

Flail mower

User manual

Translation of original manual

Model: HNEFG
HNEFGC
HNEFGCH



ALWAYS READ INSTRUCTIONS BEFORE USING THE MACHINE

DK·TEC

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Specifications

Model	Working width	Number of hammer blows	Number of straps	HK needs	Weight
HNEFGC105	102 cm	16 pcs.	3 pcs.	18-25	250 kg
HNEFG125	122 cm	20 pcs.	3 pcs.	18-25	277 kg
HNEFGC150ZM	152 cm	24 pcs.	3 pcs.	30-50	342 kg
HNEFGC175ZM	175 cm	28 pcs.	3 pcs.	40-50	392 kg
HNEFGC200	200 cm	32 pcs.	4 pcs.	55-70	430 kg
HNEFGC220	220 cm	36 pcs.	4 pcs.	75-90	470 kg
HNEFGCH125	122 cm	20 pcs.	3 pcs.	18-25	287 kg
HNEFGCH145	150 cm	24 pcs.	3 pcs.	30-50	352 kg
HNEFGCH175	175 cm	28 pcs.	3 pcs.	40-50	397 kg

With the machine included:

- PTO shaft
- Manual

1. Getting started with your new product

Never connect the product to the vehicle; eg. tractor, mini loader, ATV, car etc. except when the vehicle is; braked, stopped, and the ignition key is in the OFF position.

- When the product is connected, it must be checked that all screens and safety locks etc. are mounted and intact. Defective safety parts must be replaced with new original parts – in order to maintain safety and maintain the right of complaint.
- Take the time to get to know the product well, start up slowly and become familiar with the product's use and limitations.

Useful information

For the gearbox:

- If there is a need to refill oil on the gearbox, a gear oil grade 80/90 is used
- Spare parts drawing as well as accessories and wear parts for your machine can be found on our website under the item itself or via our spare parts system on the front.

Never modify the product:

If the product is modified, thereby design, safety, etc. is adversely affected, and with great risk of injury and accident, the right of complaint lapses.

Spare parts

Always use original spare parts, otherwise the warranty will lapse! You can easily find the spare parts

that fits the machine by scanning the scan code that sits on your machine's CE plate.

Scan the QR-code close to the nameplate to find the Flail Mowers Partslist drawing and parts online.



2. Important safety information

Rear door security (for models with a rear door):

Tailgate on some models can be opened for easier passage of material, and for maintenance of the machine.

When working with the tailgate, **SAFETY is INCREDIBLY IMPORTANT**

1. The rear door of the machine must only be opened and adjusted when the PTO axle is disconnected from the tractor, the handbrake has been pulled, the engine has stopped and the ignition key has been removed.
2. There should never be people behind the mower, on the mower or around the mower when in operation and this is especially true if driving with a back door in open situation, as objects from the machine can hit and cause injury or death.
3. Pto shaft must be removed.
4. The flail mower must stand stably and securely.
5. The bolts holding the tailgate in place must be refitted with locking nuts before starting the machine.
6. Before starting with the tailgate open, it is ensured that nothing has entered the machine via the open tailgate - must be checked when the tractor is stopped and the engine stopped!
7. When driving with an open tailgate, the area around the machine (min 70 meters) must be ensured that there are no people or objects that can be hit by stones, etc. which may be thrown out of the machine.

IMPORTANT

- Take care of hot parts – never touch hot parts. It can cause burn marks
- Watch out for sharp parts, such as the blades.
- Never stay under the machine
- Never stand between the machine and the tractor
- Always read the user manual before use.
- Beware of flying objects



ADVARSEL

1. Bagdøren på maskinen må kun åbnes/lukkes og justeres når:
 - Håndbremsen er trukket
 - Motoren er stoppet
 - Tændingsnøglen er fjernet
 - PTO akslen er frakoblet traktoren
2. Der må aldrig være personer bagved klipperen, på klipperen eller omkring klipperen når den er i funktion og dette gælder i særdeleshed hvis der køres med bagdør i åben situation, da genstande fra maskinen kan ramme og forårsage skade eller død.
3. Maskinen må ikke modificeres!



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Security at all times:

The manual is read carefully and the instructions in this manual must be understood before operation. All instructions on the safety labels must be read before using the machine.

Persons who have not read and understood the contents of this manual must NOT operate the machine. Everyone must have read and understood the manual before use.

- The operator should be familiar with all the features of the machine.
- Operation is done from the driver's seat
- Make sure all guards and shields are in place and secured before operating the machine.
- Do not allow the tractor or flail mower to run unattended while the engine is running.
- Dismantling the flail mower while the tractor is running may cause serious injury or death.
- Do not stand between the tractor and the flail mower during assembly.
- Keep hands, feet and clothing away from motor-driven parts.
- Wear tight-fitting clothing to avoid the entanglement with moving parts.
- Keep an eye out for wires, trees, etc. when raising the flail mower. Make sure all people are clear of the workspace.
- Be careful not to turn too sharply with the tractor, as this can cause the wheels to take off. This can result in accidents and damage to both people as well as the machine.

Keep an eye out for the safety warning symbols!

The safety warning symbols indicate that there is a potential danger to personal safety and extra precautions must be taken. When you see this symbol, pay attention and carefully read the message that follows it. Risk management and accident prevention are dependent on awareness, concern, care and proper training of personnel working with the machine, including during its transport, maintenance and storage.

Pay attention to signal words:

A signal word tells something about the level of danger.

DANGER: Indicates a dangerous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically to machine components which, for the sake of function, cannot be shielded.

WARNING: Indicates a potentially dangerous situation which, if not avoided, could result in death or serious injury, and includes danger when the safety shields are removed. It can also be used to warn against unsafe practices.

CAUTION: Indicates a potentially dangerous situation that, if not avoided, could result in minor or moderate injury. It can also be used to warn against unsafe practices.

For your own protection:

Read and understand the manual and all the safety labels!

Decommissioning and storage:

Lower the machine to the ground, put the tractor in the parking lock, turn off the engine and take the ignition key. Release and store the machine in an area where children do not play and where there is normally no active activity. Secure the machine using blocks and supports.

Use safety lights:

When transporting with the flail mower, it is important to use the lights and lights required by public laws. Especially use light when transporting the machine at night!

Flashing warning lights and turn signals are recommended when transporting on public roads.

Transport security:

- Overcomply with state and local laws.
- Maximum transport speed with the flail mower is 20 km/h. Do not exceed this speed. Never drive at a speed that does not allow stretchable control of steering and stopping. Soft and uneven terrains require lower speed than usual.
- Sudden braking can cause the pulled flail mower to move abruptly
- Use the following maximum speed:
20 km/h when the weight is less than or equal to the weight of the tractor.
10 km/h when the weight is more than the weight of the tractor.
- **IMPORTANT:** Do not pull the flail mower if it is more than twice the weight of the tractor.

Preparation in case of an emergency:

Be prepared if a fire occurs. Always have a fire extinguisher and a first aid kit nearby where work is being done. Also have the numbers of doctor, ambulance, hospital nearby.

Always wear protective clothing/equipment when working with the machine:

- Always wear clothes suitable for the job. Avoid loose-fitting clothing.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as hearing protection and earplugs.

Avoid fluids on the body:

- Outflowing fluid under pressure can penetrate the skin and cause serious damage.
- Avoid danger by relieving pressure before disconnecting any hydraulic lines.
- Use a piece of paper or cardboard, not body parts, to check for suspected leaks.
- Wear protective gloves and safety glasses when working with hydraulic systems.
- If an accident occurs, seek medical attention immediately. All liquids that come into contact with the skin must be treated within a few hours!

Safety labels

It is important to always respect safety ethics

Your flail mower is equipped with a lot of safety labels. They are designed to help you safely with the operation of your machine. Always read and follow the instructions.

1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels. If you want to order new labels, call DK-TEC.
3. When ordering new parts for your machine, make sure you get the correct safety labels.
4. Please refer to this section for correct label placement. To put new labels on:
 - A. Clean the area where the label will be placed.
 - B. Spray soapy water on the surface where the label will be placed.
 - C. Take the adhesive back of the label. Press firmly on the surface.
 - D. Squeeze out all air bubbles with the edge of a credit card or using some cardboard.

3. Safety labels



STOP!
Check the oil level of the gearbox before starting the machine.
Refill if needed.



DANGER!
Rotating parts. Never operate the machine without all safety shields being securely fitted.
Are safety shield not properly fitted, it can cause injury or death!



DANGER
Keep your distance from the machine in operation.



DANGER
Rotating shaft. Contact with this may result in death - KEEP YOUR DISTANCE

Do not operate the machine without:
- All axles and tractor shields are really in place
- The shaft is mounted at both ends
- Shaft shields rotate freely on the shaft



Never stand between the machine and the tractor.



Take care of your hands and feet when operating the machine.



Never stand on top of the machine.



WARNING

Failure to read this manual before operating the machine may result in injury or death. It is your responsibility to keep an eye on the safety labels and to follow them.

4. Instruction manual

Transport:

NOTE: Always turn off the PTO before raising the flail mower to the transport position.

- When the flail mower is raised to the transport position, make sure that the PTO is not in contact with the tractor or flail mower. Adjust and set the tractor's 3-point suspension at a height so that the PTO is not in contact with the flail mower in the raised position.
- Be sure to reduce the running speed of the tractor when turning and leave enough space so that the flail mower does not come into contact with buildings, trees or fences, etc.
- Choose a safe ground speed when transporting from one area to another. When driving on roads, drive so that faster-moving vehicles can pass you safely.
- When driving on uneven or hilly terrain, put the tractor in a lower gear.

Caution:

When driving on public roads, regardless of at night or during the day, use lights and other appliances so that there is sufficient warning for operators of other vehicles. Comply with all federal, state and local laws.

Cutting instructions:

- Clear the area to be cut of objects and remains that may be picked up and thrown by the flail mower's knives.
- Grass is best to mow when dry. Mowing wet grass can cause clogging which results in lumps of grass.
- When mowing extremely tall grass, it is best to raise the cutting height and mow off the area several times, during which the height of the flail mower is constantly reduced.

Instruction manual:

Proper maintenance and adjustments are the key to long machine life. With careful and systematic inspection of the flail mower, expensive maintenance, time and repair can be saved away.

Before you start mowing, the following overhaul should be carried out:

1. Check the oil level in the gearbox.
2. Check that all connectors in the gearbox have been replaced and tightened properly.
3. Make sure that all the blades, bolts and nuts of the flail mower are tensioned.
4. Be sure all shields and shields are in place and safe.
5. Lubricate the PTO shaft and all other lubricating nipples.

6. Clear the area to be cut of stones, branches and other foreign objects.
7. Lower the flail mower to the ground. Set the throttle on the tractor to approximately. 1/4 open. Connect the PTO so that the blades start rotating.
8. Operate with 540 rpm PTO.
9. The first time the flail mower is used, first drive forward at a slow speed and then increase the speed until the desired speed is reached – but observe the max 540 PTO rpm.
10. The hammer knives will cut better with fast blade speed.
11. After mowing the first 15 meters, the work is stopped and it is checked that the flail mower is adjusted correctly.

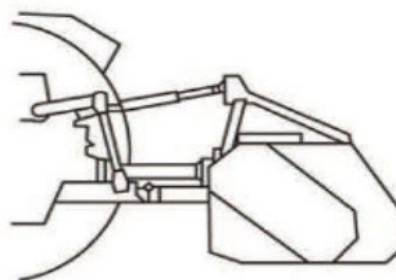
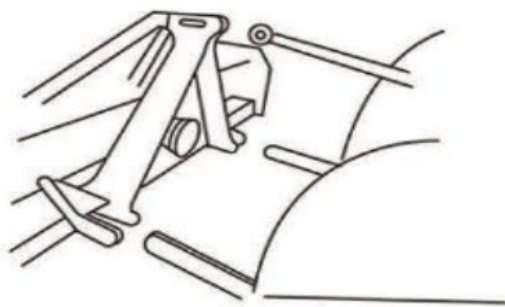
Starting the Machine

Before starting the flail mower, the following are checked:

- Tension of the straps
- Oil level of the gearbox (if necessary, refill with a gear oil 80/90)
- Lubricating on bearings and PTO.
- All bolts, nuts and screws are tightened sufficiently.

Follow all the safety precautions described in this manual. The machine is mounted with a standard category 1 three-point suspension.

Reverse the tractor to the machine and lower the lift arms. Turn off the tractor. Adapt the machine by hand to connect the two lift arms. It must be ensured that both are secured with a split. Connect the top bar and adjust the slinger chains to allow minimal sideways movement. Connect the PTO and tractor. It must be ensured that the PTO has been cut off so that it is the right length.



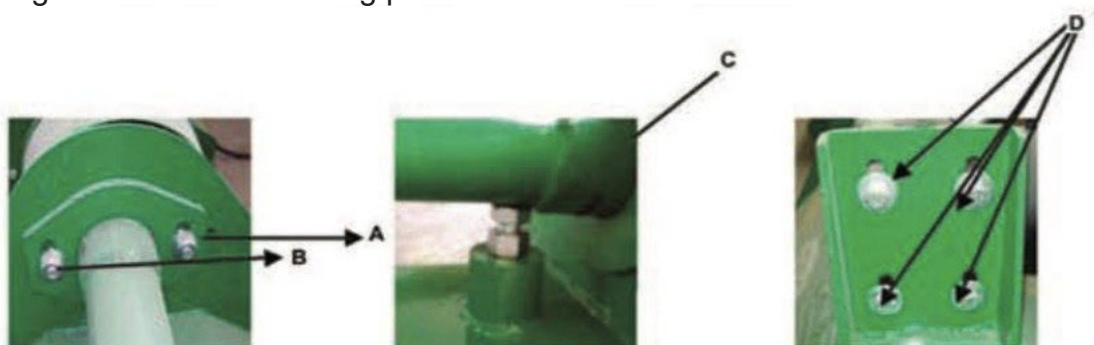
Flail mower adjustment

- On a level area, the machine must be retrotrapped to the tractor using the three-point suspension.
- Use a powerful adjustable top bar.
- Lower the three-point suspension to the lowest position.
- With the carrier roller at the back of the machine in contact with the ground, the length of the top bar must be adjusted so that the lower edge of the side of the flail mower is parallel to the ground.
- Rotate the knife shaft by hand so that the rows of knives hang vertically against the ground.
- Measure the distance between the lower edge of the blades and the ground;
 - It must be at least 50 mm.
 - NOTE! On uneven areas or on fields with many grass tufts, the distance should be greater to ensure that the knife blades do not come into contact with the ground during operation.
- Adjust the height of the roller to increase or decrease the free movement of the blades as needed.
- Go through the above steps until the desired knife spacing is achieved.

When the flail mower is adjusted at the desired distance, it can be operated with the tractor in low gear and with the PTO of 540 rpm.

Adjusting the Belts

Loosen screw A and B which lock the support shaft and loosen the nut C. Loosen the screws that lock the gearbox to the mounting plate D.



Adjust the belt tension. The correct tension is achieved when the strap cannot be pressed more about 10 mm in. (see image below).

Use a straight piece of wood/edge to ensure that the belts are straight and can run around properly. Put the safety cover back on and tighten the bolts well before operating the machine.



Must be able to be pressed in about 10 mm.



Must be aligned with the piece of wood.

Installing the V-belt:

CAUTION: The strap is very tight; use caution to avoid bodily harm!

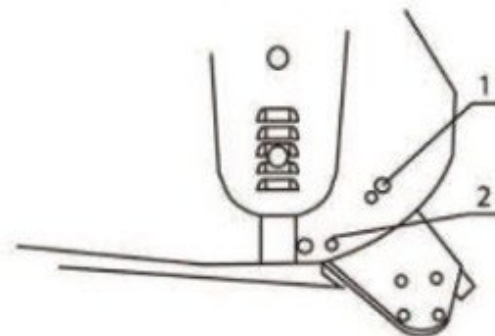
1. Remove strap guard and strap coverage.
2. Release the belt tension by loosening the tightening bolt until the strap can be removed.
3. With the tension relieved from the strap, the old strap is removed from the pulley and a new one is inserted.
4. Tighten the belt tension bolt.
5. Replace the belt guard and belt cover .

Adjusting the height

To get the most out of your flail mower, it must be installed within the recommended height. To spare fuel, power and reduce wear and tear on the machine, the cutting height must be adjusted correctly.

When the working height needs to be adjusted, bolt No. 1 must be loosened, and bolt No. 2 removed on both sides. The height of the carrier roller (see drawing below) can be adjusted by adjusting the selected hole in the carrier roller bracket in position 2. In the lowest hole, it is the highest working height. Put the screw in the selected hole and tighten the screw from bolt No. 1 and bolt No. 2.

The rest of the height adjustment is made with a raise/lowe of the tractor's lift arms and corresponding adjustment of the top bar.



Do not carry passengers on the flail mower:

Passengers can block the driver's sight and therefore cannot see where they are being driven. Never allow passengers on the flail mower.

Practical safety maintenance:

- Understand the maintenance procedures before starting maintenance. Use safe and approved tools for maintenance. Read the manual for more information regarding maintenance.
- Maintenance should always be done in a dry room.
- Lower the machine to the ground, put the tractor in the parking, turn off the engine and remove the key before performing the maintenance.
- Before carrying out maintenance, all parts must be cooled.
- Do not lubricate parts in grease or oil while the machine is working.
- Inspect all parts. Make sure that all parts are in good condition and that they are correctly installed before using the machine.
- Remove accumulations of fat, oil and/or swans.
- Remove all tools and unused parts from the machine before use.

5. Service and maintenance

Liquids and lubricants

1. Fat: Use multi-purpose lithium based fat
2. Gearbox: Use SAE 80/90 gear oil
3. Lubricant storage: Your flail mower can work a lot of efficiency, but only if clean lubricants are used. Use clean containers to handle all lubricants. Store the lubricants in an area where they are protected from dust and moisture, among other things.

Grease

- When lubricating grease, use a handhold grease gun.
- Wipe the area to be smeared in grease before applying new grease .
- Replace all broken nipples.
- If the nipples do not take on the grease, then remove the current grease and dust and clean the nipple.

Maintenance:

Proper maintenance and adjustment are the key to long service life. With careful and systematic control, you can avoid expensive maintenance, save time and repair.

Caution:

For safety reasons, each maintenance must be carried out with the tractor's PTO disconnected, the flail mower must be lowered to the ground and the tractor's engine turned off with the ignition key removed.

- After using the flail mower for several hours, all bolts are checked to be sure that they are tight and PTO's tension is also checked.
- Replace worn and damaged parts and illegible safety labels. New security labels are available from DK-TEC

Replacing the blades:

IMPORTANT: Make sure the knife has the same length and weight as the others on the flail mower. This will keep the rotation of the rotor balanced.

1. Remove bolt and nut.
2. Remove old knife.
3. Install new knife and existing bolt.
4. Secure with nut.

Storage:

At the end of the working season or when the flail mower is not going to be used for an extended period of time, it is good practice to clean it of dirt and grease that may have accumulated in the flail mower and in each of the moving parts.

1. Clean as needed .
2. Check knives for wear and replace if necessary.
3. Inspect the flail mower for loose, damaged , or worn parts and adjust or replace as needed .
4. Store the flail mower inside if possible, for a longer service life.
5. Repair parts where the paint is worn or scratched to avoid rust.
6. Replace any damaged or missing safety labels.

Lubrication

For every 4 hours of work:

- Check and tighten the bolts and nuts.
- Lubricate with grease where indicated on the machine.
- After 50 hours of work, oil is filled on the gearbox to the specified max level. Use a gear oil 80/90.



PTO shaft
Lubrication type: Multi-purpose grease



Roller bearings (Both ends) Lubrication
type: Multi-purpose grease



Flail mower bearings (Both ends)
Lubrication type: Multi-purpose grease



Gearbox - when needed Lubrication
type: SAE 90W Gear Lube

Check the oil level in the gearbox by removing the plug located on the right side. The oil should be level with the bottom of the level hole. Add oil if necessary by removing the top fillingstopper and side plug. Add oil until it floats from level hole.

Do not overfill!

IMPORTANT: The flail mower must be in a level position when oil is put into the gearbox!



PTO shaft
Lubrication type: Multi-purpose grease

Maintenance of the gearbox

The gearbox used on this flail mower will provide many trouble-free years with minimal maintenance requirements. Maintain the gearbox as follows:

Oil level:

- Remove the level screw as shown in the drawing.
- Refill gear oil until it comes out of the level screw.
- Put the level screw back on.

IMPORTANT! Check the oil level only when the gearbox is completely cold and the flail mower is on a level area.



EC - DECLARATION OF CONFORMITY DK

Manufacturer

Changzhou Han-Sun
Machinery Co., Ltd.
89 Huanbao 4th Road Huanbao Industrial Park
Hi-Tech, Changzhou, Jiangsu, P.R. China

Hereby declares that the Following machinery:

Designation: Flail mower

Model: EFGC105, EFGC125, EFGC145,
EFGC175, EFGC200, EFGC220,
EFGCH125, EFGCH145, EFGCH175,
EFGCH200 ,EFGCH220



Description: Flail mower too tractor.

Manufactured in Accordance with the Following EC Directive:

- Machinery Directive 2006/42/EC

Standards used:

EN ISO 4254-
12:2012+A1:2017 EN ISO
12100:2010
EN 349:1993+A1:2008
EN ISO 14120:2015
ONE ISO 13857:2008

常州汉森机械股份有限公司
CHANGZHOU
HAN-SUN MACHINERY CO., LTD

A handwritten signature in black ink, appearing to be 'J. Han', is written over a horizontal line.

Angel 25/10/2021

Name duck date

Signature

Always refer to the latest version of the manual, as well as the spare parts list/parts list for your item on www.dk-tec.dk, under the machine itself.