SECTION 1 – GENERAL INFORMATION AND SAFETY

INTENDED USE

The TC combine harvesters are designed as self propelled units and powered by an onboard diesel engine.

These machines are intended to be used for agricultural purposes on cultivated land to harvest cereal crops, small seed crops, maize, soya beans, etc., by cutting or picking up from a swath, threshing and separating the grain from the straw and temporarily storing it until it is unloaded into vehicles for transport.

PROHIBITED USAGE

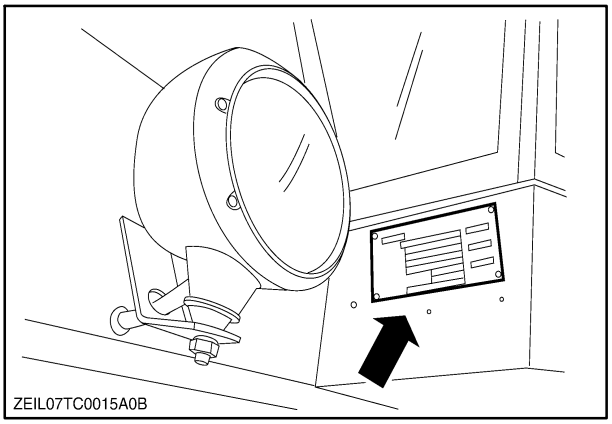
No parts or attachments should be fitted to this machine, which have not been released by NEW HOLLAND. They might affect machine operation, safety of the user or other people, stability or wear characteristics of the machine. They may also void the homologation approval obtained for your country.

PRODUCT IDENTIFICATION

The serial number of combine, engine and attachments, can be found in the following locations:

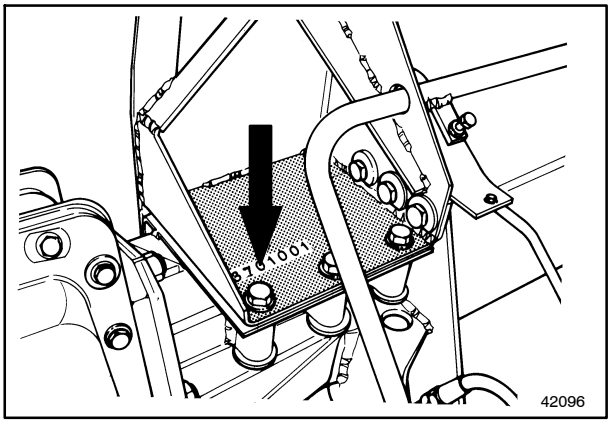
Base unit

On a plate, positioned on the right-hand side of the operator's platform.



1

Stamped on the right-hand side of the combine above the front axle.



2

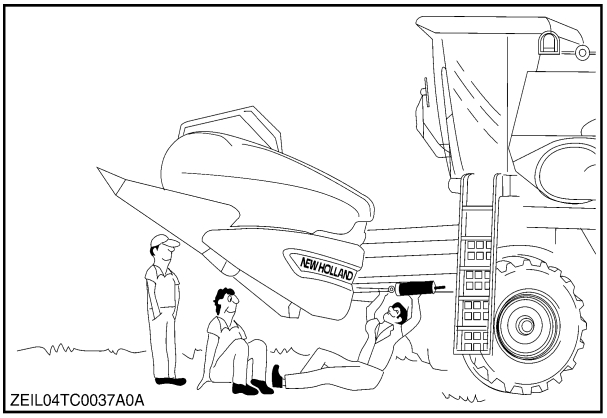
MAINTENANCE

1. Follow the maintenance schedule with regard to the machine servicing intervals.
   Remember that the machine requires minor attention from time to time. Also remember that the time taken on maintenance will greatly extend the life of the machine.

2. Never attempt to clean, lubricate or carry out any adjustments on the combine while it is in motion or while the engine is running.

3. Keep hands, feet and/or garments away from moving parts. Check that all rotating parts are correctly guarded.

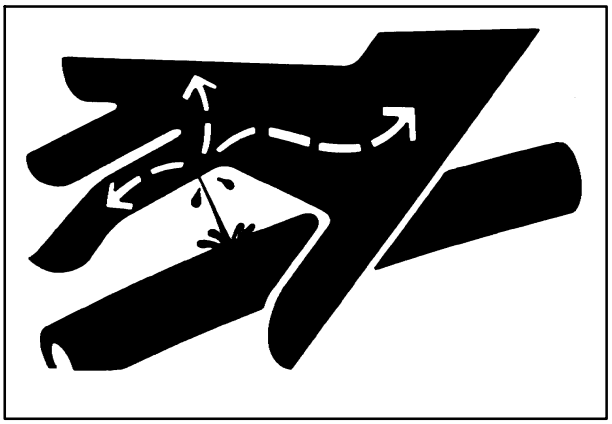
4. Never work under the attachment without first ensuring that the straw elevator hydraulic cylinder safety latch is engaged or that it is securely supported on wooden blocks.



5. Always use suitable jack stands when carrying out maintenance on the traction or the steering axle.

6. Keep the combine, particularly the brakes and steering, maintained in a reliable and satisfactory condition to ensure your safety and compliance with legal requirements.
   Regularly check the efficiency of the brakes and replace the brake pads before they are totally worn out.

7. Any leakage of hydraulic oil or fuel under pressure may cause severe harm, so always use a shield, goggles and gloves when tracing oil or fuel leaks.



Decal 25

Only operate when approved fire extinguisher is installed.

Decal 26

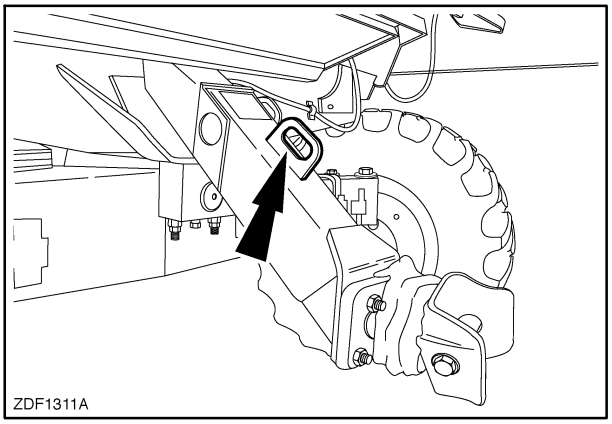
Stay clear of hot surface.

Decal 27

Overhead powerlines + height indication.
(Not for all countries)

ATTACHING A TRAILER

A hook is foreseen on the top of the trailer hitch support to pull a trailer with a cable to the combine to attach.



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TOWING THE COMBINE

Towing the combine is not recommended, but if it must be towed, the following steps must be taken:

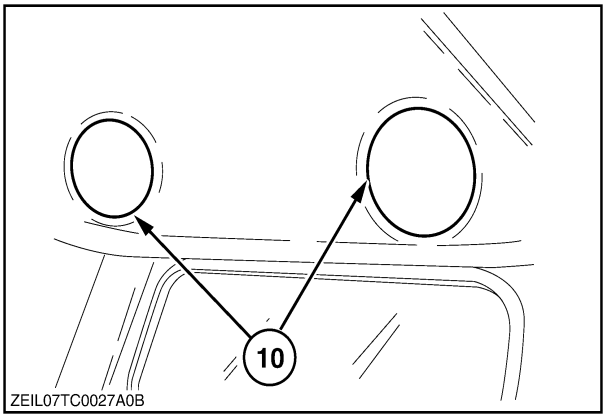
1. In case of hydrostatic drive: Move the multi-function handle into neutral position.
2. Select neutral gear.
3. Release the parking brake.
4. Provide adequate warning signals to make other road users aware that the combine is being towed.
5. Tow at a maximum speed of 16 km/h (10mph).

NOTE:

1. *Towing the combine with hydrostatic drive and selected gear will immediately lead to irreparable hydrostatic damage.*

2. *Should the combine become stuck in the mud, always tow the combine with a cable or chain attached to the traction axle. Do not tow the combine with a cable attached to the steering axle.*

10. Speaker location



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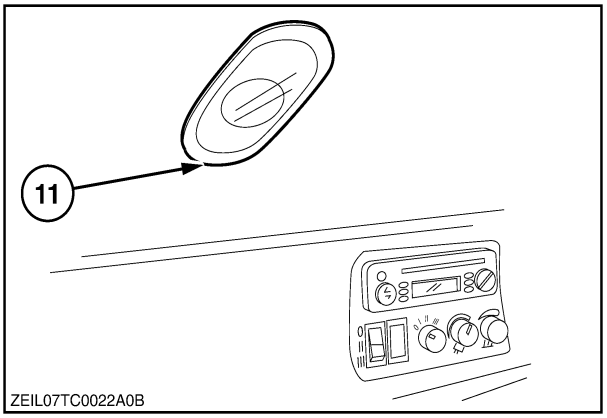
11. Cab interior light

There are three positions:

- OFF
- MIDDLE
- ON



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SECTION 3 – FIELD AND SITE OPERATION

BEFORE DRIVING THE COMBINE

1. Read this Operator's Manual carefully; especially the paragraphs headed "safety precautions" and "starting the engine".

2. Check all chain and belt tensions. Refer to *"SECTION 4 – "LUBRICATION AND MAINTENANCE"*.

3. Check all the pressures daily. Keep the tyres inflated to the pressures given in *"SECTION 8 – "SPECIFICATIONS"*.

4. Check the wheel nuts torque daily during the first week of operation and thereafter on a weekly basis.

5. Check the engine oil and coolant level (ensure the machine is standing on level ground). Refer to *"SECTION 4 – LUBRICATION AND MAINTENANCE"*.

6. Check the hydraulic and hydrostatic oil [if applicable] reservoir level with all hydraulic cylinders retracted and the header lowered to the ground (machine standing on level ground). Add oil if necessary. Refer to *"SECTION 4 – LUBRICATION AND MAINTENANCE"*.

7. Lubricate the combine completely as described in *"SECTION 4 – LUBRICATION AND MAINTENANCE"*.

8. Sit down on the operator's seat and adjust it according to your weight and size.

9. Adjust the steering wheel to the desired position. Adjust the rear-view mirrors, if necessary.

10. Raise the ladder of the operator's platform when driving on public roads.

11. Raise the ladder of the engine compartment.

12. Ensure the unloading tube is in the closed position.

13. Start the engine. Refer to the next paragraph headed "Starting the engine".

14. Disengage the parking brake.

15. Move the engine throttle to maximum speed position.

16. Raise the straw elevator to its highest position.

IMPORTANT: *To prevent the hydraulic oil from overheating, do not hold the header height control switch in the operating position longer than is necessary. The same applies to the hydraulic controls for the reel height, and the reel fore and after adjustment.*

Excessive returns will contribute to grain damage due the additional pass(es) the grain must take through the drum/concave area. Plugged concave can cause grain damage because the free grain cannot get out of the concave area.

Loose elevator chains can also cause grain damage. It is important to maintain the proper tension on these chains.

Unthreshed material in the grain tank can be caused by underthreshing or the lower sieve that is opened too wide. Increase the drum speed and reduce the concave clearance as needed to correct the problem. Reduce also the lower sieve opening slightly to obtain a cleaner grain tank sample.

Grain pan/upper sieve distribution

The distribution of material on the grain pan affects the distribution of material on the sieve. The distribution on the grain pan should be level.

The front third of the upper sieve should be completely clean. The middle third should have some grain but mostly residue. The rear third of the upper sieve should have only residue.

If there is some grain on the rear third of the upper sieve, returns will be increased and there is a possibility that grain will ride out the back of the combine. Open the upper sieve to allow more of the grain to fall onto the lower sieve.

If the material on the upper sieve is broken into small pieces, the crop is being overthreshed. This can plug the upper sieve and cause high losses. Increase the concave clearance and/ or reduce drum speed to decrease the threshing action.

Unthreshed heads indicate the drum speed should be increased and/ or the concave clearance should be reduced. Unthreshed heads can also be caused by worn rasp bars and worn concaves.

Return sample

It is normal for the return sample to contain a few unthreshed heads. The purpose of the returns system is to return unthreshed heads to the threshing area for another pass. However, a large quantity of unthreshed heads indicates the concave clearance is too wide.

If the return sample contains a large quantity of clean grain, the cleaning fan speed should be reduced and/ or the lower sieve should be opened more.

Losses

Losses may occur at different stages: (see fig. 7)

1. **Pre-combining losses:** (i.e. losses found in front of the combine) are usually caused by adverse weather conditions, poor crop conditions and crop maturity.

2. **Header losses**: (i.e. losses found behind the header and outside of the tyres) may be caused by improper header adjustments.

3. **Leakage losses:** may be caused by damaged seals or holes in bottom auger covers.

4. **Cleaning shoe losses:** may be caused by a poor sieve adjustment, a low or too high cleaning fan speed, or when working on slopes (exceeding the capacity of the self levelling system (if fitted).

5. **Straw walker losses:** These can be unthreshed ears (underthreshing) or grains, due to poor adjustment of drum and concave or excessive ground speed.

Total losses (Lt) caused by the machine:

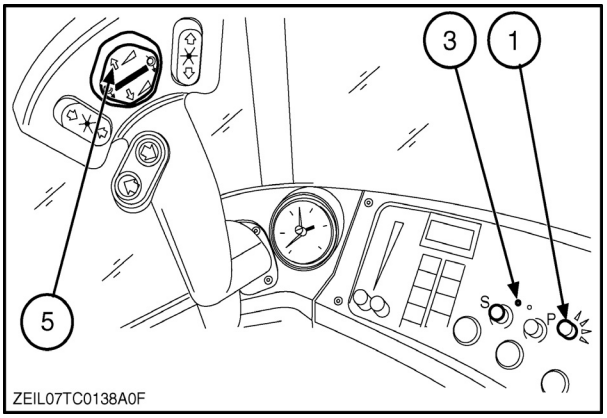
$$Lt = (2 + 3) + (4 + 5) - 1$$

Functional losses (Lf)

$$Lf = 4 + 5$$

Ground level calibration

1. Start the engine.
2. Select the transport position with the selector switch (1).
3. Lower and lift the header with the header height control rocker switch (5) at least once.
4. Lower the header with the header height control rocker switch (5) and make sure the header rests flat onto the ground.
5. Press the header height control rockers switch (5) (lower the header) and the resume button (2) simultaneously.
   Hold both switches until the green autodiagnostic indicator (3) has blinked five times.



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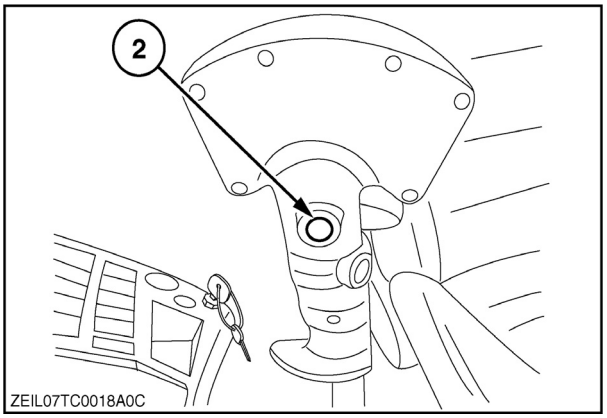

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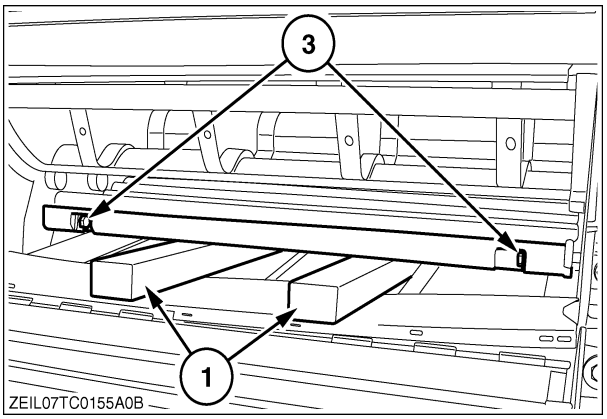
7. Insert two wooden blocks (1).

8. On both sides, loosen the bolt (3) to release the front of the concave.



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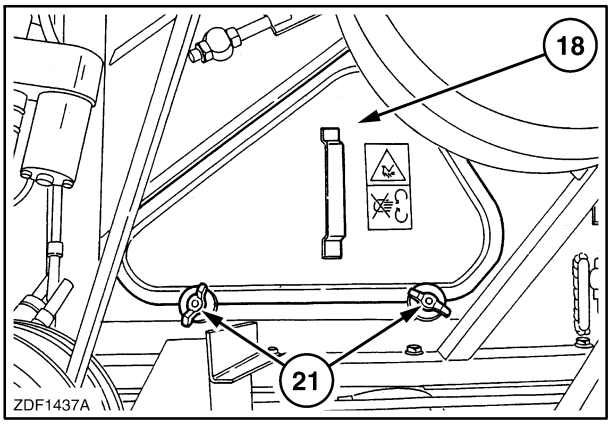
9. On both sides, remove the grain pan access covers (18) by loosen the three wing nuts (21).



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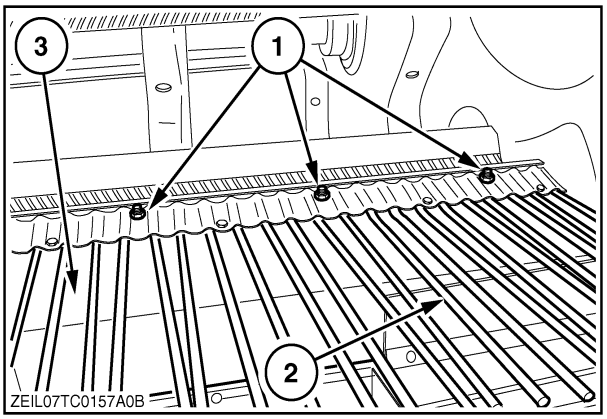
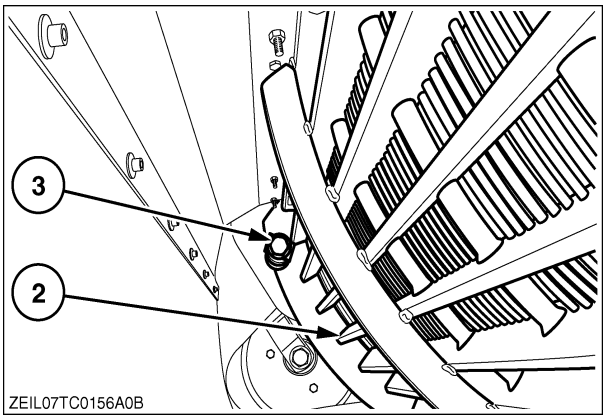
10. Loosen the nuts (1) to remove the rake (2) and the plate (3).
(Access trough the straw walker opening).



71

11. On the inside, loosen the bolts (3) to release the back of the concave (2).



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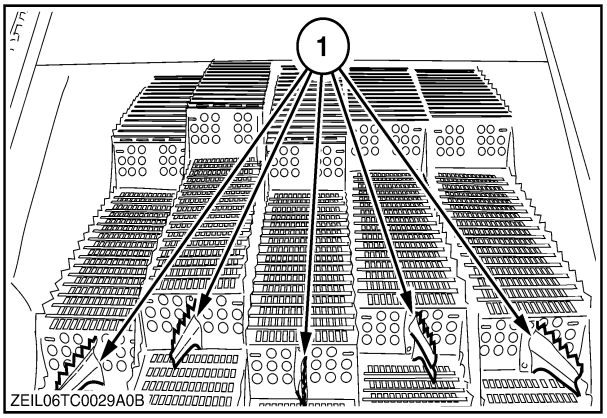
STRAW WALKERS

The straw risers 1 on the straw walkers assist in separating grain from the straw.

If required, they can be removed in crops which are likely to cause blockages, e.g. barley.



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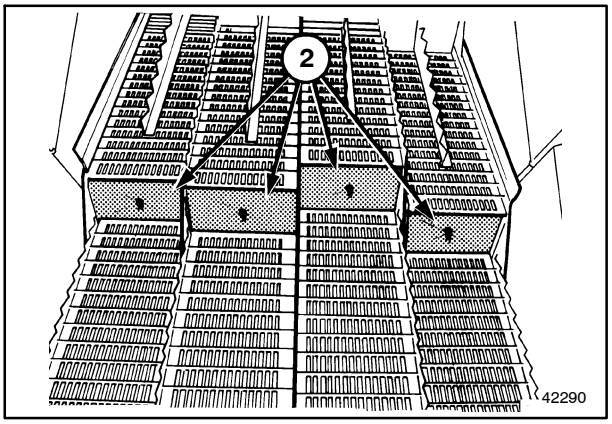
When operating in short, brittle straw crops, vertical cover plates 2 [accessory] can be installed to prevent short straw from reaching the sieves and overloading them.



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GRAIN STORAGE/UNLOADING

CAUTION

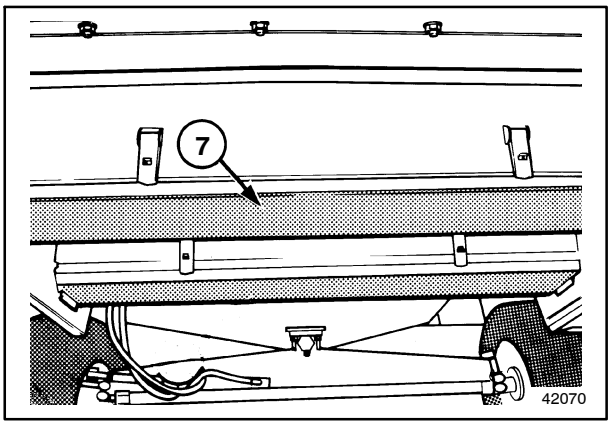
Drive always on public roads with an empty grain tank.

Grain tank filling system

CAUTION

Always stop the combine completely, remove the ignition key and engage the parking brake before cleaning one of the following parts.

- To clean the grain cross auger, remove the cover (7).



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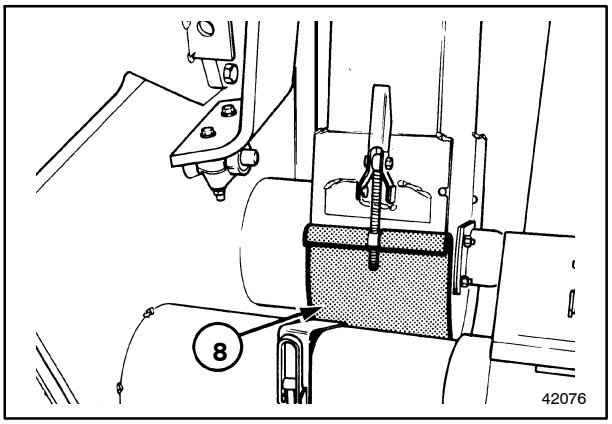
- To clean the grain elevator, open the cover (8).



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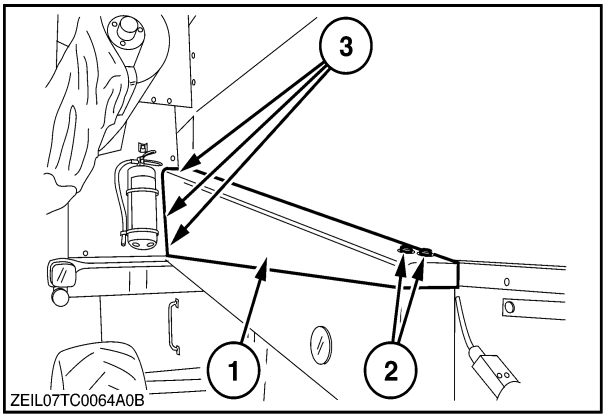
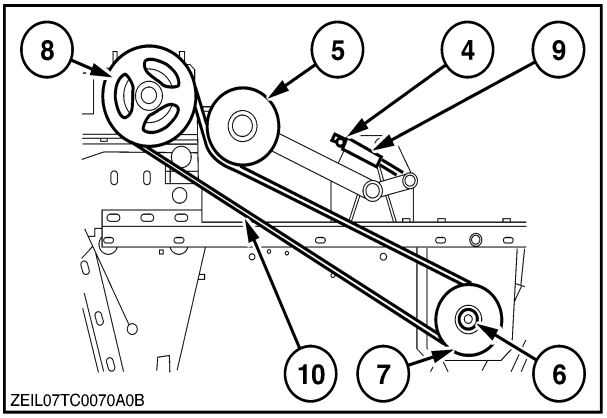
3. Remove the protection cover (1) by loosening the two bolts (2) on the right side and the three bolts (3) with nuts inside the cover on the left side and lift the cover.
   Now you discover the V–belt and pulley mechanism. (see fig. 181).



180

4. Loosen the nut (4) to release the spring (9) that pushes the tension pulley (5) on the V–belt (10).
5. Remove the V-belt (10).
6. Loosen the bolt (6) from the pulley (7) and remove it with proper device (e.g. pulley puller).



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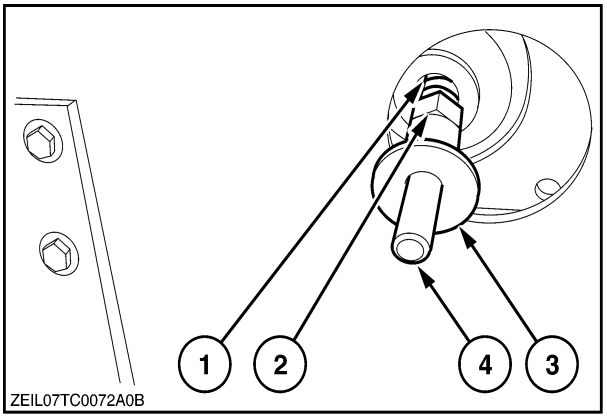
7. Remove the knob (1) with nut (see fig. 174).
8. Remove the bushes (2), washer (3) and spring (1).



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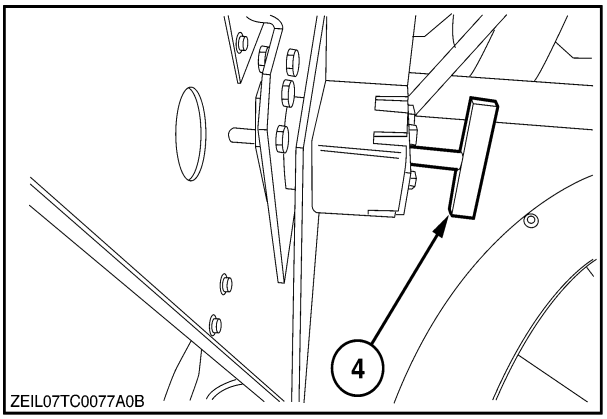
9. Remove the shaft (4) from the inside.



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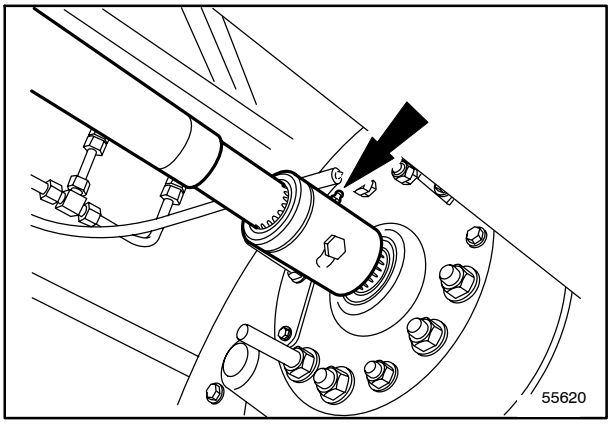
100 hours interval – left-hand side

1. Final drive shaft connecting sleeve (2 grease fittings)



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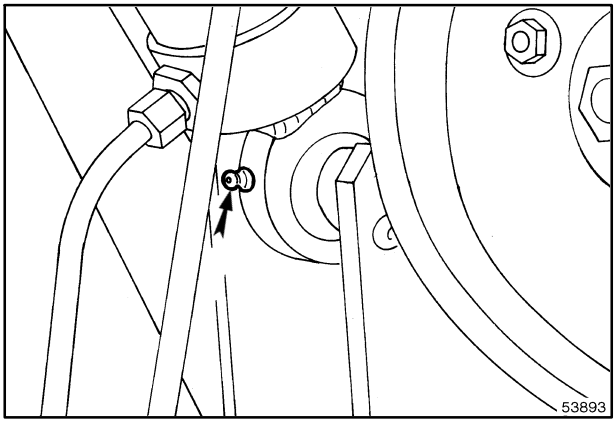
2. Unloading tube cylinder bottom joint



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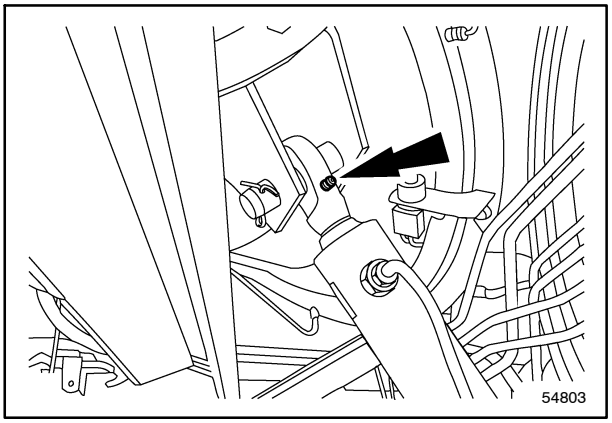
3. Unloading tube cylinder top joint



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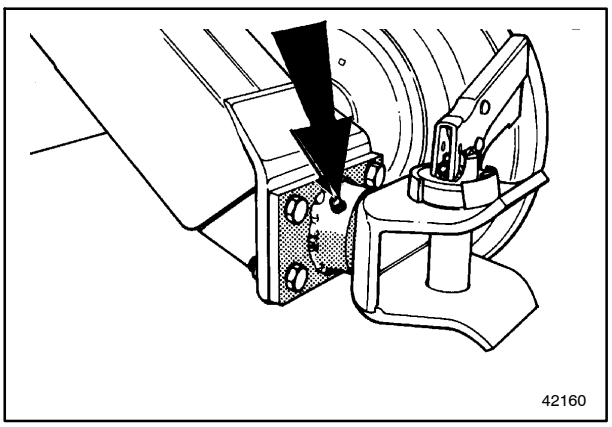
4. Rotation trailer hitch (if installed)



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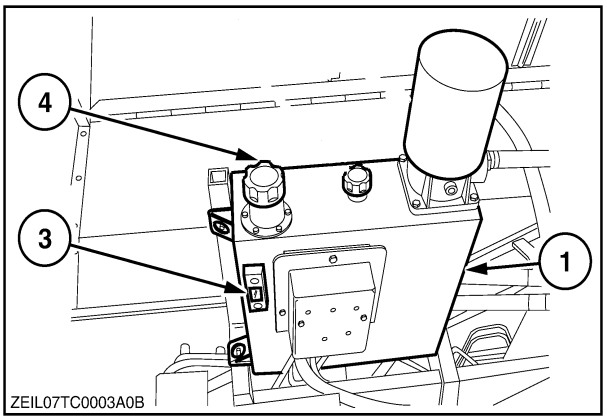
HYDRAULIC AND HYDROSTATIC SYSTEM

Oil reservoir

A single oil reservoir (1) is fitted for the hydraulic and hydrostatic system (if applicable). Both systems draw their oil from the same reservoir but the oil for each circuit goes through a separate filtering system.

- unit with mechanical drive (fig. 62)
- unit with hydrostatic drive (fig. 63)



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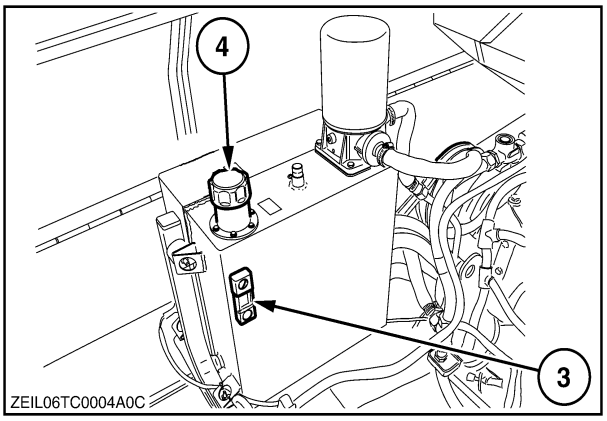
Oil level

NOTE: *Ensure that all hydraulic cylinders are retracted before checking the oil level.*

It is necessary to check daily the oil level by the level gauge (3) and should be kept between the marks. If necessary, add oil through the filler opening (4).

IMPORTANT: *Always clean the reservoir filler cap (4) and surrounding area before removing the filler cap to top-up or replace the oil.*



63

7. Retract all hydraulic cylinders and coat exposed parts of the cylinder rods with grease.

8. Clean all belts, then check belt tension. Adjust if necessary.

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9. Clean the air filter element.

10. Use compressed air, or water under pressure, to clean out the engine radiator. Use a low-pressure water jet, or compressed air, to clean the air-conditioner condenser fins.

11. Check the anti-freeze content in the engine cooling system.

12. Fill the fuel tank completely.

13. Store the combine in a dry place, protected from the weather.

14. Close off all engine openings with plugs or greaseproof paper.

15. Support the combine on wooden blocks to relieve the weight from the tires. Leave tires inflated.

16. Disconnect the battery cables. Clean and charge the batteries.

IMPORTANT: *The batteries should be charged every 8 to 10 weeks with a 5 to 6 amperes current for a period of 24 hours to a minimum of 12.6 volt.*

NOTE: *Removing the batteries will not harm the storage of information in the monitor.*

17. Straw chopper: Remove all knives and bushings, grease them thoroughly and reinstall them onto the rotor. Torque nuts between 110 and 120 Nm (81 and 88 ft.lbs).

18. Every 4 weeks, remove the engine opening seals, start the engine and run at 3/4 throttle for 1 to 2 hours. Move all the variators from minimum to maximum, and vice versa, to ensure adequate lubrication to prevent rust.

19. Switch on the air conditioning while the engine is running, only if the ambient temperature is above 15°C (60°F). This will ensure lubrication of the compressor parts. Operate the air-conditioning system for at least 15 minutes.

20. Reinstall the engine opening seals.

Periodic checks will help to keep your combine maintenance and repairs to a minimum and avoid costly breakdowns during the season. Therefore, it is good practice to have the combine inspected at the end of the season. Your NEW HOLLAND dealer will gladly quote a price for this work.