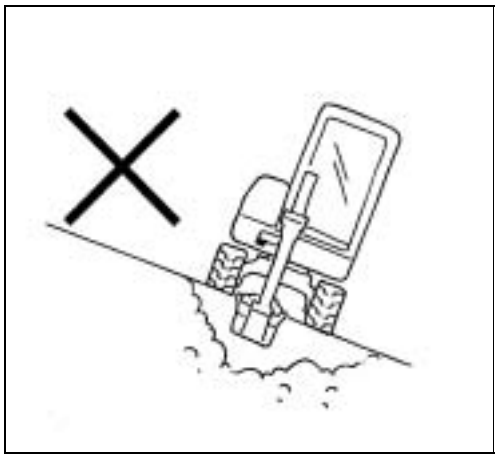
Driving the excavator

- Adhere to the general safety rules (page 13) and the safety rules for operation (page 49).
- Carry out pre-operational services (page 52).
- Start the engine (page 61).
- Check the displays and indicators (page 63).

Ensure that the boom and the dozer are in the direction of travel as shown in the figure.



When driving with the excavator, always observe the following safety instructions.

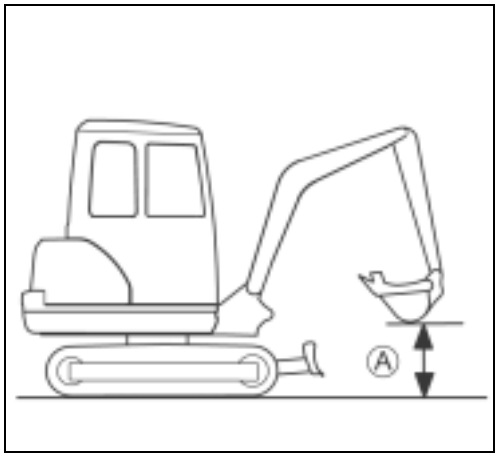


When working on slopes, observe the tilt of the excavator (see figure).

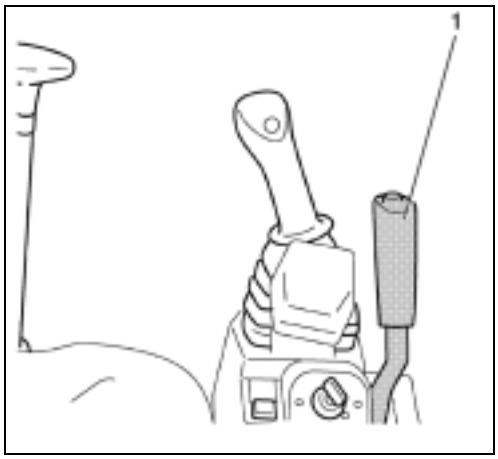
Maximum side tilt → 27% or 15°

Maximum longitudinal tilt → 36% or 20°

- Keep the bucket as low as possible when driving.
- Check the ground for soundness, and verify if there are holes or other potential obstacles.
- Approach overhangs and edges of ditches carefully as they could cave in.
- Drive slowly downhill, do not allow the vehicle speed to increase uncontrollably.
- Close the cab door.
- When driving, the bucket should be approx. 200 to 400 mm (A) over the ground (see figure).



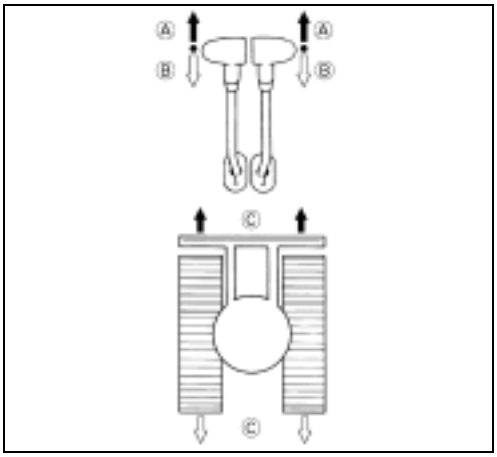
- Raise the dozer to the top position by pulling the dozer control lever (1) back.
- Select an appropriate engine speed.



Driving

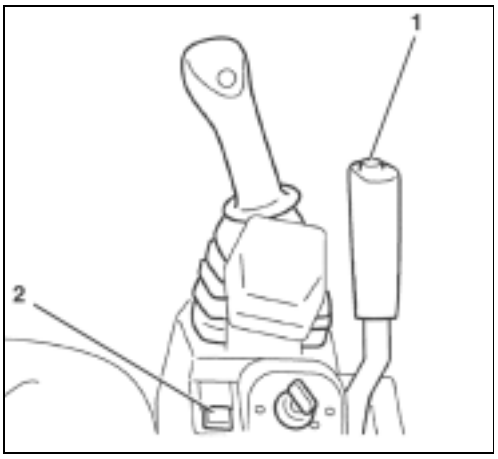
- Push both drive levers simultaneously forward to drive the excavator straight. Releasing the drive levers stops the excavator immediately.
  To reverse the excavator, pull both control levers back simultaneously.

(A) Forward
(B) Reverse
(C) Straight



If the dozer is not at the front, as shown in the figure, but at the rear, the operation of the drive levers is exactly opposite. Drive levers forward → the excavator drives backwards.

- To drive faster, press the travel speed button (1).
- An audible signal sounds and the indicator (2) comes up. Pressing the travel speed button again switches back to normal speed.



Do not drive fast on muddy or uneven terrain, also if another control is operated (e.g. turning the swivel frame).

Turning

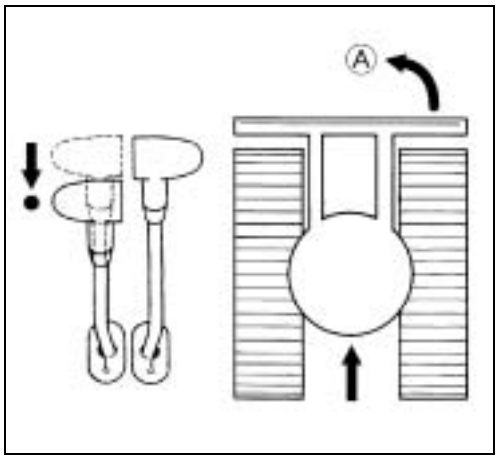
Turns are described for the forward direction of travel with the dozer at the front. If the dozer is positioned at the rear, the steering movements should be in the opposite direction.

When making turns, be sure nobody is standing within the swing area of the excavator.

During driving

- Pull the left drive lever to neutral, leave the right drive lever pushed forward.

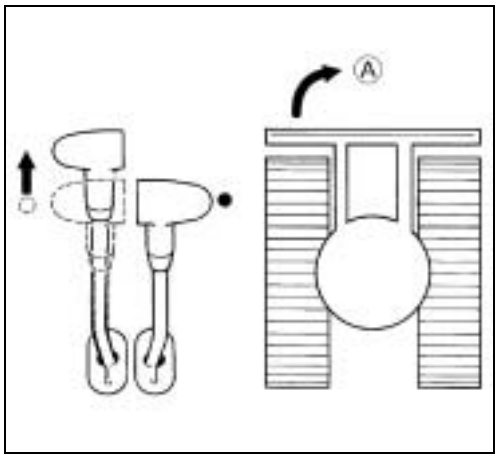
(A) The excavator makes a left turn.



From a standing position

- Leave the right drive lever in neutral, push the left drive lever forward. In this case, the turning radius is determined by the right track.

(A) The excavator makes a right turn.

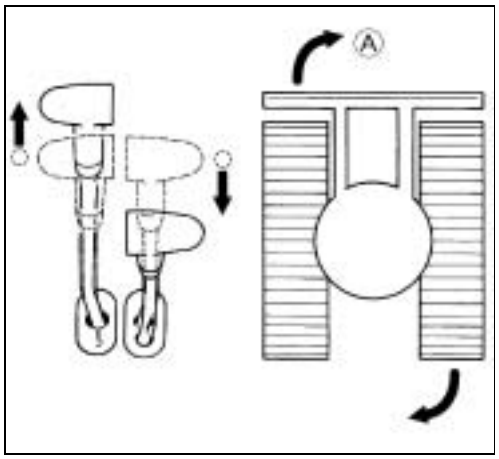


Turning on the spot

Do not make a turn on the spot with the travel speed button actuated.

- Move the drive levers in opposite directions. The tracks will turn in opposite directions. The centre of the vehicle is the turning axis.

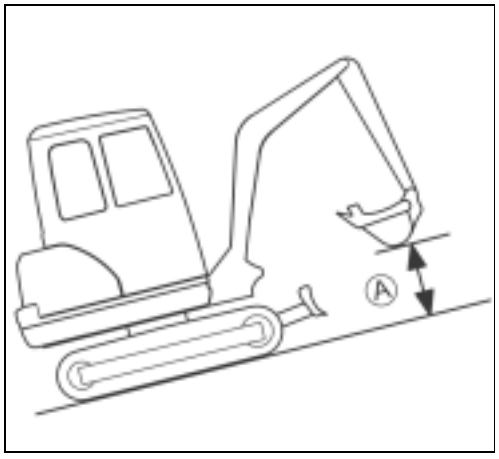
(A) Turning on the spot to the right.



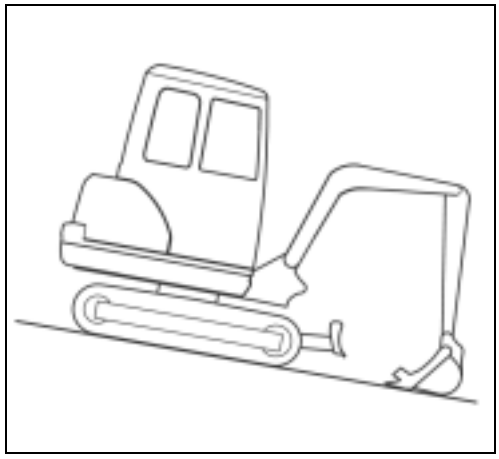
Driving uphill and downhill

Exercise extreme caution when driving up and down a slope. Do not use the travel speed button.

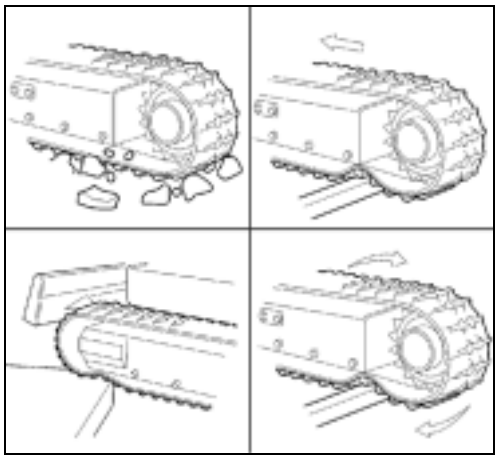
- When driving on gradients, raise the bucket approx. 200 to 400 mm (A) above the ground (see figure).



- When driving on gradients, let the bucket slide over the ground if the terrain allows it.



Hints for rubber crawler operation



- Driving or turning on sharp objects or over steps causes excessive wear on the rubber crawlers and will lead to breaking of the rubber crawler or cause the crawler running surface and the steel inserts to be cut.
- Make sure that no foreign objects get stuck in the rubber crawler. Foreign objects lead to excessive crawler wear and can cause it to break.
- Keep oil products away from the rubber crawlers.
- Remove any fuel or hydraulic oil spilled on the rubber crawlers.

Making sharp turns

- On streets with a high-friction tarmac, e.g. concrete, do not make sharp turns.

Protecting the crawler against salt

- Do not work with the machine on the seashore. (The salt will cause the steel insert to corrode.)

Operating the controls during excavation work

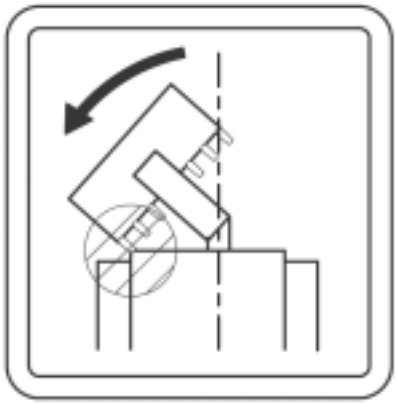
Always observe the following safety instructions when working with the excavator.

- Never crush concrete or boulders using side boom swings with the bucket.
- Do not use the dropping action of the bucket for excavation.
- Never fully extend the cylinders. Always keep a certain safety margin, especially when operating with a hydraulic hammer (accessory).
- Never use the bucket as a hammer to drive posts into the ground.
- Do not drive or dig with the bucket teeth rammed into the ground.
- When loading earth, do not dig the bucket deeply into the ground. Instead, make relatively shallow slices with the bucket out as far as possible. This technique reduces the stress on the bucket.
- When working in water, the water should only reach up the lower edge of the swivel frame.
- After using the machine in water, always grease the pins at the bucket and arm with grease until the old lubricating grease emerges.

- When digging towards the rear, make sure that the boom cylinder does not come into contact with the dozer.
- Never use the excavator as a crane, unless it is equipped with craning equipment (accessory).
- Adhering soil can be shaken off when the bucket is being emptied by moving the cylinder to the end of the stroke. Should this not suffice, swing out the arm as far as possible and operate the bucket back and forth.
- When excavating, always lower the dozer completely onto the ground.

Notes for using wider and deeper buckets

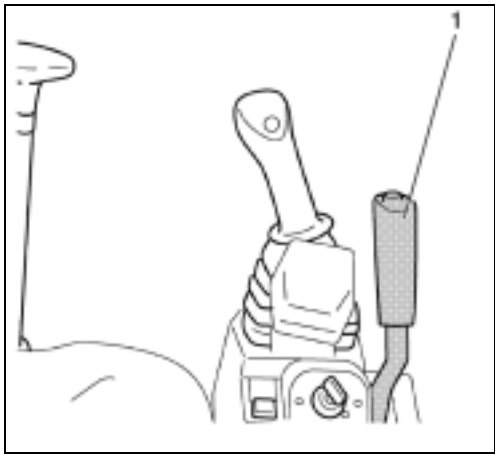
When using a wider or deeper bucket take good care when swinging or pulling in the front attachments to make sure that the bucket does not hit the cabin or the canopy.



Operating the dozer

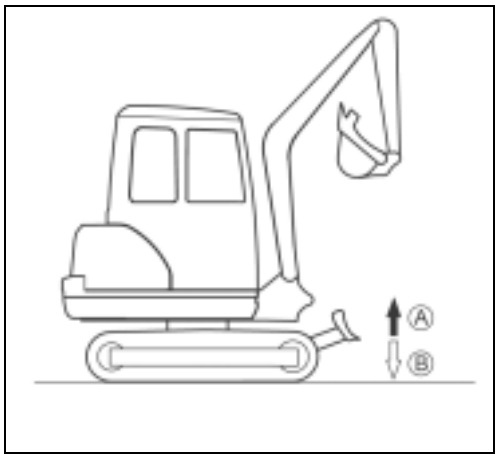
When working with the dozer, operate both drive levers with the left hand and the dozer control lever with the right hand.

- To lift the dozer, pull the dozer control lever (1) back.
- To lower the dozer, push the dozer control lever (1) forward.



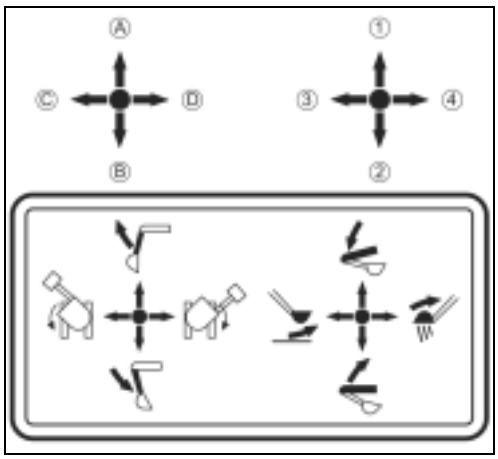
(A) Dozer up.

(B) Dozer down.



Overview of control lever functions

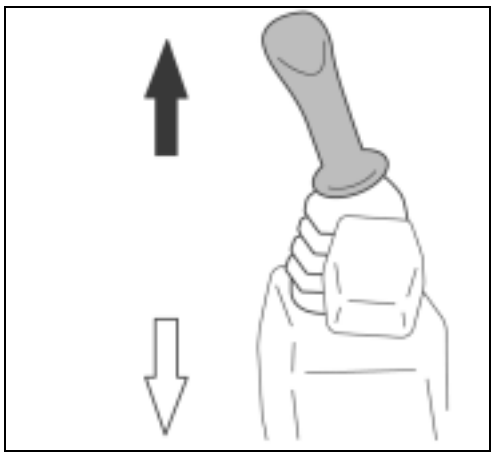
The figure shows, in connection with the following table, the functions of the left and right control levers.



Control lever		Movement
Right control lever	1	Lower boom
	2	Raise boom
	3	Bucket crowd
	4	Bucket dump
Left control lever	A	Arm out
	B	Arm in
	C	Swivel frame to the left
	D	Swivel frame to the right

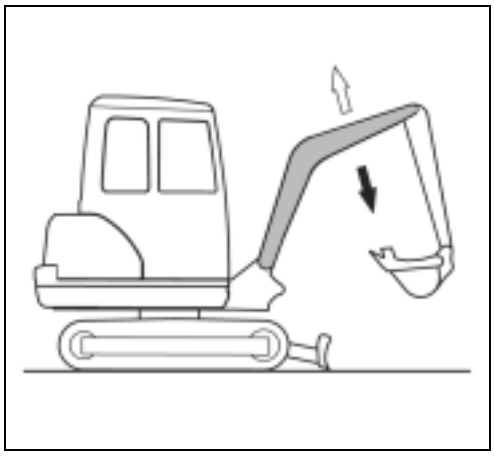
Operating the boom

- To raise the boom, pull the right control lever (☝) back.



The hydraulic cylinder of the boom is equipped with a cushioning function, which prevents the excavated material in the bucket from falling out. When the hydraulic system operating temperature is low, the cushioning is delayed for approx. 3 to 5 s. This delay is due to the viscosity of the hydraulic oil and is not a malfunction.

- To lower the boom, push the right control lever forward (↑).

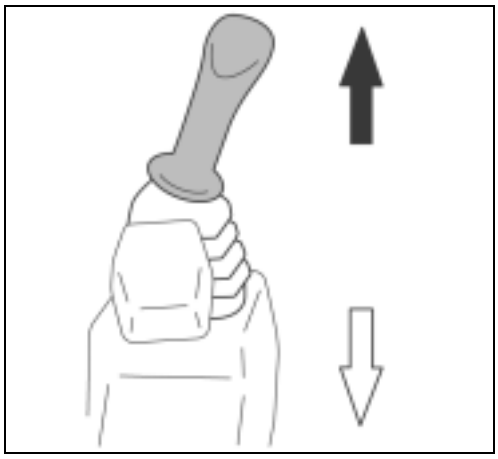


Watch the boom during lowering, so that the boom or the bucket teeth do not hit the dozer.

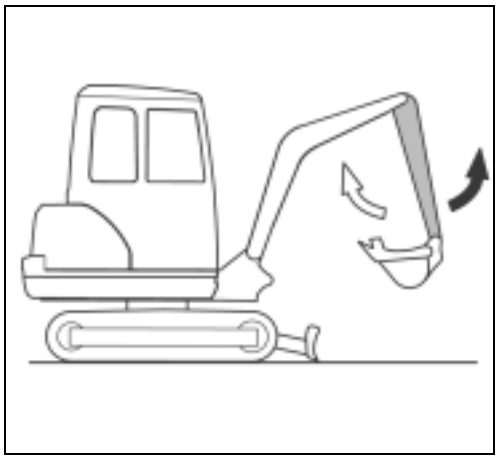
The boom moves as shown in the figure.

Operating the arm

- To move the arm out, push the left control lever forward (figure/↑).
- To move the arm in, pull the left control lever back (figure/↓).

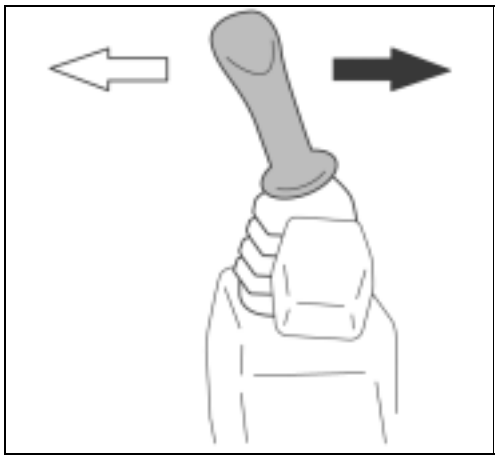


The arm moves as shown in the figure.



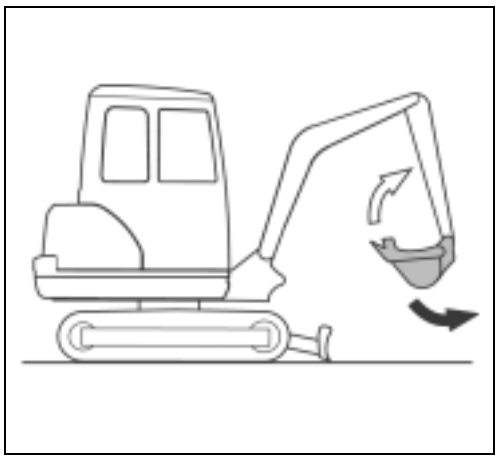
Operating the bucket

- To pull in (digging) the bucket, move the right control lever to the left (figure/).
- To dump (empty) the bucket, move the right control lever to the right (figure/).



When pulling the bucket in, take care that the teeth do not hit the dozer.

The bucket moves as shown in the figure.

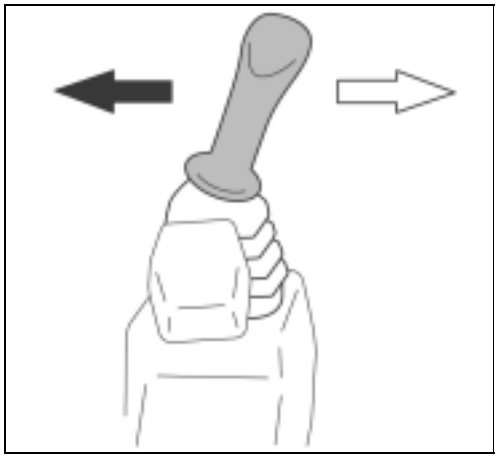


Swivelling the swivel frame

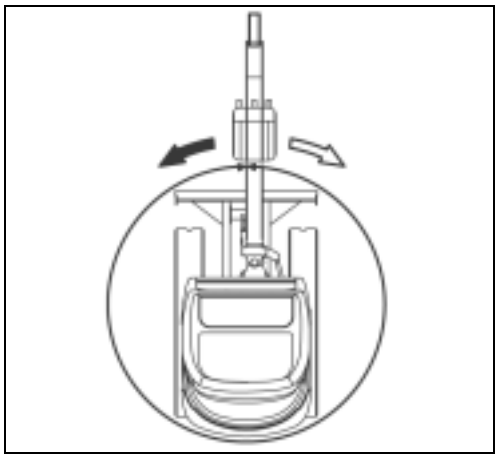
No person is allowed to stand in the swivel area during the movement.

Swivel carefully to avoid any contact of the front attachments with adjacent objects.

- To turn anticlockwise, move the left control lever to the left (figure/).
- To turn clockwise, move the left control lever to the right (figure/).



- The turning operation takes place as shown in the figure.

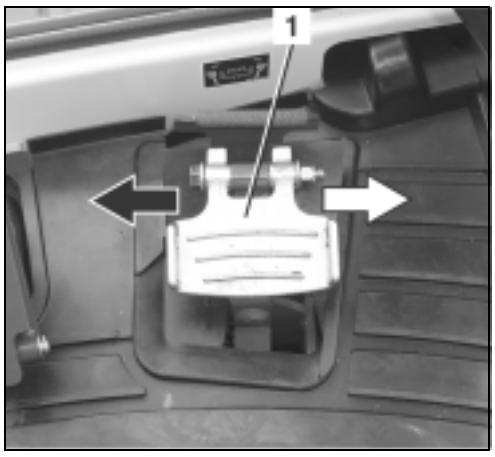


Swinging the boom

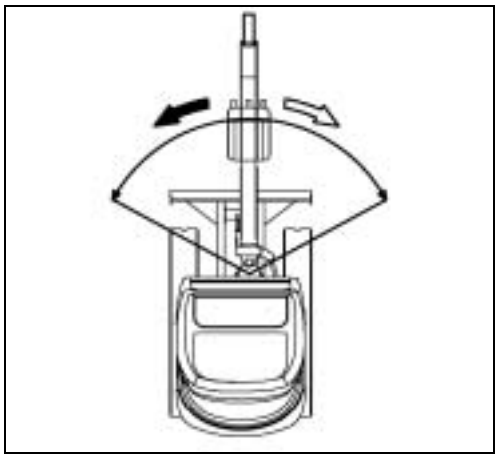
No person is allowed to stand in the swing area during the movement.

Swing carefully to avoid any contact of the front attachments with adjacent objects.

- To swing the boom counter-clockwise, press the boom swing pedal on the left-hand side (figure position).
- To swing the boom clockwise, press the boom swing pedal on the right-hand side (figure position).



The figure details the swing movement.



The boom swing control pedal can be secured against inadvertent operation by lowering the locking flap. Fold the locking flap when the boom swing pedal is not in use.

Operating the service port

Implements are operated using the service port.

Only implements approved by KUBOTA may be used. The implements must be operated in accordance with the operating instructions supplied with them.

For service port specifications, see the "Specifications" section (page 33).

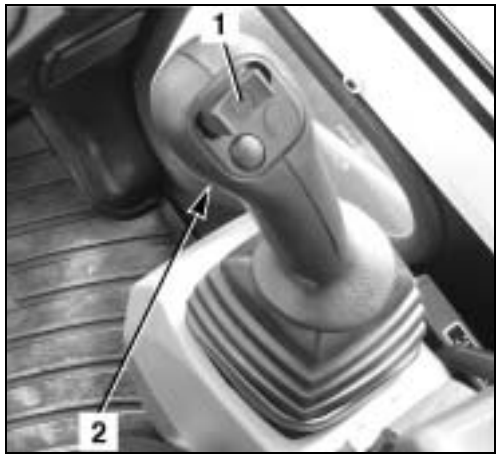
The service port may only be activated when an implement is attached.

If the service port has not been in use over a long period of time, dirt may have accumulated on the pipe connections. Before installing the implement, drain approx. 0.1 L of hydraulic oil at each port.

Catch the drained hydraulic oil in a container and discard it in accordance with the valid environmental regulations.

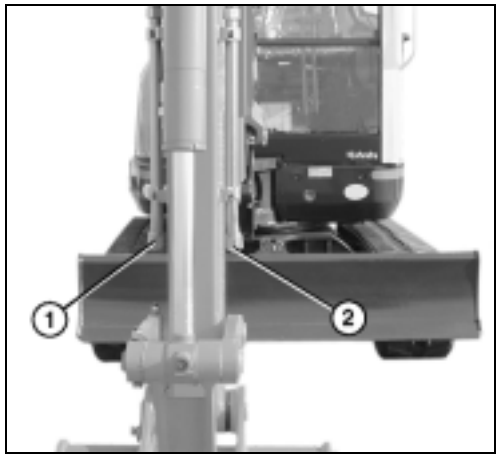
- Press the service port switch (1).

- Moving the rocker switch (1) to the right sends oil to the right connector (figure below, position 1).
- Moving the rocker switch (1) to the left sends oil to the left connector (figure below, position 2).
- Use the hammer switch (2) to switch hydraulic hammers on and off. Operating the switch results in a continuous oil flow to the service port connector (figure below, position 1) to the left of the arm. When you operate it again, the oil flow discontinues. Thus, you can operate the hydraulic hammer without continuously holding down the switch.



(1) Connector for the right part of the rocker switch

(2) Connector for the left part of the rocker switch

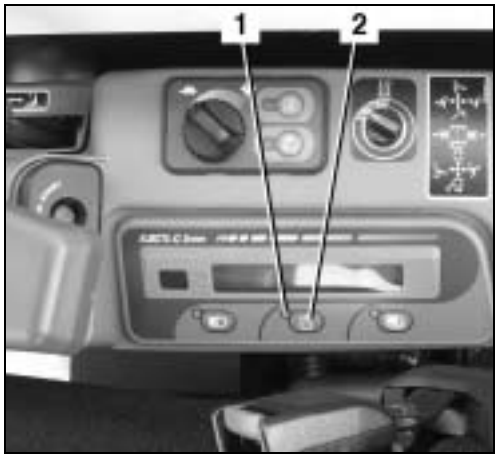


Flow rate setting

The flow rate for the service port can be adjusted. The setting is performed in two steps. Using the service port switch (2) you can preset four stages. In the second step, you can fine-tune a limited flow rate in 15 stages with high precision.

The set preference is shown in the service port indicator (1).

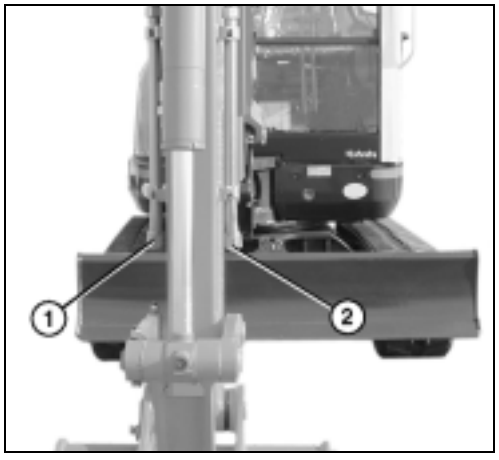
When switching the starter switch to the STOP position the flow rate settings will be stored. This makes sure that upon the next start-up the service port is switched to the last operating mode.



Preference

	Service port indicator		Flow rate
1	• ----------	Does not light up	Service port disabled
2	☼ ----------	Lights up	Maximum
3	☼ -- ☼ ----------	Slowly flashing	Limited (fine-tuning)
4	☼ --- ☼ -- ☼ -- ☼	Rapidly flashing	Oil flow to the left connector only

To set, press the service port switch (figure above, position 2). The actual preference depends on the number of times the switch is pressed. This preference sets an equal flow rate for the service port connectors (1) and (2). Different flow rates for the connectors (1) and (2) can only be preset using the fine-tuning for the limited flow rate. Once the limited flow rate has been set, enable fine-tuning by switching the starter switch to the STOP position.



Fine-tuning the limited oil flow

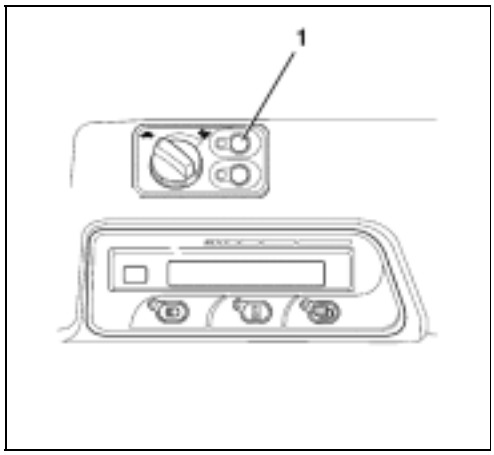
The fine-tuning comes in 15 stages (0 to 14). The flow rate is set using different steps. "14" represents the maximum flow rate and "0" the minimum flow rate.
This setting can be preset differently for the connectors at the arm (1) and (2) (figure above).

Setting

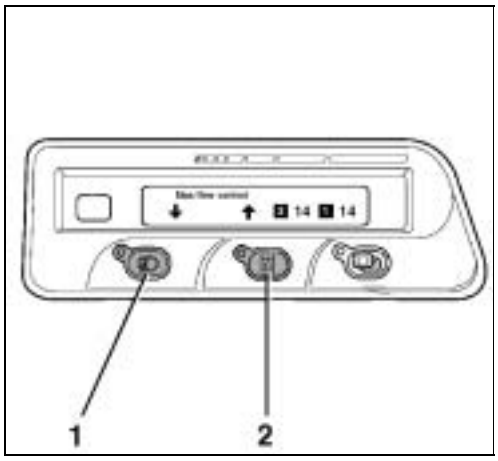
The preference for a limited oil flow has been set. The starter switch is now reset to the STOP position.

It is recommended to set this preference during operation of the implement.

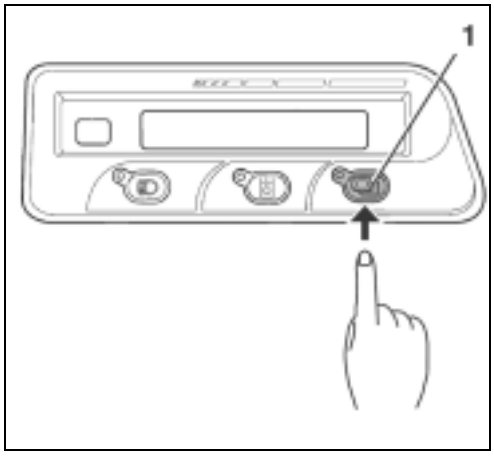
- Press and hold down the flow rate switch (1) and start the engine. The following message is displayed with the digit "1" flashing in the display.

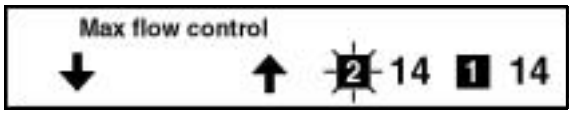


- To adjust the right connector at the arm, either press the working light button (1) or the service port switch (2). The display toggles between "0" and "14", depending on the switch pressed. Set the required value.
- Upon pressing the working light button (1) the flow rate decreases.
- Upon pressing the service port button (2) the flow rate increases.

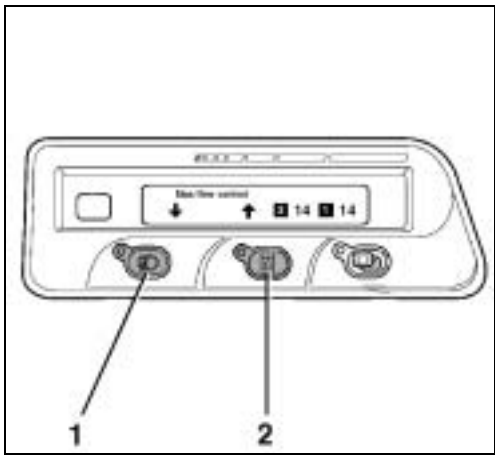


- Press the display selector switch (1) to get the setting for the left connector. The following message is displayed with the digit "2" flashing in the display.





- To adjust the left connector at the arm, either press die working light button (1) or the service port switch (2). The display toggles between "0" and "14", depending on the switch pressed. Set the required value.
- Upon pressing the working light button (1) the flow rate decreases.
- Upon pressing the service port button (2) the flow rate increases.

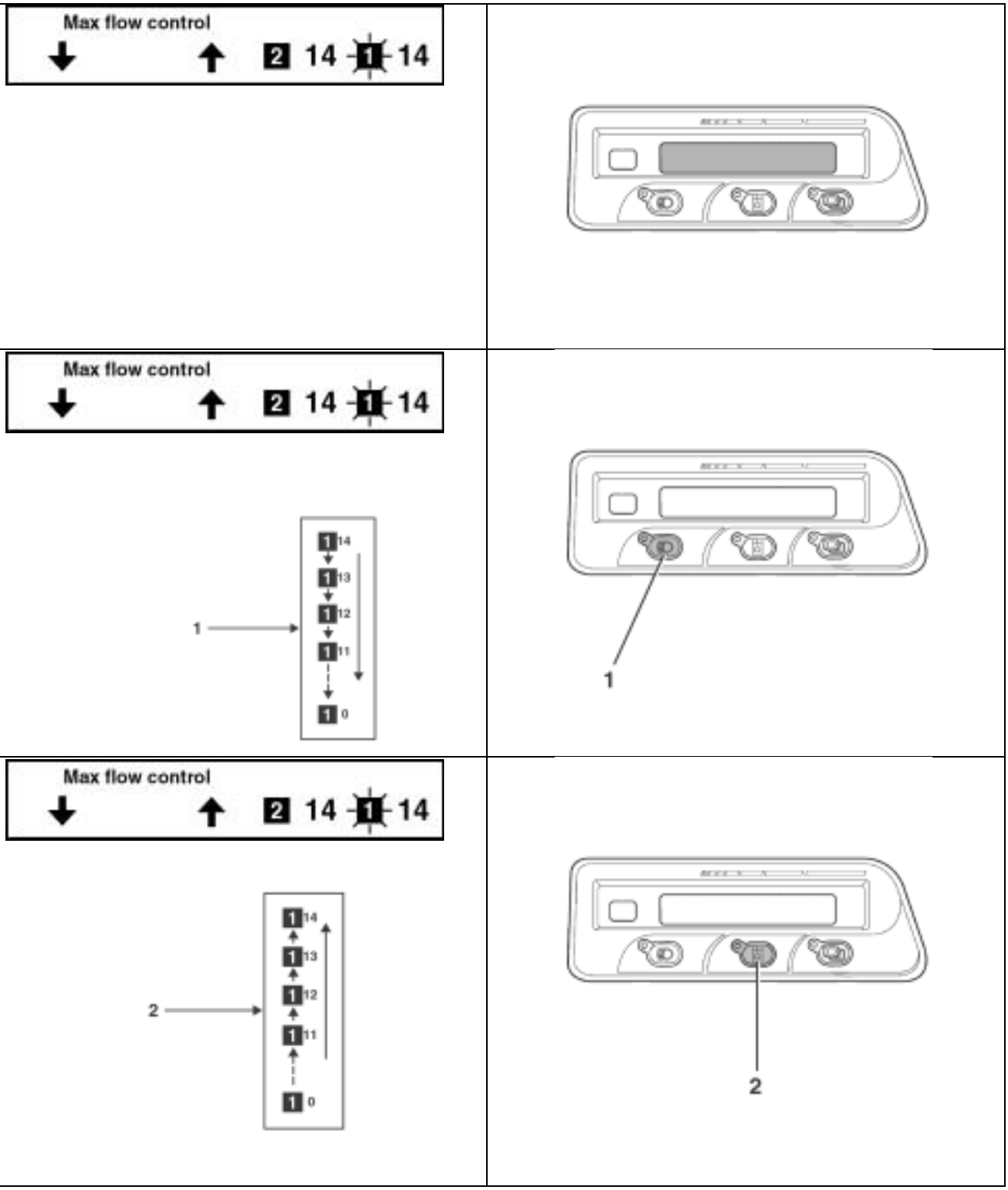


To change the setting of the right connector one more time, press the display selector switch again.

- Turn the starter switch (1) to the STOP position.

When switching the starter switch to the STOP position the flow rate settings will be stored. This makes sure that upon the next start-up the limited oil flow is switched to the last operating mode.

The figure below shows the possible preferences you can preset using the working light button and the service port switch.



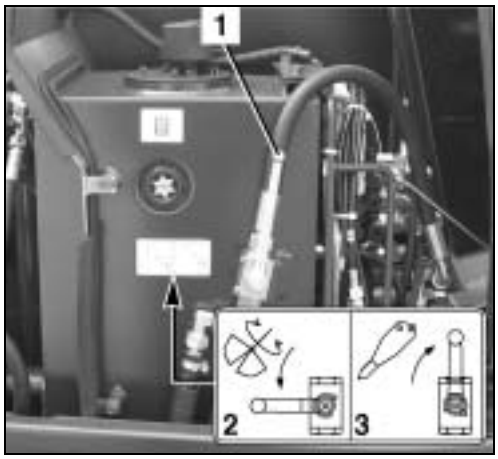
1. Preferences preset with the working light button
2. Preferences preset with the service port switch

Return change valve

The change valve has two settings.

When the "direct return flow" (3) is enabled, the return flow is directed from the implement to the hydraulic oil tank. The return flow is directed via the right service port connector at the arm only.

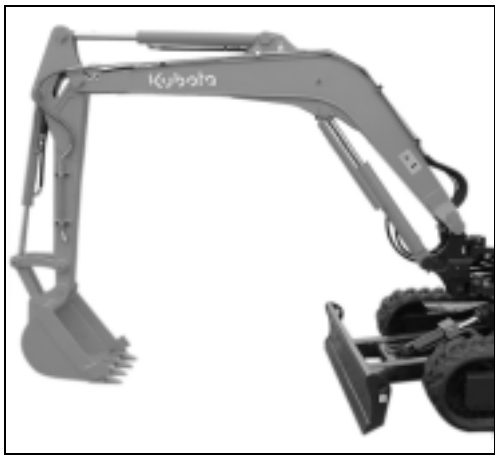
When the "indirect return flow" (2) is enabled, the return flow is directed from the implement to the hydraulic oil tank via the control valve. In that case, the return flow may use the left or right connector of the arm (depending on the service port pedal position).



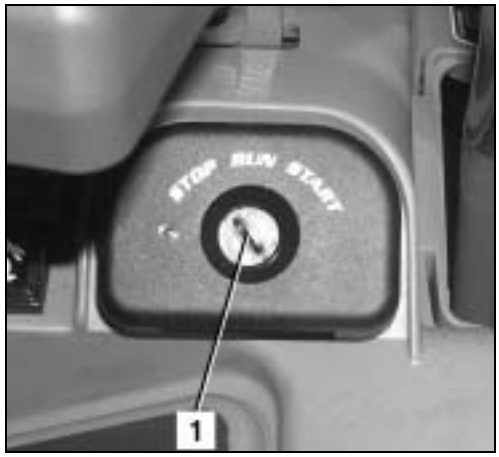
Move the ball valve (1) to the required position as shown on the sticker (see figure), depending on the action of the implement being used (rotary or hammering).

Placing out of operation

Park the excavator in such a way that it can not roll and is secured against unauthorised use.



- Drive the excavator on level ground. Non-cab models should be parked under a roof.
- Operate the bucket, arm and boom swing mechanism so that all hydraulic cylinders are extended half way.
- Lower the dozer onto the ground.



- Reduce the engine speed to idle speed and switch off the AUTO IDLE control using the AUTO IDLE switch. The indicator does not light up.
- Turn the starter switch (1) to the STOP position, remove the key switch. The key switch must remain with the operator.
- Unbuckle the seat belt and raise the left control console.

- Check the excavator for external damage and for leaks. Any defects must be repaired before the next start.
- In case of a heavy accumulation of dirt in the area of the tracks and the hinges at the front attachments, clean the excavator (page 104).
- Refuel the excavator, if necessary (page 88).

Cab version only

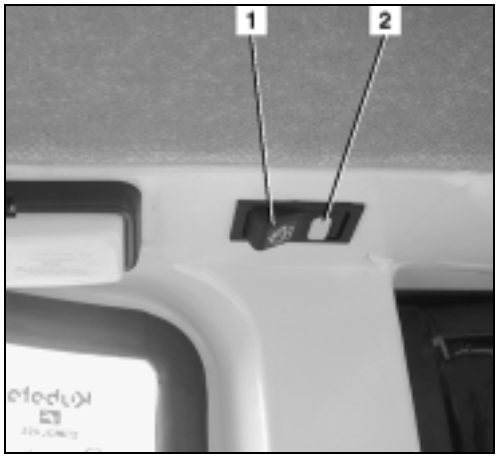
- Open the cab door by pulling up release lever (1). If the cab door is not closed immediately afterwards, lock the door in the cab wall.
- Close and lock the cab door. The key must remain with the operator.

Operating the wiper/washer system

All cabin models are equipped with a wiper/washer system.

Switching on the windscreen wiper

- The starter switch is in the RUN position.
- Depress the wiper switch (1). The window wiper operates as long as the switch remains in this position. To turn the wiper off, press the switch in the opposite direction.



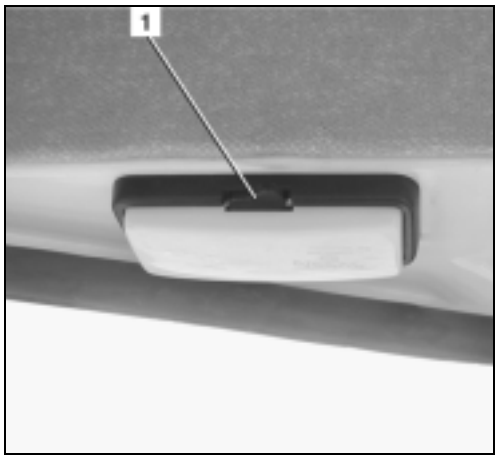
In extremely cold weather conditions, make sure the wiper rubber does not stick to the window. This may damage the wiper rubber or the wiper motor.

Switching on the washer system

- The washer system is switched on, move the latch (figure above, position 2) at the switch, then press and hold down the switch at the second position. The washer system operates as long as the switch remains depressed. When the switch is released, it returns automatically to the "wiper" position.

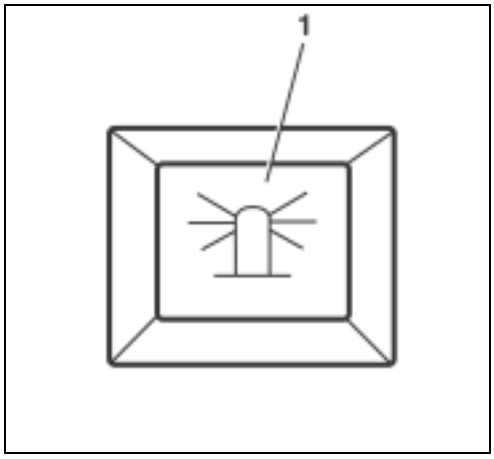
Operating the room light (cab version)

- The starter switch is in the RUN position.
- To turn the light on, depress the toggle switch (1). To turn it off, press the switch in the opposite direction.



Operating the rotary beacon

- The starter switch is in the RUN position.
- Press the rotary beacon button (1). Press the button again to switch the beacon off.

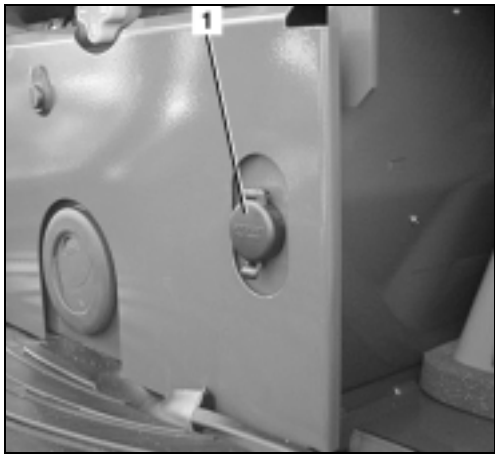


For canopy models, the rotary beacon is available as an accessory.

Charging plug

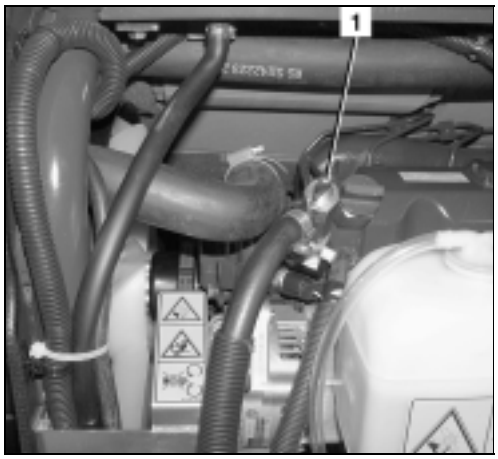
- Open the cover cap (1) and put the load into the charging plug.

The rated current of the plugged load must not exceed 15 A.



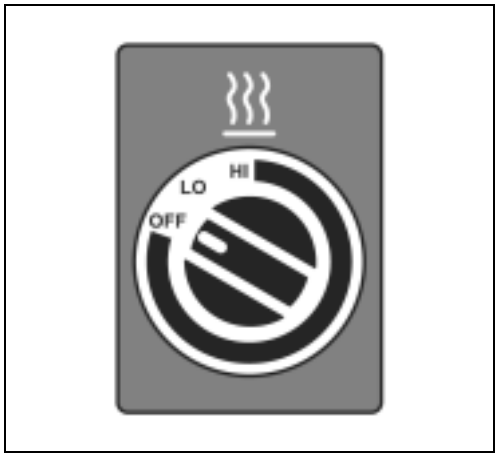
Operating the heater (cab version)

Open the heater valve (1) by turning it anticlockwise.

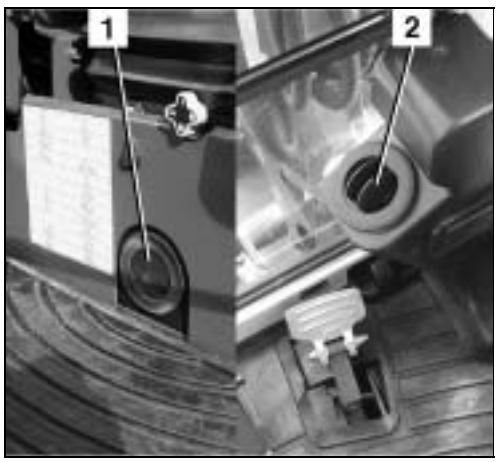


In summer, the heater valve should always be kept closed.

- The starter switch is in the RUN position.
- Turn the blower switch to the LO or HI position.



- When the engine is at operating temperature, the heater air flows out at the air outlets under the driver's seat (1) and at the front window (2). The direction of the air flow can be adjusted.



In order to avoid a heat backup and therefore damage to the ventilation system, do not cover the outlets with objects (e.g. bags or clothing) when the heater is in operation.

Opening and closing the cab door

For cab versions, read the following instructions for opening and closing the cab door.

Opening the cab door from outside

Unlock the cab door at the door lock (1).

Open the cab door by pulling at the door handle (2) and lock the door by attaching the hook (3) at the fixture on the cab wall.

Closing the cab door

- Press down the release lever (1) and pull the cab door into the lock.

Opening the cab door from inside

- Pull up the release lever (1) and open the door. If the cab door is not closed immediately afterwards, lock the door in the cab wall.

Opening and closing the windows

For cab versions, read the following instructions for opening and closing the front and side windows.

Front window

Always lock the front window. Do not stay in the cab and operate the excavator with the front window unlocked. When opening the window, always keep both hands on the lock bars to prevent injury by pinching or crushing.

The front window can be opened and closed from the driver's seat.

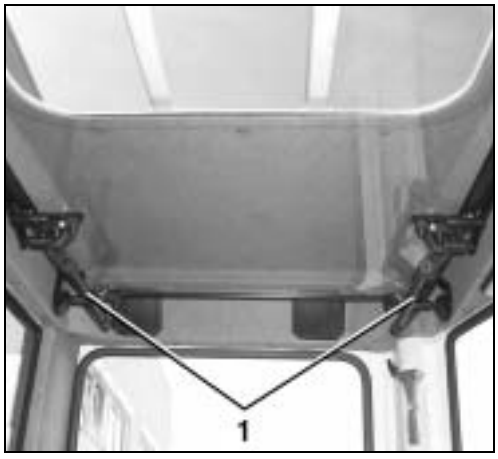
Opening

- Press the right and left levers (figure above, position 1) inwards simultaneously and push the front window upward in the guide rails as far as the stopper. Lock the front window at the stopper by releasing the levers. Check that the front window is locked.

Do not release the levers pushing the front window up as the front window could suddenly rise in an uncontrolled way and strike the operator's head. Please follow the safety instructions on the side window.

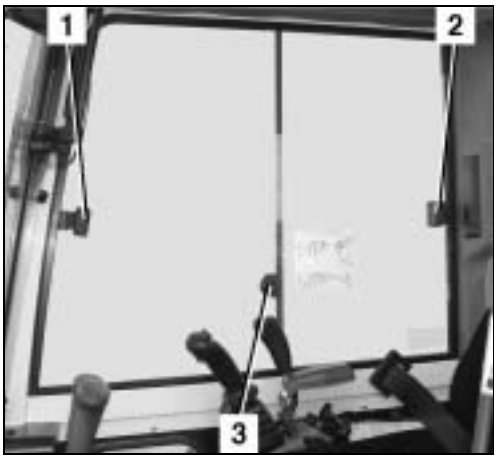
Closing

- Press the right and left levers (1) inwards simultaneously and push the front window forward in the guide rails as far as the stopper. Lock the front window at the stopper by releasing the levers. Check that the front window is locked.



Side window

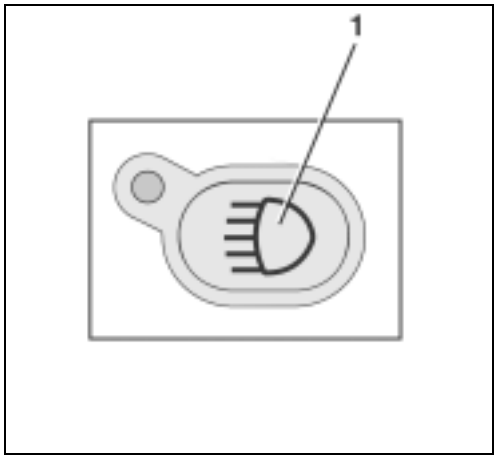
- Pull the grip (1 or 2) to release the lock and slide the side window forwards or backwards.
- To close the side window, slide it forward or backward until the lock engages at the window frame.



The side window can be fixed to any position using the locking screw (3).

Operating the working lights

- The starter switch is in the RUN position.
- Press the working light button (1). Both the working lights and the instrument lighting are turned on.
- Press the button again to switch off.



Cold weather operation

Operating the excavator at an ambient temperature below -5°C is regarded as cold weather operation.

Necessary preparations prior to the winter season

- If necessary, replace the engine oil and hydraulic oil with those of the specified viscosities.
- Only use regular diesel fuel with winter additives. Do not mix petrol and diesel fuel.
- Check the battery's state of charge. In case of extremely low temperatures, it may be necessary to remove the battery after work and store it in a heated room.
- Check the antifreeze strength in the cooling system (page 104). If necessary, add antifreeze until the protection ranges from -25 °C to -40 °C.
- Apply talcum powder or silicone oil to all rubber seals at the windows, the cab door and the side window guide rails.
- Lubricate all locks, except the starter switch, with graphite lubricant.

- Grease the driver's door hinges with a grease gun.
- Fill the washer system with a antifreeze window cleaner (page 88).

Operation during the winter season

- The excavator must be cleaned after work is finished (page 104). Special attention must be paid to the crawlers, the front attachments and the piston rods of the hydraulic cylinders. If the excavator is cleaned with a water jet, it must then be parked in a dry, frost-free and well-ventilated enclosed space.
- If necessary, park the excavator on boards or mats in order to prevent freezing to the ground.
- Before starting, check if the piston rods of the hydraulic cylinders are free of ice to avoid damage. Also check if the crawlers are frozen to the ground. If so, do not take the excavator into operation.

Be careful when mounting and dismounting, the crawler could be slippery.

- Do not put a load on the excavator immediately after starting. Before you start working with the front attachments, warm up the excavator until the operating temperature is reached. Do not warm up the excavator at standing position.

Jump-starting the excavator

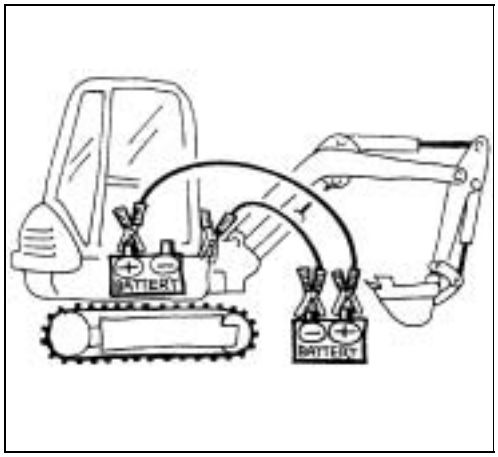
Only a vehicle or starting device with a 12V power supply may be used.

The operator must remain seated on the driver's place, the battery jumper cables must be connected by a second person.

- Make the battery accessible, and remove the positive terminal cover.
- Position the other vehicle or starting machine beside the excavator.

Only use cables with an appropriate cross section as jumper cables.

- Connect the positive terminal of the excavator battery with the positive terminal of the helping vehicle (see figure).
- Connect the negative terminal of the helping vehicle to the frame of the excavator. Do not use the negative terminal of the excavator battery. The connecting point on the frame must be blank and clean.



- Start the helping vehicle and let it run at a higher idle speed.
- Start the excavator and let it run. Check if the charge lamp turns off after starting.

- Disconnect the jumper cable at the frame of the excavator first, and then at the negative terminal of the helping vehicle.
- Disconnect the second jumper cable from the positive terminal of the excavator battery first, and then from the positive terminal of the helping vehicle.
- Refit the positive terminal cover on the excavator battery and install the cover and rubber mat.
- If the jumper cables will be required for the next start of the excavator, check the battery and the alternator's charging circuit, contact skilled personnel, if necessary.

Emergency stop functions

In an emergency, you can switch off the engine and lower the boom manually.

Manual engine stop

If the engine cannot be stopped with the key, it can be stopped manually.

- To stop the engine, push the lever (1) upwards.

The excavator may only be taken back into operation after the malfunction has been eliminated.

Manual lowering of the boom

The boom and arm can be lowered in case of an engine failure or if malfunctions occur in the hydraulic system.

- The starter switch is in the RUN position.
- If necessary, lower the boom and the arm with the control lever as described in the "Operating the controls during excavation work" section (page 68).

Make sure nobody is standing in the lowering area before starting the emergency lowering procedure.

The lowering function is available only for a short time, as it is controlled by the accumulator in the hydraulic system. The cylinders extend or retract by force of gravity.

Filling up the washer system

- Open the washer system reservoir and add water or a cleaning agent.

In winter, use a cleaning agent with antifreeze.

Filling up the excavator

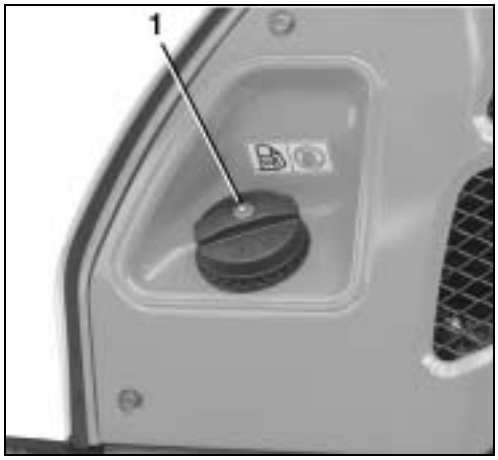
When refuelling the excavator, smoking, an open flame, or other sources of ignition are not allowed. The danger zone must be marked with signs. A fire extinguisher must be kept at hand in the danger zone.

Spilled fuel must be bound immediately with an oil binding agent. The contaminated oil binding agent must be disposed of in accordance with the applicable environmental regulations.

If no pumping station is available, the diesel fuel may only be stored in approved canisters.

Refuel the excavator in time so that the fuel tank is not running empty. Air in the fuel system can damage the fuel injection pump.

- Stop the engine.
- Unlock the filler cap (1) and open it by swivelling it anticlockwise.
- Fill diesel fuel up to the base of the filler tube.
- Screw in the filler cap and lock it.



Bleeding the fuel system

If the excavator fuel tank was run empty or the water separator was cleaned, the fuel system must be bled.

- To bleed the fuel system, move the starter switch to the RUN position. The electrical fuel pump will bleed the fuel system automatically within approx. 60 s.

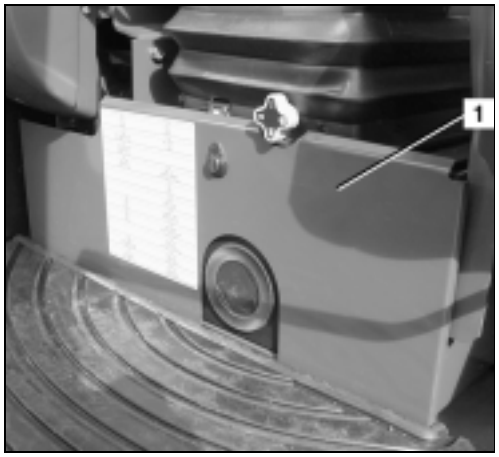
Replacing the fuses

Defective fuses may only be replaced with fuses of the same type and same rating.

The bypassing of fuses, for example with a wire, is not allowed.

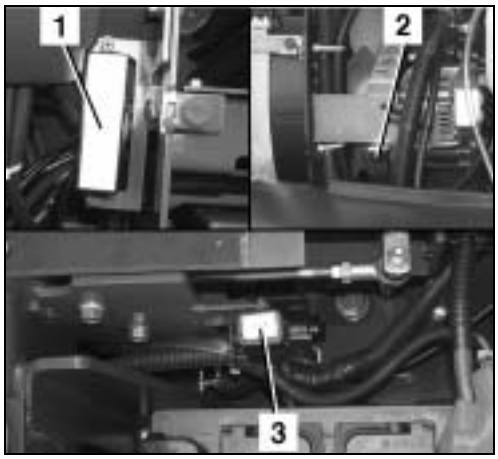
If the malfunction can not be remedied by replacing the fuse, or if the fuse blows again when starting, contact skilled personnel.

The fuse layout of the fuse box with their rating is indicated on the cover (1) below the driver's seat.



The excavator's main fuse is positioned next to the battery, and the alternator circuit fuse is mounted in the engine compartment in front of the alternator.

- Unlock the cover (figure above, position 1) and lower it down.
- Remove the defective fuse from the fuse box (1) and replace it.
- The fuse layout is shown in the next figure.
- The main fuse (3) is positioned next to the main battery, and the alternator circuit fuse (2) is mounted in the engine compartment in front of the alternator.



Fuse layout of the fuse box

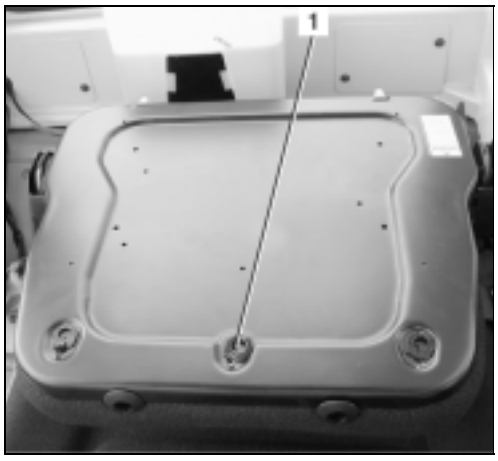
The following description does not apply to the excavator type KX101-3α2.

Installing and uninstalling the driver's seat

The seat cushions can be removed for cleaning or replacement. The backrest is given as an example.

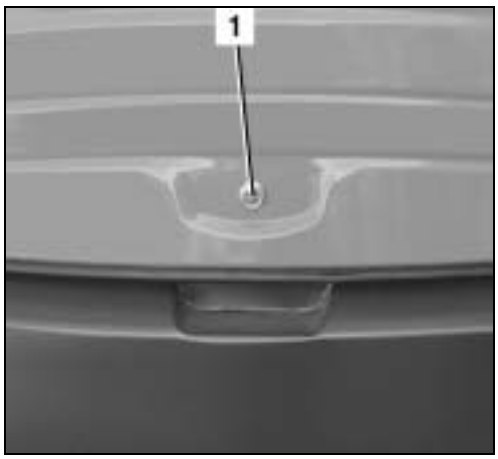
- Fold the backrest forward.
- Open the clips (1) and swivel them so that the clips go through the backrest. Remove the backrest cushion.

The backrest can be cleaned with suds.



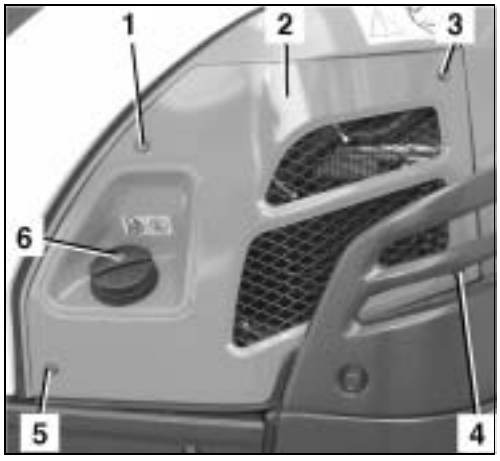
Opening and closing the engine compartment cover

- Insert the key switch (1) in the lock of the engine compartment cover, turn it anti-clockwise, then depress the lock.
- Open the engine compartment cover and lift it up. The engine compartment cover will stay in the open position due to the stay.
- To close the engine compartment cover, depress the lock. Insert the key switch into the lock and turn clockwise to lock the engine compartment cover.



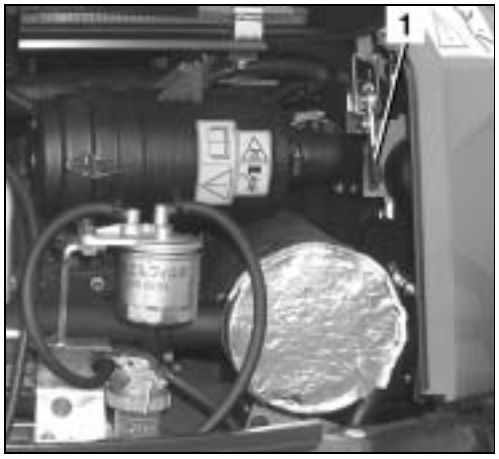
Removing and installing the left engine compartment cover

- Remove the filler cap (6) and re-attach it immediately after removing the left engine compartment cover (2).
- Remove the mounting screws (1, 3 and 5). Do not remove the mounting screw (4).
- Remove the left engine compartment cover.
- To mount, remove the filler cap and attach the left engine compartment cover.
- Attach the filler cap and tighten the fastening screws.

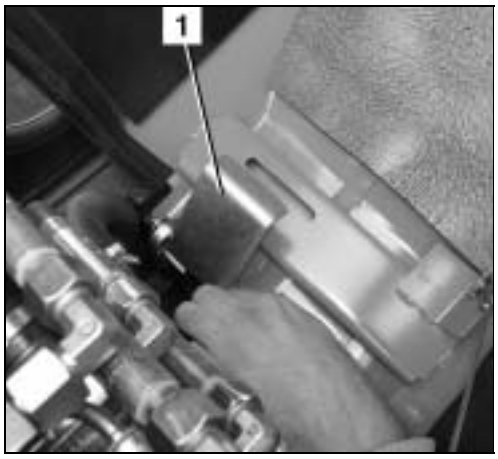


Opening and closing the valve chamber cover

- Open the engine compartment cover (page 91).
- Open the turnbuckle (1) and pull up the valve chamber cover.



- Shut the valve chamber cover using the lock (1).



- To close, release the valve chamber cover, pull down to close and lock it using the turnbuckle.
- Close the engine compartment cover.

Replacing the bucket

There are two people required to replace the bucket. One person operates the excavator, and the other one mounts the bucket. The operator must be capable of operating the excavator according to the personnel qualification (page 11).
The person who mounts the front must command-guide the movements of the front end attachments. The operator should move the front end attachments only according to the commands of the person who mounts the bucket. A continuous intervisibility between both persons is indispensable. If there is no intervisibility, stop working immediately.

When replacing the bucket, make sure to wear an eye protection, a helmet and protective gloves.

During attaching and detaching, chippings and burrs may occur at the bolts or bushings. These may cause severe injuries.

Never use your fingers for the alignment of the components (linkage, bucket, arm). The components may sever your fingers by uncontrolled movements.

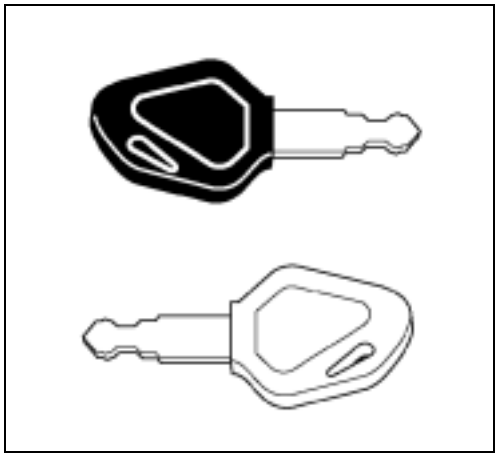
Anti-theft system

The excavator is equipped with an anti-theft system that restricts the engine to be started using a registered key only. If a registered key gets lost or stolen, you can invalidate it. This will prevent the engine from being started with this key, thus protecting the vehicle against theft.

The vehicle comes with two different types of key:

Black (individual) key

- This key is used to start the engine.
- The engine can be started by inserting the key and turning it to the START position.
- To be able to start the engine with a black key, it must be registered using the red key.



The engine can be started only with a key that was registered for the particular vehicle.
The scope of delivery includes two black keys, among them a spare key. The two black keys have already been registered. Up to four keys can be registered.

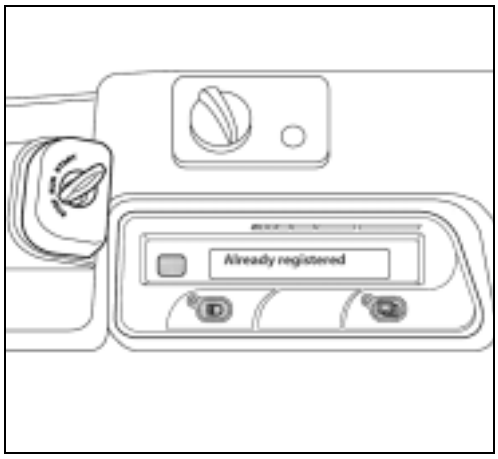
Red key (for registering)

- If one of the black keys is lost, another black key can be registered using the red key (page 94).
- The engine can not be started with the red key.

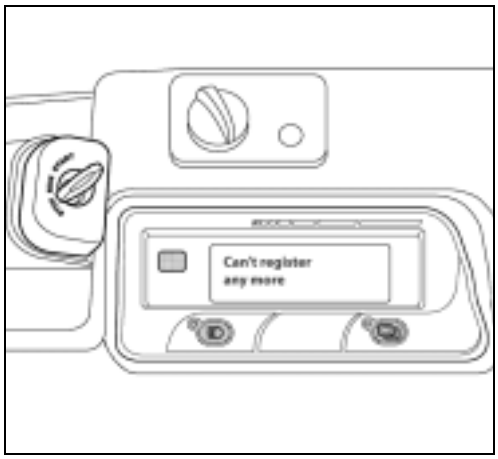
The key system

- If a registered key is lost, the second and new black key must be re-registered. This procedure locks the lost or stolen black key, which can no longer be used to start the engine.
- If the red key is lost, the black keys can no longer be re-registered. Be sure to keep the red key in a secure location (such as a safe in the office). Never leave the key inside the machine. If it should get lost nevertheless, please contact your authorised dealer immediately.
- Do not use several of these keys in a bunch. This could lead to electrical interfering frequencies which might prevent the motor from starting.
- After receiving the set of keys, separate them from each other. Always make sure the keys are not part of a bunch. If one of the black keys, for example, is inserted into the starter switch, the red key might be detected by the electronic system. This might lead to a failure of the electronic system.
- Messages in the display can be shown in 11 languages.
  Your KUBOTA dealer can assist you in your language selection.

- If you erroneously attempt to register a black key that has already been registered, the display will show the "Already registered" message. This means that registration can not be done.



- If you attempt to register a fifth black key, the display will show the "Can't register any more" message. This means that the registration can not be done.



Registering a black key for the machine

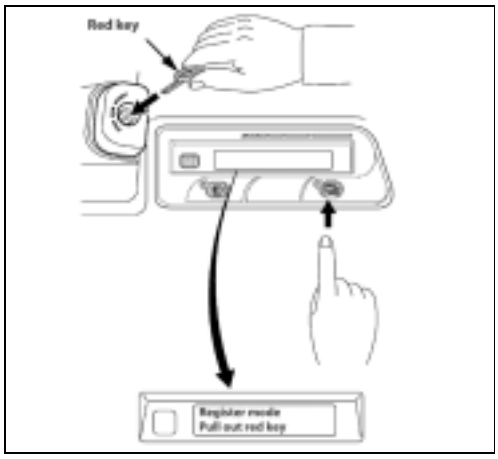
Register a black key only under the following conditions:
Make sure that there are no persons within the excavator's working area. It is essential to warn persons in the vicinity of the excavator by briefly blowing the horn.

Make sure that all operational controls are in neutral position.

Starting the excavator is only allowed when the operator is sitting on the driver's seat.

Do not allow the engine to run indoors, unless the room is equipped with an exhaust gas extraction system or otherwise well ventilated. The exhaust gas contains carbon monoxide, a colourless, odourless and fatal gas.

1. Insert red key into the starter switch.



Do not turn the key at this point. If the key is in the RUN position, turn it back to the STOP position.

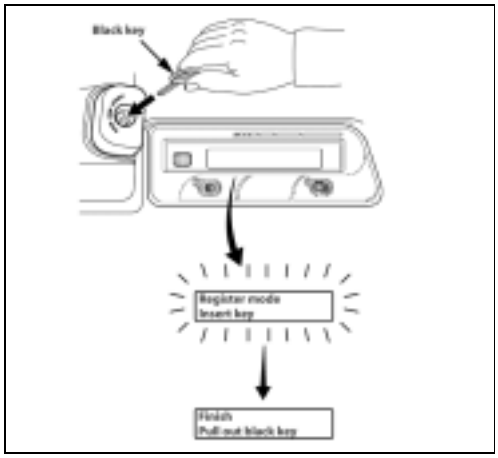
2. Press the display selector switch.

3. The display shows the "Register mode - pull out red key" message.

4. Pull out the red key.

5. The display shows the "Register mode - insert key" message.

6. Insert black key into the starter switch.



Do not turn the key at this point. If the key is in the RUN position, turn it back to the STOP position.

7. The display shows the blinking "Register mode - insert key" message.

8. After a brief moment, the display shows the "Finish - pull out black key" message. This message indicates that the black key was registered for the given vehicle.

9. Once the black key is pulled out of the starter switch, the display will show the "Finish - pull out black key" message.

   Follow steps 5 to 8 to register a spare key. Up to four black keys can be registered.

10. Turn the key to the RUN position to finish the registration procedure.

11. One after the other, insert all registered black keys into the starter switch and check whether the engine can be started using these keys.

If a registered black key switch is lost, the other black key switches must be re-registered. This procedure locks the lost or stolen black key, which can no longer be used to start the engine.

TROUBLESHOOTING

The troubleshooting section includes only malfunctions and incorrect operations which must be remedied by the operator. Any other malfunctions may only be eliminated by trained personnel. The troubleshooting must be performed with the aid of the troubleshooting table. In order to locate a malfunction, first look in the MALFUNCTION column for the corresponding excavator malfunction. In the POSSIBLE CAUSE column you will find the possible causes for the malfunction. The REPAIR column indicates the required remedial measure. If the fault can not be remedied by the measure indicated in the REPAIR column, consult trained personnel.

Safety rules for troubleshooting

Adhere to the general safety rules (page 13) and the safety rules for operation (page 49).

The operator is not allowed to open the electrical and hydraulic system. These services are reserved for trained personnel.

During troubleshooting, the safety on and around the excavator must always be ensured.

If troubleshooting of the excavator calls for the bucket being raised, the operator may not stand in the area of the front attachments unless the front attachments are secured against inadvertent lowering by suitable measures.

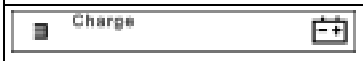
Troubleshooting: pre-operational services

Malfunction	Possible Cause	Repair
Start-up		
No function available when the starter switch is turned to the RUN position	Main fuse at battery defective	Replace the main fuse (page 89).
Indicator lights do not come on as expected when the starter switch is turned to the RUN position	Defective fuse	Replace the fuses (page 89).
Starter does not turn when the starter switch is turned to the START position	Battery depleted	Charge the battery (page 118).
		Jump-start the excavator (page 86).
	Control lever lock not raised	Raise the control lever lock.
Engine does not start when the starter switch is turned to the START position, but starter turns	Air in the fuel system	Check the fuel system for leaks and bleed it (page 88).
	Water in the fuel system	Check the water separator for water content, drain if necessary (page 54).

Troubleshooting: operation

Malfunction	Possible Cause	Repair
Operation		
Exhaust gas colour very black	Air filter restricted	Check and clean the air filter (page 109).
Insufficient engine power	Air filter restricted Fuel filter restricted or water in fuel system	Check and clean the air filter (page 109). Check the water separator for water content, drain if necessary (page 54), replace the fuel filter (page 110).
Coolant temperature gauge in the "H" zone	Radiator dirty Low coolant level Cooling system components leaking V-belt too loose	Clean the radiator (page 105). Check the coolant level, add coolant, if necessary (page 104). Check the cooling system for leaks (page 108). Check and adjust the V-belt tension (page 105).
The Charge message displays	V-belt too loose Defective Fuse in alternator circuit	Check and adjust the V-belt tension (page 105). Replace the fuses (page 89).
Deviation in driving direction of excavator	Crawler tension adjusted incorrectly	Check and adjust the crawler tension, if necessary (page 121).
No pilot-controlled hydraulic functions available	Defective fuse in fuse box	Replace the fuses (page 89).
Power of hydraulic functions is too low or disruptive	Hydraulic oil level too low Suction filter restricted	Check hydraulic oil level and top up, if necessary (page 114). Change the hydraulic oil tank suction filter (page 113).
Travel speed button does not work	Defective fuse in fuse box	Replace the fuses (page 89).
Heater fan, wiper/washer system, room light, horn, working light not operating	Defective fuse in fuse box	Replace the fuses (page 89).

Troubleshooting: display indications

Display	Colour	Problem/Error	Preliminary Measure	Solution
	Yellow	• No fuel.	- -	Refill.
	Red	• Oil pressure too low.	Stop the engine immediately.	Engine may be defective. Immediately contact skilled personnel.
	Red	• Faulty battery charger circuit • Charging error.	Check V-belt. When the V-belt is OK, let the engine run until indicator goes out.	If the indicator does not go out, contact skilled personnel.
	Red	• Defective starter.	Jump-start the engine.	If the indicator still comes on after the external ignition, contact skilled personnel.
	Yellow	• Starting procedure with lowered control console.	Engine does not start up.	Lift the control console and repeat the starting procedure.
	Yellow	• Maintenance due.	- -	Run the maintenance procedure.
	Yellow	• Wrong key switch.	- -	Use correct key.
	- -	• Try starting the engine with the red key (for registration).	Engine does not start.	Try starting the engine with the black key.
- -	- -	• The key is attached to a metal object (such as a key ring).	Engine does not start.	Remove the metal object and retry.
- -	- -	• The key is part of a bunch of keys.	- -	Detach the proper key and retry.
No display (warning light flashes)	Red	• Short circuit in the sensor power source.	Working lights light up.	Contact skilled personnel.

MAINTENANCE

The Maintenance section includes all care and maintenance tasks to be performed with the excavator.

A careful maintenance of the excavator will guarantee functional safety and longer service life.

Neglect of the servicing or the use of non-genuine parts will void the warranty and any liability by KUBOTA.

Safety rules for maintenance

- Maintenance, cleaning and care activities may only be carried out if the excavator is fully shut down. The excavator must be secured against starting by removal of the key switch.
- The bucket must always be lowered to the ground for servicing.
- If damage is detected during maintenance and care activities, the excavator may only be taken into operation after the damage has been repaired. Repairs may only be carried out by trained personnel.
- When carrying out maintenance and care activities, always make sure that the excavator is secured and stable.
- When working on the fuel system, smoking, open flames and the operation of other ignition sources are not allowed. The danger zone must be marked with signs. A fire extinguisher must be kept at hand in the danger zone.
- All waste materials must be discarded in accordance with environmental protection regulations.
- Use the maintenance and care materials listed in the "Recommended lubricants" section (page 127).
- When working on the electrical system, disconnect it from the voltage source before starting the work. The work may only be carried out by technicians with electrical training.
- Always use a ladder or a scaffold if the work cannot be reached by the operator.
- The controls may only be used while the operator is sitting on the driver's seat.

Personnel requirements

- The operator may only carry out cleaning and care activities.
- The servicing may only be performed by trained personnel.

General maintenance chart: 50 to 500 hours of operation

Operator servicing

General maintenance	Elapsed hours of operation											
	50	100	150	200	250	300	350	400	450	500	Interval	Page
Check the engine oil level											daily	52
Check the hydraulic oil level											daily	54
Check the fuel level											daily	57
Check the coolant level											daily	52
Lubricate front-end attachments											daily	55
Check the V-belt											daily	53
Check the water separator											daily	54
Tracks and chassis: clean, visually inspect and check the tension	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	weekly (50 h)	121
Lubricate the swivel gear	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	50 h	120
Check, clean the air filter 1.)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	50 h	109
Check nuts and bolts		❍		❍		❍		❍		❍	100 h	125
Grease the pitch bearing				❍				❍			200 h	120
Check the battery electrolyte level										❍	500 h	117
Drain water from the fuel reservoir										❍	500 h	111

1.) Under dusty conditions the air filter must be cleaned more frequently or replaced.

General maintenance chart: 550 to 1000 hours of operation

Operator servicing

General maintenance	Elapsed hours of operation											
	550	600	650	700	750	800	850	900	950	1000	Interval	Page
Check the engine oil level											daily	52
Check the hydraulic oil level											daily	54
Check the fuel level											daily	57
Check the coolant level											daily	52
Lubricate front-end attachments											daily	55
Check the V-belt											daily	53
Check the water separator											daily	54
Tracks and chassis: clean, visually inspect and check the tension	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	weekly (50 h)	121
Lubricate the swivel gear	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	50 h	120
Check, clean the air filter 1.)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	50 h	109
Check nuts and bolts		❍		❍		❍		❍		❍	100 h	125
Grease the pitch bearing		❍				❍				❍	200 h	120
Check the battery electrolyte level										❍	500 h	117
Drain water from the fuel reservoir										❍	500 h	111

1.) Under dusty conditions the air filter must be cleaned more frequently or replaced.

Servicing maintenance chart: 50 to 500 hours of operation

Servicing by skilled personnel or KUBOTA dealer

Servicing	Elapsed hours of operation *											
	50	100	150	200	250	300	350	400	450	500	Interval	Page
Change the engine oil and oil filter										❍	500 h	106
Check coolant hoses and clamps					❍					❍	250 h	106
Check/adjust the V-belt tension					❍					❍	250 h	121
Grease the pilot valve linkage					❍					❍	250 h	124
Change the fuel filter 4.)										❍	500 h	110
Change the return filter for the hydraulic oil tank 3.)					●					❍	500 h	111
Replace the drive unit oil 5.)		●								❍	500 h	123
Change the hydraulic oil and suction filter 2.)											1000 h	113
Replacing the pilot circuit filter											1000 h	113
Replace the in-line filter											1000 h	114
Replace air filter elements 1.)											1000 h	109
Change the running gear and track roller oil	Please contact your KUBOTA dealer.										2000 h	--
Check the alternator and starter motor	Please contact your KUBOTA dealer.										2000 h	--
Check electric cables and connections	Please contact your KUBOTA dealer.										annually	124
Change the coolant											every 2 years	108
Change hydraulic hoses	Please contact your KUBOTA dealer.										every 6 years	--
Safety inspection											annually	129

* The servicing identified with ● must be carried after the specified hours of operation after initial operation have been reached.

1.) Under dusty conditions the air filter must be cleaned more frequently or replaced.
2.) When using a hydraulic hammer over 20 % → every 800 h.
When using a hydraulic hammer over 40 % → every 400 h.
When using a hydraulic hammer over 60 % → every 300 h.
When using a hydraulic hammer over 80 % → every 200 h.
3.) When using a hydraulic hammer up to 50 % → every 200 h.
When using a hydraulic hammer over 50 % → every 100 h.
4.) Earlier if necessary.
5.) At least annually.

Servicing maintenance chart: 550 to 1000 hours of operation

Servicing by skilled personnel or KUBOTA dealer

Servicing	Elapsed hours of operation											
	550	600	650	700	750	800	850	900	950	1000	Interval	Page
Change the engine oil and oil filter										❍	500 h	106
Check coolant hoses and clamps					❍					❍	250 h	106
Check/adjust the V-belt tension					❍					❍	250 h	105
Grease the pilot valve linkage					❍					❍	250 h	124
Change the fuel filter 4.)										❍	500 h	110
Change the return filter for the hydraulic oil tank 3.)										❍	500 h	111
Replace the drive unit oil 5.)										❍	500 h	123
Change the hydraulic oil and suction filter 2.)										❍	1000 h	113
Replacing the pilot circuit filter										❍	1000 h	113
Replace the in-line filter										❍	1000 h	114
Replace air filter elements 1.)										❍	1000 h	109
Change the running gear and track roller oil	Please contact your KUBOTA dealer.										2000 h	--
Check the alternator and starter motor	Please contact your KUBOTA dealer.										2000 h	--
Check electric cables and connections	Please contact your KUBOTA dealer.										annually	124
Change the coolant											every 2 years	108
Change hydraulic hoses	Please contact your KUBOTA dealer.										every 6 years	--
Safety inspection											annually	129

1.) Under dusty conditions the air filter must be cleaned more frequently or replaced.
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When using a hydraulic hammer over 60 % → every 300 h.
When using a hydraulic hammer over 80 % → every 200 h.
3.) When using a hydraulic hammer up to 50 % → every 200 h.
When using a hydraulic hammer over 50 % → every 100 h.
4.) Earlier if necessary.
5.) At least annually.

Cleaning the excavator

Before cleaning, shut down the engine and secure it against starting.

If a steam cleaner is used for cleaning the excavator, do not direct the steam jet at electric components.

Do not direct a water jet into the intake opening of the air filter.

Do not clean the excavator with inflammable liquids.

The excavator may only be washed at suitable places (using oil and grease separators).

The excavator can be cleaned with water and a commercial cleaning agent. Make sure no water gets into the electrical system.

Use a plastic cleaner for plastic parts.

Before cleaning, make sure to tape the air inlet for the air conditioner and heater system at the swivel frame.

Servicing

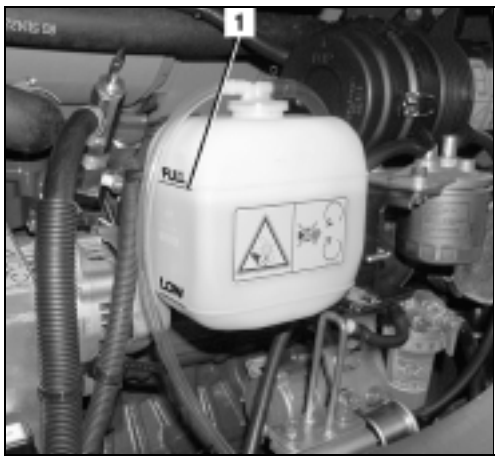
Adhere to the instructions for regular servicing to keep the excavator in good condition.

Re-filling the coolant

- Check the antifreeze content with an antifreeze tester that is qualified for -25 °C.

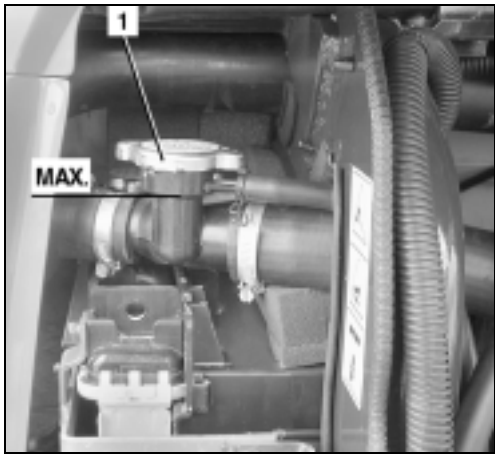
The antifreeze portion of the coolant should not exceed 45%.

- Open the engine compartment cover (page 91).
- Open the coolant expansion reservoir cap while the engine is cold and fill pre-mixed coolant up to the FULL mark (1).



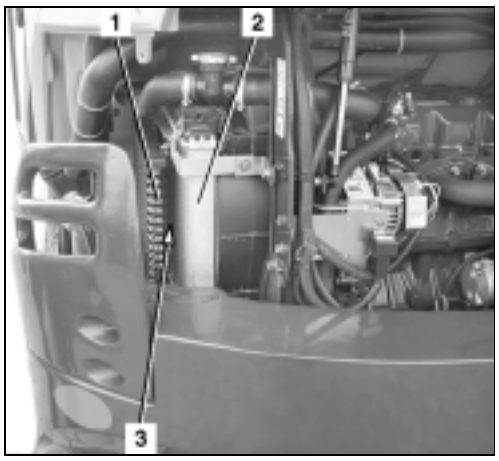
If the coolant expansion reservoir was completely empty, check the coolant level in the radiator.

Do not open the radiator cap while the engine is still hot, risk of scalding.



- Remove the radiator cap (1) by turning it anticlockwise.
- The coolant level should reach the MAX. mark (see figure); if not, add coolant.
- Refit the radiator cap and close the expansion reservoir.
- Close the engine compartment cover.

Cleaning the radiator

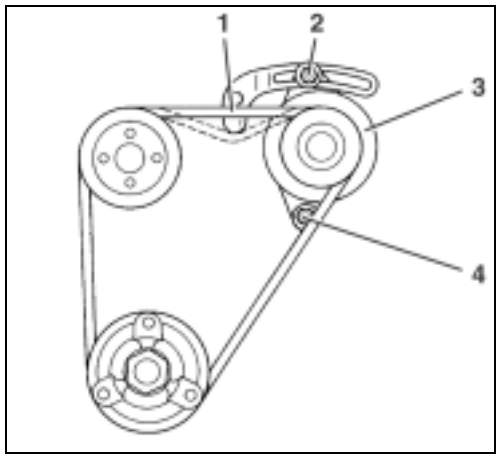


- Open the engine compartment cover (page 91).
- Remove the left engine compartment cover (page 91).
- Clean the radiator (1 and 2) from the engine side with a water jet or with compressed air. Do not use high-pressure cleaners.
- Pay particular attention to the space (3) between the radiator and oil cooler, as leaves tend to collect here.

Check the radiator for damage after cleaning it.

- Close the engine compartment cover.

Checking and adjusting the V-belt tension



- Open the engine compartment cover (page 91).
- Depress the V-belt between the crankshaft and alternator (1). The V-belt deflection should be approx. 10 mm.
- Check the V-belt for proper condition and cracks.
- To tighten the V-belt, loosen the mounting screws (2 and 4), swing the alternator (3). Tighten the mounting screws and check the tension of the V-belt.
- Close the engine compartment cover.

Checking the coolant hoses

Carry out the inspection while the engine is cold.

- Open the engine compartment cover (page 91).

Check all hose connections on the engine and to the radiator or to the heater fan (cab version) for condition (cracks, bulges, hard spots) and firm seating of the clamps. If necessary, have the hoses replaced by trained personnel.

- Close the engine compartment cover.

Replacing the engine oil and oil filter

The engine oil change must be carried out while the engine is warm.

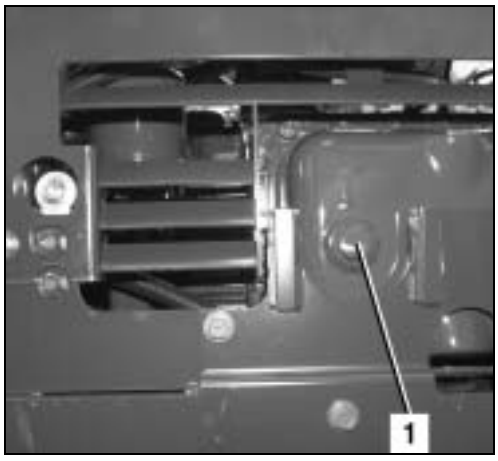
Caution: Engine oil and the oil filter are very hot → risk of scalding!

Place an oil pan with a capacity of about 12 L under the engine oil drain. The engine oil should not be allowed to seep into the earth and it must be discarded like the oil filter in accordance with the applicable environment protection regulations.

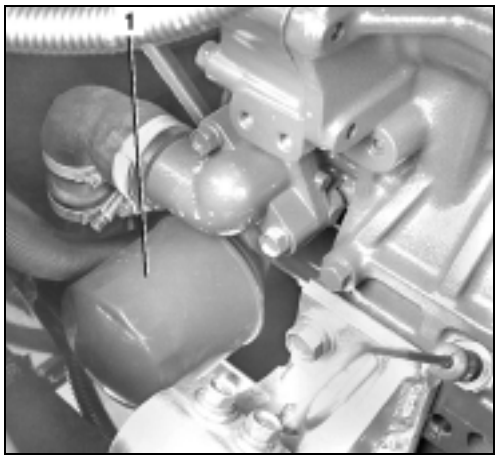
- Open the engine compartment cover (page 91).

Draining the engine oil

Remove the oil drain plug (1) and let the engine oil drain into the oil drain pan. Install the oil drain plug using a new seal.

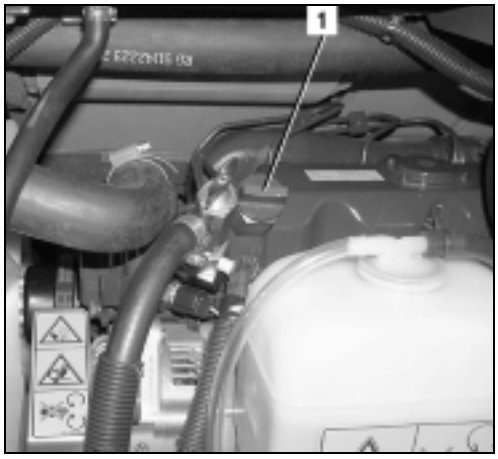


Replacing the oil filter

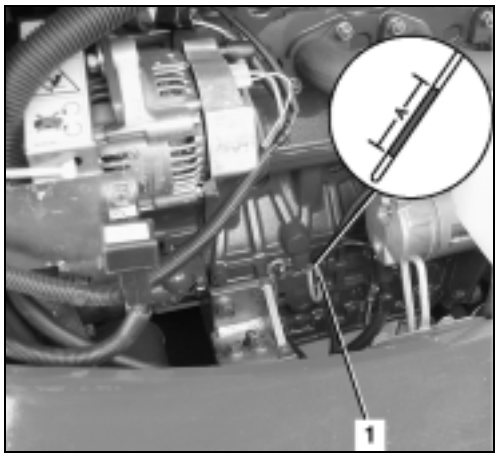


- Place an oil drain pan under the oil filter and remove the oil filter (1) with a filter wrench by turning it anticlockwise.
- Coat the sealing ring of the new oil filter with engine oil.
- Install and tighten the oil filter by hand. Do not use the filter wrench.

Filling in engine oil



- Open the engine compartment cover (page 91).
- Unscrew the oil filler cap (1) and fill engine oil. See the "Recommended Lubricants" section (page 127).
- Filling capacity: 6.6 L
- Install the oil filler cap.



- Start the engine. The following message should disappear immediately after the engine has started; if not, stop the engine immediately and notify trained personnel.

Let the engine run for approx. 2 minutes and then stop it. Check the oil level after 5 minutes.

- Pull out the oil dipstick (1) and wipe it with a clean cloth.
- Insert the oil dipstick completely and pull it out again. The oil level should be in the "A" area. If the oil level is too low, add engine oil. The amount of oil between the bottom and top of area "A" is 2.6 L.

When the oil level is too high or too low, the engine might get damaged during operation.

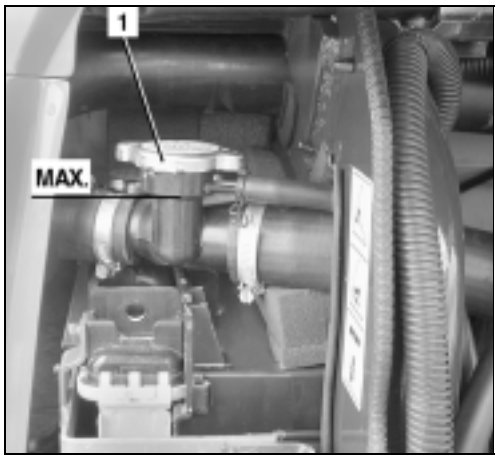
- When changing the engine oil, fill engine oil up to the MAX mark.
- Close the engine compartment cover.

Replacing the coolant

Drain the coolant only when the engine is cold.

Total cooling system capacity: 5.6 L

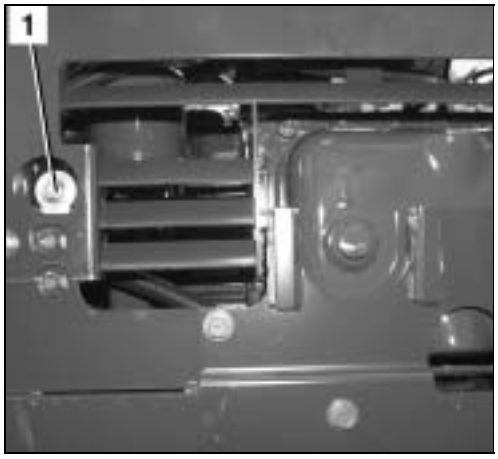
- Open the engine compartment cover (page 91).
- Remove the left engine compartment cover (page 91).
- Open the radiator cap (1).



- Open the central coolant drain (1) and drain the coolant completely.

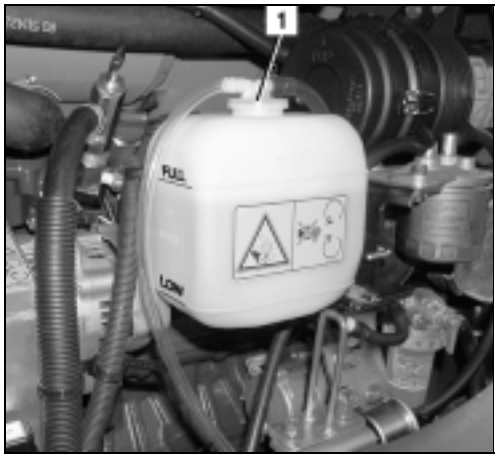
Fill the coolant in a container and dispose of it in accordance with the prevailing environmental protection regulations.

Purge the cooling system if the coolant is very dirty. To do this, spray water without additives into the cooling system with a hose through the filler opening until clear water emerges at the outlet.



- Close the central drain.
- Remove the coolant expansion reservoir (1) and drain it, cleaning it if necessary. Refit the reservoir.
- Fill the premixed coolant into the radiator and expansion reservoir.

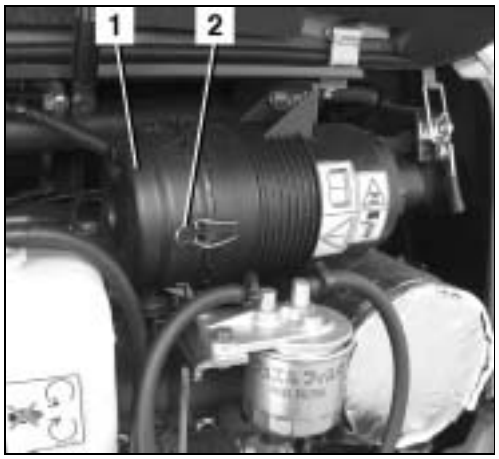
Do not operate the cooling system with pure water (even in summer). The antifreeze also contains a corrosion inhibitor.



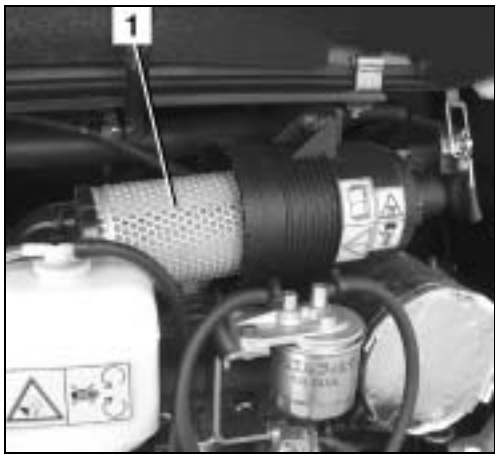
- Let the engine idle for about 5 min, shut it off and check the coolant level in the radiator. The coolant should reach the MAX. mark; if not, add coolant.
- Close the engine compartment cover.
- Attach the left engine compartment cover.

Checking and cleaning the air filter

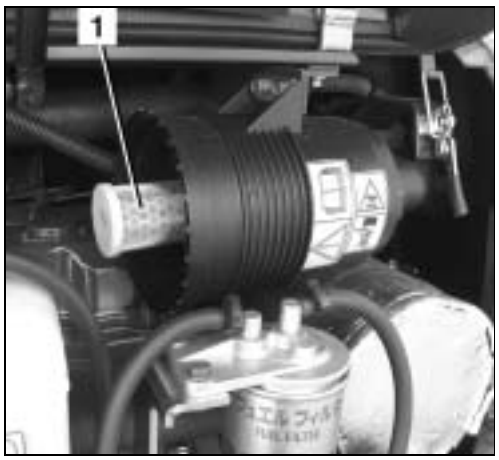
If the excavator is operated in a particularly dusty environment, the air filter must be checked more often.



- Open the engine compartment cover (page 91).
- Open the clips (2) and remove the cover (1).



- Pull the outer filter element (1) out of the air filter case and check it for dirt.

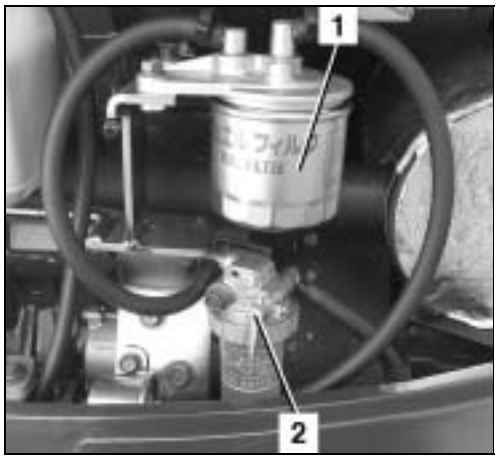


- Clean the air filter case and cover without removing the inner filter element (1). Remove the inner filter element only when replacing it.
- Renew the outer filter element if it is damaged or too much dust has accumulated on it.

Do not clean the filter element with fluids. Never operate the engine without the air filter elements.

- Clean the outer filter element with compressed air (max. 5 bar) from the inside out without damaging the filter element. Wear eye protection for this service.
- Insert the outer air filter element and the cover with the TOP mark up.
- Close the engine compartment cover.

Replacing the fuel filter

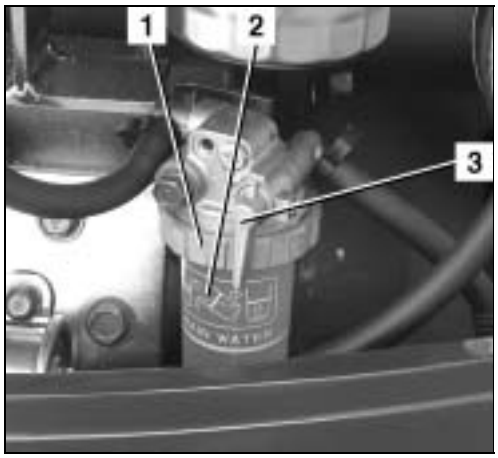


- Open the engine compartment cover (page 91).
- Turn the cock (2) to the OFF position.

Place a cleaning cloth under the fuel filter to prevent fuel from spilling on the ground.

- Remove the fuel filter (1).
- Wet the rubber seal of the new filter with fuel.
- Manually screw in the new filter.
- Turn the cock (figure above, position 2) back to the ON position.
- Bleed the fuel system (page 88).

Cleaning the water separator

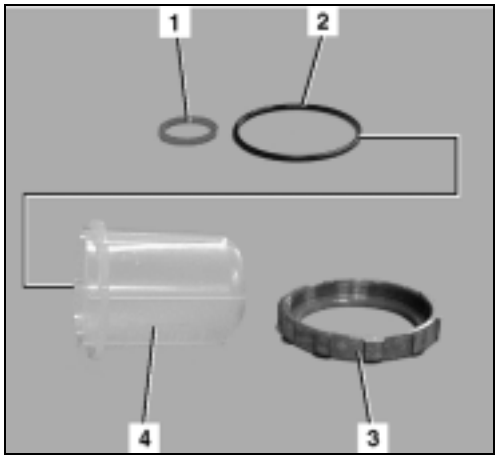


- Open the engine compartment cover (page 91).
- Turn the cock (3) to the OFF position.

Place a cleaning cloth under the water separator to prevent fuel from spilling on the ground.

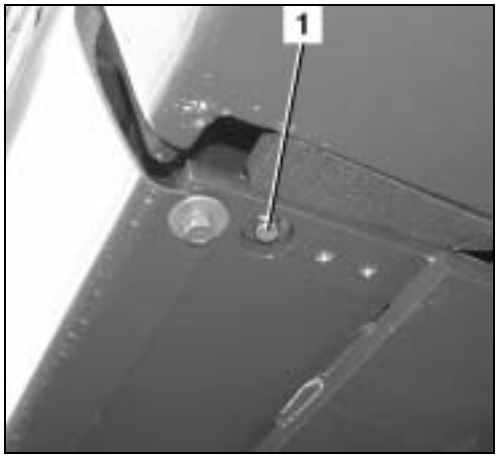
- Remove the filter cup retainer (1) while holding the cup (2).
- Remove the cup.
- Empty the cup and clean it with clean diesel fuel.

- Replace the sealing ring (2).
- Apply a light coat of diesel fuel onto the sealing ring.
- Assemble the components in the order shown. Make sure to insert the floater (1). Tighten the filter cup retainer (3) by hand. Do not use a tool.
- Set the cock vertical to the ON position.
- Bleed the fuel system (page 88). Check the water separator for leaks at the same time.



Emptying the fuel reservoir

- Place a container with a minimum capacity of 12 litres under the fuel drain plug.
- Remove the drain plug (1) and drain the water.
- Install the drain plug with a new sealing ring on it.

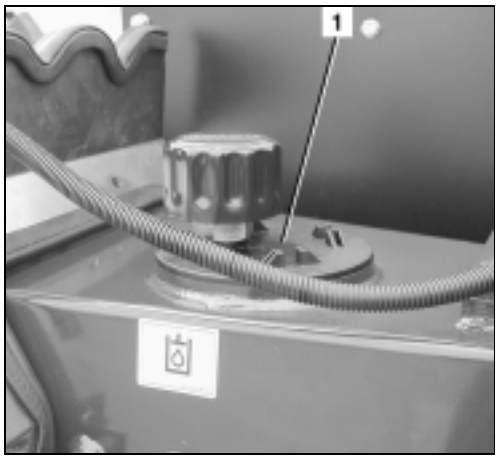


Replacing the return filter in the hydraulic oil tank

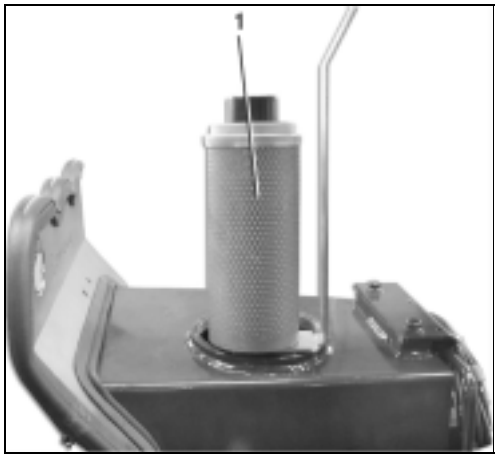
Pay attention to utmost cleanliness when servicing the hydraulic system.

This service may only be carried out after the hydraulic oil has cooled down.

- Open the valve chamber cover (page 91).
- Remove the cap (1).

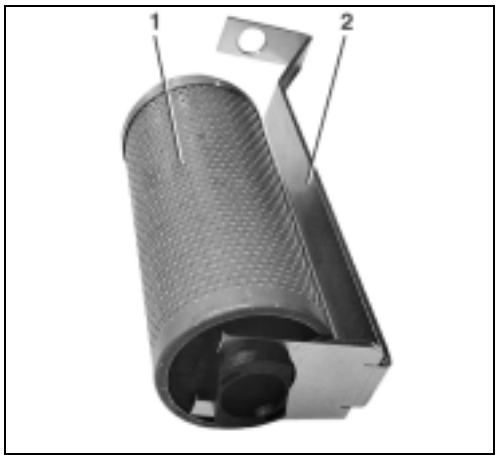


- Pull the filter support and return filter (1) out of the hydraulic oil tank.

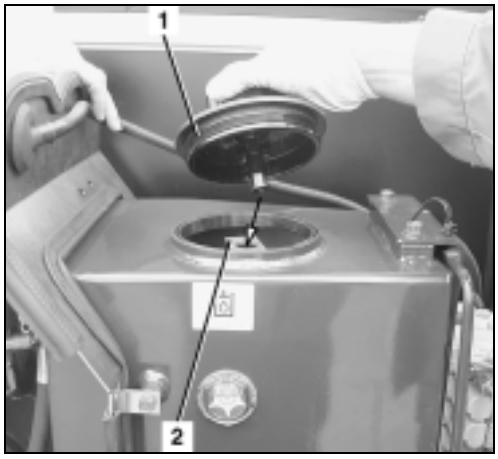


Discard the return filter in accordance with the prevailing environmental protection regulations.

- Install a new return filter (1) in the filter support (2).
- Insert the filter support with return filter into the hydraulic oil tank through the return pipe.



- Check the condition of the sealing ring on the tank cap. Replace it if necessary.
- Install the tank cap (1) with the guide pin into the filter support (2) and tighten it.
- Close the valve chamber cover.
- Close the engine compartment cover.

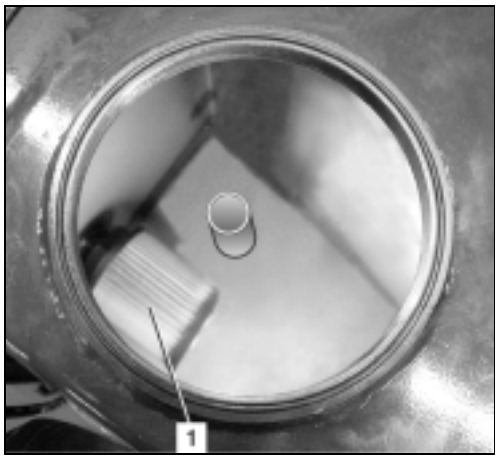


Replacing the suction filter in the hydraulic oil tank

Pay attention to utmost cleanliness when servicing the hydraulic system.

This service may only be carried out after the hydraulic oil has cooled down.

The suction filter must be replaced along with the hydraulic oil.



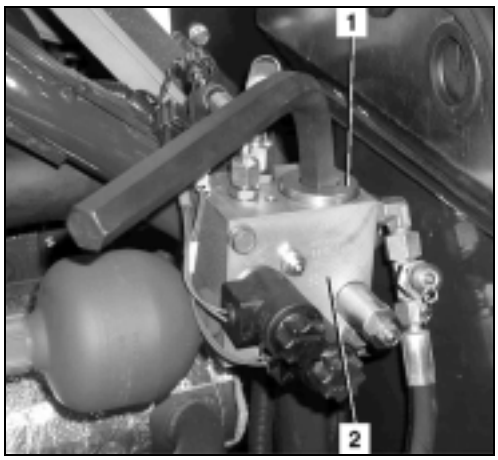
- Drain the hydraulic oil (page 114).
- Remove the return filter for the hydraulic oil tank (page 111).
- Screw off the suction filter (figure above, position 1).
- If necessary, remove any residues with a clean, lint-free cloth.

Discard the suction filter and cleaning cloth in accordance with applicable environmental protection regulations.

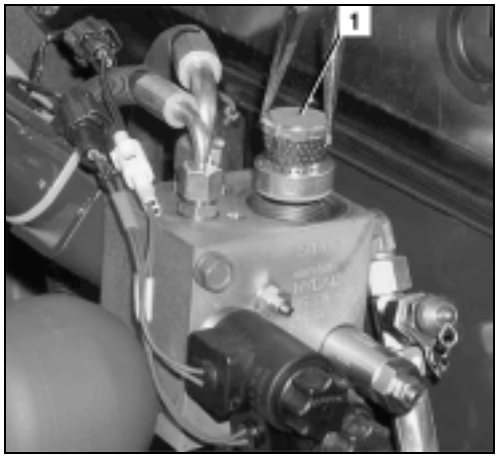
- Screw on the new suction filter by hand.
- Refill hydraulic oil (page 114).
- Install the return filter (page 111).

Replacing the filter inside the pilot control circuit

- Open the valve chamber cover (page 91).
- Remove the plug (1) from the valve block (2).

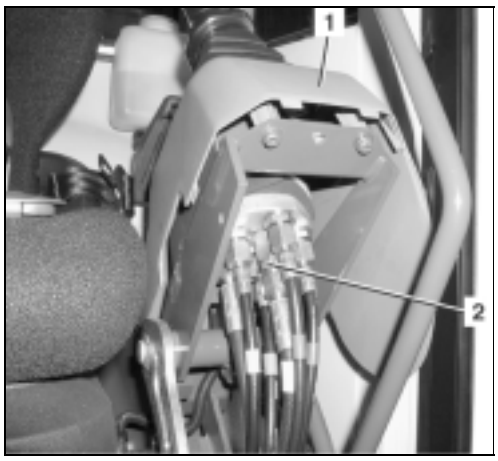


- Pull the pilot circuit filter (1) out of the valve block.
- Install the new filter (Code # RG518-6264-0) as illustrated.
- Screw in the plug and tighten with a torque of 150 Nm.



Replacing the in-line filter

The replacement job is described using the left control lever as example. The filter at the right control lever is replaced similarly.



- Take the pressure off the circuit.
- Lift up the left control console (1).
- Unscrew and remove the lower cover panels.
- Disconnect the hydraulic pipe (white).
- Remove the in-line filter (2).
- Screw in a new filter (Code # RG208-8635).
- Re-connect the hydraulic pipe.
- Refit the cover panels.
- Replace the in-line filter at the right control lever.

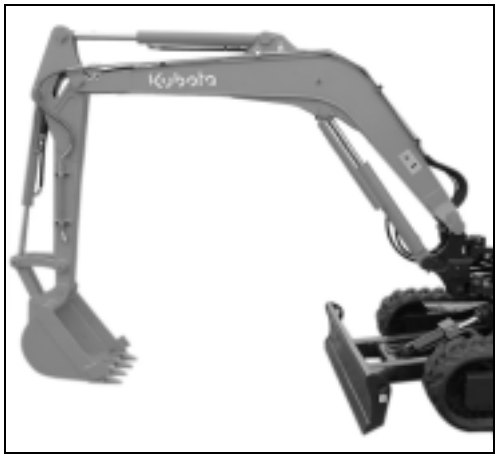
Draining and topping up hydraulic oil

Pay attention to utmost cleanliness when servicing the hydraulic system.

This service may only be carried out after the hydraulic oil has cooled down.

The suction filter must be changed along with the hydraulic oil.

- Operate the boom, arm, bucket and boom swing mechanism so that all hydraulic cylinders are extended half way. Lower the dozer onto the ground. See the "Placing out of operation" section (page 79).
- Open the valve chamber cover (page 91).



Draining the hydraulic oil

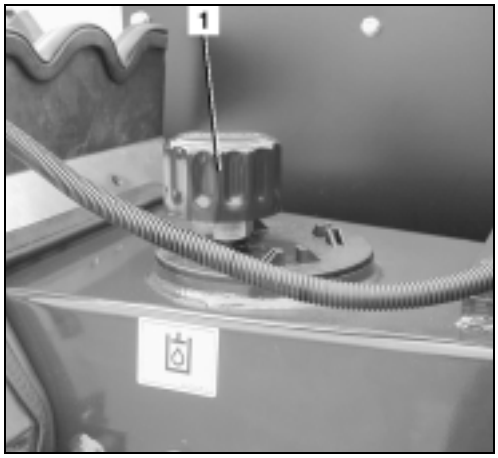
- Place a container with a minimum capacity of 50 litres under the hydraulic oil drain plug.
- Remove the drain plug (1) and drain the hydraulic oil.
- Install the drain plug with a new sealing ring on it.

Filling in hydraulic oil

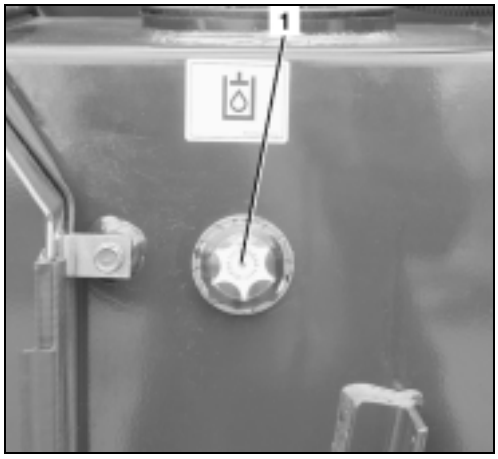
Filling quantity with oil change: 33 L

Total hydraulic system capacity: 41 L

- Screw out the breather filter (1).
- Insert a clean funnel with a strainer into the filler opening.
- Fill hydraulic oil to half way up the sight glass (figure below, position 1).
- Screw in the breather filter (1) until tight.
- Start the engine and operate all control functions.

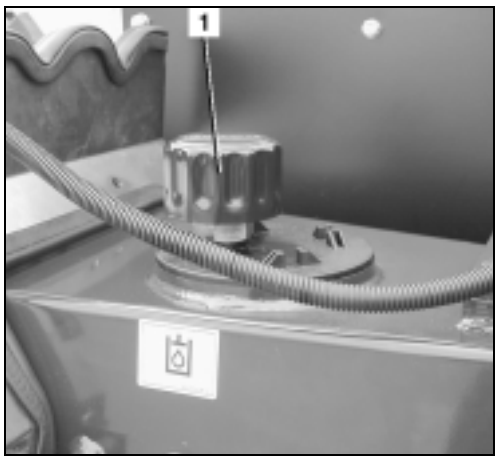


- Check the hydraulic oil level, add oil if necessary (page 54).
- Close the valve chamber cover (page 91).



Replacing the breather filter in the hydraulic oil tank

- Open the valve chamber cover (page 91).
- Screw the breather filter (1) out of the tank cap.
- Screw in a new filter and tighten it by hand.



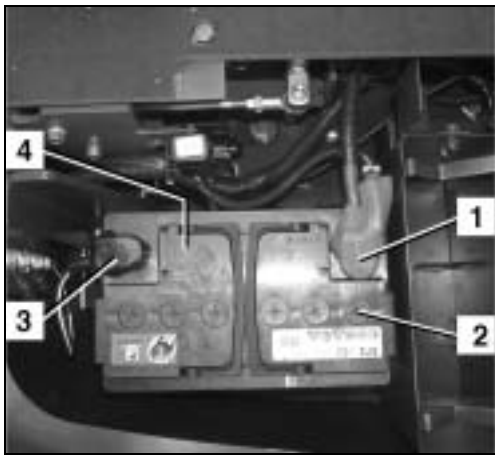
Battery service

Regular maintenance may extend the life cycle of the battery considerably.

Battery acid is very caustic. Avoid contact with battery acid under all circumstances. If clothing, skin or eyes have come in contact with battery acid, rinse the affected parts immediately with water. If the eyes are affected, immediately seek medical attention! Neutralise spilled battery acid immediately.

When servicing a battery, always wear rubber gloves and eye protection.

Checking the battery

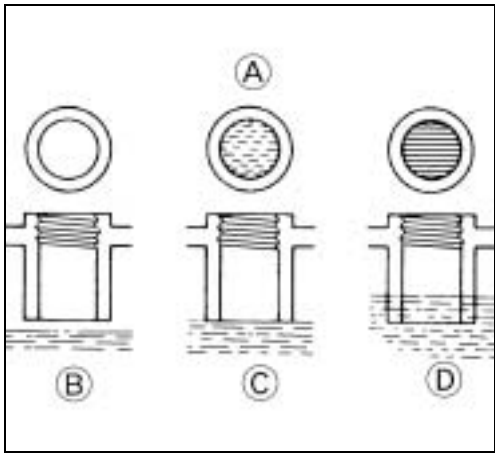


- Make the battery accessible.
- Make sure the battery (4) is firmly seated.
- Check the battery terminal (1 and 3) for cleanliness, cleaning it if necessary and covering it with petroleum jelly.

Be careful when cleaning the positive terminal - risk of short circuit! Do not use metal tools.

- Screw out all six plugs (figure above, position 2).

Do not open maintenance-free batteries!



- Check the fluid level according to the figure, top up with pure water, if necessary.

Do not top up with tap water or battery acid.

(A) Fluid level
(B) Fluid level too low
(A) Fluid level OK
(D) Fluid level too high

- Screw in the plugs.
- Close the flooring at the front left of the driver's section.

Charging the battery

Battery acid is very caustic. Avoid contact with battery acid under all circumstances. If clothing, skin or eyes have come in contact with battery acid, rinse the affected parts immediately with water. If the eyes are affected, immediately seek medical attention! Neutralise spilled battery acid immediately.

When servicing a battery, always wear rubber gloves and eye protection.

Charge batteries only in sufficiently ventilated rooms. Smoking, uncovered lights or fire are not allowed in these rooms.

Explosive gas is created when charging batteries. Open flames can cause an explosion.

Remove the fill caps when charging batteries that are virtually empty. Leave the fill caps inside (not empty) batteries that are only charged for maintenance purposes, the fill caps can stay in the batteries.

The battery can only be charged if the starter switch is in the STOP position and the key switch removed.

If the battery is charged when installed in the vehicle, the cab must be ventilated during the charging procedure by opening the window. After the charging procedure is completed, the cab must be ventilated for about 1 hour prior to start-up --> risk of explosion.

- Make the battery accessible.
- Remove the fill caps and check the electrolyte level in the battery, add distilled water if required.

When disconnecting and connecting the battery, always observe the specified order → risk of short circuit!

- Remove the negative terminal cover and take off the cable clamp. Put the clamp to the side so that contact with the negative terminal is excluded.
- Remove the positive terminal cover.
- Connect the battery charger to the battery according to the regulations of the charger manufacturer. Choose the normal (gentle) charging method.
- Clean the battery after charging and replenish the electrolyte, if necessary.

- Check the acid density with a hydrometer. The acid density should be between 1.24 and 1.28 kg/L. If the acid density differs considerably among the individual cells of a battery, the battery probably has a defect. Check the affected battery with a battery tester and notify trained personnel.

Installing/uninstalling and replacing the battery

When disconnecting and connecting the battery, always observe the specified order → risk of short circuit!

- Make the battery accessible.
- Remove the negative terminal cover and take off the cable clamp. Put the clamp to the side so that contact with the negative terminal is excluded.
- Remove the plus terminal cover and take off the cable clamp. Put the clamp to the side so that contact with the positive terminal is excluded.
- Remove the battery retainer and lift the battery out of the swivel frame.

When replacing the battery, always install a battery of the same type with the same power rating and the same dimensions.

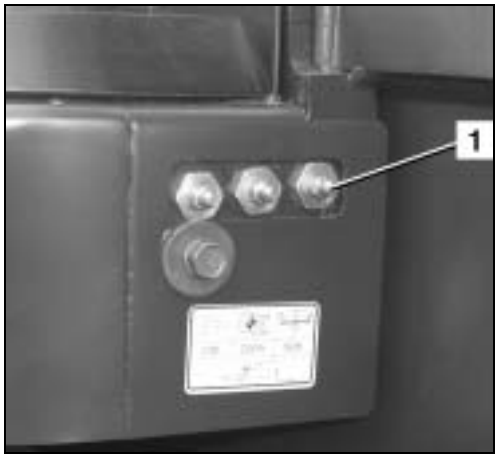
- Before installation, cover the battery terminals and cable clamps with petroleum jelly.
- Install the battery in the swivel frame and fasten it with the battery retainer. Check the battery for tightness → Do not operate the excavator with a loose battery.
- Connect the positive cable clamp to the positive terminal (+) of the battery, install the positive terminal cover.
- Connect the negative terminal (-) of the battery, install the negative terminal cover.

Lubrication

The following describes all lubricating tasks which should be performed with the superstructure.

Greasing the swivel gear

- Fill grease through the grease nipple (1) with a grease gun.



Fill approx. 50 g of grease (20-30 shots with the grease gun). See the "Recommended lubricants" section (page 127).

- Operate the excavator and swivel the swivel frame 360° several times in succession to distribute the grease evenly.

STOP

When moving the swivel frame, make sure no person or material is in the swivel area.

Greasing the pitch bearing

- Fill grease through the grease nipple (1) with a grease gun.

Grease at each 90° position of the pitch bearing. Using the grease gun, apply 5 shots at every position. See the "Recommended lubricants" section (page 127).

STOP

When moving the swivel frame, make sure no person or material is in the swivel area. Turn the starter switch to the STOP position and remove the key switch before the next greasing procedure.

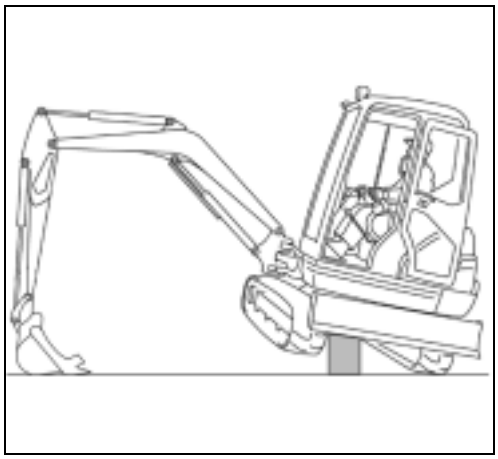
- Operate the excavator and swivel the swivel frame by 90° several times. After greasing, swivel the swivel frame 360° several times to distribute the grease evenly.

Checking and tensioning the crawler tension

If the crawlers are too tight, wear is increased.

If the crawlers are too loose, wear is increased and the crawlers may come off.

When parking an excavator with rubber crawlers, ensure that the seam (∞) is on top half way between the two sliders. See figure in the "Checking the crawler tension" section (page 122).



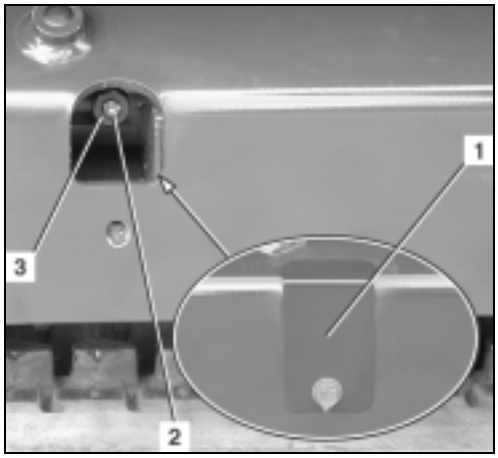
- Clean all parts of the running gear, paying particular attention to stones between the crawler and sprocket or idler. Clean in the area of the crawler tensioning cylinder.
- Swivel the swivel frame 90° to the direction of travel as shown in the figure.
- Lower the front attachments on the ground and raise the excavator about 200 mm off the ground on one side.

Have a guide supervise the procedure.

Support the excavator with appropriate backing material, observing the vehicle weight.

Adjusting the crawler tension

Tightening the crawlers



- Remove the crawler tensioner cover (1).
- Position the grease gun on the grease nipple (2).
- Pump the grease gun until the specified crawler tension is obtained.

Loosening the crawlers

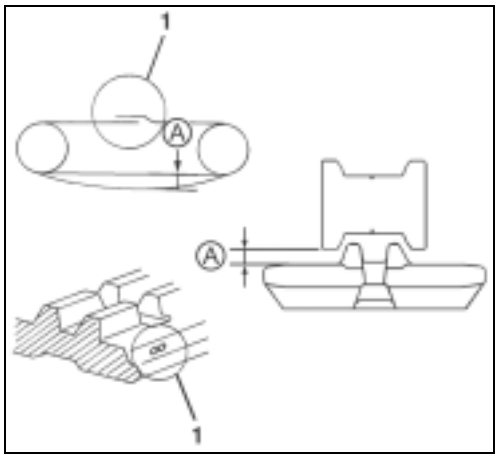
- Cautiously unscrew the pressure valve (3) and loosen the crawler.

Grease could squirt out from the cylinder opening.

- Screw in the pressure valve and torque to 98-108 Nm.
- Tighten the crawler.

Checking the crawler tension

- The crawler seam (1) is half way between the idler and sprocket.
- Check the crawler sag as shown in the figure.



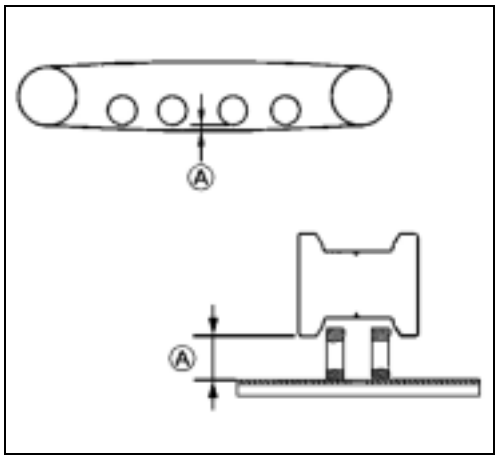
Crawler sag "A" 10-15 mm

- If the crawler sag is more than 15 mm, adjust the crawler.
- If necessary, tighten or loosen the crawler.
- Start the engine and rotate the crawler briefly.

Caution: The area around the rotating crawler must be free of persons. Turn the starter switch to the STOP position after turning and remove the key switch.

- Recheck the crawler tension, readjusting it if necessary.
- Perform the procedures on the second crawler.

Checking the crawler tension (steel)



- Check the crawler sag as shown in the figure.

Crawler sag "A" 75-80 mm

- If the crawler sag is more than 80 mm, adjust the crawler.
- If necessary, tighten or loosen the crawler.
- Start the excavator and rotate the crawler briefly.

Caution: The area around the rotating crawler must be free of persons. Turn the starter switch to the STOP position after turning and remove the key switch.

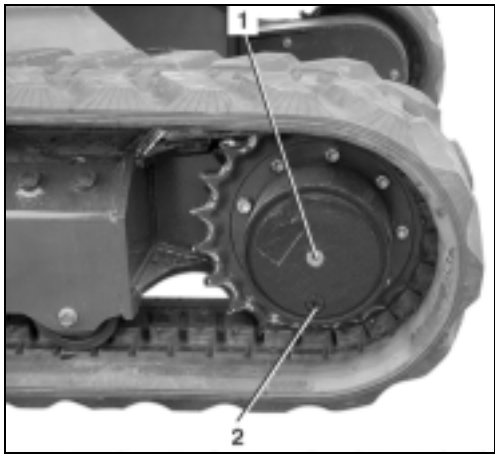
- Recheck the crawler tension, readjusting it if necessary.
- Perform the procedures on the second crawler.

Replace the drive unit oil

Only change the oil when the drive unit is warm to the hand; if not, drive the excavator warm.

- Park the excavator on level ground so that the drain plug (figure below, position 2) is positioned at the bottom.
- Place a catch tray with a minimum capacity of 2 L under the drain plug.
- Remove the drain plug and let the oil drain completely. Install the drain plug with a new sealing ring on it.
- Remove the oil filler plug (1).
- Fill oil as specified in the "Recommended lubricants" section (page 127). The oil level is the lower edge of the thread.

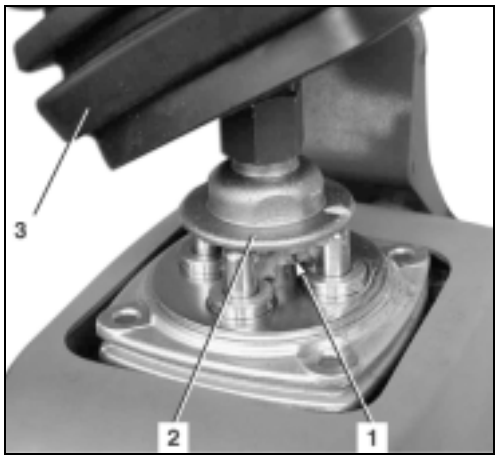
Capacity: 0.6 L



- Refit the oil filler plug with a new sealing ring and tighten it.
- Perform the same service on the second drive unit.

Greasing the pilot valve linkage

- Pull up the rubber boot on the control lever (3).
- Lubricate the u-joint (1) below the plate (2) with grease. See the "Recommended lubricants" section (page 127).
- Insert the rubber boot in the console.
- Carry out the service for the second control lever.



Checking the electric cables and connections

- Check all accessible electric cables, connectors and connections for condition and security.
- Repair or replace damaged parts.
- Check the fuse box and fuse holders for oxidation and dirt, clean if necessary.

Resetting the service period indicator

The service period indicator appears after the first 50 operating hours of operation and then every 250 hours of operation.

The service period indicator disappears after 10 seconds automatically. The following example shows a service period indicator based on a 1500 hours interval.

When the starter switch is switched from STOP to RUN, the service period indicator shows up for the first 10 seconds, with a corresponding service message in the display.

If the working light button (boom) is pressed for more than 3 seconds, the service period indicator will reset.

Reset the service period indicator only if the service has been performed. A regular maintenance extends the excavator's service life and assures a problem-free operation.

If the display needs to be replaced due to an error, the elapsed hours of operation are set to 0 hours by default. In this case, please contact your authorised KUBOTA dealer.

Checking the bolted joints

The table below contains the torques for nuts and bolts. These may only be tightened with a torque wrench. Missing torques can be requested from KUBOTA.

Tightening torque for screws

Nm (kgf•m)

	4 T (4.6)	7 T (8.8)	9 T (9.8-10.9)
M 6	7.8~9.3 (0.8~0.95)	9.8~11.3 (1.0~1.15)	12.3~14.2 (1.25~1.45)
M 8	17.7~20.6 (1.8~2.1)	23.5~27.5 (2.4~2.8)	29.4~34.3 (3.0~3.5)
M 10	39.2~45.1 (4.0~4.6)	48.1~55.9 (4.9~5.7)	60.8~70.6 (6.2~7.2)
M 12	62.8~72.6 (6.4~7.4)	77.5~90.2 (7.9~9.2)	103.0~117.7 (10.5~12.0)
M 14	107.9~125.5 (11.0~12.8)	123.6~147.1 (12.6~15.0)	166.7~196.1 (17.0~20.0)
M 16	166.7~191.2 (17.0~19.5)	196.1~225.6 (20.0~23.0)	259.9~304.0 (26.5~31.0)
M 20	333.4~392.3 (34.0~40.0)	367.7~431.5 (37.5~44.0)	519.8~568.8 (53.0~58.0)

Note: When mounting the canopy, tighten 9 T screws with 7 T tightening torques

Tightening torque for hose clamps

Size	Code #	Torque in Nm
13-20	69481-1116-0	3.5
15-24	69721-7081-0	3.5
22-32	69741-7284-0	3.5-5
26-38	69741-7282-0	3.5-5
40-60	69481-1518-0	3.5-5
38-50	69741-7283-0	3.5-5
50-65	69741-7285-0	3.5-6
68-85	69481-0459-0	3.5-6

Tightening torque for hydraulic hoses

Wrench size	Torque in Nm	Hose size	Thread
14	20-25	DN 4-1/8“	M12x1.5
17	25-30	DN 6-1/4“	M14x1.5
19	30-35	DN 8-5/16“	M16x1.5
22	40-45	DN 10-3/8“	M18x1.5
27	50-55	DN 13-1/2“	M22x1.5

Also applies to adaptors with pre-installed nut

Tightening torque for hydraulic pipes

Wrench size	Torque in Nm	Pipe size	Thread
17	30-35	6x1	M12x1.5
17	30-35	8x1	M14x1.5
19	40-45	10x1.5	M16x1.5
22	60-65	12x1.5	M18x1.5
27	75-80	15x1.5	M22x1.5
30	90-100	16x2	M24x1.5
32	110-120	18x2	M26x1.5
36	130-140	22x2	M30x2
41	140-160	25x2.5	M36x2
27	60-65	15x1.5	M22x1.5 for ED-2 only

Tightening torque for hydraulic adapters

Thread	Wrench size	Torque in Nm	Pipe size	Thread
1/8“	14	15-20	4x1	M10x1.0
1/8“	17	25-35	6x1	M12x1.5
1/4“	19	34-45	8x1	M14x1.5
1/4“	19-22	40-55	10x1.5	M16x1.5
3/8“	22-24	45-65	12x1.5	M18x1.5
1/2“	27	70-80	15x1.5	M22x1.5
1/2“	27	80-90	16x2	M24x1.5
3/4“	32	100-120	18x2	M26x1.5
1“	36	120-140	22x2	M30x2

Recommended lubricants

1. The excavator is shipped with ESSO NUTO H46 hydraulic oil.
2. If bio oil is used, please contact your KUBOTA dealer.
3. As engine oil use CF or CF-4 grade oil according to API.
4. For the drive units use gear oil SAE 90 (API, CLA/GL5) in all seasons.

	Range of use	Viscosity	Shell	Mobil	Exxon	MIL standard
1*	In winter or at low temperatures	SAE 10W	Shell Rotella T10W	Mobil Delvac 1310	XD-3 10W	MIL-L-2104C MIL-L-2104D
			Shell Rimula 10W		XD-3 Extra 10W	
		SAE 20W	Shell Rotella T20W-2	Mobil Delvac 1320	XD-3 20W-20	
			Shell Rimula 20W-20		XD-3 Extra 20W-20	
	In summer or at high ambient temperatures	SAE 30W	Shell Rotella T30	Mobil Delvac 1330	XD-3 30	
			Shell Rimula 30		XD-3 Extra 30	
		SAE 40W	Shell Rotella T40	Mobil Delvac 1340	XD-3 40	
			Shell Rimula 40		XD-3 Extra 40	
		SAE 50W	Shell Rimula 50	Mobil Delvac 1350		
	All-weather engine oil	Multipurpose	Shell Rotella T15W40		XD-3 15W40 XD-3 Extra 15W-40	
2*	In winter or at low temperatures	SAE 75	Shell Oil S 8643	Mobilube HD80W-90		MIL-L-2105C
		SAE 80	Shell Spirax MA80W	Mobilube HD80W-90		
	In summer or at high ambient temperatures	SAE 90	Shell Spirax HD90	Mobilube 46		MIL-L-2105
				Mobilube HD80W-90		MIL-L-2105C
		SAE 140	Shell Spirax HD140	Mobilube HD85W-140 Mobilube HD80W-140		MIL-L-2105C
	All-weather gear oil	Multipurpose	Shell Spirax HD80W Shell Spirax HD85W	Mobilube HD80W-90	GX80W-90	MIL-L-2105C
3*	In winter or at low temperatures	ISO 32	Shell Tellus T32	Mobil DTE-Oil 13	NUTO H32	
		ISO 46	Shell Tellus T46	Mobil DTE-Oil 15	NUTO H46	
	In summer or at high ambient temperatures	ISO 68	Shell Tellus T68	Mobil DTE-Oil 16	NUTO H68	
Grease			Shell Alvania EP2	Mobilux EP2	BEACON Q2	
Fuel		Diesel fuel				
Fuel below -5 °C		Diesel fuel for cold weather operation				
Antifreeze for the cooling system					G03-11 BVLK	
Special grease for use during the first 50 hours of operation		NLGI-1	WEICON ANTI-SEIZE			

1* Engine oil
2* Gear oil
3* Hydraulic oil

Excavator repairs

Repairs on the excavator may only be carried out by trained personnel.

If repairs are carried out on supporting parts, for example welding on frame parts, the work must be checked by an expert.

For repairs use only original parts from the manufacturer.

After repairs the excavator may only be taken into operation if its proper operation has been determined. For this check particular attention must be paid to the repaired parts and the safety devices.

Spare parts

Genuine spare parts can be ordered from KUBOTA dealers by stating the model and the serial number of the vehicle.

SAFETY INSPECTION

The performance of the safety inspection is based on your national regulations.

According to the German BGR regulations, the operator/employer is responsible for setting the type, scope and deadlines of the required tests.
The tests should be performed at least once a year by expert personnel. Also, relevant modifications of the excavator need to be verified by an expert.

Because of special training and experience, this person must have sufficient excavator skills and should be familiar with the applicable national worker's protection regulations, safety rules and generally recognized technical rules to be able to assess the safe operating condition of the excavator.

The expert must keep his appraisal and evaluation neutral and must not be influenced by personal, economic or company interests. The inspection is a visual and functional check of all components for condition and completeness and of the effectiveness of the safety devices.

The performance of the inspection must be documented as an inspection report containing at least the following information:

- Date and scope of the inspection indicating all pending checks,
- Result of the inspection with a report of the determined faults,
- Assessment in respect to starting or continuing operation,
- Information on necessary follow-up inspections and
- Name, address and signature of the inspector.

The owner/employer (company) is responsible for the observance of the inspection intervals. The acknowledgement and the elimination of the determined faults must be confirmed by the owner/employer in writing, along with the date, in the inspection report.

The inspection report must be kept on file at least until the next inspection.

TAKING OUT OF SERVICE AND STORAGE

If the excavator is taken out of service for up to six months, the measures before, during and after taking out of service must be carried out as described below. If the vehicle is to be taken out of service for a period of over six months, contact the manufacturer for additional measures.

Safety rules for taking out of service and storage

The general safety rules (page 13), the safety rules for operation (page 49) and the safety rules for maintenance (page 99) apply.

When taking the excavator out of service, secure it against unauthorised use.

Storage conditions

The storage place must have a sufficient bearing capacity for the weight of the excavator.

The storage place must be frost-free, dry and well ventilated.

Measures before taking out of service

- Clean and dry the excavator thoroughly (page 104).
- Check the hydraulic oil level, add oil if necessary (page 54).
- Change the engine oil and oil filter (page 106).
- Drive the excavator to the storage place.
- Remove the battery (page 119) and store it in a dry and frost-free room. If necessary, connect it to a trickle charger.
- Grease the front attachments (page 55).
- Grease the pitch bearing (page 120).
- Grease the swivel gear (page 120).
- Check the antifreeze strength of the coolant, add coolant if necessary (page 104).
- Grease the hydraulic cylinder piston rods.

Measures during taking out of service

- Charge the battery regularly (page 118).

Start-up after taking out of service

- If necessary, clean the excavator thoroughly.
- Check the hydraulic oil for condensate water, replacing the oil if necessary.
- Install the battery (page 119).
- Check the safety devices for proper operation.
- Carry out pre-operational services (page 52). If defects are detected whilst starting the machine, the excavator may only be started up after the defects have been repaired.
- If the safety inspection is due while the vehicle has been taken out of service, the inspection must be performed before start-up.
- Start the engine (page 61). Run the excavator at idle and check all functions.

LIFTING CAPACITY OF THE EXCAVATOR

- The lifting capacity of the excavator is based on ISO 10567 and does not exceed 75% of the static tilt load or 87% of the hydraulic lifting capacity of the machine.

- The lifting capacity is measured at the front pin part of the arm with the arm fully extended. The boom cylinder is the operating cylinder.

The excavator as delivered may only transport materials in the bucket. The lifting of loads with the bucket or any other means of attachment is not allowed. The excavator can be retrofitted for lifting loads.

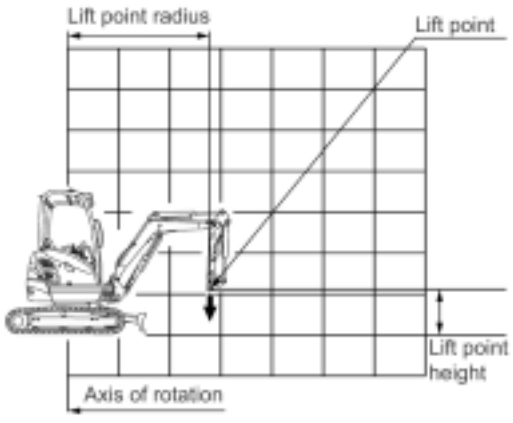
- The lifting conditions are:

1. Over front end, dozer down, standard arm
2. Over front end, dozer up, standard arm
3. Over side, standard arm
4. Over front end, dozer down, long arm (accessory)
5. Over front end, dozer up, long arm (accessory)
6. Over side, long arm (accessory)

Do not lift loads which exceed the values indicated in the lifting capacity tables.

The values given in the tables apply only to level and hard grounds. When working on soft ground, the machine can tip over easily, as the load is concentrated on one side only and the track or the dozer can dig into the ground.

The values given in the tables apply only for loads without bucket. If a bucket is used, the weight of the bucket must be subtracted from the values in the tables. The weight of mounted accessories (e.g. clamp kit, quick release coupling, etc.) must be subtracted from the lifting capacity.

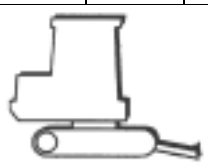


When lifting loads using the excavator with a lifting capacity (acc. to ISO 10567:1992) of more than 1000 kg or a tilting moment ≥ 40,000 Nm, the excavator should be equipped with additional devices as described in EN 474-5 / section 4.1.7.5.

Lifting capacity over front end, dozer blade down

MODEL	KX91-3α2	SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	KBM		STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.66)				
	2500							6.6 (0.68)	6.5 (0.66)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.9 (0.71)	6.7 (0.68)			
	1500						10.6 (1.08)	8.6 (0.88)	7.5 (0.77)	6.9 (0.71)			
	1000						12.5 (1.27)	9.7 (0.99)	8.2 (0.83)	7.2 (0.74)			
	500						13.7 (1.40)	10.5 (1.07)	8.7 (0.88)	7.5 (0.76)			
GL	0					19.5 (1.99)	14.1 (1.44)	10.9 (1.12)	8.9 (0.91)	7.5 (0.77)			
	-500			15.4 (1.57)	17.8 (1.81)	18.6 (1.90)	13.9 (1.42)	10.9 (1.11)	8.8 (0.90)				
	-1000			21.7 (2.21)	24.1 (2.46)	17.2 (1.75)	13.1 (1.33)	10.3 (1.05)	8.2 (0.84)				
	-1500				20.5 (2.09)	14.8 (1.51)	11.4 (1.17)	8.9 (0.90)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX91-3α2	SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	KBM		STANDARD ARM

kN (t)

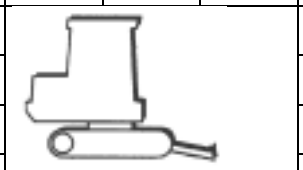
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.66)				
	2500							6.6 (0.68)	6.5 (0.66)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.9 (0.71)	5.9 (0.60)			
	1500						10.6 (1.08)	8.6 (0.88)	7.1 (0.72)	5.8 (0.59)			
	1000						11.3 (1.15)	8.6 (0.88)	6.9 (0.71)	5.7 (0.58)			
	500						11.0 (1.12)	8.4 (0.86)	6.8 (0.69)	5.6 (0.58)			
GL	0					15.3 (1.57)	10.8 (1.10)	8.3 (0.85)	6.7 (0.68)	5.6 (0.57)			
	-500			15.4 (1.57)	17.8 (1.81)	15.3 (1.56)	10.7 (1.10)	8.2 (0.84)	6.6 (0.68)				
	-1000			21.7 (2.21)	24.1 (2.46)	15.4 (1.57)	10.7 (1.10)	8.2 (0.84)	6.6 (0.68)				
	-1500				20.5 (2.09)	14.8 (1.51)	10.8 (1.10)	8.3 (0.85)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX91-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

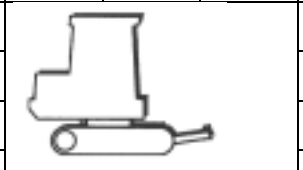
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	5.8 (0.59)			
	2000						7.1 (0.72)	6.6 (0.67)	6.2 (0.64)	6.0 (0.61)			
	1500					12.2 (1.25)	9.2 (0.94)	7.7 (0.79)	6.9 (0.70)	6.4 (0.65)			
	1000					16.5 (1.68)	11.3 (1.15)	8.9 (0.91)	7.6 (0.78)	6.8 (0.69)	6.3 (0.64)		
	500					18.8 (1.92)	12.9 (1.32)	9.9 (1.01)	8.2 (0.84)	7.2 (0.73)			
GL	0				11.5 (1.17)	19.5 (1.99)	13.8 (1.40)	10.6 (1.08)	8.7 (0.88)	7.4 (0.75)			
	-500			13.7 (1.40)	16.7 (1.70)	19.1 (1.95)	13.9 (1.42)	10.8 (1.10)	8.8 (0.90)	7.3 (0.75)			
	-1000			18.6 (1.89)	22.5 (2.30)	18.1 (1.84)	13.4 (1.37)	10.5 (1.07)	8.5 (0.87)				
	-1500			24.1 (2.46)	23.6 (2.41)	16.3 (1.66)	12.3 (1.25)	9.6 (0.98)	7.5 (0.77)				
	-2000				18.8 (1.92)	13.3 (1.36)	10.1 (1.03)	7.5 (0.77)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX91-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	5.8 (0.59)			
	2000						7.1 (0.72)	6.6 (0.67)	6.2 (0.64)	5.9 (0.60)			
	1500					12.2 (1.25)	9.2 (0.94)	7.7 (0.79)	6.9 (0.70)	5.8 (0.59)			
	1000					16.0 (1.64)	11.3 (1.15)	8.6 (0.88)	6.9 (0.70)	5.7 (0.58)	4.8 (0.49)		
	500					15.5 (1.58)	11.0 (1.12)	8.4 (0.86)	6.7 (0.69)	5.6 (0.57)			
GL	0				11.5 (1.17)	15.2 (1.55)	10.7 (1.09)	8.2 (0.84)	6.6 (0.68)	5.5 (0.56)			
	-500			13.7 (1.40)	16.7 (1.70)	15.1 (1.54)	10.6 (1.08)	8.1 (0.83)	6.5 (0.67)	5.4 (0.56)			
	-1000			18.6 (1.89)	22.5 (2.30)	15.1 (1.54)	10.5 (1.08)	8.1 (0.82)	6.5 (0.66)				
	-1500			24.1 (2.46)	23.6 (2.41)	15.2 (1.55)	10.6 (1.08)	8.1 (0.83)	6.5 (0.67)				
	-2000				18.8 (1.92)	13.3 (1.36)	10.1 (1.03)	7.5 (0.77)					
	-2500												

Lifting capacity over side

MODEL	KX91-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

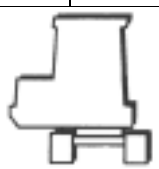
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.66)				
	2500							6.6 (0.68)	6.5 (0.66)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.6 (0.67)	5.4 (0.55)			
	1500						10.5 (1.07)	8.0 (0.82)	6.4 (0.66)	5.3 (0.54)			
	1000						10.1 (1.03)	7.8 (0.80)	6.3 (0.64)	5.2 (0.53)			
	500						9.8 (1.00)	7.6 (0.78)	6.2 (0.63)	5.1 (0.53)			
GL	0					13.4 (1.37)	9.6 (1.98)	7.5 (0.76)	6.1 (0.62)	5.1 (0.52)			
	-500			15.4 (1.57)	17.8 (1.81)	13.4 (1.36)	9.6 (0.98)	7.4 (0.76)	6.0 (0.62)				
	-1000			21.7 (2.21)	22.2 (2.27)	13.4 (1.37)	9.6 (0.98)	7.4 (0.76)	6.0 (0.62)				
	-1500				20.5 (2.09)	13.5 (1.38)	9.6 (0.98)	7.5 (0.76)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over side

MODEL	KX91-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	5.4 (0.55)			
	2000						7.1 (0.72)	6.6 (0.67)	6.2 (0.64)	5.4 (0.55)			
	1500					12.2 (1.25)	9.2 (0.94)	7.7 (0.79)	6.4 (0.66)	5.3 (0.54)			
	1000					14.0 (1.43)	10.1 (1.03)	7.8 (0.80)	6.3 (0.64)	5.2 (0.53)	4.4 (0.44)		
	500					13.5 (1.38)	9.8 (1.00)	7.6 (0.77)	6.1 (0.63)	5.1 (0.52)			
GL	0				11.5 (1.17)	13.2 (1.35)	9.5 (0.97)	7.4 (0.76)	6.0 (0.61)	5.0 (0.51)			
	-500			13.7 (1.40)	16.7 (1.70)	13.1 (1.34)	9.4 (0.96)	7.3 (0.74)	5.9 (0.60)	5.0 (0.51)			
	-1000			18.6 (1.89)	21.7 (2.22)	13.2 (1.34)	9.4 (0.96)	7.3 (0.74)	5.9 (0.60)				
	-1500			24.1 (2.46)	21.9 (2.24)	13.2 (1.35)	9.4 (0.96)	7.3 (0.74)	5.9 (0.61)				
	-2000				18.8 (1.92)	13.3 (1.36)	9.5 (0.97)	7.4 (0.76)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.66)				
	2500							6.6 (0.68)	6.5 (0.66)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.9 (0.71)	6.7 (0.68)			
	1500						10.6 (1.08)	8.6 (0.88)	7.5 (0.77)	6.9 (0.71)			
	1000						12.5 (1.27)	9.7 (0.99)	8.2 (0.83)	7.2 (0.74)			
	500						13.7 (1.40)	10.5 (1.07)	8.7 (0.88)	7.5 (0.76)			
GL	0					19.5 (1.99)	14.1 (1.44)	10.9 (1.12)	8.9 (0.91)	7.5 (0.77)			
	-500			15.4 (1.57)	17.8 (1.81)	18.6 (1.90)	13.9 (1.42)	10.9 (1.11)	8.8 (0.90)				
	-1000			21.7 (2.21)	24.1 (2.46)	17.2 (1.75)	13.1 (1.33)	10.3 (1.05)	8.2 (0.84)				
	-1500				20.5 (2.09)	14.8 (1.51)	11.4 (1.17)	8.9 (0.90)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

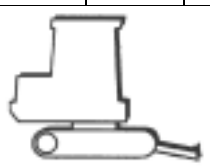
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.66)				
	2500							6.6 (0.68)	6.5 (0.66)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.8 (0.70)	5.5 (0.57)			
	1500						10.6 (1.08)	8.4 (0.86)	6.7 (0.68)	5.5 (0.56)			
	1000						10.7 (1.09)	8.2 (0.83)	6.5 (0.67)	5.4 (0.55)			
	500						10.4 (1.06)	8.0 (0.81)	6.4 (0.65)	5.3 (0.54)			
GL	0					14.5 (1.48)	10.2 (1.04)	7.8 (0.80)	6.3 (0.64)	5.3 (0.54)			
	-500			15.4 (1.57)	17.8 (1.81)	14.5 (1.48)	10.1 (1.03)	7.8 (0.79)	6.3 (0.64)				
	-1000			21.7 (2.21)	24.1 (2.46)	14.5 (1.48)	10.1 (1.03)	7.7 (0.79)	6.3 (0.64)				
	-1500				20.5 (2.09)	14.6 (1.49)	10.2 (1.04)	7.8 (0.80)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	5.8 (0.59)			
	2000						7.1 (0.72)	6.6 (0.67)	6.2 (0.64)	6.0 (0.61)			
	1500					12.2 (1.25)	9.2 (0.94)	7.7 (0.79)	6.9 (0.70)	6.4 (0.65)			
	1000					16.5 (1.68)	11.3 (1.15)	8.9 (0.91)	7.6 (0.78)	6.8 (0.69)	6.3 (0.64)		
	500					18.8 (1.92)	12.9 (1.32)	9.9 (1.01)	8.2 (0.84)	7.2 (0.73)			
GL	0				11.5 (1.17)	19.5 (1.99)	13.8 (1.40)	10.6 (1.08)	8.7 (0.88)	7.4 (0.75)			
	-500			13.7 (1.40)	16.7 (1.70)	19.1 (1.95)	13.9 (1.42)	10.8 (1.10)	8.8 (0.90)	7.3 (0.75)			
	-1000			18.6 (1.89)	22.5 (2.30)	18.1 (1.84)	13.4 (1.37)	10.5 (1.07)	8.5 (0.87)				
	-1500			24.1 (2.46)	23.6 (2.41)	16.3 (1.66)	12.3 (1.25)	9.6 (0.98)	7.5 (0.77)				
	-2000				18.8 (1.92)	13.3 (1.36)	10.1 (1.03)	7.5 (0.77)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

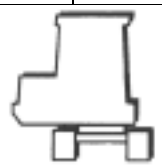
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	5.6 (0.57)			
	2000						7.1 (0.72)	6.6 (0.67)	6.2 (0.64)	5.5 (0.57)			
	1500					12.2 (1.25)	9.2 (0.94)	7.7 (0.79)	6.7 (0.68)	5.5 (0.56)			
	1000					15.2 (1.55)	10.7 (1.09)	8.2 (0.83)	6.5 (0.67)	5.4 (0.55)	4.5 (0.46)		
	500					14.6 (1.49)	10.3 (1.06)	7.9 (0.81)	6.4 (0.65)	5.3 (0.54)			
GL	0				11.5 (1.17)	14.3 (1.46)	10.1 (1.03)	7.8 (0.79)	6.2 (0.64)	5.2 (0.53)			
	-500			13.7 (1.40)	16.7 (1.70)	14.2 (1.45)	10.0 (1.02)	7.6 (0.78)	6.2 (0.63)	5.1 (0.52)			
	-1000			18.6 (1.89)	22.5 (2.30)	14.2 (1.45)	9.9 (1.01)	7.6 (0.77)	6.1 (0.62)				
	-1500			24.1 (2.46)	23.6 (2.41)	14.3 (1.46)	10.0 (1.02)	7.6 (0.78)	6.2 (0.63)				
	-2000				18.8 (1.92)	13.3 (1.36)	10.1 (1.03)	7.5 (0.77)					
	-2500												

Lifting capacity over side

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

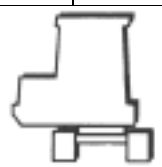
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.65)				
	2500							6.6 (0.68)	6.3 (0.65)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.2 (0.64)	5.1 (0.52)			
	1500						9.9 (1.01)	7.6 (0.78)	6.1 (0.62)	5.0 (0.51)			
	1000						9.5 (0.97)	7.4 (0.75)	6.0 (0.61)	4.9 (0.50)			
	500						9.3 (0.94)	7.2 (0.73)	5.8 (0.60)	4.9 (0.49)			
GL	0					12.6 (1.29)	9.1 (0.93)	7.1 (0.72)	5.7 (0.59)	4.8 (0.49)			
	-500			15.4 (1.57)	17.8 (1.81)	12.6 (1.29)	9.0 (0.92)	7.0 (0.71)	5.7 (0.58)				
	-1000			21.7 (2.21)	21.0 (2.14)	12.7 (1.29)	9.0 (0.92)	7.0 (0.71)	5.7 (0.58)				
	-1500				20.5 (2.09)	12.8 (1.30)	9.1 (0.93)	7.0 (0.72)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over side

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

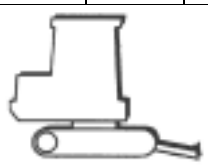
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	5.1 (0.52)			
	2000						7.1 (0.72)	6.6 (0.67)	6.2 (0.64)	5.1 (0.52)			
	1500					12.2 (1.25)	9.2 (0.94)	7.7 (0.78)	6.1 (0.62)	5.0 (0.51)			
	1000					13.3 (1.36)	9.6 (0.98)	7.4 (0.75)	5.9 (0.61)	4.9 (0.50)	4.1 (0.42)		
	500					12.7 (1.30)	9.2 (0.94)	7.2 (0.73)	5.8 (0.59)	4.8 (0.49)			
GL	0				11.5 (1.17)	12.5 (1.27)	9.0 (0.92)	7.0 (0.71)	5.7 (0.58)	4.7 (0.48)			
	-500			13.7 (1.40)	16.7 (1.70)	12.4 (1.27)	8.9 (0.91)	6.9 (0.70)	5.6 (0.57)	4.7 (0.48)			
	-1000			18.6 (1.89)	20.5 (2.10)	12.4 (1.27)	8.8 (0.90)	6.8 (0.70)	5.5 (0.57)				
	-1500			24.1 (2.46)	20.7 (2.11)	12.5 (1.27)	8.9 (0.91)	6.9 (0.70)	5.6 (0.57)				
	-2000				18.8 (1.92)	12.7 (1.29)	9.0 (0.92)	7.0 (0.71)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.66)				
	2500							6.6 (0.68)	6.5 (0.66)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.9 (0.71)	6.7 (0.68)			
	1500						10.6 (1.08)	8.6 (0.88)	7.5 (0.77)	6.9 (0.71)			
	1000						12.5 (1.27)	9.7 (0.99)	8.2 (0.83)	7.2 (0.74)			
	500						13.7 (1.40)	10.5 (1.07)	8.7 (0.88)	7.5 (0.76)			
GL	0					19.5 (1.99)	14.1 (1.44)	10.9 (1.12)	8.9 (0.91)	7.5 (0.77)			
	-500			15.4 (1.57)	17.8 (1.81)	18.6 (1.90)	13.9 (1.42)	10.9 (1.11)	8.8 (0.90)				
	-1000			21.7 (2.21)	24.1 (2.46)	17.2 (1.75)	13.1 (1.33)	10.3 (1.05)	8.2 (0.84)				
	-1500				20.5 (2.09)	14.8 (1.51)	11.4 (1.17)	8.9 (0.90)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

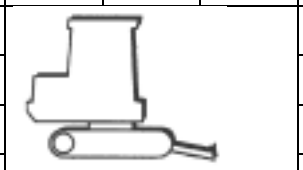
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.66)				
	2500							6.6 (0.68)	6.5 (0.66)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.5 (0.66)	5.3 (0.54)			
	1500						10.5 (1.07)	8.0 (0.82)	6.4 (0.65)	5.2 (0.53)			
	1000						10.1 (1.03)	7.8 (0.79)	6.2 (0.64)	5.1 (0.52)			
	500						9.8 (1.00)	7.6 (0.77)	6.1 (0.62)	5.1 (0.52)			
GL	0					13.6 (1.38)	9.6 (0.98)	7.4 (0.76)	6.0 (0.61)	5.0 (0.51)			
	-500			15.4 (1.57)	17.8 (1.81)	13.5 (1.38)	9.6 (0.98)	7.4 (0.75)	6.0 (0.61)				
	-1000			21.7 (2.21)	23.2 (2.37)	13.6 (1.39)	9.6 (0.98)	7.3 (0.75)	6.0 (0.61)				
	-1500				20.5 (2.09)	13.7 (1.40)	9.6 (0.98)	7.4 (0.76)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	5.8 (0.59)			
	2000						7.1 (0.72)	6.6 (0.67)	6.2 (0.64)	6.0 (0.61)			
	1500					12.2 (1.25)	9.2 (0.94)	7.7 (0.79)	6.9 (0.70)	6.4 (0.65)			
	1000					16.5 (1.68)	11.3 (1.15)	8.9 (0.91)	7.6 (0.78)	6.8 (0.69)	6.3 (0.64)		
	500					18.8 (1.92)	12.9 (1.32)	9.9 (1.01)	8.2 (0.84)	7.2 (0.73)			
GL	0				11.5 (1.17)	19.5 (1.99)	13.8 (1.40)	10.6 (1.08)	8.7 (0.88)	7.4 (0.75)			
	-500			13.7 (1.40)	16.7 (1.70)	19.1 (1.95)	13.9 (1.42)	10.8 (1.10)	8.8 (0.90)	7.3 (0.75)			
	-1000			18.6 (1.89)	22.5 (2.30)	18.1 (1.84)	13.4 (1.37)	10.5 (1.07)	8.5 (0.87)				
	-1500			24.1 (2.46)	23.6 (2.41)	16.3 (1.66)	12.3 (1.25)	9.6 (0.98)	7.5 (0.77)				
	-2000				18.8 (1.92)	13.3 (1.36)	10.1 (1.03)	7.5 (0.77)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	5.4 (0.55)			
	2000						7.1 (0.72)	6.6 (0.67)	6.2 (0.64)	5.3 (0.54)			
	1500					12.2 (1.25)	9.2 (0.94)	7.7 (0.79)	6.4 (0.65)	5.2 (0.53)			
	1000					14.2 (1.45)	10.2 (1.04)	7.8 (0.79)	6.2 (0.63)	5.1 (0.52)	4.3 (0.44)		
	500					13.7 (1.39)	9.8 (1.00)	7.5 (0.77)	6.1 (0.62)	5.0 (0.51)			
GL	0				11.5 (1.17)	13.4 (1.37)	9.5 (0.97)	7.4 (0.75)	5.9 (0.61)	4.9 (0.50)			
	-500			13.7 (1.40)	16.7 (1.70)	13.3 (1.36)	9.4 (0.96)	7.2 (0.74)	5.8 (0.60)	4.9 (0.50)			
	-1000			18.6 (1.89)	22.5 (2.30)	13.3 (1.36)	9.4 (0.96)	7.2 (0.73)	5.8 (0.59)				
	-1500			24.1 (2.46)	22.9 (2.33)	13.4 (1.37)	9.4 (0.96)	7.2 (0.74)	5.9 (0.60)				
	-2000				18.8 (1.92)	13.3 (1.36)	9.5 (0.97)	7.4 (0.75)					
	-2500												

Lifting capacity over side

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500							6.4 (0.65)					
	3000							6.2 (0.63)	6.4 (0.62)				
	2500							6.6 (0.68)	6.5 (0.62)				
	2000					10.4 (1.06)	8.5 (0.87)	7.5 (0.77)	6.0 (0.61)	4.9 (0.50)			
	1500						9.5 (0.97)	7.3 (0.74)	5.8 (0.60)	4.8 (0.49)			
	1000						9.1 (0.93)	7.1 (0.72)	5.7 (0.58)	4.7 (0.48)			
	500						8.8 (0.90)	6.9 (0.70)	5.6 (0.57)	4.7 (0.47)			
GL	0					11.9 (1.22)	8.6 (0.88)	6.7 (0.69)	5.5 (0.56)	4.6 (0.47)			
	-500			15.4 (1.57)	17.8 (1.81)	11.9 (1.22)	8.6 (0.88)	6.7 (0.68)	5.4 (0.56)				
	-1000			21.7 (2.21)	19.6 (2.00)	12.0 (1.22)	8.6 (0.88)	6.7 (0.68)	5.4 (0.56)				
	-1500				19.7 (2.01)	12.1 (1.23)	8.6 (0.88)	6.7 (0.69)					
	-2000				14.8 (1.51)	11.0 (1.12)	8.2 (0.83)						
	-2500												

Lifting capacity over side

MODEL	KX91-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							5.9 (0.61)					
	3500								5.8 (0.59)				
	3000								5.5 (0.56)				
	2500							5.7 (0.58)	5.7 (0.58)	4.9 (0.50)			
	2000						7.1 (0.72)	6.6 (0.67)	6.0 (0.61)	4.9 (0.50)			
	1500					12.2 (1.25)	9.2 (0.94)	7.3 (0.75)	5.8 (0.60)	4.8 (0.49)			
	1000					12.6 (1.28)	9.1 (0.93)	7.1 (0.72)	5.7 (0.58)	4.7 (0.48)	3.9 (0.40)		
	500					12.0 (1.23)	8.8 (0.90)	6.8 (0.70)	5.5 (0.56)	4.6 (0.47)			
GL	0				11.5 (1.17)	11.8 (1.20)	8.6 (0.87)	6.7 (0.68)	5.4 (0.55)	4.5 (0.46)			
	-500			13.7 (1.40)	16.7 (1.70)	11.7 (1.19)	8.4 (0.86)	6.6 (0.67)	5.3 (0.54)	4.5 (0.46)			
	-1000			18.6 (1.89)	19.1 (1.95)	11.7 (1.20)	8.4 (0.86)	6.5 (0.66)	5.3 (0.54)				
	-1500			24.1 (2.46)	19.3 (1.97)	11.8 (1.20)	8.4 (0.86)	6.5 (0.67)	5.3 (0.54)				
	-2000				18.8 (1.92)	12.0 (1.22)	8.6 (0.87)	6.7 (0.68)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX101-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.3 (0.74)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.3 (0.74)	7.2 (0.74)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	7.9 (0.80)	7.5 (0.76)			
	1500						12.4 (1.27)	10.0 (1.02)	8.7 (0.88)	7.9 (0.81)			
	1000						14.7 (1.50)	11.3 (1.15)	9.5 (0.97)	8.4 (0.85)			
	500						16.2 (1.65)	12.4 (1.26)	10.1 (1.04)	8.8 (0.89)			
GL	0					16.2 (1.66)	16.8 (1.71)	12.9 (1.32)	10.6 (1.08)	9.0 (0.91)			
	-500			13.8 (1.40)	15.4 (1.57)	22.3 (2.27)	16.6 (1.70)	13.0 (1.33)	10.6 (1.08)	8.9 (0.90)			
	-1000			19.3 (1.97)	22.3 (2.28)	20.8 (2.13)	15.9 (1.62)	12.6 (1.28)	10.2 (1.04)				
	-1500			25.6 (2.61)	26.0 (2.65)	18.6 (1.90)	14.4 (1.47)	11.4 (1.16)	8.9 (0.90)				
	-2000				20.6 (2.10)	15.1 (1.54)	11.7 (1.19)	8.7 (0.88)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX101-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

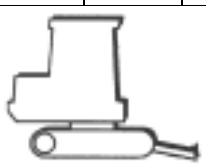
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.3 (0.74)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.3 (0.74)	7.2 (0.74)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	7.9 (0.80)	7.4 (0.75)			
	1500						12.4 (1.27)	10.0 (1.02)	8.7 (0.88)	7.3 (0.74)			
	1000						14.1 (1.44)	10.8 (1.10)	8.7 (0.88)	7.2 (0.73)			
	500						13.8 (1.41)	10.6 (1.08)	8.5 (0.87)	7.1 (0.72)			
GL	0					16.2 (1.66)	13.6 (1.39)	10.4 (1.06)	8.4 (0.86)	7.0 (0.71)			
	-500			13.8 (1.40)	15.4 (1.57)	19.6 (2.00)	13.5 (1.38)	10.3 (1.05)	8.3 (0.85)	6.9 (0.71)			
	-1000			19.3 (1.97)	22.3 (2.28)	19.6 (2.00)	13.5 (1.38)	10.3 (1.05)	8.3 (0.85)				
	-1500			25.6 (2.61)	26.0 (2.65)	18.6 (1.90)	13.6 (1.39)	10.3 (1.06)	8.4 (0.85)				
	-2000				20.6 (2.10)	15.1 (1.54)	11.7 (1.19)	8.7 (0.88)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX101-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	6.6 (0.67)			
	2500							6.7 (0.68)	6.6 (0.68)	6.7 (0.68)			
	2000						8.7 (0.88)	7.8 (0.80)	7.3 (0.74)	7.0 (0.71)	6.9 (0.70)		
	1500					15.6 (1.59)	11.2 (1.15)	9.2 (0.94)	8.1 (0.83)	7.5 (0.76)	7.1 (0.72)		
	1000						13.7 (1.40)	10.7 (1.09)	9.0 (0.92)	8.0 (0.82)	7.3 (0.75)		
	500						15.5 (1.59)	11.9 (1.21)	9.8 (1.00)	8.5 (0.86)	7.6 (0.77)		
GL	0					16.8 (1.71)	16.5 (1.68)	12.6 (1.29)	10.3 (1.05)	8.8 (0.90)	7.6 (0.78)		
	-500			12.3 (1.25)	14.4 (1.47)	21.7 (2.21)	16.6 (1.70)	12.9 (1.32)	10.5 (1.07)	8.9 (0.90)			
	-1000			17.0 (1.73)	20.1 (2.05)	21.6 (2.20)	16.1 (1.65)	12.7 (1.29)	10.3 (1.05)	8.5 (0.87)			
	-1500			22.3 (2.27)	26.8 (2.73)	19.7 (2.01)	15.0 (1.53)	11.8 (1.21)	9.5 (0.97)				
	-2000				23.6 (2.41)	16.7 (1.71)	12.9 (1.31)	10.0 (1.02)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over front end, dozer blade up

MODEL	KX101-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

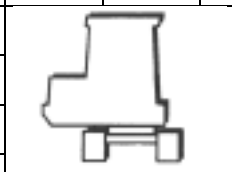
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	6.6 (0.67)			
	2500							6.7 (0.68)	6.6 (0.68)	6.7 (0.68)			
	2000						8.7 (0.88)	7.8 (0.80)	7.3 (0.74)	7.0 (0.71)	6.1 (0.63)		
	1500					15.6 (1.59)	11.2 (1.15)	9.2 (0.94)	8.1 (0.83)	7.3 (0.74)	6.1 (0.62)		
	1000						13.7 (1.40)	10.7 (1.09)	8.6 (0.88)	7.1 (0.73)	6.0 (0.61)		
	500						13.8 (1.41)	10.6 (1.08)	8.5 (0.86)	7.0 (0.72)	5.9 (0.61)		
GL	0					16.8 (1.71)	13.6 (1.38)	10.4 (1.06)	8.3 (0.85)	6.9 (0.71)	5.9 (0.60)		
	-500			12.3 (1.25)	14.4 (1.47)	19.4 (1.98)	13.4 (1.37)	10.2 (1.05)	8.2 (0.84)	6.9 (0.70)			
	-1000			17.0 (1.73)	20.1 (2.05)	19.4 (1.98)	13.4 (1.37)	10.2 (1.04)	8.2 (0.84)	6.9 (0.70)			
	-1500			22.3 (2.27)	26.8 (2.73)	19.5 (1.99)	13.4 (1.37)	10.2 (1.04)	8.2 (0.84)				
	-2000				23.6 (2.41)	16.7 (1.71)	12.9 (1.31)	10.0 (1.02)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over side

MODEL	KX101-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

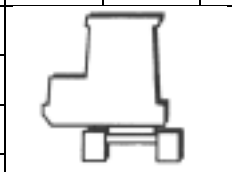
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.3 (0.74)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.3 (0.74)	6.3 (0.64)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	7.6 (0.77)	6.2 (0.64)			
	1500						12.0 (1.22)	9.2 (0.94)	7.4 (0.76)	6.1 (0.63)			
	1000						11.5 (1.18)	9.0 (0.91)	7.3 (0.74)	6.0 (0.62)			
	500						11.2 (1.14)	8.8 (0.89)	7.1 (0.73)	5.9 (0.61)			
GL	0					15.3 (1.57)	11.0 (1.13)	8.6 (0.88)	7.0 (0.71)	5.9 (0.60)			
	-500			13.8 (1.40)	15.4 (1.57)	15.3 (1.56)	11.0 (1.12)	8.5 (0.87)	6.9 (0.71)	5.8 (0.60)			
	-1000			19.3 (1.97)	22.3 (2.28)	15.4 (1.57)	11.0 (1.12)	8.5 (0.87)	6.9 (0.71)				
	-1500			25.6 (2.61)	25.6 (2.61)	15.5 (1.58)	11.0 (1.12)	8.5 (0.87)	7.0 (0.71)				
	-2000				20.6 (2.10)	15.1 (1.54)	11.2 (1.14)	8.7 (0.88)					
	-2500												

Lifting capacity over side

MODEL	KX101-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	6.3 (0.65)			
	2500							6.7 (0.68)	6.6 (0.68)	6.3 (0.64)			
	2000						8.7 (0.88)	7.8 (0.80)	7.3 (0.74)	6.2 (0.64)	5.2 (0.53)		
	1500					15.6 (1.59)	11.2 (1.15)	9.2 (0.94)	7.4 (0.76)	6.1 (0.62)	5.1 (0.52)		
	1000						11.6 (1.18)	9.0 (0.92)	7.2 (0.74)	6.0 (0.61)	5.1 (0.52)		
	500						11.2 (1.14)	8.7 (0.89)	7.1 (0.72)	5.9 (0.60)	5.0 (0.51)		
GL	0					15.2 (1.55)	11.0 (1.12)	8.5 (0.87)	6.9 (0.71)	5.8 (0.59)	5.0 (0.51)		
	-500			12.3 (1.25)	14.4 (1.47)	15.2 (1.55)	10.9 (1.11)	8.4 (0.86)	6.9 (0.70)	5.8 (0.59)			
	-1000			17.0 (1.73)	20.1 (2.05)	15.2 (1.55)	10.8 (1.10)	8.4 (0.86)	6.8 (0.70)	5.7 (0.59)			
	-1500			22.3 (2.27)	25.2 (2.57)	15.3 (1.56)	10.9 (1.11)	8.4 (0.86)	6.8 (0.70)				
	-2000				23.6 (2.41)	15.4 (1.57)	11.0 (1.12)	8.5 (0.87)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over front end, dozer blade down

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.3 (0.74)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.3 (0.74)	7.2 (0.74)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	7.9 (0.80)	7.5 (0.76)			
	1500						12.4 (1.27)	10.0 (1.02)	8.7 (0.88)	7.9 (0.81)			
	1000						14.7 (1.50)	11.3 (1.15)	9.5 (0.97)	8.4 (0.85)			
	500						16.2 (1.65)	12.4 (1.26)	10.1 (1.04)	8.8 (0.89)			
GL	0					16.2 (1.66)	16.8 (1.71)	12.9 (1.32)	10.6 (1.08)	9.0 (0.91)			
	-500			13.8 (1.40)	15.4 (1.57)	22.3 (2.27)	16.6 (1.70)	13.0 (1.33)	10.6 (1.08)	8.9 (0.90)			
	-1000			19.3 (1.97)	22.3 (2.28)	20.8 (2.13)	15.9 (1.62)	12.6 (1.28)	10.2 (1.04)				
	-1500			25.6 (2.61)	26.0 (2.65)	18.6 (1.90)	14.4 (1.47)	11.4 (1.16)	8.9 (0.90)				
	-2000				20.6 (2.10)	15.1 (1.54)	11.7 (1.19)	8.7 (0.88)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

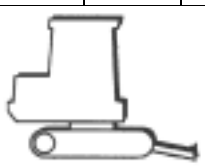
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.3 (0.74)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.3 (0.74)	7.1 (0.72)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	7.9 (0.80)	7.0 (0.71)			
	1500						12.4 (1.27)	10.0 (1.02)	8.4 (0.86)	6.9 (0.70)			
	1000						13.5 (1.37)	10.3 (1.05)	8.2 (0.84)	6.8 (0.69)			
	500						13.1 (1.34)	10.0 (1.03)	8.1 (0.82)	6.7 (0.68)			
GL	0					16.2 (1.66)	12.9 (1.32)	9.9 (1.01)	8.0 (0.81)	6.6 (0.68)			
	-500			13.8 (1.40)	15.4 (1.57)	18.6 (1.90)	12.9 (1.31)	9.8 (1.00)	7.9 (0.80)	6.6 (0.67)			
	-1000			19.3 (1.97)	22.3 (2.28)	18.6 (1.90)	12.8 (1.31)	9.8 (1.00)	7.9 (0.80)				
	-1500			25.6 (2.61)	26.0 (2.65)	18.6 (1.90)	12.9 (1.32)	9.8 (1.00)	7.9 (0.81)				
	-2000				20.6 (2.10)	15.1 (1.54)	11.7 (1.19)	8.7 (0.88)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	6.6 (0.67)			
	2500							6.7 (0.68)	6.6 (0.68)	6.7 (0.68)			
	2000						8.7 (0.88)	7.8 (0.80)	7.3 (0.74)	7.0 (0.71)	6.9 (0.70)		
	1500					15.6 (1.59)	11.2 (1.15)	9.2 (0.94)	8.1 (0.83)	7.5 (0.76)	7.1 (0.72)		
	1000						13.7 (1.40)	10.7 (1.09)	9.0 (0.92)	8.0 (0.82)	7.3 (0.75)		
	500						15.5 (1.59)	11.9 (1.21)	9.8 (1.00)	8.5 (0.86)	7.6 (0.77)		
GL	0					16.8 (1.71)	16.5 (1.68)	12.6 (1.29)	10.3 (1.05)	8.8 (0.90)	7.6 (0.78)		
	-500			12.3 (1.25)	14.4 (1.47)	21.7 (2.21)	16.6 (1.70)	12.9 (1.32)	10.5 (1.07)	8.9 (0.90)			
	-1000			17.0 (1.73)	20.1 (2.05)	21.6 (2.20)	16.1 (1.65)	12.7 (1.29)	10.3 (1.05)	8.5 (0.87)			
	-1500			22.3 (2.27)	26.8 (2.73)	19.7 (2.01)	15.0 (1.53)	11.8 (1.21)	9.5 (0.97)				
	-2000				23.6 (2.41)	16.7 (1.71)	12.9 (1.31)	10.0 (1.02)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over front end, dozer blade up

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

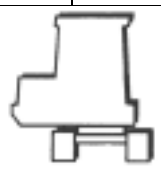
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	6.6 (0.67)			
	2500							6.7 (0.68)	6.6 (0.68)	6.7 (0.68)			
	2000						8.7 (0.88)	7.8 (0.80)	7.3 (0.74)	7.0 (0.71)	5.8 (0.59)		
	1500					15.6 (1.59)	11.2 (1.15)	9.2 (0.94)	8.1 (0.83)	6.9 (0.70)	5.8 (0.59)		
	1000						13.5 (1.38)	10.3 (1.05)	8.2 (0.84)	6.8 (0.69)	5.7 (0.58)		
	500						13.1 (1.34)	10.0 (1.02)	8.0 (0.82)	6.7 (0.68)	5.6 (0.57)		
GL	0					16.8 (1.71)	12.9 (1.31)	9.8 (1.00)	7.9 (0.81)	6.6 (0.67)	5.6 (0.57)		
	-500			12.3 (1.25)	14.4 (1.47)	18.4 (1.88)	12.7 (1.30)	9.7 (0.99)	7.8 (0.80)	6.5 (0.66)			
	-1000			17.0 (1.73)	20.1 (2.05)	18.4 (1.88)	12.7 (1.30)	9.7 (0.99)	7.8 (0.79)	6.5 (0.66)			
	-1500			22.3 (2.27)	26.8 (2.73)	18.5 (1.89)	12.7 (1.30)	9.7 (0.99)	7.8 (0.80)				
	-2000				23.6 (2.41)	16.7 (1.71)	12.9 (1.31)	9.8 (1.00)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over side

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.3 (0.74)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.3 (0.74)	6.0 (0.61)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	7.2 (0.74)	5.9 (0.60)			
	1500						11.4 (1.16)	8.8 (0.90)	7.1 (0.72)	5.8 (0.59)			
	1000						10.9 (1.12)	8.5 (0.87)	6.9 (0.70)	5.7 (0.58)			
	500						10.6 (1.09)	8.3 (0.85)	6.7 (0.69)	5.6 (0.57)			
GL	0					14.6 (1.48)	10.5 (1.07)	8.2 (0.83)	6.6 (0.68)	5.6 (0.57)			
	-500			13.8 (1.40)	15.4 (1.57)	14.5 (1.48)	10.4 (1.06)	8.1 (0.82)	6.6 (0.67)	5.5 (0.56)			
	-1000			19.3 (1.97)	22.3 (2.28)	14.6 (1.49)	10.4 (1.06)	8.1 (0.82)	6.6 (0.67)				
	-1500			25.6 (2.61)	24.3 (2.48)	14.7 (1.50)	10.4 (1.07)	8.1 (0.83)	6.6 (0.67)				
	-2000				20.6 (2.10)	14.9 (1.52)	10.6 (1.08)	8.2 (0.84)					
	-2500												

Lifting capacity over side

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	6.0 (0.61)			
	2500							6.7 (0.68)	6.6 (0.68)	6.0 (0.61)			
	2000						8.7 (0.88)	7.8 (0.80)	7.2 (0.74)	5.9 (0.60)	4.9 (0.50)		
	1500					15.6 (1.59)	11.2 (1.15)	8.8 (0.90)	7.1 (0.72)	5.8 (0.59)	4.9 (0.50)		
	1000						11.0 (1.12)	8.5 (0.87)	6.9 (0.70)	5.7 (0.58)	4.8 (0.49)		
	500						10.6 (1.09)	8.3 (0.84)	6.7 (0.68)	5.6 (0.57)	4.7 (0.48)		
GL	0					14.4 (1.47)	10.4 (1.06)	8.1 (0.83)	6.6 (0.67)	5.5 (0.56)	4.7 (0.48)		
	-500			12.3 (1.25)	14.4 (1.47)	14.4 (1.47)	10.3 (1.05)	8.0 (0.82)	6.5 (0.66)	5.4 (0.56)			
	-1000			17.0 (1.73)	20.1 (2.05)	14.4 (1.47)	10.3 (1.05)	7.9 (0.81)	6.5 (0.66)	5.4 (0.55)			
	-1500			22.3 (2.27)	24.0 (2.44)	14.5 (1.48)	10.3 (1.05)	8.0 (0.81)	6.5 (0.66)				
	-2000				23.6 (2.41)	14.6 (1.49)	10.4 (1.06)	8.1 (0.82)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over front end, dozer blade down

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.3 (0.74)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.3 (0.74)	7.2 (0.74)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	7.9 (0.80)	7.5 (0.76)			
	1500						12.4 (1.27)	10.0 (1.02)	8.7 (0.88)	7.9 (0.81)			
	1000						14.7 (1.50)	11.3 (1.15)	9.5 (0.97)	8.4 (0.85)			
	500						16.2 (1.65)	12.4 (1.26)	10.1 (1.04)	8.8 (0.89)			
GL	0					16.2 (1.66)	16.8 (1.71)	12.9 (1.32)	10.6 (1.08)	9.0 (0.91)			
	-500			13.8 (1.40)	15.4 (1.57)	22.3 (2.27)	16.6 (1.70)	13.0 (1.33)	10.6 (1.08)	8.9 (0.90)			
	-1000			19.3 (1.97)	22.3 (2.28)	20.8 (2.13)	15.9 (1.62)	12.6 (1.28)	10.2 (1.04)				
	-1500			25.6 (2.61)	26.0 (2.65)	18.6 (1.90)	14.4 (1.47)	11.4 (1.16)	8.9 (0.90)				
	-2000				20.6 (2.10)	15.1 (1.54)	11.7 (1.19)	8.7 (0.88)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

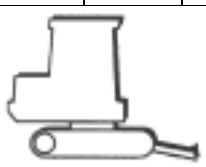
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.3 (0.74)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.3 (0.74)	6.7 (0.69)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	7.9 (0.80)	6.7 (0.68)			
	1500						12.4 (1.27)	10.0 (1.02)	8.0 (0.82)	6.6 (0.67)			
	1000						12.7 (1.30)	9.8 (1.00)	7.8 (0.80)	6.5 (0.66)			
	500						12.4 (1.26)	9.5 (0.97)	7.7 (0.79)	6.4 (0.65)			
GL	0					16.2 (1.66)	12.2 (1.25)	9.4 (0.96)	7.6 (0.77)	6.3 (0.64)			
	-500			13.8 (1.40)	15.4 (1.57)	17.4 (1.77)	12.1 (1.24)	9.3 (0.95)	7.5 (0.77)	6.3 (0.64)			
	-1000			19.3 (1.97)	22.3 (2.28)	17.4 (1.78)	12.1 (1.24)	9.3 (0.95)	7.5 (0.76)				
	-1500			25.6 (2.61)	26.0 (2.65)	17.5 (1.79)	12.2 (1.24)	9.3 (0.95)	7.6 (0.77)				
	-2000				20.6 (2.10)	15.1 (1.54)	11.7 (1.19)	8.7 (0.88)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	6.6 (0.67)			
	2500							6.7 (0.68)	6.6 (0.68)	6.7 (0.68)			
	2000						8.7 (0.88)	7.8 (0.80)	7.3 (0.74)	7.0 (0.71)	6.9 (0.70)		
	1500					15.6 (1.59)	11.2 (1.15)	9.2 (0.94)	8.1 (0.83)	7.5 (0.76)	7.1 (0.72)		
	1000						13.7 (1.40)	10.7 (1.09)	9.0 (0.92)	8.0 (0.82)	7.3 (0.75)		
	500						15.5 (1.59)	11.9 (1.21)	9.8 (1.00)	8.5 (0.86)	7.6 (0.77)		
GL	0					16.8 (1.71)	16.5 (1.68)	12.6 (1.29)	10.3 (1.05)	8.8 (0.90)	7.6 (0.78)		
	-500			12.3 (1.25)	14.4 (1.47)	21.7 (2.21)	16.6 (1.70)	12.9 (1.32)	10.5 (1.07)	8.9 (0.90)			
	-1000			17.0 (1.73)	20.1 (2.05)	21.6 (2.20)	16.1 (1.65)	12.7 (1.29)	10.3 (1.05)	8.5 (0.87)			
	-1500			22.3 (2.27)	26.8 (2.73)	19.7 (2.01)	15.0 (1.53)	11.8 (1.21)	9.5 (0.97)				
	-2000				23.6 (2.41)	16.7 (1.71)	12.9 (1.31)	10.0 (1.02)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over front end, dozer blade up

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

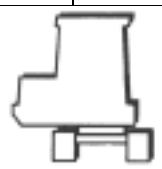
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	6.6 (0.67)			
	2500							6.7 (0.68)	6.6 (0.68)	6.7 (0.68)			
	2000						8.7 (0.88)	7.8 (0.80)	7.3 (0.74)	6.7 (0.68)	5.6 (0.57)		
	1500					15.6 (1.59)	11.2 (1.15)	9.2 (0.94)	8.0 (0.82)	6.6 (0.67)	5.5 (0.56)		
	1000						12.8 (1.30)	9.8 (1.00)	7.8 (0.80)	6.5 (0.66)	5.4 (0.56)		
	500						12.4 (1.26)	9.5 (0.97)	7.7 (0.78)	6.3 (0.65)	5.4 (0.55)		
GL	0					16.8 (1.71)	12.2 (1.24)	9.3 (0.95)	7.5 (0.77)	6.3 (0.64)	5.3 (0.54)		
	-500			12.3 (1.25)	14.4 (1.47)	17.2 (1.76)	12.0 (1.23)	9.2 (0.94)	7.4 (0.76)	6.2 (0.63)			
	-1000			17.0 (1.73)	20.1 (2.05)	17.2 (1.76)	12.0 (1.22)	9.2 (0.94)	7.4 (0.75)	6.2 (0.63)			
	-1500			22.3 (2.27)	26.8 (2.73)	17.3 (1.77)	12.0 (1.23)	9.2 (0.94)	7.4 (0.76)				
	-2000				23.6 (2.41)	16.7 (1.71)	12.1 (1.24)	9.3 (0.95)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over side

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							7.6 (0.77)					
	3500							6.7 (0.68)	7.1 (0.72)				
	3000							6.8 (0.69)	7.0 (0.71)				
	2500							7.5 (0.76)	7.1 (0.72)	5.8 (0.59)			
	2000					12.4 (1.26)	9.8 (1.00)	8.6 (0.88)	6.9 (0.71)	5.7 (0.58)			
	1500						10.9 (1.11)	8.4 (0.86)	6.8 (0.69)	5.6 (0.57)			
	1000						10.5 (1.07)	8.2 (0.83)	6.6 (0.68)	5.5 (0.56)			
	500						10.1 (1.04)	8.0 (0.81)	6.5 (0.66)	5.4 (0.55)			
GL	0					13.8 (1.41)	10.0 (1.02)	7.8 (0.80)	6.4 (0.65)	5.3 (0.54)			
	-500			13.8 (1.40)	15.4 (1.57)	13.8 (1.40)	9.9 (1.01)	7.7 (0.79)	6.3 (0.64)	5.3 (0.54)			
	-1000			19.3 (1.97)	22.3 (2.28)	13.8 (1.41)	9.9 (1.01)	7.7 (0.79)	6.3 (0.64)				
	-1500			25.6 (2.61)	22.7 (2.31)	13.9 (1.42)	10.0 (1.02)	7.7 (0.79)	6.3 (0.65)				
	-2000				20.6 (2.10)	14.1 (1.44)	10.1 (1.03)	7.9 (0.81)					
	-2500												

Lifting capacity over side

MODEL	KX101-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

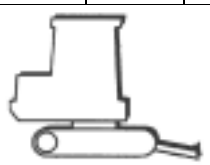
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000							6.3 (0.64)					
	3500								6.3 (0.65)				
	3000								6.3 (0.64)	5.8 (0.59)			
	2500							6.7 (0.68)	6.6 (0.68)	5.8 (0.59)			
	2000						8.7 (0.88)	7.8 (0.80)	6.9 (0.71)	5.7 (0.58)	4.7 (0.48)		
	1500					15.2 (1.56)	11.0 (1.12)	8.4 (0.86)	6.8 (0.69)	5.6 (0.57)	4.7 (0.48)		
	1000						10.5 (1.07)	8.2 (0.83)	6.6 (0.67)	5.5 (0.56)	4.6 (0.47)		
	500						10.1 (1.03)	7.9 (0.81)	6.4 (0.66)	5.4 (0.55)	4.6 (0.46)		
GL	0					13.7 (1.39)	9.9 (1.01)	7.7 (0.79)	6.3 (0.64)	5.3 (0.54)	4.5 (0.46)		
	-500			12.3 (1.25)	14.4 (1.47)	13.6 (1.39)	9.8 (1.00)	7.6 (0.78)	6.2 (0.64)	5.2 (0.53)			
	-1000			17.0 (1.73)	20.1 (2.05)	13.6 (1.39)	9.8 (1.00)	7.6 (0.77)	6.2 (0.63)	5.2 (0.53)			
	-1500			22.3 (2.27)	22.3 (2.28)	13.7 (1.40)	9.8 (1.00)	7.6 (0.78)	6.2 (0.63)				
	-2000				22.6 (2.31)	13.8 (1.41)	9.9 (1.01)	7.7 (0.79)					
	-2500					11.8 (1.20)	8.6 (0.88)						

Lifting capacity over front end, dozer blade down

MODEL	U35-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								7.0 (0.71)				
	3000								6.9 (0.70)	7.2 (0.73)			
	2500								7.3 (0.75)	7.2 (0.74)			
	2000						10.6 (1.09)	9.0 (0.92)	8.1 (0.83)	7.6 (0.78)	7.4 (0.76)		
	1500						14.1 (1.44)	10.8 (1.10)	9.1 (0.93)	8.2 (0.83)	7.6 (0.78)		
	1000						17.1 (1.74)	12.4 (1.27)	10.1 (1.03)	8.8 (0.89)	7.9 (0.81)		
	500						18.6 (1.90)	13.7 (1.39)	10.9 (1.11)	9.3 (0.94)	8.1 (0.83)		
GL	0						19.0 (1.94)	14.3 (1.46)	11.4 (1.16)	9.6 (0.97)	8.2 (0.84)		
	-500				14.1 (1.44)	18.8 (1.92)	18.6 (1.90)	14.3 (1.46)	11.5 (1.17)	9.5 (0.97)			
	-1000				20.6 (2.10)	23.7 (2.42)	17.6 (1.80)	13.8 (1.40)	11.1 (1.13)	9.0 (0.92)			
	-1500				28.0 (2.85)	21.1 (2.15)	15.9 (1.62)	12.5 (1.28)	9.9 (1.01)				
	-2000				24.7 (2.52)	17.0 (1.73)	13.0 (1.32)	10.0 (1.02)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	U35-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

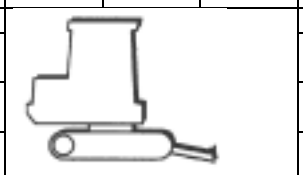
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								7.0 (0.71)				
	3000								6.9 (0.70)	5.8 (0.59)			
	2500								7.2 (0.73)	5.8 (0.59)			
	2000						10.6 (1.09)	8.9 (0.91)	7.0 (0.71)	5.7 (0.58)	4.7 (0.48)		
	1500						11.3 (1.15)	8.6 (0.87)	6.8 (0.69)	5.6 (0.57)	4.6 (0.47)		
	1000						10.8 (1.10)	8.3 (0.84)	6.6 (0.68)	5.5 (0.56)	4.6 (0.47)		
	500						10.4 (1.06)	8.0 (0.82)	6.5 (0.66)	5.3 (0.54)	4.5 (0.46)		
GL	0						10.3 (1.05)	7.9 (0.80)	6.3 (0.65)	5.3 (0.54)	4.5 (0.46)		
	-500				14.1 (1.44)	14.9 (1.52)	10.2 (1.04)	7.8 (0.79)	6.3 (0.64)	5.2 (0.53)			
	-1000				20.6 (2.10)	14.9 (1.52)	10.2 (1.04)	7.8 (0.79)	6.2 (0.64)	5.2 (0.53)			
	-1500				27.2 (2.78)	15.1 (1.54)	10.3 (1.05)	7.8 (0.80)	6.3 (0.64)				
	-2000				24.7 (2.52)	15.3 (1.56)	10.5 (1.07)	7.9 (0.81)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	U35-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

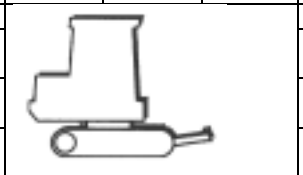
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.9 (0.70)				
	3500												
	3000									6.4 (0.66)			
	2500								6.6 (0.68)	6.6 (0.68)	6.8 (0.69)		
	2000							8.1 (0.83)	7.5 (0.76)	7.1 (0.72)	6.9 (0.70)		
	1500						12.6 (1.28)	9.9 (1.01)	8.5 (0.87)	7.7 (0.79)	7.2 (0.74)		
	1000						15.8 (1.61)	11.7 (1.19)	9.6 (0.98)	8.4 (0.85)	7.6 (0.77)		
	500						17.9 (1.83)	13.1 (1.34)	10.5 (1.07)	8.9 (0.91)	7.9 (0.81)		
GL	0					12.8 (1.30)	18.8 (1.91)	14.0 (1.42)	11.1 (1.14)	9.3 (0.95)	8.1 (0.83)		
	-500			12.5 (1.28)	13.0 (1.33)	17.8 (1.82)	18.7 (1.91)	14.2 (1.45)	11.4 (1.16)	9.5 (0.97)	8.0 (0.82)		
	-1000			16.6 (1.69)	18.3 (1.87)	24.0 (2.42)	18.0 (1.84)	13.9 (1.42)	11.2 (1.14)	9.2 (0.94)			
	-1500			21.4 (2.18)	24.4 (2.49)	22.5 (2.30)	16.6 (1.70)	13.0 (1.33)	10.4 (1.06)	8.1 (0.83)			
	-2000				29.0 (2.96)	19.0 (1.94)	14.3 (1.46)	11.1 (1.13)	8.4 (0.85)				
	-2500					13.3 (1.36)	9.9 (1.01)						

Lifting capacity over front end, dozer blade up

MODEL	U35-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.9 (0.70)				
	3500												
	3000									5.8 (0.59)			
	2500								6.6 (0.68)	5.8 (0.59)	4.7 (0.48)		
	2000							8.1 (0.83)	7.0 (0.72)	5.7 (0.58)	4.7 (0.48)		
	1500						11.4 (1.17)	8.6 (0.88)	6.8 (0.70)	5.6 (0.57)	4.6 (0.47)		
	1000						10.8 (1.11)	8.3 (0.85)	6.6 (0.67)	5.4 (0.55)	4.5 (0.46)		
	500						10.4 (1.06)	8.0 (0.82)	6.4 (0.65)	5.3 (0.54)	4.5 (0.46)		
GL	0					12.8 (1.30)	10.2 (1.04)	7.8 (0.80)	6.3 (0.64)	5.2 (0.53)	4.4 (0.45)		
	-500			12.5 (1.28)	13.0 (1.33)	14.7 (1.50)	10.1 (1.03)	7.7 (0.78)	6.2 (0.63)	5.1 (0.52)	4.4 (0.44)		
	-1000			16.6 (1.69)	18.3 (1.87)	14.7 (1.50)	10.1 (1.03)	7.6 (0.78)	6.1 (0.63)	5.1 (0.52)			
	-1500			21.4 (2.18)	24.4 (2.49)	14.8 (1.51)	10.1 (1.03)	7.7 (0.78)	6.1 (0.63)	5.1 (0.53)			
	-2000				27.1 (2.77)	15.0 (1.53)	10.3 (1.05)	7.8 (0.79)	6.3 (0.64)				
	-2500					13.3 (1.36)	9.9 (1.01)						

Lifting capacity over side

MODEL	U35-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								6.8 (0.70)				
	3000								6.8 (0.70)	5.5 (0.56)			
	2500								6.7 (0.69)	5.4 (0.56)			
	2000						10.6 (1.09)	8.3 (0.85)	6.6 (0.67)	5.4 (0.55)	4.4 (0.45)		
	1500						10.5 (1.07)	8.0 (0.82)	6.4 (0.65)	5.3 (0.54)	4.4 (0.45)		
	1000						9.9 (1.01)	7.7 (0.79)	6.2 (0.63)	5.1 (0.52)	4.3 (0.44)		
	500						9.6 (0.98)	7.5 (0.76)	6.0 (0.62)	5.0 (0.51)	4.3 (0.43)		
GL	0						9.5 (0.97)	7.3 (0.75)	5.9 (0.61)	4.9 (0.50)	4.2 (0.43)		
	-500				14.1 (1.44)	13.5 (1.38)	9.4 (0.96)	7.2 (0.74)	5.9 (0.60)	4.9 (0.50)			
	-1000				20.6 (2.10)	13.5 (1.38)	9.4 (0.96)	7.2 (0.74)	5.8 (0.60)	4.9 (0.50)			
	-1500				23.6 (2.41)	13.6 (1.39)	9.5 (0.97)	7.3 (0.74)	5.9 (0.60)				
	-2000				23.9 (2.44)	13.8 (1.41)	9.7 (0.98)	7.4 (0.75)					
	-2500												

Lifting capacity over side

MODEL	U35-3α2
	KBM

SPECIFICATION	CAB VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.8 (0.69)				
	3500												
	3000									5.5 (0.56)			
	2500								6.6 (0.68)	5.5 (0.56)	4.5 (0.46)		
	2000							8.1 (0.83)	6.6 (0.67)	5.4 (0.55)	4.4 (0.45)		
	1500						10.6 (1.08)	8.1 (0.82)	6.4 (0.65)	5.2 (0.53)	4.4 (0.45)		
	1000						10.0 (1.02)	7.7 (0.79)	6.2 (0.63)	5.1 (0.52)	4.3 (0.44)		
	500						9.6 (0.98)	7.5 (0.76)	6.0 (0.61)	5.0 (0.51)	4.2 (0.43)		
GL	0					12.8 (1.30)	9.4 (0.96)	7.3 (0.74)	5.9 (0.60)	4.9 (0.50)	4.1 (0.42)		
	-500			12.5 (1.28)	13.0 (1.33)	13.3 (1.35)	9.3 (0.95)	7.2 (0.73)	5.8 (0.59)	4.8 (0.49)	4.1 (0.42)		
	-1000			16.6 (1.69)	18.3 (1.87)	13.3 (1.36)	9.3 (0.95)	7.1 (0.73)	5.7 (0.59)	4.8 (0.49)			
	-1500			21.4 (2.18)	23.2 (2.37)	13.4 (1.37)	9.3 (0.95)	7.1 (0.73)	5.8 (0.59)	4.8 (0.49)			
	-2000				23.5 (2.40)	13.6 (1.39)	9.5 (0.96)	7.2 (0.74)	5.9 (0.60)				
	-2500					13.3 (1.36)	9.7 (0.99)						

Lifting capacity over front end, dozer blade down

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								7.0 (0.71)				
	3000								6.9 (0.70)	7.2 (0.73)			
	2500								7.3 (0.75)	7.2 (0.74)			
	2000						10.6 (1.09)	9.0 (0.92)	8.1 (0.83)	7.6 (0.78)	7.4 (0.76)		
	1500						14.1 (1.44)	10.8 (1.10)	9.1 (0.93)	8.2 (0.83)	7.6 (0.78)		
	1000						17.1 (1.74)	12.4 (1.27)	10.1 (1.03)	8.8 (0.89)	7.9 (0.81)		
	500						18.6 (1.90)	13.7 (1.39)	10.9 (1.11)	9.3 (0.94)	8.1 (0.83)		
GL	0						19.0 (1.94)	14.3 (1.46)	11.4 (1.16)	9.6 (0.97)	8.2 (0.84)		
	-500				14.1 (1.44)	18.8 (1.92)	18.6 (1.90)	14.3 (1.46)	11.5 (1.17)	9.5 (0.97)			
	-1000				20.6 (2.10)	23.7 (2.42)	17.6 (1.80)	13.8 (1.40)	11.1 (0.13)	9.0 (0.92)			
	-1500				28.0 (2.85)	21.1 (2.15)	15.9 (1.62)	12.5 (1.28)	9.9 (1.01)				
	-2000				24.7 (2.52)	17.0 (1.73)	13.0 (1.32)	10.0 (1.02)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

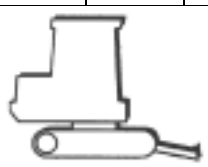
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								6.9 (0.71)				
	3000								6.9 (0.70)	5.5 (0.56)			
	2500								6.8 (0.70)	5.5 (0.56)			
	2000						10.6 (1.09)	8.5 (0.87)	6.7 (0.68)	5.4 (0.55)	4.5 (0.46)		
	1500						10.8 (1.10)	8.2 (0.83)	6.5 (0.66)	5.3 (0.54)	4.4 (0.45)		
	1000						10.3 (1.05)	7.9 (0.80)	6.3 (0.64)	5.2 (0.53)	4.3 (0.44)		
	500						9.9 (1.01)	7.6 (0.78)	6.1 (0.63)	5.1 (0.52)	4.3 (0.44)		
GL	0						9.8 (1.00)	7.5 (0.76)	6.0 (0.61)	5.0 (0.51)	4.2 (0.43)		
	-500				14.1 (1.44)	14.1 (1.44)	9.7 (0.99)	7.4 (0.75)	5.9 (0.61)	4.9 (0.50)			
	-1000				20.6 (2.10)	14.2 (1.45)	9.7 (0.99)	7.4 (0.75)	5.9 (0.60)	4.9 (0.50)			
	-1500				26.0 (2.65)	14.3 (1.46)	9.8 (1.00)	7.4 (0.76)	6.0 (0.61)				
	-2000				24.7 (2.52)	14.5 (1.48)	9.9 (1.01)	7.5 (0.77)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.9 (0.70)				
	3500												
	3000									6.4 (0.66)			
	2500								6.6 (0.68)	6.6 (0.68)	6.8 (0.69)		
	2000							8.1 (0.83)	7.5 (0.76)	7.1 (0.72)	6.9 (0.70)		
	1500						12.6 (1.28)	9.9 (1.01)	8.5 (0.87)	7.7 (0.79)	7.2 (0.74)		
	1000						15.8 (1.61)	11.7 (1.19)	9.6 (0.98)	8.4 (0.85)	7.6 (0.77)		
	500						17.9 (1.83)	13.1 (1.34)	10.5 (1.07)	8.9 (0.91)	7.9 (0.81)		
GL	0					12.8 (1.30)	18.8 (1.91)	14.0 (1.42)	11.1 (1.14)	9.3 (0.95)	8.1 (0.83)		
	-500			12.5 (1.28)	13.0 (1.33)	17.8 (1.82)	18.7 (1.91)	14.2 (1.45)	11.4 (1.16)	9.5 (0.97)	8.0 (0.82)		
	-1000			16.6 (1.69)	18.3 (1.87)	24.0 (2.45)	18.0 (1.84)	13.9 (1.42)	11.2 (1.14)	9.2 (0.94)			
	-1500			21.4 (2.18)	24.4 (2.49)	22.5 (2.30)	16.6 (1.70)	13.0 (1.33)	10.4 (1.06)	8.1 (0.83)			
	-2000				29.0 (2.96)	19.0 (1.94)	14.3 (1.46)	11.1 (1.13)	8.4 (0.85)				
	-2500					13.3 (1.36)	9.9 (1.01)						

Lifting capacity over front end, dozer blade up

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.9 (0.70)				
	3500												
	3000									5.6 (0.57)			
	2500								6.6 (0.68)	5.5 (0.56)	4.5 (0.46)		
	2000							8.1 (0.83)	6.7 (0.68)	5.4 (0.55)	4.5 (0.46)		
	1500						10.9 (1.12)	8.2 (0.84)	6.5 (0.66)	5.3 (0.54)	4.4 (0.45)		
	1000						10.3 (1.05)	7.9 (0.81)	6.3 (0.64)	5.2 (0.53)	4.3 (0.44)		
	500						9.9 (1.01)	7.6 (0.78)	6.1 (0.62)	5.0 (0.51)	4.2 (0.43)		
GL	0					12.8 (1.30)	9.7 (0.99)	7.4 (0.76)	6.0 (0.61)	4.9 (0.50)	4.2 (0.43)		
	-500			12.5 (1.28)	13.0 (1.33)	13.9 (1.42)	9.6 (0.98)	7.3 (0.74)	5.9 (0.60)	4.9 (0.50)	4.1 (0.42)		
	-1000			16.6 (1.69)	18.3 (1.87)	14.0 (1.43)	9.6 (0.98)	7.3 (0.74)	5.8 (0.59)	4.8 (0.49)			
	-1500			21.4 (2.18)	24.4 (2.49)	14.1 (1.44)	9.6 (0.98)	7.3 (0.74)	5.8 (0.60)	4.9 (0.50)			
	-2000				25.8 (2.64)	14.3 (1.46)	9.7 (0.99)	7.4 (0.75)	5.9 (0.61)				
	-2500					13.3 (1.36)	9.9 (1.01)						

Lifting capacity over side

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								6.5 (0.67)				
	3000								6.5 (0.67)	5.2 (0.53)			
	2500								6.4 (0.66)	5.2 (0.53)			
	2000						10.6 (1.08)	8.0 (0.81)	6.3 (0.64)	5.1 (0.52)	4.2 (0.43)		
	1500						10.0 (1.02)	7.7 (0.78)	6.1 (0.62)	5.0 (0.51)	4.2 (0.43)		
	1000						9.5 (0.97)	7.4 (0.75)	5.9 (0.60)	4.9 (0.50)	4.1 (0.42)		
	500						9.2 (0.94)	7.1 (0.73)	5.8 (0.59)	4.8 (0.49)	4.0 (0.41)		
GL	0						9.0 (0.92)	7.0 (0.71)	5.6 (0.58)	4.7 (0.48)	4.0 (0.41)		
	-500				14.1 (1.44)	12.8 (1.31)	9.0 (0.92)	6.9 (0.70)	5.6 (0.57)	4.6 (0.47)			
	-1000				20.6 (2.10)	12.9 (1.32)	9.0 (0.92)	6.9 (0.70)	5.5 (0.57)	4.6 (0.47)			
	-1500				22.6 (2.30)	13.0 (1.33)	9.1 (0.92)	6.9 (0.71)	5.6 (0.57)				
	-2000				22.9 (2.33)	13.2 (1.35)	9.2 (0.94)	7.0 (0.72)					
	-2500												

Lifting capacity over side

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH RUBBER CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.5 (0.66)				
	3500												
	3000									5.3 (0.54)			
	2500								6.5 (0.66)	5.2 (0.53)	4.3 (0.44)		
	2000							8.0 (0.82)	6.3 (0.64)	5.1 (0.52)	4.2 (0.43)		
	1500						10.1 (1.03)	7.7 (0.79)	6.1 (0.62)	5.0 (0.51)	4.2 (0.42)		
	1000						9.6 (0.98)	7.4 (0.75)	5.9 (0.60)	4.9 (0.50)	4.1 (0.42)		
	500						9.2 (0.94)	7.1 (0.72)	5.7 (0.58)	4.7 (0.48)	4.0 (0.41)		
GL	0					12.6 (1.29)	9.0 (0.91)	6.9 (0.71)	5.6 (0.57)	4.6 (0.47)	3.9 (0.40)		
	-500			12.5 (1.28)	13.0 (1.33)	12.6 (1.29)	8.9 (0.90)	6.8 (0.69)	5.5 (0.56)	4.6 (0.47)	3.9 (0.40)		
	-1000			16.6 (1.69)	18.3 (1.87)	12.7 (1.29)	8.8 (0.90)	6.8 (0.69)	5.4 (0.56)	4.5 (0.46)			
	-1500			21.4 (2.18)	22.1 (2.26)	12.8 (1.30)	8.9 (0.91)	6.8 (0.69)	5.5 (0.56)	4.6 (0.47)			
	-2000				22.4 (2.29)	12.9 (1.32)	9.0 (0.92)	6.9 (0.70)	5.6 (0.57)				
	-2500					13.3 (1.35)	9.3 (0.94)						

Lifting capacity over front end, dozer blade down

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								7.0 (0.71)				
	3000								6.9 (0.70)	7.2 (0.73)			
	2500								7.3 (0.75)	7.2 (0.74)			
	2000						10.6 (1.09)	9.0 (0.92)	8.1 (0.83)	7.6 (0.78)	7.4 (0.76)		
	1500						14.1 (1.44)	10.8 (1.10)	9.1 (0.93)	8.2 (0.83)	7.6 (0.78)		
	1000						17.1 (1.74)	12.4 (1.27)	10.1 (1.03)	8.8 (0.89)	7.9 (0.81)		
	500						18.6 (1.90)	13.7 (1.39)	10.9 (1.11)	9.3 (0.94)	8.1 (0.83)		
GL	0						19.0 (1.94)	14.3 (1.46)	11.4 (1.16)	9.6 (0.97)	8.2 (0.84)		
	-500				14.1 (1.44)	18.8 (1.92)	18.6 (1.90)	14.3 (1.46)	11.5 (1.17)	9.5 (0.97)			
	-1000				20.6 (2.10)	23.7 (2.42)	17.6 (1.80)	13.8 (1.40)	11.1 (0.13)	9.0 (0.92)			
	-1500				28.0 (2.85)	21.1 (2.15)	15.9 (1.62)	12.5 (1.28)	9.9 (1.01)				
	-2000				24.7 (2.52)	17.0 (1.73)	13.0 (1.32)	10.0 (1.20)					
	-2500												

Lifting capacity over front end, dozer blade up

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

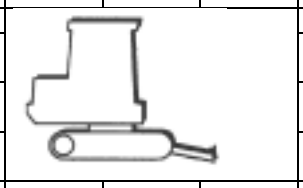
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								7.0 (0.71)				
	3000								6.9 (0.70)	5.7 (0.58)			
	2500								7.0 (0.72)	5.7 (0.58)			
	2000						10.6 (1.09)	8.7 (0.89)	6.9 (0.70)	5.6 (0.57)	4.6 (0.47)		
	1500						11.1 (1.13)	8.4 (0.86)	6.7 (0.68)	5.5 (0.56)	4.5 (0.46)		
	1000						10.5 (1.08)	8.1 (0.83)	6.5 (0.66)	5.3 (0.54)	4.5 (0.46)		
	500						10.2 (1.04)	7.8 (0.80)	6.3 (0.64)	5.2 (0.53)	4.4 (0.45)		
GL	0						10.1 (1.03)	7.7 (0.78)	6.2 (0.63)	5.1 (0.52)	4.4 (0.44)		
	-500				14.1 (1.44)	14.6 (1.49)	10.0 (1.02)	7.6 (0.78)	6.1 (0.62)	5.1 (0.52)			
	-1000				20.6 (2.10)	14.6 (1.49)	10.0 (1.02)	7.6 (0.77)	6.1 (0.62)	5.1 (0.52)			
	-1500				26.7 (2.72)	14.7 (1.50)	10.1 (1.03)	7.6 (0.78)	6.1 (0.63)				
	-2000				24.7 (2.52)	14.9 (1.52)	10.2 (1.04)	7.8 (0.79)					
	-2500												

Lifting capacity over front end, dozer blade down

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

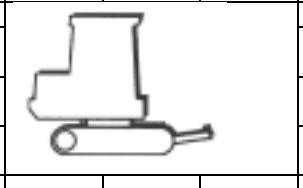
Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.9 (0.70)				
	3500												
	3000									6.4 (0.66)			
	2500								6.6 (0.68)	6.6 (0.68)	6.8 (0.69)		
	2000							8.1 (0.83)	7.5 (0.76)	7.1 (0.72)	6.9 (0.70)		
	1500						12.6 (1.28)	9.9 (1.01)	8.5 (0.87)	7.7 (0.79)	7.2 (0.74)		
	1000						15.8 (1.61)	11.7 (1.19)	9.6 (0.98)	8.4 (0.85)	7.6 (0.77)		
	500						17.9 (1.83)	13.1 (1.34)	10.5 (1.07)	8.9 (0.91)	7.9 (0.81)		
GL	0					12.8 (1.30)	18.8 (1.91)	14.0 (1.42)	11.1 (1.14)	9.3 (0.95)	8.1 (0.83)		
	-500			12.5 (1.28)	13.0 (1.33)	17.8 (1.82)	18.7 (1.91)	14.2 (1.45)	11.4 (1.16)	9.5 (0.97)	8.0 (0.82)		
	-1000			16.6 (1.69)	18.3 (1.87)	24.0 (2.45)	18.0 (1.84)	13.9 (1.42)	11.2 (1.14)	9.2 (0.94)			
	-1500			21.4 (2.18)	24.4 (2.49)	22.5 (2.30)	16.6 (1.70)	13.0 (1.33)	10.4 (1.06)	8.1 (0.83)			
	-2000				29.0 (2.96)	19.0 (1.94)	14.3 (1.46)	11.1 (1.13)	8.4 (0.85)				
	-2500					13.3 (1.36)	9.9 (1.01)						

Lifting capacity over front end, dozer blade up

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.9 (0.70)				
	3500												
	3000									5.7 (0.58)			
	2500								6.6 (0.68)	5.7 (0.58)	4.6 (0.47)		
	2000							8.1 (0.83)	6.9 (0.70)	5.6 (0.57)	4.6 (0.47)		
	1500						11.2 (1.15)	8.5 (0.86)	6.7 (0.68)	5.4 (0.56)	4.5 (0.46)		
	1000						10.6 (1.08)	8.1 (0.83)	6.5 (0.66)	5.3 (0.54)	4.4 (0.45)		
	500						10.2 (1.04)	7.8 (0.80)	6.3 (0.64)	5.2 (0.53)	4.4 (0.45)		
GL	0					12.8 (1.30)	10.0 (1.02)	7.6 (0.78)	6.1 (0.63)	5.1 (0.52)	4.3 (0.44)		
	-500			12.5 (1.28)	13.0 (1.33)	14.3 (1.46)	9.9 (1.01)	7.5 (0.77)	6.0 (0.62)	5.0 (0.51)	4.3 (0.43)		
	-1000			16.6 (1.69)	18.3 (1.87)	14.4 (1.47)	9.9 (1.01)	7.5 (0.76)	6.0 (0.61)	5.0 (0.51)			
	-1500			21.4 (2.18)	24.4 (2.49)	14.5 (1.48)	9.9 (1.01)	7.5 (0.76)	6.0 (0.61)	5.0 (0.51)			
	-2000				26.6 (2.71)	14.7 (1.50)	10.0 (1.02)	7.6 (0.77)	6.1 (0.62)				
	-2500					13.3 (1.36)	9.9 (1.01)						

Lifting capacity over side

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	STANDARD ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000												
	3500								6.7 (0.69)				
	3000								6.7 (0.69)	5.4 (0.55)			
	2500								6.6 (0.68)	5.4 (0.55)			
	2000						10.6 (1.09)	8.2 (0.84)	6.5 (0.66)	5.3 (0.54)	4.4 (0.45)		
	1500						10.3 (1.05)	7.9 (0.81)	6.3 (0.64)	5.2 (0.53)	4.3 (0.44)		
	1000						9.8 (1.00)	7.6 (0.78)	6.1 (0.62)	5.1 (0.52)	4.3 (0.43)		
	500						9.5 (0.97)	7.4 (0.75)	6.0 (0.61)	4.9 (0.50)	4.2 (0.43)		
GL	0						9.3 (0.95)	7.2 (0.74)	5.8 (0.60)	4.9 (0.50)	4.1 (0.42)		
	-500				14.1 (1.44)	13.3 (1.35)	9.3 (0.95)	7.1 (0.73)	5.8 (0.59)	4.8 (0.49)			
	-1000				20.6 (2.10)	13.3 (1.36)	9.3 (0.95)	7.1 (0.73)	5.7 (0.59)	4.8 (0.49)			
	-1500				23.3 (2.38)	13.4 (1.37)	9.4 (0.95)	7.2 (0.73)	5.8 (0.59)				
	-2000				23.6 (2.41)	13.6 (1.39)	9.5 (0.97)	7.3 (0.74)					
	-2500												

Lifting capacity over side

MODEL	U35-3α2
	KBM

SPECIFICATION	CANOPY VERSION WITH STEEL CRAWLER
	LONG ARM

kN (t)

Height [mm]		LOAD RADIUS (mm)											
		0	500	1000	1500	2000	2500	3000	3500	4000	4500		
	4500												
	4000								6.7 (0.68)				
	3500												
	3000									5.4 (0.55)			
	2500								6.6 (0.68)	5.4 (0.55)	4.4 (0.45)		
	2000							8.1 (0.83)	6.5 (0.66)	5.3 (0.54)	4.4 (0.45)		
	1500						10.4 (1.07)	7.9 (0.81)	6.3 (0.64)	5.2 (0.53)	4.3 (0.44)		
	1000						9.9 (1.01)	7.6 (0.78)	6.1 (0.62)	5.0 (0.51)	4.2 (0.43)		
	500						9.5 (0.97)	7.3 (0.75)	5.9 (0.60)	4.9 (0.50)	4.1 (0.42)		
GL	0					12.8 (1.30)	9.3 (0.94)	7.1 (0.73)	5.8 (0.59)	4.8 (0.49)	4.1 (0.42)		
	-500			12.5 (1.28)	13.0 (1.33)	13.1 (1.33)	9.2 (0.93)	7.0 (0.72)	5.7 (0.58)	4.7 (0.48)	4.0 (0.41)		
	-1000			16.6 (1.69)	18.3 (1.87)	13.1 (1.34)	9.1 (0.93)	7.0 (0.71)	5.6 (0.58)	4.7 (0.48)			
	-1500			21.4 (2.18)	22.9 (2.33)	13.2 (1.35)	9.2 (0.94)	7.0 (0.72)	5.7 (0.58)	4.8 (0.49)			
	-2000				23.2 (2.36)	13.4 (1.36)	9.3 (0.95)	7.1 (0.73)	5.8 (0.59)				
	-2500					13.3 (1.36)	9.6 (0.98)						

EC DECLARATION OF CONFORMITY

The declarations of conformity are stated hereinafter.

EC declaration of conformity for the KX91-3α2

(1) **EC DECLARATION OF CONFORMITY**

(2) Manufacturer: **KUBOTA Baumaschinen GmbH**

(3) Type: **KX91-3α2**

(4) Serial #: **80000 and higher**

(5) This machine is in accordance with the appropriate, general safety and health requirements regarding design and construction of the EC directives 98/37/EC and 2000/14/EC.

(6) Applied standards: EN 474 - 1, EN 474 - 5

(7) Other applied EC directives: 89/336/EEC, 93/68/EEC, 95/27/EC, 81/1051/EEC, 89/514/EEC

Type	Hydraulic excavator	
Manufacturer	KUBOTA	
Type With cab H=with canopy	KX91-3α2	KX91-3α2 H
Rated speed	2200 1/min	2200 1/min
Nominal output DIN 70020	19.6 kW	19.6 kW
Measured sound power level	91.4 dB (A)	92.0 dB (A)
Guaranteed sound power level	93 dB (A)	93 dB (A)
Applicable EC directive	2000/14/EC Annex VI	
Designated body	Fachausschuss Tiefbau Prüf- und Zertifizierungsstelle im BG-PRÜFZERT des Hauptverbandes der gewerblichen Berufsgenossenschaften Landsberger Straße 309, D-80687 München	

This declaration is valid provided that all rules mentioned in the operating instructions and/or any special regulations are complied with.

If the excavator is modified or retrofitted without the approval of the manufacturer, the safety of the excavator may be affected, thus invalidating the EC declaration of conformity.

Zweibrücken
Place

06.2007
Date

Shimokawa, Kazunari
President
KUBOTA Baumaschinen GmbH
Steinhauser Straße 100
D-66482 Zweibrücken, Germany

EC declaration of conformity for the KX101-3α2

(1) EC DECLARATION OF CONFORMITY

(2) Manufacturer: KUBOTA Baumaschinen GmbH

(3) Type: KX101-3α2

(4) Serial #: 80000 and higher

(5) This machine is in accordance with the appropriate, general safety and health requirements regarding design and construction of the EC directives 98/37/EC and 2000/14/EC.

(6) Applied standards: EN 474 - 1, EN 474 - 5

(7) Other applied EC directives: 89/336/EEC, 93/68/EEC, 95/27/EC, 81/1051/EEC, 89/514/EEC

Type	Hydraulic excavator	
Manufacturer	KUBOTA	
Type With cab H=with canopy	KX101-3α2	KX101-3α2 H
Rated speed	2300 1/min	2300 1/min
Nominal output DIN 70020	20.3 kW	20.3 kW
Measured sound power level	92.4 dB (A)	92.9 dB (A)
Guaranteed sound power level	93 dB (A)	94 dB (A)
Applicable EC directive	2000/14/EC Annex VI	
Designated body	Fachausschuss Tiefbau Prüf- und Zertifizierungsstelle im BG-PRÜFZERT des Hauptverbandes der gewerblichen Berufsgenossenschaften Landsberger Straße 309, D-80687 München	

This declaration is valid provided that all rules mentioned in the operating instructions and/or any special regulations are complied with.

If the excavator is modified or retrofitted without the approval of the manufacturer, the safety of the excavator may be affected, thus invalidating the EC declaration of conformity.

Zweibrücken
Place

06.2007
Date

Shimokawa, Kazunari
President
KUBOTA Baumaschinen GmbH
Steinhauser Straße 100
D-66482 Zweibrücken, Germany

EC declaration of conformity for the U35-3α2

(1) **EC DECLARATION OF CONFORMITY**

(2) Manufacturer: **KUBOTA Baumaschinen GmbH**

(3) Type: **U35-3α2**

(4) Serial #: **80000 and higher**

(5) This machine is in accordance with the appropriate, general safety and health requirements regarding design and construction of the EC directives 98/37/EC and 2000/14/EC.

(6) Applied standards: EN 474 - 1, EN 474 - 5

(7) Other applied EC directives: 89/336/EEC, 93/68/EEC, 95/27/EC, 81/1051/EEC, 89/514/EEC

Type	Hydraulic excavator	
Manufacturer	KUBOTA	
Type With cab H=with canopy	U35-3α2	U35-3α2 H
Rated speed	2300 1/min	2300 1/min
Nominal output DIN 70020	20.3 kW	20.3 kW
Measured sound power level	92.6 dB (A)	92.5 dB (A)
Guaranteed sound power level	93 dB (A)	93 dB (A)
Applicable EC directive	2000/14/EC Annex VI	
Designated body	Fachausschuss Tiefbau Prüf- und Zertifizierungsstelle im BG-PRÜFZERT des Hauptverbandes der gewerblichen Berufsgenossenschaften Landsberger Straße 309, D-80687 München	

This declaration is valid provided that all rules mentioned in the operating instructions and/or any special regulations are complied with.

If the excavator is modified or retrofitted without the approval of the manufacturer, the safety of the excavator may be affected, thus invalidating the EC declaration of conformity.

Zweibrücken
Place

06.2007
Date

Shimokawa, Kazunari
President
KUBOTA Baumaschinen GmbH
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D-66482 Zweibrücken, Germany

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