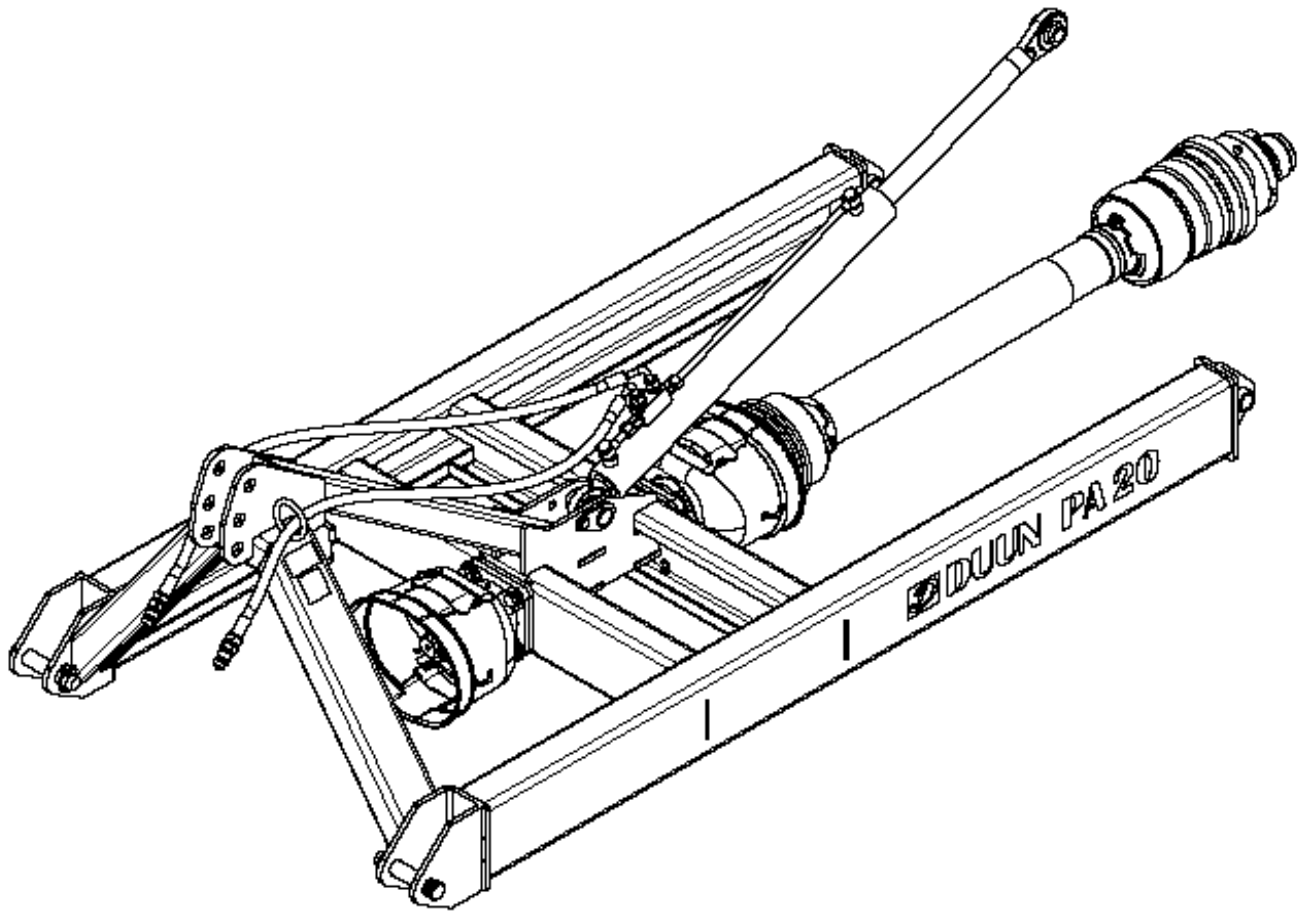


PA20 Instruction manual

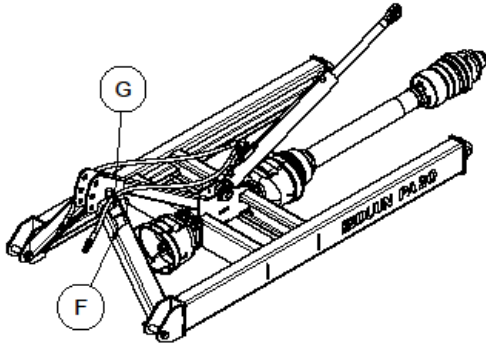


Congratulations on your Duun PA20.

All Duun tractor operated machines have been engineered and tested in close cooperation with representative users to produce functionally safe and user-friendly machines.

Please read this instruction manual before using the machine.

Good luck!



Machine identification

Serial number and manufacturer are specified on the metal plate (F)

Always state the serial number in all inquiries regarding service.

The machine is CE marked (G). This confirms that the machine is designed in accordance with the EU machinery directive.

Serial number

Time of delivery (month/year)

CONTENT

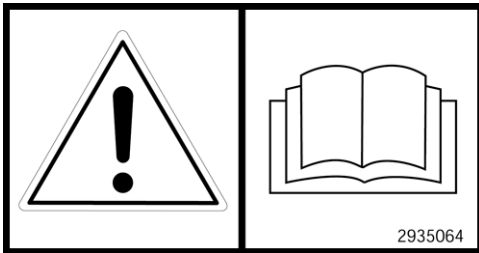
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Safety

All operators, mechanics and the owner must always work carefully with agricultural machinery. Read and observe safety instructions in this instruction manual.

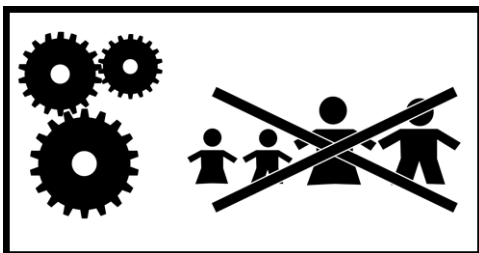


Be particularly aware of warning signs with this symbol, it marks measures that must be carried out in order to avoid accidents. The symbol appears in the instruction manual and on warning signs on the machine.



Instruction manual

All operators, mechanics and the owner must be well acquainted with the instruction in this instruction manual before the machine is taken into use.



Safety of the surroundings

Be very careful when other people or animals are near the machine or tractor. Never start the machine when there are people or animals close to it, also never stand between the tractor wheels and the machine!



Be very careful during maneuvering and installing

Ensure that no one is in the pump's operating radius or "impact area" during installing and maneuvering.



Safe connection and use

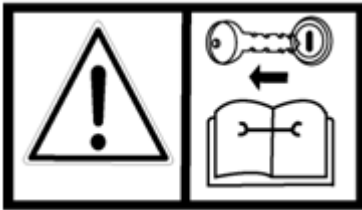
Do not allow anyone to stand between the machine and the tractor when the machine is connected to the tractor. The same applies when using the machine. Ensure that the connection is made in a secure manner.



Power transmission shaft

The tractor is disengaged and the handbrake is applied before the shaft is connected to the tractor's PTO. Max. PTO speed is 540 r.p.m. Make sure that there is the same angle in both joints (ie the pin on the tractor is parallel to the pin on the gearbox). Different angles cause imbalance, vibrations and increased wear. The power transmission shafts must always have protective covers that were originally supplied. **Damaged and worn covers must be replaced immediately!**

During raising and lowering of the rod pump, the power transmission shaft is dismantled.



Safety in case of interruptions and maintenance

Always remember to stop the tractor engine and remove the ignition key before greasing, adjusting, cleaning or carrying out repairs. This is to ensure that the tractor does not start before you have finished.



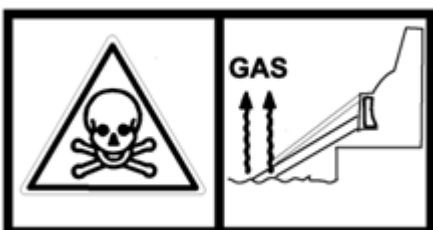
Crushing hazard for hands and fingers with rotating parts

Protective covers must always be fitted except for necessary maintenance and always with the engine stopped. Pay particular attention to the risk of crushing at points marked for this.



Work noise

The noise level during use of the propeller depends on the tractor's general noise level and the acoustics at the workplace itself. In certain cases this can exceed 85db. In such cases, the operator must use hearing protection.



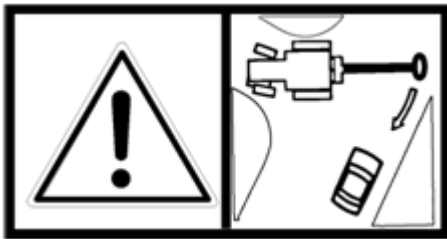
Gas hazard!

During the stirring of slurry, gas evolution occurs which in strong concentrations can be fatal for humans and animals. Follow the following safety regulations to avoid injury! - Avoid air flushing during stirring as far as possible!- Never go down into a slurry container without being absolutely sure that all gas has been removed (can be checked with a gas meter that is submerged with a string) - Never work alone in a slurry container - be at least two people and use a safety harness - lifeline. - Use a fresh air mask! -open doors that the gas has low outlets in the farm building itself during slurry processing. Check the state of health in the farm building continuously during slurry handling! Avoid any unnecessary stay near the slurry chute and propeller during stirring.



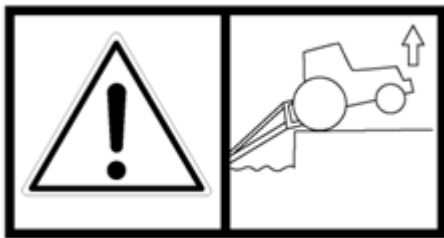
Contact with live wires etc. during transport

Be aware that the propeller can stick out over the tractor during transport and there is a risk of contact with live wires - railway underpasses during movement!



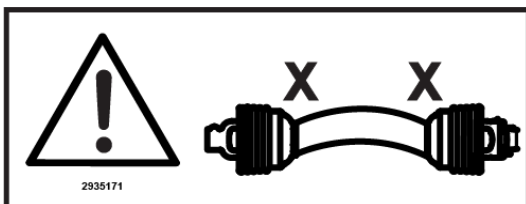
Safe transport

The propeller has a very long turning radius behind the tractor. This can cause dangerous traffic situations when exiting and turning on a busy road. Please be aware of this and avoid situations such as outlined. During transportation over long and busy distances, the propeller should be transported on a tractor trailer or similar.



Steep hazard during manoeuvring

The propeller forms a long weight arm behind the tractor. This means that during removal from storage it can lift up the tractor at the front. The problem can be remedied with front weights or other load at the front of the tractor (loader). Pay particular attention to this and avoid quick maneuvers during removal from the slurry storage.



Risk of spraining the power transmission shaft

It is important to adapt the length of the power transmission shaft to each individual tractor. If it is too long, the shaft can be pressed completely together and there is a risk that either the pin on the propeller shaft or the pin on the tractor will be destroyed.

Warranty terms

Duun slurry mixer adapter has 12 months guarantee against defects in materials and workmanship.

Parts that are not originally manufactured by Duun Industrier as, for example, wheels, hydraulic parts, etc. are subject to these suppliers' guarantees and terms.

In cases where a repair is considered to be covered by the guarantee, the representative must inform the supplier's representatives that the repair is intended executed based on the guarantee.

In this context, the following information must be recorded:

- Product name
- The product's serial no. (see the machine identification)
- Date of sale
- The product owner's address, telephone no.
- The seller with address, tel. no.

In case of such a repair, the supplier is presented with a claim within 3 weeks after the repair date.

Replaced parts are to be kept until a decision has been made with reference to the claim and the replaced parts are to be forwarded to Duun Industrier as for assessment if so required.

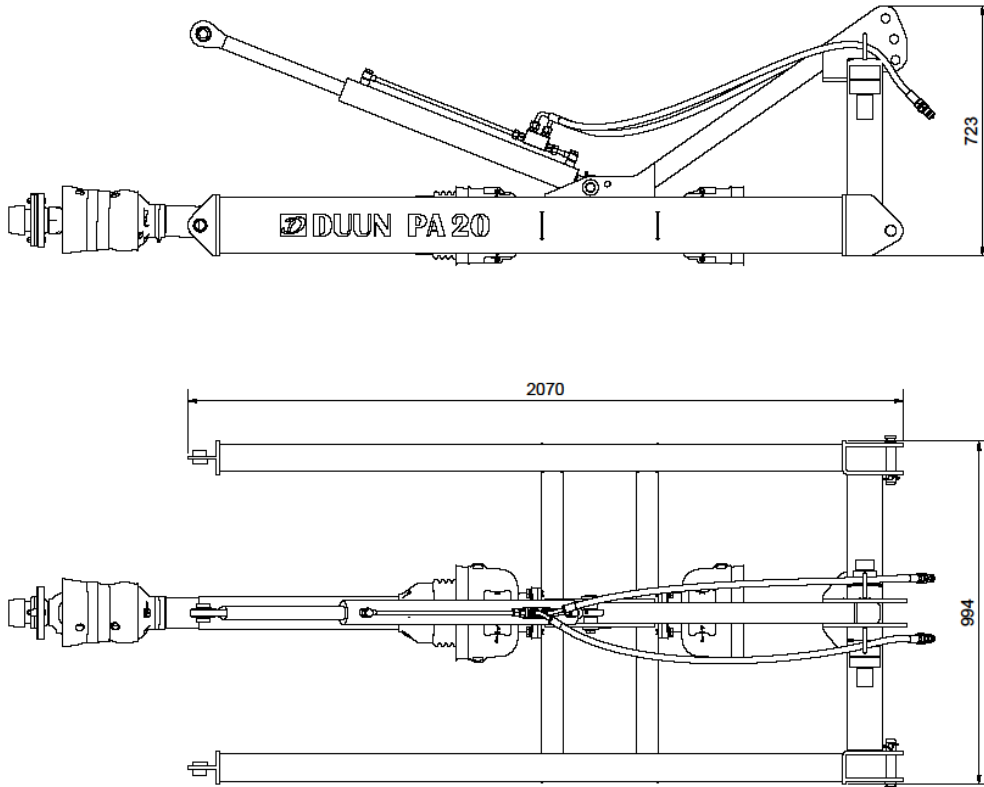
As the employment of the product is beyond our control, we may only guarantee the quality and do not accept liability for the product's general performance.

Duun Industrier as reserves the right to modify the design and specifications and/or make alterations and improvements without notification.

What is not included in the guarantee:

- The guarantee does not cover economic loss as a consequence of interruptions.
- The guarantee does not cover consequential loss due to defects.
- The warranty does not cover damage to galvanization as a result of mixing in acidic liquids.
- The guarantee does not cover defects or damage caused by misuse and uses that are not in accordance with the instruction manual's specifications and guidelines.

Slurry mixer adapter technical data



Features	Slurry mixer adapter
Net weight	Approx.170 kg
Width	994 mm
Height	723 mm
Length	2070 mm
PTO shaft input speed	1000rpm

Assembly instructions

Rotating shaft

Before connecting the power transmission shaft, ensure the following points.

Make sure that the shaft's protective tubes are intact and the two halves of the shaft fit freely into each other.

The length of the power transmission shafts must be adjusted thoroughly, if it is too long it can damage the bearing in the tractor's PTO or the propeller's bearings. Also ensure good lubrication of the profile pipes. Read the instruction manual for the power transmission shaft.

Check if the PTO shaft can be rotated by hand to ensure it is not buckling anywhere.

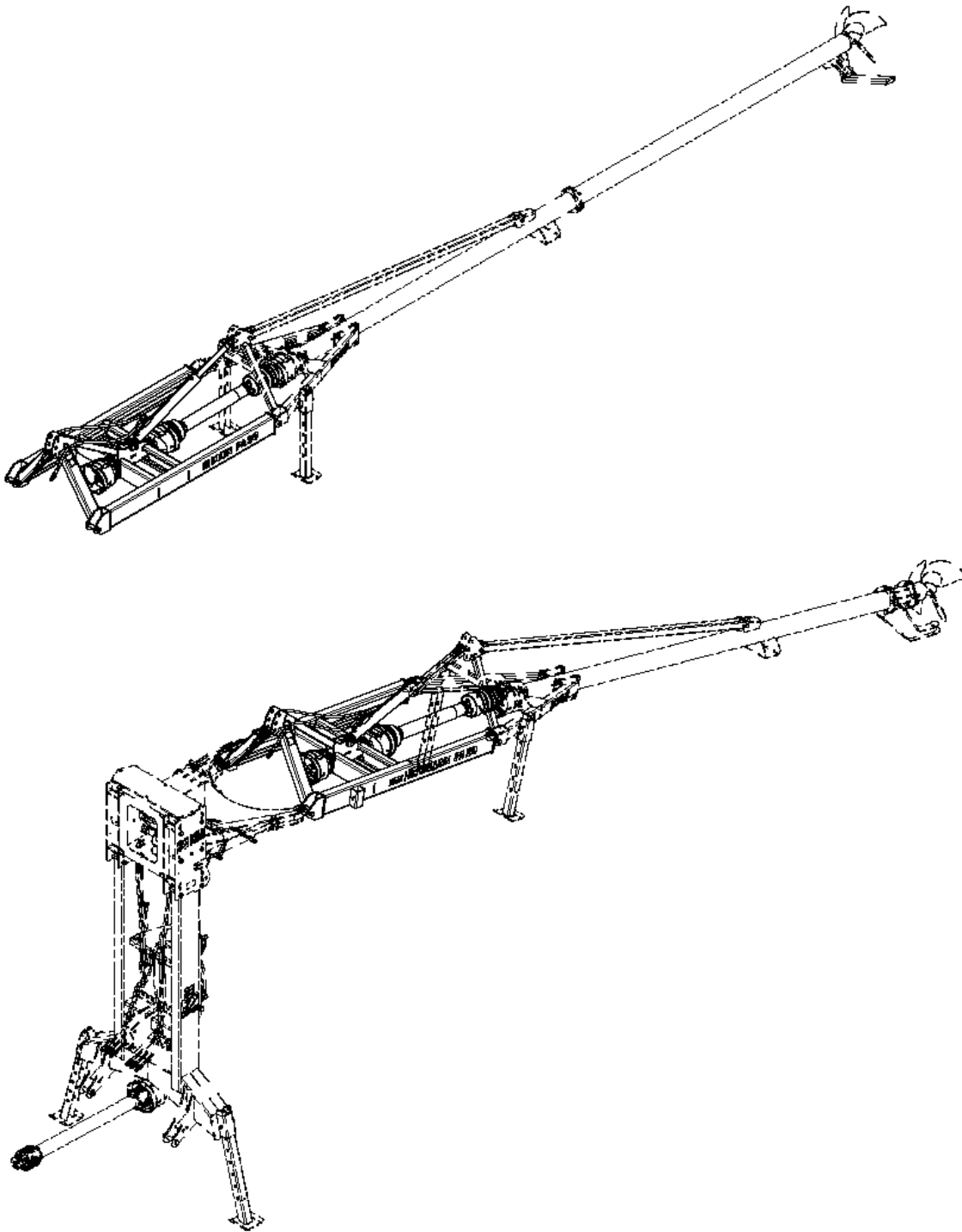
Ensure that all shaft covers are in good condition and correctly fitted. Never start the machine without this being in order! Pay particular attention to the plastic covers on the power transmission shaft. If these are damaged, they must be replaced immediately! The locking chains for the plastic covers must always be attached to suitable fasteners on the mixer to prevent the covers from rotating. The covers are lubricated according to the specified interval.

Mount the PTO shaft on the tractor's PTO with the shear bolt coupling against the propeller agitator. The wide-angle joint on the shaft must face the tractor. Safety chain is attached to the propeller to prevent rotation of protective covers.

The power transmission shaft must always have a shear bolt coupling max. 4180 nm.

Check that the power transmission shaft will not sit in tension when the machine is lifted to the max. or min. height. Also, note, the angle of the shaft can be too large when using very short shafts - contact the supplier - importer.

Slurry mixer adapter with mixer and tower assembling

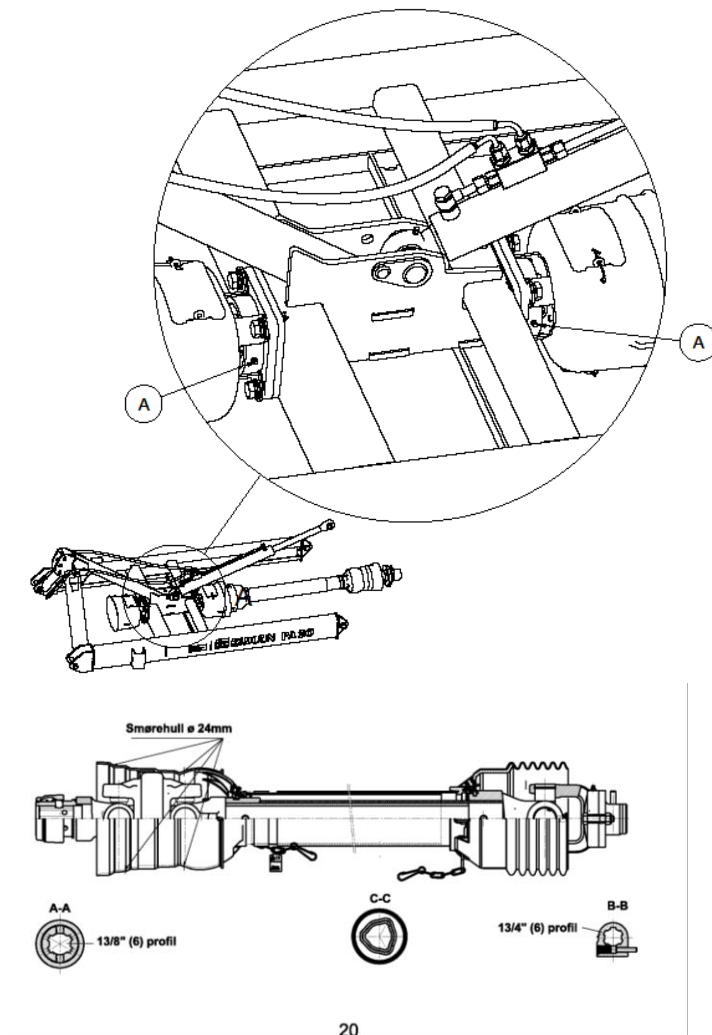


The slurry mixer adapter can be used between tractor and slurry mixer or between slurry mixer tower and slurry mixer.

Connection between tractor and slurry mixer is made by connecting the slurry mixer adapter to the tractor before it is assembled with the slurry mixer.

Using slurry mixer adapter between a slurry mixer tower and a slurry mixer, the slurry mixer adapter and slurry mixer are assembled first. This is then mounted together with the slurry mixer tower by lifting the mixer and adapter with a crane or other lifting equipment, that the adapter can be connected to the tower.

Service and maintenance



First of all

Before cleaning, lubricating, repairing or adjusting the machine, stop the engine and activate the handbrake and remove the key during work. Pay special attention to safety during maintenance work, park the machine in accordance with specified safety rules.

Subsequent inspection of screw connections. Screws - nuts - nipples and bolts on the machine must be tightened after two hours of operation.

Clean after use

The slurry mixer adapter is cleaned with a high pressure washer after use.

Lubrication of bearings

The adapter has two bearings marked (A). Interval: Every 100 operating hours. Recommended amount 7-8 grams per time. It is very important the bearings have a new supply of lubricating grease when the stirrer is "set aside" after stirring to prevent fertilizer damage in the bearings.

Power transmission shaft

When the wide-angle shaft works with fixed angle, the lubrication interval should be 2-4 hours to ensure that the shaft has sufficient supply of lubricating grease. Interval: Every 2-4. operating hours. Maintained in accordance with the attached instruction manual. Please contact supplier if this is missing. Grease quality: Universal grease of good quality.

Shear bolt coupling

Remember to lower the machine, stop the tractor's engine and disconnect the PTO before fitting a new shear bolt. Bolts in the form of hexagons are used here. Screw M12x65 qual.8.8.

Disconnection

This happens in the opposite order of connection.

Working on the machine and the PTO shaft, the power supply to the tractor must be disconnected.

The machine must be placed on a level surface.

The power transmission shaft must be disconnected and hung on a hook attachment.

Locking bolts for drawbars released.

The machine is now disconnected and can be left.

Gas hazard

1. Measures and points in connection with slurry gas.
2. Extraction fan in the basement contributes to negative pressure and extracts the gas.
3. If there is an open connection between the cellar and the animals housing, the grates can be covered with plastic to contribute to negative pressure when an extraction fan is used. A gas-tight connection between the animals housing and the basement provides greater security, especially when combined with an extraction fan in the basement.
4. Stir under wind - if possible with open windows and doors and closed gate.
5. If the discharge from stirring flows into the surface of the slurry storage, strong gas development occurs - especially in the starting phase. This is due to mixing of air and slurry mass.
6. Open doors in the barn and the gas will have a low outlet in the farm building itself.
7. Use a gas meter at all times in the animal rooms during slurry pumping. We believe this is absolutely necessary regardless of the type of pump and whether or not you have a tight connection.
8. Avoid unnecessary stay near the shaft and propeller during slurry release/stirring.

We therefore recommend the IBT article (Department of Technical Sciences ÅS/NLH) no. 33/87 "measures against slurry gas poisoning" for more details.

9. Never stir in calm and windless weather!
10. Ensure proper ventilation in animals housing. Let all fans run at full blast, remember, all doors and windows must also be opened.
11. Make sure that ventilation fans do not draw air from the pump inside. If there are openings in the gate or pump sump and the wind direction blows against these, slurry gas can be forced from the basement up into the barn.
12. Do not stand near the filling opening of the transport tank during filling, or in the pump pit during stirring.
13. Never enter animals housing where there may be suspicion of slurry gas without a gas mask with gray filter B. Remember that there must be enough air present even when you use a mask!
14. Never go down into a slurry cellar or tanker without fresh air equipment.
15. If possible, agitation should be carried out when there are no animals inside.
16. Stir gently. Remember that new equipment can cause the effect to increase so that the stirring becomes more powerful and the risk of a gas accident increases.

*Points 9-16 ref. Agriculture's HSE service.
www.lhms.no*

Declaration of conformity

Responsible person

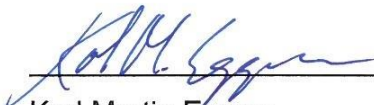
Name: Karl Martin Eggen
Position: CEO
Company name: Duun Industrier as
Address: N-7630 Åsen
Norway
Telephone: +47 74 01 59 00

Person responsible for the technical documentation: Rolf Even Duun

Declares that the following machine: PA20 Slurry mixer adapter
Manufacturer: Duun Industrier as
Type: Duun Slurry mixer adapter PA20
is in accordance with:

Directive 2006/42/EC Machinery

Signed by:



Karl Martin Eggen

Åsen, 15.09.2020