

# AVANT®

## Operator's manual for Attachment

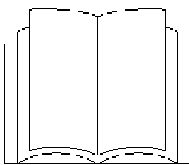


### Bucket

General buckets, light material buckets, and levelling buckets  
for Avanta loaders

Product numbers:

General bucket:	A33032	A21044	A1315	A21312	A21043	A21168	A34341
Light material bucket:	A33028	A33100	A32755	A33993	A32753	A32744	A33530
Levelling bucket:	A21504	A21505					



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

Keep this manual for later reference.

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## 1. 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 symbol is used throughout this manual to indicate factors that must be taken into account to reduce the risk of personal injury or damage to property:

	<p><b>WARNING:</b></p>
	<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>

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 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. We reserve the right to change the contents of the manual without notification.

## 2. Designed purpose of use

The AVANT General buckets, Light material buckets and Levelling buckets are attachments designed and manufactured to suite AVANT multi purpose loaders for general material handling, levelling and snow clearing work. Light material buckets, also called as snow buckets, have a longer base and are larger in volume. The low profile and long base of the levelling bucket enable excellent visibility to the tip of the bucket. Also, the straight rear end of the levelling bucket makes it possible to use the bucket effectively when reversing with the loader. The edge plates of the buckets are made of special wear resistant steel.

Various width options are available to best suite each task and loader model. When choosing a bucket, the intended use of the bucket, the model of the loader should be considered also, as shown in Table 1. The other bucket types available for Avant loader make working with the loader easier or more versatile. For example, the High tip bucket is an excellent all-round bucket and especially useful when piling material frequently. The 4-in-1 bucket is a versatile landscaping tool, which makes it easy to do all levelling and material handling easy with the same attachment.

The buckets are maintenance free, except for cleaning, monitoring the condition of the bucket, and occasional paint retouch if needed. Larger repair work must be left for professional maintenance. Please contact your AVANT retailer if you have additional questions about the operation or maintenance of the equipment.

**Table 1 – Bucket suitability with Avant loaders**

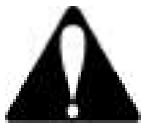
Model		216 218 220	313S 320S 320S+	419 420 520	525LPG R28 528	630 R35 635 640	745 750
<b>General bucket</b>							
960 mm	A33032	●	-	-	-	-	-
890 mm	A21044	-	●	●	(●)	(●)	-
1050 mm	A1315	-	●	●	●	(●)	(●)
1100 mm	A21312	-	●	●	●	●	(●)
1280 mm	A21041	-	(●)	●	●	●	●
1400 mm	A21168	-	-	(●)	(●)	●	●
1650 mm	A34341	-	-	-	-	(●)	●
<b>Light material bucket</b>							
1050 mm	A33028	●	-	-	-	-	-
1280 mm	A33100	●	-	-	-	-	-
1050 mm	A32755	-	●	●	(●)	(●)	-
1100 mm	A33993	-	●	●	●	(●)	(●)
1280 mm	A32753	-	●	●	●	●	●
1600 mm	A32744	-	(●)	(●)	●	●	●
1800 mm	A33530	-	-	-	-	(●)	●
<b>Levelling bucket</b>							
1280 mm	A21504	-	-	●	●	●	●
1400 mm	A21505	-	-	(●)	●	●	●

The compatibility recommendations are based on the width of the loader, lifting capacity, and adequate breakout force. Normally the width of the bucket should match the width of the loader. Do not use too wide bucket when handling heavy loads, as the actual breakout force (bucket tilting capacity) decreases with wide buckets and the overall performance will decrease. To estimate the lifting capacity of the loader the Table 5 can be used together with the load diagram shown in the operator’s manual of the loader. 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 retailer.

### 3. Important safety instructions

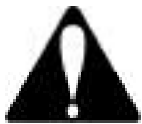
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Please bear in mind that safety is the result of several factors. The loader-attachment combination is highly powerful and improper or careless use or maintenance may cause serious personal injury or property damage. Due to this, you should carefully familiarise yourself with the 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 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 mounting the 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 transport an attachment that has not been locked.
- The bucket is to be used by one operator at a time. Do not go near the bucket, if another person operates the loader, and do not allow others to approach a running machine.
- Always lower the bucket firmly on the ground before leaving the driver's seat to avoid any unexpected movements of the loader. The stability of the loader may change when leaving the driver's seat, leading to tipping over of the machine. Always remember that the boom may lower unexpectedly due to loss of stability, mechanical fault, or if another person operates the controls of the loader, leading to crushing hazard. The buckets or the loader are not intended to be left to keep a load elevated for longer periods. Follow safe stopping procedure.
- Always transport the bucket as low and close to the machine as possible with the telescopic boom completely retracted to keep the centre of gravity low.
- Operate the controls of the loader slowly and calmly. Be careful when lifting load to high level or lifting load from high. Avoid sudden changes in speed or direction to maintain balance of the loader especially when handling heavy loads. Drive slowly and carefully especially on inclined terrain or slippery surfaces.
- Pay attention to the surroundings and any other persons and machines moving in the vicinity. Pay attention to the contours of the terrain as well as other hazards, such as loose rocks, or branches and trees that reach the driver's area.
- Make sure to use only an attachment that is in good condition. Do not modify the attachment in a manner that would affect its safety. Drilling holes or welding hooks or other objects on the bucket is prohibited.
- Make sure that the loader is equipped with necessary safety equipment, and that they are in order. Seat belt must be used. If there are specific risks at the operating area, appropriate safety or personal protective equipment must be used. Wear a respirator mask when handling dusty materials.
- Also read the safety instructions of the loader from the operator's manual of the loader. Get familiar with the controls of the loader and how to drive it safely, and also note that slippery surfaces may influence handling of the loader.



Note that the loader boom moves down and may be tilted even if the engine has been stopped (crushing hazard). Never go under a raised attachment or boom or to the danger area between the boom and the attachment. Lower the bucket on the ground.

**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 safety boots while working with the loader.

## 4. Technical specifications

**Table 2 – General bucket - technical data**

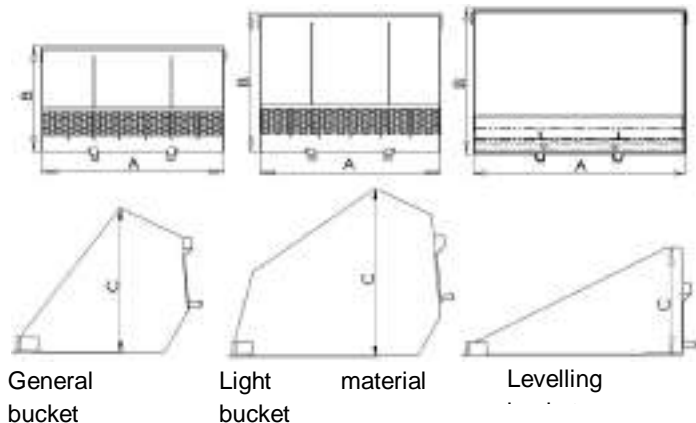
Product number	A33032	A21044	A1315	A21312	A21043	A21168	A34341
Total width, mm (A):	960	890	1050	1100	1280	1400	1650
Base length, mm (B):	690						
Height, mm (C):	530						
Weight, kg:	57	57	65	68	75	90	100
Volume:	130	180	210	215	260	285	345
Suitable AVANT loader:	See Table 1						

**Table 3 – Light material bucket - technical data**

Product number	A33028	A33100	A32755	A33993	A32753	A32744	A33530
Total width, mm (A):	1050	1280	1050	1100	1280	1600	1800
Base length, mm (B):	880						
Height, mm (C):	671						
Weight, kg:	65	75	95	99	105	125	137
Volume:	210	260	400	420	485	610	685
Suitable AVANT loader:	See Table 1						

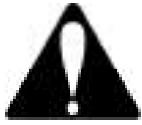
**Table 4 – Levelling bucket - technical data**

Product number	A21504	A21505
Total width, mm (A):	1280	1400
Base length, mm (B):	886	
Height, mm (C):	430	
Weight, kg:	170	180
Volume:	220 l	240 l
Suitable AVANT loader:	See Table 1	

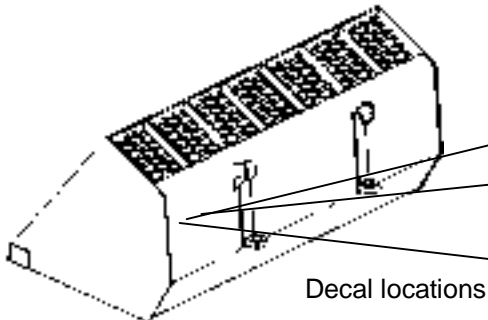


## 4.1. Decals and markings

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.

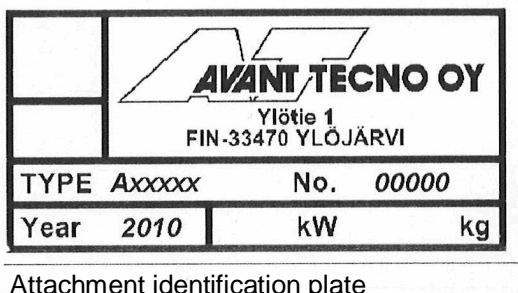


The warning labels contain important safety information and they help to identify and remember the hazards related to the equipment. Replace damaged or missing warning labels with new ones.



**Table 5 – Decal explanations**

Label	Warning message
A46771	Read instructions before use.
A46772	Do not go under a raised attachment or loader boom; stay away from lifted equipment.
	Identification plate



Attachment identification plate



A46771



A46772

## 5. Assembly of the bucket

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 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. In the worst case, the attachment may slide towards the driver's area along the raised loader boom. For this reason, the loader boom must under no circumstances be lifted over one metre when the attachment has not been locked. To prevent hazardous situations, always follow the attachment mounting instructions provided in the following pages. Also remember the safety instructions shown in Chapter 3 and in the operator's manual of the loader. The attachment is mounted to the loader as shown in the following page:



Make sure that an unattached bucket will stay still and in upright position. Do not go stay at the crushing hazard area between the loader and an attachment; the bucket may tip over.

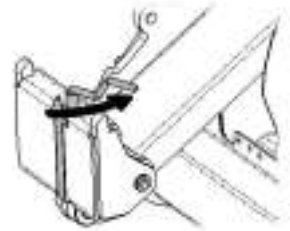
300-700 series

**Step 1:**

- Lift the quick attach plate locking pin / 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.

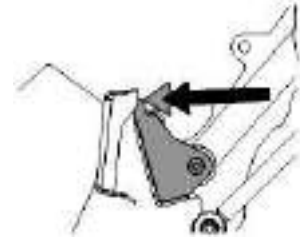


200 series loaders:



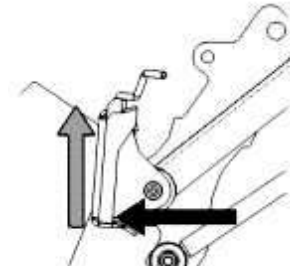
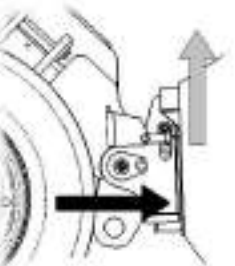
**Step 2:**

- 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:**

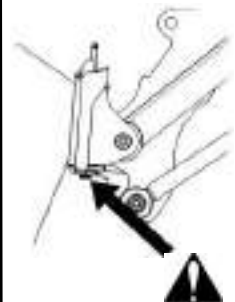
- Lift the boom slightly – pull the boom control lever backward to raise the attachment off the ground.
- Turn the boom control lever left to turn the bottom section of the quick attach plate onto the attachment.
- Lock the locking pins manually or lock the hydraulic locking.
- Always check the locking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



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



300-700 series loaders



200 series loaders



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.

## 6. Instructions for use

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Check the attachment and the operating area once more before starting to work. Quick inspection of the attachment before beginning work is part of ensuring safety and the best performance of the equipment. Remember correct working methods and avoid leaving the driver's seat unnecessarily.

Practise the use of the attachment and the controls of the loader in an open and safe area. If you are unfamiliar with the loader to be used, it is recommended to practice its use without any attachments.

### **Using a bucket:**

Correct working method is important when lifting material from a pile, as lifting material from a pile requires the most power from the loader. Loading a bucket is the most effective when only the tip of the bucket is pushed into the pile, and then by simultaneous driving, lifting, and tilting the bucket, material is cut into the bucket. Filling a bucket by driving straight into a pile of heavy material and then trying to lift or tilt the bucket is not possible with any loader type. Use high engine rpm and read the instructions how to operate the loader correctly from the operator's manual of the loader.

Always lift the bucket slowly and monitor the position of the bucket while lifting to avoid spilling material from the bucket. Also, make sure that overhead clearance is sufficient. When turning the articulated frame of the loader, the counterweight created by the loader becomes less, so best balance of the loader is always achieved while the loader frame is in straight position. Avoid filling the bucket heavily on the either side only to keep the off-centre load on the boom at minimum.

A boom floating system is available for some loader models. The floating system can be used to allow the bucket to follow the ground surface when levelling, for example. Note that the floating will not prevent the loader from stopping suddenly in case it hits an obstacle.



Operate the controls of the loader only when sitting on the driver's seat. Ensure that the loader and the attachment are used in a safe and intended manner. Do not allow children to operate the machine.



Never use a bucket to lift persons or as any kind of work platform even temporarily.



Avoid hazards related to sudden stopping of the loader. Hitting an obstacle will stop the loader suddenly, for example in snow clearing work. Check the operating area before operation and use the seat belt.



When lifting load from a high level, the loader could tip forward when reversing with the loader. Do not reverse the loader while simultaneously dragging the load and make sure that the loader can handle the load being lifted. Always keep the load as close to the ground as possible.



Avoid hazards related to falling materials. In case the loader is not equipped with the boom self-levelling, the bucket must be tilted simultaneously to prevent the load from falling on the loader or the operator. Fitting the loader with the boom self-levelling option makes the repeated lifting work easier.



**Material handling:**

Use maximum load indicated in the diagram of the operator's manual of the loader as a guideline. Remember that the actual load carrying capacity varies according to operating conditions, especially unevenness of operating area has a great effect. Be especially careful when the load sensor indicator is activated. Also, make sure that the ground surface is firm and follow recommended tire pressures.



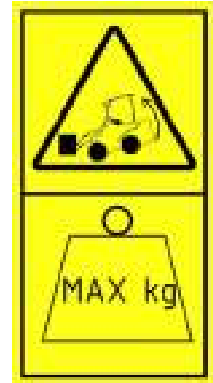
Pay attention that a heavy load or long distance between the loader and the centre of gravity of the load will affect the balance and handling of the loader. The use of additional counterweights is recommended especially when operating smaller loader models. For 200-series loader the wheel weights are recommended. With heavy loads, the telescopic boom must be kept retracted while moving with the loader.

**Table 5 – Typical material densities for estimating load carrying capacity**

Material	Density of material, (indicative), kg / l (t / m <sup>3</sup> )
Snow	0,2 - 0,8
Wood chips	0,15 - 0,3
Wood pellet	n. 0,65
Peat	0,4 - 0,7
Soil	1,5 - 1,8
Gravel	1,7 - 1,9
Sand	1,5 - 2
Concrete, dry	1,7 – 2,5
Crushed rock	1,65 - 2,6



Avoid overturning of the machine. Do not extend the telescopic boom, when the load approaches the lifting capacity of the loader or when the load has been lifted high. When the load indicator of the loader signals, lower the load calmly and retract the telescopic boom. Avoid sudden changes in speed or direction. Use additional counterweights as needed.



The information shown above in Table 5 can be used to estimate the weight of the load and to avoid too heavy loads. The values shown in table are intended to serve as general guidelines. Actual material densities may vary greatly according to factors such as moisture content and compactness of the material.

The weight of the load can be calculated by multiplying the volume of the material with density shown in table 5. Example: Light material bucket A33530 is filled with snow. The weight of the load is, according to the actual density of the material, in between  $0,2 * 685 = 137$  kg and  $0,8 * 685 = 548$  kg. The load carrying capacity must be estimated by taking in account the compactness of the material and the evenness of the load.

**6.1. Operating on inclined terrain**

Using the loader on inclined terrain or slopes requires extra caution. Use the boom with careful and smooth movements. Drive slowly and avoid sudden changes in speed or direction.

On horizontally tilted terrain the load must not be lifted high. Maximum lifting capacity can not be achieved on inclined terrain. The loader frame articulation should be kept straight when lifting heavy loads; turning the load during lifting operation will affect the stability of the loader and may lead to overturning of the machine.



Drive slowly especially on inclined, uneven, or slippery surfaces. Operate the controls of the loader and loader boom carefully and calmly while driving.

## 7. Inspections, maintenance and service

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It is recommended to empty the bucket completely right after using it. Do not let water to stay in the bucket and prevent water from staying in bucket by placing a suitable block of wood under the bucket, for example. You may use a pressure washer and mild detergent to clean the bucket. Do not use strong solvents or spray directly at the labels on the attachment. Before longer storage periods touch up the paint where needed to prevent rust damage. Do not store the bucket directly against the ground; place it on blocks of wood or on a pallet, for example.

Also the metal structures of the bucket must be inspected regularly. Check the bucket visually for damages and inspect the quick attach brackets and their surrounding area carefully. The bucket must not be used if it is deformed, cracked, or torn. Welding repairs are only allowed to be carried out by professional welders. When welding, only methods and additives suited for steel used in bucket must be used. For more information about repairs contact your nearest service point.

## 8. Warranty terms

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Avant Tecno Oy grants a warranty of one year (12 months) from the date of purchase for the attachment it manufactures.

### **The warranty covers repair costs as follows:**

- Work costs are covered, if the repair is not performed at the factory.
- The factory replaces any defective components or consumables.

The factory may reimburse the price of components purchased by the customer in special cases that have been agreed in advance.

### **The warranty does not cover:**

- Normal maintenance work or parts and consumables required for it.
- Damages caused by unusual operating conditions or ways of use, negligence, structural changes made without the consent of Avant Tecno Oy, use of non-original parts or lack of maintenance.
- Consequences of a defect, such as interruption of work or other possible additional damages.
- Travel and/or freight costs caused by the repair.



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