

HANSA C27

Operation, maintenance and safety manual



All operators must fully read and understand this operator's manual before using the chipper. Keep this manual for future reference.



3 YEAR | **GLOBAL WARRANTY**

Register your Hansa chipper to qualify
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What can my Hansa chipper process?

Intended uses of the chipper

The Hansa C27 chipper is built to process organic material including wooden branches not exceeding 160 mm diameter. It is designed to be used on by commercial arborists, tree contractors and hire / rental companies. **Do NOT** use the chipper for any other purpose.

Organic wastes include:

- ✔ Prunings, stalks, roots, vegetable matter, hay, grass, bark
- ✔ Branches
- ✔ Palm fronds
- ✔ Dead and hard timbers (Note: these will dull the knives faster)
- ✔ Paper or cardboard



Do NOT process:

- ✘ Flax, root balls
- ✘ Bones, soil, sand, grit, stones, metal

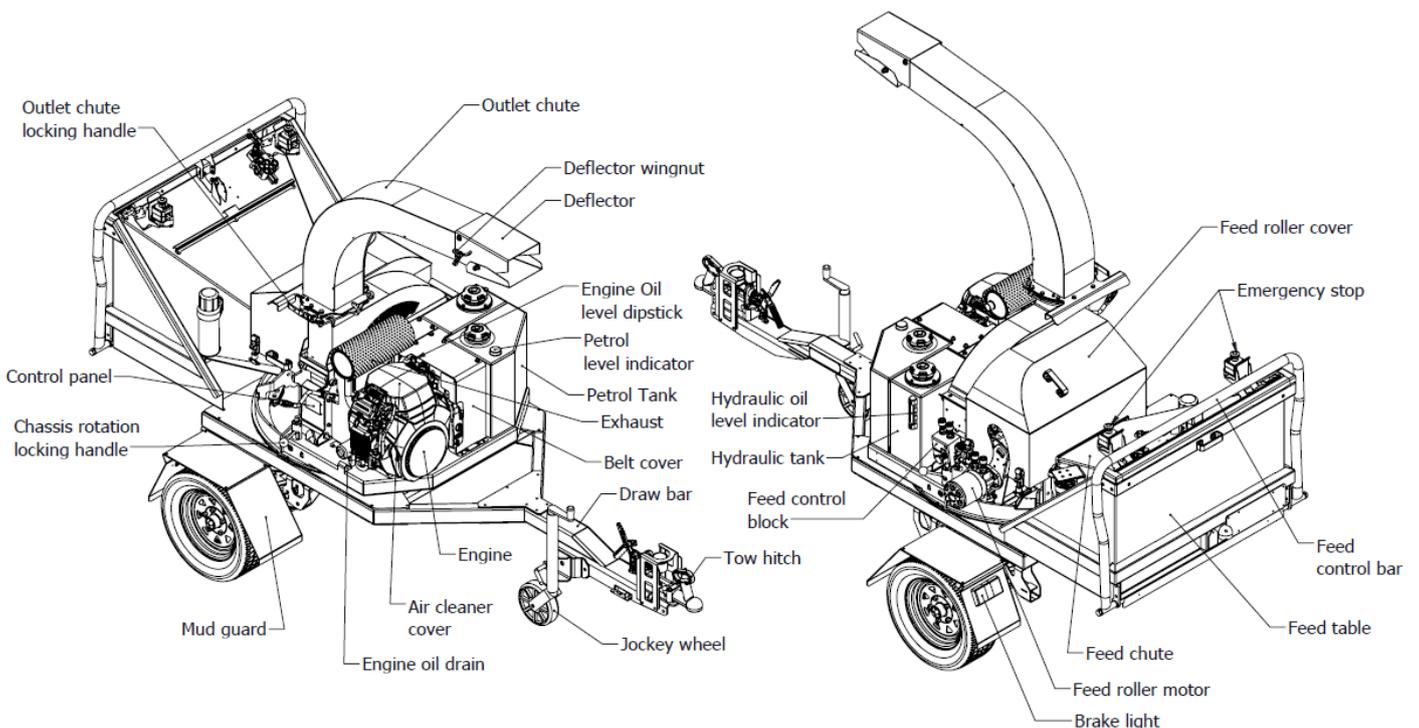
If you have any questions, contact your authorised dealer.

 **Do NOT** exceed 160 mm branch diameter

Receiving your Hansa Brush Chipper

Congratulations on the purchase of a Hansa Model C27 Brush Chipper.

Chipper components



Safety

Preventing accidents is the responsibility of every equipment operator. The operator is responsible for any accidents or hazards occurring to people or their property. Ensure every operator is familiar with the safe operation procedures and controls of the machine, how to identify hazards, and the steps required to avoid injury while handling and operating the chipper. Relevant information is contained in this manual.

- ✘ **Do NOT** modify the design of the chipper.

Operator competency

- ✔ Ensure that every person operating the chipper understands and follows the safe operating and maintenance procedures as detailed in this manual.
- ✘ **Do NOT** allow persons below the age of 18 to operate the chipper. Additionally, local regulations may restrict the age of the operator.
- ✘ **Do NOT** allow persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge to operate the machine.

Identifying hazards and risks

Identify hazards and risks, and take preventative steps to avoid accidents and minimise risk. Possible hazards include, but are not limited to, moving parts, thrown objects, weight of chipper and components, and the operating environment.

Below is a list of hazards and actions required to prevent injury.

 Hazard	Risk	Corrective action
 Dust	Injury or irritation of the eyes Respiratory irritation	Wear safety glasses Process freshly cut materials and / or wear a dust mask
 Exhaust Fumes	Respiratory irritation	Place the chipper in a manner that the operator or onlookers are not exposed to direct exhaust fumes
 Hot Exhaust	Heat burns	Keep bare hands and other body parts a safe distance away from hot exhaust
 Fire	Heat burns	Clear any build-up of chipping debris around the engine and exhaust regularly
 Belt Drive	Skin pinching and/or abrasions	Ensure that the belt guard is in place, and keep away from the belt
 Cutting rotor and knives	Pinching, crushing, cutting, severing	Keep hands and other body parts out of the inlet chute ✔ Use a stick to push materials into the inlet chute feed roller ✘ Do NOT push material into the feed roller with your hands
 Feed swing arm	Crushing, severing	Do not touch or approach the feed roller motor and swing arm while the machine is operating
 Feeding roller and feeding material	Being pulled into chipper resulting in possible crushing, cutting, severing	Do not stand directly in front of the inlet table while feeding material into the chipper; stand to either side. Do not climb onto the inlet table or enter the infeed chute unless the machine is off, and the cutting rotor is stationary
 Sound	Damage to hearing	Always wear hearing protection when operating the machinery
 Discharge material	Eye injury, minor cuts	Always wear safety glasses when operating the machinery

- ❌ **Do NOT** stand in front of the outlet chute
- ❌ **Do NOT** face the machinery in a place where the outlet chute is directed on a hard surface

⚠️ Feeding material	Cuts and scrapes	Wear tight fitting safety gloves Wear tight fitting long sleeves and pants to cover bare skin when operating the machinery
⚠️ Weight of the chipper	Straining, crushing	Place the machinery on firm level ground ❌ Do NOT attempt to move the machinery up/down slopes unless is attached to a towing vehicle
⚠️ Pinch points	Pinching, crushing	When opening/closing the inlet table, bonnet, or other guard, it is recommended to use the handles provided
⚠️ Petrol, oil, grease	Poisoning, skin irritation, harmful vapours	Take care when handling petrol, oil and grease Wash skin if contaminated with petrol, oil or grease ❌ Do NOT refuel the chipper in enclosed areas

Towing safety

- ✅ Rotate the discharge chute to face the opposite direction of the towing vehicle before towing and lock into position
- ✅ Lock the feed table in the up position
- ✅ Connect the tow coupling to the towing vehicle (check the ball dimensions are the same as the coupling)
- ✅ Connect safety chain with shackle
- ✅ If the machine is fitted with brakes, check handbrake is off and road brakes are on by removing the reversing lever
- ✅ Plug in lights and check they are operational
- ✅ Check wheel nuts and axle U-bolts periodically to make sure they are secure
- ✅ Ensure the jockey wheel is in the up position and locked away during transport
- ✅ Ensure the rotating assembly is positioned facing forwards (with the engine at the front, feed chute at the rear) and the chassis rotation locking pins are down in the locked position
- ✅ Ensure the machine is towed in accordance with local trailer transport regulations

Operation

The chipper is self-feeding and has a large inlet opening. It can process:

- Prunings, stalks, vines, leaves, roots and vegetable matter, paper and cardboard
- Freshly cut material is better to process than dry material
- Maximum capacity is 160 mm diameter branches

It is recommended to keep a wooden stick handy, approx. 60 mm diameter x 1000 mm long for:

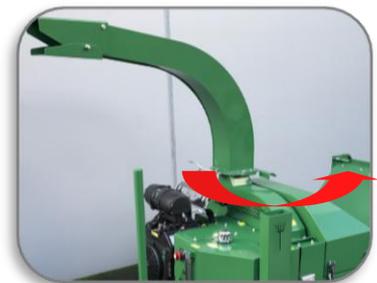
- Pushing in short, brushy and very leafy materials
- Keeping the inlet table clear



Outlet chute adjustment

The C27 is fitted with a freely rotating outlet chute, allowing the operator to precisely control the direction of material discharge from the machine. The chute can easily be adjusted by undoing the latch, adjusting the outlet chute direction as needed, then doing the latch back up.

Additionally, the end of the outlet chute is fitted with two deflector plates that you can adjust to control the angle and distance that material is discharged. A wingnut is located on the side of the upper deflector to lock it in place.



360-degree turntable adjustment

The chipping components of the C27 are coupled to the chassis via a freely rotating turntable. This allows the operator to feed material into the chipper from any direction, eliminating the time and effort spent repositioning the machine, and allowing you to use the chipper while still being coupled to the tow vehicle. To reposition the turntable, lift the locking pins on each side of the chipper, rotate the chipper, then resecure the pins. Check the table is locked properly by ensuring each pin locks into one of the 24 positions on the base of the turntable.

Note: The body of the chipper is rather heavy and it may take significant force to rotate.

Feed roller control

The C27 is equipped with a feed roller which facilitates the process of feeding material into the machine. The feed roller is controlled via the yellow control bar which surrounds the inlet table. The control bar has three settings:

- 1) Reverse
- 2) Neutral
- 3) Feed

When the bar is fully pushed in, the feed roller will be set to reverse. When the bar is fully pulled out, the feed roller will feed material. The neutral position lies between the reverse and feed positions.

Automatic Feed Controller (AFC)

The feed roller is fitted with an electronic automatic feed control system which is designed to limit the feed rate of material into the machine in order to prevent the engine from stalling.

This system eliminates the need to control the speed at which the branches are fed into the chipper manually. A sensor detects the RPM of the rotor; once this speed drops to a pre-set level the feed roller stops and the branch stops feeding into the machine. The engine then picks up in RPM and once it reaches a pre-set speed the feed-roller will start feeding again. The feed roller will also reverse back slightly after stopping (reducing the friction between the wood and knives), resulting in a quicker engine recovery.

The feed roller will only work once the engine is turned on and the engine has reached full throttle after engaging the rotor. If the green LED light on the AFC controller is flashing this indicates the feed roller isn't turning. When this changes to a solid green light (when the engine reaches maximum RPM) the feed roller will be operational.

The AFC has 6 different pre-set positions at which the feed will stop.

Adjusting the AutoTrip setting:

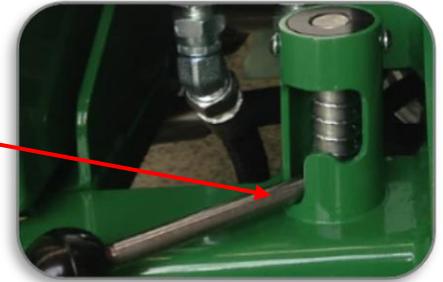
1. Turn the ignition key into the 'ON' position. Alternatively, this can be adjusted when the machine is in operation.
2. The version number will initially be displayed on the LCD display, wait until this clears.
3. Push the 'Menu' button once.
4. Adjust the AutoTrip setting down using the 'Menu' button or up using the 'Set' button. There are 6 different positions at which the feed will stop. At setting 1 the engine is dropping further in RPM, whereas at setting 6 the engine is only dropping marginally in RPM before the feed roller stops. Adjust to a setting which is most suitable to you. Once adjusted the screen will return to the Hour meter / Tachometer display after 5 seconds, saving the desired setting.

If there are any problems with the electronic automatic feed system, the chipper can be used with the auto-feed disabled. To disable auto-feed, adjust the AutoTrip setting to 'OFF'.

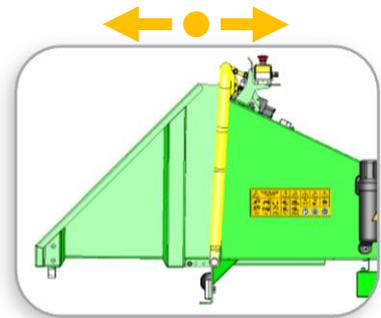


WARNING! Be careful using the machine with auto-feed disabled as the machine can be stalled easily.

Locking pin
in the 'locked'
position



Feed – Neutral – Reverse



Hour meter / tachometer

The LCD display will toggle between the current engine RPM and machine hours every 5 seconds. Alternatively, the operator can toggle between the two by pushing the 'set' button.

Emergency stops

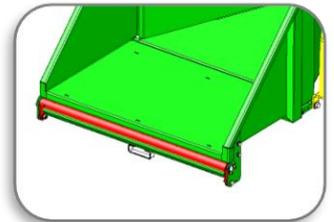
The C27 has two emergency stops on the top of the inlet chute. The emergency stops act as an immediate kill switch to the engine. It does not immediately stop the rotor from spinning. The rotor will continue to spin for some time due to its rotational inertia. The feed roller, however, will stop almost immediately. To engage the emergency stop, push the red button. To disengage the emergency stop, twist the red button clockwise until it releases outwards.

- ✔ Use it when foreign matter such as sand, stones or metal enter the inlet chute
- ✔ Use it in response to an immediate hazard/danger to an operator or onlooker
- ✔ After the rotor comes to a halt, follow the normal shutdown procedure in addition to using the emergency stop
- ✔ Inspect the machine before resetting the emergency stop
- ✘ Under normal conditions, **do NOT** use the emergency stop in place of the regular shutdown procedure



Bottom bump bar (optional)

The C27 may be fitted with a bottom bump bar which acts as an extra safety feature in addition to the emergency stops. Pushing the bump bar immediately stops the movement of the feed roller. After activating the bump bar, the movement of the feed roller may be reset by setting the feed roller to neutral using the feed control bar. The bump bar is designed to be activated by pushing against it with your hand, knee, foot or other body part in the event in which an operator is caught by in-feeding branches.



Checklist before operation

Engine:

- ✔ Check oil level in engine
- ✔ Check condition of air cleaner
- ✔ Refer to engine manual for more details

Check Hydraulics:

- ✔ Check level of hydraulic fluid
- ✔ Check all hydraulic components for leaks

General:

- ✔ Check drive belt and pump belt for proper tension
- ✔ Check machine for proper lubrication
- ✔ Check nuts and bolts to ensure they are tight
- ✔ Check tires for proper air pressure as stated on the tire
- ✔ Check petrol level
- ✔ Check that the fuel cap is secured and there is no fuel leaking from the tank
- ✔ Check direction of the discharge chute
- ✔ Check guards are all in place and in good condition
- ✔ Check all labels are legible. Replace if necessary (contact Hansa for replacements)
- ✔ Refer to maintenance section for more details

Safe setup procedures

- ✔ Ensure all pre-operation checks have been done
- ✔ Setup the work site so there is no danger to traffic or public and provide adequate warnings
- ✔ Ensure the chipper is positioned in an open area and on firm level ground
- ✔ Ensure that all chipper components are in place and in good condition
 - ⇒ If any parts are worn or damaged, contact Hansa for replacements
- ✔ Ensure the feed control bar is in the neutral position when starting the chipper
- ✔ Ensure the inlet table is clear of material when starting the chipper
- ✔ Ensure the throttle control lever is initially in the idle position when starting the chipper

- ✔ Ensure the outlet chute is discharged onto soft ground (e.g. grass)
 - ✘ **Do NOT** allow the outlet chute to discharge chip onto hard surfaces (such as a paved or gravel surface)
 - ⇒ Ejected material can rebound and cause injury
- ✔ Keep children, pets and spectators clear of the work area at all times
 - ✘ **Do NOT** operate the chipper where there is a hazard to onlookers
 - ✘ **Do NOT** allow any person under the age of 18 to operate the chipper
- ✔ Refuelling:
 - ⚠ Take extra care in handling fuels
 - ⇒ They are flammable and vapors are explosive
 - ⚠ Use only an approved fuel container
 - ✔ Always replace and securely tighten fuel cap after refuelling
 - ✔ Allow engine to cool down before refuelling
 - ✘ **Do NOT** smoke when using or refuelling the chipper
 - ✘ Never remove fuel cap or add fuel with the engine running
 - ✘ Never refuel the chipper indoors
 - ✘ Never store the chipper or fuel container inside where there is an open flame, such as a water heater
 - ✘ If fuel is spilled, do not attempt to start the engine. Wipe up the spilled fuel, and move the chipper away from the area of spillage before starting

Safe operating procedures

✔ DO:

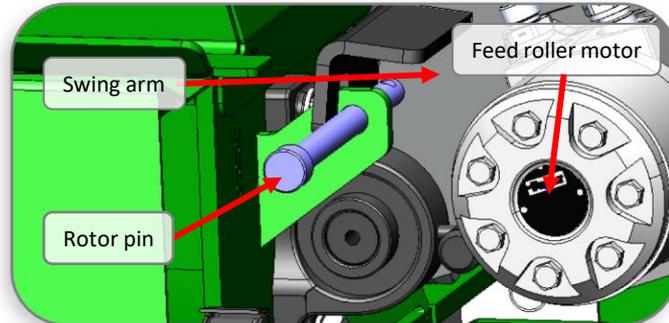
- ✔ **Wear safety equipment:** Safety glasses, hearing protection, safety shoes and protective gloves must be worn at all times. - ensure that the gloves fit tightly.
 - ✘ **Do NOT** wear loose fitting gloves or gloves with long cuffs
 - ⇒ Loose gloves may get snagged by branches, which could result in the operator being pulled into the chipper
- ✔ Tie long hair up
 - ⇒ Long hair could be snagged by a branch and may be pulled into chipper
- ✔ Wear clothes that sit tightly
 - ⇒ Avoid scarves and any items that can get caught in the chipper or snagged on branches
- ✔ Place the chipper on even ground and direct outlet chute onto soft ground
- ✔ Ensure the chipper is positioned so that there is a minimum inlet table height of 600 mm off the ground
- ✔ Ensure exhaust is pointing away from the working area and downwind from the operator and onlookers
- ✔ Keep proper balance and footing at all times and stand at the same level as the chipper
 - ✘ **Do NOT** climb onto the inlet table to push material into the feed roller
 - ✘ **Do NOT** run near the machine
- ✔ Keep your face and body away from the inlet chute. Stand to the side of the inlet table while feeding material into the chipper
 - ⇒ Standing to the side gives better access to the control bar and helps in keeping clear from flying debris
- ✔ Feed only freshly cut material into the chipper
 - ✘ **Do NOT** feed in materials covered in gravel, stones and dirt as this can rebound, injure the operator and damage the machinery
- ✔ Prune to a size that suits the chipper's capabilities
- ✔ Pre-cut side branches
 - ⇒ The branch will 'self-feed' more efficiently
- ✔ Keep the engine clean of debris and other accumulations
 - ⇒ This prevents damage to the engine or possible fire
- ✔ Feed limbs and branches through butt end first, leaving the bushy head on
 - ⇒ This helps guide the limb down the inlet chute
 - ⇒ It reduces spinning and the occurrence of ejection of small pieces back up the inlet chute
- ✔ Feed soft materials intermittently with branches
 - ⇒ The wood chips tend to clean out any soft residue left in the chipper
 - ⇒ The chipper can clog up with soft, wet or fibrous materials
- ✔ Keep well clear of the outlet chute discharge area, even when the chipper is not currently processing material
 - ⇒ High velocity, sharp discharge can cause serious injury
- ✔ Keep the outlet free of blockage



⇒ If blockage occurs, turn the engine off and wait for rotor to stop spinning. Open the outlet chute and remove material until the outlet chute is clear

✔ Keep the feed roller free of blockage

⇒ If blockage occurs, turn the engine off and wait for rotor to stop spinning. Remove the feed roller guard by unhooking the four rubber latches. Unhook the springs from the base of the chassis. Lift the swing arm up and insert the rotor pin (located underneath the control panel) into the tab on the housing to lock the swing arm in place (as per the diagram below). You may now safely clear the blockage. Remove the rotor pin, lower the feed roller, reposition the springs, then replace the guard



✔ Turn off the engine whenever you leave the work area

❌ DO NOT:

- ❌ Run the chipper in an enclosed area
 - ⚠️ Exhaust fumes contain carbon monoxide which is poisonous, colourless, odourless, and tasteless
- ❌ Operate the chipper wearing loose clothing and untied long hair
- ❌ Stand at a higher level than the base of the chipper when feeding material into it
- ❌ Feed flax and cabbage tree leaves into the machine
 - ⇒ These stringy materials can wrap around the rotor shaft and work their way into the bearing.
 - ✔ If any stringy material becomes wrapped around the rotor shaft, remove it before it works itself into the bearing
- ❌ Process old materials such as dried wooden branches
 - ⇒ They get very hard and springy when dried out
 - ⇒ They are more awkward to handle
 - ⇒ The knives dull much quicker
- ❌ Feed short, stubby pieces of wood into the chipper
 - ⇒ They bounce and spin in the inlet chute
 - ✔ Feed short stubby pieces together with longer pieces
- ❌ Feed branches that are too large (max 160 mm branch diameter)
 - ⇒ The chipper engine will stall, which could result in damage to the engine or drive belts
- ❌ Put soil, sand, grit, stones, glass, pieces of metal or other foreign objects into the chipper
 - ⇒ This will damage the sharp edge of the cutting knives and can rebound and injure the operator
- ❌ Put root balls and dead wood into the chipper
 - ⇒ This dulls the knives quickly
- ❌ Transport the chipper while the engine is running
- ❌ Tamper with the engine governor settings on the chipper
 - ⇒ The governor controls the maximum safe operating speed and protects the engine and all moving parts from damage caused by overspeed
- ❌ Operate the chipper with blunt knives
 - ⇒ This causes excessive vibration which may result in damage to the chipper
- ❌ Remove any guards on the chipper unless the engine is turned off and the cutting rotor has come to a complete standstill
- ❌ Enter the inlet chute or get on/lean over the feed table
- ❌ Put hands or any other part of the body or clothing:
 - ⇒ Inside the inlet chute
 - ⇒ Inside or near the opening of the discharge chute
 - ⇒ Near any moving part
- ❌ Use the feed control bar as a handle to manoeuvre the machine
- ❌ Touch any guards or stick hands between guards while the chipper is running

Starting procedure

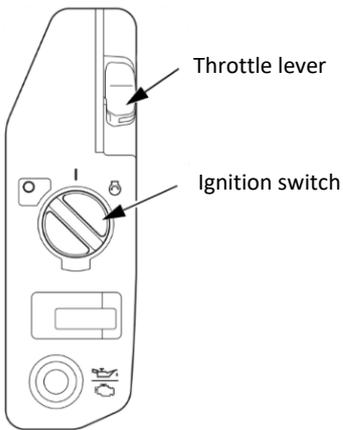
Before proceeding, ensure the 'safe setup procedure' has been followed on page 5 of this manual.

1



Ensure the rotor is disengaged by winding the engagement handle in the counter-clockwise direction until the handle comes to a stop (located next to the control panel).

2



Move the engine throttle control lever to approximately half throttle (mid-way).

Insert the key and turn it to the start position and hold until the engine has started. Allow the engine to warm up for 1-2 minutes before engaging the rotor.

⚠ WARNING: Never run the starter motor for more than 10 seconds at a time. Allow to cool for 1 minute before attempting another start.

3



Gradually and slowly engage the rotor by winding the engagement handle in the clockwise direction until it comes to a stop. This should be done slowly to allow enough time for the cutting rotor to pick up speed without stalling the engine.

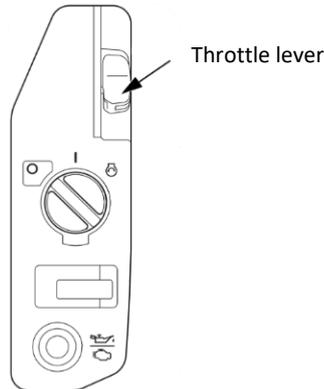
4

Increase throttle to full for chipping (move the throttle lever to the top-most position).

Note: Engine must run at full throttle for the automatic feed and feed roller to operate. Refer to the 'Automatic Feed Control' section to set the automatic feed control to the desired setting.

Shutdown procedure

1



To shut the machine down, move the throttle control lever to the “min” position (down).

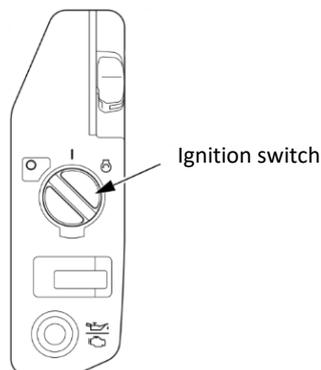
2



Once the engine has been given enough time to slow down to idle speed (about 10-15 seconds), disengage the rotor by winding the engagement handle in the counter-clockwise direction until the handle comes to a stop.

⚠ WARNING! Only engage and disengage the rotor at idle speed otherwise excessive vibration and belt friction may cause damage.

3



Allow the engine to cool down by running at idle for at least 1 – 2 minutes before shutting down. Turn the ignition key anti-clockwise into the off position to shut the chipper down.

⚠ WARNING! The heavy rotor will continue to turn for some time after the engine has been shut down. Do not open the rotor housing cover until the engine and cutting disk have completely stopped and the rotor is disengaged.

Troubleshooting

- ❓ The chipper won't start
 - The engine oil level might be too low
 - ⇒ The chipper is fitted with oil alert and will not start if the oil level is too low
 - ✔ Check the oil level and top up if required
 - The chipper is placed on a slope
 - ⇒ The chipper is fitted with oil alert and will not start if the oil is not level
 - ✔ Move the chipper to level ground
 - The rotor cover is open or not closed completely
 - ⇒ The chipper is fitted with a safety switch on the rotor cover
 - ✔ Ensure the rotor cover is bolted down properly
- ❓ Belt drive engagement will not work
 - The housing might be blocked
 - ✔ Turn engine off, disconnect the spark plug wire, ensure rotor has completely stopped, remove debris, restart engine, then attempt to re-engage the belt drive
- ❓ Drive belts squealing/smoking
 - Drive belts are loose/damaged
 - ✔ Turn the engine off, disconnect the spark plug wire, ensure rotor has completely stopped. Follow the belt tensioning procedure in this manual.
- ❓ Discharge slows down
 - The chipper is clogged up
 - ✔ Turn the engine off, disconnect the spark plug wire, ensure rotor has completely stopped, remove debris, then close and lock the outlet chute
- ❓ Outlet chute is blocked
 - ⇒ Outlet is pasted with wet/leafy material
 - ✔ Feed hard, dry material in with softer material
 - ✔ Turn the engine off, disconnect the spark plug wire and ensure rotor has completely stopped. Open up the outlet chute and clear blockage
- ❓ The material is ejected in long strips
 - The knives and/or anvil might be blunt
 - ✔ Turn the engine off, disconnect the spark plug wire and ensure rotor has completely stopped. Inspect and sharpen or replace knives and/or anvil as required. Ensure correct clearances between knives and anvil
- ❓ The chipper starts making unusual noise, the cutting rotor strikes a foreign object or the chipper starts to vibrate
 - ✔ Turn the engine off, disconnect the spark plug wire, ensure rotor has completely stopped, then inspect for damage
 - ✔ Replace or repair any damaged parts
 - ✔ Check for and tighten any loose parts
 - ✘ **Do NOT** attempt to repair the chipper unless you are competent to do so
- ❓ The chipper stalls when material is being fed
 - ⇒ Auto Feed Control is not working
 - ✔ Check that AFC is on
 - ✔ Check the Autotrip setting is not at setting 0 or 20 (manual mode)
 - ✔ If AFC is not working, contact Hansa
- ❓ The feed roller is not turning
 - ⇒ Engine is not running at full throttle
 - ✔ Increase the engine throttle to max RPM
- ❓ The feed roller is running too fast/slow
 - ⇒ Hydraulic pump belt loose/broken
 - ✔ Tension/replace belt



WARNING! Do NOT open the housing unless the engine and cutting rotor have completely stopped.

Maintenance & service

Knife re-sharpening and knife replacement

How do I know that the knives need re-sharpening?

- ⇒ Chipper is vibrating excessively when processing material
- ⇒ Chipper is making more noise than usual when processing material
- ⇒ Rotor RPM is dropping more quickly than usual
- ⇒ Material comes out in long strips



WARNING! Do NOT operate your chipper with blunt knives.

- ⇒ Blunt knives will cause excessive vibration
- ⇒ Blunt knives result in damage to the chipper

How to re-sharpen the knives:

If you don't have a surface grinder or are unsure how to re-sharpen the knives, contact a professional saw doctor or Hansa to arrange re-sharpening.



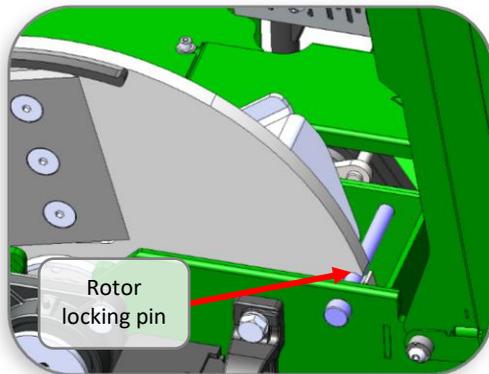
WARNING! Be careful when working around the sharp knives.

Tools and materials required for re-sharpening (approx. 40 mins):

- 24 mm ring spanner
- 18 mm ring spanner
- 16 mm ring spanner
- 10 mm Allen key
- Torque wrench with a 24 mm socket
- A stick magnet (optional)
- Surface grinder
- Coolant

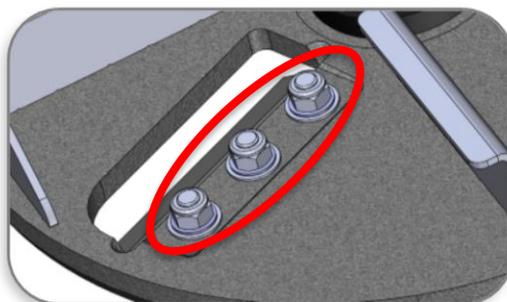
Remove the knives for sharpening:

1



Open the rotor housing cover by removing the two housing cover locking bolts with a 18 mm spanner, then lift the rotor housing cover to access the cutting rotor. Rotate the cutting rotor to gain access to the knives, then insert the rotor pin (normally located under the control panel) into the housing and through the cut-out in the rotor to lock it in place.

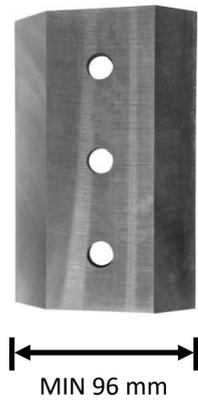
2



Using a 24 mm spanner and a 10 mm Allen key, remove the knives from the rotor. There are three bolts that you must remove on each knife to do so.

- ⇒ Be careful not to drop the bolts or knives into the chipper.
- ⇒ A stick magnet can be used to retrieve them if this does occur.

3



Measure the width of the knife and check that it will be at least 96 mm after sharpening.

If the knives will be shorter than 96 mm, then the knives should be replaced. Please contact your nearest Hansa dealer.

Sharpen the knives:

4

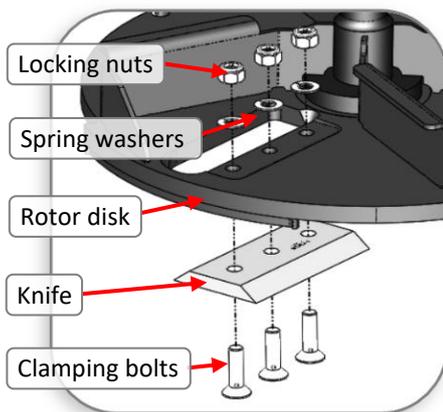


Sharpen the knives on a surface grinder. A cutting angle of 36 ° is critical for the performance of the chipper. Make sure there is plenty of coolant used when grinding to avoid softening of the steel knives.

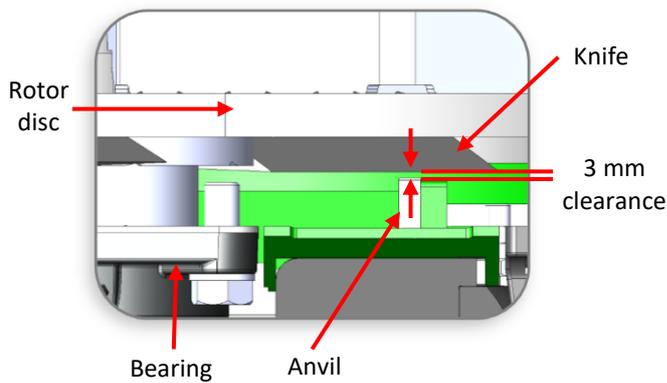
Note: You do not need to sharpen your knives unless both sides of the reversible knives have been used.

Reinstall the knives:

5

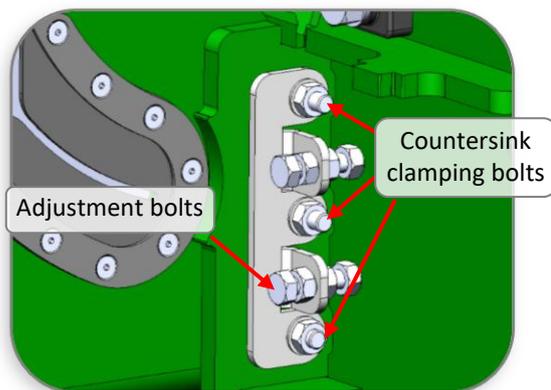


Clean all mounting surfaces and remount the knives in the reverse procedure. Torque the knife clamping nuts up to 190 Nm. Note: Torque the nuts while holding the bolt head stationary, to ensure correct torque.



Top view: Knife and anvil set-up

6



After sharpening, the width of the knives will have been reduced, therefore the gap between the knives and anvil may require adjustment. There should be 3 mm of clearance between the knife and the anvil. If there is not enough clearance, the knife edge may touch the anvil through deflection when cutting heavy branches and damage the sharp edge. Too much clearance will allow small twigs and fibrous materials to be dragged through without being cut.

To adjust the gap between the knives and the anvil, first loosen the locking nuts from the adjustment bolts on the anvil mounting plate using a 16 mm spanner. Now tighten or loosen the two adjustment bolts. Tightening these bolts will cause the anvil mounting plate to slide further along the slotted holes. Ensure you tighten the two bolts evenly to avoid setting the anvil on an angle.

Once the correct anvil position has been set, ensure the locking nuts on the adjustment bolts are tightened. Additionally, ensure the clamping nuts are torqued to 44 Nm.

Remove the rotor pin and turn the rotor slowly by hand to check that it turns freely.

7

Close and secure the outlet chute.

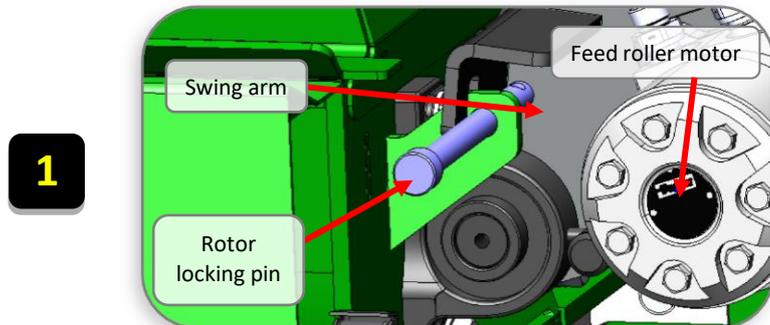


WARNING! Every time the knife clamping bolts are torqued up to 190 Nm and loosened off again, the life of the bolts is reduced. The knife clamping bolts must be replaced at most after every six sharpens. Contact Hansa for replacement bolts (m16x50 countersunk bolts of grade 12.9 or higher). Use only genuine Hansa bolts.

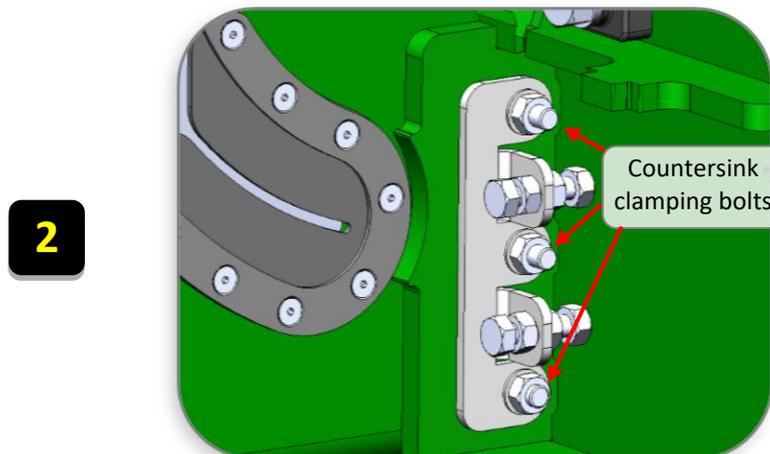
Anvil adjustment

Whenever the chipper knives are inspected/sharpened, the condition of the anvil should also be checked. If the edge of the anvil is significantly rounded and/or uneven, then it should be reversed or replaced. Typically, the anvil will maintain its sharp edge for about 500 hours of operation.

Anvil replacement



Remove the feed roller guard by unhooking the four rubber latches. Unhook the springs from the base of the chassis. Lift the swing arm up and insert the rotor pin (located underneath the control panel) into the tab on the housing to lock the swing arm in place.



To remove the anvil, you must remove the three countersink clamping bolts using a 16 mm socket and extension. If the bolt head turns, hold it with a 6 mm Allen key.

Note: Do NOT use the Allen key to turn the bolt; turn only the nut.

Note: Ensure the gap between the knives and the edge of the anvil is 3 mm. If not, then the anvil can be adjusted via the two adjustment bolts between the clamping bolts.

3 If the other side of the anvil hasn't been used yet: rotate the anvil 180 degrees and place it back on the feed roller housing wall. If both sides of the anvil are blunt: remove the anvil and replace it with a new one. Contact Hansa if a replacement anvil is required.

4 Tighten the clamping bolts back up using a 16 mm socket, ensuring there is a spring washer between the clamping plate and each nut. Torque the nuts to 44 Nm.

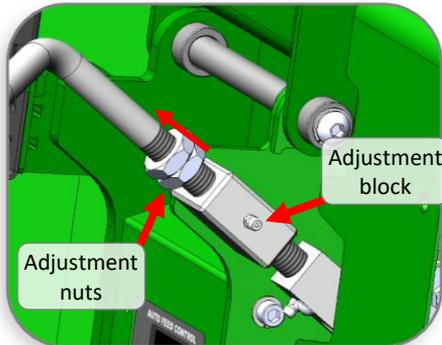
Belt tension

Correct belt tension is crucial for minimising belt wear and maximising machine efficiency. To check the belt tension, first ensure the belt drive is disengaged by turning the engagement handle anticlockwise. Then, from the fully disengaged position, gently turn the engagement handle clockwise until you feel it start to resist. From this position, turn the engagement handle clockwise. If the tension is set correctly, the handle should turn one full revolution clockwise before coming to a stop. If there is a difference greater than 1/6 of a revolution either clockwise or anticlockwise from one full revolution, then the belt tension should be corrected following the 'adjusting belt tension' procedure.

Note: After using the machine for the first time, or after replacing the belts, it is recommended to check the tension again after the first 5 hours of operation, as the belt will stretch as it wears into the system

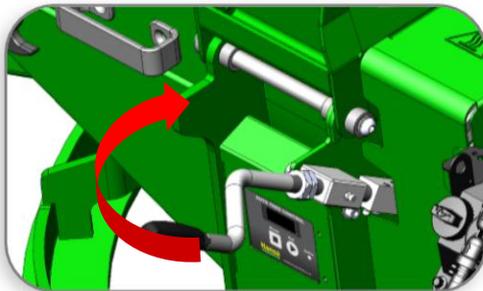
Belt tension adjustment

1



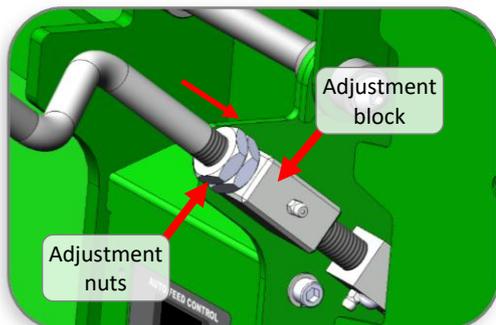
Using two 24 mm spanners, unlock the two locking nuts from above the adjustment block on the engagement handle by turning the top nut anticlockwise and the bottom nut clockwise. Then move both locking nuts upward along the thread.

2



From the fully disengaged position, gently turn the engagement handle clockwise until you feel it start to resist. From this position, turn the engagement handle one full revolution clockwise. This is the recommended tension for the belt drive when in the fully engaged position.

3



Using two 24 mm spanners, screw the two M16 adjustment nuts downwards until they touch the adjustment block. Then turn the top nut clockwise and the bottom nut anti clockwise simultaneously to lock the nuts in place.

Belt replacement

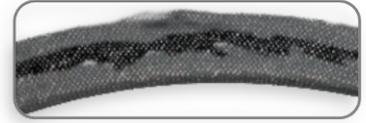
If the belts in your chipper look similar to any of the following images or are clearly broken, then they need to be replaced.



Cracked underside of belt



Split belt cover



Soft, swollen belt



Worn cover on back of belt



Sidewall belt wear

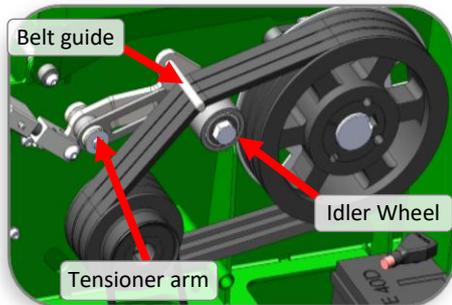
If a belt change is necessary, follow these steps

1



Using a 5 mm Allen key, unbolt and remove the pulley guard (4 x M8 cap screws).

2



Turn the engagement handle counter clockwise until the belt is fully disengaged. Remove old belts and replace (3 x B46 vee belts).

Note: The belts pass in between the idler wheel and belt guide on the tensioner arm.

Note: Engine not shown in this view.

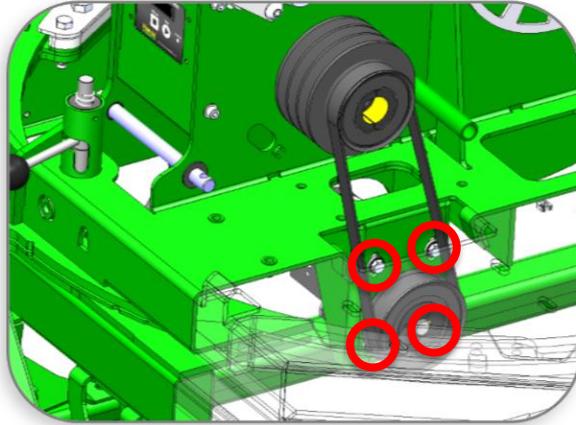
3



Ensure belts are properly tensioned (follow the 'Adjusting belt tension' process on page 15) before fastening the pulley guard back into place.

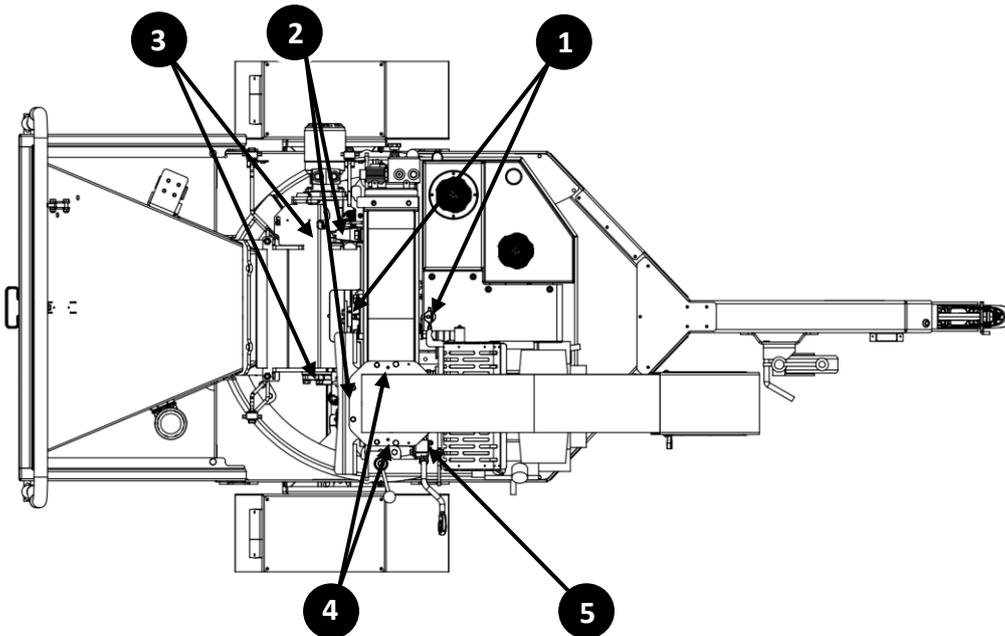
Hydraulic pump belt adjustment

The hydraulic pump is driven by a synchronous belt. The belt does not require any tension; however the belt should not have any slack either. The belt can be adjusted by loosening the four mounting bolts (using a 13 mm spanner) and moving the pump/pulley up or down the slotted holes (as per the image below). The mounting bolts are best accessed from beneath the machine. If the belt is damaged in any way, contact Hansa for a replacement.

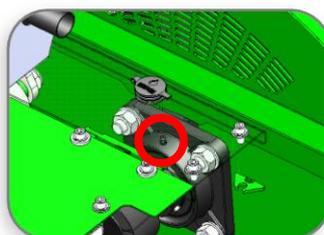
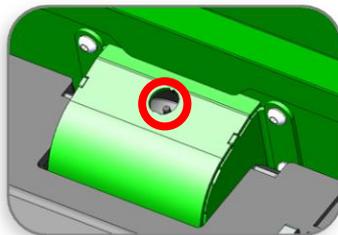


Greasing bearings & pivot points

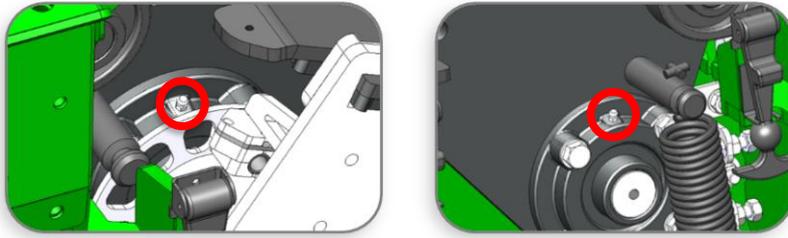
Points that need to be greased are as follows (as per the diagram below):



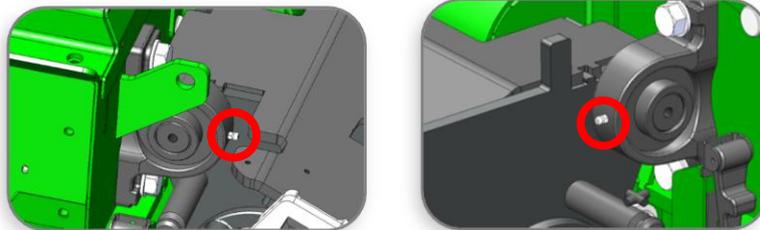
1. Two bearings on the rotor shaft, one under the engine cover and the other above the inlet opening



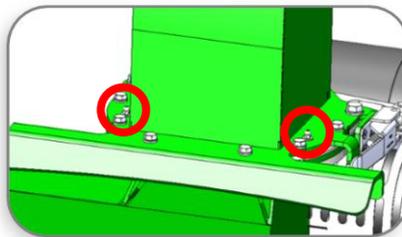
2. Two bearings on the feed roller



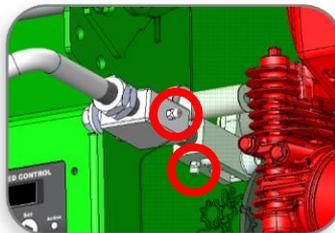
3. Two bearings on either side of the feed roller pivot



4. Outlet chute swivel, two grease nipples



5. Two grease nipples on the engine engagement screw



These points must be greased every 50 operating hours. Ensure a suitable grease is used (bearing grease or all-purpose grease).

Hydraulic system

- Replace hydraulic oil filter every 500 hours
- Change hydraulic oil every 1000 hours. Use only good quality ISO 46 grade hydraulic oil.

The hydraulic system is a closed system therefore it should not become contaminated, however if contamination is detected, oil should be changed.

Fill the hydraulic oil tank so that the oil level is at the line indicated by the cold oil level label to the left of the oil level indicator. The level should be checked with the engine off while the oil is cold.

For any repair in the hydraulic system, contact Hansa Products or seek advice from a competent service agent.

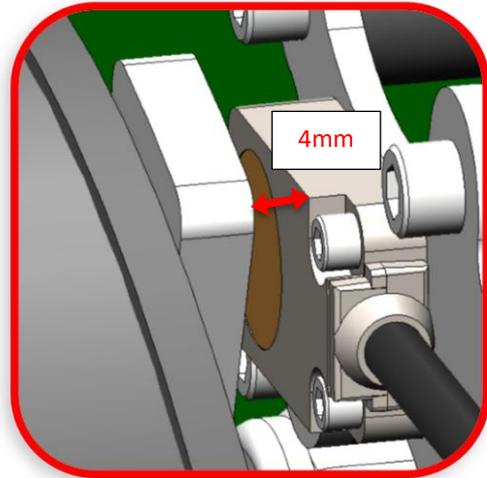
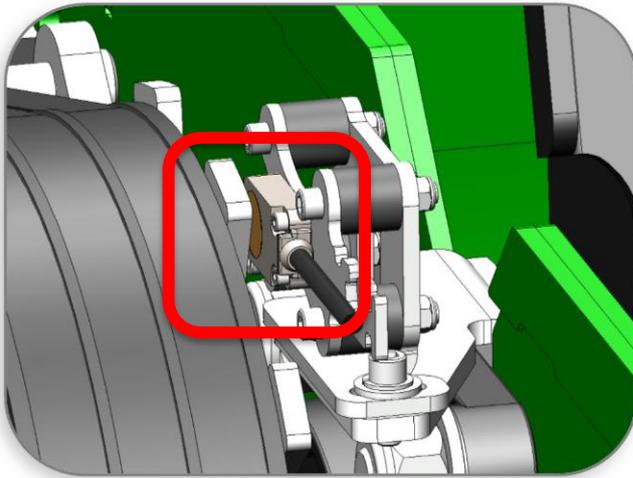


Engine servicing

For servicing of the engine, please refer to the engine manual. Change oil, oil filter, fuel filter and air filter as recommended in the manual. Ensure the correct engine oil is used.

Other servicing

- ✓ Check all bolts and other fasteners for the correct torque setting
- ✓ Check wheel nuts and U-bolts are fastened correctly
- ✓ Check and repack wheel bearings with grease every 12 months
- ✓ Check air pressure in tyres. Inflate to pressure as indicated on the tyre
- ✓ Check safety chains and hitch
- ✓ Check distance between rotor sensor and sensor plate; distance should be 4mm (See below). If necessary, the sensor's bracket can be adjusted using the slotted bolt holes



Rotor bearing replacement

Replacing rotor bearing on engine side of rotor:

1. Remove engine pulley by unbolting both grub screws in bush. Then screw one grub screw into the third hole and tighten until the pulley separates from the bush. Slide bush off the shaft, followed by the pulley.
2. Remove two grub screws in the bearing.
3. Remove M16 nuts and bolts bolting the bearing to the housing.
4. Remove and replace bearing.
5. When replacing the pulley ensure the rotor pulley is lined up to the engine pulley with a straight edge. Ensure the grub screws are tightened evenly so the pulley is tightened evenly.
6. The gap between the sensor and the sensor plate should be approximately 4 mm. Adjust the sensor accordingly. If it is set further away, then the sensor may not work properly and therefore the AFC will not work.

Replacing rotor bearing on inlet chute side of rotor:

It is recommended to have this bearing replaced by a specialist Hansa dealer.

Tyre Pressure

The recommended tyre pressure is 65 Psi.

Maintenance & service intervals

Service	Maintenance interval - service hours							
	10 or Daily	50 or Weekly	100	250	500	1000	Yearly	As req.
Engine oil change - initial change	Initial							
Hydraulic oil filter - initial replacement	Initial							
Belt tension – check	Initial							
Engine oil level – check	•							
Air cleaner element – clean	•							•
Bearings – grease		•						
Engine engagement rod – grease		•						
Outlet swivel – grease		•						
Knives– check, sharpen or replace		•						•
Belt guarding – remove and clean chip build-up		•						•
Drive belts tension - check/adjust			•					
Hydraulic pump belt tension - check/adjust			•					
Fan belt – check			•					
Engine oil & filter – change			•					
Nuts & bolts – check torque			•					
Tires & rims – check			•					
Hydraulic system – check			•					
Spring mounting – check U bolts			Or monthly					
Brake fluid - check			•					
Battery electrolyte level & terminals - check				•				
Engine fuel filter – replace				•				
Outlet chute – remove & clean swivel				•				
Feed roller tension springs - replace				•				•
Anvil - Check				•				•
Hydraulic oil filter - replace					•			
Air cleaner element – replace					•			
Hydraulic oil – replace						•		
Feed roller teeth – sharpen							•	•
Engine system								•
Battery – replace								•
Drive belts – replace								•
Hydraulic pump belt – replace								•
Knives – replace								•
Anvil – replace								•
Hazard labels – replace								•

Bolt torque

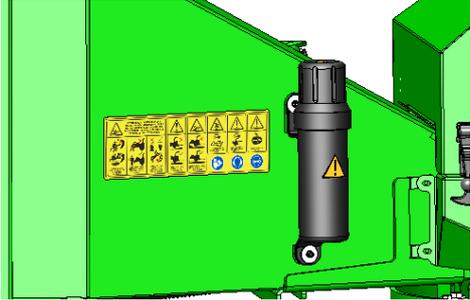
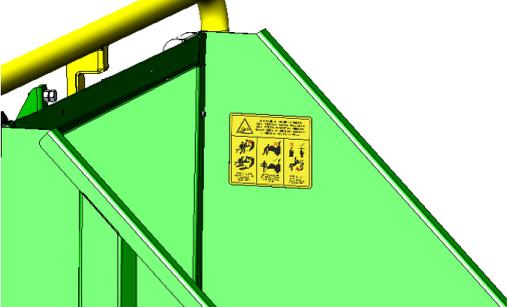
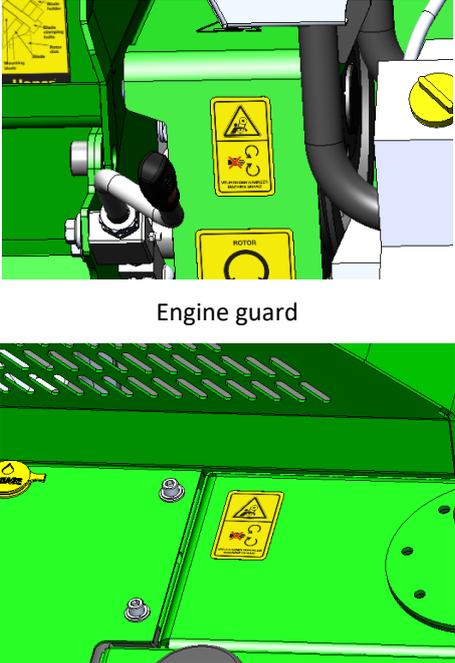
When servicing the machine, ensure any bolts you remove are torqued to the values listed in the torque table below:

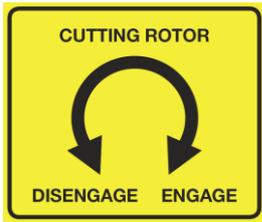
		Relative Strength Bolt Marking			
		4.6		8.8	
Bolt size	Spanner size	Recommended Tightening Torque		Recommended Tightening Torque	
		lb ft	Nm	lb ft	Nm
M8	13 mm	6	8.5	16	22
M10	16 mm	12.5	17	32	44
M12	18 mm	22	30	57	77
M16	24 mm	54	73	140	190
M20	30 mm	105	143	274	372

Specifications

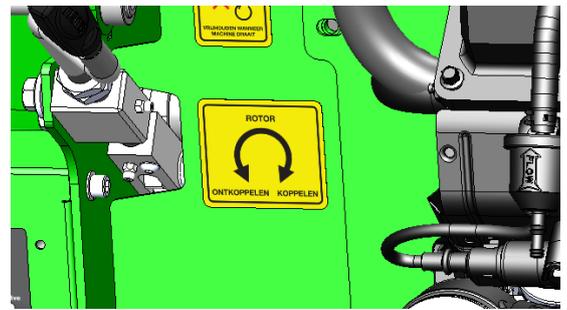
		C27
General	Length	3270 mm
	Width	1650 mm
	Height	2180 mm
	Weight	925-1030 kg
Engine	Make & model	28 Hp Honda iGX800 EFI
	Type of fuel	Petrol
Capacities	Fuel tank	33 L
	Hydraulic oil tank	23 L
Chassis	Frame description	75 x 50 x 3 mm RHS
	Wheels	13" wheels, low profile tyre
Cutting System	Disc speed	1800 RPM
	Disc diameter	650 x 20 mm
	Shaft diameter	50 mm
	Knives	Two
Feed System	Feed opening	330 x 178 mm (13" x 7")
	Chipping capacity	160 mm (6")
	Feed table height	700 mm
	Feed table length	1550 mm
	Inlet chute opening	960 x 650 mm
	Roller Style	Single roller, spring mounted, 300 mm (12") diameter
	Feed speed range	0-40 m/min (135 f/min), full reverse
Discharge System	Discharge height	2180 mm
	Degree of rotation	360°
Transmission System	Belt drive	3x B46

Decals

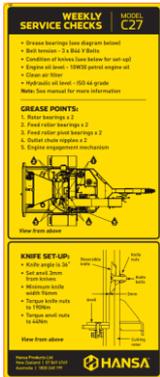
Decal	Description	Location
	<p>General machine safety and inlet chute safety</p>	 <p>Side of inlet chute</p>
	<p>Inlet table safety</p>	 <p>Inside of inlet table</p>
	<p>Belt hazard</p>	 <p>Engine guard</p> <p>Left side of hydraulic tank</p>



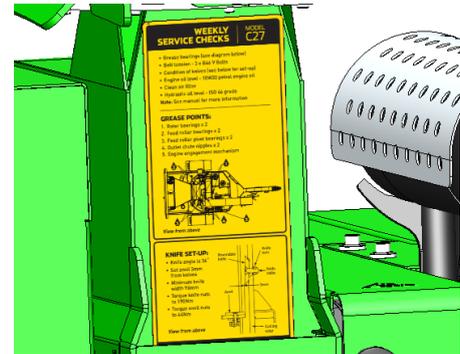
Rotor engagement control



Belt guard next to engagement arm



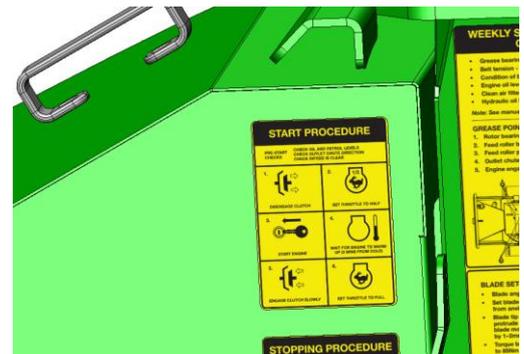
Weekly service checks



Rotor cover back



Start procedure



Feed roller cover



Stop procedure



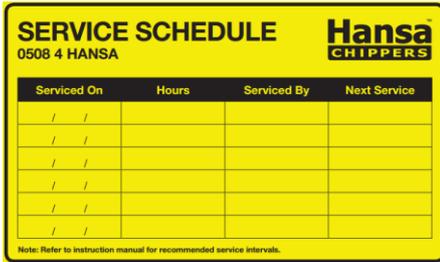
Feed roller cover



Outlet chute safety



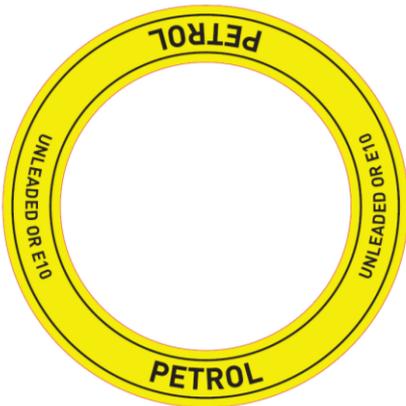
Outlet chute



Service schedule



Chassis base



Petrol tank



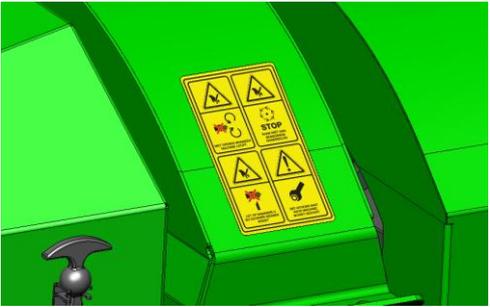
Petrol tank

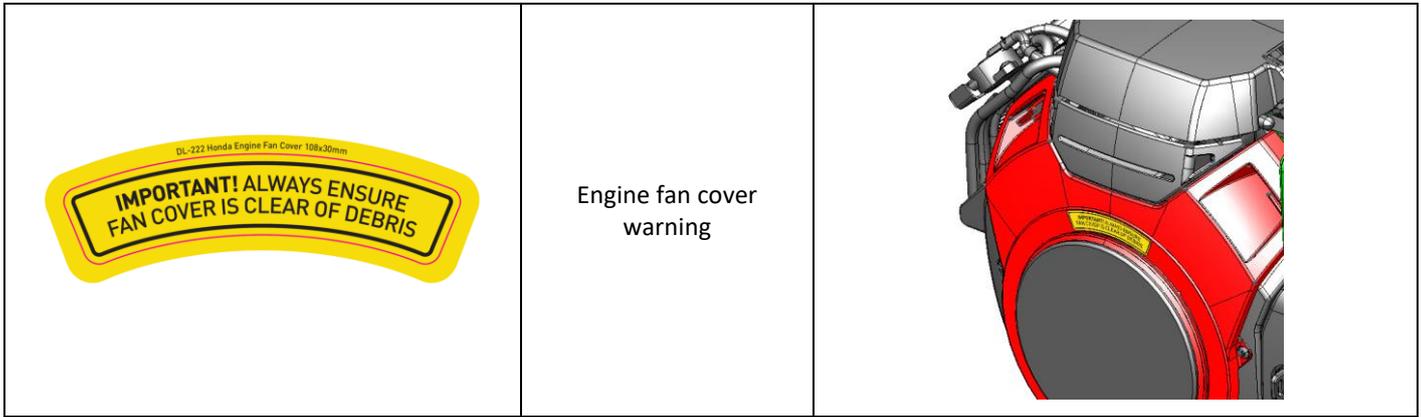


Hydraulic oil tank



Hydraulic oil tank

	<p>Feed roller motor safety (keep clear)</p>	 <p>Feed roller motor</p>
	<p>Feed roller cover safety (Do not open)</p>	 <p>Top face of feed roller cover</p>
	<p>Feed control bar</p>	 <p>Feed control bar</p>
	<p>Rotor cover safety</p>	 <p>Rotor cover</p>
	<p>Recommended oil fill level</p>	 <p>Aligned with '80' to the left of the fuel gauge</p>



HANSA global industrial limited warranty

For the purposes of this warranty document, “HANSA” means HANSA Products Limited and any of its international subsidiary companies. Refer to contact details below for further information.

HANSA warrants each new HANSA chipper (“HANSA product”) free from defects in materials and workmanship under normal use and routine servicing, for the warranty periods and subject to the limitations and exclusions detailed below.

HANSA offers a special extended warranty period (“Extended Warranty”) to new HANSA products purchased from an authorised HANSA dealer. The Extended Warranty period is set out below. In order to take advantage of the Extended Warranty you must:

1. Register your HANSA product through the HANSA warranty registration process and identify your HANSA product by its machine serial number. **Registration must be completed with ten (10) days from the date of purchase.** Your warranty registration confirmation email is your identification for warranty service; and
2. Have your registered HANSA product maintained in accordance with the schedule contained in the relevant owner’s manual supplied with the product by an authorised HANSA dealer for the applicable territory. In order to ensure the safe operation of your HANSA product, we strongly recommend that you only use an authorised HANSA dealer for servicing. The cost of routine or required maintenance and services is the responsibility of the purchaser. You must keep a record of all service and maintenance history as proof of servicing history. HANSA may request such servicing history when assessing any future warranty claim.

When making a claim for warrantable repairs under the Extended Warranty, your warranty registration must accompany the HANSA product. If the warranty registration is lost or destroyed, proof of purchase documentation clearly recognising the machine serial number shall be accepted for warranty purposes. Where neither is available and HANSA does not have any record of the purchaser’s details the warranty period shall be calculated from the appropriate dealer wholesale sale date. Any claim under the applicable Warranty must be made within the relevant warranty period specified below.

The Extended Warranty may be subject to cancellation if the above requirements are not satisfied.

The Extended Warranty is available to domestic (non-commercial) and commercial customers (excluding commercial customers in the business of plant/equipment hire).

All HANSA products that have not complied with the Extended Warranty registration and maintenance requirements are entitled to the “Non-Registered” warranty period set out below.

Any authorised HANSA dealer is further authorised to repair or replace any part which proves defective within the limits of the Extended Warranty or Non-Registered Warranty (the “Warranties”) at no charge to the owner, covering parts and labour. Consumable items such as but not limited to oils, grease, blades and belts shall be the responsibility of the owner. All defective parts replaced under the Warranties become the property of HANSA.

You (as owner) are responsible for all shipping and transportation costs (including insurance) to and from an authorised HANSA dealer for the product subject to a warranty claim.

Exclusions

The warranties shall NOT APPLY TO:

- Any damage which results from neglect of periodic maintenance specified by HANSA.
- Any damage which results from repair or maintenance operations by methods other than specified by HANSA.
- Any damage which results from misuse or use beyond the limitations of the intended use specified by HANSA in the operation, maintenance and safety manual, such as overloading, including foreign objects such as stones, pieces of steel, glass etc. being dropped into the running machine or use under abnormal conditions (in HANSA’s sole judgement).

- Any damage which results from use of non-genuine parts, lubricant or fluid not approved by HANSA.
- Any damage resulting from modification or installation in other products in a way not approved by HANSA which has any influence on the function and/or performance of the products.
- Any damage which results from operation other than specified in the Owner’s Manual either intentionally or by error.
- Fading of painted surfaces, deterioration of plated surfaces, deterioration of rubber and plastics, including rusting due to the passage of time.
- Normal phenomena such as noise, vibration or oil seepage which are considered by HANSA as not affecting the quality, function or performance of the product.
- Any damage due to improper storage or transport.
- Consumable replacement items: Belts, cutting blades, anvil, serviceable bearings.
- Periodical maintenance items such as cleaning, inspection and adjustments.
- Any repair and/or adjustment performed by persons other than an authorised dealer, or damage resulting therefrom.
- Any repair and/or adjustment to correct improper or poor quality work previously performed.
- Incidental expenses incurred in the warranty claim. For example: additional expenses such as those for towing, communications, hotel and meals, incurred due to breakdown of the product at a remote location. Any expense related to personal injury and/or property damage, (exclusive of the product itself). Compensation for loss of time, commercial losses or rental costs of a substitute product during the period of adjustment.
- Any damage which results from unavoidable natural disasters, fire, collision, theft, etc.
- Any normal wear or deterioration, such as that of sliding or rotating parts caused under normal operating conditions. For example: Normal wear pivot points, rod ends and bearings.
- Any damage resulting from exposure of the product to soot and smoke, medicines and chemical agents, sea water, sea breeze, salt or other environmental phenomena.

Limitations

- HANSA reserves the right to modify, alter and improve any product without incurring any obligation to replace any product previously sold with such modification.
- In no event shall HANSA’s liability exceed the purchase price of the product.
- Equipment and accessories not of HANSA’s manufacture (such as engine, battery and tires) are warranted only to the extent of the original manufacturer’s warranty and subject to their allowance to HANSA only if found to be defective by such manufacturer.
- HANSA reserves the right to supply remanufactured parts as it deems appropriate.

HANSA Product Warranty Period

HANSA CHIPPERS	COMMERCIAL		
	DOMESTIC	(EXCLUDING HIRE)	COMMERCIAL (HIRE)
Non-Registered	12 months	12 months	3 months
Extended Warranty	36 months (Conditional)*	36 months (Conditional)*	N/A

Each of the warranty periods stated above commence from the date on which you purchased your HANSA product.

*Conditional Warranty:

This is a HANSA extended warranty period for products that are:

- Purchased from an authorised HANSA Dealer.
- Registered at the time of sale through the Hansa Chippers website: www.hansaproducts.com/registration
- Serviced by a HANSA Dealer in accordance with the Hansa service schedule using genuine HANSA parts.
- Extended Warranty is limited to 36 months or 1000 hours, whichever occurs first.
- Meeting all other warranty requirements.

Warranty periods vary depending on whether the purchaser is: (i) a domestic (i.e. non-commercial) customer; (ii) commercial customer (excluding plant/equipment hire businesses); or (iii) a commercial customer in the business of plant/equipment hire.

General

1. Your rights:

- HANSA will recognise any implied rights and remedies that are available to you at law in the applicable territory and that cannot be excluded by HANSA.
- In New Zealand, Hansa Products Ltd will recognise your statutory rights under the Consumers Guarantee Act 1993 (provided that you are a consumer for the purposes of that Act).

- c. In Australia, this warranty is given by Hansa Products Pty Ltd. This warranty is provided in addition to other rights and remedies you have under law - our HANSA products come with guarantees that cannot be excluded under the Australian Consumer Laws.
2. If any provision of this warranty document is held by any competent authority to be invalid or unenforceable in whole or in part, the validity of the other provisions of this warranty document and the remainder of the provisions in question will not be affected.
3. The English language version of this warranty document prevails over any translated version/s of its terms.
4. This warranty document is governed by the laws of New Zealand. The parties submit to the exclusive jurisdiction of the New Zealand Courts.

Contact Details

New Zealand:

Hansa Products Limited
PO Box 10323, Te Rapa
Hamilton

Rest of World:

Please refer to www.hansaproducts.com
for a current list of our authorised dealers
and contact details relevant to your territory.

Commissioning checklist and registration



It is the retailers' responsibility to ensure that this chipper is correctly commissioned for use, and that the purchase is registered with Hansa Chippers so as to provide the owner with the full benefit of the warranty policy.

Product registration must be completed online:

www.hansaproducts.com/registration

For registration, you will require the chipper serial number and customer details.

It is the retailers' responsibility to check the following:

Final Assembly	Check all bolts for tightness including knives
Operation	Instruct the owner/operator on operating procedures and techniques
Safety	Instruct owner/operator on safety procedures
Maintenance	Explain the maintenance requirements and the importance of following the maintenance schedule to the owner/operator
Manual	Emphasise the importance of reading and understanding the manual in full before initial operation of the chipper