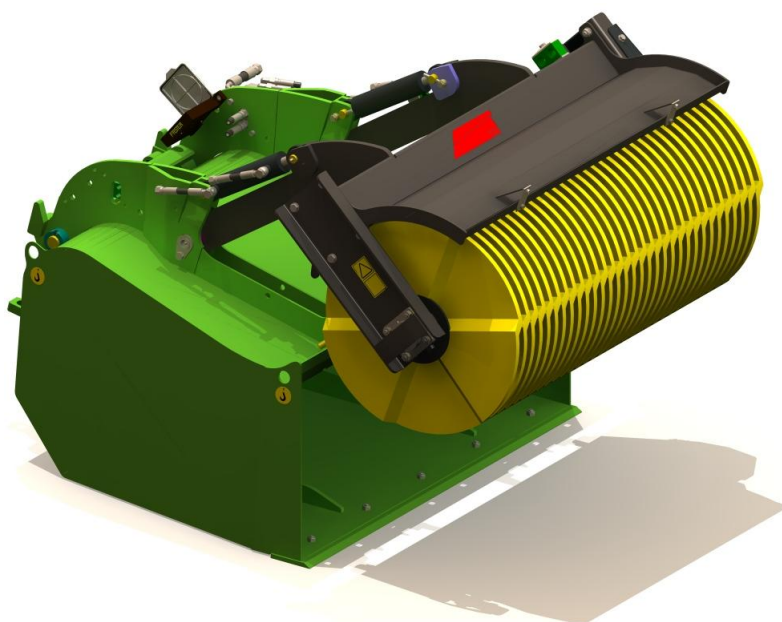


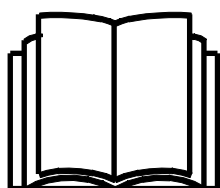
AVANT®

Operator's Manual for Attachment



Bucket Broom

Product number	
1000 mm	A35945
1000 mm with water spraying system	A36023
1500 mm	A35689
1500 mm with water spraying system	A36024



Please read this manual carefully before using the equipment, and follow all instructions.

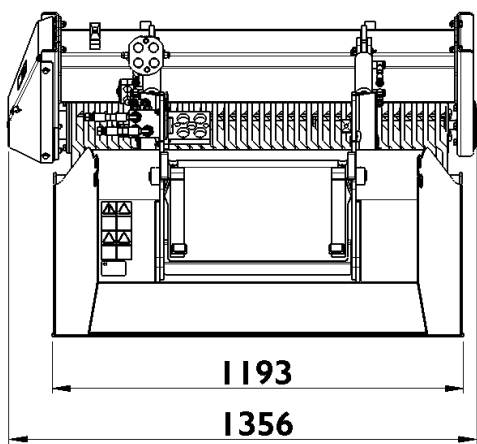
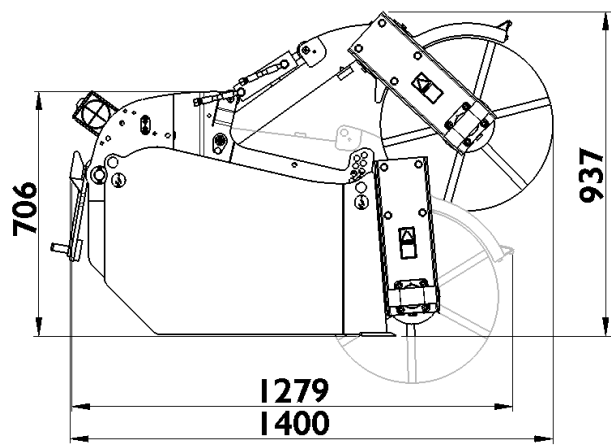
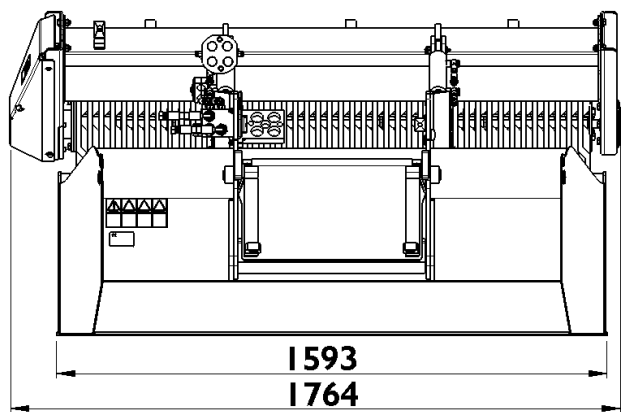
Keep this manual for later reference.

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I. Foreword

Avant Tecno Oy would like to thank you for your purchase of this attachment for your Avant loader. It has been designed and manufactured on the basis of years of experience on product development and manufacturing. By familiarising yourself with this manual and following the instructions, you ascertain your safety and ensure the reliable operation and long service life of the equipment. Read the instructions carefully before starting to use the equipment or performing maintenance.

The purpose of this manual is to help you to:

- operate the equipment in a safe and efficient manner
- observe and prevent any hazardous situations
- keep the equipment intact and ensure a long service life

The following warning symbols are used throughout this manual to indicate factors that must be taken into account to reduce the risk of personal injury or damage to property:

	WARNING:
	<p>This safety symbol refers to important safety information in this manual. It warns of an immediate hazard that could cause serious personal injury.</p> <p>Read the warning text accompanying the symbol carefully and ensure that other operators are also familiar with the warnings, since personal safety is at stake.</p>

NOTICE

This signal word indicates information about the correct operation and maintenance of the equipment.

Failure to observe the instructions accompanying the symbol can lead to equipment breakdown or other property damage.

With these instructions, even an inexperienced user can use the attachment and loader safely. The manual includes important instructions for experienced AVANT operators as well. Ensure that all persons using the loader have received proper guidance and familiarised themselves with the manual of the loader, each attachment that are used, and all safety instructions before using the equipment. Using the equipment for other purposes or use in any other way than described in this manual is prohibited. Keep this manual at hand throughout the service life of the equipment. If you sell or transfer the equipment, be sure to hand over this manual to the new owner. If the manual is lost or damaged, you can request a new one from your Avant dealer or from the manufacturer. Due to continuous product development some of the details shown in this manual may differ from your equipment. This manual contains the original instructions in English.

In addition to the safety instructions included in this manual, you must observe all occupational safety regulations, local laws, and other regulations concerning the use of the equipment. Particularly the regulations concerning the use of the equipment on public road areas must be observed. We reserve the right to change the contents of the manual without notification.

2. Designed purpose of use

The AVANT Bucket Broom is an attachment suitable for use with AVANT multi purpose loaders shown in Table 1. The bucket broom is an excellent choice for removing sand, sanding gravel or other small trash from larger yards, streets, or other even and solid surfaces, and serves well also in professional use. The powerful collector will remove material from surfaces with a single pass, leaving the surface completely clear. With the bucket type collector housing with large opening and strong rotating broom it is easy to collect larger objects on practically any type of surface, which is not possible with other types of collecting units. A water spraying system is available as an option to reduce dust formation during operation. Also, the watering system can be easily installed later after the purchase of the bucket broom.

The strong broom is fitted on the front of the attachment, giving excellent visibility to the attachment. The broom should rotate counter-clockwise when seen from the left side of the unit, and the best working results are achieved when reversing with the loader while keeping the edge of the bucket on the ground. The edge plate of the bucket is made from special steel that is particularly wear resistant, and it is replaceable. The broom is rotated directly with a hydraulic motor. The broom unit is lifted with hydraulic cylinders making it possible to empty the collector directly from the driver's seat in similar way as a general bucket. The bucket Broom can be utilised fully without any options or modifications on Avant loaders; on some models extra counterweights are recommended. All loaders are intended only for outdoor use or especially well ventilated areas due to exhaust gases of the loader. Using the broom is allowed only by using the controls of the loader while sitting on the driver's seat of the loader. For cleaning large yard or road areas we recommend the Avant Collecting Broom.

The attachment has been designed to require as little maintenance as possible. The operator can perform regular maintenance tasks. All repair work can't be performed by the operator, and demanding repair and maintenance operations are to be left for professional maintenance. All maintenance work must be done using proper safety equipment. Spare parts must be identical with original specifications, which can be ensured by using only original spare parts. A separate spare parts catalog may be available, consult your Avant dealer.

Familiarise yourself with the manual's instructions regarding service and maintenance. Please contact your AVANT retailer if you have additional questions about the operation or maintenance of the equipment, or if you require spare parts or maintenance services.

Table 1 - Bucket Broom - Compatibility with Avant loaders

Avant	216 218 220	313S 320S 320S+	419 420	520 R20 525LPG	R28 528 R35 630 635 640	745 750 760i
A35945	-	(●)	•	•-	•	•
A36023	-	(●)	•	•	•	•
A35689	-	-	-	(●)	•	•
A36024	-	-	-	(●)	•	•

Compatibility recommendations are based on the width of the loader and available lifting capacity. When using with models marked with (●), full performance may not be achieved. Additional counterweights may also be required. For compatibility with a model not shown in table, contact your Avant dealer.

3. Safety instructions

Please bear in mind that safety is the result of several factors. The loader-attachment combination is highly powerful and improper or careless use or maintenance may cause serious personal injury or property damage. Due to this, all operators must carefully familiarise themselves about correct use and the operator's manuals of both the loader and the attachment before starting operation. Do not use the attachment if you have not completely familiarised yourself with its operation and the related hazards.



Misuse, careless use, or using an attachment that is in poor condition, may cause risk of serious injuries. Familiarise yourself with the controls of the loader, correct coupling procedure, and the correct way to operate the attachment at a safe area. Study especially how to stop the equipment in a safe manner. Read all safety precautions carefully.

Read all safety instructions carefully before handling the attachment



- When attaching an attachment to the loader, **ensure that the locking pins of the loader's quick attach plate are in the lower position and that they have locked the attachment to the loader.** Never lift or move an unlocked attachment.
- The Bucket Broom is designed to be used by one operator at a time. Do not let others near the danger area of the equipment when it is in use.
- Always transport the attachment as low as possible to keep the centre of gravity low, and keep the telescopic boom retracted during driving.
- Never leave the driver's seat when the broom is running or when the auxiliary hydraulics control lever of the loader is locked on and keep a safety distance of at least two metres from activated broom. Keep hands and feet away from moving parts.
- Beware of entanglement and severing hazards and possible debris thrown by the broom.
- Lower the attachment firmly on the ground before leaving the driver's seat, following the safe stopping procedure. Make sure that the attachment is properly supported during maintenance or inspections.
- Going under a raised attachment or loader boom is dangerous, as the boom may lower due to loss of stability, mechanical fault or when other person operates the controls of the loader.
- Beware of the crushing hazard of the moving broom shaft, always lower the broom completely, or use appropriate supports, if it is necessary to handle the broom while lifted.
- Follow safe stopping procedure before any maintenance or adjustments.
- Be sure not to tilt the attachment too far up to prevent the broom from tilting over the tipping point of the hinged quick attach plate.
- Keep in mind that the broom may throw material or objects at high speed. Do not operate the equipment, if the broom cover is not in place.



- Shut down the loader and place the attachment to a safe position as shown in Safe stopping procedure before any cleaning, maintenance, or adjustments.
- Pay attention to the surroundings and any other persons and machines moving in the vicinity. Pay attention to the contours of the terrain and other hazards, such as branches and trees that can reach to the driver's area, loose rocks, and slippery surfaces.
- Make sure to use only an attachment that is in good condition. Do not modify the attachment in any way that could affect its safety.
- Use the attachment only for its intended purpose. Other use may create unnecessary safety risks, and the equipment may get damaged.
- Make sure that the loader is equipped with necessary safety components, and that they are in working condition. Seat belt must be used. If there are specific hazards related to the operating area, use appropriate safety equipment.
- Also read the safety instructions and correct use of the loader from the operator's manual of the loader.



Always keep a safety distance of at least two metres to other persons. Note that the attachment may throw stones, gravel, or other objects found in the area at high speed. Keep bystanders away.



Avoid overturning of the machine. Do not extend the telescopic boom, when the load approaches the lifting capacity of the loader, or when the loader boom is in horizontal position. If the load indicator of the loader (if fitted) signals, lower the load calmly and retract the telescopic boom. Avoid sudden changes in speed or direction whenever the load is lifted. Use additional counterweights as needed.



Never wear loose clothing, long scarves, jewellery, or other items while operating the attachment. Loose clothing might become entangled in rotating parts. If needed, wear a hat to prevent long hair from coming into contact with the rotating parts.



Never allow anyone to get under the raised load or the loader boom. Keep in mind that the loader boom can be lowered or tilted even if the engine has been shut down (crushing hazard). The loader is not intended to be left to keep a load elevated for longer periods. Always lower the attachment to a safe position before leaving the drivers seat.

Remember to wear proper protective clothing:



The noise level at the driver's seat may exceed 85 dB(A). Wear hearing protection while working with the loader.



Wear protective gloves.



Wear safety boots whenever working with the loader.



Wear safety glasses when handling hydraulic components.



Wear respirator mask when operating in dusty conditions.

Safe stopping of the attachment, before going near the attachment:



Always stop the attachment following safe stopping procedure before leaving the driver's seat. Safe stopping procedure prevents all unintentional movements of the attachment. Note that the loader boom can move down even if the engine of the loader is turned off. Safe stopping procedure:

- Lower the boom and the attachment on the ground.
- Shut down the loader engine and lock the parking brake.
- Release residual pressure from the hydraulic system; move all hydraulic control levers to their extreme positions a couple of times.
- Prevent starting of the machine, remove ignition key.

4. Technical specifications

Table 2 - Bucket Broom - Technical specifications

Product number	A35945	A36023	A35689	A36024
Working width:	1100 mm		1500 mm	
Total width:	1356 mm		1746 mm	
Water spraying system:	option A35956	as standard	Option A35807	as standard
Weight, without water spraying system	266 kg water spraying system 17 kg		305 kg water spraying system 19 kg	
Collector box volume:	370 l		500 l	
Brush type:	500 mm, 32 nylon brush discs 64660		500 mm, 44 nylon brush discs 64660	
Recommended input of hydraulic energy:	20-35 l/min		25-40 l/min	
Maximum input of hydraulic energy:	50 l/min, 22,5 MPa (225 bar)		60 l/min, 22,5 MPa (225 bar)	
Suitable AVANT loader:	See Table 1			

4.1 Safety labels and main components of the attachment

Listed below are the labels and markings, which must be visible on the equipment. Replace the warning labels, if they have become unclear or if they have detached completely. New labels are available via your retailer or contact information provided on the cover.



The warning labels contain important safety information and they help to identify and remember the hazards related to the equipment. Replace damaged or missing warning labels with new ones.



A46771



A46772





A46803



A46799



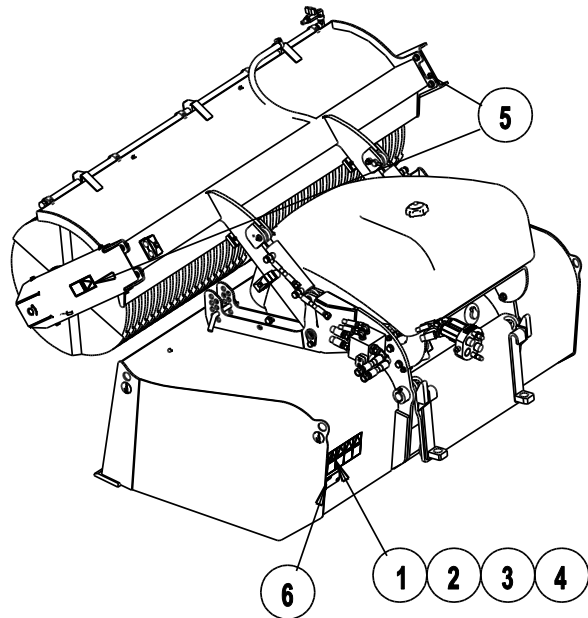
A46806

 Avant Tecno Oy Ylötie 1 FIN-33470 YLÖJÄRVI			
TYPE		No.	
	kg		
	l/min		
Max	l/min,	MPa (bar)
2014	Made in EU www.avanttecno.com		

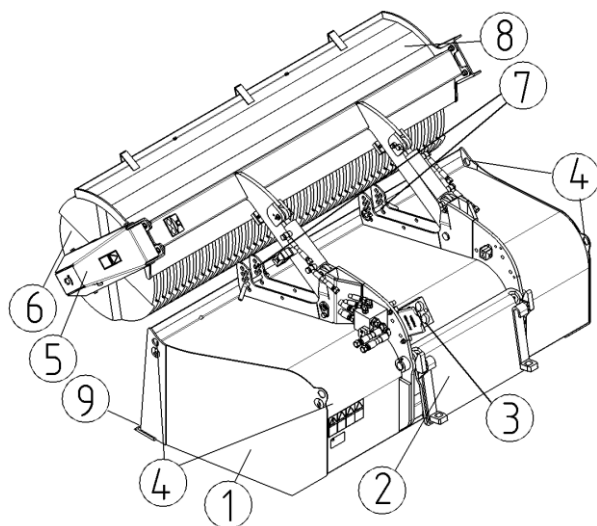
Attachment identification plate

Table 3 - Decal locations and warning messages

Decal		Warning message
1	A46771	Read instructions before use.
2	A46772	Do not go under a raised attachment or loader boom; stay away from raised equipment.
3	A46803	Crushing hazard, floating attachment bracket and side turning. Keep clear of moving components.
4	A46799	Beware of thrown objects; keep a safe distance from the equipment. (2 m), 2 pcs.
5	A46806	Entanglement hazard, do not go near the broom when in operation. Beware also of entanglement of clothes or hair. 2 pcs.
6		Identification plate

**Table 4 - Main components of the Bucket Broom**

1	Bucket frame with collector box
2	Quick attach plate, floating
3	Multiconnector parking stand
4	Lifting points, 4 pcs
5	Side protector cover, hydraulic motor
6	Bristle discs
7	Broom height adjustment position supports
9	Broom protective cover



5. Attaching the broom to the loader

Attaching the attachment to the loader is quick and easy, but it must be done carefully. The attachment is mounted to the loader boom by using the quick attach plate on the loader boom and the counterpart on the attachment.

If the attachment is not locked to the loader, it may detach from the loader and cause a hazardous situation. The loader must not be driven and the boom must never be lifted when the attachment has not been locked. To prevent hazardous situations, always follow the coupling procedure shown below. Also remember the safety instructions shown in Chapter 3. The attachment is mounted to the loader as follows:

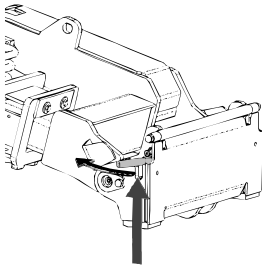


Make sure that an unlocked attachment will not move or fall over. Do not stay in the area between the attachment and the loader. Mount the attachment only on level surface.

Never move or lift an attachment that has not been locked.

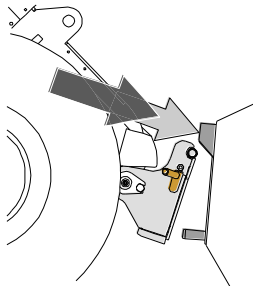
300-700 series & R series loaders:

Step 1:



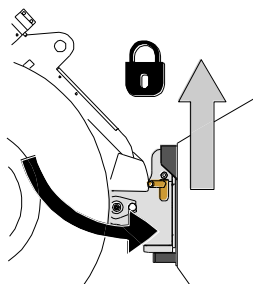
- Lift the quick attach plate locking pins up and turn them backwards into the slot so that they are locked in the upper position.
- If your loader is equipped with a hydraulic attachment locking system, see additional instructions about the use of the locking system from the relevant manuals.
- Ensure that the hydraulic hoses (and the electric harness, if applicable) are not in the way during installation.

Step 2:



- Turn the quick attach plate hydraulically to an obliquely forward position.
- Drive the loader onto the attachment. If your loader is equipped with a telescopic boom, you can utilise this.
- Align the upper pins of the loader's quick coupling plate so that they are under the corresponding brackets of the attachment.

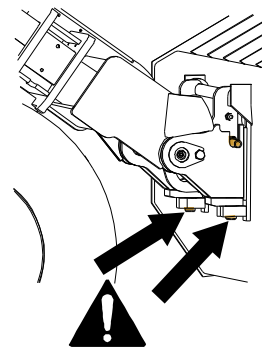
Step 3:



- Lift the boom slightly – pull the boom control lever backward to raise the attachment off the ground.
- Turn the boom control lever left to turn the bottom section of the quick attach plate onto the attachment.
- Lock the locking pins manually or lock the hydraulic locking.
- **Always check the locking of pins.**



An attachment that has not been completely locked to the loader may fall on the boom or towards the operator, or fall under the loader during driving, causing loss of control of the loader. Never move or lift an attachment that has not been locked. Before moving or lifting the attachment, make sure that the locking pins are in the lower position and come through the fasteners on the attachment on both sides.



Excessive tilting or lifting of an unlocked attachment increases the risk of tipping the attachment over. Do not use the automatic locking of the locking pins when the attachment is lifted more than one metre from the ground. If the locking pins do not return to the normal position when tilting, do not tilt or raise the attachment any more. Lower the attachment on the ground and secure the locking manually.

5.1 Connecting and disconnecting the hydraulic hoses

On 400-700 series loaders hydraulic hoses are connected using the multi connector system. If you have an Avant 300-700 series loader with the conventional quick couplers and wish to change to the multi connector system, contact your Avant dealer or service point for instructions or installation services.



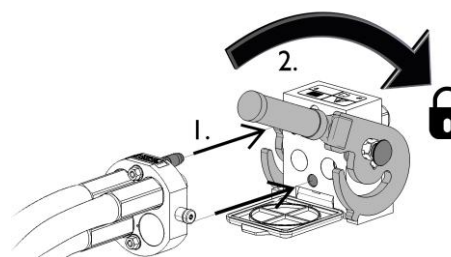
Never connect or disconnect quick couplings or other hydraulic components while the control lever of the auxiliary hydraulics control lever is locked on or if the system is pressurized. Connecting or disconnecting the hydraulic couplings while the system is pressurized may lead to unintended movements of the attachment, or ejection of high-pressure fluid, which can cause serious injuries or burns. Follow safe stopping procedure before disconnecting hydraulics.

NOTICE

Keep all fittings as clean as possible; use the protective caps on both the attachment and the loader. Dirt, ice, etc. may make using the fittings significantly more difficult. Never leave the hoses hanging on the ground; place the couplings onto the holder on the attachment.

Connecting the multi connector system:

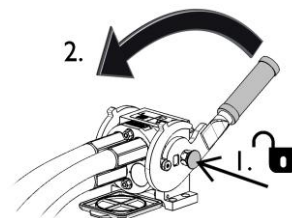
1. Align the pins of the attachment connector with corresponding holes of the loader connector. The multi connector will not connect if the attachment connector is upside down.
2. Connect and lock the multi connector by turning the lever towards the loader.



The lever should move easily all the way to its locking position. If the lever does not slide smoothly, check the alignment and position of the connector and clean the connectors. Also shut down the loader and release the residual hydraulic pressure.

To disconnect the multi connector system,

1. Switch off the auxiliary hydraulics of the loader.
2. While pushing unlock button, turn the lever to disconnect the connector.



Conventional quick couplings

(alternative couplings for some loader models):

Before connecting or disconnecting the standard quick couplings, the residual pressure must be released as shown below. The conventional quick couplings will not connect, if there is pressure in the hydraulic system.



NOTICE

Make sure that all three quick coupling fittings are properly connected, otherwise the hydraulic motor of the attachment may get damaged.

To connect and disconnect the standard couplings, move the collar at the end of the female fitting. The hoses should be connected so that the fitting equipped with a coloured cap is connected to the corresponding fitting of the loader. Note that the protective caps on the loader and the attachment can be fastened to each other during operation to reduce the accumulation of dirt. When disconnecting the standard quick couplings a small amount of oil may drip from the couplings. Wear protective gloves and have some cloth at hand to keep the equipment clean.

Disconnecting hydraulic hoses:

Before disconnecting the fittings, lower the attachment to safe position on solid and level surface. Turn the control lever of the auxiliary hydraulics to its neutral position.

NOTICE

When uncoupling the attachment, always disconnect the hydraulic couplings before unlocking the quick attach plate, to prevent hose damage and any oil spills. Reinstall the protective caps on the fittings to prevent impurities from entering the hydraulic system.

Releasing residual hydraulic pressure:

In case residual pressure is left in the hydraulic system of the attachment, it is often possible to disconnect the hydraulic couplings, but it may be difficult to connect them the next time. If the fittings will not connect, the residual pressure must be released by turning the auxiliary hydraulics control lever of the loader, when the engine is turned off. To make sure that there will not be residual pressure in the hydraulic system of the attachment, shut down the loader engine and move the auxiliary hydraulics control lever of the loader back and forth before disconnecting the couplings.

5.2 Uncoupling and storage of the broom

Uncouple and store the bucket broom on level surface, but avoid storing it directly against the ground. Set, for example, a pallet or blocks of wood under the bucket. Set the bucket to a position where water will not stay in the bucket. The best storage place for the attachment is an area that is protected from rain and direct sunlight. When finished working with the broom and storing it, empty the bucket and clean the broom as shown in Chapter 7. Oil and cover the visible parts of the hydraulic cylinder shafts when storing long periods.

NOTICE

Always store the broom in a way that no weight is applied on the bristles. Make sure that unintended slow lowering of the broom during its storage will not cause a crushing hazard or block the broom from moving. The bristles may bend permanently if weight is left on them.

NOTICE

To prevent freezing of the watering system, ensure that during cold seasons all water is drained from the system. The pump of the watering system will get damaged if water gets frozen inside it. Disconnect the water hoses to drain the system completely.

6. Using the broom

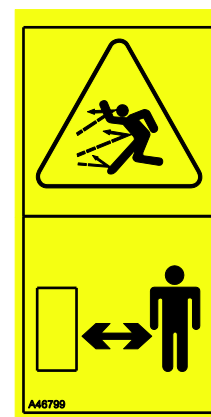
Check the attachment and the operating environment once more before starting to work, and that all obstacles have been removed from the operating area. Quick inspection of the equipment and the operating area before use are parts of ensuring safety and the best performance of the equipment. Practise the use of the attachment and its controls in an open and safe area. If you are unfamiliar with the loader in use, it is recommended to practice its use without any attachments.



Beware of entanglement hazard, do not leave the driver's seat when the broom is in operation. Keep a safe distance between the broom and other persons and stop the broom and lower it down completely whenever others are in proximity with the broom. Never perform any maintenance or adjustments if the broom can start by accident. Shut down the loader engine, turn off auxiliary hydraulics and lower the loader boom before going near the attachment.



Always keep a safety distance of at least two metres to other persons. Note that the attachment may throw stones, gravel, or other objects found in the area at high speed. Keep bystanders away.



6.1 Checks before use

- Before starting work, remove large items that can't be collected with the broom from the working area.
- Drive carefully on uneven terrain and note the effect of heavy load at the front of the loader to the stability and handling of the loader.
- Check the setting of the broom position supports. There must be a gap between the broom and the edge plate of the bucket. Too wide gap will decrease the collecting performance.
- Ensure that bystanders are at a safe distance when operating the equipment. Do not let anyone to enter danger area of the boom or to stay directly in front of the loader. Also make sure that it is safe to reverse with the loader. Never assume that bystanders will remain where you last saw them; especially children are often attracted to the moving equipment.
- Check the general condition of the attachment and the loader, and check for possible hydraulic oil leaks. The attachment must not be used, if there is a fault in the hydraulic system of the loader or the attachment. Refer to Chapter 7 for maintenance instructions.
- Operate the attachment and the controls of the loader only when seated on the driver's seat. Ensure that the loader and the attachment are used in a safe manner and as intended. Do not allow children to operate the equipment.
- Never operate the loader or attachments while under the influence of alcohol, drugs, medication that may impair judgement or cause drowsiness, or if not otherwise medically fit to operate the equipment.
- Remember correct working methods and avoid leaving the driver's seat unnecessarily.



Check that all protective covers are in place before using the broom. Use the broom only when the broom is in good operating condition and all covers are in place.



Note that regardless of the protective housing of the broom, the broom may eject sand, stones, pieces of wood or other material far from the broom. Stop the broom immediately if there are others closer than 3 meters from the broom.

NOTICE

Use the broom only when the broom positioning supports are set to correct height. See Chapter 6.2.1.

NOTICE

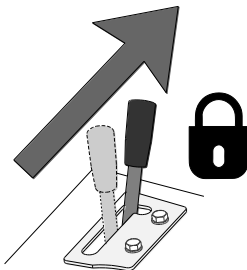
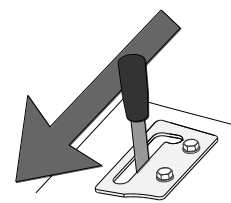
Regularly clean the loader oil cooler core; refer to the operator's manual of the loader for more instructions. Overheating oil decreases the power and affects the service life of the hydraulic components of both the attachment and the loader.

6.2 Operating the broom

The broom is operated with the auxiliary hydraulics of the loader. The broom has two operating modes:

Auxiliary hydraulics control lever:

(or electric joystick buttons):

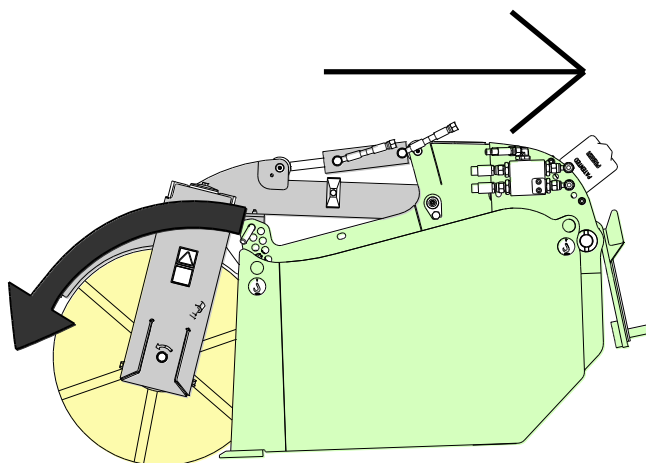
	<ol style="list-style-type: none"> 1. Lower broom down 2. Broom rotate
	<ul style="list-style-type: none"> ▪ Lift broom up

Direction of operation:

The broom is intended to rotate only to its normal operating direction so that the broom will function as collecting broom.

When moving the auxiliary hydraulics control lever towards its locking position, the broom will rotate as illustrated in the adjacent figure.

For the best performance, the Bucket Broom should be operated in reverse travel direction.



NOTICE

To prevent damaging the bristles, do not drive with the loader keeping the broom on the ground without rotating it.

Rotating speed:

Use high engine rpm for best collecting results. Depending on the loader model and drive speed, one or two hydraulic pumps may be used. Note that unnecessarily high rotating speed will wear the broom down more quickly, so the speed should be set according to operating conditions, material being handled, and the drive speed.

NOTICE

Operate the attachment keeping the hydraulic flow within recommended range. Never exceed maximum allowed input of hydraulic energy.

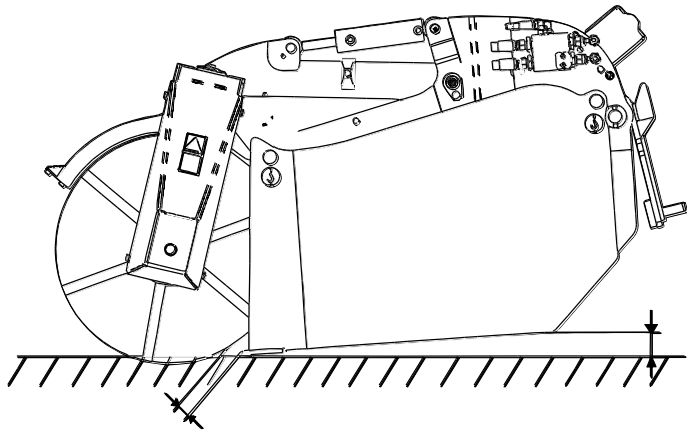
Broom floating system and correct operating position:

During operation the broom should be kept in similar position as shown in the adjacent figure. The broom and the edge plate of the bucket should be in light contact with the ground, or the edge just slightly off the ground.

The floating quick attach plate allows the broom to hang freely, supported by the broom and the front edge of the bucket. This will give the broom freedom to follow the ground surface, even if the boom of the loader is kept still.

Position the loader so that the floating quick attach plate of the broom can move freely to both directions.

Keep the telescopic boom of the loader retracted for the best visibility and stability of the loader.

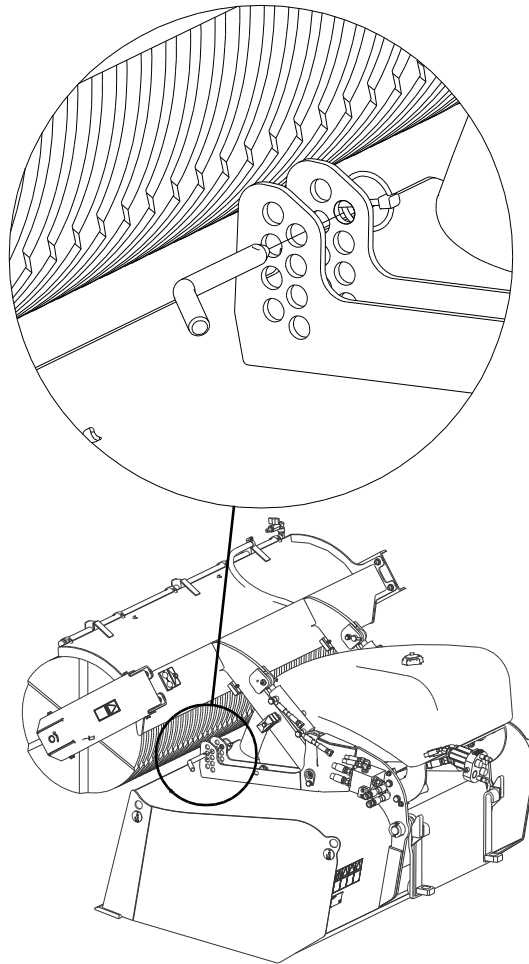


6.2.1 Broom position support pins

In the lower position, the broom rests on its supporting pins. These pins determine the gap between the broom and the edge of the bucket.

Set the pins so that when the broom is positioned as in the figure above, the broom will press the ground lightly, and make sure that there will be a gap between the bristles and the edge of the bucket.

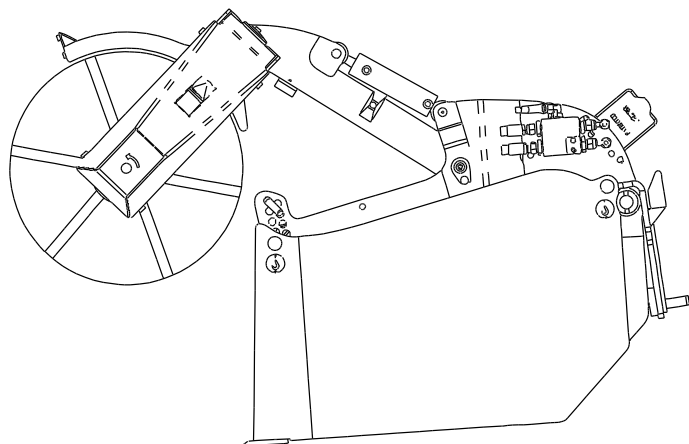
With new broom the upper positions are generally correct and the position should be adjusted as the broom wears down. Set both pins to same level.



6.2.2 Emptying the collector bucket

To empty the bucket, the broom is lifted hydraulically from the front of the bucket by turning the auxiliary hydraulics control lever opposite direction from the locking position.

Empty the broom as a normal bucket, but keep in mind the movement made possible by the floating attachment bracket when tilting the bucket



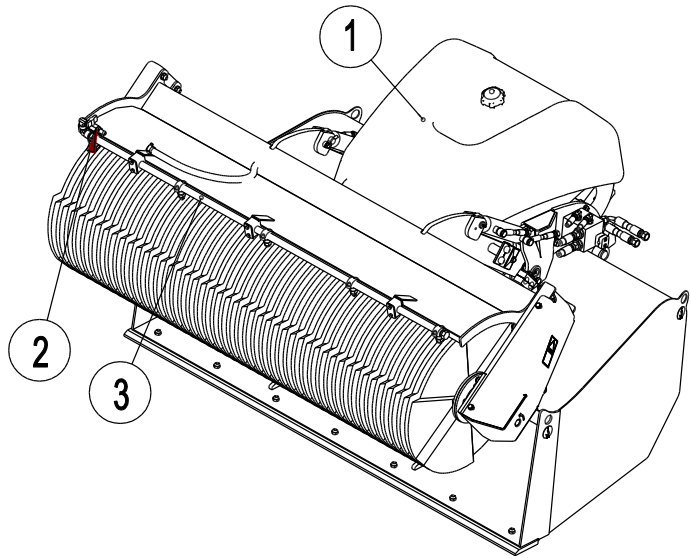
6.3 Water spraying system

A water spraying system is available for reducing the spreading of dust during use of the broom.

The system contains:

1. 150-litre water tank and an electric pump under the tank
2. shut off valve
3. spraying tube with four or five nozzles

The spraying system is intended for spraying only water. Using solvents or cleaning agents is not permitted, as they might damage the components of the system. Do not leave water lying in the tank for long periods and make sure that the water in the system will not get frozen.



NOTICE

Drain the system completely before storing the broom in freezing conditions. Adding some wiper fluid in the tank and running it through the pump and nozzles can prevent freezing of small amount of water.

NOTICE

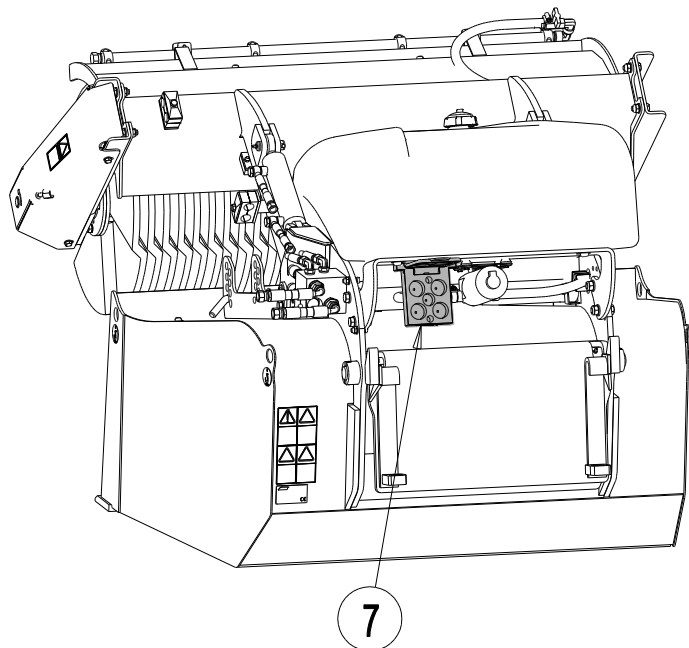
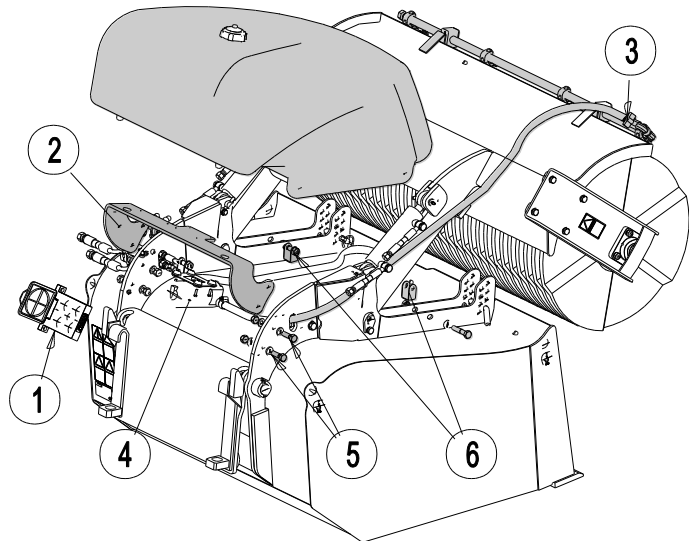
The pump of the water spraying system will get damaged easily, if it is run dry. Make sure that there is water in the tank. After use switch off the spraying system and close the water hose valve to prevent draining of water. Also remember to open the valve before use.

6.3.1 Installing the water spraying system

The fixing points for the watering system are on the broom as standard and the watering system can be installed later. The installation kit includes all necessary components and the electric harness to operate the watering system.

The numbering shown in figures correspond with the numbering of the instructions.

1. Remove the multiconnector parking stand from the broom.
2. Install the water tank support bracket (4 bolts, nuts & washers).
3. Assemble and install the spraying nozzle tube on the brackets at the cover on the broom, the water valve is fitted on the tube with an elbow fitting.
4. Fit the water pump on the bottom of the water tank, with connectors facing forward. Fit hose and its fittings between tank and the pump. Fit and prepare the electric harness for the pump.
5. Prepare hose line from under the tank to the spraying tube through a hole in the bracket on top of the bucket broom.
6. Fit the four water tank fasteners on the holes of the tank. Install the tank and tighten all hose clamps.
7. Install the multiconnector parking stand to the bracket of water tank.



7. Maintenance and Service

The attachment has been designed to be as maintenance free as possible. Continuous maintenance includes regular cleaning and lubrication, and monitoring the condition of the attachment. Because of the crushing hazard caused by lowering machine parts, all maintenance work must be done when moving parts have been lowered down completely and the attachment is lowered flat against the ground.



Make sure the attachment is properly supported during all maintenance work. Never go under a lifted attachment. The loader boom may lower unexpectedly during maintenance causing serious injuries even when the loader engine is not running. All maintenance and service must be performed when the attachment has been lowered down to a safe position.

7.1 Checking hydraulic components

Check the condition of the hydraulic hoses and components when the engine has been turned off and the pressure has been relieved. Do not use the equipment, if you have discovered a leak in the hydraulic system of the attachment or the loader. Leaking hydraulic fluid may penetrate skin and cause serious injuries. Seek medical attention immediately in case hydraulic fluid penetrates the skin. Wash any part of body that has been in contact with hydraulic oil carefully with water and soap. Hydraulic fluid is also harmful to the environment and any leak to the environment must be prevented. Repair all leaks immediately after detecting them; a small leak can quickly grow into a big one. Operate the attachment only with type of hydraulic oil that is accepted for use in Avant loaders.



Never handle hydraulic components when the hydraulic system is pressurised, since a fitting may break or become loose and the released oil may cause serious injuries. Do not use the equipment, if you have discovered a fault in the hydraulic system.



Check hoses visually for cracks or abrasions. If there are signs of leaks, to check a component, hold up a piece of cardboard in the area where a leak is suspected. Do not use hands to search for leaks. Monitor the wearing of the hoses and stop the use, if the surface layer of any hose has worn off. Check the routing of the hoses; adjust the hose clamps to avoid abrasion to the hoses. The hoses have limited service life. Depending on operating conditions all hoses must be inspected thoroughly no later than after 3 to 5 years of use, and if required, they must be replaced with new ones.

Finding any fault means that the hydraulic hose or component must be replaced and the equipment must not be used until it is repaired. Spare parts are available from your nearest AVANT retailer or authorised service point. Leave the repair work to professional service technicians, if you don't have adequate knowledge and experience about hydraulic assemblies and how to perform the repairing safely.

7.2 Cleaning and lubrication

Clean the broom as soon as possible after use, so that it is easier to remove all dirt. A pressure washer and mild detergent can be used. Avoid using solvents or spraying directly at the bristles or hydraulic parts at high pressure. In addition, mind the labels on the attachment.

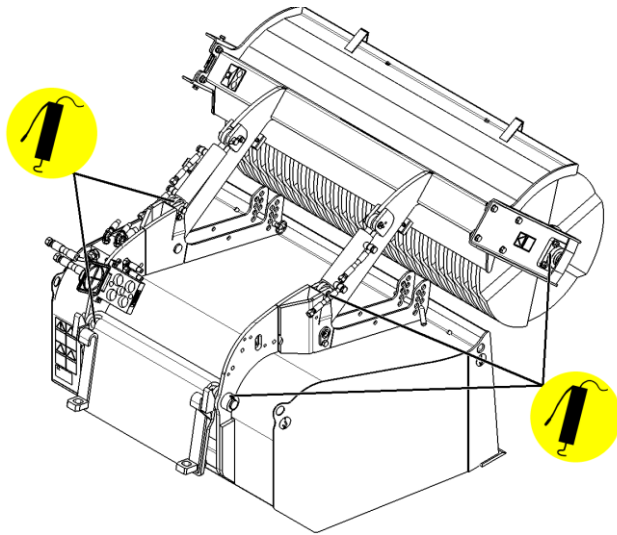
Do not store the attachment directly against the ground; place it on blocks of wood or on a pallet, for example. For longer storage periods touch up the paint where needed, grease the lubrication points and oil the visible parts of the hydraulic cylinder shaft to prevent rust damage.

There are 5 lubricating points on the broom, as shown in the adjacent figure.

The broom bearing must be greased after each 5 to 10 hours of use.

Other lubricating points must be greased after each 10 to 20 hours of use, and after washing.

The hydraulic motor of the broom is maintenance free.



NOTICE

Bearing must be lubricated approximately after every 5 to 10 operating hours. Clean the end of the nipple before greasing. Only add the grease amount of a couple of grease press pushes at a time.

Clean the collector box thoroughly, do not leave water in the collector. Empty and rinse the water spraying system completely.

7.3 Brush

The material of the brush bristles is nylon and in normal operating conditions the brush will last long before need for replacement. As the diameter of the brush decreases, its circumferential velocity decreases as well, and at some point it becomes insufficient for throwing material efficiently.

The brush consists of several parallel discs connected on a shaft. If you notice that a specific part of the brush has damaged or worn clearly more than the rest of it, the discs can be rearranged on the shaft for more even wearing. The damaged brush discs can be changed individually, but usually a larger section should be replaced for even performance. If the damaged brush discs are worn clearly more than new ones, all of the discs should be replaced. The spare part code and needed number for the nylon bristle discs are shown in Chapter 4.

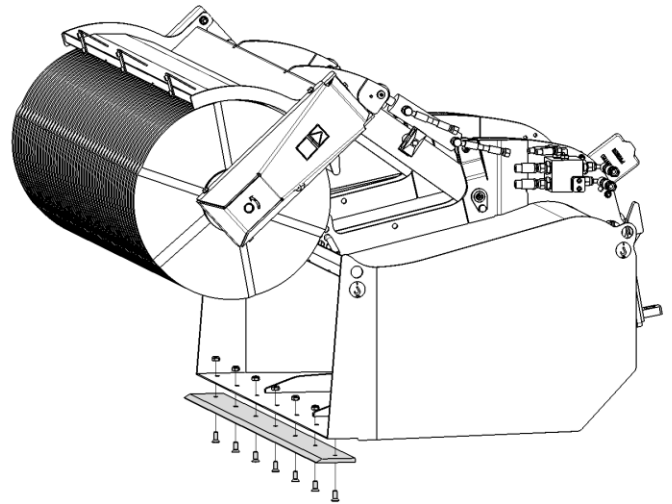
To replace the brush discs the broom shaft must be removed. The brush is made denser at the ends of the shaft by setting three discs the same way round at the both ends of the shaft. The discs are held together on the shaft by a tightening flange. When tightening the flange, the total compression of the discs along the shaft must not be more than 5 – 10 mm.

7.4 Bucket edge plate

The edge plate of the bucket can be replaced as needed. The spare part code for Bucket broom 1100 is A416775 and for 1500 A416406. Replace also the fasteners of the plate.

NOTICE

Replace the plate before the frame of the bucket gets in contact with the ground.



EY-vaatimustenmukaisuusvakuutus
 EG-försäkran om överensstämmelse
 EU samsvarserklæring
 EF-overensstemmelseserklæring
 EC Declaration of Conformity
 EG-Konformitätserklärung
 Déclaration de conformité CE



Valmistaja / Tillverkare / Produsent / Producent / Manufacturer / Hersteller AVANT TECNO OY
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Vakuutamme täten, että alla mainitut tuotteet täyttävät konedirektiivin turvallisuus- ja terveysvaatimukset (direktiivi 2006/42/EY muutoksineen). Seuraavia yhdenmukaistettuja standardeja on sovellettu /

Vi försäkrar härmed att nedan beskrivna produkter överensstämmer med hälso- och säkerhetskrav i EG-maskindirektiv (EG-direktiv 2006/42/EG som ändrat). Följande harmoniserade standarder har tillämpats /

Vi erklærer herved at produktet som er oppgitt under er i samsvar med forskriftene i Maskindirektivet (direktiv 2006/42/EC med endringer). Følgende harmoniserte standarder har blitt anvendt /

Vi erklærer herved, at nedenstående produkter er i overensstemmelse med bestemmelse i maskindirektivet (direktiv 2006/42/EF indeholdende ændringer). Følgende harmoniserede standarder er anvendt /

We hereby declare that the products listed below are in conformity with the provisions of the Machinery Directive (directive 2006/42/EC as amended). The following harmonized standards have been applied /

Wir erklären hiermit, dass die nachstehend aufgeführte Maschine konform ist mit den Bestimmungen der EG-Maschinenrichtlinie (EG-Richtlinie 2006/42/EG mit Änderungen). Die folgende harmonisierte Normen wurden angewandt:

Nous déclarons par la présente que les produits mentionnés ci-dessous sont conformes aux exigences en matière de sécurité et de santé de la directive relative aux machines (directive 2006/42/CE, avec ses modifications) Les normes harmonisées suivantes ont été appliquées

SFS-EN ISO 12100, SFS-EN ISO 4413

Mallit / Modeller / Modeller / Modeller / Models / Modellen:

Avant	
Hydraulitoiminen harjalaite; Avant-kuormaajan työlaite	
Hydraulisk sopvals; arbetsredskap för Avant lastare	A35945
Hydraulisk feiemaskin; redskap for Avant minilastere	A36023
Hydraulisk rotorkost; redskab til Avant Minilæssere	A35689
Hydraulic broom; attachment for Avant loaders	A36024
Hydraulische Kehrmachine; Anbaugerät für Avant Radlader	
Balayeuse à commande hydraulique destinée à être utilisée avec les chargeuses Avant	



31.8.2015 Ylöjärvi, Finland

Risto Käkelä,
 Toimitusjohtaja / Verkställande direktör / Administrerende direktør /
 Managing Director / Geschäftsführer / Directeur général



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