Hansa CHIPPERS

The best.
Chippers for any application.

HANSA CHIPPER MODEL C27HS
OPERATION, SAFETY AND MAINTENANCE MANUAL

It is important that the following instructions are fully read and understood before the Hansa Chipper Model C27hs is used

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RECEIVING YOUR HANSA BRUSH CHIPPER

Congratulations on the purchase of a Hansa Model C27hs Brush Chipper.

Checklist before operation

Engine:

- Check oil level in engine
- Check condition of air cleaner
- Check battery is connected and electrolyte level
- Check engine for proper operation
- Please refer to engine manual for more details

Check Hydraulics:

- Check level of hydraulic fluid
- Check control lever for proper operation of feed wheel
- Check all hydraulic components for leaks

Check Automatic Feed Controller (AFC):

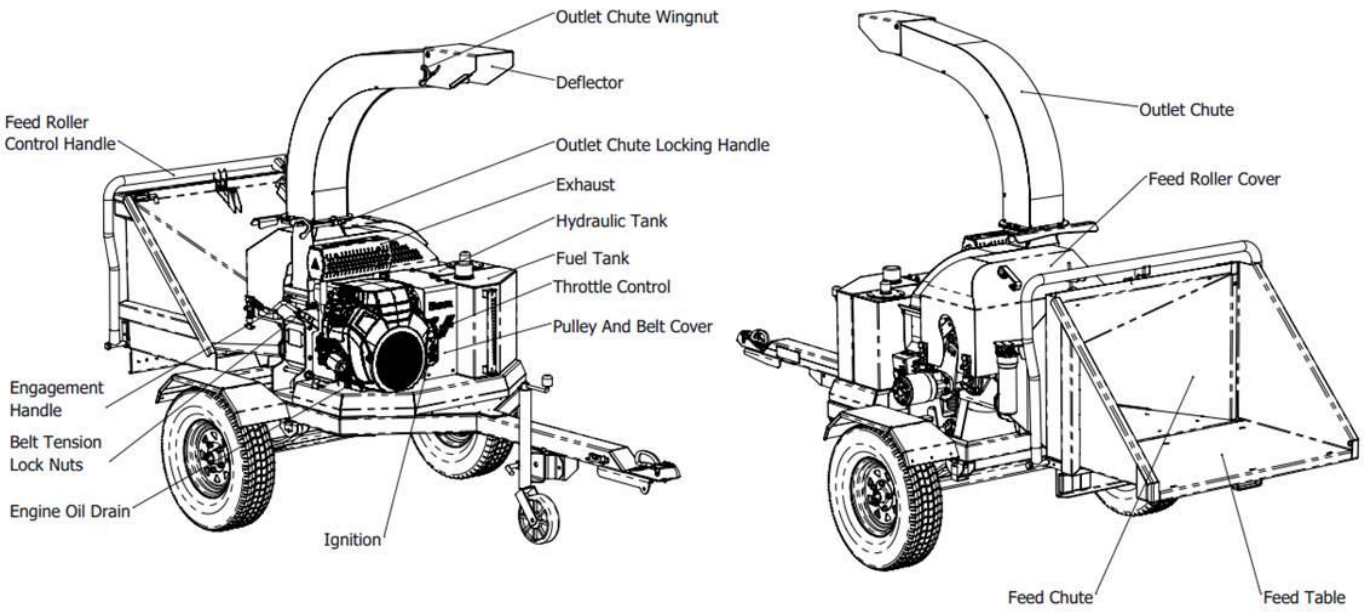
- Check the AFC is on when key is in the ON position
- Check the AutoTrip position is between 1 and 19, adjust accordingly
- Check the AFC is operational

General:

- Check drive belt and pump belt for proper tension
- Check all shields for installation and condition
- Check machine for proper lubrication
- Check all phases of operation
- Check nuts and bolts to ensure they are tight
- Check tires for proper air pressure as stated in the tire
- Check blade bolts for proper torque
- Check petrol level
- Check direction of the discharge chute

What Can My Chipper Process?	
DO NOT Exceed 150 mm diameter	
Pruning's, stalks, roots, vegetable matter and bark	Yes
Branches	Yes
Palm Frons	Yes
Dead and hard timbers (dulls blades quicker, similar to a chainsaw)	Yes
Bones	No
Soil, root balls, sand, grit, stones, metal	No

Chipper Components



SAFETY

Preventing accidents is the responsibility of every equipment owner. Ensure you have been instructed by your authorised dealer on all safety issues, both general and specific and the operation and maintenance of the chipper before operating machinery.

Intended uses of machine

Do not use for any purpose other than for which the machine is designed. If you have any doubts contact your authorised dealer. Do not modify the design of the machine.

Operator Competency

Do not allow persons to operate machinery without full and proper instruction in the use of the machine, adjustments, maintenance and the factors of safe operation.

Operating Safety

- Setup the work site so there is no danger to traffic or public and provide adequate warnings.
- Wear eye and hearing protection as well as gloves. Material can kickback or shift suddenly and cause serious injury or death. Persons not wearing safety equipment should not be within 15m of an operating machine.

- Avoid wearing loose fitting clothing. Never operate this machine wearing clothing with drawstrings that could wrap around or get caught in the machine.
- Keep children and spectators clear of the work area at all times and do not operate the machine where there is an immediate hazard to onlookers.
- Before starting, ensure the chipper is positioned on level ground.

- Keep your hands, feet and face away from the inlet and discharge openings while the machine is operating to avoid serious injury.
- Always switch off machine before shifting it.
- Always make sure that the engine is switched off and that the cutting disk and engine are at a complete standstill and the belt drive is disengaged before opening the cutting disk housing.

Towing Safety

- Rotate the discharge chute to face the opposite direction of the towing vehicle before towing and lock into position.
- Lock inlet table.
- Connect coupling to the towing vehicle (check the ball dimensions are the same as the coupling). Connect safety chain with shackle. If 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.
- Do not exceed maximum towing speed of 90km/hr.
- 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 travel.

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 machine and components and the operating environment.

OPERATION

Caution:

- Position the machine level and stable to avoid unnecessary vibrations.
- Make sure the inlet chute is empty before starting.

Starting Procedure

1. Check the engine oil is at the correct level. See engine manual for operation and maintenance instructions.
2. Fill the fuel tank with clean fresh petrol.
3. Check the direction of the discharge chute and position control lever in neutral position, so that the feed roller will not move.
4. Before starting the engine, disengage the belt drive by winding the swivel handle in the counter clock-wise direction until the handle comes to a stop.
5. Move the throttle control to approximately half throttle.
6. Insert the key and turn the key into the start position and hold until the engine has started.

WARNING! Never run the starter motor for more than 10 seconds at a time. Allow to cool for 1 minute before starting attempts.

7. Allow the engine to warm up before engaging the rotor.
8. Gradually and slowly engage the belt tension swivel handle in the clock-wise direction, until it comes to a stop. This has to be done slowly to allow the cutting disk to pick up speed; otherwise the engine will stall because there is high inertia in the cutting disk
9. Increase throttle to full.

WARNING! Engine must run at full throttle for the automatic feed and feed wheel to operate.

10. Set automatic feed control to the desired setting.

Shutdown Procedure

1. To stop the machine, push the throttle control lever to the idle position.
2. Once the engine has reached idle position, disengage the belt drive by winding the swivel handle in the counter clock-wise direction until the handle comes to a stop.

WARNING! Do not disengage the belt drive with the machine running at full throttle, as this will cause friction and vibration on the belt drive.

3. Turn ignition key anti-clockwise into the off position.

WARNING! The heavy rotor will continue to turn for some time after the engine has been shut off. Do not open the housing cover unless the engine and cutting disk are completely stopped and the belt drive is disengaged.

Operation

The feed roller generally takes all the hard work out of feeding the chipper. Branch material comes in all different kinds of shapes and properties. Normally there is no risk of 'kick back', but you still have to take care in case branches twist while feeding in. With awkward branches, it is best to stand to one side of the machine in close reach of the control bar. Some branches with thick forks can jam in the inlet. Often it helps to reverse and then feed it in at a different angle. Feed limbs and branches into the feed wheel butt end first, leaving the bushy head on.

The control handle on top of the inlet chute controls the feed wheel. Pulling the handle towards you will move the feed wheel into the feed direction. Pushing the control handle away will reverse the feed wheel. The feed wheel is hydraulically driven and is operated by the control handle.

The dreaded problem of all chippers is vines, fibrous material and thin springy twigs, as these can wrap around the feed roller or cause blocking problems. In this case, it often helps to mix these materials with branches when feeding in. However, you will soon have enough experience to know how to handle these 'problem' materials.

Avoid feeding any flax and cabbage tree leaves into the machine as 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.

WARNING! Do not open the housing cover unless the engine and cutting disk are completely stopped and the belt drive is disengaged.

If the machine or feed roller is blocked, stop the machine and wait until the rotor is at a standstill. Remove the guard above the feed roller (by loosening the two bolts), unhook the feed roller springs and swing open the feed roller. Place a piece of wood under the feed roller so that it cannot swing back and jam your hands. Now you can clear out the blockage. Then swing back the feed roller, reposition the springs and replace the guard. For difficult materials, it is better to feed in a bit slower, taking precautions against blocking the machine, as unblocking the machine is much more time consuming.

Sharp knives make the machine much more efficient. To keep the knives sharp for longer, we advise you to feed only clean material into the machine. Foreign matter like soil, sand, grit, stones, pieces of metal, wire, etc. will quickly damage the cutting edges.

The maximum capacity is approximately 150mm diameter branches, depending on the type of wood. This size material must be fed in carefully. You may have to stop the feed and wait for the rotor to pick up speed again. If it slows down too much, you lose your discharge and choke the machine. If your chipper is equipped with the electronic automatic feed control system you won't need to control the feed rate of the machine as it takes care of this automatically.

If possible always process the branches after they have been freshly cut. While still green, wood is much softer, easier to process, and causes less wear on the blades.

WARNING! Do not use the feed control bar as a handle to manoeuvre the machine.

For operation and maintenance of the engine, please refer to the engine manual.

The machine should be cleaned with a hose or a blower. Avoid flooding the housing, as water could damage the bearings.

Automatic Feed Controller (AFC)

This system is designed to eliminate the need to control the speed at which the branches are fed into the chipper manually. A sensor detects the RPM of the rotor (and hence the engine). Once the RPM of the rotor drops to a pre-set level the feed wheel 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 starts turning, feeding the branch into the chipper. The feed wheel will also reverse back slightly after stopping (reducing the friction between the wood and blades) resulting in a quicker engine recovery.

The feed wheel 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 wheel isn't turning. When this changes to a solid green light (when the engine reaches maximum throttle of 3000RPM) the feed wheel will be operational.

Setting the desired AutoTrip setting

The AFC has 19 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 19 different positions at which the feed will stop.
   At setting 1 the engine is dropping further in RPM, whereas at setting 19 the engine is only dropping marginally in RPM before the feed wheel 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.

Manual Override

If there are any problems with the electronic automatic feed system the chipper can still be used manually. Adjust the AutoTrip setting down to 0 or up to 20. The machine can now be used manually with no automatic feed.

WARNING! Be cautious using this setting as the machine can be stalled.

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.

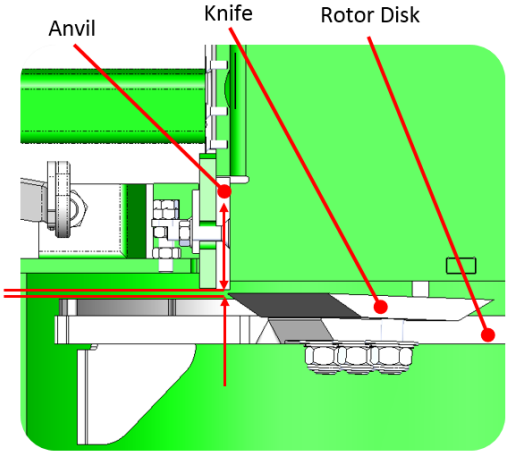
Blade Resharpening

When the blades are blunt, the machine will not operate efficiently. Often material comes out in long strips.

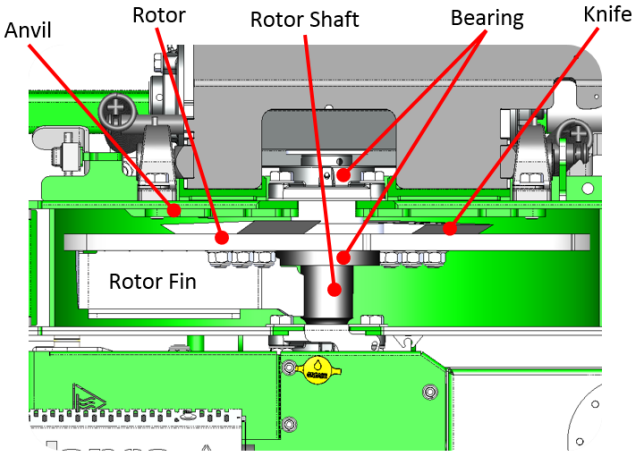
The blades need to be removed for sharpening. Procedure to remove and sharpen blades:

1. Open the outlet chute by removing the two locking bolts.
2. With a 24 mm ring spanner loosen the three clamping bolts on each blade. Remove the blades, be careful not to drop the nuts, bolts or blades into the chipper. A stick magnet can be used to retrieve them if this does occur.
3. The blades should be sharpened on a surface grinder. Make sure there is plenty of coolant used when grinding, to avoid softening of the material. The cutting angle is critical for the performance of the chipper and should be 31°. If you are unable to re-sharpen the blades yourself, either contact a professional sawdoctor, or if more convenient contact Hansa to arrange re-sharpening. Normally only a slight touch up is needed. In this way your blades should last for a long period of time. The blades can be ground back to a minimum width of 105mm. After this the blades should be replaced for best performance. Always replace blades in pairs to keep the rotor in balance.
4. Remount the blades in the reverse procedure, making sure that all mounting surfaces are cleaned beforehand.
5. The clearance between the blade and anvil should be approx 3mm (as shown in the diagram below). If there is not enough clearance, the blade edge may touch the anvil through deflection when cutting heavy branches and damage the blade edge. Too much clearance will allow small twigs and fibrous materials to be dragged through without being cut.
6. To set the gap adjust anvil accordingly.
7. Once the blades are set, make sure you tighten all bolts properly then turn the rotor by hand and check if the rotor turns freely.

Side View: Knife & Anvil Setup



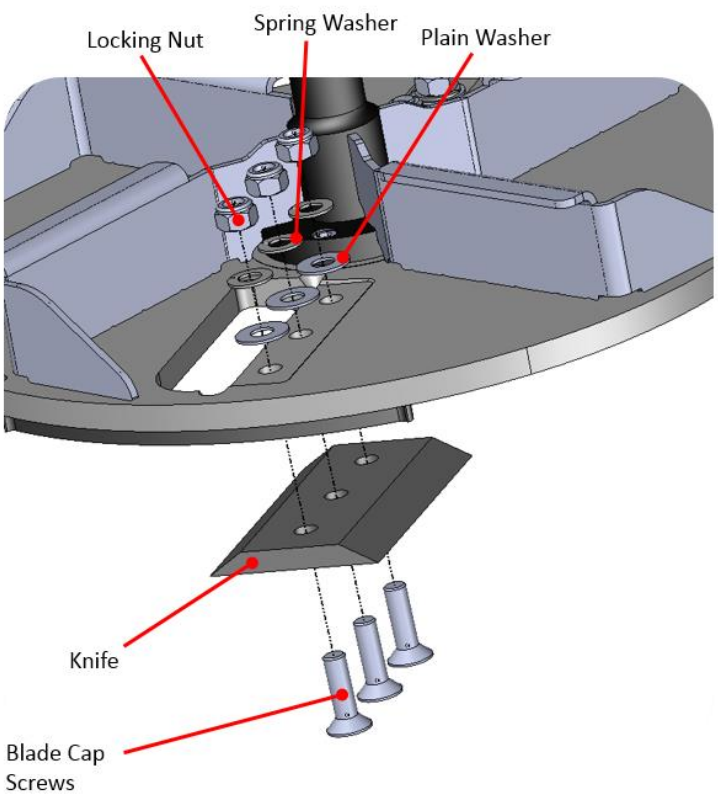
Top View: Knife & Anvil Setup



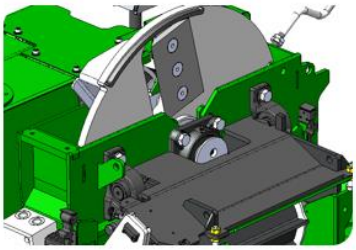
Blade set-up:

- Blade angle is 31°
- Set blades 3mm from anvil
- Torque blades to 215Nm

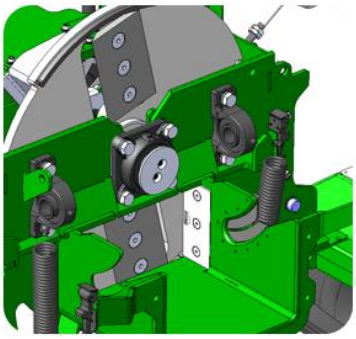
Knife Set-up



Below: View from inlet chute side (housing cover removed)



Below: View from inlet chute side (feed roller removed)



Anvil Adjustment

The anvil is hardened and reversible. Normally the anvil edge will last for a long time. When the edge is rounded off it can be resharpened on a grinder. This is best done on a surface grinder, as a straight edge is very important.

To reset the anvil, slightly tighten all bolts. The best access is with a 16mm socket and a short extension.

The two outer bolts are connected to an adjustment bolt. Once the anvil is reset, tighten first the inner bolt, then loosen the adjustment bolts. Now tighten the two outer bolts and then lock the adjustment nuts. In this way you make sure that no holding bolt is tightened on an angle.

Belt Tension

Drive belts

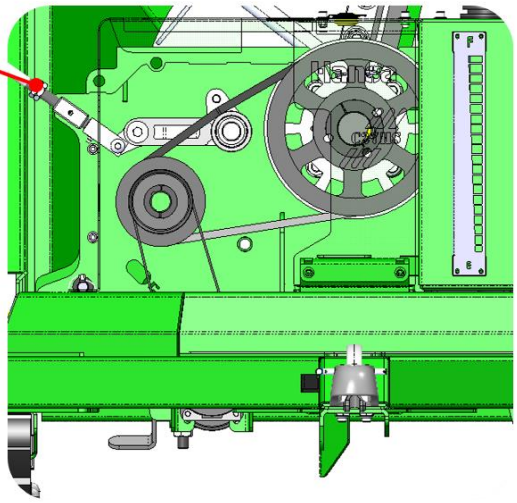
Because V-belts operate on the friction principle, multiplied by the mechanical advantage of the wedging principle, proper tensioning of v-belts is the single most important factor necessary for long, satisfactory operation. Too little tension will result in slippage, causing rapid belt and sheave wear, and loss of productivity. Too much tension can result in excessive stress on belts, bearings, and shafts and reduced efficiency.

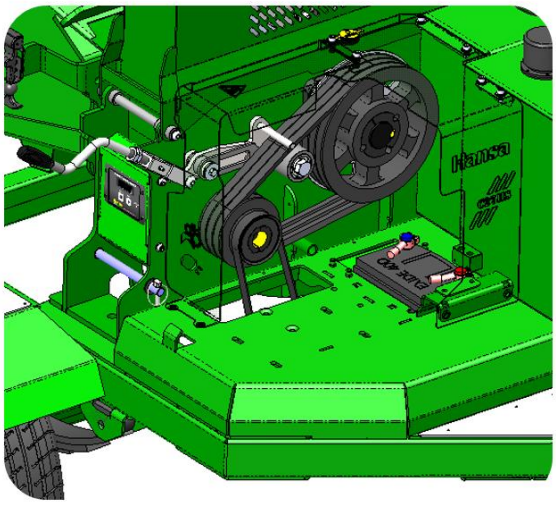
Tensioning the belts:

1. With the machine stopped and the engine cooled down, remove the drive belt cover.
2. Engage the belts and check the tension as shown in the diagram below. When in the fully engaged position there should be approximately 5mm deflection in the belt.
3. The belt tension can be adjusted by moving upwards the two M16 adjustment nuts below the engagement swivel handle (as shown in the diagram below). If a belt change becomes necessary because the belts are worn out, or there is no adjustment remaining in the belt tensioner, disengage the belt drive, remove and replace the belts. The belt size is B46.
4. Once adjusted tighten the nuts to lock in place and refit the drive belt cover.

Below: belt adjustment diagram (engine removed for viewing)

M16 Belt Tensioning nuts





Hydraulic pump belt

The hydraulic pump is driven by one Syncronous Belt. The belt can be tensioned by adjusting the pump mounting plate.

1. Loosen the four M8 locking bolts which bolt the pump mounting plate to the engine mounting.
2. Pull the pump downwards to remove any slack in the belt. This belt drive does not require any tension due to the type of belt.
3. After the belt is tensioned correctly tighten locking bolts.

If a belt change becomes necessary because the belt is worn out, loosen pump mounting locking bolts so the belt becomes loose. Remove the drive belts, then replace the pump belt. The belt size is Syncronous Belt (880-8Mgt-20 Belt).

Greasing Bearings & Pivot Points

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 wheel.
3. Two bearings on either side of the feed wheel pivot.
4. Outlet chute swivel, two grease nipples.
5. Two grease nipples on the engine engagement screw.

Hydraulic System

Replace oil filter after first 50 hours, then every 500 hours.

If the hydraulic oil should be changed every 800 hours. It is a closed system therefore it should not become contaminated, however if contamination is detected oil should be changed. Use only a good quality brand, 32 grade hydraulic oil. Fill the hydraulic oil tank so that the oil level is approximately 5-10mm above the bottom of the filler cap sieve.

A double crossover relief valve is fitted between the pump and the hydraulic motor. This valve is present for a maximum working pressure of 2000 PSI.

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 tires. Inflate to pressure as indicated on the tire.
- Check safety chains and hitch.

Replacing Rotor Bearings

Replacing rotor bearing on inlet chute side of rotor:

1. Remove two grub screws in the bearing.
2. Remove M10 bolts and shaft locking washer at the end of the shaft.
3. Remove four M16 bolts bolting bearing to housing of machine.
4. Slide bearing off the shaft using a bearing puller. If the bearing is corroded to the shaft try applying some heat to the bearing or cut open using an angle grinder. Ensure the shaft is not damaged.
5. Replace bearing with FAG branded bearing only.
6. Re-assemble in reverse order.

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 end of the sensor and the sensing plate is approximately 3mm. Adjust the sensor accordingly. If it is set further away then the sensor may not work properly and therefore the AFC will not work.

Maintenance & Service Intervals

Service	Maintenance Interval - Service Hours							
	10 or Daily	50 or Weekly	100	250	500 or 6 Monthly	800	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		•						
Blades – Sharpen		•						•
Drive Belts Tension - Check/Adjust			•					
Hydraulic Pump Belt Tension - Check/Adjust			•					
Engine Oil & Filter – Change			•					
Overall Machine – Check			•					
Nuts & Bolts – Check			•					
Tires & Rims – Check			•					
Hydraulic System – Check			•					
Spring Mounting – Check U Bolts			•					
Hydraulic Oil Filter - Replace				•				
Battery Electrolyte Level & Terminals - Check				•				
Engine Fuel Filter – Replace				•				
Outlet chute – Remove & Clean Swivel				•				
Anvil – Sharpen				•				
Feed Wheel Tension Springs - Replace				•				•
Air Cleaner Element – Replace					•			
Hydraulic Oil & Filter – Replace						•		
Engine System								•
Battery – Replace								•
Drive Belts – Replace								•
Hydraulic Pump Belt – Replace								•
Blades – Replace								•
Anvil – Replace								•
Feed Wheel Teeth – Sharpen							•	•

TROUBLESHOOTING

Problem	Probable Cause	Suggested Remedies
Rotor does not turn Drive belts squealing / smoking	Rotor blocked Chips between blade and anvil Drive belts loose	Clear rotor Clear chips Tension / replace belt
Chipper not feeding efficiently / Excessive power required to chip	Blunt blades Improper blade clearance	Sharpen blades Adjust blade clearance
Outlet chute blocked	Outlet chute pasted with wet material Outlet chute worn on the inside	Feed wet material with dry Weld new skin into outlet chute
Engine not running correctly	Engine problem	Contact local service agent
Feed wheel running too fast / slow	Hydraulic pump belt loose / broken	Tension / replace belt
Feed wheel not turning	Engine not running at full throttle	Increase engine throttle to 3000 RPM
Engine stalls when feeding machine	AFC in the off position AFC not working	Turn on AFC Contact Hansa Products

SPECIFICATIONS

Specifications

	C27hs
Capacity	160mm
Engine	Honda
Engine horsepower	26hp max
Fueltype	Petrol
Weight	750kg
Self-feeding	Yes - hydraulic feed
Inlet opening size	330 x 178mm
Rotor diameter	650mm
Rotor thickness	20mm
Rotor shaft diameter	50mm
Rotor Speed (Max)	1800RPM
Discharge height	2150mm
360° swivel outlet	Yes
No of blades	2 Reversible
Blade size	200 x 127 x 16mm
Adjustable blades	No
Belt drive	3 x B46 v-belt
Hydraulic pump belt	Syncronous Belt (880-8Mgt-20 Belt)
Clutch	Yes
Housing thickness	10mm
Fuel tank size	33L
Hydraulic tank size	23L

Bolt torque

		Relative Strength Bolt Marking			
		4.6		8.8	
		Maximum Torque		Maximum Torque	
Bolt Dia.	**Wrench Size**	lb ft	Nm	lb ft	Nm
M8	13mm	7	9.5	18	25
M10	16mm	14	19	37	50
M12	18mm	26	35	65	85
M16	24mm	59	80	159	215
M20	30mm	118	160	321	435

HANSA CHIPPER INDUSTRIAL LIMITED WARRANTY

The warranty applies to new purchased HANSA product identified by the Machine Serial number as part of this registration process.

Your Warranty Registration confirmation email is your identification for warranty service.

In order to take advantage of the HANSA limited warranty you must have, maintenance performed according to the schedule contained in the relevant owner's manual supplied with this product by an authorised HANSA dealer. In order to ensure the safe operation of this 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.

In New Zealand Hansa Products Ltd will recognise your statutory rights under the Consumers Guarantee Act 1993.
In Australia this warranty is given by Hansa Australia Pty Ltd. This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

HANSA warrants each new HANSA Chipper free from defect in material and workmanship under normal use and routine servicing, for the warranty period specified below and conditional to the limitations and exclusions printed below.

The purchaser must keep a record of all service and maintenance history as proof of servicing history. This maybe requested when assessing any future warranty claim.

To qualify for this HANSA Limited Warranty the warranty registration must be completed within ten (10) days, following the date of purchase.

The warranty registration must accompany the HANSA product when warrantable repairs are requested. 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 this warranty must be made within the warranty period specified below.

Any authorised HANSA dealer is further authorised to repair or replace any part which proves defective within the limits of this warranty at no charge to the owner, covering parts and labour. Consumables items such as but not limited to oils, grease, blades and belts shall be the responsibility of the owner. All defective parts replaced under this warranty become the property of HANSA. Transportation cost for the product either to or from an authorised HANSA dealer is the responsibility of the owner.

This Hansa Chippers Limited Warranty may be subject to cancellation if the above requirements are not performed.

Exclusions

The warranties contained herein 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 purpose specified by HANSA, 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 there from. As a rule warranty shall not be applied to the repair or adjustment performed by persons other than an authorised dealer.
- 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.

Machine Warranty Period

HANSA CHIPPERS	DOMESTIC	HIRE
Registered	12 Months	3 months

Contact details

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Hamilton 3241

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