SERVICE MANUAL

12HS / 14HS / 16HS / 18HS

Sickle Header

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NEW HOLLAND AGRICULTURE

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Foreword - 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 manufacturer reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication but are subject to change without notice.

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

Safety rules

Personal safety

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation that, if not avoided, could result in machine or property damage.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information that clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules - Personal safety

⚠ Precautionary statements ⚠

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so.

Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follow safety precautions.

1. Always disengage the drive, lock the tractor brakes, and shut off the tractor engine before:
   - Leaving the seat.
   - Lubricating.
   - Cleaning or unplugging any part of the machine.
   - Adjusting the machine.
2. Always lower the header to the ground or engage the transport stops when parking.
3. Always use the header transport stops and spring-loaded tongue safety lock when transporting the machine.
4. Never work under a raised header unless it is securely locked with the header transport stops
5. Always block the wheels before working on or under the machine.
6. Do not start the machine until you know that everyone is clear of the machine and have made sure no tools are lying on it.
7. Keep all shields in place. Never work around the machine in loose clothing that could catch in a moving part.
8. Do not modify any shields or operate the machine with any shields removed.
9. Always use adequate lights and safety warning devices when transporting the machine on public roads or after dark. Check with your local law enforcement agencies for specific requirements.
10. Long exposure to loud noise can damage your hearing. Wear a suitable hearing protection device such as ear-muffs or ear plugs if you are exposed to uncomfortable noise levels.
11. Be sure no one is standing near or touching the machine before raising or lowering the header.

Safety rules - Ecology and the environment

Soil, air, and water quality is important for all industries and life in general. When legislation does not yet rule the treatment of some of the substances that advanced technology requires, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

Familiarize yourself with the relative legislation applicable to your country, and make sure that you understand this legislation. Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, anti-freeze, cleaning agents, etc., with regard to the effect of these substances on man and nature and how to safely store, use, and dispose of these substances.

Helpful hints

- Avoid the use of cans or other inappropriate pressurized fuel delivery systems to fill tanks. Such delivery systems may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of these products 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 you drain fluids such as used engine coolant mixtures, engine oil, hydraulic fluid, brake fluid, etc. Do not mix drained brake fluids or fuels with lubricants. Store all drained fluids safely until you can dispose of the fluids in a proper way that complies with all local legislation and available resources.
- Do not allow coolant mixtures to get into the soil. Collect and dispose of coolant mixtures properly.
- The air-conditioning system contains gases that should not be released into the atmosphere. Consult an air-conditioning specialist or use a special extractor to recharge the system properly.
- Repair any leaks or defects in the engine cooling system 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. Penetrating weld splatter may burn a hole or weaken hoses, allowing the loss of oils, coolant, etc.

Battery recycling

Batteries and electric accumulators contain several substances that can have a harmful effect on the environment if the batteries are not properly recycled after use. Improper disposal of batteries can contaminate the soil, groundwater, and waterways. NEW HOLLAND strongly recommends that you return all used batteries to a NEW HOLLAND dealer, who will dispose of the used batteries or recycle the used batteries properly. In some countries, this is a legal requirement.

Mandatory battery recycling

NOTE: *The following requirements are mandatory in Brazil.*

Batteries are made of lead plates and a sulfuric acid solution. Because batteries contain heavy metals such as lead, CONAMA Resolution 401/2008 requires you to return all used batteries to the battery dealer when you replace any batteries. Do not dispose of batteries in your household garbage.

Points of sale are obliged to:

- Accept the return of your used batteries
- Store the returned batteries in a suitable location
- Send the returned batteries to the battery manufacturer for recycling

Torque – Minimum tightening torques for normal assembly

NOTE: *In the metric tables, nominal sizes M4 through M8 hardware torque specifications are shown as a Newton meters (pound-inches) numerical value.*
Nominal sizes M10 through M24 hardware torque specifications are shown as a Newton meters (pound-feet) numerical value.

Metric non-flanged hardware

Plain (PLN) an unplated hardware finish with residual manufacturing oils
Zinc-dichromate (ZND) – a yellow colored chemical plating formula yellow applied to the hardware

Nominal size	Class (CL) 8.8 bolt and Class (CL) 8 nut	Class (CL) 10.9 bolt and Class (CL) 10 nut	Locknut CL 8 w/CL 8.8 bolt	Locknut CL 10 w/CL 10.9 bolt
	PLN and ZND	PLN and ZND	ZND	ZND
	N·m (lb in)	N·m (lb in)	N·m (lb in)	N·m (lb in)
M4	2.9 (26)	4.2 (37)	2 (18)	2.9 (26)
M5	5.9 (52)	8.5 (75)	4 (36)	5.8 (51)
M6	10.1 (89)	14.5 (128)	6.8 (60)	10 (89)
M8	24.5 (217)	35.1 (311)	17 (151)	24 (212)
	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)
M10	48.7 (36)	69.5 (90)	33 (25)	48 (35)
M12	85 (63)	121 (67)	58 (43)	83 (61)
M14	135 (100)	193 (142)	92 (68)	132 (97)
M16	210 (155)	301 (222)	143 (106)	205 (151)
M18	299 (221)	414 (305)	203 (150)	281 (207)
M20	425 (313)	587 (433)	290 (214)	400 (295)
M24	735 (542)	1016 (749)	501 (370)	693 (510)

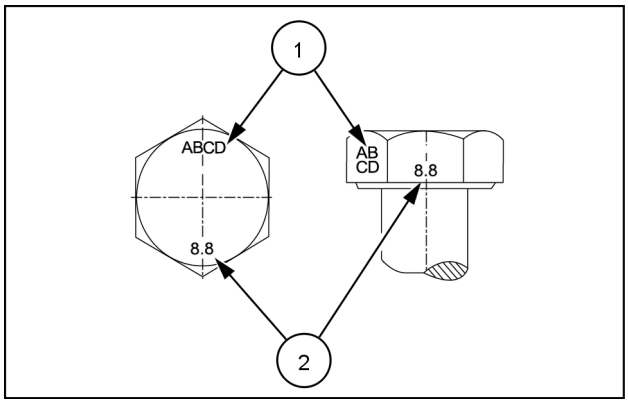
Metric flanged hardware

Plain (PLN) – an unplated hardware finish with residual manufacturing oils
Zinc-dichromate (ZND) – a yellow colored chemical plating formula yellow applied to the hardware

Nominal size	Class (CL) 8.8 bolt and Class (CL) 8 nut	Class (CL) 10.9 bolt and Class (CL) 10 nut	Locknut CL 8 w/CL 8.8 bolt	Locknut CL 10 w/CL 10.9 bolt
	PLN and ZND	PLN and ZND	ZND	ZND
	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)
M4	3.2 (28)	4.6 (41)	2.2 (19)	3.1 (27)
M5	6.5 (58)	9.4 (83)	4.4 (39)	6.4 (57)
M6	11.1 (98)	15.9 (141)	7.5 (66)	11 (96)
M8	27 (239)	39 (345)	18 (163)	27 (240)
	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)
M10	53.6 (40)	76.5 (56)	37 (27)	53 (39)
M12	93 (69)	134 (98)	63 (47)	91 (67)
M14	148 (109)	213 (157)	101 (75)	145 (107)
M16	231 (171)	331 (244)	158 116)	226 (167)
M18	329 (243)	455 (336)	223 (165)	309 (228)
M20	467 (345)	645 (476)	318 (235)	440 (325)
M24	809 (597)	1118 (824)	552 (407)	

Identification markings

Metric hex head, flange hex head and carriage bolts, Classes (CL) 5.6 and upward



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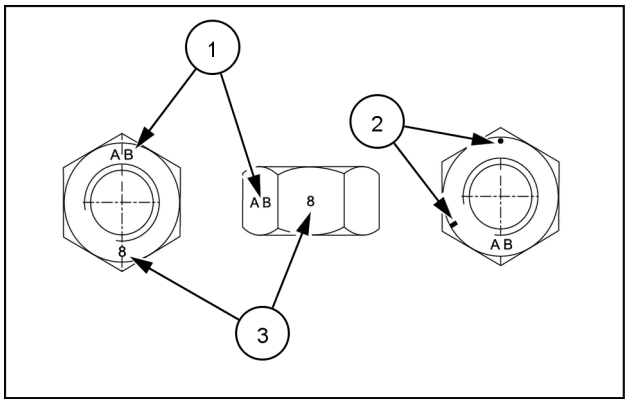
Metric bolt identification markings

1. Manufacturer's identification
2. Property class

Metric hex nuts and locknuts, Classes (CL) 05 and upward



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Metric hex nut identification markings

- **(1)** – Manufacturer's identification
- **(3)** – Property class
- **(2)** – Clockwise type markings indicate property class and may include manufacturer identification (if applied), Example: property marks **240 °** apart (shown) at the eight o'clock position indicate a Class 8 property, and marks **300 °** apart at the ten o'clock position indicate a Class 10 property.

NOTE: *In the Imperial units tables, the nominal sizes,* ***1/4 (0.25) in*** *(inch) and* ***5/16 (0.3125) in*** *(inch) hardware torque specifications are shown as a Newton meters (pound-inches) numerical value.*
Nominal sizes ***3/8 (0.375) in*** *(inch) through* ***1 (1.0) in*** *(inch) hardware torque specifications are shown as a Newton meters (pound-feet) numerical value.*

Inch non-flanged hardware

Plain (PLN) – an unplated hardware finish with residual manufacturing oils
Zinc-dichromate (ZND) – a yellow colored chemical plating formula yellow applied to the hardware

Nominal size	SAE Grade (GR) 5 bolt and nut	SAE Grade (GR) 8 bolt and nut	Flange locknut GR F w/ GR 5 bolt	Flange locknut GR G w/ GR 8 bolt
	PLN and ZND	PLN and ZND	ZND	ZND
	N·m (lb in)	N·m (lb in)	N·m (lb in)	N·m (lb in)
1/4 (0.25) in	11 (97)	16 (142)	8.5 (75)	12.2 (109)
5/16 (0.3125) in	23 (204)	32 (283)	17.5 (155)	25 (220)
	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)
3/8 (0.375) in	40 (30)	57 (42)	31 (23)	44 (33)
7/16 (0.4375) in	65 (48)	91 (67)	50 (37)	71 (53)
1/2 (0.50) in	98 (73)	139 (103)	76 (56)	108 (80)
9/16 (0.5625) in	142 (105)	201 (148)	111 (82)	156 (115)
5/8 (0.625) in	196 (145)	277 (204)	153 (113)	215 (159)
3/4 (0.75) in	348 (257)	491 (362)	271 (200)	383 (282)
7/8 (0.875) in	561 (413)	791 (584)	437 (323)	617 (455)
1 (1.0) in	841 620)	1187 (875)	654 (483)	924 (681)

Inch flanged hardware

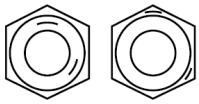
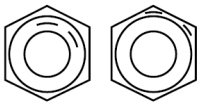
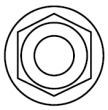
Plain (PLN) – an unplated hardware finish with residual manufacturing oils
Zinc-dichromate (ZND) – a yellow colored chemical plating formula yellow applied to the hardware

Nominal size	SAE Grade (GR) 5 bolt and nut	SAE Grade (GR) 8 bolt and nut	Flange locknut GR F w/ GR 5 bolt	Flange locknut GR G w/ GR 8 bolt
	PLN and ZND	PLN and ZND	ZND	ZND
	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)
1/4 (0.25) in	12 (106)	17 (150)	8 (71)	12 (106)
5/16 (0.3125) in	25 (221)	35 (310)	17 (150)	24 (212)
	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)	N·m (lb ft)
3/8 (0.375) in	44 (33)	63 (46)	30 (22)	43 (32)
7/16 (0.4375) in	71 (52)	100 (74)	48 (35)	68 (50)
1/2 (0.50) in	108 (90)	153 (113)	74 (55)	104 (77)
9/16 (0.5625) in	156 (115)	221 (163)	106 (78)	157 (116)
5/8 (0.625) in	216 (159)	304 (225)	147 (108)	207 (153)
3/4 (0.75) in	383 (282)	541 (399)	261 (193)	369 (272)
7/8 (0.875) in	617 (455)	871 (642)	421 (311)	594 (438)
1 (1.0) in	925 (682)	1305 (963)	631 (465)	890 (656)

Identification marking

Grades of inch bolts and free-spinning nuts

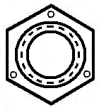
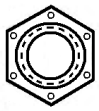
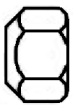
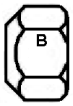
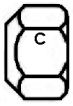
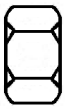
SAE (J995) bolt head and nut grade identification

Grade identification marking	Grade Marking description
	**Grade 2** No line marks
	**Grade 5** Three line marks
	**Grade 8** Six line marks
	**Grade 2** No circumferential line marks
	**Grade 5** Two circumferential line marks located 120° apart
	**Grade 2** Two circumferential line marks located 60° apart
	**Grade 2** No circumferential line marks
	**Grade 5** Two circumferential line marks located 120° apart
	**Grade 8** Two circumferential line marks located 60° apart

Grades of inch prevailing torque locknuts, all metal (three common marking methods)

On prevailing torque locknuts, the grade of nut is identified by one of three different sets of markings that denote the strength level and manufacturer.

Common prevailing torque locknut grade identification markings

Grade identification marking	Grade Marking description
	**Grade A** No marks
	**Grade B (hex nut) and Grade F (flange nut)** Three raised or indented dot marks (Marks do not have to be in corners.)
	**Grade C (hex nut) and Grade F (flange nut)** Six raised or indented dot marks (Marks do not have to be in corners.)
	**Grade A** No letter mark on side flat
	**Grade B** Letter B on side flat
	**Grade C** Letter C on side flat
	**Grade A** No notches
	**Grade B** One circumferential notch on all six corners
	**Grade C** Two circumferential notches on all six corners

Torque – Standard torque data for hydraulics

Installation of adjustable fittings in straight thread O-ring bosses

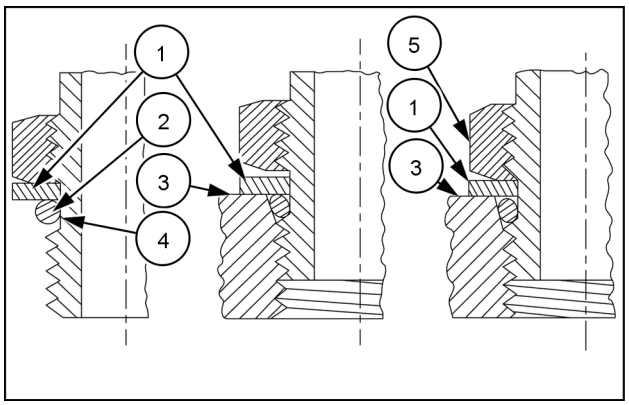
NOTICE: *O-ring boss fittings can be used multiple times. Always inspect the O-ring for damage and lubricate the O-ring with clean hydraulic oil or petroleum jelly at installation. Damaged O-rings will cause leakage and affect performance.*

Nonadjustable O-ring boss fittings

1. Inspect the components and make sure the port, O-ring, sealing surfaces, and threads are clean, and free of damage.
2. Install the O-ring if needed. Take special care not to cut the O-ring on the threads.

   NOTE: *Apply electrical tape over the threads to prevent O-ring damage if installing the O-ring, and then remove the tape.*
3. Lubricate the threads and O-ring with clean hydraulic oil or petroleum jelly.
4. Install the O-ring **(2)** in the groove **(4)** adjacent to the metal backup washer **(1)** which is assembled at the extreme end of the groove.
5. Install the fitting into the **SAE** straight thread boss and hand tighten until the metal backup washer **(1)** contacts the face of the boss **(3)**.

   NOTICE: *Do not over tighten and distort the metal backup washer.*
6. Using the proper size wrenches, holding the head end of the fitting with a wrench, and then torque the locknut **(5)** and washer **(1)** against the face of the boss **(3)** to the proper specified torque value.



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Adjustable (swivel) O-ring boss fittings

1. Inspect the components and make sure the port, O-ring, sealing surfaces, and threads are clean, and free of damage.
2. Install the O-ring if needed. Take special care not to cut the O-ring on the threads.

   NOTE: *Apply electrical tape over the threads to prevent O-ring damage if installing the O-ring, and then remove the tape.*
3. Lubricate the threads and O-ring with clean hydraulic oil or petroleum jelly.
4. Install the O-ring **(2)** in the groove **(4)** adjacent to the metal backup washer which is assembled at the extreme end of the groove.
5. Completely back-off the locknut **(5)** and washer **(1)** .
6. Install the fitting into the **SAE** straight thread boss and hand tighten until the metal backup washer **(1)** contacts the face of the boss **(3)**.

   NOTICE: *Do not over tighten and distort the metal backup washer.*
7. Position the fitting as needed by turning the head of the fitting counterclockwise up to a maximum of one turn.
8. Using the proper size wrenches, hold the head end of the fitting with a wrench, and then torque the locknut **(5)** and washer **(1)** against the face of the boss **(3)** to the proper specified torque value.

Standard torque data for hydraulic tubes and fittings

NOTICE: *These torques are not recommended for tubes of* ***12.7 mm*** *(****1/2 in****) Outer Diameter (OD) and larger with wall thickness of* ***0.889 mm*** *(****0.035 in****) or less. The torque is specified for* ***0.889 mm*** *(****0.035 in****) wall tubes on each application individually.*

NOTE: *Acronyms in the following table, Joint Industry Council (JIC), Outer Diameter (OD).*

Tube nuts for 37 ° flared fittings				O-ring boss plugs, adjustable fitting locknuts, swivel JIC – 37 ° seats
Size	**Tubing OD mm (in)**	**Thread size**	**Torque N·m (lb ft)**	**Torque N·m (lb ft)**
4	6.4 (1/4)	7/16–20	12 – 16 (9 – 12)	8 – 14 (6 – 10)
5	7.9 (5/16)	1/2–20	16 – 20 (12 – 15)	14 – 20 (10 – 15)
6	9.5 (3/8)	9/16–18	29 – 33 (21 – 24)	20 – 27 (15 – 20)
8	12.7 (1/2)	3/4–16	47 – 54 (35 – 40)	34 – 41 (25 – 30)
10	15.9 (5/8)	7/8–14	72 – 79 (53 – 58)	47 – 54 (35 – 40)
12	19.1 (3/4)	1-1/16–12	104 – 111 (77 – 82)	81 – 95 (60 – 70)
14	22.2 (7/8)	1-3/16–12	122 – 136 (90 – 100)	95 – 109 (70 – 80)
16	25.4 (1)	1-5/16–12	149 – 163 (110 – 120)	108 – 122 (80 – 90)
20	31.8 (1-1/4)	1-5/8–12	190 – 204 (140 – 150)	129 – 158 (95 – 115)
24	38.1 (1-1/2)	1-7/8–12	217 – 237 (160 – 175)	163 – 190 (120 – 140)
32	50.8 (2)	2-1/2–12	305 – 325 (225 – 240)	339 – 407 (250 – 300)

Installing and torquing **37 °** flared fittings;

1. Clean the face of the flare and threads with **LOCTITE® ODC-FREE CLEANER AND DEGREASER** cleaning solvent or equivalent cleaning solvent.
2. Allow the cleaning the cleaning solvent to completely dry before application sealant.
3. Apply **LOCTITE® 569™** hydraulic sealant to the **37 °** flare and the threads.
4. Install the fitting, and then torque to the specified torque.
5. Loosen the fitting, and then torque once more to the specified torque.

Pipe thread fitting torque

Thread Size (inch)	Torque (Maximum) N·m (lb ft)
1/8–27	13 (10)
1/4–18	16 (12)
3/8–18	22 (16)
1/2–14	41 (30)
3/4–14	54 (40)

Before installing and torquing pipe fittings;

1. Clean the threads with **LOCTITE® ODC-FREE CLEANER AND DEGREASER** cleaning solvent or an equivalent cleaning solvent.
2. Allow the cleaning the cleaning solvent to completely dry before application sealant.
3. Apply **LOCTITE® 567™ PST PIPE SEALANT** for all fittings, including stainless steel or **LOCTITE® 565™ PST** sealant for most other metal fittings.

NOTICE: *For high filtration/zero contamination systems use* ***LOCTITE® 545™*** *sealant.*

Basic instructions - Shop and assembly

Shimming

For each adjustment operation, select adjusting shims and measure the adjusting shims 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 shown on each shim.

Rotating shaft seals

For correct rotating shaft seal installation, proceed as follows:

1. Before assembly, allow the seal to soak in the oil it will be sealing for at least thirty minutes.
2. Thoroughly clean the shaft and check that the working surface on the shaft is not damaged.
3. Position the sealing lip facing the fluid.

   NOTE: *With hydrodynamic lips, take into consideration the shaft rotation direction and position the grooves so that they will move the fluid towards the inner side of the seal.*
4. Coat the sealing lip with a thin layer of lubricant (use oil rather than grease). Fill the gap between the sealing lip and the dust lip on double lip seals with grease.
5. 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.
6. While you insert the seal, check that the seal is perpendicular to the seat. When the seal settles, make sure that the seal makes contact with the thrust element, if required.
7. To prevent damage to the seal lip on the shaft, position a protective guard during installation operations.

O-ring seals

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

Sealing compounds

Apply a sealing compound on the mating surfaces when specified by the procedure. Before you apply the sealing compound, prepare the surfaces as directed by the product container.

Spare parts

Only use CNH Original Parts or NEW HOLLAND Original 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 Original Parts can offer this guarantee.

When ordering spare parts, always provide the following information:

- Machine model (commercial name) and Product Identification Number (PIN)
- Part number of the ordered part, which can be found in the parts catalog

Protecting the electronic and/or electrical systems during charging and welding

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

1. Never make or break any of the charging circuit connections when the engine is running, including the battery connections.
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 machine attachment.
   - Position the welder ground clamp as close to the welding area as possible.
   - If you weld in close proximity to a computer module, then you should remove the module from the machine.
   - Never allow welding cables to lie on, near, or across any electrical wiring or electronic component while you weld.
4. Always disconnect the negative cable from the battery when charging the battery in the machine with a battery charger.

   NOTICE: *If you must weld on the unit, you must disconnect the battery ground cable from the machine battery. The electronic monitoring system and charging system will be damaged if this is not done.*
5. Remove the battery ground cable. Reconnect the cable when you complete 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.

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Special tools

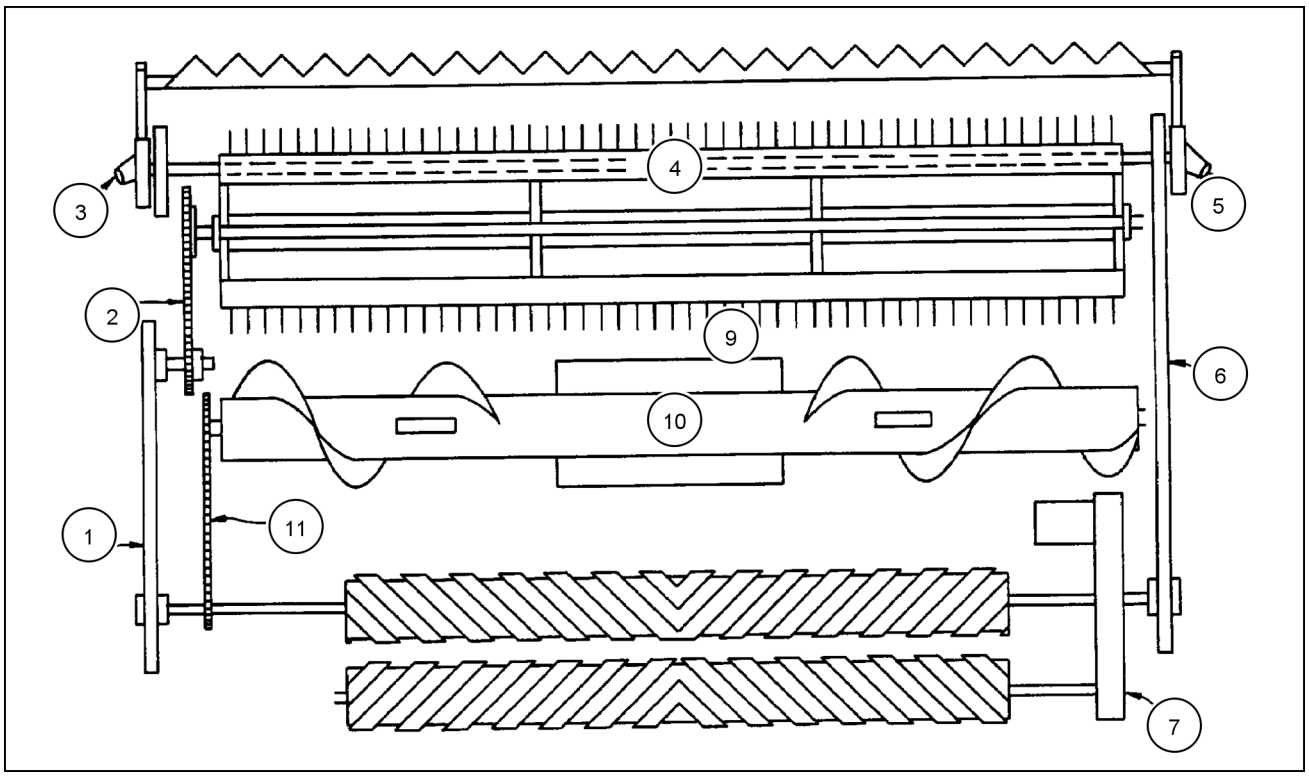
The special tools that NEW HOLLAND suggests and illustrate in this manual have been specifically researched and designed for use with NEW HOLLAND machines. The special tools are essential for reliable repair operations. The special tools are accurately built and rigorously tested to offer efficient and 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

General specification

Sickle headers - models 12HS, 14HS, 16HS, and 18HS	
Header drive	Hydraulic **110 l/min** (**29 US gpm**) at **24132 kPa** (**3500 psi**)
Conditioner gearbox capacity	**0.59 l** (**0.62 US qt**)
Cutterbar	
Type	Counterstroking dual sickles
Drive	Dual, open wobble
Knives	Overserrated, fully bolted
Guards	Two tine, double-hardened; or stub guards, double-hardened, optional
Cutting angle	Adjustable from **0 - 6 °** or **6 - 12 °** hydraulic tilt
Cutting height	**30 - 157 mm** (**1.2 - 6.2 in**)
Knife stroke	**76 mm** (**3 in**)
Sickle speed	1810 strokes per minute (no load)
Sickle thickness	**3 mm** (**0.120 in**)
Skid shoe positions	Five
Knife bolt seating tool	RS711426DS
Reel	
Type	Five-bat, steel
Reel speed	**52 - 83 RPM**
Reel diameter	**1066 mm** (**42 in**)
Drive	Belt and chain; or chain only with variable hydraulic drive kit installed
Auger	
Type	Full floating
Auger diameter	**508 mm** (**20 in**)
Floating range	**51 mm** (**2 in**)
Auger flighting	**127 mm** (**5 in**)
Auger speed	**287 RPM**
Roll conditioner	
Roll type	Chevron design, intermeshing (rubber or steel); non-intermeshing high contact
Roll length	**2590 mm** (**102 in**)
Roll diameter	**263 mm** (**10.35 in**)
Roll speed	**717 RPM**
Roll pressure	Torsion bar, dual crank adjustment
Roll drive	Spur drive gearbox and PTO shafts
Cutting width	
12HS	**3.73 m** (**12.24 ft**)
14HS	**4.34 m** (**14.24 ft**)
16HS	**4.95 m** (**16.24 ft**)
18HS	**5.56 m** (**18.24 ft**)
Header width	
12HS	**4.34 m** (**14.24 ft**)
14HS	**4.95 m** (**16.24 ft**)
16HS	**5.56 m** (**18.24 ft**)
18HS	**6.17 m** (**20.24 ft**)
Header weights (shipping)	
12HS , rubber rolls	**1647 kg** (**3631 lb**)
14HS , rubber rolls	**1770 kg** (**3902 lb**)
16HS , rubber rolls	**1869 kg** (**4120 lb**)
18HS , rubber rolls	**1983 kg** (**4372 lb**)



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1. Reel drive belt
2. Reel drive chain
3. Left-hand wobble drive
4. Reel
5. Right-hand wobble drive
6. Wobble drive belt
7. Header gear box
8. Drive motor
9. Paddle
10. Auger
11. Auger drive chain