

SERVICE MANUAL

Megacutter™ 512

Megacutter™ 530

Tractor Mounted Disc Mower-Conditioner

Part number 47390184

1st edition English

April 2013 manual. Download All 174 pages at:

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Foreword - Ecology and the environment

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances required by advanced technology, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

NOTE: *The following are recommendations that may be of assistance:*

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use, and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

Helpful hints

- Avoid filling tanks using cans or inappropriate pressurized fuel delivery systems that may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when draining off used engine coolant mixtures, engine, gearbox and hydraulic oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
- Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil, but should be collected and disposed of properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your NEW HOLLAND AGRICULTURE dealer or air conditioning specialist has a special extractor for this purpose and will have to recharge the system properly.
- Repair any leaks or defects in the engine cooling or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, allowing the loss of oils, coolant, etc.

Personal safety

⚠ WARNING

Risk of harm during maintenance of the machine!

Before you start servicing the machine, attach a DO NOT OPERATE warning tag to the machine in a visible area.

Failure to comply could result in death or serious injury.

W1242A

Attach a DO NOT OPERATE (TAG) to the machine in an area that is clearly visible whenever the machine is not operating properly and/or requires service.

Complete the tag information for the "REASON" the tag is attached by describing the malfunction or service required.

Validate the reason for attaching the tag by signing your name in the designated area on the tag.

The tag should only be removed by the person who signed and attached the tag, after validating the repairs or services have been completed.

Basic instructions - Important notice regarding equipment servicing

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The information in this manual is up-to-date at the date of the publication. It is the policy of the manufacturer for continuous improvement. Some information could not be updated due to modifications of a technical or commercial type, or changes to the laws and regulations of different countries.

In case of questions, refer to your NEW HOLLAND AGRICULTURE Sales and Service Networks.

Basic instructions - Shop and assembly

Shimming

For each adjustment operation, select adjusting shims and measure individually using a micrometer, then add up the recorded values. Do not rely on measuring the entire shimming set, which may be incorrect, or the rated value indicated on each shim.

Rotating shaft seals

For correct rotating shaft seal installation, proceed as follows:

- Before assembly, allow the seal to soak in the oil it will be sealing for at least thirty minutes.
- Thoroughly clean the shaft and check that the working surface on the shaft is not damaged.
- Position the sealing lip facing the fluid; with hydrodynamic lips, take into consideration the shaft rotation direction and position the grooves so that they will deviate the fluid towards the inner side of the seal.
- Coat the sealing lip with a thin layer of lubricant (use oil rather than grease) and fill the gap between the sealing lip and the dust lip on double lip seals with grease unless instructed otherwise.
- Insert the seal in its seat and press down using a flat punch or seal installation tool. Do not tap the seal with a hammer or mallet.
- While inserting the seal, check that it is perpendicular to the seat; once settled, make sure that it makes contact with the thrust element, if required.
- To prevent damaging the seal lip on the shaft, position a protective guard during installation operations.

O-ring seals

Lubricate the O-ring seals before inserting them in the seats, this will prevent them from overturning and twisting, which would jeopardize sealing efficiency.

Sealing compounds

Apply one of the following sealing compounds on the mating surfaces when specified: SILMATE® RTV1473, or **LOCTITE® RTV 598** or **LOCTITE® INSTANT GASKET 587 BLUE**. Before applying the sealing compound, prepare the surfaces as directed on product container or as follows:

- Remove any incrustations using a metal brush.
- Thoroughly de-grease the surfaces using a locally approved cleaning agent such as safety solvent or brake parts cleaner.

Spare parts

Only use "CNH Original Parts" or " NEW HOLLAND AGRICULTURE Parts".

Only genuine spare parts guarantee the same quality, duration and safety as original parts, as they are the same parts that are assembled during standard production. Only "CNH Original Parts" or " NEW HOLLAND AGRICULTURE Parts" can offer this guarantee.

When ordering spare parts, always provide the following information:

- Machine model (commercial name) and serial number
- Part number of the ordered part, which can be found in the "Service Parts Catalogue", used for order processing

Protecting the electrical/electronic systems during charging or welding

⚠ WARNING

Battery acid causes burns. Batteries contain sulfuric acid.

Avoid contact with skin, eyes or clothing. Antidote (external): Flush with water. Antidote (eyes): flush with water for 15 minutes and seek medical attention immediately. Antidote (internal): Drink large quantities of water or milk. Do not induce vomiting. Seek medical attention immediately.

Failure to comply could result in death or serious injury.

W0111A

To avoid damage to the electronic/electrical systems, always observe the following:

1. Never make or break any of the charging circuit connections, including the battery connections, when the engine is running.
2. Never short any of the charging components to ground.
3. Always disconnect the ground cable from the battery before arc welding on the machine or on any attachments on the machine.
 - Position the welder ground clamp as close to the welding area as possible
 - If welding in close proximity to a computer module, then the module should be removed from the machine
 - Never allow welding cables to lay on, near or across any electrical wiring or electronic component while welding is in progress
4. Always disconnect the negative cable from the battery when charging the battery in the machine with a battery charger.

NOTICE: *If welding must be performed on the unit, the battery ground cable must be disconnected from the machine battery. The electronic monitoring system and charging system will be damaged if this is not done.*

Remove the battery ground cable. Reconnect the cable when welding is completed.

Tools

The tools that NEW HOLLAND AGRICULTURE suggests and illustrated in this manual have been:

- Specifically researched and designed for use with NEW HOLLAND AGRICULTURE machines
- Essential for reliable repair operations
- Accurately built and rigorously tested so as to offer efficient and long-lasting operation

By using these tools, repair personnel will benefit from:

- Operating in optimal technical conditions
- Obtaining the best results
- Saving time and effort
- Working in safe conditions

NOTE: *The terms "front", "rear", "right-hand" and "left-hand" (when referred to different parts) are determined from the rear, facing in the direction of travel of the machine during operation.*

Torque - Minimum tightening torques for normal assembly

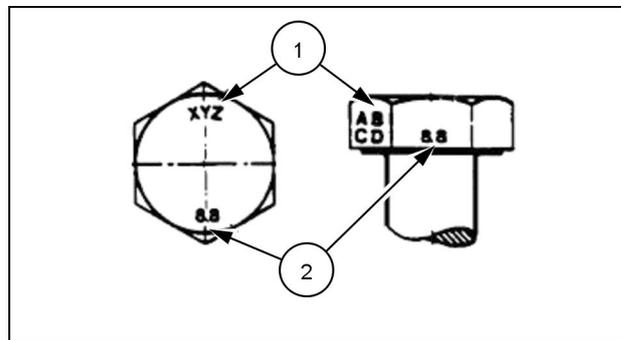
METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

NOTE: M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.

IDENTIFICATION

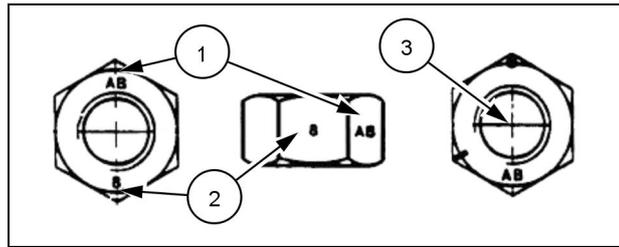
Metric Hex head and carriage bolts, classes 5.6 and up



20083680 1

1. Manufacturer's Identification
2. Property Class

Metric Hex nuts and locknuts, classes 05 and up



20083681 2

1. Manufacturer's Identification
2. Property Class

3. Clock Marking of Property Class and Manufacturer's Identification (Optional), i.e. marks **60** ° apart indicate Class 10 properties, and marks **120** ° apart indicate Class 8.

Torque - Standard torque data for hydraulics

STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

NOTICE: All hydraulic fittings on this machine are British Standard Pipe Thread (BSP). these fittings are NOT interchangeable with National Pipe Thread (NPT). See your authorized NEW HOLLAND AGRICULTURE dealer for the correct fittings or adapters.

General specification - General Welding

⚠ WARNING

Explosion hazard!

Batteries emit explosive gases. Always ventilate when using in an enclosed area or when charging.

Keep the battery away from sparks, open flames, and other ignition sources.

Failure to comply could result in death or serious injury.

W0369A

Use a 7013 or 7011 welding rod or wire that meets the following American Welding Society (AWS) specifications: ER80S-D2, ER70S-6 or E70C-M6-H4.

NOTICE: *ALWAYS disconnect the battery (both terminals) before welding on any part of the machine. Failure to do so may cause damage to sensitive electrical components.*

NOTICE: *Locate the welding ground as close as possible to the area to be welded. Do not allow the ground current to pass through any roller type bearing. Arcing inside the roller bearing can result in severe machine damage.*



SERVICE MANUAL

Main gearbox and drive

MegaCutter™ 512
MegaCutter™ 530

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MegaCutter™ 512 , MegaCutter™ 530	



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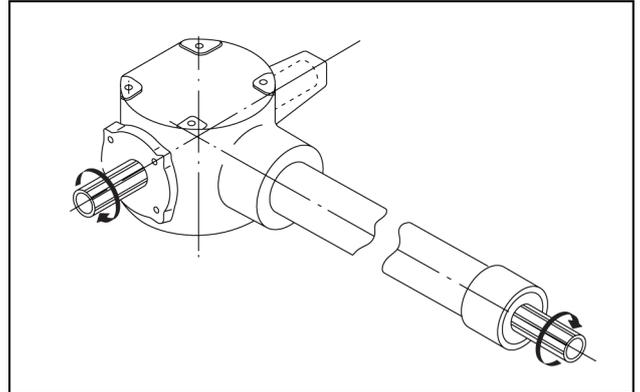
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Main gearbox and drive - Service instruction - How to change gearbox shaft rotation

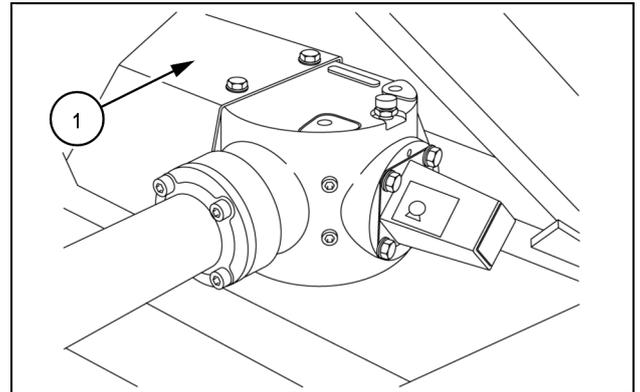
MegaCutter™ 512

The machine is equipped with a main drive gearbox that allows it to be installed on tractors with both clockwise and counter-clockwise rotating front PTO shafts. By default, the unit is shipped configured for use with tractors having a counterclockwise rotating PTO, as depicted in the figure. The direction of rotation is determined by looking toward the tractor's PTO shaft. For tractors with clockwise rotating front PTO shafts, the gearbox will need to be removed and converted before the PTO shaft is installed.



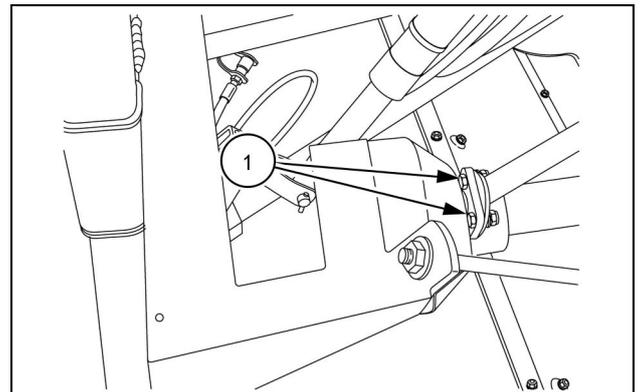
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1. Remove the PTO housing shield (1) .



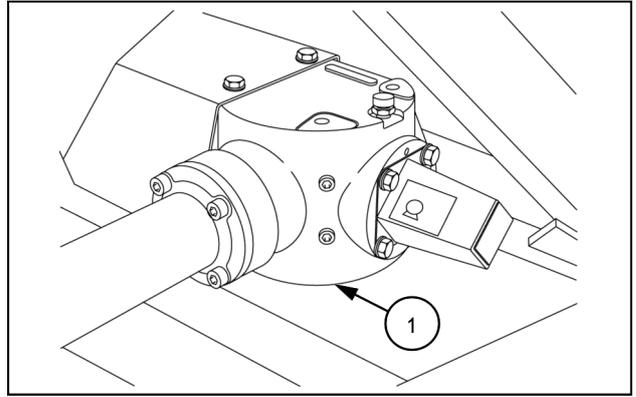
NHIL12HT00226AA 2

2. Remove the support bolts (1).



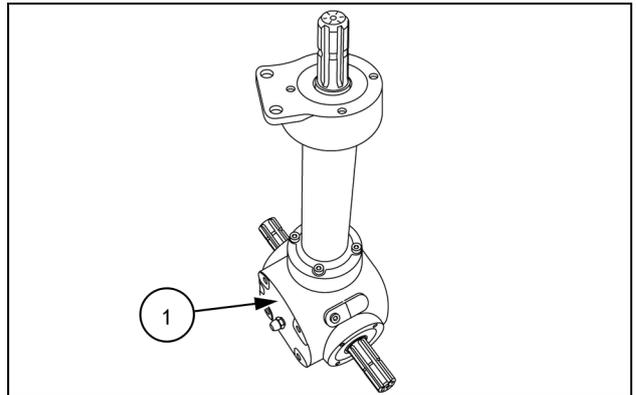
NHIL12HT00108AA 3

3. Remove the bolts (1) on the bracket.



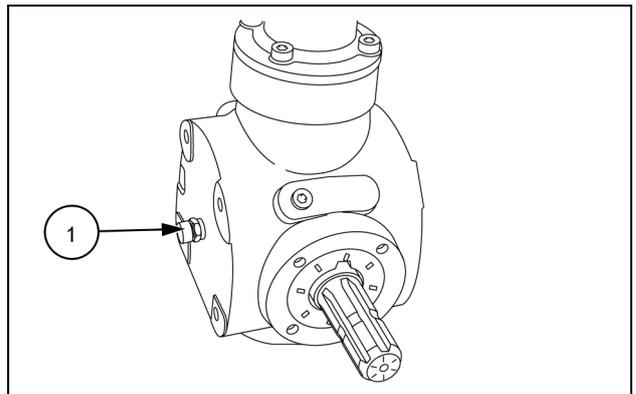
NHIL12HT00226AA 4

4. Remove the gearbox (1) from the machine and place it in the position shown.

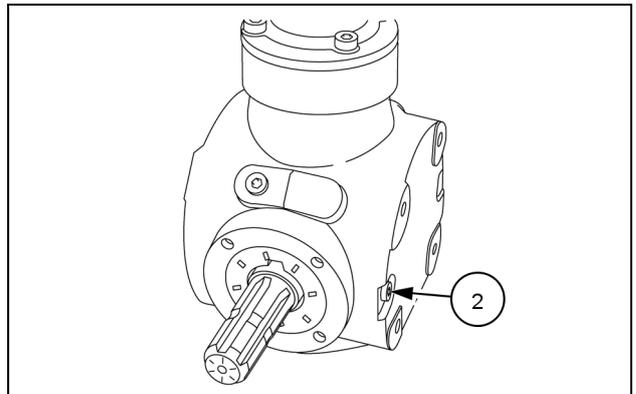


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5. Remove the breather (1) and the oil drain plug (2) and switch them.



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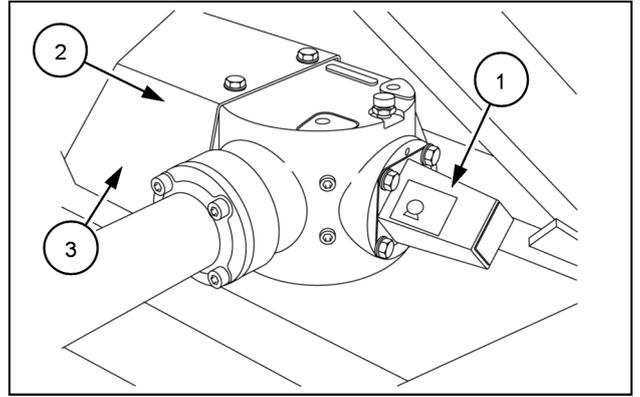
NHIL12HT00111AA 7

6. Remove the shield **(1)** and install it over the opposite shaft at **(2)**.

7. Reinstall the gearbox on the bracket.

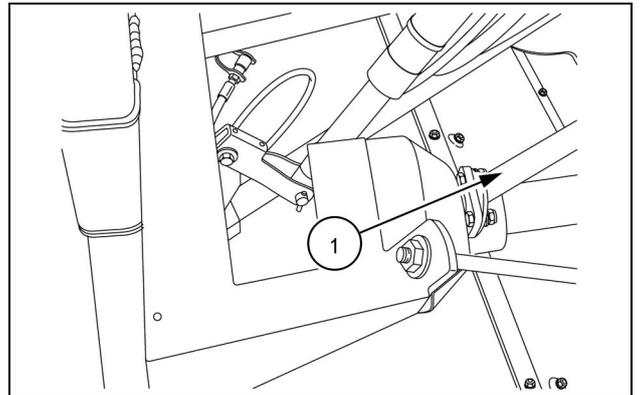
NOTICE: Be careful when engaging the gearbox shaft on the machine.

8. Reinstall the shield **(3)**.



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9. Reinstall the supports **(1)**.

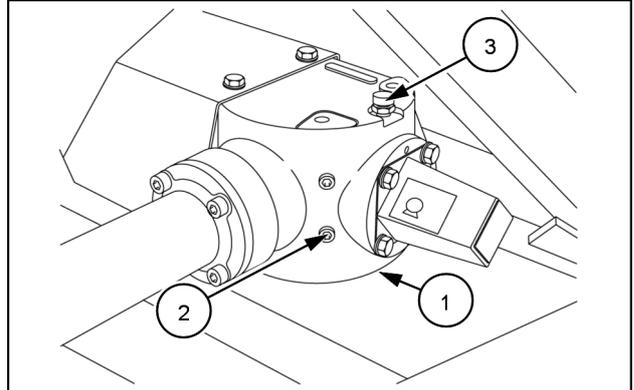


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Main gearbox and drive - Change fluid Main gear oil

MegaCutter™ 512

1. Use a suitable tool to remove the oil drain plug (1).
2. Allow the oil to drain into an appropriate container for approximately **10 - 15 min.**
3. Reinstall the oil drain plug (1).
4. Remove the oil fill plug at (3).



NHIL12HT00226AA 1

NOTE: *If only checking the oil level, always check using the lower plug (2).*

5. Refill with approximately **1.9 l (2 US qt)** of fresh **TUTELA HYPOIDE EP GEAR LUBE SAE 80W-90** through the hole (1) until the oil level reaches the bottom of the check level hole (2).
6. Replace both oil plugs and tighten them securely.

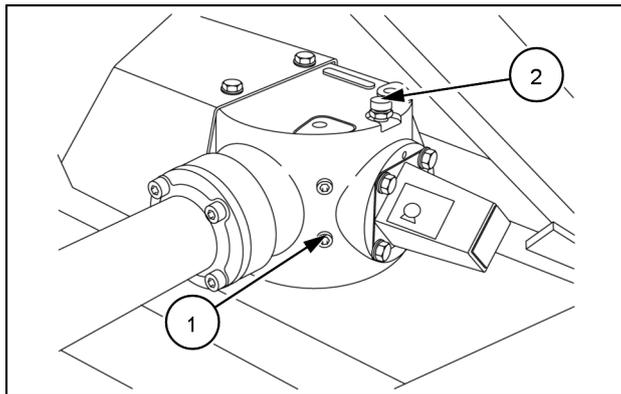
Main gearbox and drive - Check – Oil level

MegaCutter™ 512

1. Park the machine on a flat surface and lower the header to the ground.
2. Remove oil level plug (1).
3. Check that the oil level is up to the bottom of the hole.

NOTE: Always check the oil to the lower of the two check plugs, as shown.

4. If the oil level is low, remove the oil fill plug (2) and fill the gearbox to the correct level with **TUTELA HYPOIDE EP GEAR LUBE SAE 80W-90**.
5. When the oil level is correct, reinstall the two oil plugs.

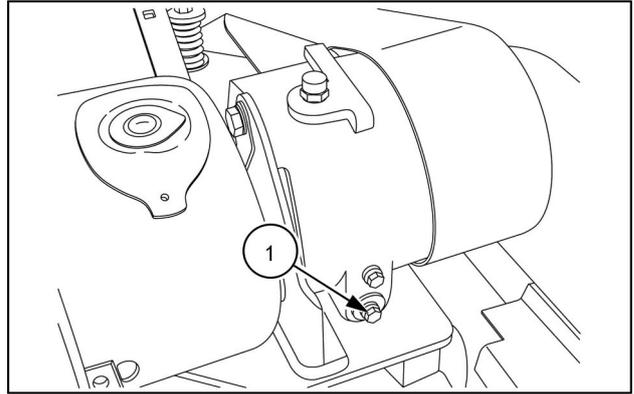


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Main gearbox and drive - Change fluid Bevel gear oil

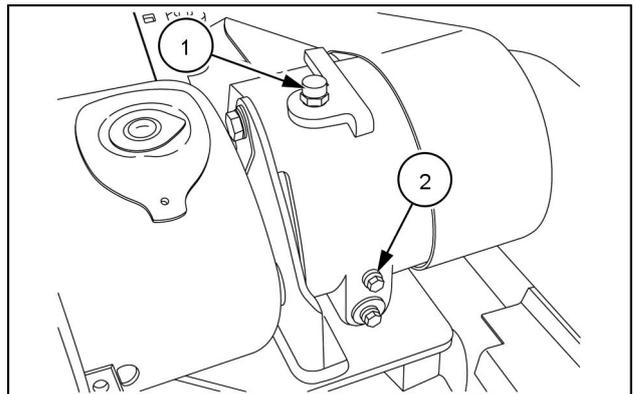
MegaCutter™ 512

1. Use a suitable tool to remove the oil drain plug **(1)**.
2. Allow the oil to run into an appropriate container.
3. Let the oil drain out of the transmission for approximately **10 - 15 min.**
4. Reinstall the oil drain plug.



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5. Remove oil plugs **(1)** and **(2)**.
6. Refill with approximately **0.25 l (0.5 US pt)** of fresh **TUTELA HYPOIDE EP GEAR LUBE SAE 80W-90** through the hole at **(1)** until the oil level reaches the bottom of the check level hole **(2)**.
7. Replace both oil plugs and tighten them securely.

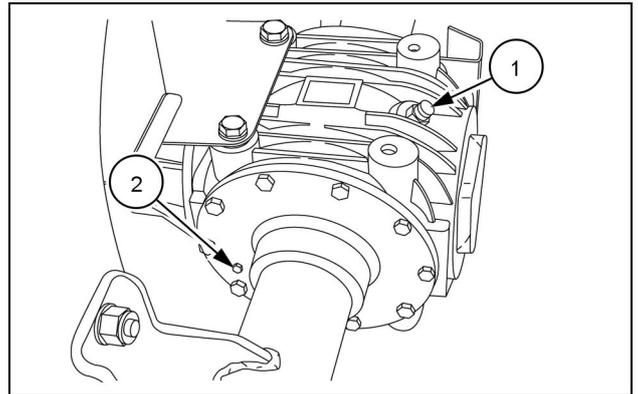


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Main gearbox and drive - Check - Main gear oil level

MegaCutter™ 530

1. Remove the oil level check plug **(2)**.
2. Check that the oil is filled all the way up to the bottom of the hole.
3. If the oil needs to be topped off, remove the oil fill plug **(1)**.
4. Fill the oil to the correct level until it reaches the bottom of the hole **(2)**.
5. Replace both oil plugs and tighten them securely.



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Main gearbox and drive - Drain fluid – Main gear oil change

MegaCutter™ 530

⚠ CAUTION

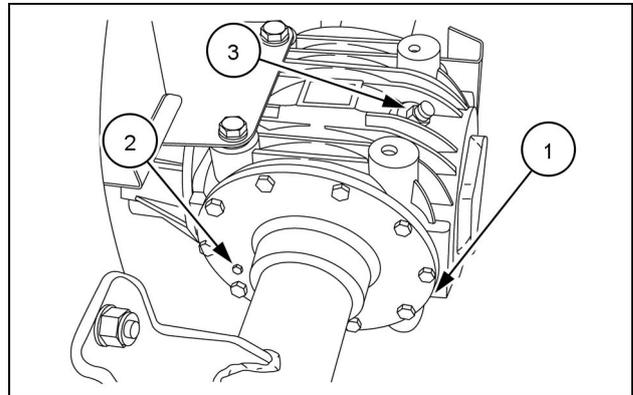
Burn hazard!

Do not handle any service fluid (engine coolant, engine oil, hydraulic oil, etc.) at temperatures that exceed 49 °C (120 °F). Allow fluids to cool before proceeding.

Failure to comply could result in minor or moderate injury.

C0107B

1. Remove the oil drain plug (1).
2. Allow the oil to drain into an appropriate container for approximately **10 - 15 min.**
3. Reinstall the oil drain plug (1).
4. Remove the oil level check plug (2).
5. Remove the oil fill plug (3).
6. Refill with approximately **3.0 l (3.2 US qt)** of fresh **TUTELA HYPOIDE EP GEAR LUBE SAE 80W-90** through the hole (1) until the oil level reaches the bottom of the check level hole (2).
7. Replace both oil plugs and tighten them securely.



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Main gearbox and drive - Check - Bevel gear oil level

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⚠ CAUTION

Burn hazard!

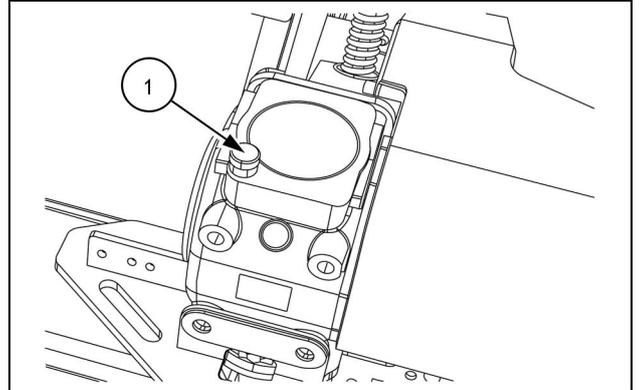
Do not handle any service fluid (engine coolant, engine oil, hydraulic oil, etc.) at temperatures that exceed 49 °C (120 °F). Allow fluids to cool before proceeding.

Failure to comply could result in minor or moderate injury.

C0107B

Maintain the bevel gear oil level by checking every 80 hours or biweekly and topping off as needed.

1. Remove the dipstick **(1)** from the unit.
2. Wipe dipstick clean of oil with a rag or shop cloth.
3. Replace the dipstick and hold momentarily in place.
4. Remove dipstick again and check that the oil level is up to the "Max" indication on the dipstick.
5. Top off by pouring oil through the hole where the dipstick is fitted as required.



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NOTE: This procedure is carried out on both cutting units.

Main gearbox and drive - Drain fluid - Bevel gear oil change

MegaCutter™ 530

⚠ CAUTION

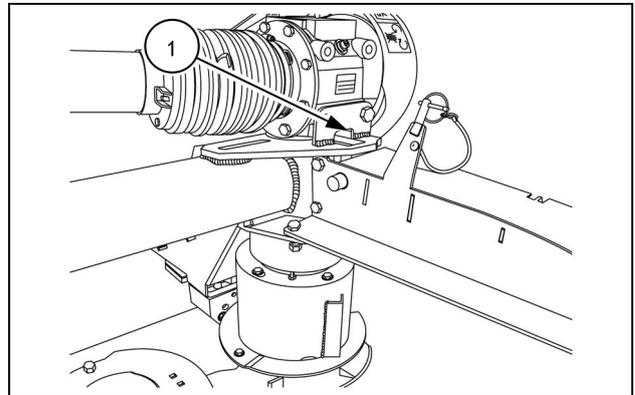
Burn hazard!

Do not handle any service fluid (engine coolant, engine oil, hydraulic oil, etc.) at temperatures that exceed 49 °C (120 °F). Allow fluids to cool before proceeding.

Failure to comply could result in minor or moderate injury.

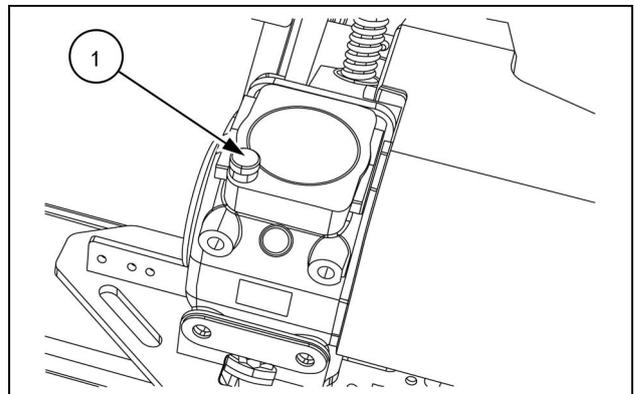
C0107B

1. Use a suitable tool to remove the oil drain plug (1).
2. Allow the oil to drain into an appropriate container.
3. Let the oil drain out of the transmission for approximately **10 - 15 min.**
4. Reinstall the oil drain plug.



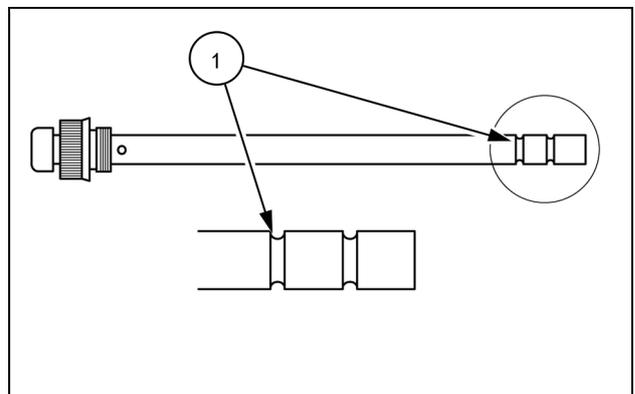
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5. Remove the dipstick (1).
6. Refill with **3 l (3.2 US qt)** fresh **TUTELA HYPOIDE EP GEAR LUBE SAE 80W-90.**



83119941 2

7. Insert the dipstick into the hole and check to make sure that the oil level is at the "max" line (1) on the dipstick.
8. When the oil level is correct, reinstall the dipstick.



83119942 3

Main gearbox - Replace - V- belt

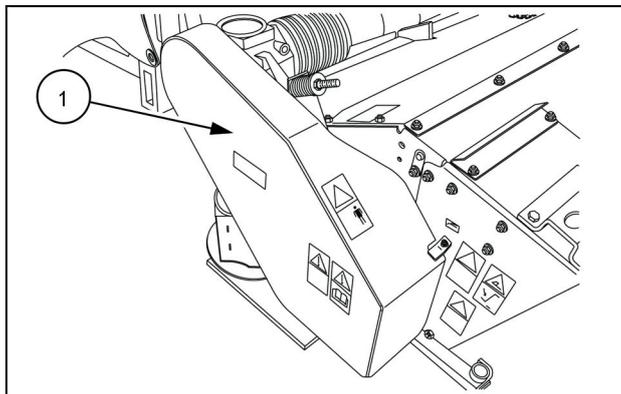
MegaCutter™ 530

V-belts must be replaced when they become worn. Replace the V-belt as follows:

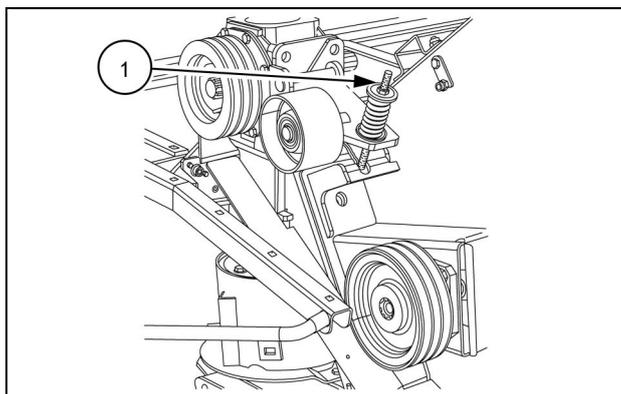
1. Remove the shield **(1)** covering the V-belts.

2. Completely loosen the nut on the spring loaded belt tensioner **(1)**.
3. Remove the V-belts.
4. Install the new V-belts.

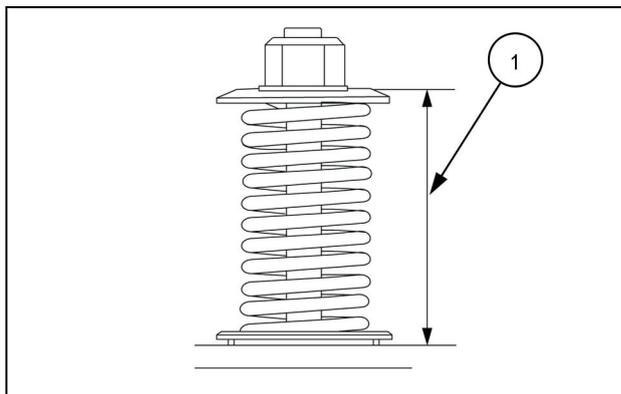
5. Tighten the nut until the spring length **(1)** is **80 mm (3.1 in)**.
6. Reinstall the shield.



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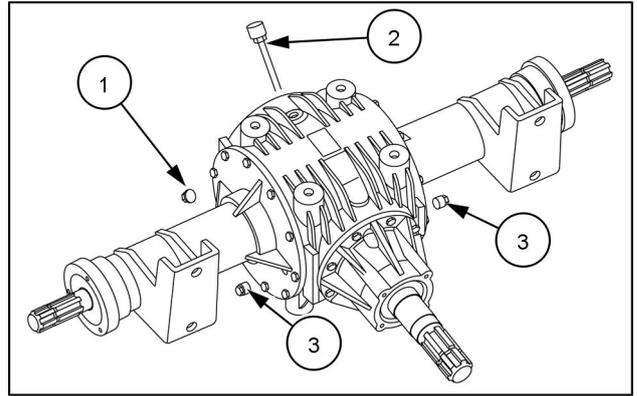


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Main gearbox - Disassemble

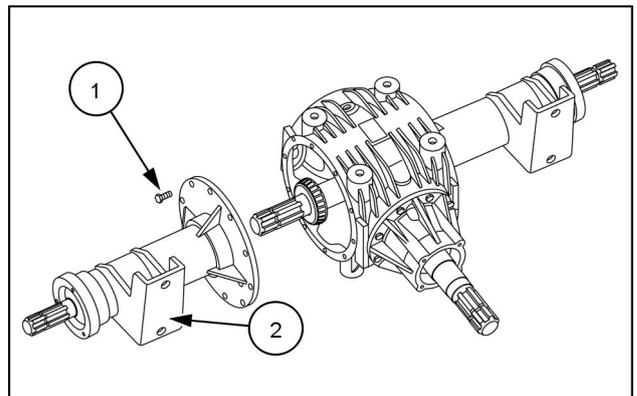
MegaCutter™ 530

1. Drain the oil from the gearbox.
2. Remove the drain plug (1).
3. Remove the fill plug (2).
4. Remove the oil level inspection plugs (3).



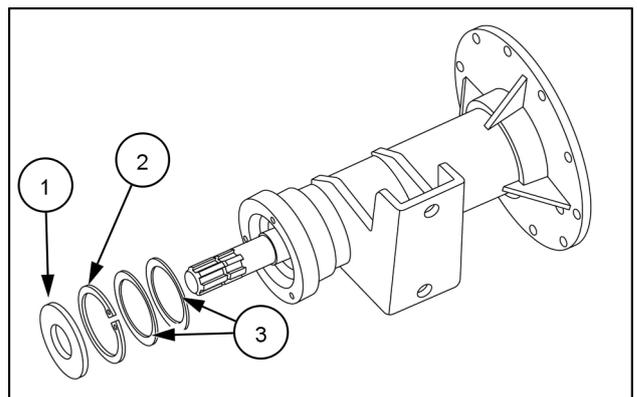
NHIL12HT01179AA 1

5. Remove the support extension bolts (1).
6. Use a chisel and hammer to remove the support extension (2).



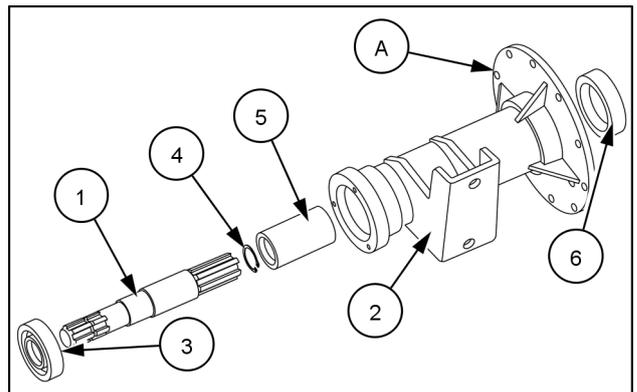
NHIL12HT01180AA 2

7. Remove the oil seal (1), snap ring (2), and shims (3).



NHIL12HT01181AA 3

8. Hit the shaft (1) from side (A) to remove it from the support extension (2).
9. Remove the bearing (3) from the shaft (1).
10. Remove the snap ring (4) from the bushing (5).
11. Remove the outer ring (6) from the support extension (2).



NHIL12HT01182AA 4

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