HEDENSTED GRUPPEN A/S



USERS MANUAL

Read and understand this Users Manual before operating the machine



HG FEEDER 900 - 1200



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Feeder 900/1200

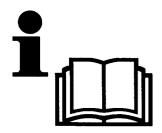
The manual covers the models Feeder 900 and 1200

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1. Precautions

Instruction in safe use of the feeding machine





READ THE MANUAL

It is very important to read this manual in order to avoid dangerous situations.

Read the manual carefully. If other persons use the machine let them read the manual too.



CARBON MONOXID

Dangerous carbon monoxide from the exhaust can cause serious sickness, faint and death.

Do not use this machine in closed and limited rooms.



HOT PARTS

Hot parts can cause serious burns.

Do not touch the engine or the exhaust during the operation or immediately after stopping the engine.





FIRE RISK

Explosive fuel can cause fire and serious burns.

Always switch off the engine and let it cool before refueling



HIGH VOLTAGE

The engine generates high voltage which can cause body injuring or death

Do not touch the wires while the engine is running



ROTATING PARTS

Rotating parts can cause serious damage.

Keep hands, feet, hair and cloths away from all moveable parts. Never use the machine without the delivered shields.

WARNING!

EXPLOSIVE GAS!

Explosive gas from the battery can cause fire and serious corrosive damages.

Only charge the battery in a ventilated place. Keep away all sources of open fire.



DANGER!

Sudden start can cause serious damage and death

By servicing the machine or by parking, the machine has to be switched off and the ignition key removed





NOISE!

Long stay in noise damages the hearing.

Always use ear protection...

1.1. Education

- Read the instructions carefully. You ought to have knowledge to operation grips and correct use of the equipment.
- Do not let children or persons, who have no knowledge of the instructions, use the feeding machine. The law can state an age limit for persons, who can use the feeding machine.
- Remember that the driver is responsible for accidents or situations of danger that can happen toward human beings or their property.
- The driver must be instructed carefully in using the feeding machine. These instructions should put emphases on following:
 - The need of being carefully and concentrated by operating automotive machines.
 - Have a comprehensive view of what happens in front and behind the vehicle, especially during feeding, where other people can appear.

The most important causes to accidents are:

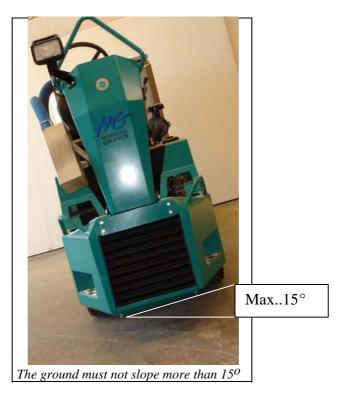
- 1. Driving too fast, especially with a filled up feed tank.
- 2. Swinging in high speed, especially with feed in the tank.
- 3. Lack of comprehensive view.
- 4. The knowledge of the driver of the vehicle is insufficient.
- 5. The ground conditions are to steep.

1.2. Preparation

- By driving make sure **not** to wear clothes, that are too loose, it can be caught on nest boxes or doorways. You ought to use nonslip shoes in order to operate the pedals safe.
 - Keep the fuel in cans approved to the purpose and out of reach of children and unauthorized persons.
 - Only refuel outdoors. Smoking by refuel is forbidden.
 - Refuel before starting the engine. Never take off the filler cap or refuel, while the engine is running or hot.
 - If you waste fuel do not try starting the engine, instead move the machine away from the spot, where the fuel were wasted in order to avoid ignition of the fuel.
 - . If you waste fuel on the exhaust or on the engine, wait until it is evaporated, or else a fire could arise.
 - If you get gasoline, diesel or engine oil on your skin, wash your skin thoroughly with soap.
 - Inhaling of gasoline, steam or oil mist are damaging to your health.
 - Consuming fuel or oil is highly dangerous.

1.3. Operation

- Do not let the engine run in small closed rooms, where dangerous carbon monoxide can mount up.
- WARNING: Inhaling carbon monoxide can cause poisoning and possible death.
- Do not use the machine in places with inflammable dust or explosive gases or where the exhaust can get in touch with flammable material.
- If it is possible only use the feeding machine in daylight or a good artificial lightning.
- When you start the engine your feet must not rest on the pedal, they have to be placed on the running board.
- Do not drive on slopes that surpass 15 degrees.
- Be aware that the driving quality of the machine is changed considerable from empty to full tank, because a filled tank moves up the center of gravity.
- With a full tank pay attention to the fact **that the machine can tip over,** if you drive too fast in curves, or on slopes with more than 15 degrees tilt.
- You can achieve pleasant driving by operating the driving pedal with soft movements with the food. Remember that the driving speed increases proportional with the movement of the driving pedal. This is valid both forward and backwards.
- When you leave the machine, the ignition key has to be removed from the dashboard.



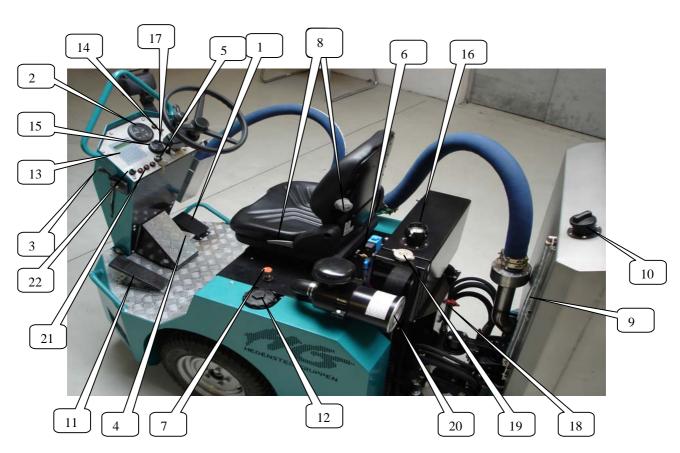
1.4. Maintenance

- By visual control the following has to be checked after every fill up:
 - That there are no leaks in the hydraulic system at the hoses, the tank and so on.
 - That there are no leaks in the fuel system at the hoses, filters, the tank and so on.
 - That all bolts and nuts are securely tightened.
 - Check that the silencer is dense.
 - That the admission of air under the seat and the rotating flywheel are free of wool.
 - That there is no wasted engine oil around the filler cap.
 - Check the air pressure in the tires once a week.
 - That the driving pedal easily goes to center position in slow speed (that the machine stands still, when you let go of the driving pedal).

2. Operation controls

The position of the operation parts Feeder 900/1200

- 1. Feeding pedal.
- 2. Revcounter and hour meter.
- 3. Speeder (hand).
- 4. Speeder (food) pedal.
- 5. Ignition switch.
- 6. Regulation of water.
- 7. Regulation af speed for feed pump.
- 8. Handle for setting of seat.
- 9. Inspection glass for water tank.
- 10. Water refill.
- 11. Driving pedal.
- 12. Hydraulic filter and oil level gauge.
- 13. Feeding computer, *extra equipment*, *look section* 9.
- 14. On and off contact for screw.
- 15. Temperature meter.
- 16. Refuel/Tank meter
- 17. Speed and direction selector.
- 18. Main switch.
- 19. Refill cooling water / expansion tank
- 20. Air filter.
- 21. Light indicators.
- 22. Water pump contact.
- 23. Fuse box (not illustrated)
- 24. Filter manometer (not illustrated)



2.1. Feed pedal



Feeding pedal is placed outer right on the machine.

The pedal must be activated every time you pump out feed.

Feeding pedal

2.2. Hour meter and revolution counter.



Hour meter and revolution counter

The hour meter indicates how many hours the machine has operated.

If this instrument stops working, repair it immediately, or else there is no indication of time for changing oil and so on.

Notice that this instrument counts as long as the machine runs, so remember to switch off the ignition and remove the key, when you leave the machine.

2.3. Speed (hand)



Speed (hand)

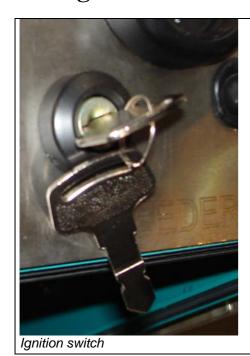
Handle for speed (hand) is placed on the left side of the steering column

2.4. Speed (food) pedal.



Speed (food) pedal is placed on the right side, between the feed pedal and the central bracket.

2.5. Ignition switch.



The key activates the ignition switch. The ignition switch has 3 steps

- 1. Ignition
- 2. Preheating
- 3. Start

2.6. Regulation of water.



Regulation of water.

With the water regulation you can decide the amount of water that is mixed in the feed, when you activate the feed pump.

Placed at the left side by the back of the seat.

Adjust the amount of water by turning the tap:

Clockwise less water.

Anticlockwise more water.

2.7. Regulation of speed on feed pump.



Regulation of water pump

The feed pump regulator adjusts the circulation speed for the feed pump, so that more or less feed can be pumped out at regular intervals.

You will find the indication for adjustment under the regulators.

2.8. Seat adjustments.





Adjustment handle for seat

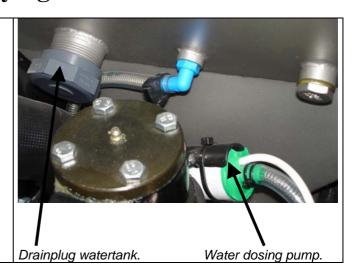
- 1 Longitudinal adjustment of seat.
- 2 Weight/hardness adjustments.
- 3 Seat adjustments.
- 4 Backrest adjustments

2.9. Inspection glass for water tank.

2.10. Water filling up/Emptying.



Inspection glass / Water filling up.



2.11. Driving pedal.



The driving pedal is placed on the left outer side of the machine.

Notice: The pedal must be activated carefully, since the speed of the machine is proportional with the effect on the pedal. Furthermore the driving will be more pleasant, when you operate the pedal with gentle movements.

2.12. Hydraulic filter and oil level.



You refill hydraulic oil by removing the big screw cap.

Dipstick for hydraulic oil.

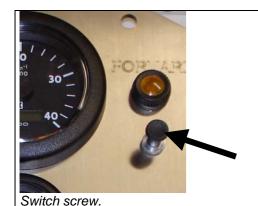
Hydraulic filter and oil level dipstick.

2.13. Feed computer (EXTRA EQUIPMENT).



Feed computer controls that the amount of feed gets regular.

2.14. Switch for screw in feed container.



Start of feed screw pull the knob up. Stop of feed screw press the knob down.

2.15. Water temperature. Light indicator.



Water temperature /Light indicator.

Temperature meter

IMPORTANT!!
Keep an eye on the temperature.

If the indicator lights STOP the machine IMMEDIATELY.

2.16. Filling up fuel and amount of fuel.



Filling up fuel.

Unscrew the filler cap and refuel with diesel oil.

The amount of fuel can be read by looking down into filler cap.

2.17. Speed and direction selector.



Change of running direction:

Forward push the handle forward.

Reverse pull the handle back.

Change of speed:

Low speed pull the handle against the wheel. **High speed** push the handle away from the

wheel.

Speed and direction selector.

2.18. Main switch.



The main switch is placed at the back of the fore carriage.

Main switch

2.19. Filling up cooling water / expansion tank



Refill cooling water / expansion tank.

Refill cooling water.

IMPORTANT

Do not take of the cap before the engine is cold.

Risk for scalding.

2.20. Air filter.



Air filter

Change of filter insert.

Remove end cover and pull out insert.

2.21. Light indicator.



Light indicators.

Light indicators

- 1. Oil lamp (must switch off after app. 2 seconds – if not turn off the engine immediately)
- 2. Temperature light indicator switches on when the engine is overheated(if the lamp turns on switch off the engine immediately)
- 3. Charging lamp (If lamp turns on while engine runs, the machine do not charge)

2.22. Switching contact feed computer.



Contact is placed outer at left on the dashboard.

M: Manual A: Automatic K: Constant

Water pump contact.

2.23. Fuse box.



Fuse box.

The fuse box is placed behind a plate under the wheel.

By changing fuses (Never replace the earlier fuse with a bigger fuse).

2.24. Particle filter for oil cooler.



Particle filter oil cooler

Placed on the right side of the machine over wheel.

Lift up and pull out, the bottom first

2.25. Particle filter for water cooler.



Particle filter water cooler.

Placed in front of the feed machine.

Lift up and pull out, the bottom first

2.26. Accumulator.



Accumulator

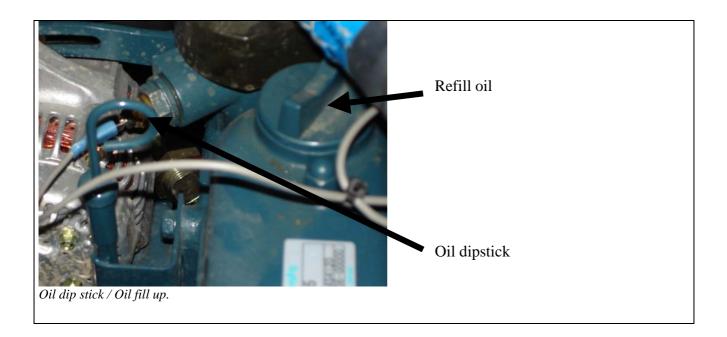
The accumulator is placed behind the right for wheel.

Always keep the accumulator clean on top, otherwise a discharge of the accumulator can happen.

3. Precautions before start.

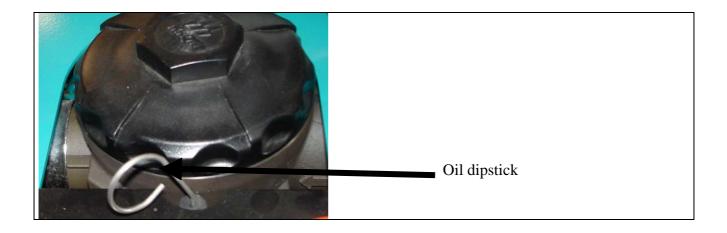
3.1. Oil level engine.

The oil level ought to be checked before start, every time you use the machine. The machine has to be placed horizontal, when you check the oil. Pull out the oil dipstick, wipe it off with a cloth, put it back, redraw the oil dipstick and read the oil level. If the oil level is under level or right over you have to refill to max.

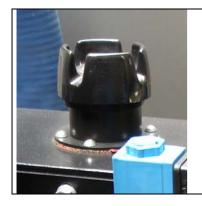


3.2. Oil level hydraulic.

You can read the level of hydraulic oil by pulling up the oil dipstick, if the oil level stands by the minimum mark you have to refill.



3.3. Refuel.



Unscrew the filler cap and refuel with diesel oil.

You can read the amount of fuel by looking down into the filler cap.

Feeder 900/1200 engines use ordinary diesel oil.

Normally diesel oil is frost-proofed to about -21° C, but during strong frost, paraffin is made in diesel oil. To avoid this you can add petroleum after following table:

At temperaturs under	-10° C add	10 % petroleum
At temperaturs under	-20° C add	25 % petroleum
At temperaturs under	-30° C add	40 % petroleum
At temperaturs under	-40 $^{\circ}$ C add	55 % petroleum

To be sure of how frost-proofed your diesel oil is, ask your diesel supplier about the specifications of your diesel oil.



Fuel is very flammable. Display great caution, and always refuel in the open.

Never smoke during refuel.

WARNING

Never refuel with a hot engine! Wait minimum 10 minutes.

Do not overfill the fuel tank, fuel can expand and ran over. Make sure that the tank cap is firmly screwed after refueling.

Keep the gasoline on a cool place in a container, which is made for the purpose.

The gasoline tank and hoses have to be checked often for leaks.

3.4. Air filter.

Keep the air filter clean. A dirty and clogged air filter lowers the effect of the engine and increases the fuel consumption and the wear on the engine.



Cleaning/change of air filer. Remove the wingnut in the end of the air filter house, and pull out the filter.

3.5. Admission of air for engine cooling.



Admission of air cooling water.

Admission of air is placed in front of the machine.

Important:

You MUST keep the radiator grille clean.

You can take of the filter, lift up the filter and pull out the bottom.

3.6. Admission of air for cooling the hydraulic oil.



Admission of air is placed on the right side of the machine.

Important:

You must keep the radiator grille clean.

You can take of the filter, lift up the filter and pull out the bottom.

3.7. Accumulator.

• Check that the acid level is about 10 mm over the plates. Refill with distilled water if the acid level is too low.

Too high acid level can cause that the acid runs over and causes corrode damages on the machine.



WARNING

SMOKING FORBIDDEN!

The accumulator gives off explosive gas. Keep sparks, flames or cigarettes away. By ignition an explosion, fire and a spread of dangerous acid over a large area.

Notice that the concentration of explosive gas is extra large by charging.

At starting help with another accumulator, connect the negative pole at last. Connect the negative pole from the jumb lead to the frame on the engine, <u>never on the accumulator!</u> When you remove the jump lead again, remove the negative pole from the engine first.

Never charge on a frozen accumulator!

• Notice: if you use ordinary water for refilling of acid level, then you shorten the lifetime of the accumulator.





IN CASE OF CONTACT WITH ACID!

- -If the acid gets on your skin (External) you have to rinse thoroughly wit water.
- -If the acid is consumed (Internal) you have to drink a huge amount of water or milk, then more milk with mixed egg or vegetable oil and call for a doctor immediately.
- -If the acid gets into your eyes, then rinse thoroughly with water, minimum 15 minutes, and visit a doctor as soon as possible.

3.8. Tyre pressure.

• Check that the tyre pressure is correct, an incorrect tyre pressure can make the machine unstable and the maneuver quality will be unpredictable.



4. Driving/feeding

4.1. Start of engine.

Put the throttle hand lever in center position, then turn the ignition key until the lamps light, check that all lamps light, then turn and keep the ignition lock in next position until the preheating lamp turns off, then turn the ignition lock entirely to the right and the engine starts.





Only continue the preheating for max. 10 seconds, if you exceed this the preheating and the adjacent components can be ruined.

Do not repeat the preheating if the engine does not start the first time!

4.2. Driving.

Speed up until the wanted amount of revolutions are found, choose direction and between high and low gear, (placed in the left side of the steering wheel), put both hands on the steering wheel, place your feet in a position as wide as possible, then step carefully on the driving pedal (placed outer at right). The gentler you touch the driving pedal the more pleasant becomes the driving. If you step too hard on the pedal the machine will rush ahead, likewise if you let the pedal go abruptly the machine will brake abruptly.



Watch out that feet and legs do not hang too much out from the machine, so that it is possible to bump into or be squeezed between cages, doors etc.

Never activate the pedal standing or with your hands. Only when you are seated.

We will advise you not to drive fast in curves, especially with a filled up feed container. The machine will have a strong tendency to tip over, since the center of gravity for the machine is pretty high with a filled container.

Furthermore we advise you not to drive in grounds that verges slopes on 15°, since the machine then easily tips over.



IMPORTANT!

If the machine should tip over, driving on bad ground or to fast in curves with filled up container, then jump of the machine on the opposite side of where the machine tip over to. It minimizes the risk of getting squeezed under the machine.

4.3. Feeding.

Before feeding you have to adjust feed pump speed and the water amount. You normally only do this one time, or when the consistency of the feed varies.

See the illustrations in section 2.6. and 2.7.

The feed pedal is placed on the outer right hand side of the machine. You must activate the feed pedal for each portion of feed.

When you feed make sure that you are concentrated and have a comprehensive view. When you drive through the shed, look out not to get too close to the boxes, if you loose concentration you can easily diverge from your original heading, and ruin cages and boxes.

The feed computer can make advanced feeding tasks. You can adjust a calibrated program to make for instance 200g in each portion of feed, and be sure that it is the right amount. Furthermore you spare your

food joint, since you only have to keep the feed pedal down, when you feed, instead of tapping the pedal each time to make a portion of feed.



Individual feeding read the bar code at the mink cages and thereby decides the amount of feed that the concerned mink must have. The big gain at individual feeding is, that you save time on distribution of feed and amount of feed, which fits each and every mink.



4.4. Stop of engine.

Speed down to idling and let the machine run in a couple of minutes, so that the strained engine can reach normally running temperature before you turn it off, it will increase the service life of your engine.

4.5. Parking.

When you park the machine be aware of even an easily sloping foundation can make the machine run, with danger of the machine running out on a road or causing other damages.

Always park on a horizontal foundation and remove the key.



5. Maintenance.

5.1. Maintenance schedule: Feeder 900/1200.

OPERATION	1 1	OPERATIONHOURS	5	100	200	500	2500	5000
		\rightarrow						
		for every x.driven						
	•	hour						
Check		l level and leaks						
	Engine oil le							
	Water pump							
	Oil lamp							
	Acid level of	n accumulator						
	Belt tightening							
	Engine rack							
	Exhaust							
	Filter (spong	ge) in air filter box						
	Air filter							
	Admission of air and radiator grille							
Adjustment	Neutral position							
	Speed cable							
Greasing	Cables							
	Steering wheel							
Tighten up	Various bolts							
	Wheel naves							
	Engine plate							
Cleaning	Air filter							
	Filter (sponge)							
	Radiator grilles and admission of air							
	Fuel tank							
Renewing	Ignition plug	gs if needed			•			
	Engine oil (*)							
	Hydraulic oil (*)							
	Air filter							
	Hydraulic oil filter							
	Fuel filter					"		
	Engine oil filter							
	Belts							
Renovation of	Partly							
the engine								

⁼ First oil change

^(*) Hydraulic- and engine oil has to be changed as quoted in the schedule, however it must be changed at least once a year.

5.2. Engine oil- and oil filter change, Feeder 900/1200.

1. Put a suitable container under the engine, and remove the drain plug. Notice that there are approx. 6-7 liters of oil. WARNING! The engine oil can be very hot. Mount the drain plug again, when there is no more oil. 2. Dismantle the shield 3. Dismantle the old filter and mount the new one. 4. Mount the drain plug and refill with new oil. Amounts see specifications. Refill oil It has to be clean around the cap before dismantling.

5.3. Cleaning/change of air filter

You clean the filter by pulling it out and knock it gently against the floor, so that the loose dirt falls of.



5.4. Hydraulic oil and hydraulic filter change.

1. Put a suitable container under the hydraulic tank, and remove the drain plug. Notice that there will come a large amount of oil.

WARNING!

The hydraulic oil can be very hot.

Mount the drain plug again, when there is no more oil.

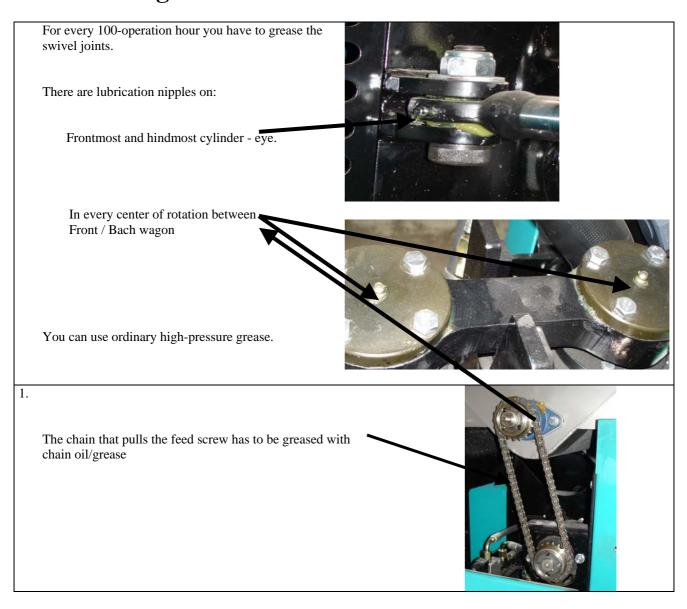
2. Dismantle the filter cover.

If the screw cap is dirty, it has to be cleaned before you continue.

- 3. Unscrew the filter cover and remove it.
 Lift up the filter and put the new one down into the cartridge.
- 4. Mount the drain plug and refill with new oil. Amount see specifications.



5.5. Greasing.



5.6. Upkeeping cleaning.

Check the air admission in front and on the side, they have to be completely free of wool, dirt etc.

Lift of both filters and clean them inside also, remove possible dirt that sits respectively on the water cooler and the oil cooler.

IMPORTANT!

Do not use water or high pressure to clean this, since the engine can possible be damaged by the water, and the air pressure will blow the dirt further into the engine.

WARNING!

The engine must be stopped and the key removed before you start cleaning.



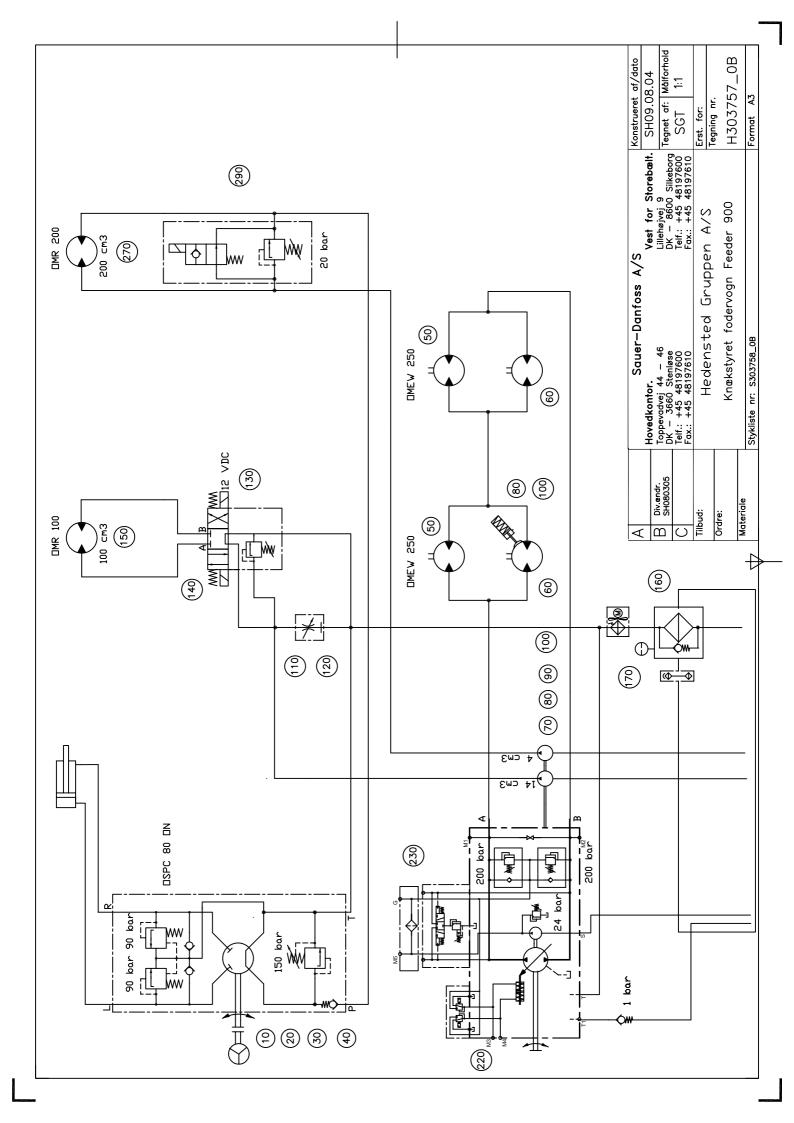


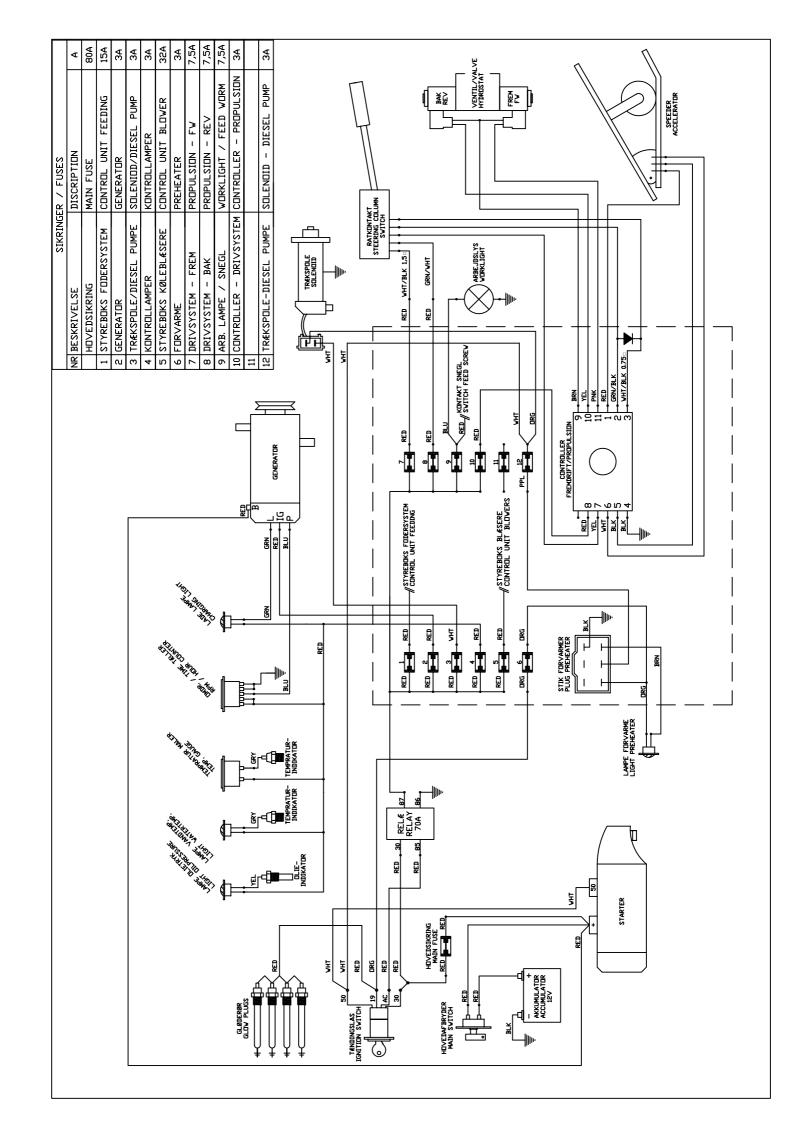
IMPORTANT!

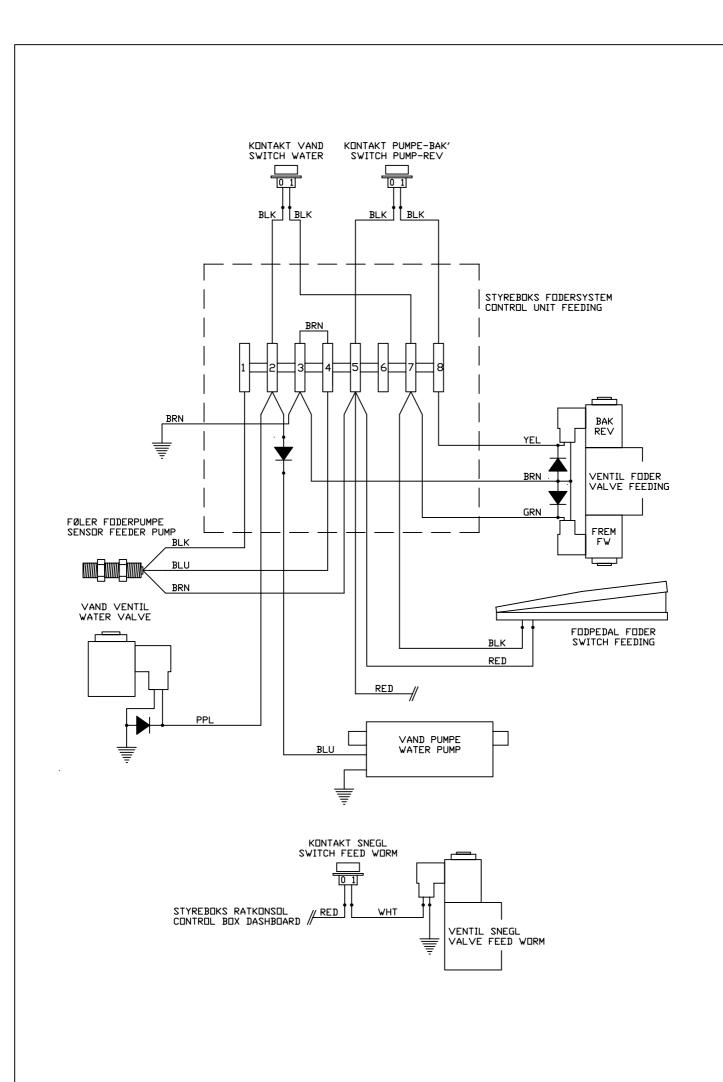
Never flush with water directly on the engine.

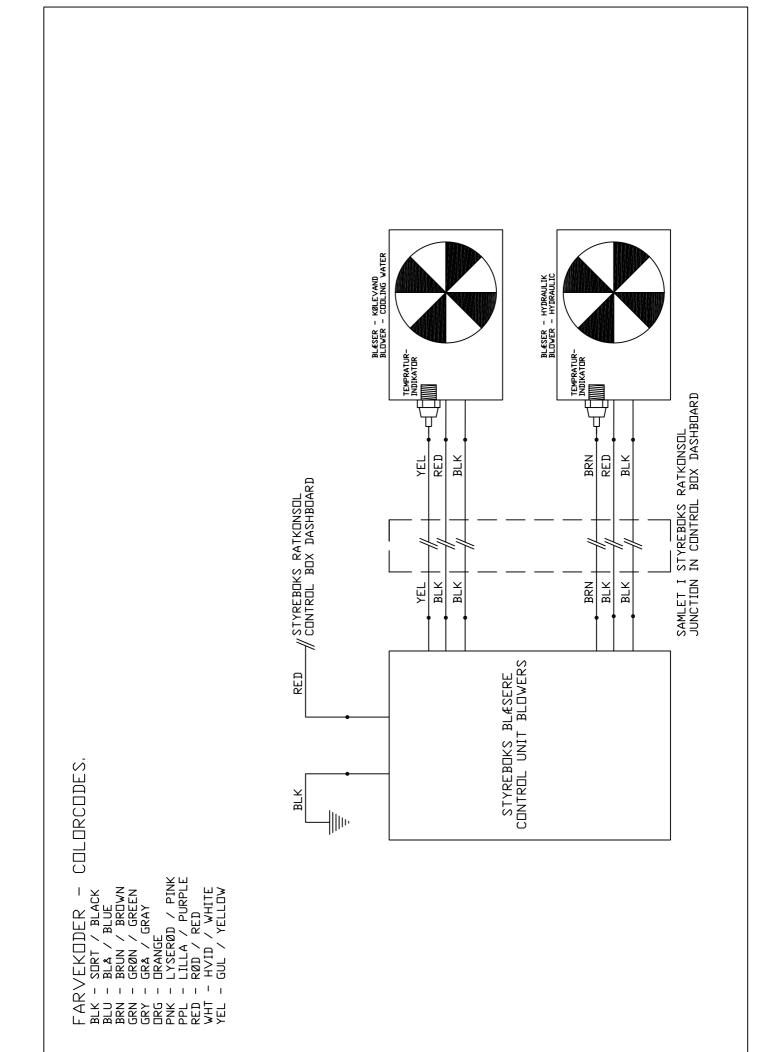
6. Trouble shooting schedule.

Troubles	Possible reason
The engine cannot start	• Wrong fuel.
	• Air in the fuel pump.
	• Empty fuel tank.
	• Too big piston clearance.
The engine starts, but stops again	Clogged air filter.
	• Air in the fuel pump.
	• Clogged fuel filter.
	• Error or clogging in the fuel supply.
	• Blocked valve in the fuel tank.
	Burnt out exhaust valve.
The engine has no power	• Clogged air filter.
	• Clogged fuel filter.
	• Worn cylinder.
	Worn piston rings.Error or clogging in the fuel supply.
	 Error or crogging in the ruer suppry. Burnt out exhaust valve.
The engine has a low oil pressure	Clogged lubricate circulation.
The engine has a low on pressure	Worn oil pump.
	• Error on the oil pressure valve.
	• Defect main bearings.
The engine is blocked	• The main bearings are burned or defect.
_	• The pistons are burned.
	• The hydraulic pump is blocked.
The engine smokes blue (diesel)	Worn valve guide.
	Worn cylinder.
	• Too much oil in the crankcase.
	Worn piston rings.
The engine smokes white (diesel)	• Too much piston clearance.
	Wrong injection timing.
	• Head gasket
The engine smokes black (diesel)	Overloading.Error at the injection.
The engine knocks in the crankcase	Small or big end bearings are burned or defect.
The engine knocks in the tilting device	Wrong fuel.
and engine inventor in the thing at the	• Too little piston clearance.
	Wrong injection timing (diesel).
	• Worn piston rings.
The engine uses oil	Worn valve guide.
	Worn cylinder.
	 Oil packings are leaky.
	• Too much oil in the crankcase.
TD	Worn piston rings.
The engine oil level increases	• Too much piston clearance.
The engine looses oil	Defect injection system.
The engine looses on	Blocked breath tube.Defect injection system.
The engine is superheated	Too little piston clearance.
The engine is superneated	Cooling ribs are clogged.
	• Injection timing is wrong.
	• The injector is defect.
	• The engine is overloaded.
The engine misfires	• Wrong fuel.
-	• Cold engine.
	Admisson of air glogged.
	 Gets false air in via the injection pump.
	Defect injection pump system.
Bad acceleration	• Wrong fuel.
	• Gets false air in via the injection pump.
	30









8. Tecnical data.

8.1. HG Feeder 900/1200..

Dimensions and weight	900	1200
Width	860 mm	860 mm.
Length	3250 mm	3550 mm.
Height	1590 mm	1590 mm.
Unloaded weight	900 kg	900 kg.

Engine		
Kubota V1305	30 hk. (22,4 kW)	30 hk. (22,4 kW)
Volume	1335 ccm	1335 ccm
Bore x stroke	76x73,6 mm	76x73,6 mm

<u>Various liquids</u>		
Engine oil	Q8 advanced 15W-40	Q8 advanced 15W-40
Hydraulic oil	Q8 Handel 68	Q8 Handel 68
Fuel	Diesel	Diesel

Tank and containers		
Feed tank	900 Ltr.	1200 Ltr.
Water tank	72 Ltr.	72 Ltr.
Diesel tank	20 Ltr.	20 Ltr.
Hydraulic tank	35 Ltr.	35 Ltr.

Wheel dimensions and tyre pressure				
Wheel dimensions	23x8,50-12	23x8,50-12		
Tyre pressure	65 Psi	65 Psi		

Steering gear		
Steering	Servo system	Servo system
Turning diameter (rewrited cirle)	5,1 mtr.	4,9 mtr.

10. Guarantee regulations.

Guarantee period

The manufacturer of this machine gives guarantee in 12 month (max. 1000 operating hours). The guarantee period starts at the delivery date.

The guarantee covers:

- Components which have to be exchanged or repaired because of material – or manufacture defects.

The guarantee do not cover wear and consumption parts such as:

- Feeding pump, tires, bulbs, filters oil etc.

The manufacturer's guarantee expires if:

- Incorrect use of the machine.
- The machine is used without following the instruction book and the security instructions.
- The service time schedule is exceeded, or not original spare parts.
- The machine is used after a defect is established, if this results in a more expensive repair than the original defect.

The owners own insurance ought to cover:

- Fire, burglary, stealing and vandalism.
- Water and frost damages.
- Corroding damages caused by battery acid.
- Damages caused by wind and weather.

The manufacturer's guarantee does not cover these cases.

Approval of claim on compensation:

Implies that the defect part is shown to the manufacturer or his representative within 2 weeks after arises of the damage. The owner rights to the damaged parts are transferred to the supplier of the new parts.

The guarantee only covers components, not:

- Freight costs
- Cost for waiting, the working hours of the machine owner and travel costs.
- Working losses and other subsequent costs.

Other things

Before the guarantee repair you have to contact the manufacturer in order to arrange the procedure. If the repair is started or done, it is too late to claim guarantee.

These guarantee regulations can only be changed with a separate agreement..