

RD162, RD182 Disc Auger Headers

Service Manual

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RD162, RD182 SERVICE MANUAL CONTENTS

- SECTION 00 - GENERAL INFORMATION**
- SECTION 35 - HYDRAULICS**
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The sections used through out all Case IH product Service manuals may not be used for each product. Each Service manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Service manual and which sections are in each book.

The sections listed above are the sections utilized for the RD162 and RD182.

SECTION 00 - GENERAL INFORMATION

Chapter 1 - General Information

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FORWARD

Appropriate service methods and correct repair procedures are essential for the safe, reliable operation of all equipment, as well as the personal safety of the individual performing the repair.

This Service Manual provides troubleshooting and overhaul instructions using recommended procedures and equipment. Following these instructions will ensure the safe, efficient, and timely completion of the service or repair.

The manual is divided into sections which are subdivided into chapters. Each chapter contains information on general operating principals, detailed inspection, overhaul and, where applicable, specific troubleshooting, special tools, and specifications.

Any reference in this manual to right, left, rear, front, top, or bottom is determined by standing behind the machine and looking in the direction of travel.

All data and illustrations in this manual are subject to variations in build specification. This information was correct at the time of issue, but Case IH policy is one of continuous improvement, and the right to change specifications, equipment, or design at any time, without notice, is reserved.

PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements (“**DANGER**”, “**WARNING**”, and “**CAUTION**”) followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.

 **DANGER** 

This word “**DANGER**” indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.

M1169

 **WARNING** 

This word “**WARNING**” indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.

M1170

 **CAUTION** 

This word “**CAUTION**” indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

M1171

FAILURE TO FOLLOW THE “DANGER”, “WARNING”, AND “CAUTION” INSTRUCTIONS MAY RESULT IN DEATH OR SERIOUS BODILY INJURY.

MACHINE SAFETY

The precautionary statement (“**IMPORTANT**”) is followed by specific instructions. This statement is intended for machine safety.

IMPORTANT: *The word “IMPORTANT” is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.*

INFORMATION

NOTE: *Instructions used to identify and present supplementary information.*

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. **Do not operate the disc auger header without all the cutter bar shields down, cover skirts installed and is good condition, and cover skirts snapped together. Immediately replace any skirt that is torn or has a hole in it.**
2. **Header locks are built into the header lift system to lock the header in the raised position. Lock the header on both sides before working under a raised header.**
3. **Use the amber flashing safety lights and road lights when driving the self-propelled windrower and header on the highway. Be sure to use the road lights, not the work lights, because the rear work lights could be mistaken for an oncoming vehicle.**
4. **Instruct inexperienced operators to read the operator's manual, safety signs, and become familiar with the handling of the unit which the disc auger header is attached. Operate the unit in uncongested areas where there is no likelihood of personal injury or property damage.**
5. **Never make any adjustments or attempt to work on the unit with the engine running. Disengage the header drive, lower the header to the ground, or lock it in the transport position, shut off the engine, and engage the parking brake before attempting any adjustments or trying to work on the header.**
6. **Tilt the cutter bar back in fields where stones and foreign objects are present, to raise the cutting knives, minimize debris deflected from the knives and reduce knife damage.**
7. **STAND CLEAR! Rotating elements may cause serious bodily injury.**
8. **Do not attempt to remove material from the disc auger header while it is in operation. Shut the windrower off and allow the rotating discs to stop before leaving the windrower cab.**
9. **Always operate the disc auger header with the covers and shields in place. Do not lean against or stand on the covers or shields.**
10. **Do not attempt to adjust the lift linkage with a header attached. Header will drop suddenly if clevis pin is driven out, causing header damage and/or personal injury.**
11. **Observe the following precautions before adjusting or lubricating the header.**
 - **Disengage the header drive.**
 - **Lower the header to the ground, or raise the header and engage the header locks.**
 - **Stop the engine and engage the parking brake before leaving the cab.**
 - **Reinstall and close all shielding before operating the unit.**
12. **Do not attempt to clean, lubricate, or adjust the machine while it is running.**
13. **Replace damaged knives, knife hardware or discs immediately to prevent an accident.**
14. **The bottom leading edge of worn discs can become very sharp. Wear gloves to prevent injury.**

INTRODUCTION

The RD162 disc auger header is a disc mower-conditioner designed to be used with the WDX1902, WDX2302, WD1903, and the WD2303 self-propelled windrowers. The RD182 disc auger header is designed to be used only with the WDX2302 and WD2303. The two operate together as an integral unit. The valves and cylinders for lifting and tilting the header are mounted on the windrower, as are all the hydraulic controls.

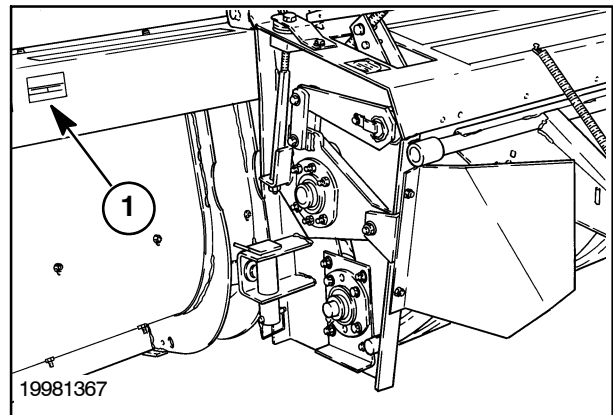
The RD162 header contains 12 disc mowing modules, while the RD182 header contains 14 disc mowing modules. An auger feeds the crop to two molded rubber inter-meshing chevron conditioner rolls. A hydraulic pump on the windrower supplies all power for the header.

The windrower controls the speed of the header in either automatic or manual mode. In the automatic mode, the speed is held constant regardless of the speed of the windrower. In the manual mode, the speed varies with the windrower engine speed. The mode is set from the windrower cab.

NOTE: On this equipment, left and right are determined by standing behind the unit, looking in the direction of travel.

PRODUCT IDENTIFICATION NUMBER (PIN)

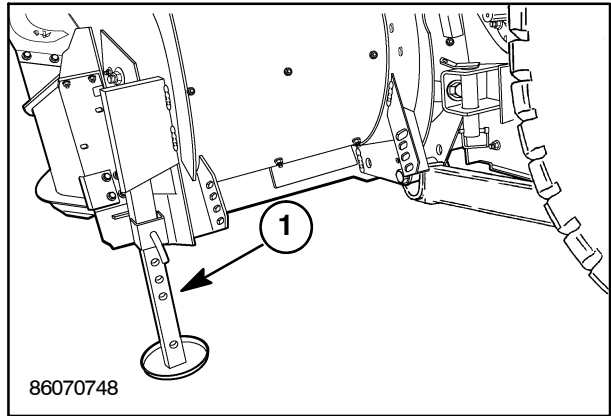
The PIN plate, 1, for the disc mower-conditioner is located at the back on the left side of the frame.



1

JACK ASSEMBLY

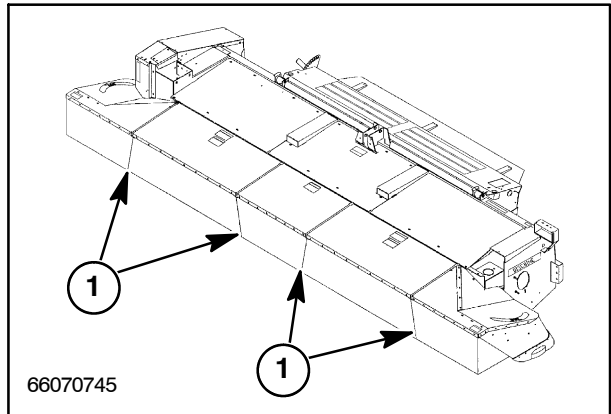
There are two jack stands built into the header, 1, one on each side of the unit.



2

SHIELDING

NOTE: Before raising either of the front shields, unhook the cutter bar shield skirt spring snaps, 1, at the skirt overlaps. Be sure that the skirts are reattached before using the header again.



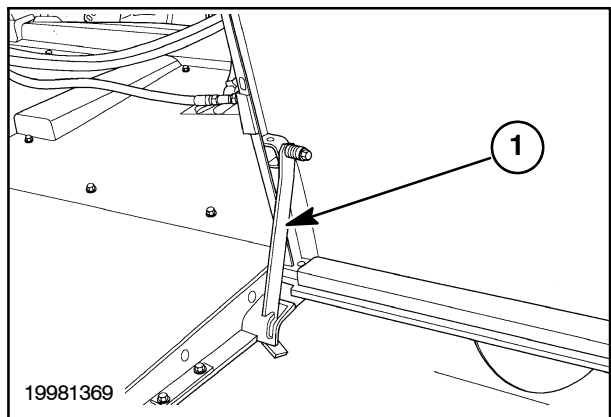
3

When raised, the front shields are held in place by a lever, 1. The lever automatically springs into the lock as the shield is raised. To lower the shield, release the lever by pushing it to the side.

— **⚠ WARNING ⚠** —

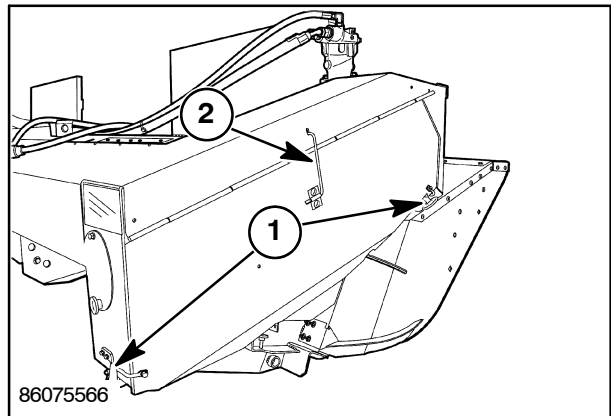
Close shields prior to operating the machine to prevent damage to the shield. Running the header with a damaged shield may result in bodily injury from flying objects. Failure to comply could result in death or serious injury.

M1238



4

The right side shield can be lifted by releasing two rubber straps, 1, on the front and rear of the shield, and pivoting the shield upward. Lift the shield part way and remove the latch rod, 2, from the slot in the shield. Raise the shield fully and hook the rod into the slot in the top of the shield to support the shield.



5

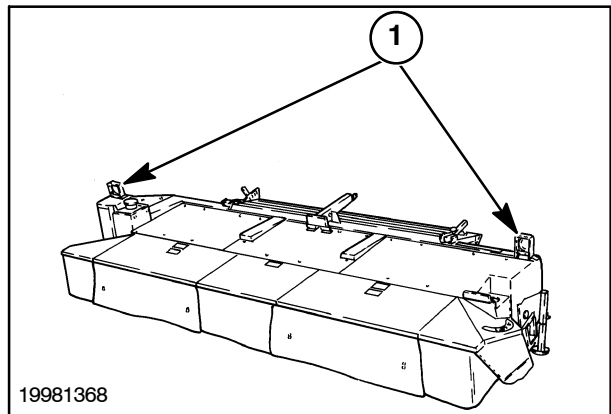
LIGHTS

There are two warning lights on the header, 1. One on each outboard side. These act as hazard flashers and turn signal lights. They are operated from the cab of the windrower.

STORING THE HEADER

When preparing the header for storage:

1. Clean the header thoroughly. Remove any build-up of debris and any wrapped material from the cutter bar and the conditioner rolls.
2. Lubricate the header.
3. Drain the oil from all gearboxes and refill with clean oil of the correct specification to the correct level. Run the header for a few minutes.
4. Inspect for worn or broken parts. Replace with genuine factory parts.
5. Relieve roll pressure.
6. Remove tension from the roll drive belt.
7. Clean rusted or abraded areas and touch up with factory paint. Spray cans are available from your authorized dealer.
8. Store the header where it is not exposed to weather.



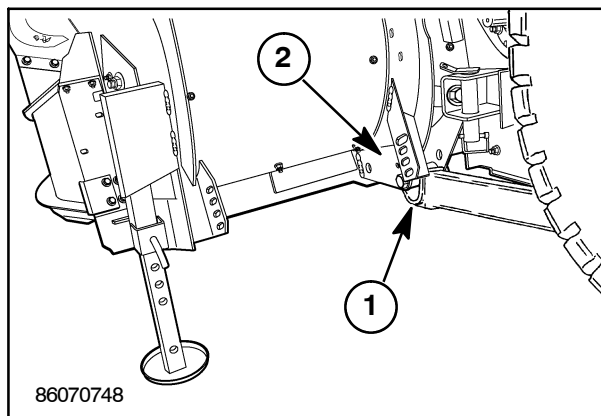
6

HEADER

(WDX1902, WD1903/RD162, WDX2302, WD2303/RD162, WDX2302, WD2303/RD182)

Installation

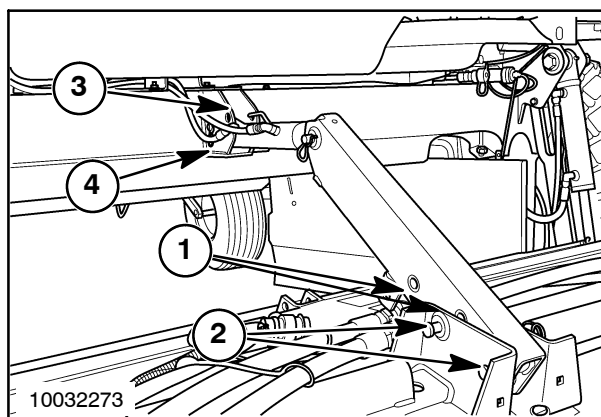
1. Lower the lift arms as much as possible. Apply a liberal coating of multi-purpose grease to the lift cups, 1.
2. Drive the tractor up to the header so the lifting cups on the lift arms are directly below the lift bushings, 2. Raise the lift arms until they are firmly in place. Raise the jack stands into the storage position.



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3. Remove the pin holding the header tilt cylinder in the storage position and connect it to the header using a clevis pin. On the RD182 header the cylinder only has one hole to connect to on the header. When the header tilt channel is installed in the rearward holes, 1, this provides a cutting range of 1-1/2 inch to 3 inch. When installed in the forward holes, 2, the cutting range is 1 inch to 2-1/4 inch. The forward holes on the tilt channel should be used for most crops.

IMPORTANT: Do not use this hole, 3, to store a pin while the header is attached. Damage to the tilt cylinder and base unit will result.



8

4. Retract the tilt cylinder or raise the header to cause the sliding link to move to the operating position. Install the retaining pin, 4. Connect the wire harness for the header speed sensor and flashers.

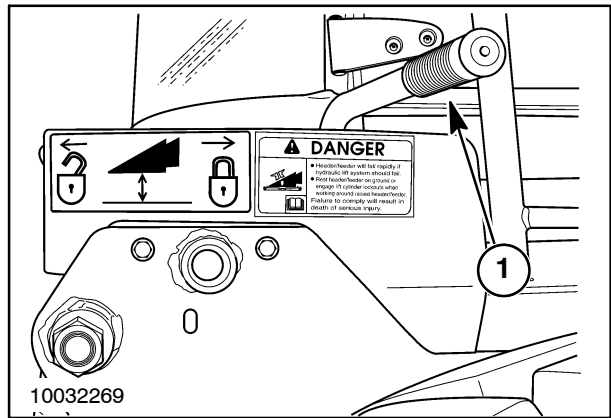
SECTION 00 - GENERAL INFORMATION - CHAPTER 1

5. Start the tractor, raise the arms up to the maximum raised position and engage the header lock by pulling rearward on the handle. The header lock, 1, is located on the left front corner of the windrower. The handle is shown here in the locked position.

WARNING

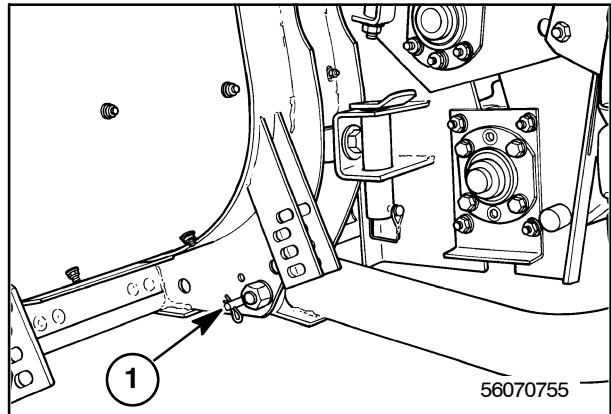
Always engage header lift lock rods or channels when working around or under a raised header and when transporting machine on a public road. Failure to comply could result in death or serious injury.

DMC002



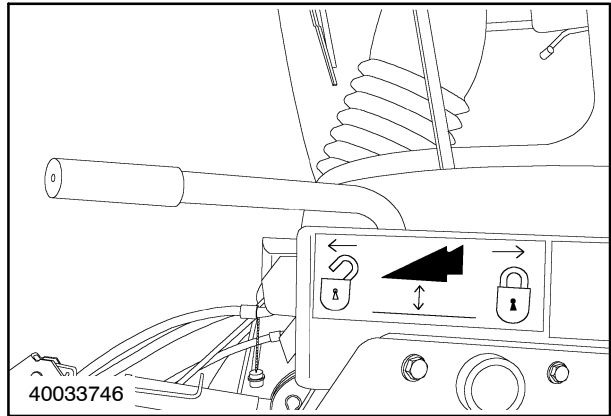
9

6. Install the header lift arm pins, 1.



10

- Disengage the header lift lock as shown.

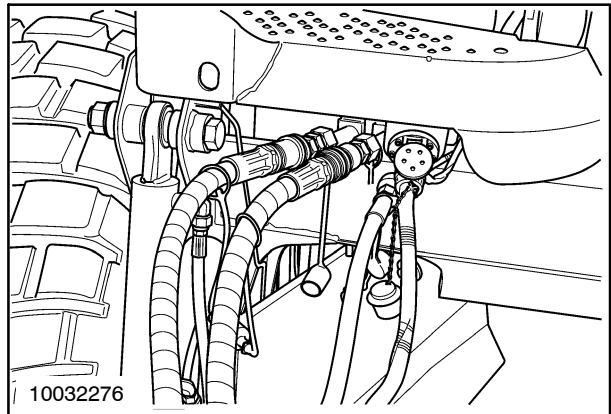


11

- Clean the hydraulic couplers and connect the header drive motor hydraulic hoses to the quick couplers on the windrower frame.

NOTE: The tractor engine will need to be shut off in order to connect the hydraulic hoses.

- Adjust the header flotation before using the header in the field. Refer to tractor operator's manual for setting the header floatation.



12

Removal

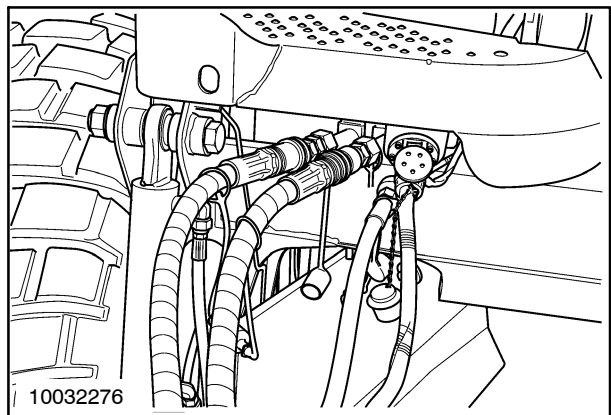
- Disconnect the header drive motor hoses from the windrower at the quick couplers.
- Connect the male connector from the left header motor to the female connector from the right header motor and connect the female connector from the left motor to the male connector from the right motor. This will ensure that the couplers remain clean and will provide a fluid path to prevent motor seal failure.



WARNING

Always engage header lift lock rods or channels when working around or under a raised header and when transporting machine on a public road. Failure to comply could result in death or serious injury.

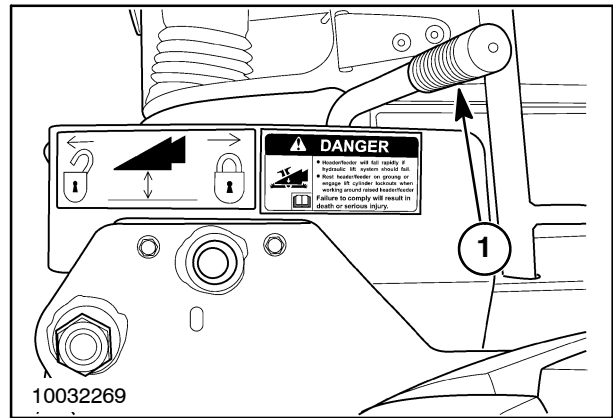
DMC002



13

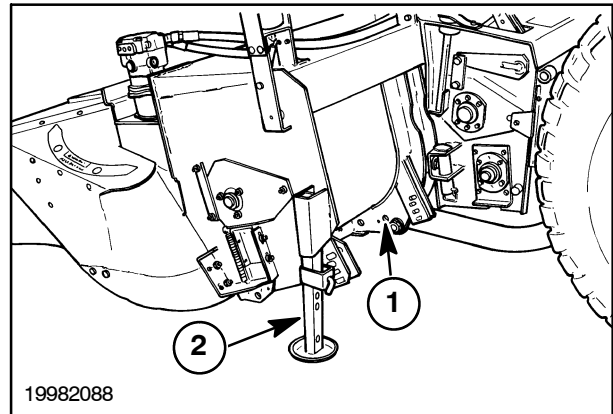
SECTION 00 - GENERAL INFORMATION - CHAPTER 1

3. Start the windrower and raise the header all the way.
4. Engage the header lock, 1, located on the left front corner of the windrower. The handle is shown here in the locked position.



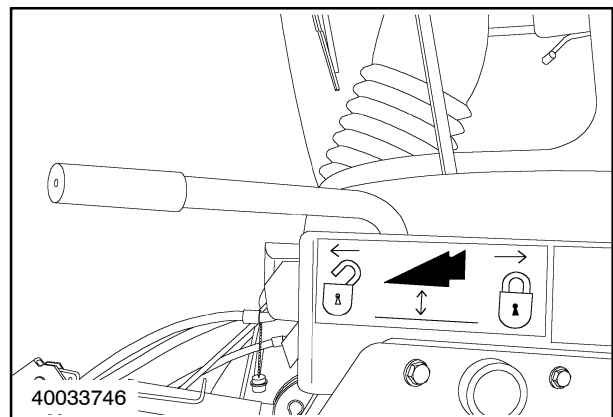
14

5. Remove the header lift arm pins, 1.
6. Lower the jack stands, 2.



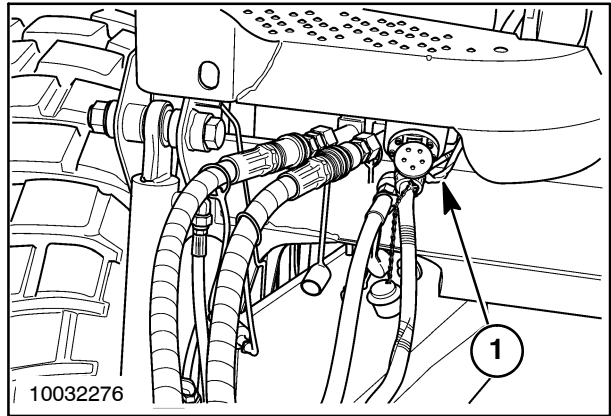
15

7. Disengage the header lift lock as shown.
8. Lower the header so the skid shoes and jack stands are on the ground. Adjust the jack stands so the skid shoes contact the ground while the jack stands are still several inches off the ground. This will cause the header to rock backward as it is lowered, taking force off of the header tilt cylinder.



16

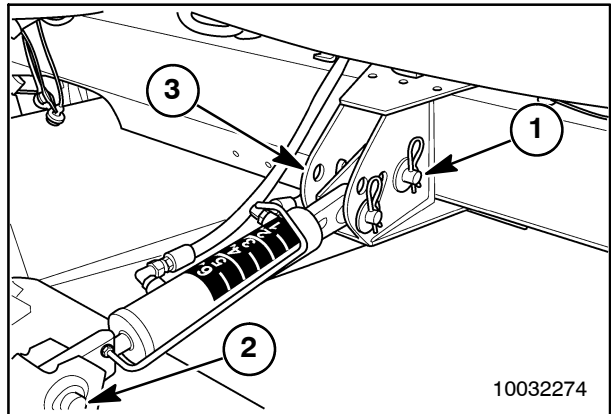
9. Disconnect the wire harness for the flashers and the header speed sensor, 1.



17

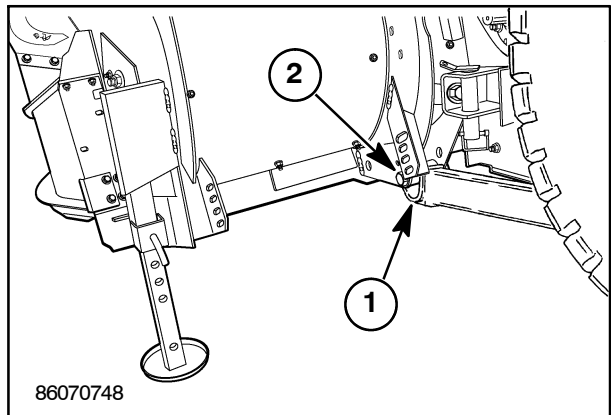
10. Remove the header tilt cylinder retaining pin, 1, on the windrower to allow free motion of the cylinder. Extend or retract the header tilt cylinder as required to relieve the pressure on pin, 2, connecting the cylinder to the header.
11. Secure the tilt cylinder in the raised position by inserting pin, 2, through the cylinder and mount at 3.

IMPORTANT: DO NOT USE HOLE, 3, TO STORE A PIN WHILE THE HEADER IS ATTACHED. DAMAGE TO THE TILT CYLINDER AND BASE UNIT WILL RESULT.



18

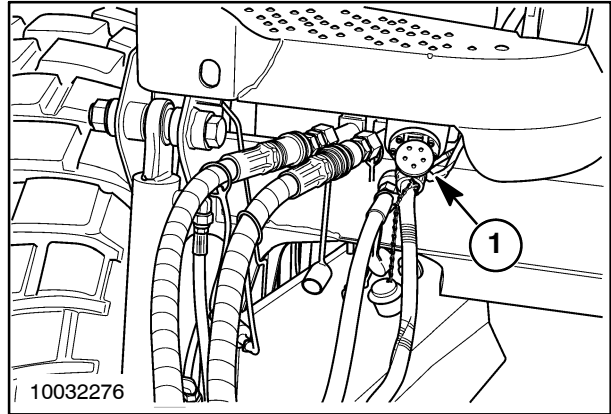
12. Lower the lift arms as much as possible.
13. Back the tractor away from the header. Be sure the lifting cups, 1, directly below the lift bushings, 2, have dropped away.



19

ELECTRICAL CONNECTIONS

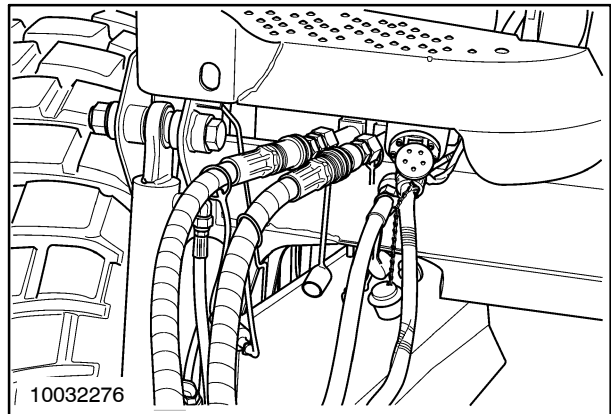
There are two electrical connectors on the header. The speed sensor connector on the header has two wires attached and joins to the connector on the windrower with two wires. The other connector has two wires and is for the lights on the header. The connector on the header is connected at location, 1.



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HYDRAULIC CONNECTIONS

Six hydraulic hoses connect the header to the windrower. There are two supply hoses, two oil return hoses and two motor case drain hoses. These hoses are connected to the windrower at the front frame.



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SPECIFICATIONS

RD162 DISC AUGER HEADER

Overall Width 4836 mm (15 ft 9-1/4 in)

Weight (including container) 1864 kg (4100 lb)

Header Drive Hydraulic, variable flow - Forward - 345 bar (5000 psi)
 Hydraulic, variable flow - Reverse - 400 bar (5800 psi)

Header

Flotation Vertical & radial
 Cutting width 4680 mm (15 ft 4-1/4 in)
 Transport Height to bottom of skid shoe with 18.4 x 26 tires 686 mm (27 in)
 Transport Height to bottom of skid shoe with 23.1 x 26 tires 754 mm (29.6 in)

Cutter Bar

Type Modular
 No. of discs 12 counter-rotating
 Knives per disc 2
 Disc cutting diameter 500 mm (19.7 in)
 Disc drive Bevel gears in sealed modules
 Disc speed Variable from approx. 1600 to 3100 rpm
 Cutting height with 18.4 x 26 tires 21.6 - 66 mm (0.85 - 2.6 in)
 Cutting height with 23.1 x 26 tires 20.3 - 55.8 mm (0.80 - 2.2 in)
 Cutter bar angle with 18.4 x 26 tires Adjustable from -1° to -12° hydraulically controlled
 Cutter bar angle with 23.1 x 26 tires Adjustable from -2° to -13° hydraulically controlled

Auger

Type Undershot, full floating
 Auger diameter 508 mm (20 in)
 Auger floating range 43.6 mm (1.7 in)
 Auger flighting 127 mm (5 in)
 Auger speed Variable with header speed

Conditioner

Type Intermeshing rolls, high-contact rolls.
 Drive 4HB V-belt, enclosed gears with U-joint drives to upper and lower rolls.
 Roll type Molded rubber with intermeshing chevron design, high-contact chevron.
 Roll length 2591 mm (102 in)
 Roll diameter 264 mm (10-3/8 in)
 Roll speed Variable with header speed
 Roll pressure Torsion bar, single crank adjustment
 Crop discharge Adjustable from 2438 - 965 mm (96 - 38 in)

RD182 DISC AUGER HEADER

Overall Width 5542 mm (18 ft₂in)

Weight 2273 kg (5000 lb)

Header Drive Hydraulic, variable flow - Forward - 345 bar (5000 psi)
Hydraulic, variable flow - Reverse - 400 bar (5800 psi)

Header

Flotation Vertical & radial

Cutting width 5480 mm (18 in)

Transport Height to bottom of skid shoe with 23.1 x 26 tires 754 mm (29.6 in)

Cutter Bar

Type Modular

No. of discs 14

Knives per disc 2

Disc cutting diameter 500 mm (19.7 in)

Disc drive Bevel gears in sealed modules

Disc speed Variable from approx. 1600 to 3100 rpm

Cutting height with 23.1 x 26 tires 20.3 - 55.8 mm (0.80 - 2.2 in)

Cutter bar angle 23.1 x 26 tires Adjustable from -2° to -13° hydraulically controlled

Auger

Type Undershot, full floating

Auger diameter 508 mm (20 in)

Auger floating range 43.6 mm (1.7 in)

Auger flighting - Reinforced 127 mm (5 in)

Auger speed Variable with header speed

Conditioner

Types Intermeshing rolls, high-contact rolls.

Drive 4HB V-belt, enclosed gears with U-joint drives to upper and lower rolls.

Roll types Molded rubber with intermeshing chevron design, high-contact chevron.

Roll length 2591 mm (102 in)

Roll diameter 264 mm (10-3/8 in)

Roll speed Variable with header speed

Roll pressure Torsion bar, single crank adjustment

Crop discharge Adjustable from 2438 - 965 mm (96 - 38 in)

HARDWARE TORQUE VALUES

Check the tightness of hardware periodically.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware on the tractor.

IMPORTANT: *DO NOT use the values listed in the charts if a different torque value or tightening procedure is specified in the is manual for a specific application. Torque values listed are for general use only.*

Install a lock washer on all bolts unless a locknut or jam nut is specified.

Install a flat washer at all slotted holes unless a carriage bolt or flanged head bolt is specified.

Make sure fastener threads are clean and not damaged.

NOTE: *A torque wrench is necessary to properly torque hardware.*

MINIMUM HARDWARE TIGHTENING TORQUES

IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS

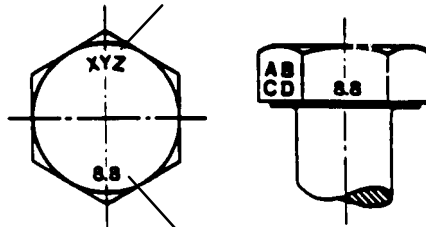
METRIC NON-FLANGED HARDWARE AND LOCKNUTS

NOMINAL SIZE	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT CL.8 W/CL8.8 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	
M4	1.7 (15)*	2.2 (19)*	2.6 (23)*	3.4 (30)*	3.7 (33)*	4.8 (42)*	2.3 (20)*
M6	5.8 (51)*	7.6 (67)*	8.9 (79)*	12 (102)*	13 (115)*	17 (150)*	7.8 (69)*
M8	14 (124)*	18 (159)*	22 (195)*	28 (248)*	31 (274)*	40 (354)*	19 (169)*
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	38 (28)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	66 (49)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	164 (121)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	330 (243)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	572 (422)

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION HEX CAP SCREW AND CARRIAGE BOLTS CLASSES 5.6 AND UP

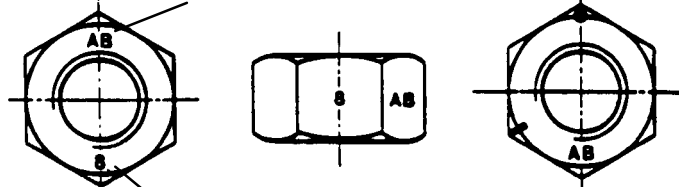
MANUFACTURER'S IDENTIFICATION



PROPERTY CLASS

HEX NUTS AND LOCKNUTS CLASSES 05 AND UP

MANUFACTURER'S IDENTIFICATION



PROPERTY CLASS

CLOCK MARKING

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