



**Operators Manual
For
SKU
Artificial Turf Cleaner**



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Power Unit

This cleaning device is constructed for use as a front mounted machine mounted to an Avant 420.

The power unit needs to be equipped with sufficient lifting power.

The hydraulic drive should allow for a minimum speed 500 meter / hour

Assembly:

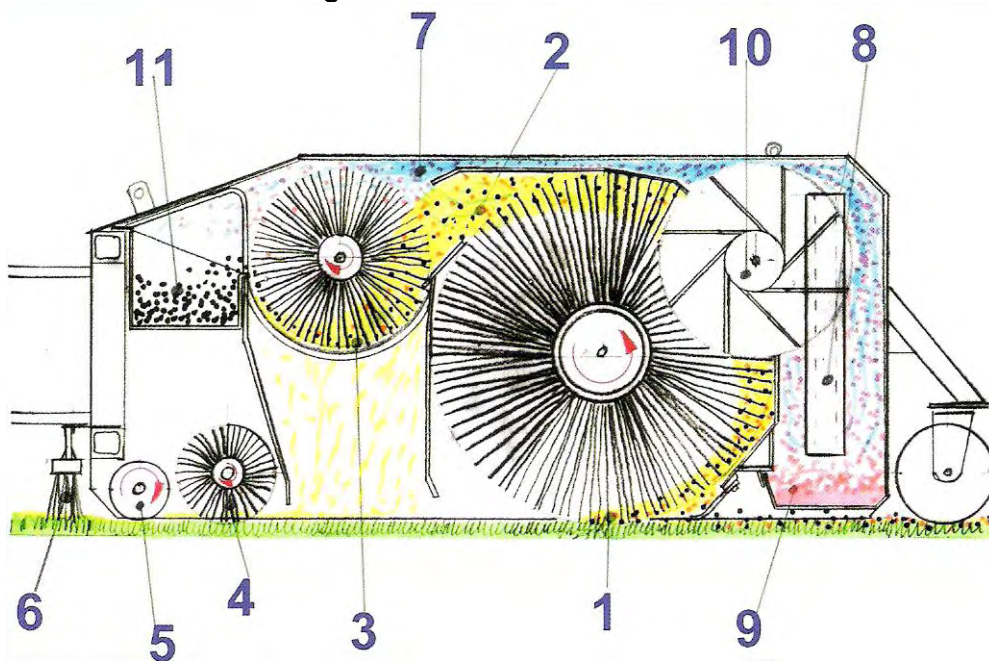
All bystanders have to keep clear and a safe distance away before operating any function!

Mount cleaning device to the chosen lift device. Adjustment is correct, when the front wheels and rear roller touch the ground with the hydraulics fully lowered into position, the hydraulics control must be in the floating setting to allow for surface undulations.

After proper attachment to the Avant carefully lift cleaning device and check counter balance is sufficient of the power unit, add counter balance weights, if necessary. Check drop down speed, the cleaning device should never drop down quickly, only slowly and if necessary fit an adjustable hydraulic control valve to the lift system of the Power Unit.

Check speed and direction of Power Unit hydraulics

Make sure when the drive is engaged the brushes are turning in the correct direction, see the diagram below:



Operation

All cleaning work should only be carried out under absolutely dry weather conditions possible!

The cleaning device is for use on filled synthetic grass surfaces only. The filling material could be sand, mixture of sand and rubber granulate or pure rubber respective plastic granulate.

Lubrication:

The bearings of the cleaning device are maintenance-free. However there are certain parts, which should be lubricated every 20 working hours. Before performing this job, **stop motor of the Power Unit**. Remove RH and LH covers and lubricate the drive chains with chain lubricate. All moving parts apply a small amount of oil. Greasers to be lubricated with a grease gun and are located at the bearing housings of the rear roll and the caster wheels, at the bearings of the restore brush, the main brush and the screen brush. Greasers also located on the pivot point on the main brush bracket and the handwheels of depth adjustment device.

Checking of the material to be cleaned:

Before operation check the size of the infill material. Sand infill material normally has sizes between 0,5 and 3 mm. This size should be cleaned with the 4 mm standard sieve. But there will also be finer and coarser infill materials in use In this case the sieve has to be changed to one with a with a sufficient mesh size.

Screens with mesh size 3mm, 4mm, 5mm and 6 mm are available. (For details about changing the sieve size see later in this manual.) (Screens with other sizes on special request)

Working depth of the main brush:

Adjustment of working depth is made by handwheels located at the rear of the cleaning device with indicators and scales, please note that as the main brush diameter decreases with wear, the zero point on the scale will change, so it is not possible to read the exact working depth at the scale, in this case check the working depth with a depth gauge. The working depth is accurately adjustable and it is important to adjust both sides to the same value.

Working with the spring rake:

To adjust the working depth of the spring rake there are two hand wheels located at the front of the cleaning device, and each one has a scale. The working depth can be adjusted with millimetre accuracy, and care must be taken to ensure that both sides are adjusted equally.

Attention! Depth setting should be very carefully set, because too deeply

It can damage already loose seams in the turf also. We recommend the spring rake only in the reactivation of a hardened synthetic turf.

Maintenance cleaning:

Maintenance cleaning should be performed, depending on the weather conditions, every 10 to 14 days. This operation removes the coarse debris, dust and worn fibres.

Operation is performed with the correct sieve mounted. (choose the right mesh size, see earlier in this document).

Adjust only a shallow working depth, so only a small amount of the infill material will be picked up. The coarse debris is only on the surface.

Increasing the working depth will decrease the forward speed, as the filling material has to pass the screen. This is more important on areas filled with rubber granulates, because it is not so heavy as sand and the size of the material is bigger the volume passing through the machine is greater. The scale is for approximate depth adjustment only, does not show the exact working depth in case of wear of the main brush. Also depending on the used infill material the adjustment will vary in greatly range, so a test before commencement is recommended.

Start cleaning operation:

Position the Power Unit with the lifted cleaning device on the area to be cleaned. The operation should be done in straight lines, as much as possible.

Attention ! On older areas with not poor seams it is recommended to work parallel to the seams. A loose seam may fold up and tear. Open the cover of the sieve box and watch the flow of material through when starting the cleaning job to ensure no material is passed through to the rear collector boxes.

Engage hydraulics and set engine speed to approx. 50% select lowest forward speed and start driving. When vehicle moves, lower cleaning device slowly (use additional valve in the lift hydraulics if necessary)

Increase engine speed to 75 - 100 %

Now watch in the sieve box, no filling material (sand or granulate) should pass to the collecting box, coarse debris only. If it is then decrease working depth.

If separation is sufficient then an increase in the forward speed is possible.

Maximum operating speed is reached, when no infill material is passing into the rear collecting box. The better the conditions (very dry), the better the separating performance increases and faster working speed can be selected. When proper adjustment is achieved, close screen cover to make sure, that dust is extracted.

In every case !

Start carefully with shallow working depth and not the other way round !

Normal adjustment for this job is 0 – 20 mm

The normal working speed is 0,5 - 5 km/h depending of the flow of the material.

Also in this case.

Start with slow working speed and increase carefully, if possible

The dust filters have to be cleaned at regular intervals, depending from the amount of dust. See instruction later in this document.

Also clean on regular basis the collecting boxes for the coarse debris See instruction later in this document.

Intensive cleaning:

Before performing intensive cleaning, perform always maintenance cleaning to (above) to remove coarse debris !

Leaf pollution, dust transported by air, broken fibre from wear of the surface and plant particles will be flushed by rain water into the lower areas of the filling material and cause hardening as well as helping to grow moss and algae. The retaining of dust particles in the infill also reduces the ability of passing water considerably. To prevent this circumstance an intensive cleaning every 1 – 3 month is necessary. In this case working depth is 10 – 30 mm below surface, (depending upon the construction of the surface).

Normal working speed is 1 - 2 km/h (sand), 0,8 – 1,5 km/h (rubber granules)

Adjust the cleaning device and perform work as described in the section “Maintenance cleaning”.

Increase in the working speed is possible because the coarse debris sieve can be removed for this operation (coarse debris is already removed earlier by performing maintenance cleaning). In this operation and at this depth the majority of the infill material will be picked up, the cyclone filter separates the dust from the infill material which will be restored and loosened up. Fine dust and broken fibres are sucked up and filtered out.

Choosing working speed and working depth and follow the same rules as described in the section “maintenance cleaning”.

Start with slow working speed and increase, if possible!

The dust box and the fine filter have to be cleaned on a regular basis, depending upon the amount of dust retrieved. See instruction later in this document.

Regeneration of a hardened surface:

Before performing the regeneration job, always perform “maintenance cleaning” to remove coarse debris!

After years of not being maintained synthetic grass surfaces can become hardened and compacted. The task of the regeneration is to break up the compaction, loosen up the sand or rubber granules and to remove the fine dust that is causing the compaction.

This task will be done with removed coarse sieve (coarse debris is already removed earlier by performing the maintenance cleaning earlier) In this case working depth is now set to 30 – 40 mm below surface, (depending upon the construction of the surface).

Recommended working speed is 0,5 – 1,5 km/h . For best results it's recommended to make a second passage in opposite direction.

Start with slow working speed and increase, if possible!

The dust box and the fine filter have to be cleaned on a regular basis, depending upon the amount of dust collected. See instruction later in this document.

Emptying the fine filters and cleaning filter box:

All bystanders have to keep clear and a safe distance away!

Stop engine before performing this job! Operator to wear dust mask.

During the cleaning process the filter bags will require emptying. If not done this will impair the dust removal process.

Open filter box by lifting the cover. Now the tops of the filter bags are visible. Dust on the plate in front of the filters can be swept with a brush into the filter bags. Lift the plastic frame and remove the filter bags. Slide the filter bag into a large plastic waste bag seal the top and shake vigorously to shake the dust into the waste bag, when done repeat for the other filter then replace.

Starting on front side, lock the filter bags in the lock frame at a slightly diagonal angle underneath the air control cover. Position the filter frame properly into the lock frame, otherwise it is not possible to close the filter box sufficiently. To prevent folding of filter bags feel by hand inside.

Close filter box now and carry on the work

Changing the fine filters and cleaning filter box:

All bystanders have to keep clear and a safe distance away!

Stop engine before performing this job! Operator to wear dust mask.

After a time and If the collection of dust is reduced, a fine filter change is necessary.

Open filter box by lifting the cover. Now the tops of the filter bags are visible. Dust on the plate in front of the filters can be swept with a brush into the filter

bags. Lift the plastic frame and remove the filter bags. Dispose the filter bags. Install new filter bags.

Starting on front side, lock the filter bags in the lock frame at a slightly diagonal angle underneath the air control cover. Position the filter frame properly into the lock frame, otherwise it is not possible to close the filter box sufficiently. To prevent folding of filter bags feel by hand inside.

Close filter box now and carry on the work.

New filter bags are available from the manufacturer of the cleaning device.

Cleaning the filter box by opening the floor.

Check the cleanliness of the lock frame and filter box plate during changing filter bags. If necessary, clean lock frame using a brush. The floor of the filter box is removable. Unlock floor by pushing down lock handle with gas strut. The handle is located inside the LH side of the filter box. Pull the floor upwards straight along the locking linkage. Be careful; do not pull the floor violently out of its RH bracket during lifting. The floor is equipped with a rubber seal, do not damage this seal. When the floor is open, the filter box can be cleaned using a brush or a water hose. Cleaning with water is recommended after long term use. Before next operation the box should be complete dry. To install floor first push floor diagonal from above underneath the RH bracket, then push down on the locking linkage. To lock the floor press the handle located at gas strut down and lock.

Emptying the coarse debris boxes.

**All bystanders have to keep clear and a safe distance away!
Stop engine before performing this job!**

Open the cover of the sieve box, using the handle tube. The cover is locked in both positions (open and closed) by a gas strut. Remove and empty the collecting boxes easily, using the handles. Replace boxes, close cover and continue work.

Removal and changing coarse debris screen !

Stop engine before performing this job !

Open the cover of the sieve box, using the handle tube. The cover is locked in both positions (open and closed) by a gas strut. Remove collecting boxes. Located on both sides of the sieve box are catches. Open catches by pulling up the red handles. When catches are open, fold lock bracket rearwards. Underneath of the LH collecting box are located two hooks with a grip, stored in a bracket. Take these hooks and place the hooks under the screen folded down edges. Start with hooks from brush side. Pull now screen straight upwards. To replace insert first the slightly arched side of the coarse debris sieve (opposite side of angle profile) into the gap between sieve brush and wall. (At this wall are located the catches) Please note, the angle profile at the

screen has to lean backwards. Now push the screen with even force on both sides down to the stop. Do not tilt the screen. In the correct position the angle profile rests on the wall with the catches. Now lock the bracket by pushing the catch handles downwards. Place the hooks in the LH store bracket and insert coarse debris boxes. Now continue work.

Sieving gets worse!

If the separation of the coarse debris from the infill gets worse without good reason (such as excessive moisture content in the infill material), and after a long time of use, check sieve for clogged holes. A certain amount of small stones or other debris may block holes and decrease the screening noticeably.

Remedy is to pull out the sieve and removing the blockages.

In this case check again, whether the mesh size corresponds to the used size of infill material, if so then remove and change the coarse debris sieve!

EC Declaration of Conformity

Hörger Maschinen e.K.

Langenstraße 2 - D - 21781 Cadenberge

Declared that the machine

K u n s t r a s e n r e i n i g e r S K U
(Artificial turf cleaner SKU)

Type Serial No. starting model year

SKU

Complies with the provisions of the following European directives and the regulations transposing it into national law:

89/392/EWG with last amendment 93/68/EWG.

Complies with the following harmonised standard or technical provisions:

ZH 1/406 EN 294 EN 292-1 EN 292-2

This certificate will be invalid, when the machine is modified without notice from the manufacturer.

Cadenberge, den 03.01.2005

Jürgen Staats