



Instruction manual

TREE SHEAR
JAK-220C, JAK-300C, JAK-400C



Version: 2.00
Original instruction manual

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1 REVISION HISTORY

| Revision | Date | Description | Author |
|----------|------------|--|--------|
| 1.00 | 25.11.2022 | Document created | JH |
| 1.01 | 27.3.2023 | Changes: <ul style="list-style-type: none">• Added revision history• Safety distance warning sign images updated• Base machine and collector unit weights updated• Updated text in chapter Operation on case of malfunction• Added warranty clause | JH |
| 2.00 | 22.9.2023 | Changes: <ul style="list-style-type: none">• Models JAK-220C and JAK-400C added• Images updated for JAK-220C and JAK-400C• Solid extension added to optional equipment• Collector unit operation section added• Collector unit lifting image added | LN |

2 GENERAL

2.1 About this manual

The purpose of this Instruction manual is to promote safe, proper and optimal use and maintenance of the JAK tree shear. The manual also helps to identify, avoid and prevent hazardous situations and related consequences.

This Instruction manual is intended for the final user. If this manual is lost, damaged or becomes unreadable, contact your local JAK dealer for a replacement copy.

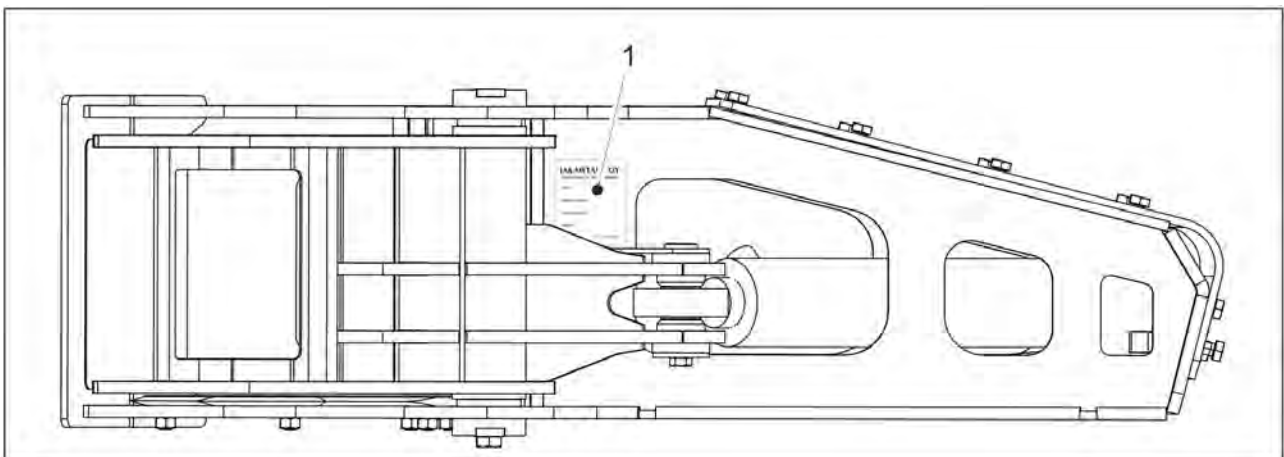


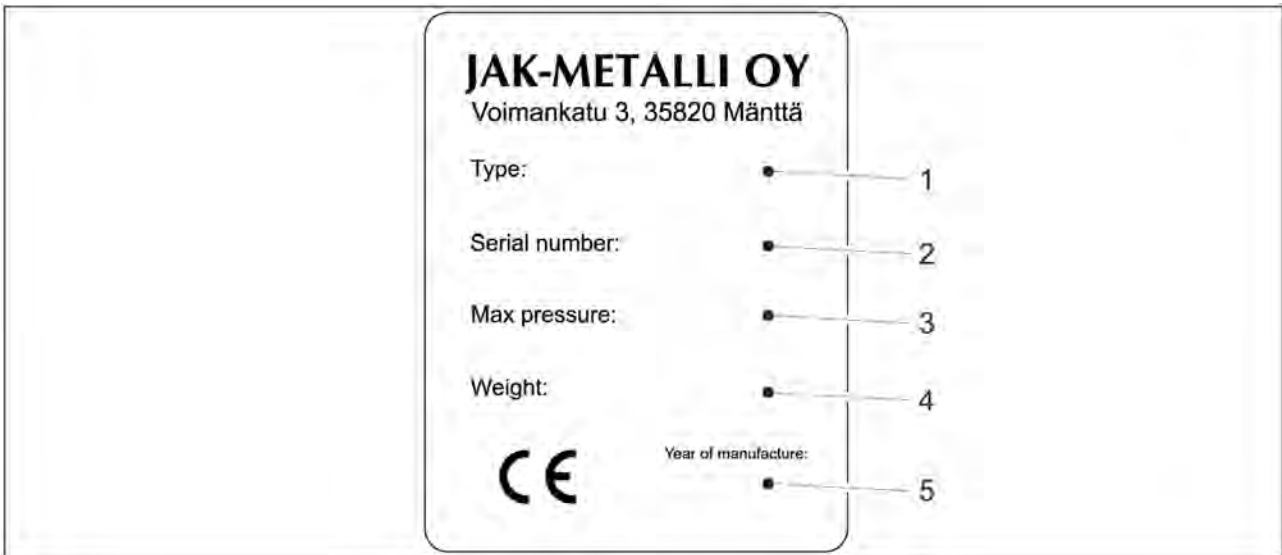
Read and understand the manual carefully. Follow the given instructions. Follow the instructions in local laws and regulations and any orders given by local authorities.

This Instruction manual covers the tree shear models JAK-220C, JAK-300C and JAK-400C.

2.2 Product identification

The tree shear has a manufacturer's plate (1) on the left side of the frame.





| Location | Information |
|----------|---------------------|
| 1 | Type |
| 2 | Serial number |
| 3 | Maximum pressure |
| 4 | Weight |
| 5 | Year of manufacture |




2.3 Manufacturer

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 35820 Mänttä
 Finland






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 Web: www.jak.fi

3 SAFETY




3.1 Safety symbols used in the manual

| | |
|---|---|
|  | DANGER indicates a potentially dangerous situation that can cause death or serious injury. |
|  | WARNING indicates a potentially hazardous situation that can cause property damage. |
|  | NOTE contains helpful tips, advice and other useful information. |

3.1.1 Warning symbols

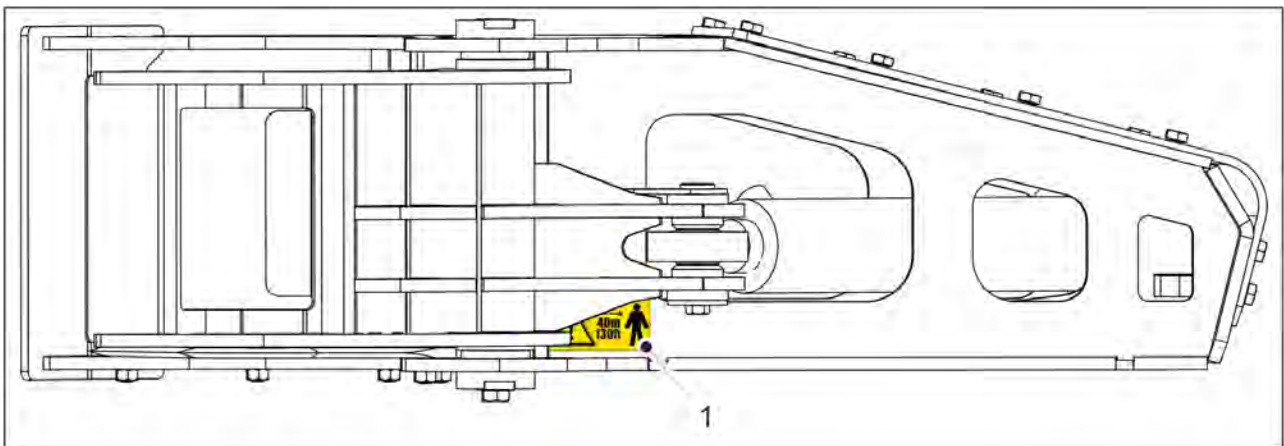
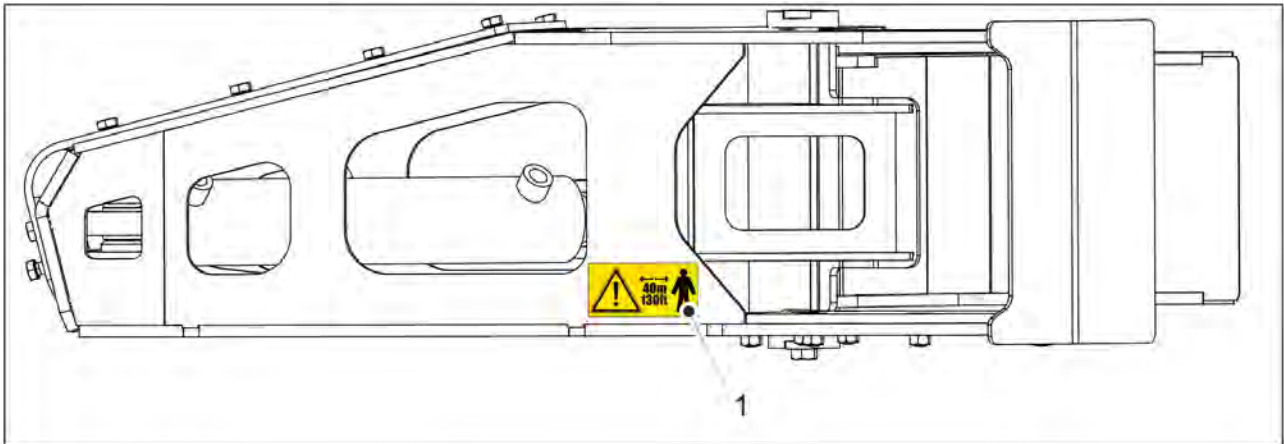
| | |
|---|--|
|  | HANGING LOAD indicates a load that can fall and cause injuries. |
|  | SHARP ELEMENT indicates a sharp object that can cause injuries by cuts. |
|  | CRUSHING HAZARD indicates a situation where a person can get crushed by moving objects. |
|  | ELECTRICAL HAZARD indicates a situation where a person can receive injuries from open electric sources. |
|  | LIFTING HAZARD indicates a situation where lifting a heavy item can cause injuries. |

3.1.2 Mandatory symbols


| | |
|---|---|
|  | <p>INSTRUCTION MANUAL</p> |
|  | <p>EYE PROTECTION</p> |
|  | <p>PROTECTIVE GLOVES</p> |
| | <p>Refer to instruction manual.</p> |
| | <p>Wear protective eye wear such as safety goggles.</p> |
| | <p>Wear protective gloves.</p> |


3.2 Safety signs on the product




The warning signs for the safety distance (1) are on the bottom right and left sides of the frame.






3.3 Warnings and residual risks


| | |
|---|--|
|  | <p>DANGER</p> <p>Hanging load hazard</p> <p>The tree shear or its load can fall when lifted and cause injuries or even death.</p> <p>Do not stand underneath the tree shear.</p> |
|---|--|




| | |
|---|---|
|  | <p>DANGER</p> <p>Crushing hazard</p> <p>Moving parts can cause injuries or even death.</p> <p>Observe caution near the tree shear when the hydraulic lines are connected. Do not put your hands inside the tree shear when the hydraulic lines are connected.</p> |
|---|---|


| | |
|---|--|
|  | <p>DANGER</p> <p>Sharp blade hazard</p> <p>The blade can cause injuries and cuts.</p> <p>Observe caution when near the blade. Wear protective goggles and gloves when you sharpen the blade.</p> |
|  | |
|  | |


| | |
|---|---|
|  | <p>DANGER</p> <p>Sharp blade hazard</p> <p>The blade can cause injuries and cuts.</p> <p>Observe caution when near the blade. Wear protective gloves when you handle the blade.</p> |
|  | |

| | |
|---|--|
|  | <p>DANGER</p> <p>Electricity hazard</p> <p>Current from electric lines can cause injuries or even death.</p> <p>Observe caution when you use the tree shear near electric lines.</p> |
|---|--|

| | |
|---|---|
|  | <p>DANGER</p> <p>Unstable machinery hazard</p> <p>Handling of oversized trees with the tree shear can change the balance of the machine cause it to fall over.</p> <p>Cut and handle large trees in segments with the tree shear. Grab large trees from the middle point.</p> |
|---|---|

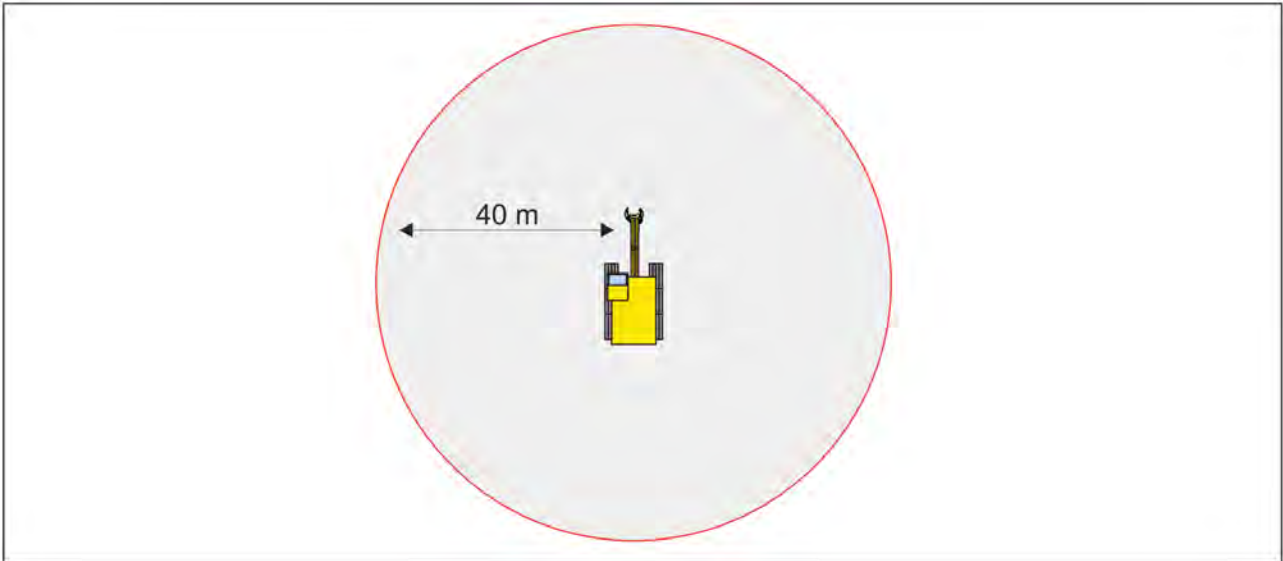
| | |
|---|---|
|  | <p>DANGER</p> <p>Hydraulic fluid</p> <p>High pressure hydraulic fluid can cause injury or even death.</p> <p>Relieve the hydraulic pressure before maintenance. Wear protective gloves and goggles when handling hydraulic fluid.</p> |
|  | |
|  | |

| | |
|---|--|
|  | <p>DANGER</p> <p>Lifting hazard</p> <p>The unit is heavy and can cause injuries if lifted.</p> <p>Do not lift the unit on your own. Use a lifting aid.</p> |
|---|--|

| | |
|---|--|
|  | <p>WARNING</p> <p>Damage to equipment</p> <p>Poor welding can break and cause the tree shear to fall down.</p> <p>Leave welding work for professionals. Follow local requirements and standards. JAK-Metalli Oy is not responsible for the durability of welds done on the coupler by other parties.</p> |
|---|--|

3.3.1 Danger area

The danger area is 40 m around the tree shear. Ensure that no one enters this area during operation.



3.3.2 Use of personal protective equipment (PPE)



NOTE

Wear protective goggles when you sharpen the blade and when you work with hydraulic lines.



NOTE

Wear protective gloves when you sharpen or handle the blade and when you work with hydraulic lines.

3.4 Noise emissions

The A-weighted emission sound pressure level of the tree shear is 68 dB (<70 dB), measured at 1 m distance during operation.

3.5 Product limitations

3.5.1 Intended use and prohibited use

Intended use

The tree shear is intended for efficient cutting and loading trees. It is used for clearing trees and bushes along roads, electrical lines and ditches, as well as in parks and near houses. The model designation indicates the maximum cutting width of the tree shear.

The tree shear has a hydraulically controlled jaw that can be opened and closed. When the cutting blade is attached the tree shear is used for cutting and stacking trees. When the blade is removed the tree shear can be used for loading timber.

Prohibited use

Do not use the tree shear for handling any other materials than timber.

Do not cut trees that are thicker than specified for the tree shear model.

Do not modify the tree shear in any way not specified by the manufacturer such as welding, cutting or drilling holes to it.



NOTE

Prohibited use voids the warranty of the tree shear.

3.5.2 Base machine

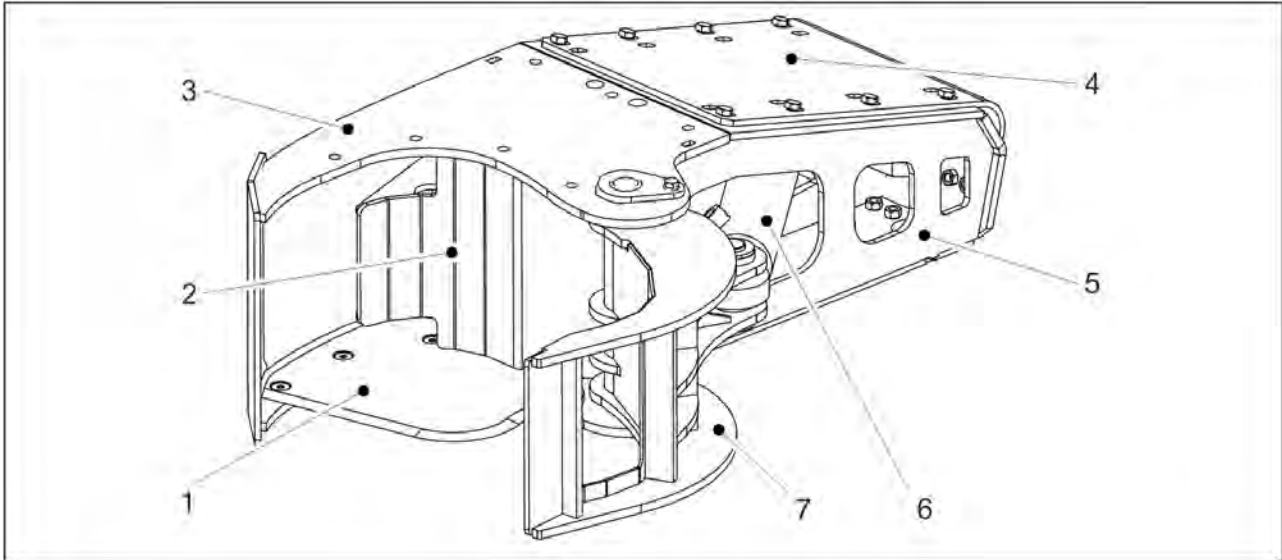
The C-model tree shears are intended for excavators of different weight classes.

3.5.3 Operating temperature

It is not recommended to use the tree shear in temperatures under -15 °Celsius. Colder temperatures can cause metal fatigue on the tree shear.

4 OVERVIEW

4.1 Main components



| | |
|----|--------------------|
| 1. | Cutting blade |
| 2. | Buffer plate |
| 3. | Fixed jaw |
| 4. | Adapter plate |
| 5. | Main body |
| 6. | Hydraulic cylinder |
| 7. | Cutting side jaw |

4.2 Technical data and dimensions

| Product name | JAK-220C | JAK-300C | JAK-400C |
|---------------------|--------------------------------|----------------------------------|-----------------------------------|
| Excavator weight | 2-6 ton kg (4409-13227 lbs) | 6-20 ton kg (13227-44092 lbs) | 14-30 ton kg (30864-66138 lbs) |
| Weight | 175 kg (385.8 lbs) | 350 kg (771.6 lbs) | 675 kg (1488 lbs) |
| Cutting diameter | 220 mm (8.6 in) | 300 mm (11.8 in) | 400 mm (15.7 in) |
| Operating pressure | 260-300 bar (3770-4351 psi) | 250-300 bar (3625-4351 psi) | 260-300 bar (3770-4351 psi) |
| Minimum oil flow | 40 l/min (10.5 gal/min) | 60 l/min (15.8 gal/min) | 100 l/min (26.4 gal/min) |
| Width when open | 446 mm (17.5 in) | 630 mm (24.8 in) | 766 mm (30.1 in) |

5 INSTALLATION

5.1 Transportation

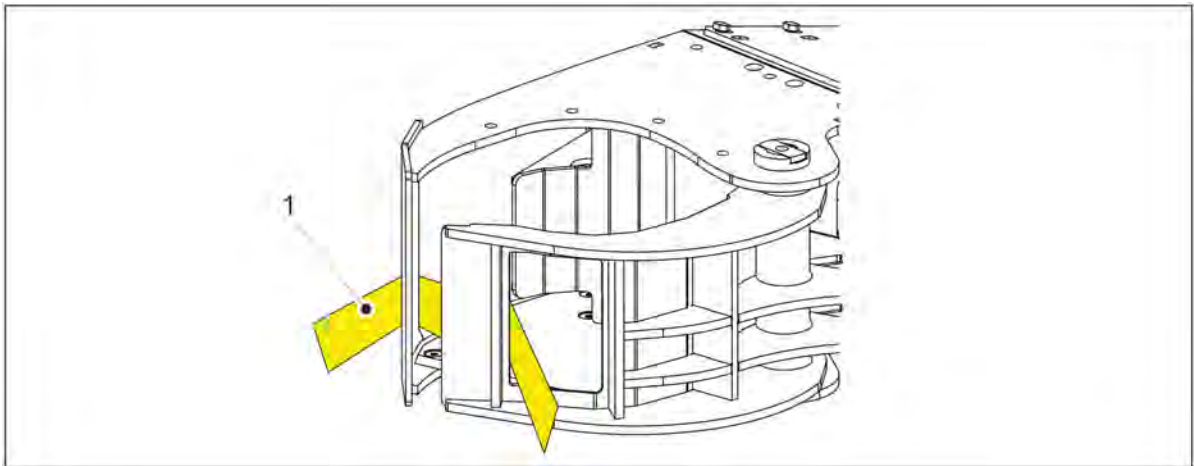
Transport the tree shear in horizontal position. During transportation the jaw must be closed so that the cutting blade is covered by the jaw.

Fasten the tree shear to the transportation baseplate with cargo straps. To select suitable cargo straps, consider that:

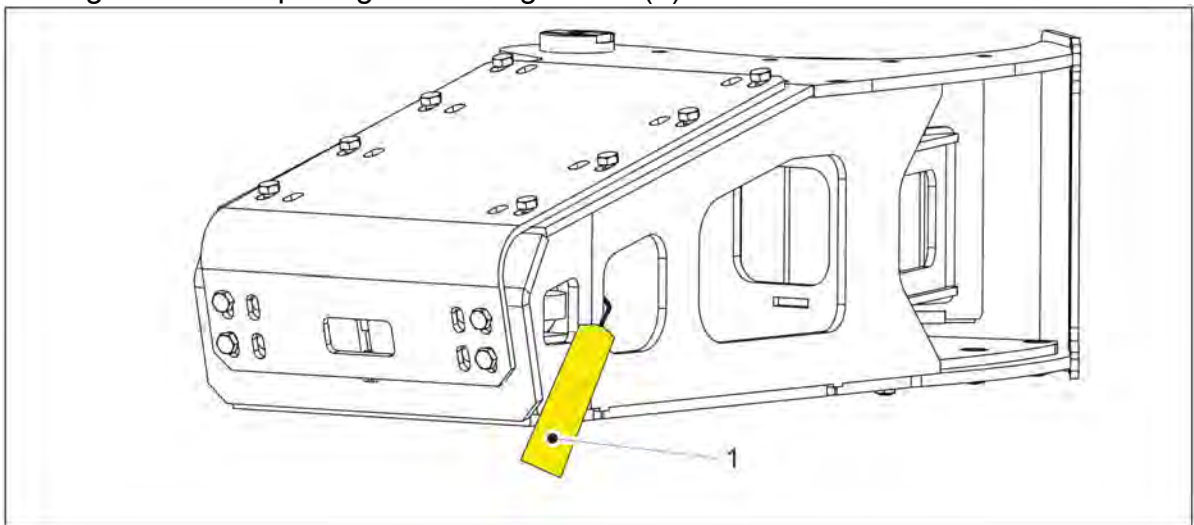
- The tree shear has sharp edges. Use coated cargo straps.
- The tree shear and attached optional equipment are heavy. Make sure the cargo straps withstand the weight.

Tie the tree shear to the baseplate:

1. From behind the jaws with a cargo strap (1).



2. Through the back opening with a cargo hook (1).





NOTE

Make sure the cargo straps cannot damage the hydraulic lines during transportation.

5.2 Lifting



DANGER

Hanging load hazard

The tree shear or its load can fall when lifted and cause injuries or even death. Do not stand underneath the tree shear.



NOTE

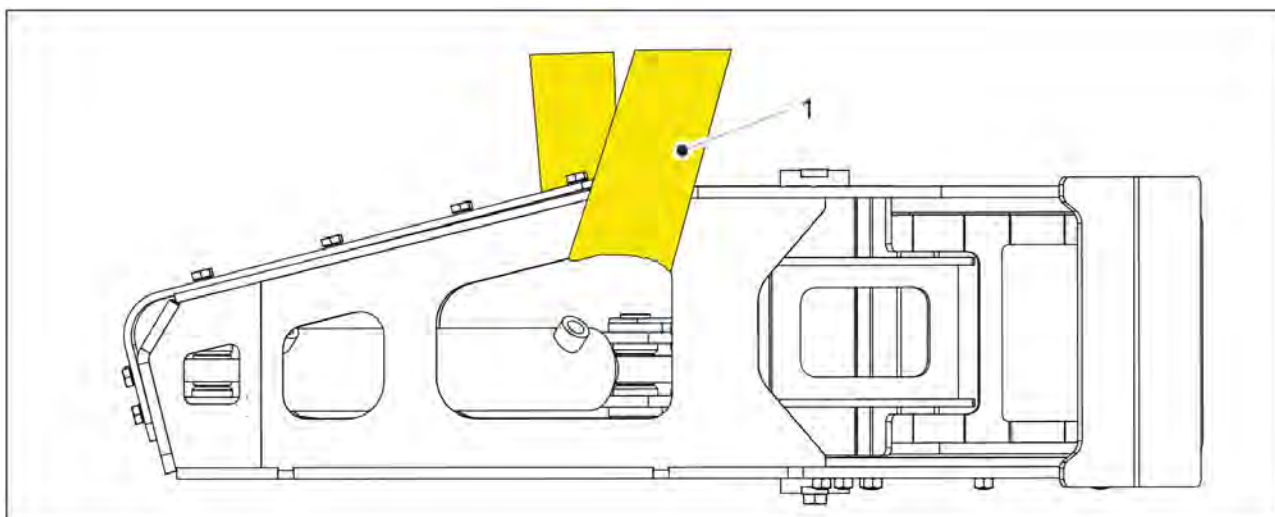
Make sure that the lifting belt or chain cannot damage the hydraulic lines during lifting.

During lifting the jaw must be closed so that the cutting blade is covered by the jaw.

Lift the tree shear with a lifting belt or chain. To select a suitable lifting belt or chain, consider that:

- The tree shear has sharp edges.
- The tree shear and attached optional equipment are heavy. Make sure the lifting belt or chain can withstand the weight.

Run a lifting belt (1) or chain through the opening in the middle. The tree shear remains balanced when lifted from the middle opening.



5.3 Storage

Before storage:

- Wash the tree shear with a pressure washer.
- Apply grease to the grease nipples.

Storage conditions:

- Store the tree shear indoors when possible.
- If the tree shear is stored outdoors, cover it with a waterproof tarpaulin.

Storage position:

- Store the tree shear on a stable flat surface.
- For safety reasons, close the jaw to ensure the blade is covered by the jaw.
-

Long-term storage:


- Check that there is grease in the grease nipples at least once per year.
- If the tree shear is taken into use after a long storage period, perform the before first use checks again. See chapter [5.4.3 Before first use](#).


5.4 Commissioning

5.4.1 Welding the quick coupler


The tree shears can be equipped with common excavator quick couplers. Couplers are also available according to order.

If the tree shear is delivered without a quick coupler, obey the following precaution for welding the quick coupler.

| | |
|---|---|
|  | <p>WARNING</p> <p>Damage to equipment</p> <p>Poor welding can break and cause the tree shear to fall down. Leave welding work to professionals. Follow local requirements and standards. JAK-Metalli is not responsible for the durability of welds done on the coupler by other parties.</p> |
|---|---|

| | |
|--|---|
|  | <p>NOTE</p> <p>Do not modify the tree shear in any way not specified by the manufacturer such as welding, cutting or drilling holes to it.</p> |
|--|---|

5.4.2 Connecting the hydraulics

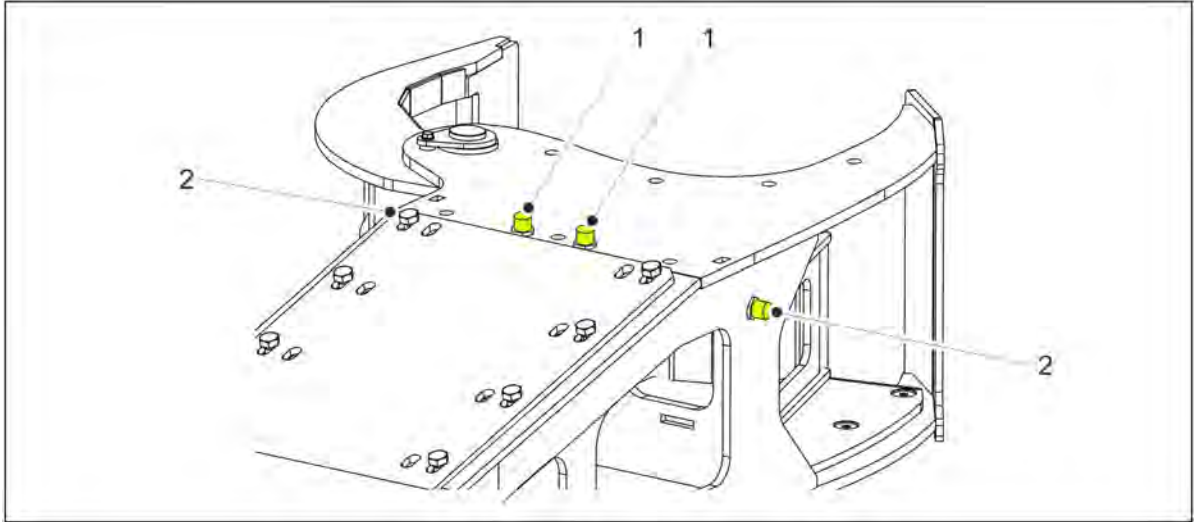
| | |
|---|--|
|  | <p>DANGER</p> <p>Crushing hazard</p> <p>Moving parts in the tree shear can cause injuries or even death. Observe caution near the tree shear when the hydraulic lines are connected. Do not put your hands inside the tree shear when the hydraulic lines are connected.</p> |
|---|--|

| Tree shear | Hydraulic connector |
|------------|---------------------|
| JAK-220C | R 1/2" |
| JAK-300C | R 3/4" |
| JAK-400C | R 3/4" |

1. Ensure that the hydraulic lines in the base machine are pressure free. For safe work methods, see the instruction manual of the base machine.

5 Installation

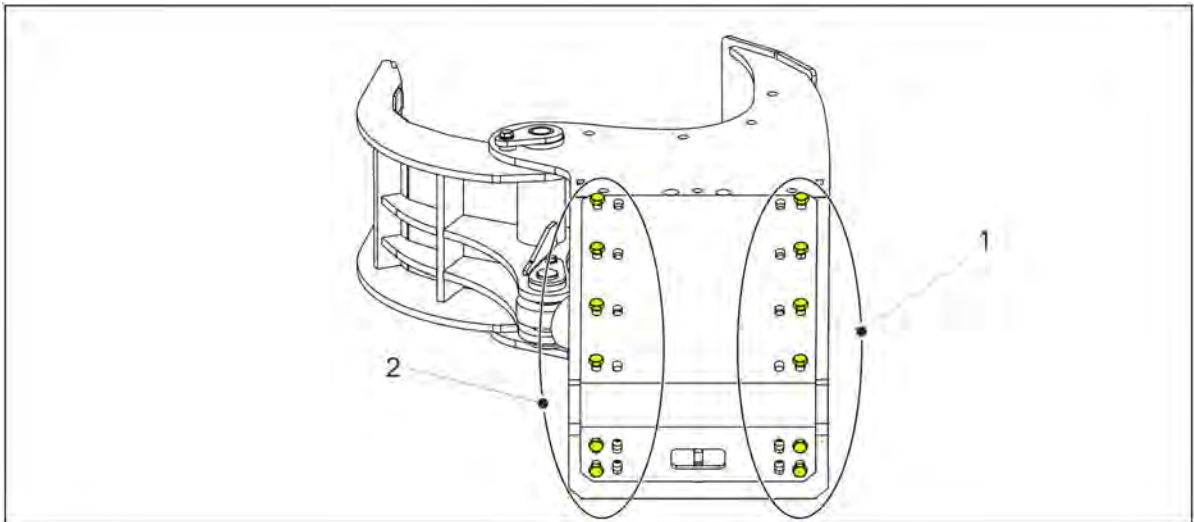
2. Connect the inflow and outflow hydraulic lines. JAK-220C has connectors (1) and (2). JAK-300C has connectors (1). JAK-400C has connectors (2)



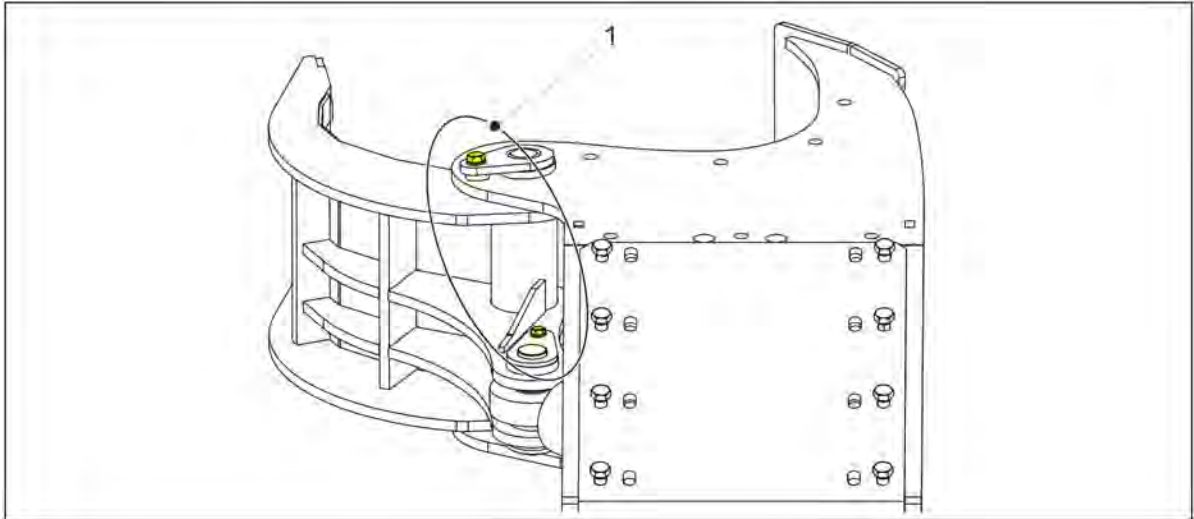
3. Open and close the jaw to ensure that the hydraulic lines are connected in the intended order.
4. Measure the hydraulic pressure before using tree shear. Target pressure is the maximum pressure of the tree shear model. The opening and closing speed of the jaws is dependent on the hydraulic oil flow of the base machine.

5.4.3 Before first use

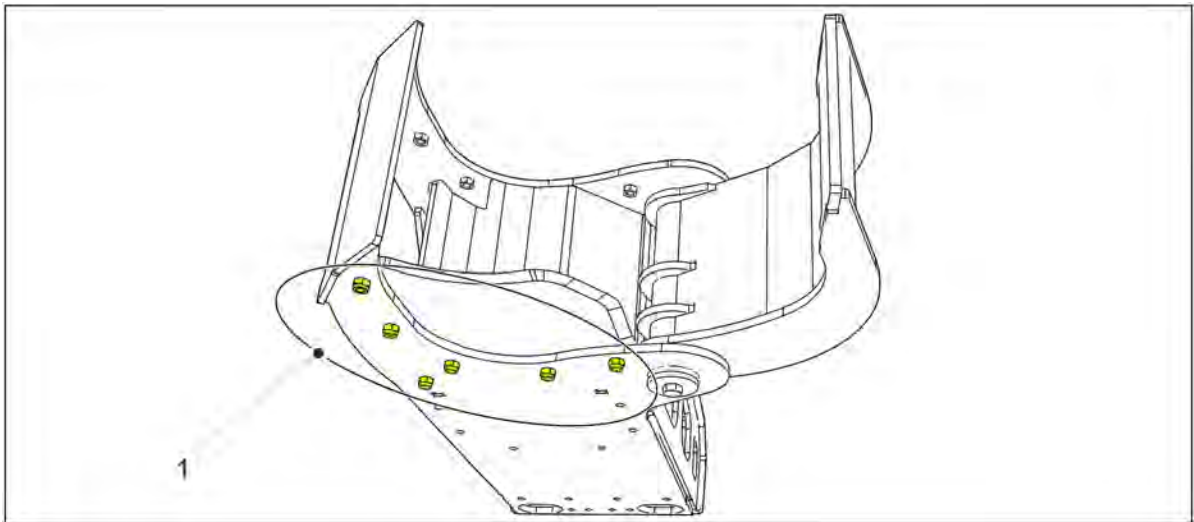
1. Check the tightness of the quick coupler bolts in areas (1) and (2).



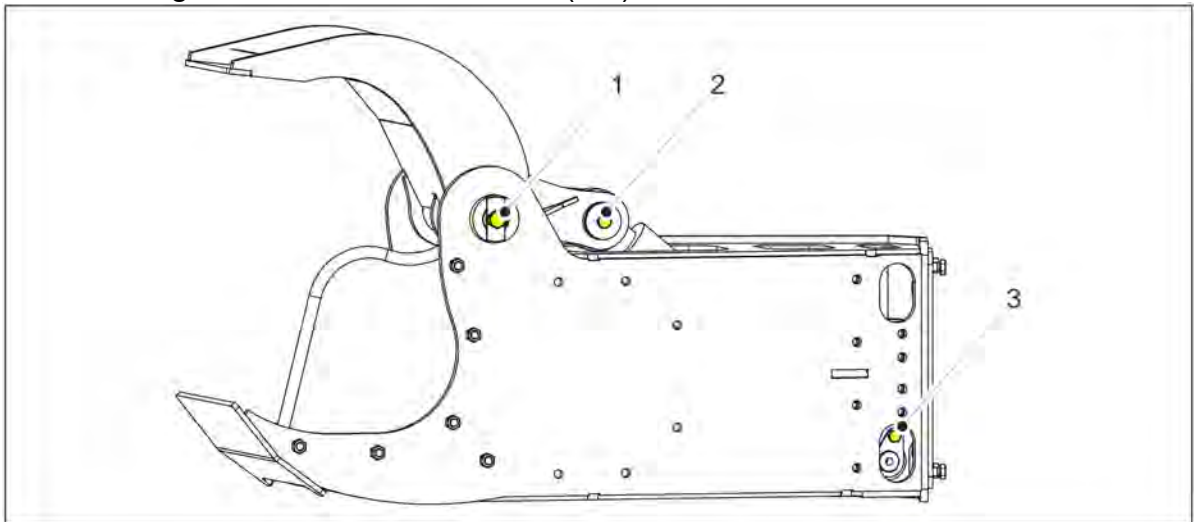
2. Check the tightness of the jaw and cylinder pin bolts in area (1).



3. Check the tightness of the cutting blade nuts in area (1).



4. Check the tightness of the bottom bolts (1-3).



5. Apply grease to the grease nipples. See section [7.3.5 Greasing the tree shear](#).

5.5 Dismounting the tree shear

1. Close the jaw almost shut so that the cutting blade is covered by the jaw.

2. Lower the tree shear to the ground or transportation vehicle.
3. Relieve pressure from the hydraulic lines. For safe work methods, see the instruction manual of the base machine.


**NOTE**


Oil can leak from the hydraulic lines when they are detached.


4. Detach the hydraulic lines.
5. Detach the quick coupler from the base machines.


6 OPERATION

6.1 Felling a tree

| | |
|---|---|
|  | <p>DANGER</p> <p>Falling tree hazard</p> <p>Felled tree can cause damage, injuries or even death if it hits objects or people.</p> <p>Always fell the tree in direction away from the base machine and buildings.</p> |
|---|---|

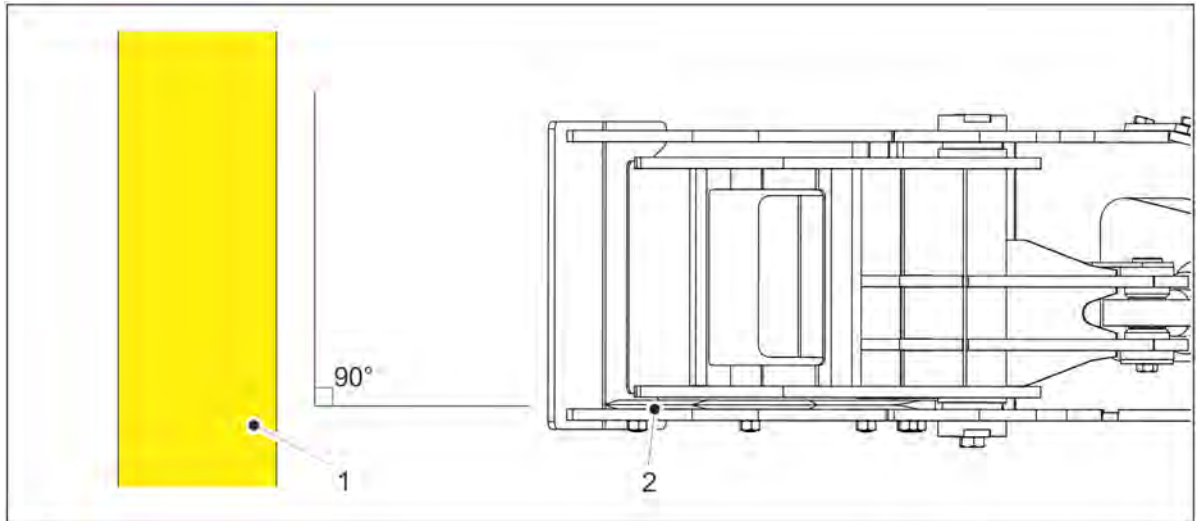
| | |
|---|---|
|  | <p>DANGER</p> <p>Electricity hazard</p> <p>Current from electric lines can cause injuries or even death. Observe caution when you use the tree shear near electric lines.</p> |
|---|---|

| | |
|--|---|
|  | <p>DANGER</p> <p>Unstable machinery hazard</p> <p>Handling of oversized trees with the tree shear can change the balance of the machine and cause it to fall over.</p> <p>Cut and handle large trees in segments with the tree shear. Grab large trees from the middle point.</p> |
|--|---|

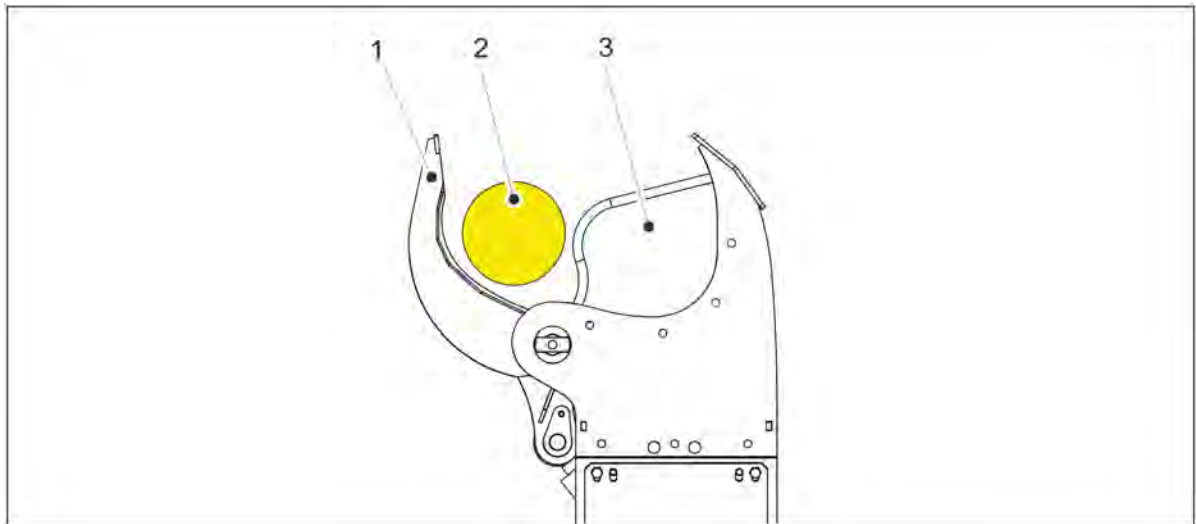
| | |
|---|--|
|  | <p>NOTE</p> <p>If the wood is hard or the hydraulic pressure is low, it is possible that the tree shear cannot cut a tree of maximum width.</p> |
|---|--|

1. Lower the tree shear to the base of the tree.

2. Turn the tree shear until the cutting blade (2) is at 90 degree angle towards the tree (1).



3. Place the tree (2) between the cutting side jaw (1) and the cutting blade (3).



4. Close the jaw to press the tree against the blade. This will cut the tree.
5. Move the tree to a stacking location on the ground.
6. To release the tree, open the jaw.

6.2 Loading timber

When the cutting blade is detached, the tree shear can be used for loading timber. See chapter [7.3.8 Replacing the cutting blade](#) for how to detach the blade.

- Move the tree shear to the midpoint of the timber stack. Grabbing the tree from the middle will help to balance the machine.
- Close the jaw so that the timber is firmly in the tree shear.

6.3 Operation in case of malfunction

| Malfunction | Action |
|--|--|
| Tree shear cannot cut a tree and becomes stuck | <p>Do not open the jaw of the tree shear. Do not approach a tree that is partially cut.</p> <p>Try to fell the tree away from the machine by pushing it with the machine.</p> <p>Check that the tree shear is not damaged before you use the tree shear again.</p> |
| Branches or debris in the tree shear | <p>Before removing branches or debris:</p> <ul style="list-style-type: none">• Lower the tree shear to the ground.• Turn off the base machine. |
| Cutting blade detaches from the tree shear | <p>Lower the tree shear to the ground. Turn off the base machine.</p> <p>Ensure that the blade and its bolts are not damaged before reattaching the blade.</p> |
| Hydraulic fault, jaw does not open or close | <p>Relieve the hydraulic pressure. Check for leaks in the connectors and lines.</p> <p>Replace any faulty connectors or lines.</p> |

7 MAINTENANCE

7.1 Maintenance schedule, tree shear

| Task | Interval |
|--|-------------|
| Check the tightness of screws and nuts. | Daily |
| Check that there are no cracks or fractures. | Daily |
| Check the condition of the blade. | Daily |
| Check that there are no hydraulic leaks. | Daily |
| Grease the tree shear. | Daily |
| Clean the tree shear. | When needed |
| Sharpen the blade. | When needed |
| Replace the blade. | When needed |

7.2 Tightening torques

| Class 8.8 bolt | Tightening torque |
|----------------|-------------------|
| M10 | 43 Nm |
| M12 | 75 Nm |
| M16 | 181 Nm |
| M20 | 353 Nm |

7.3 Maintenance instructions, tree shear

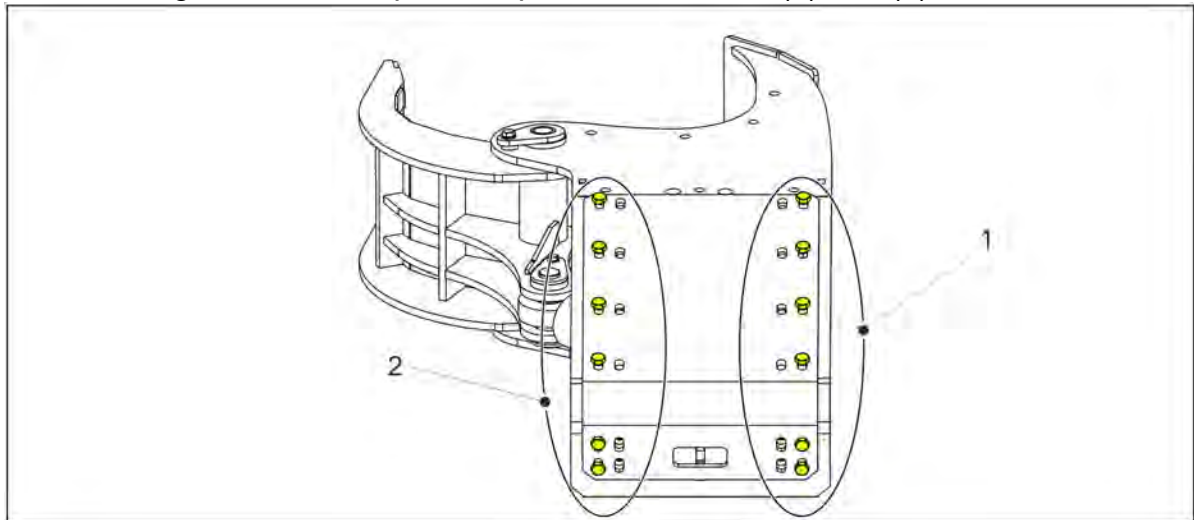


NOTE

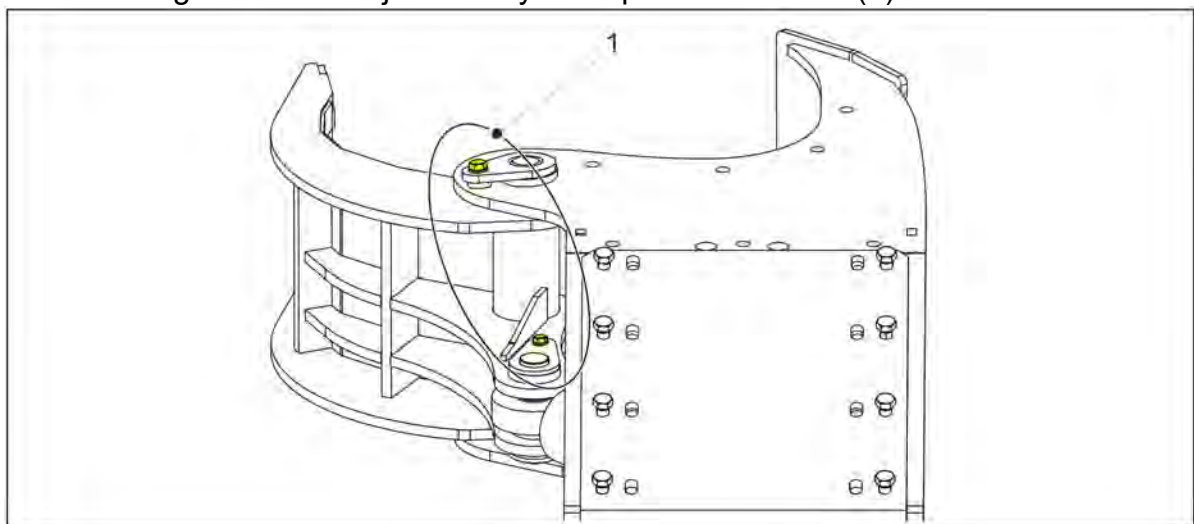
Before performing any maintenance, lower the tree shear to the ground and turn off the base machine.

7.3.1 Checking the tightness of screws and nuts

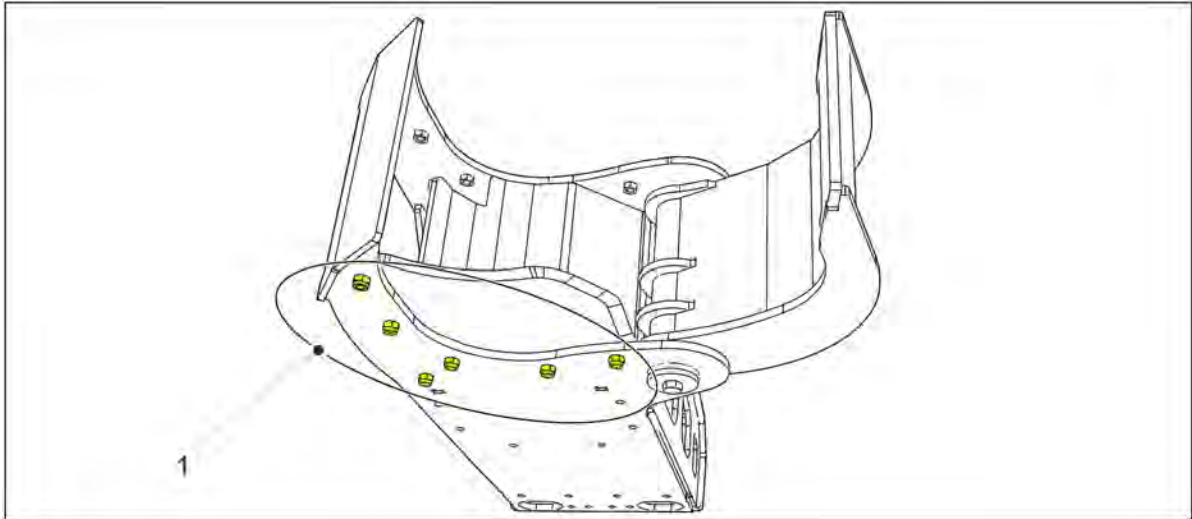
1. Check the tightness of the quick coupler bolts in areas (1) and (2).



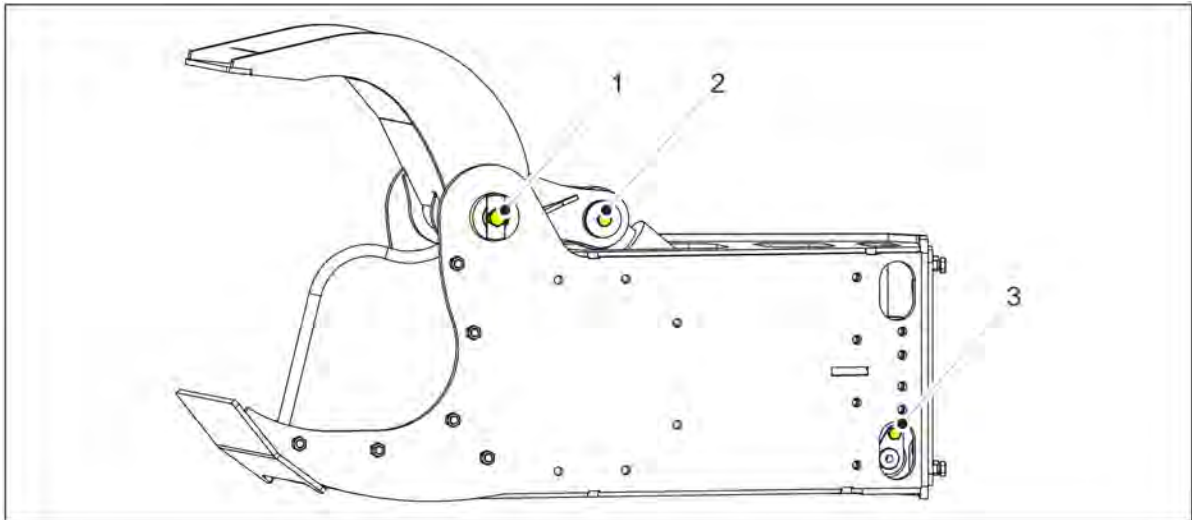
2. Check the tightness of the jaw and cylinder pin bolts in area (1).



3. Check the tightness of the cutting blade nuts in area (1).



4. Check the tightness of the bottom bolts (1-3).



7.3.2 Checking the tree shear for cracks or fractures


Visually check the jaws and main body of the tree shear for cracks or fractures in the metal. If cracks or fractures are found, do not attempt to fix them, instead contact your JAK-dealer.




7.3.3 Checking the condition of the cutting blade

| | |
|--|--|
| | DANGER |
| | Sharp blade hazard |
| | The blade can cause injuries and cuts. |
| | Observe caution when near the blade. Wear protective gloves when you handle the blade. |

Visually check that the blade is not damaged, bent or dull. If the blade is dull or notched, sharpen it. Damaged or bent blade must be replaced.

7.3.4 Checking for hydraulic leaks

| | |
|---|---|
|  | <p>DANGER</p> <p>Crushing hazard</p> <p>Moving parts in the tree shear can cause injuries or even death.</p> <p>Observe caution near the tree shear when the hydraulic lines are connected. Do not put your hands inside the tree shear when the hydraulic lines are connected.</p> |
|---|---|

| | |
|--|---|
|    | <p>DANGER</p> <p>Hydraulic fluid</p> <p>High pressure hydraulic fluid can cause injury or even death.</p> <p>Relieve the hydraulic pressure before maintenance. Wear protective gloves and goggles when handling hydraulic fluid.</p> |
|--|---|

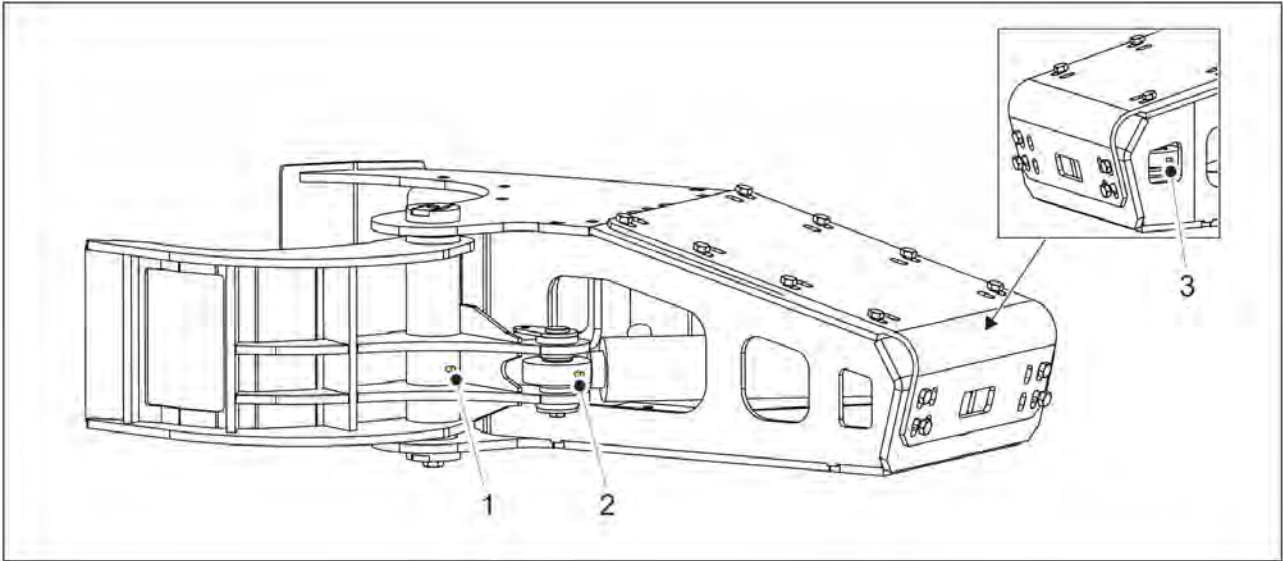
Visually check the inflow and outflow hydraulic connections for leaks. Hydraulic leaks are more common in cold operating temperatures. If possible, pre-heat the hydraulic oil of the base machine before operation in cold temperatures.

If a leak is found, replace the hydraulic hose or connector.

7.3.5 Greasing the tree shear

Use good quality NLGI.2 multi-purpose grease for greasing the tree shear.




Apply grease to the grease nipples (1-3).




7.3.6 Cleaning the tree shear

The tree shear can be washed using a pressure washer. Check that no branches or debris remain inside the tree shear after washing.

7.3.7 Sharpening the cutting blade

| | |
|---|---|
|  | DANGER Sharp blade hazard The blade can cause injuries and cuts. Observe caution when near the blade. Wear protective goggles and gloves when you sharpen the blade. |
|  | |
|  | |

| | |
|---|--|
|  | NOTE Excessive heat during sharpening can weaken the structure of the blade. |
|---|--|

Use a battery powered angle grinder equipped with an abrasive disc for sharpening.

- Move the abrasive disc continuously when sharpening.
- Pause the sharpening if the blade becomes hot and let it cool down.
- Sharpen the blade equally from both sides.

7.3.8 Replacing the cutting blade



DANGER

Sharp blade hazard



The blade can cause injuries and cuts.

Observe caution when near the blade. Wear protective gloves when you handle the blade.

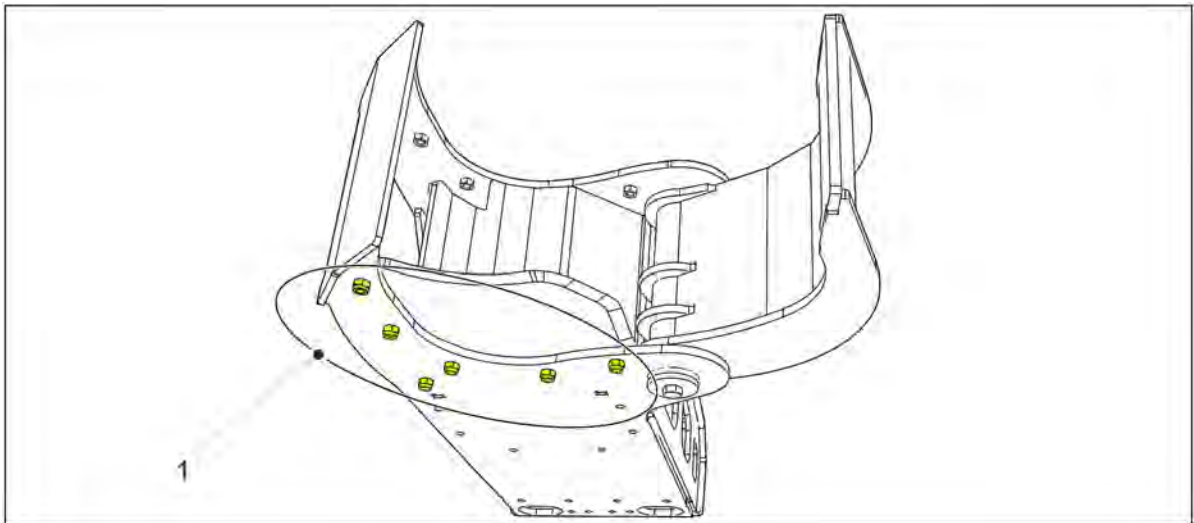


NOTE

Use an electrical wrench or alternatively a socket wrench with a 1 m extender at least.




| Model | Part | Part number |
|----------|-------|-------------|
| JAK-220C | Blade | 10683 |
| JAK-300C | Blade | 10501 |
| JAK-400C | Blade | 10665 |

1. Remove the cutting blade nuts in area (1).



2. Remove the cutting blade bolts.
3. Remove the old blade.
4. Align the new blade with the bolt holes.
5. Attach the bolts.
6. Attach the nuts.

7.3.9 Replacing the hydraulic hose and connector

| | |
|---|---|
|  | DANGER |
|  | Hydraulic fluid |
|  | |
| | High pressure hydraulic fluid can cause injury or even death. Relieve the hydraulic pressure before maintenance. Wear protective gloves and goggles when handling hydraulic fluid. |

1. Determine whether a hose or connector is the cause of the leak.
2. Prepare a spare hose or connector according to the leak.
3. Depressurize the hydraulic lines in the base machine. See manufacturers documentation.
4. Turn off the base machine.
5. Put a container underneath the hydraulic connection for any oil that might spill out.
6. Detach the leaking connector or connectors of the hose segment.
7. Attach the new connector or hose segment with its connectors.

7.4 Spare parts and maintenance contacts

For spare parts and service, contact your JAK-dealer. When ordering spare parts, indicate the model and serial number of the tree shear. The information is found on the manufacturer's plate.

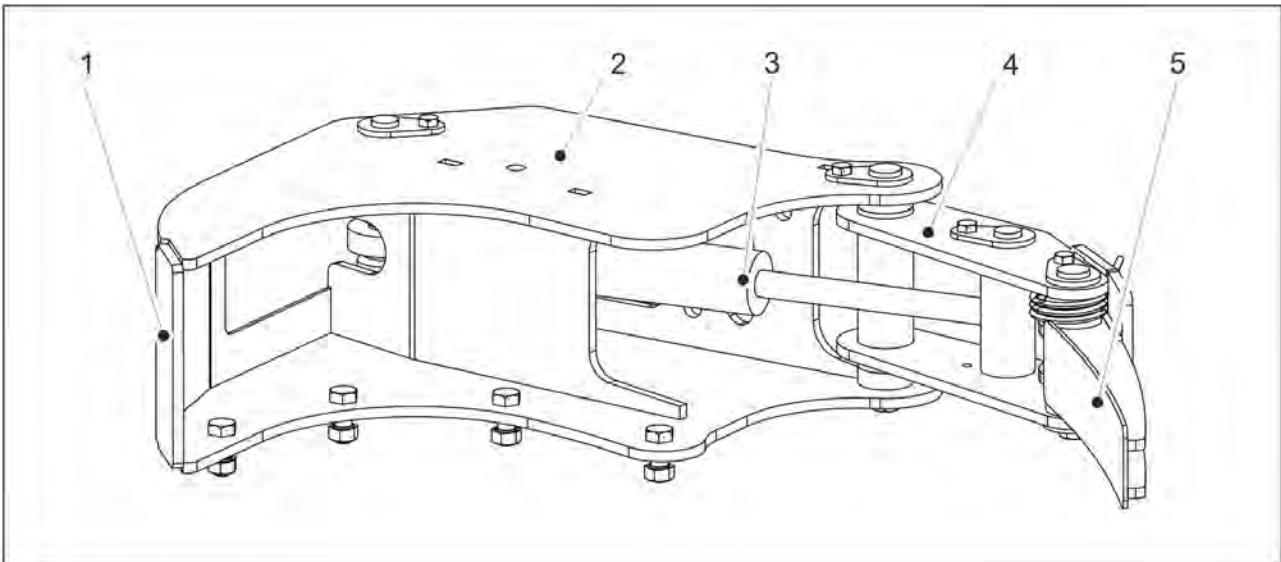
8 OPTIONS

8.1 Optional equipment available

| Optional equipment | JAK-220C | JAK-300C | JAK-400C |
|--------------------|----------|----------|----------|
| Collector unit | X | X | X |
| Foot | X | X | X |
| Solid extension | X | X | |

8.2 Collector unit

8.2.1 Overview

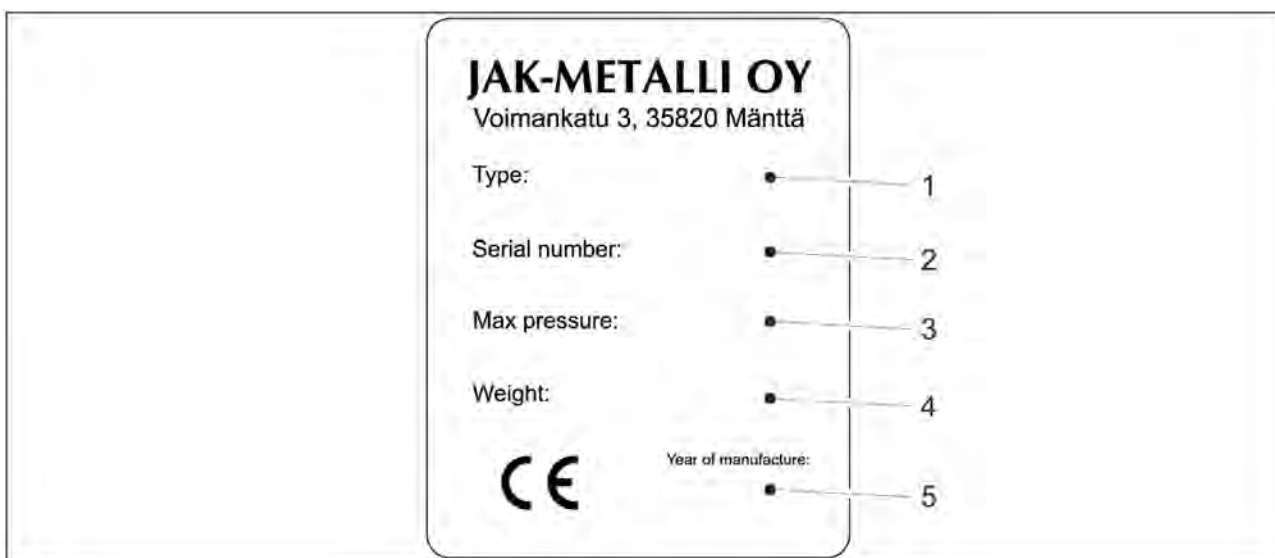
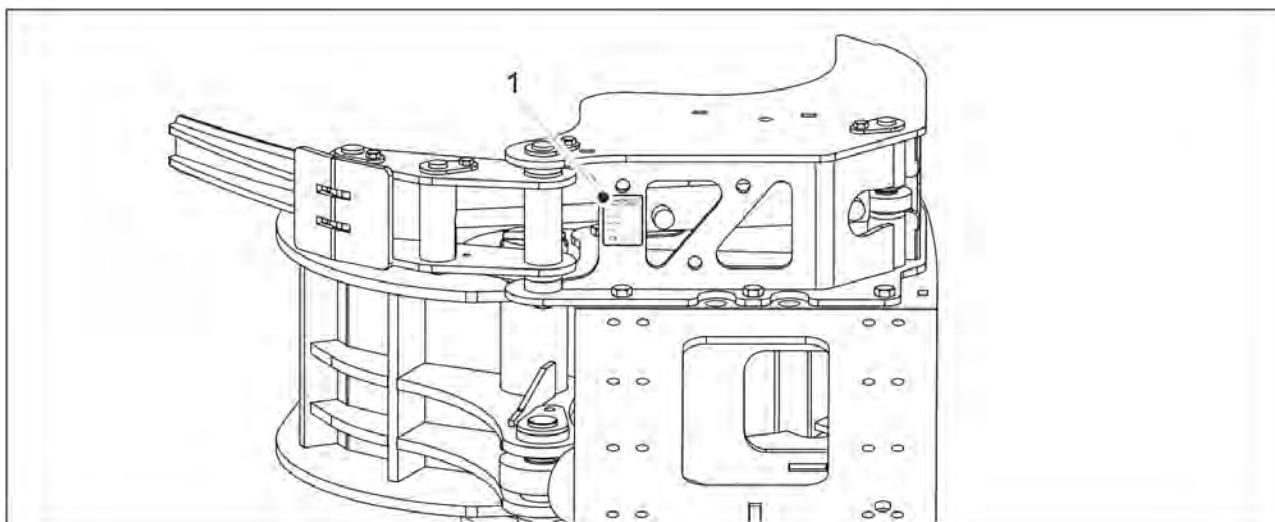


| | |
|----|--------------------|
| 1. | Fixed jaw |
| 2. | Main body |
| 3. | Hydraulic cylinder |
| 4. | Collecting jaw |
| 5. | Jaw tip |

The collector unit has a smaller hydraulic jaw that collects and holds the cut trees while the tree shear falls more trees. When the collector unit is full, the cut trees can be moved to a new location as a bunch to save time. The collector unit is especially useful when cutting densely growing smaller trees. The collector unit is installed on top of the tree shear.

8.2.1.1 Product identification


The collector unit has a manufacturer's plate (1) on the back of the frame.



| Location | Information |
|----------|---------------------|
| 1 | Type |
| 2 | Serial number |
| 3 | Maximum pressure |
| 4 | Weight |
| 5 | Year of manufacture |

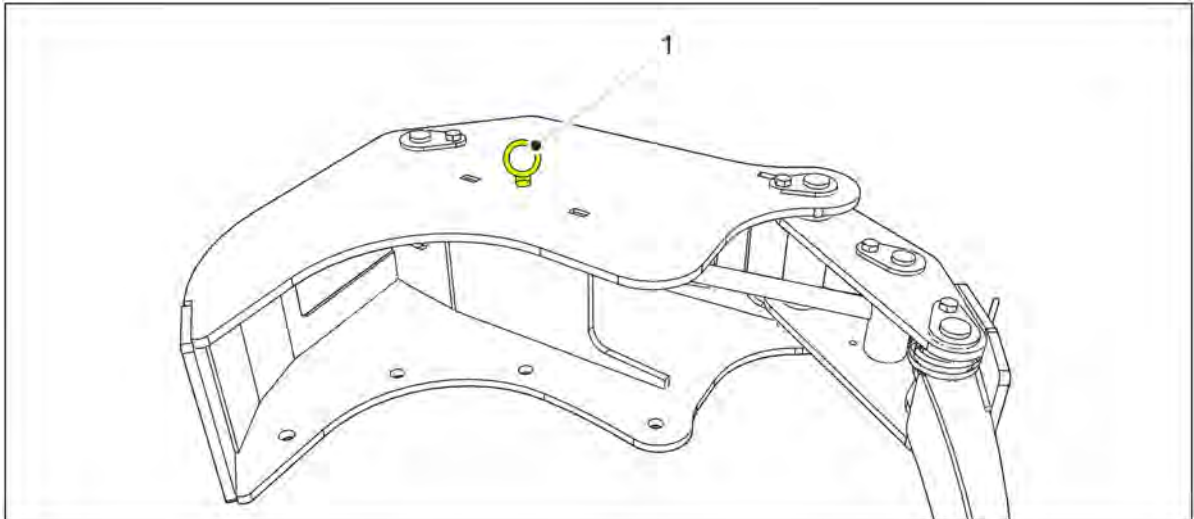
8.2.2 Installation

8.2.2.1 Lifting the collector unit


| | |
|---|--|
|  | DANGER |
| | Lifting hazard |
| | <p>The collector unit is heavy and can cause injuries if lifted.</p> <p>Do not lift the collector unit on your own. Use a lifting aid.</p> |

| Product name | JAK-220C | JAK-300C | JAK-400C |
|-----------------------|-----------------|-----------------|------------------|
| Collector unit weight | 46 kg (101 lbs) | 75 kg (165 lbs) | 146 kg (322 lbs) |


1. Attach the lifting loop (1) to the collector unit.



2. Use a lifting belt or hook to lift the collector unit.

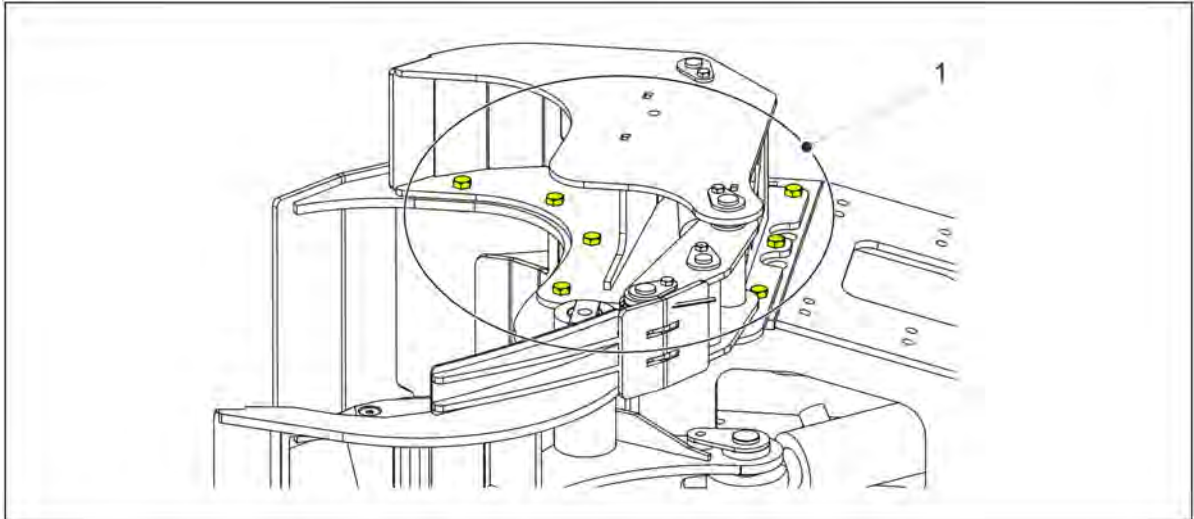
| | |
|---|---|
|  | NOTE |
| | <p>Make sure that the lifting belt or chain cannot damage the hydraulic lines during lifting.</p> |

8.2.2.2 Installing the collector unit

| | |
|---|--|
|  | NOTE |
| | <p>Installing the collector unit raises the weight of the tree shear and can affect balance.</p> |

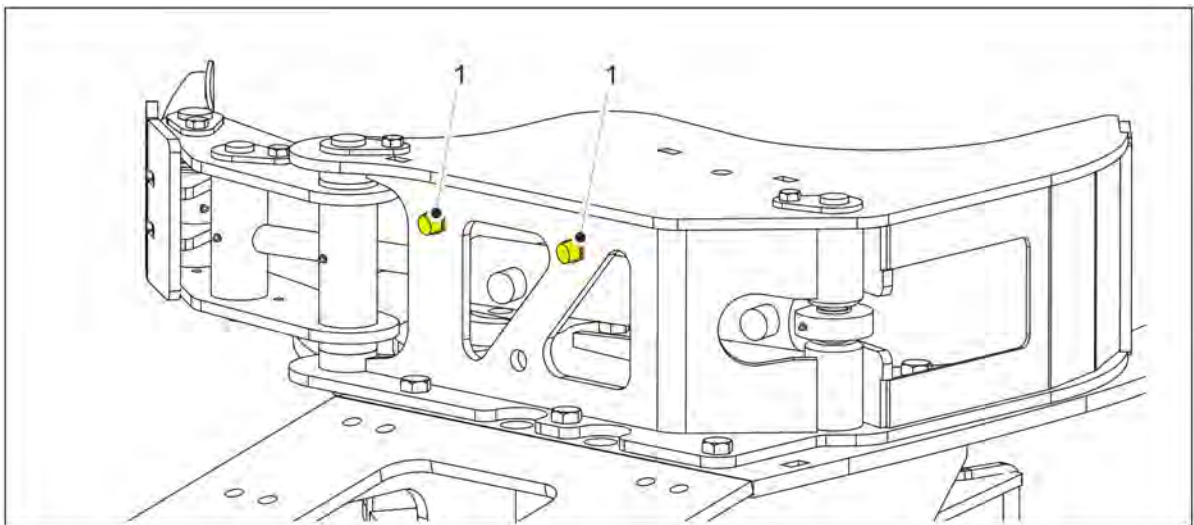
1. Clean the surface on top of your tree shear.
2. Lift the collector unit.
3. Move the collector unit above the tree shear.

4. Tighten the connecting bolts in area (1).



5. Install the hydraulic lines (1).

| Collector unit | Hydraulic connector |
|----------------|---------------------|
| JAK-220C | R 3/8" |
| JAK-300C | R 3/8" |
| JAK-400C | R 1/2" |



6. Grease the collector unit. See chapter [8.2.4.1 Greasing the collector unit](#).

8.2.3 Operation

8.2.3.1 Operating the collector unit

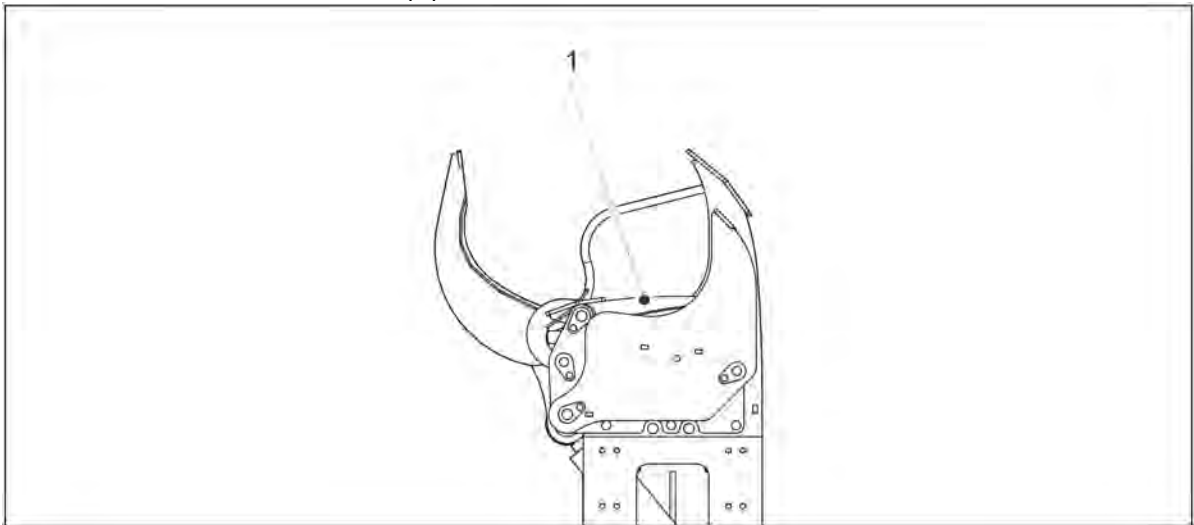


WARNING

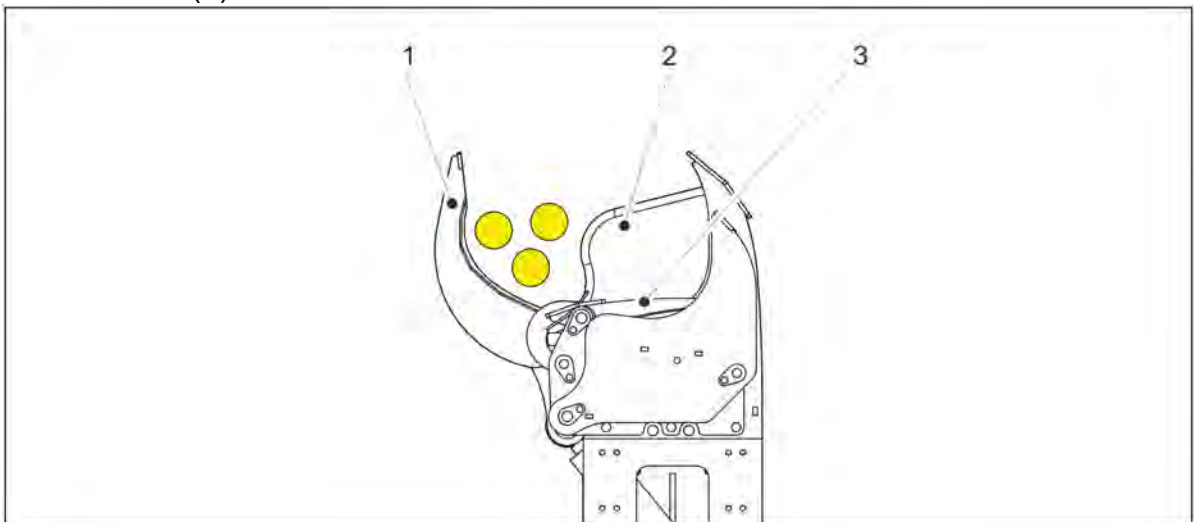
Risk of damage to the equipment

Before you cut a tree, make sure the collector unit is closed.

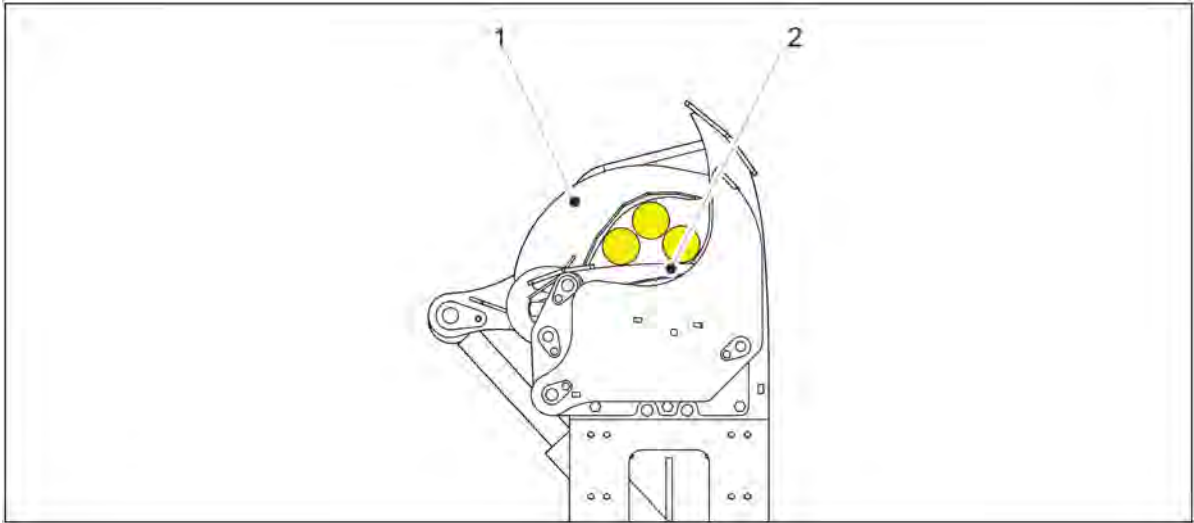
1. Make sure the collector unit (1) is closed.



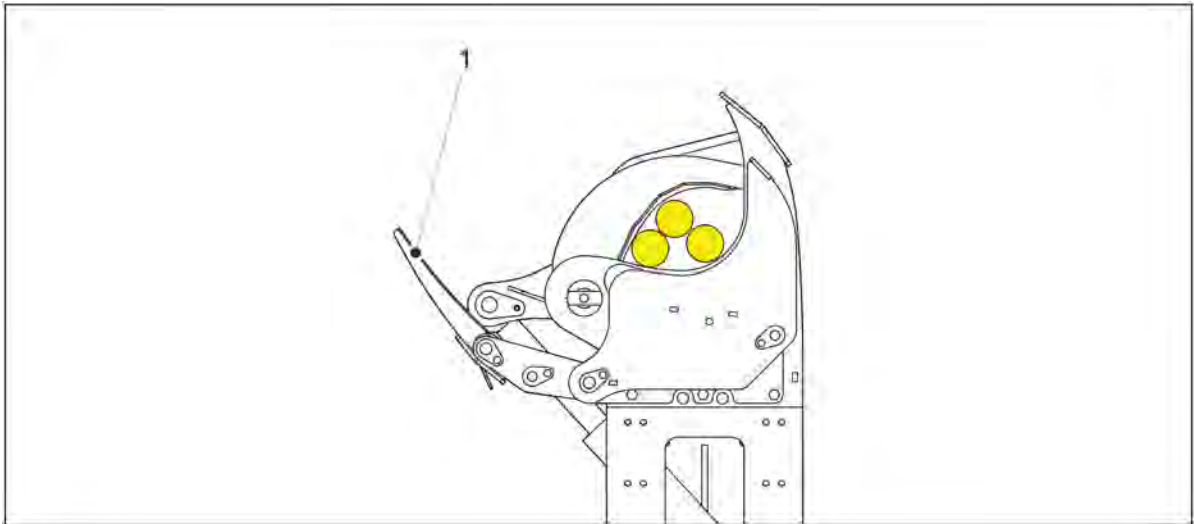
2. Place the tree bundle between the cutting side jaw (1) and the cutting blade (2). The collector unit (3) must be closed.



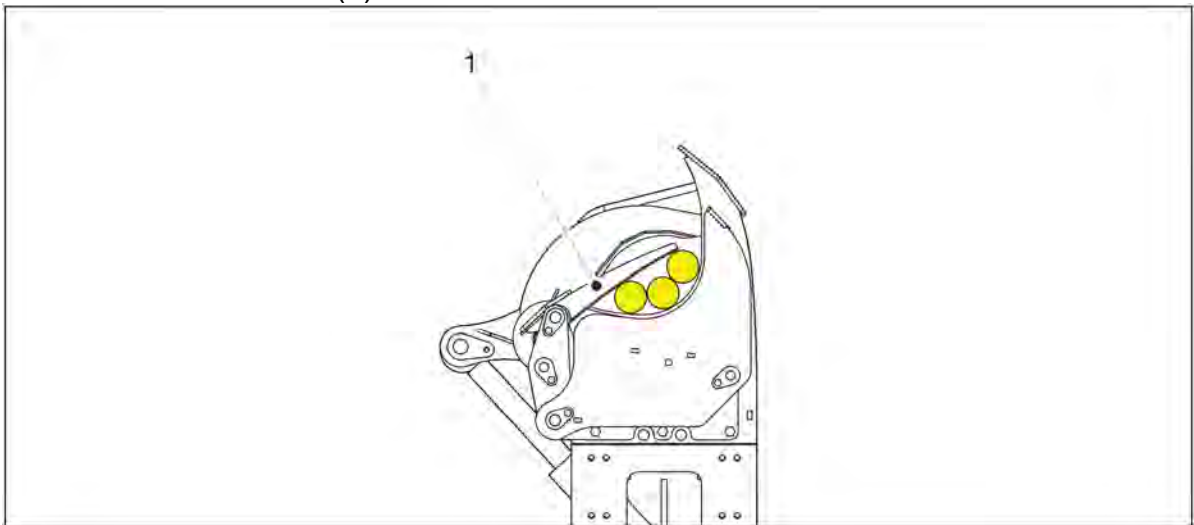
3. To cut the tree bundle, close the jaw (1). Now the jaw holds the tree bundle. The collector unit (2) is closed.



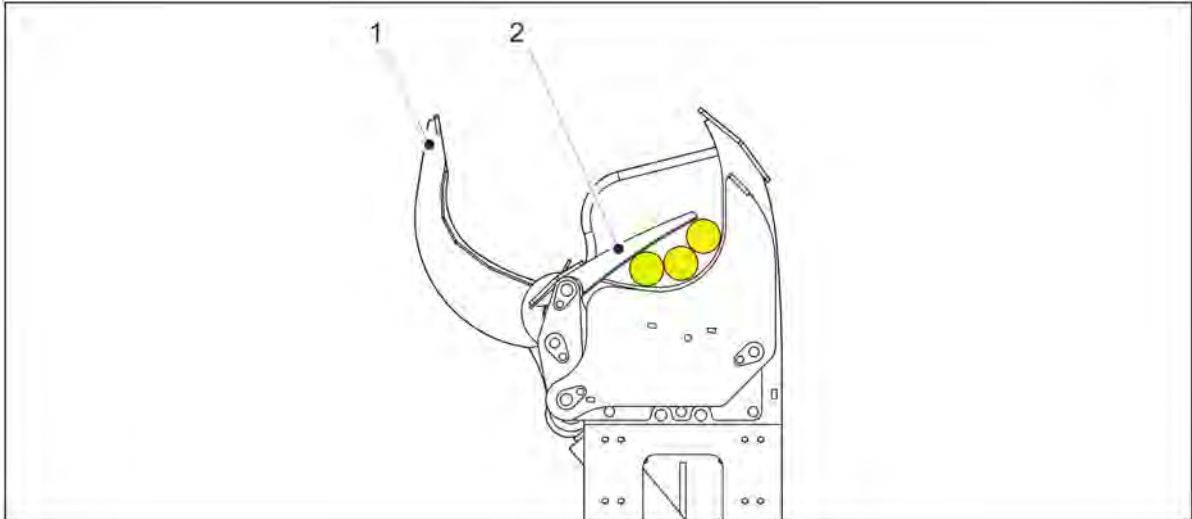
4. Open the collector unit (1).




5. Close the collector unit (1).




6. Open the jaw (1). Now the collector unit (2) holds the tree bundle.




7. Repeat steps 1, 2, 3, 4, 5 and 6 until the jaw can no longer cut the tree or the collected tree bundle becomes unstable.

| | |
|---|---|
|  | <p>NOTE</p> <p>Long tree trunks are more unstable than short trunks. Danger of falling trunks and branches. Observe the collected tree bundle in case it starts to fall apart.</p> |
|---|---|

8. After the last succeeded cut, close the jaw.
 9. Move the tree bundle to a stacking location on the ground.
 10. To release the tree bundle, open the collector unit first and after that open the jaw.

| | |
|---|---|
|  | <p>WARNING</p> <p>Risk of damage to the equipment</p> <p>Always open the collector unit first when releasing the tree bundle on the ground. This way the collector unit doesn't hold all the weight of the tree bundle.</p> |
|---|---|

| | |
|---|---|
|  | <p>NOTE</p> <p>Cut the tree bundle on the ground if the bundle is too long to be transported from the stacking location.</p> |
|---|---|

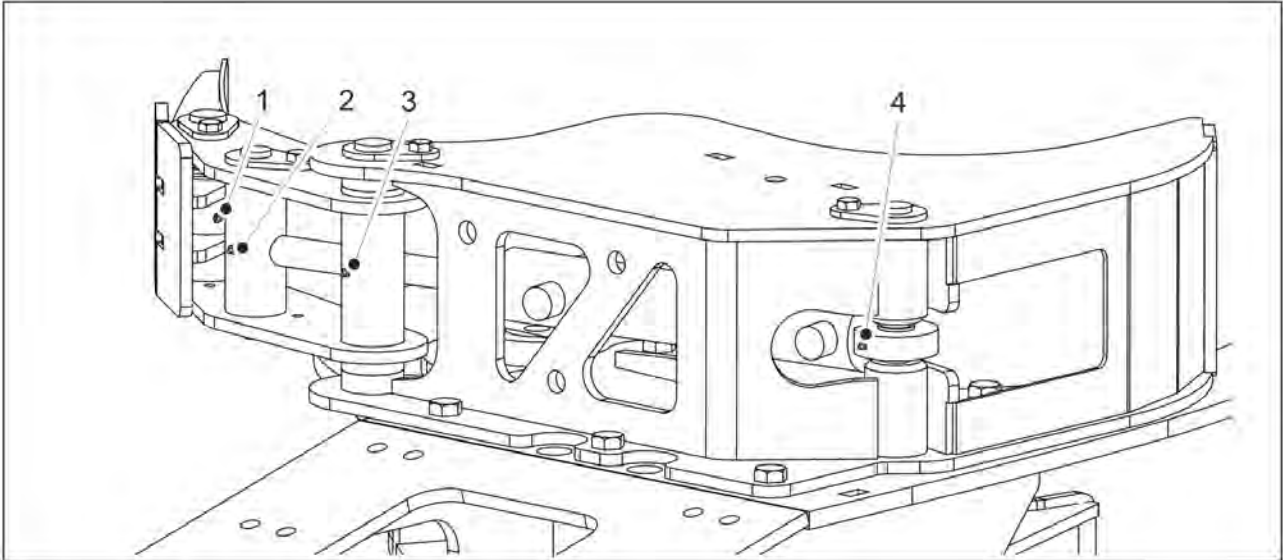
8.2.4 Daily maintenance

| Maintenance tasks |
|---------------------------|
| Grease the collector unit |
| Clean the collector unit |
| Check the collector unit |

8.2.4.1 Greasing the collector unit

Use good quality NLGI.2 multi-purpose grease for greasing the collector unit.

Apply grease to the grease nipples (1-4).

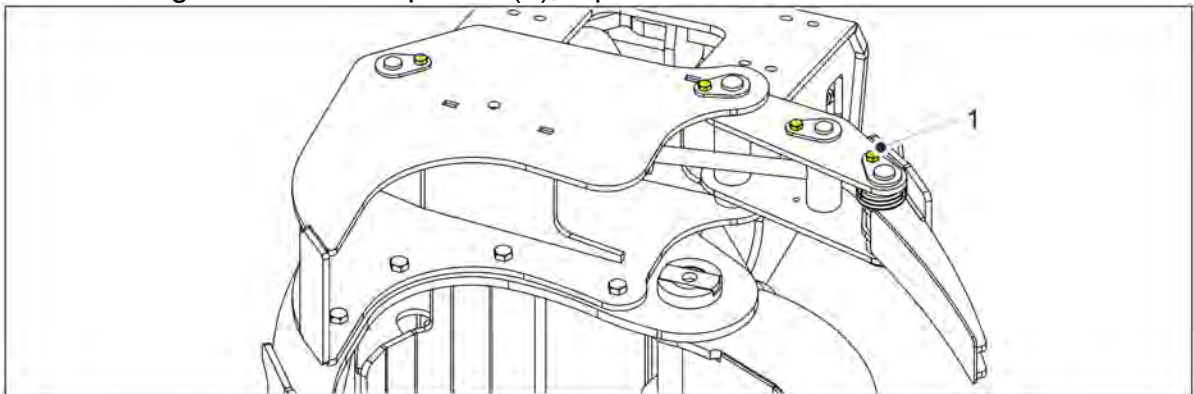


8.2.4.2 Cleaning the collector unit

After using the collector unit, clear out any branches, snow or debris from inside the unit. The unit can be washed with a pressure washer.

8.2.4.3 Checking the collector unit

1. Check the tightness of the top bolts (1), 4 pcs.

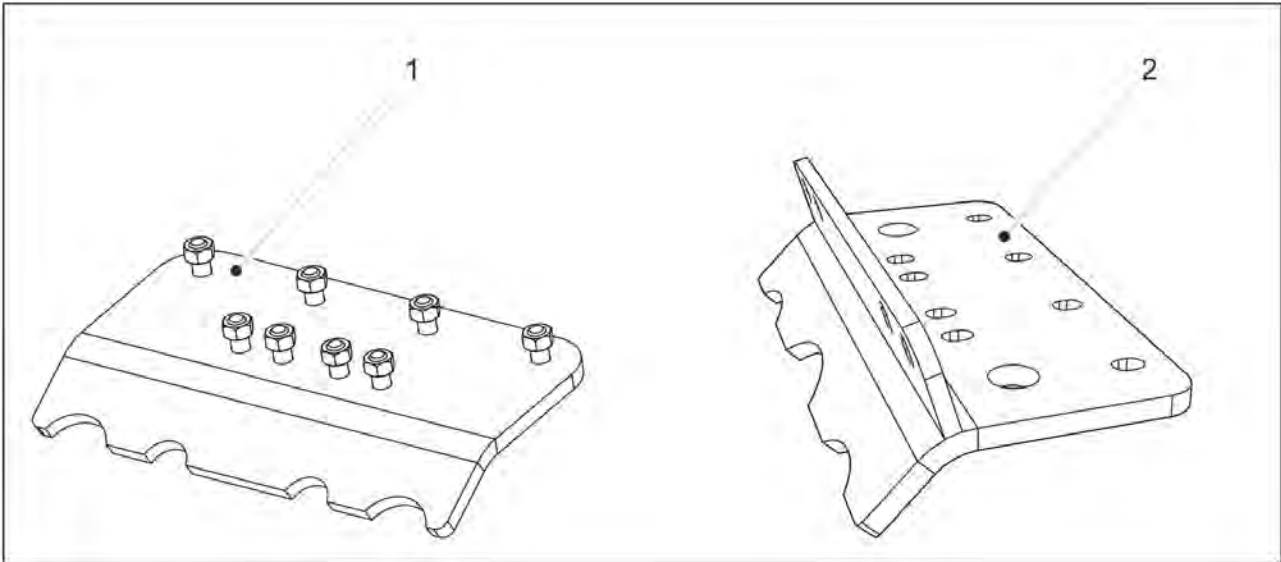


2. Check that there are no hydraulic leaks.
3. Check that there are no cracks or fractures in the collector unit.

8.3 Foot

8.3.1 Overview

The foot is used as a support point for moving the excavator at the work site. The foot is attached to the back bottom side of the tree shear. The foot is different for JAK-220C and JAK-300C (1) than the foot for JAK-400C (2).



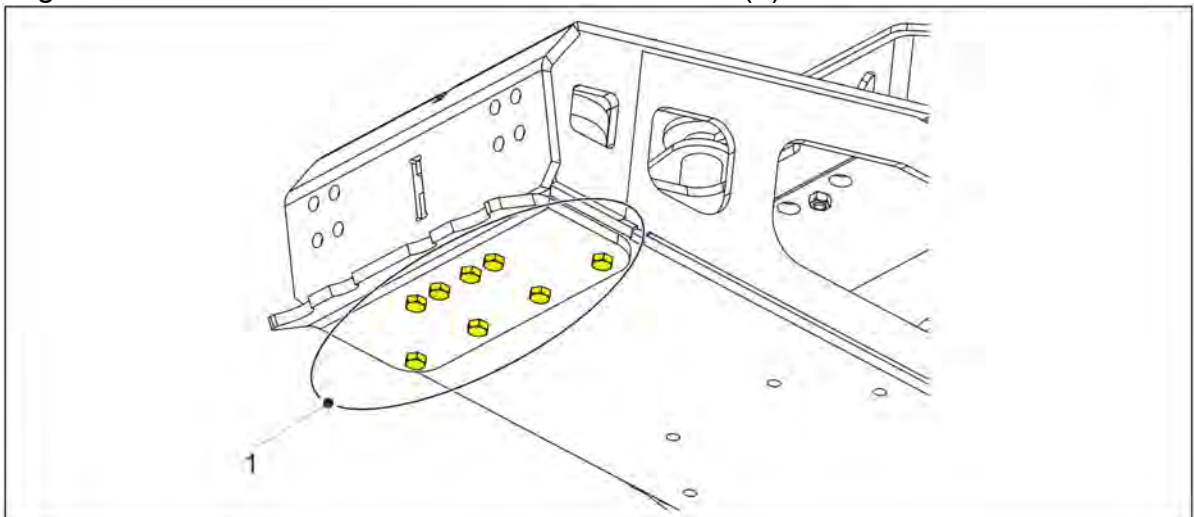
8.3.2 Installation

**NOTE**

Use an ergonomic lifting position.

Installing foot to JAK-220C and JAK-300C tree shear:

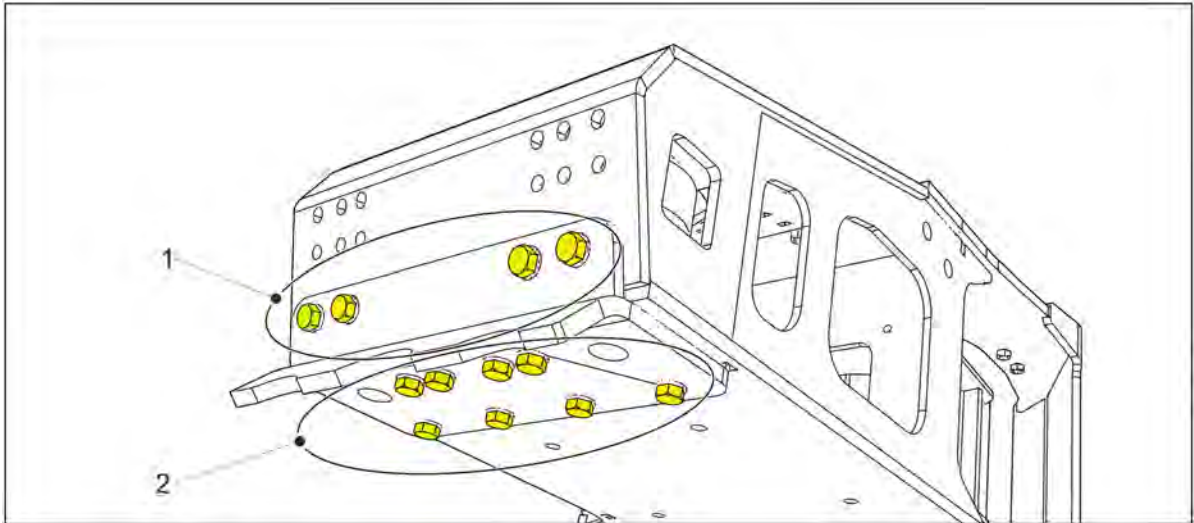
1. Align the foot to the tree shear with the bolts in area (1).



2. Attach the nuts to the bolts.

Installing foot to JAK-400C tree shear:

1. Align the foot to the tree shear with the bolts in areas (1) and (2).

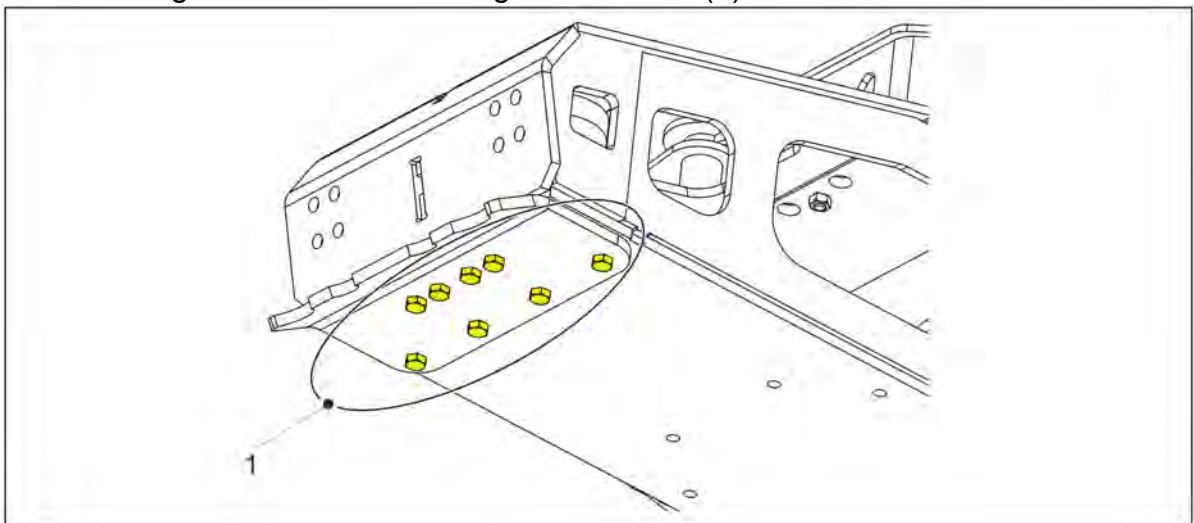


2. Attach the nuts to the bolts.

8.3.3 Daily maintenance

JAK-220C and JAK-300C tree shear:

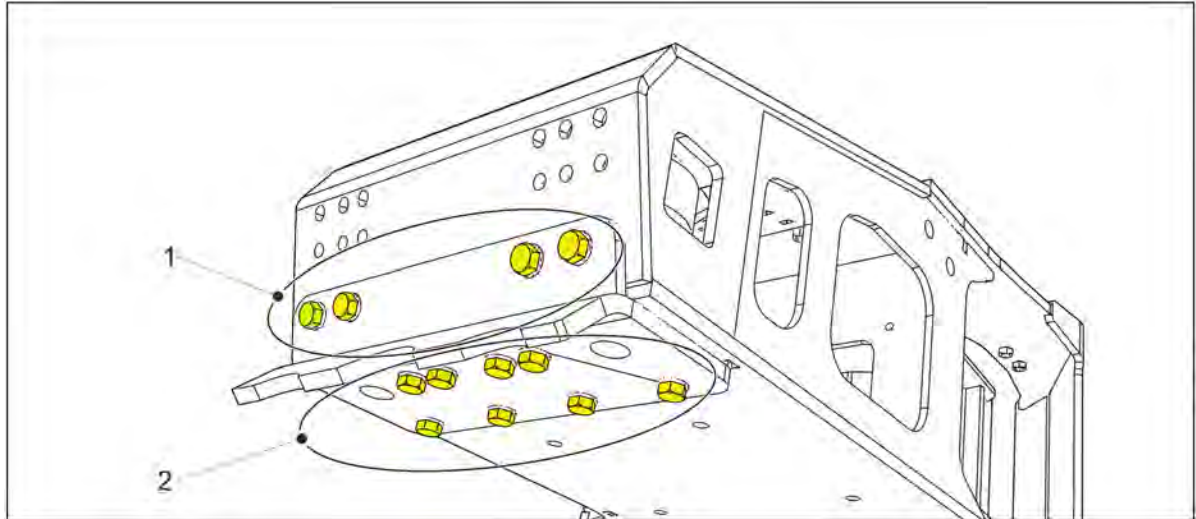
1. Check the tightness of the fastening bolts in area (1).



2. Visually check that there are no cracks or fractures on the foot.

JAK-400C tree shear:

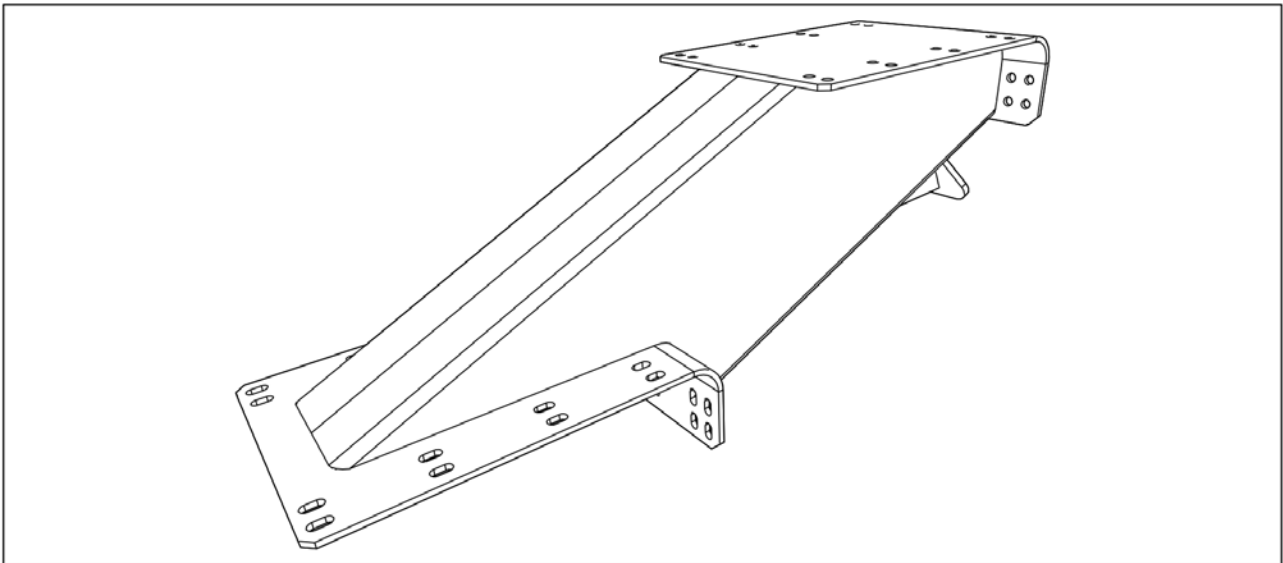
1. Check the tightness of the fastening bolts in areas (1) and (2).



2. Visually check that there are no cracks or fractures on the foot.

8.4 Solid extension


8.4.1 Overview



Solid extension brings additional reach to the work.

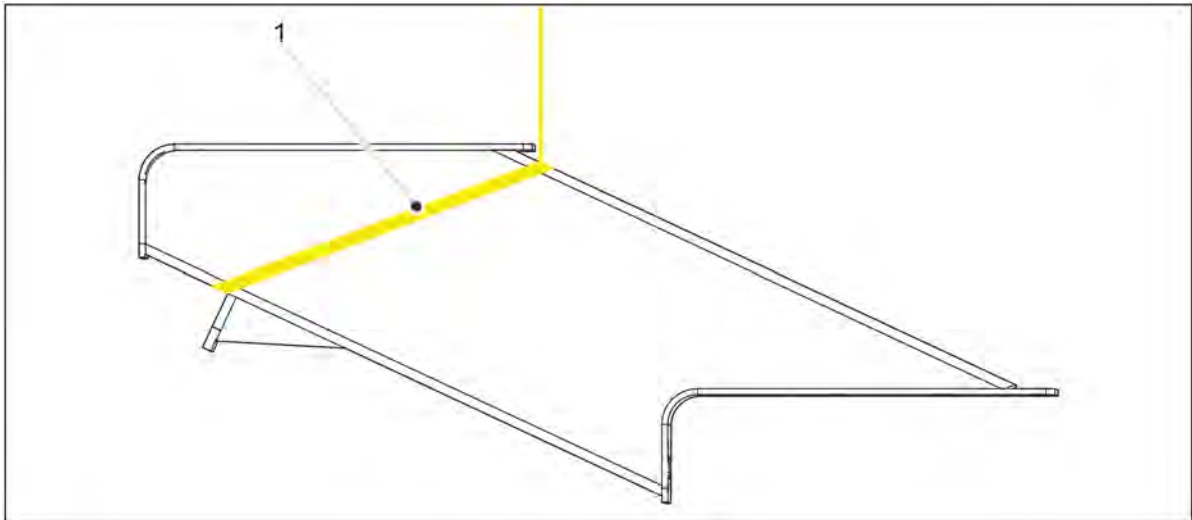
8.4.2 Installation

8.4.2.1 Lifting the solid extension


| | |
|---|--|
|  | DANGER |
| | Lifting hazard |
| | <p>The solid extension is heavy and can cause injuries if lifted.</p> <p>Do not lift the solid extension on your own. Use a lifting aid.</p> |

| Product name | JAK-220C | JAK-300C |
|------------------------|------------------|------------------|
| Solid extension weight | 100 kg (220 lbs) | 175 kg (386 lbs) |


1. Make a loop around the solid extension with a lifting belt (1).



2. Lift the solid extension.

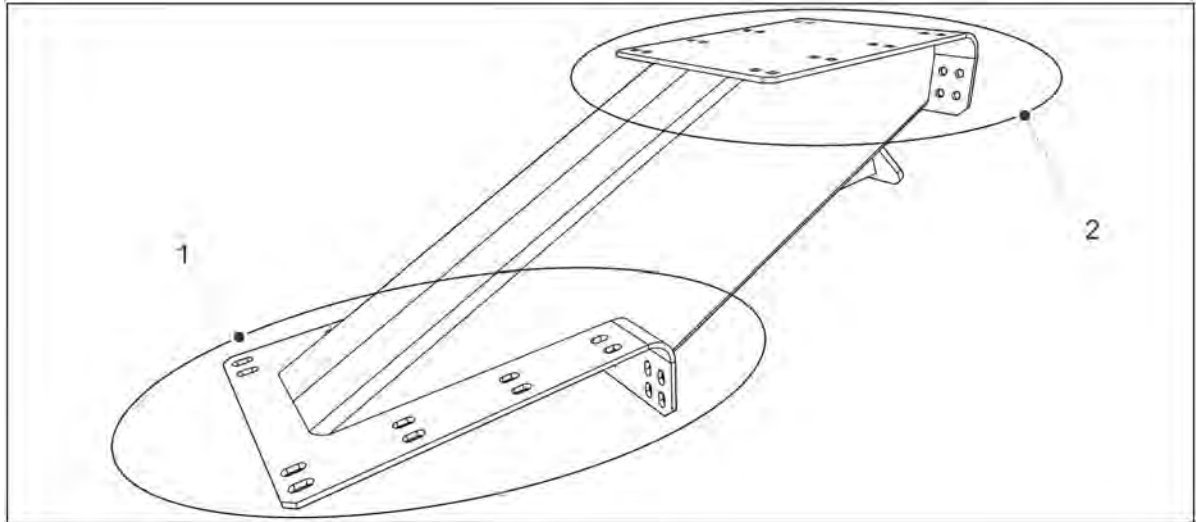
| | |
|---|---|
|  | <p>NOTE</p> <p>The solid extension has sharp edges. Use a coated lifting belt.</p> |
|---|---|

8.4.2.2 Installing the solid extension

| | |
|---|--|
|  | <p>NOTE</p> <p>Installing the solid extension raises the weight of the tree shear and can affect balance.</p> |
|---|--|

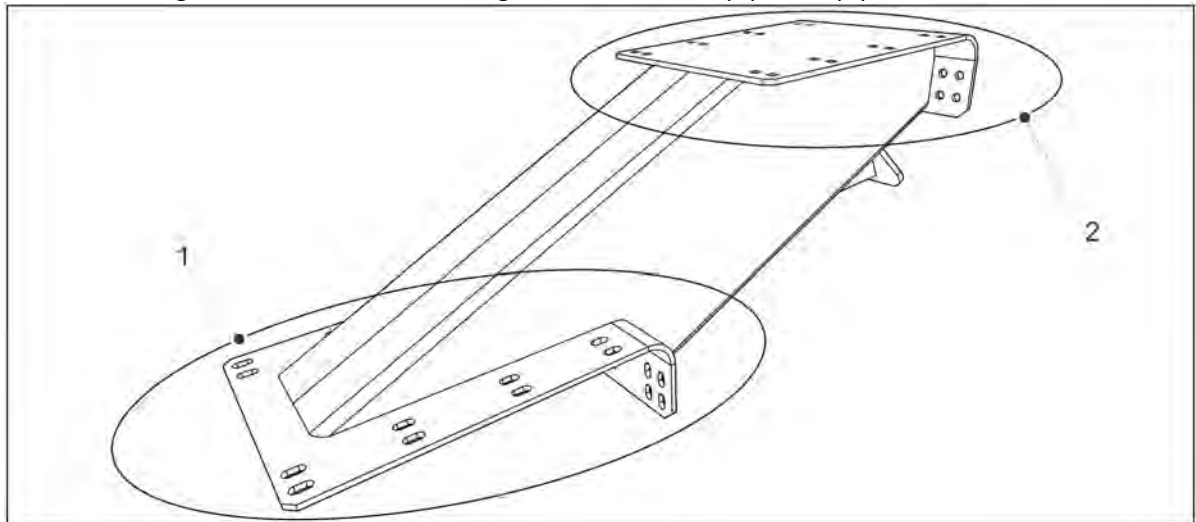
1. Clean the surfaces.
2. Lift the solid extension.
3. Move the solid extension above the tree shear.

4. Tighten the connecting bolts in areas (1) and (2).



8.4.3 Daily maintenance

1. Check the tightness of the fastening bolts in areas (1) and (2).



2. Visually check that there are no cracks or fractures on the foot.

9 ATTACHMENTS

Warranty

Warranty period is model and equipment specific, confirm the warranty period length from the reseller.

The warranty period starts on the date of purchase.

Warranty does not cover:

- Cutting blades and hydraulic hoses.
- Defects caused by wear or prohibited use. For prohibited and intended use of the equipment, read the instruction manual.
- Loss of earnings and other indirect costs from down time.
- Costs due to transporting the equipment to warranty repair.

Warranty is void if:

- Other than original parts are used on the tree shear.
- The owner of the tree shear changes during the warranty period.
- The tree shear is used in temperatures below -15 °Celsius.

Warranty repairs are performed at the facilities of JAK-Metalli Oy or the retailer.

The warranty repair is carried out within a reasonable time, maximum of 4 weeks.

EU Declaration of Conformity



Manufacturer Name: JAK-Metalli Oy
Address: Voimankatu 3
35820 Mänttä
Phone: 040 080 4658
e-mail: info@jak.fi

JAK-Metalli Oy declares that the products manufactured by us are compliant with requirements of following European parliament and council directives:

- Machine Directive 2006/42/EU

The Declaration of Conformity covers the following products:

- JAK-400C
- JAK-300B, R and C
- JAK-250B, R and K
- JAK-200B, R and K
- JAK-220C
- JAK-220C, JAK-300C and JAK-400C Collector Units
- JAK-250R and B, JAK-300R and B Collector Units
- JAK-350 Guillotine Unit

Note! The declaration of conformity is not valid if the energy wood grapples mentioned before are used against laws, general safety instructions and this user instruction.

In the usage of the machine, situations may arise not mentioned in the user instructions. In these situations, we recommend to follow extreme caution. The manufacturer is not responsible for the use of the actions in these situations or for the damages happening in these situations.

The manufacturer is not responsible for the damages to the third party.

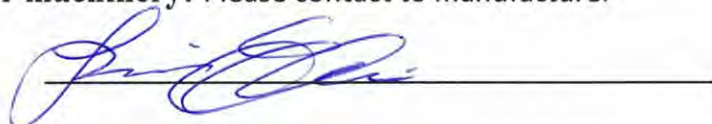
The manufacturer is not responsible for the damages that the JAK energy wood grapple has caused to machine or to the device.

The owner of the grapple is responsible for the correct functioning, use and maintenance of the grapple if not agreed in other ways separately.

The owner of the grapple is responsible, as well, for the case that all the persons using the machine have enough information about the handling and use of the grapple.

Instructions and technical file for machinery: Please contact to manufacturer

Mänttä 27.10.2023



Jani Sipilä, Technical expert
