Published January 2020.

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Introduction

The MacDon Swath Compressor is a large, formed polyethylene sheet designed to mount to the underside of a MacDon M1 Series Windrower. The MacDon Swath Compressor is designed for use with D1X and D1XL Draper Headers cutting canola.

The swath compressor shapes the windrow and anchors it into the stubble behind the header to help prevent shelling in ripe conditions and wind damage. Excessive compression by a swath compressor or roller can increase losses from crop shelling, and may increase drying time; inadequate compression can leave a windrow prone to wind damage.

The swath compressor height can be adjusted and monitored with the cab display. Height can be adjusted for crop ripeness, yield, and the amount of compression required. The swath compressor will automatically lift up if an Operator stops and reverses the windrower.

NOTE:
A preferred height can be saved under a One-Touch-Return preset.

When setting up the machine or making adjustments, review and follow the recommended machine settings in all relevant MacDon publications. Failure to do so may compromise machine function and machine life and may result in a hazardous situation.

MacDon provides warranty for Customers who operate and maintain their equipment as described in this manual. A copy of the MacDon Industries Limited Warranty Policy, which explains this warranty, should have been provided to you by your Dealer. Damage resulting from any of the following conditions will void the warranty:

- Accident
- Misuse
- Abuse
- Improper maintenance or neglect
- Abnormal or extraordinary use of the machine
- Failure to use the machine, equipment, component, or part in accordance with the manufacturer’s instructions

This manual is currently available in English only.

Conventions

- M1 Series Windrowers are Dual Direction®, meaning the windrower can be driven in cab-forward or engine-forward modes. When referencing specific locations on the machine, this manual always assumes a cab-forward direction when using the terms right and left.

- Unless otherwise noted, use the standard torque values provided in Chapter 6 Reference, page 65 of this document.

NOTE:
Keep your MacDon publications up-to-date. The most current version can be downloaded from our website (www.macdon.com) or from our Dealer-only site (https://portal.macdon.com) (login required).

Call your MacDon Dealer if you need assistance, information, or additional copies of this manual.

This instruction is currently available in English only.
Summary of Changes

At MacDon, we’re continuously making improvements; occasionally these improvements affect product documentation. The following list provides an account of major changes from the previous version of this document.

<table>
<thead>
<tr>
<th>Section</th>
<th>Summary of Change</th>
<th>Internal Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3.6 Locking and Unlocking the Swath Compressor, page 43</td>
<td>Updated topic title.</td>
<td>Tech Pubs</td>
</tr>
<tr>
<td>2.1 Removing Swath Compressor from Shipping Crate, page 15</td>
<td>Updated procedure steps and illustrations per SME request.</td>
<td>Engineering, Product Audit</td>
</tr>
<tr>
<td>5.2 Swath Compressor Hydraulics and Supports, page 58</td>
<td>Updated parts list replacing washer MD #18798 with washer MD #184701.</td>
<td>ECN 57945</td>
</tr>
<tr>
<td>5.3 Decals, page 62</td>
<td>Updated illustration and parts list to include decal MD #302204.</td>
<td>ECN 57716</td>
</tr>
</tbody>
</table>
Serial Number

Record the swath compressor serial number in the space below.

Serial Number: ________________________

The serial number plate (A) is located on the left side of the swath compressor frame.
TABLE OF CONTENTS

Introduction ........................................................................................................................................... i
Summary of Changes ............................................................................................................................. ii
Serial Number ....................................................................................................................................... iii

Chapter 1: Safety .................................................................................................................................... 1
  1.1 Safety Alert Symbols ....................................................................................................................... 1
  1.2 Signal Words ................................................................................................................................... 2
  1.3 General Safety ................................................................................................................................. 3
  1.4 Maintenance Safety ......................................................................................................................... 5
  1.5 Hydraulic Safety ............................................................................................................................. 6
  1.6 Welding Precaution ......................................................................................................................... 7
  1.7 Safety Signs ........................................................................................................................................ 12
    1.7.1 Installing Safety Decals ........................................................................................................... 12
  1.8 Safety Sign Decals .......................................................................................................................... 13

Chapter 2: Installation Instructions ........................................................................................................ 15
  2.1 Removing Swath Compressor from Shipping Crate ......................................................................... 15
  2.2 Installing Swath Compressor .......................................................................................................... 18
    2.2.1 Installing Frame ......................................................................................................................... 18
    2.2.2 Installing Electrical Harness .................................................................................................... 23
    2.2.3 Connecting Hydraulics ............................................................................................................. 24
    2.2.4 Installing Shield Assembly ...................................................................................................... 26

Chapter 3: Operation ............................................................................................................................. 31
  3.1 Activating the Swath Compressor ................................................................................................. 31
  3.2 Calibrating Position Sensor ........................................................................................................... 34
    3.2.1 Calibrating Sensors with Header Attached .............................................................................. 34
  3.3 Using the Swath Compressor ......................................................................................................... 38
    3.3.1 Controlling the Swath Compressor ......................................................................................... 38
    3.3.2 Setting up the Swath Compressor ............................................................................................ 40
    3.3.3 Programming One-Touch-Return ......................................................................................... 41
    3.3.4 Adjusting Compression .......................................................................................................... 42
    3.3.5 Adjusting Side Deflectors ...................................................................................................... 42
    3.3.6 Locking and Unlocking the Swath Compressor ...................................................................... 43

Chapter 4: Maintenance ......................................................................................................................... 45
  4.1 Removing Swath Compressor Shield ............................................................................................ 45
  4.2 Electrical System ............................................................................................................................ 47
    4.2.1 Rotary Sensor – MD #128994 ................................................................................................. 47
    4.2.2 Swath Compressor Harness – MD #209256 ........................................................................... 48
      Harness Connections ...................................................................................................................... 49
    4.2.3 Electrical Schematic .............................................................................................................. 50
  4.3 Hydraulic Schematic ...................................................................................................................... 51
## TABLE OF CONTENTS

### Chapter 5: Illustrated Parts Lists

- 5.1 Swath Compressor Frame ................................................................. 56
- 5.2 Swath Compressor Hydraulics and Supports ........................................ 58
- 5.3 Decals ................................................................................................. 62

### Chapter 6: Reference

- 6.1 Torque Specifications ........................................................................... 65
- 6.1.1 Metric Bolt Specifications ................................................................. 65
- 6.1.2 Metric Bolt Specifications Bolting into Cast Aluminum ..................... 67
- 6.1.3 O-Ring Boss Hydraulic Fittings – Adjustable ....................................... 68
- 6.1.4 O-Ring Boss Hydraulic Fittings – Non-Adjustable .................................. 70
- 6.1.5 O-Ring Face Seal Hydraulic Fittings ....................................................... 71
- 6.1.6 Tapered Pipe Thread Fittings ................................................................. 72
- 6.2 Conversion Chart................................................................................... 73

### Index......................................................................................................... 75

### Predelivery Checklist ............................................................................... 79
Chapter 1: Safety

1.1 Safety Alert Symbols

This safety alert symbol indicates important safety messages in this manual and on safety signs on the machine.

This symbol means:

- **ATTENTION!**
- **BECOME ALERT!**
- **YOUR SAFETY IS INVOLVED!**

Carefully read and follow the safety message accompanying this symbol.

**Why is safety important to you?**

- Accidents disable and kill
- Accidents cost
- Accidents can be avoided
1.2 Signal Words

Three signal words, **DANGER**, **WARNING**, and **CAUTION**, are used to alert you to hazardous situations. Two signal words, **IMPORTANT** and **NOTE**, identify non-safety related information. Signal words are selected using the following guidelines:

![DANGER](image)

**DANGER**
Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

![WARNING](image)

**WARNING**
Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

![CAUTION](image)

**CAUTION**
Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.

**IMPORTANT:**
Indicates a situation that, if not avoided, could result in a malfunction or damage to the machine.

**NOTE:**
Provides additional information or advice.
1.3 General Safety

**CAUTION**

The following general farm safety precautions should be part of your operating procedure for all types of machinery.

Protect yourself when assembling, operating, and servicing machinery, wear all protective clothing and personal safety devices that could be necessary for the job at hand. Do **NOT** take chances. You may need the following:

- Hard hat
- Protective footwear with slip-resistant soles
- Protective glasses or goggles
- Heavy gloves
- Wet weather gear
- Respirator or filter mask
- Be aware that exposure to loud noises can cause hearing impairment or loss. Wear suitable hearing protection devices such as earmuffs or earplugs to help protect against loud noises.

- Provide a first aid kit in case of emergencies.
- Keep a properly maintained fire extinguisher on the machine. Be familiar with its proper use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when the Operator is tired or in a hurry. Take time to consider safest way. **NEVER** ignore warning signs of fatigue.
• Wear close-fitting clothing and cover long hair. NEVER wear dangling items such as scarves or bracelets.

• Keep all shields in place. NEVER alter or remove safety equipment. Make sure driveline guards can rotate independently of shaft and can telescope freely.

• Use only service and repair parts made or approved by equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.

• Keep hands, feet, clothing, and hair away from moving parts. NEVER attempt to clear obstructions or objects from a machine while the engine is running.

• Do NOT modify the machine. Unauthorized modifications may impair machine function and/or safety. It may also shorten the machine’s life.

• To avoid injury or death from unexpected startup of the machine, ALWAYS stop the engine and remove the key from the ignition before leaving the operator’s seat for any reason.

• Keep service area clean and dry. Wet and/or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.

• Keep work area well lit.

• Keep machinery clean. Straw and chaff on a hot engine are fire hazards. Do NOT allow oil or grease to accumulate on service platforms, ladders, or controls. Clean machines before storage.

• NEVER use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.

• When storing machinery, cover sharp or extending components to prevent injury from accidental contact.
1.4 Maintenance Safety

To ensure your safety while maintaining machine:

- Review the operator’s manual and all safety items before operation and/or maintenance of the machine.
- Place all controls in Neutral, stop the engine, set the park brake, remove the ignition key, and wait for all moving parts to stop before servicing, adjusting, and/or repairing.
- Follow good shop practices:
  - Keep service areas clean and dry
  - Be sure electrical outlets and tools are properly grounded
  - Keep work area well lit
- Relieve pressure from hydraulic circuits before servicing and/or disconnecting the machine.
- Make sure all components are tight and that steel lines, hoses, and couplings are in good condition before applying pressure to hydraulic systems.
- Keep hands, feet, clothing, and hair away from all moving and/or rotating parts.
- Clear the area of bystanders, especially children, when carrying out any maintenance, repairs, or adjustments.
- Install transport lock or place safety stands under the frame before working under the machine.
- If more than one person is servicing the machine at the same time, be aware that rotating a driveline or other mechanically-driven component by hand (for example, accessing a lubricant fitting) will cause drive components in other areas (belts, pulleys, and knives) to move. Stay clear of driven components at all times.
- Wear protective gear when working on the machine.
- Wear heavy gloves when working on knife components.
1.5 Hydraulic Safety

- Always place all hydraulic controls in Neutral before leaving the operator’s seat.
- Make sure that all components in the hydraulic system are kept clean and in good condition.
- Replace any worn, cut, abraded, flattened, or crimped hoses and steel lines.
- Do NOT attempt any makeshift repairs to hydraulic lines, fittings, or hoses by using tapes, clamps, cements, or welding. The hydraulic system operates under extremely high-pressure. Makeshift repairs will fail suddenly and create hazardous and unsafe conditions.

- Wear proper hand and eye protection when searching for high-pressure hydraulic leaks. Use a piece of cardboard as a backstop instead of hands to isolate and identify a leak.
- If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin.

- Make sure all components are tight and steel lines, hoses, and couplings are in good condition before applying pressure to a hydraulic system.

Figure 1.11: Testing for Hydraulic Leaks

Figure 1.12: Hydraulic Pressure Hazard

Figure 1.13: Safety around Equipment
1.6 Welding Precaution

Welding should never be attempted on the attachment while it is connected to a windrower.

**WARNING**

Severe damage to sensitive, expensive electronics can result from welding on the attachment while it is connected to the windrower. It is impossible to know what effect high current could have with regard to future malfunctions or shorter lifespan. It is very important that welding to the attachment frame is not attempted while connected to the windrower.

If an Operator needs to weld to the attachment frame, it should be removed from the windrower.

If the attachment cannot be removed from the windrower, refer to the following for welding precautions detailing electrical components that must be disconnected before welding.

*The following items need to be disconnected:*

- Negative battery terminals (A) (two connections)

  **IMPORTANT:**
  
  Always disconnect the battery terminals first, and reconnect them last.

- Master controller (A)
  
  Four connectors: P231, P232, P233, and P234
  
  Location: Behind cab, near header lift/fan manifold
  
  To disconnect the connectors, press the two outer tabs, and pull the connector away from master controller.

  **IMPORTANT:**
  
  When reconnecting these connectors, double-check that the connectors are fully seated into the master controller, and that the two locking tabs on each end of all four connectors have popped outward. If the tabs are not popped outward, the connector is not fully seated.

  **IMPORTANT:**
  
  Do NOT power up or operate the windrower until these connectors are locked into place.
• Firewall extension module (A)
  Two connectors: P235 and P236
  Location: Behind cab, near header lift/fan manifold
  To disconnect, use a small 3–6 mm (1/8–1/4 in.) blade screwdriver to insert into the connector’s locking tab. Gently pry upward (no more than 6 mm [1/4 in.]) to unlock the connector tab, and then pull the connector away from the module.

• Chassis extension module (A)
  Two connectors: P247 and P248
  Location: Under cab, inside left frame rail
  To disconnect, use a small 3–6 mm (1/8–1/4 in.) blade screwdriver to insert into the connector’s locking tab. Gently pry upward (no more than 6 mm [1/4 in.]) to unlock the connector tab, and then pull the connector away from the module.

• Engine Control Module (ECM)
  Two connectors for Cummins: P100 (A) and J1 Cummins Proprietary ECM Connector (B)
  Location: On engine
  To disconnect, pull the rubber boot off the cover, unlock the latch, and undo the main over-center latch. Remove strain relief bolts (C) so the connectors can be pulled away from the ECM.

  IMPORTANT:
  Be sure to disconnect both connectors. Note connector locations.

  IMPORTANT:
  Be sure to reconnect connectors in the proper locations. Do NOT cross connect.
NOTE:
To disconnect the remaining circular Deutsch connectors, rotate the outer collar counterclockwise.

- Cab connectors (A)
  Two round connectors: C1 and C2
  Location: Under cab

- Roof connectors (A)
  Four connectors: C10, C12, C13, and C14
  Location: Under cab at base of left cab post

- Chassis relay module (A)
  Three connectors: P240, P241, and P242
  Location: Outside left frame rail near batteries
• Engine harness (A)
  Two round connectors: C30 and C31
  Location: Inside left frame rail, at rear of windrower

• Air conditioning (A/C) box connectors (A)
  Two connectors: C15 and C16
  Location: Rear of A/C box

• Wheel motor connectors (A)
  Two round connectors: C25 and C26
  Location: Under center of frame, just behind front cross member

IMPORTANT:
To connect circular Deutsch connectors without bending the pins, align the plug with the receptacle before attempting to connect.
SAFETY

IMPORTANT:
To connect circular Deutsch connectors without bending the pins, align the plug with the receptacle before attempting to connect.

To align the connectors:

1. Observe the channel cuts and mating channel protrusions on the inner part of the circular walls of the connectors.
2. Face the mating connectors towards each other, and rotate connectors so that channels are aligned.
3. Press connectors together while turning the outer connector clockwise until collar locks.
1.7 Safety Signs

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or illegible.
- If the original part on which a safety sign was installed is replaced, be sure the repair part displays the current safety sign.
- Replacement safety signs are available from your MacDon Dealer Parts Department.

1.7.1 Installing Safety Decals

1. Clean and dry the installation area.
2. Decide exactly where you are going to place the decal.
3. Remove the smaller portion of the split backing paper.
4. Place the decal in position and slowly peel back the remaining paper, smoothing the decal as it is applied.
5. Prick small air pockets with a pin and smooth out.

Figure 1.25: Operator’s Manual Decal
1.8 Safety Sign Decals

MD #184372

General hazard pertaining to machine operation and servicing.

CAUTION

- Read the operator’s manual and follow all safety instructions. If you do not have a manual, obtain one from your Dealer.
- Do not allow untrained persons to operate the machine.
- Review safety instructions with all Operators every year.
- Ensure that all safety signs are installed and legible.
- Make certain everyone is clear of machine before starting engine and during operation.
- Keep riders off the machine.
- Keep all shields in place and stay clear of moving parts.
- Disengage header drive, put transmission in Neutral, and wait for all movement to stop before leaving operator’s position.
- Stop the engine and remove the key from ignition before servicing, adjusting, lubricating, cleaning, or unplugging machine.
- Engage locks to prevent lowering of header or reel before servicing in the raised position.
- Use slow moving vehicle emblem and flashing warning lights when operating on roadways unless prohibited by law.

MD #166466

HIGH PRESSURE HYDRAULICS

DO NOT GO NEAR LEAKS

- High pressure oil easily punctures skin causing serious injury, gangrene, or death.
- If injured, seek emergency medical help. Immediate surgery is required to remove oil.
- Do NOT use finger or skin to check for leaks.
- Lower load or relieve hydraulic pressure before loosening fittings.
SAFETY

MD #174683

PINCH POINT - MOVING PARTS
STAND CLEAR

Figure 1.28: MD #174683

MD #291638

LOCK - SWATH COMPRESSOR DECK

- Engage lock when swath compressor is not in use.
- Lock compressor shield before servicing or working under the windrower.
- Lock compressor shield before operating in engine-forward mode.

Figure 1.29: MD #291638
Chapter 2: Installation Instructions

2.1 Removing Swath Compressor from Shipping Crate

Follow these steps to unpack the swath compressor from the shipping crate. Retain all parts for installation unless instructed to discard.

1. Remove top cross members (A) from the shipping crate and discard.

2. Remove four bolts (A) securing deflector (B) to the left and right supports, and remove deflector (B). Retain hardware for reinstallation.

3. Remove four bolts and nuts (A) and remove two bar clamps (B) from front pivot support (C).
4. Remove bolts and nuts (B) securing front support (A) to the left and right supports.

5. Remove hairpins (C) from pivot pins (D) and pull the pivot pins to disengage them from the side supports. Remove front pivot support (A).

6. Remove nut and bolt (A) and remove pivot pin (B) from the left support.

   **NOTE:**
   If necessary, loosen handle (C) and adjust the deflector so pin (B) can be removed.

7. Release latch (A) and remove left support (B), including the cylinder and hydraulic hoses.

8. Remove the shipping wire securing the hoses to the support.
9. Remove nut and bolt (A) and remove pivot pin (B) from the right support.

**NOTE:**
If necessary, loosen handle (C) and adjust the deflector so pin (B) can be removed.

10. Remove right support (D).

11. Remove rock shaft (A).

12. Remove four lag screws (B) securing the swath compressor to its shipping crate. Discard the lag screws and washers.

13. Leave the swath compressor on the shipping pallet.
2.2 Installing Swath Compressor

Follow these steps to install the swath compressor onto an M1170 or M1240 Windrower. The swath compressor weighs approximately 180 kg (400 lb.).

2.2.1 Installing Frame

1. Loosely attach bar clamps (A) to each side of front support with two M10 bolts and nuts (B).

2. Position front support (A) below the windrower frame at the cab end and adjust bar clamps (C) to hold support in place. Tighten bolts (B) sufficiently to hold support.

3. Loosen clamps (A) at rear of left and right supports.
4. Position left support (A) onto the left side of windrower frame as shown, and temporarily clamp in position with bar clamp (B) and M10 x 35 bolt (C) and nut.

5. Install M10 x 35 mm bolt (B) and nut through support (A) and bar clamp. Do NOT tighten.

6. Install M10 x 20 mm bolt (C) and nut through left support (A) and front support (D). Do NOT fully tighten bolt.

7. Secure rear of left support (A) with M10 x 35 mm bolts (B) and (C), and nuts through windrower frame. Do NOT fully tighten.
8. Remove bolt and nut (A) securing air cleaner support (B) to windrower frame (C). Discard bolt and nut.

9. Install front end of right support (A) to windrower frame with M10 x 35 bolt and nut (B) through bar clamp (C). Do NOT fully tighten.

10. Install M10 x 20 bolt (D) and nut through right support and front support. Do NOT fully tighten.

11. Position air cleaner support (A) between windrower frame and right rear support (B) and secure with M10 x 35 bolt and nut (C). Bolt head faces aft.

12. Secure right support (B) to inside of windrower frame with bar clamp and M10 x 35 bolt (D) and nut. Do NOT fully tighten.
13. Secure aft end of right support (A) to frame with M10 x 35 bolt (B) and nut. Do **NOT** fully tighten.

![Figure 2.18: Right Support](image)

14. Position rock shaft lift (A) inside left and right support channels and install pivot pins (B) on both sides.

15. Secure pivot pins (B) with M10 x 20 mm bolts and nuts (C). Tighten bolts.

![Figure 2.19: Rock Shaft](image)

16. Ensure sensor arm (A) engages bolt (B) on left rock shaft lift support, and ensure it is not bent or damaged.

![Figure 2.20: Sensor on Left Support](image)
17. Tighten six bolts (A) attaching supports directly to frame and torque to 39 Nm (29 lbf-ft).

18. Tighten two bolts (B) attaching side supports to front support and torque to 39 Nm (29 lbf-ft).

19. Ensure front clamps (C) engage windrower frame as much as possible and torque four bolts (D) to 39 Nm (29 lbf-ft).

20. Ensure rear clamps (E) engage windrower frame as much as possible and torque two bolts (F) to 39 Nm (29 lbf-ft).

21. Install cable tie (B) (provided in manual bag) around sensor harness (A) and connector at base of fuel filter, as shown at right. Ensure cable tie is over the harness loom, and a slight amount of slack remains in wires to connector.
2.2.2 Installing Electrical Harness

1. Locate three-pin electrical connector P729 (A) above the front cross member of the windrower frame.

2. Cut cable tie (B) securing P729 (A) to the larger electrical harness.

3. Route swath compressor harness (A) to P729 above front cross member, and connect to plug P729. Secure loose harness to frame with cable tie.

**NOTE:**
Connector P288 is near connector P729. Ensure correct connector P729 is used.
2.2.3 Connecting Hydraulics

* M1170 (2017 and earlier) hose routing

1. Route hydraulic hoses (A) under windrower frame, and between shield support (B) and hydraulic cylinder (C).

   **NOTE:**
   Position hoses to avoid pinching.

* M1170 / M1240 (2018 and later) hose routing

2. Route hydraulic hoses (A) through opening in left windrower frame.

---

⚠ **CAUTION**

Check to be sure all bystanders have cleared the area.

3. Start the engine and press SWATH COMPRESSOR LOWER switch (A) for five seconds to relieve pressure behind couplers.

4. Shut off engine and remove key.
**M1170 (2017 and earlier) hose connections**

5. Route hoses under the filters and connect hydraulic couplers as follows:
   - Hose with male coupler to female connector (A)
   - Hose with (smaller) female coupler to male connector (B)
   - Hose with (larger) female coupler to male connector (C)

6. Position hose sheath (D) so sheath contacts fittings. Secure sheath at both ends with cable ties (MD #30753) supplied in manual bag.

**M1170 / M1240 (2018 and later) hose connections**

7. Connect hydraulic couplers as follows:
   - Hose with male coupler to female connector (A)
   - Hose with (smaller) female coupler to male connector (B)
   - Hose with (larger) female coupler to male connector (C)

8. Position hose sheath (D) so sheath contacts coupler fittings. Secure sheath at both ends with cable ties (MD #30753) supplied in manual bag.
2.2.4 Installing Shield Assembly

1. Start engine and raise header legs. Press SWATH COMPRESSOR LOWER button (A) to fully retract swath compressor cylinder.

2. Shut off engine and remove key.

3. Position forklift with forks over front of compressor shield, and attach lifting straps (A) through front and back of shield frame. Lift swath compressor shield out of shipping crate.

4. Approach windrower from front and move shield (A) under windrower. Lower to ground. Remove lifting straps and back forklift clear of windrower.
5. To make connecting lowering arms easier, turn lock handle (A) counterclockwise and rotate rock shaft (B) so that supports are vertical.

6. Ensure bushings (A) are installed onto pins (B) on both sides of rock shaft.

7. Position floor jack or equivalent under swath compressor shield cross member (C).

8. Raise shield with jack sufficiently to connect lowering arm (D) to pin (B) on rock shaft (G).

9. Secure lowering arm (D) to rock shaft (G) with washer (E) and lynch pin (F). Repeat on opposite side.

10. Lower jack and remove from work area.
11. Loosen handle (A) and remove three bolts and nuts (B) from side deflector (C). Retain bolts and nuts.

12. Rotate side deflector (A) to working position, and secure it to compressor shield with three bolts and nuts (B) from previous step. Install bolts with heads facing the crop.

13. Torque nuts to 22 Nm (15 lbf-ft).

14. Position the side deflector and tighten the adjustment handle (C). Repeat on opposite side.

15. Push down on rear (A) of shield while another installer lifts the front (D).

16. Align ball joints (C) with pins (B) at front of shield, and insert pins (B). Use a rubber mallet if pins are difficult to install.
17. Install hairpin (A) to secure pivot pin (B). Repeat on opposite side.

18. Align rod end of hydraulic cylinder (A) with holes in rock shaft and secure with pin (B). Ensure plate on pin engages slot (E) in rock shaft support.

19. Secure pin with washer (C) and lynch pin (D).

20. Position front deflector (A) onto front support (B) and remove the two existing bolts (C) that interfere with the deflector. Do NOT discard.

21. Secure deflector (A) to support with two M10 hex head bolts (C) removed in previous step and four M10 hex head bolts (D) that secured deflector to frame for shipping purposes. Center deflector with main shield before tightening bolts.
Chapter 3: Operation

3.1 Activating the Swath Compressor

The swath compressor must be activated in the windrower’s control system the first time it is attached to a windrower. To activate the swath compressor with the Harvest Performance Tracker (HPT), follow these steps:

NOTE:
If necessary, refer to the windrower operator’s manual to review navigating the HPT display. A header must be attached to the windrower.

1. Turn ignition key to ON to activate the HPT.

2. Press soft key 5 (A) to open the main menu or press SHIFT and SELECT on the ground speed lever.

3. Use the Harvest Performance Tracker (HPT) scroll knob (B) or the ground speed lever (GSL) scroll wheel (not shown) to place red cursor (C) over the icon you want to select.

NOTE:
Using the scroll knob will activate titles that explain each selection.

4. Press HPT scroll knob (B) or the GSL SELECT button (not shown) to select the highlighted icon.

NOTE:
Pressing the corresponding soft key will also work.

5. Scroll down and select HEADER SETUP menu (A).
6. Select the correct header size and type from the HEADER list.

7. Select ATTACHMENTS (A) from the HEADER SETUP screen.

8. Select SWATH COMPRESSOR (A) from the menu. The sensor is now active, and the HPT will control the swath compressor.
9. From the SETUP menu, select WINDROWER SETTINGS (A).

10. Select SENSORS menu (A).

11. Scroll to SWATH COMPRESSOR (A) and confirm the swath compressor sensor is enabled.

12. Calibrate sensor. For instructions, refer to 3.2 Calibrating Position Sensor, page 34.
3.2 Calibrating Position Sensor

The swath compressor position sensor must be calibrated when the system is first installed.

To calibrate the system with the header attached to the windrower, refer to 3.2.1 Calibrating Sensors with Header Attached, page 34.

3.2.1 Calibrating Sensors with Header Attached

The Harvest Performance Tracker (HPT) recognizes the header that is attached to the windrower and determines the systems that require calibration. The following sensors will be calibrated depending on header type:

- Header height
- Header angle
- Header float left
- Header float right
- Reel height
- Reel fore-aft
- Swath compressor height

⚠️ CAUTION

Before starting the machine, check to be sure all bystanders have cleared the area.

1. Start the windrower, and engage the header.
2. Press soft key 5 (A) to open the main menu.
3. Use HPT scroll knob (B) or the ground speed lever (GSL) scroll wheel (not shown) to highlight SETTINGS icon (C).
4. Press HPT scroll knob (B) or the GSL SELECT button (not shown) to activate the settings menu options.

Figure 3.9: Opening the Main Menu
5. Scroll to WINDROWER SETTINGS icon (A) and press SELECT.

6. Scroll to CALIBRATION icon (B), and press SELECT to open the Calibration Selection screen.

7. In the Calibration Selection screen, scroll to Position Sensors (A) and press SELECT.

NOTE:
If calibration is selected with header disengaged, a message ENGAGE HEADER will come up on the screen followed by the WARNING message on the right.

8. Press the PLAY icon on the screen to begin the calibration process. The display on the screen will change to show that calibration has started.

NOTE:
If the engine speed is less than 1500 rpm prior to starting the calibration, the system will accelerate the engine speed to 1500 rpm.
NOTE:
Pressing X icon (A) on the screen (or pressing the HOME, BACK or any GSL button [buttons not shown]) at any time during calibration process will EXIT calibration without saving. The engine speed will also return to the original rpm prior to starting the calibration process.

NOTE:
If a sensor goes out of its normal operating range during the calibration process, calibration will stop and a message will appear on the screen indicating that the sensor is out of range.

9. When stage one of the calibration is complete, press PLAY icon (A) on the screen to continue with stage two of the calibration process.

10. When stage two of the calibration is complete, press RESUME icon (A) on the screen to set HEADER FLOAT, or press HOME or BACK button (not shown) to exit without setting the float.

NOTE:
The engine speed returns to the speed prior to calibration when stage two calibration is complete.
NOTE:
If the voltage of any sensor sweeps below what is acceptable during calibration, a message will be displayed after completing the calibration with a list of sensors with voltage range that is not acceptable. The Operator must then adjust the sensor and repeat the calibration process from the beginning.

Figure 3.16: Sample of Failed Calibration Display Message
3.3 Using the Swath Compressor

3.3.1 Controlling the Swath Compressor

The following topic explains how the windrower controls the swath compressor, and describes the automated raise/lower functions.

**WARNING**

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator’s seat for any reason.

Swath compressor height (A) is displayed on the Harvest Performance Tracker (HPT) with a scale from 0–10.

**NOTE:**

Swath compressor icon (B) is displayed on the HPT when the swath compressor is activated in the attachments menu. If the sensor is disabled, height number (A) is replaced by a sensor disabled icon. For instructions on enabling the sensor, refer to 3.1 Activating the Swath Compressor, page 31 refer to the Swath Compressor for M1 Series Windrowers Setup, Operation, and Parts Manual.

Switches (A) and (B) on the operator’s console are used to adjust the position (height). Releasing the switch stops the movement.

**NOTE:**

Each momentary press of the switch changes the value by one. Pressing and holding changes the value by one increment per second.

**NOTE:**

The last position set with the console switches becomes the target height. When an adjustment is made, the display shows the target value. The system immediately adjusts to attain the target position. After the last adjustment, the display shows target value for 5 seconds then reverts to the actual position.
Display functions

- As the swath compressor moves up or down, target value (A) changes, windrower icon (B) appears as an outline, and swath compressor icon (C) flashes.
- Windrower icon (B) is solid when the target height is achieved.
- Value (A) is 0, and image (B) is an outline with the swath compressor fully raised.
- Icon (B) is not visible and automation is disabled without a header attached. Swath compressor height can still be adjusted.

Swath compressor automated functions: header engaged

- The swath compressor lowers to target height at a ground speed higher than 2.5 km/h (1.6 mph).
- The swath compressor fully raises as the ground speed transitions through 1.6 km/h (1 mph) during deceleration.
- The swath compressor fully raises when the header is disengaged at a ground speed higher than 1.6 km/h (1 mph).
- An IMPORTANT message to raise the swath compressor appears on the HPT accompanied by a tone when the GSL is moved out of PARK in engine-forward mode if the swath compressor is not fully raised.

Engage the swath compressor lock when the swath compressor is not in use, or when the windrower is in engine-forward mode. For instructions, refer to 3.3.6 Locking and Unlocking the Swath Compressor, page 43.
### 3.3.2 Setting up the Swath Compressor

Operate the windrower in crop and use the following procedure to determine the settings for the crop and crop conditions.

**CAUTION**

Park on a flat, level surface with the ground speed lever (GSL) in PARK position and the steering wheel in locked position (centered). Wait for the HPT to beep and display a red P symbol to confirm the park brakes have engaged.

**WARNING**

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator’s seat for any reason.

1. Rotate handle (A) counterclockwise to disengage the lock on the left rear support.
2. Start the engine, set ground speed lever (GSL) in PARK, and ensure that the header is disengaged.
3. Adjust the swath compressor position to the target (or preferred) operating height using controls (A) and (B) on the console. Set the target operating height to 6 if there is no preferred operating height.
4. Engage and then disengage the header. The swath compressor will raise fully.
5. Engage the header and begin cutting crop. When the ground speed exceeds 2.5 km/h (1.6 mph), the swath compressor will lower to target (or preferred) height (A).

6. Stop the windrower and check the formation of the windrow.
   - If necessary, adjust target height (A).
   - If the edges of the windrow are not sufficiently pressed into the stubble, adjust the side deflectors. For instructions, refer to 3.3.5 Adjusting Side Deflectors, page 42.
   - If the swath compressor shield raises too easily in dense windrows, adjust the compression. For instructions, refer to 3.3.4 Adjusting Compression, page 42.

3.3.3 Programming One-Touch-Return

The One-Touch-Return switches A, B, and C always save header height settings, but swath compressor settings can also be saved depending on the header type.

To program the One-Touch-Return switches, follow these steps:

1. Adjust header and swath compressor to desired position.

2. Press and hold switch A, B, or C on the ground speed lever (GSL) handle for 3 seconds until an audible tone is heard. The current header/swath compressor settings are saved to that switch. To return header to a preset condition, quickly tap the A, B, or C switch.

   NOTE:
   A new swath compressor setting will only be stored if the compressor position was set with the UP/DOWN switches on the console. If swath compressor height sensor is disabled, automation is disabled. Raise/lower operation is only possible by pressing console switches.
3.3.4 Adjusting Compression

The swath compressor automatically raises when the load on the shield exceeds the compression setting. When load decreases, the compressor deck automatically returns to the target height. The compression setting is set at the factory to suit most crop conditions and can be adjusted as follows:

1. Loosen jam nut (A) to allow adjustment knob (B) to turn. Do NOT remove the nut.
   - For a more compact windrow with higher wind resistance, turn adjuster knob (B) clockwise to increase cut crop compression.
   - To minimize crop shelling and decrease cut crop compression, turn adjuster knob (B) counterclockwise.

   **NOTE:**
   Start with the lowest compression (with the adjuster knob fully turned counterclockwise) and increase the compression setting in 1/2 turn increments as required.

2. Tighten jam nut (A) sufficiently to maintain the setting.

3.3.5 Adjusting Side Deflectors

To reduce wind damage to the windrow, adjust the side deflectors to ensure the edges of the windrows are tucked in and anchored to the stubble.

1. To adjust swath compressor side deflectors (A), loosen handles (B) and move deflectors to the desired position. To ensure windrow placement is centered, set both side deflectors to the same position.

2. Tighten handles (B) when adjustment is complete.
3.3.6 Locking and Unlocking the Swath Compressor

The swath compressor lock is located on the left cab-forward side of the swath compressor frame. When engaged, the lock prevents the compressor shield from lowering.

1. Turn lock handle (A) clockwise to engage the swath compressor lock under the following conditions:
   - Swath compressor is not in use
   - Windrower is being serviced
   - Windrower is in engine-forward mode

2. Turn handle (A) counterclockwise to disengage the lock before operating the swath compressor.

Figure 3.26: Swath Compressor Lock
Chapter 4: Maintenance

The swath compressor does not require any scheduled maintenance or servicing. If it’s necessary to replace components, refer to *5 Illustrated Parts Lists, page 55* in this manual.

4.1 Removing Swath Compressor Shield

Windrower service or maintenance procedures may require access under the machine. Do **NOT** sit on the swath compressor shield to service the windrower. Remove the shield as follows:

**WARNING**

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator’s seat for any reason.

1. Disengage swath compressor lock (A).
2. Start the windrower and fully lower the swath compressor.
3. Shut down the engine, and remove the key from the ignition.

4. At the front of the swath compressor, remove hairpin (A) from pivot pin (B) on both sides of the frame.
5. Push down on shield’s rear side (A) while another person supports front side (D). Pull pivot pins (B) from ball joints (C) on both sides of the frame. To avoid misplacing parts, reinstall the hairpins into the pivot pins.

6. Lower the front end of the shield to the ground.

7. Support the shield under support (C) at the back end with a floor jack (or equivalent).

8. Remove lynch pins (F) and washers (E) from pins (B) on both ends of rock shaft (G).

9. Remove lowering arms (D) from rock shaft (G).

10. Store bushings (A), washers (E) and lynch pins (F) on pins (B).

11. Lower the back end of the shield to the ground and move the jack away from the work area.

12. Start the windrower and fully raise the swath compressor lift mechanism. Slowly drive the windrower away from the shield.
4.2 Electrical System

The electrical system for the swath compressor is powered by the windrower.

4.2.1 Rotary Sensor – MD #128994

Range: 0.5–4.5 volts (-45° – +45°)

Table 4.1 Rotary Sensor Pinout (MD #128994)

<table>
<thead>
<tr>
<th>Position</th>
<th>Function</th>
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<tr>
<td>1</td>
<td>Power</td>
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<tr>
<td>2</td>
<td>Ground</td>
</tr>
<tr>
<td>3</td>
<td>Signal</td>
</tr>
</tbody>
</table>

Figure 4.5: MD #128994

Figure 4.6: Sensor Voltage Range
4.2.2 Swath Compressor Harness – MD #209256

Figure 4.7: Harness (MD #209256)

![Diagram of Harness](image)

A - MD #134091 (Tyco, AMP SS 1.5 3P) – to Rotary Sensor

B - MD #134018 (Deutsch, DTM04-3P) – to Chassis Harness P729

Table 4.2 MD #134091 – Tyco, AMP SS 1.5 3P

<table>
<thead>
<tr>
<th>Pin</th>
<th>Circuit</th>
<th>Color</th>
<th>Awg</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SF2201</td>
<td>Yellow</td>
<td>18</td>
<td>Rotary sensor, pin 1 (power)</td>
<td>P560A, pin 1</td>
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<tr>
<td>2</td>
<td>SF2301</td>
<td>White</td>
<td>18</td>
<td>Rotary sensor, pin 2 (ground)</td>
<td>P560A, pin 3</td>
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<td>3</td>
<td>SF2501</td>
<td>Brown</td>
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<td>Rotary sensor, pin 3 (signal)</td>
<td>P560A, pin 2</td>
</tr>
</tbody>
</table>

Table 4.3 MD #134018 – Deutsch, DTM04-3P

<table>
<thead>
<tr>
<th>Pin</th>
<th>Circuit</th>
<th>Color</th>
<th>Awg</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
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<td>Yellow</td>
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<td>P560, pin 1 (power)</td>
<td>P729, pin 1 – CH2201G</td>
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<td>Brown</td>
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<td>P560, pin 2 (ground)</td>
<td>P729, pin 3 – CH0552P</td>
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</table>
Harness Connections

Figure 4.8: Swath Compressor Harness Connections

A - Swath Compressor Harness (MD #209256)  B - Rotary Sensor (MD #128994)  C - Chassis Harness
4.2.3 Electrical Schematic

Figure 4.9: Electrical Schematic – M1 Series with Swath Compressor

A - Chassis Extension Module  B - Connector P729 (to Swath Compressor Harness P560A)  C - Ground Rail
4.3 Hydraulic Schematic
<table>
<thead>
<tr>
<th>Code</th>
<th>Component</th>
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<tr>
<td>A</td>
<td>Lift Manifold</td>
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<tr>
<td>B</td>
<td>Swath Compressor Lift Cylinder</td>
</tr>
<tr>
<td>C</td>
<td>Hydraulic Tank</td>
</tr>
<tr>
<td>D</td>
<td>Hydraulic Filter Element</td>
</tr>
<tr>
<td>E</td>
<td>Inlet Manifold</td>
</tr>
<tr>
<td>F</td>
<td>Junction Manifold</td>
</tr>
<tr>
<td>G</td>
<td>Reducing Valve</td>
</tr>
<tr>
<td>H</td>
<td>Gear Pump</td>
</tr>
</tbody>
</table>
Chapter 5: Illustrated Parts Lists

This section lists the replacement parts for the M1 Series windrower swath compressor.
5.1 Swath Compressor Frame
<table>
<thead>
<tr>
<th>Ref</th>
<th>Part Number</th>
<th>Description</th>
<th>Qty</th>
<th>Serial Number</th>
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<td>DEFLECTOR – LH WELDMENT</td>
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<td>4</td>
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<td>DISC – RETAINER</td>
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<td>203350</td>
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<td>ANGLE – REAR TOP</td>
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5.2 Swath Compressor Hydraulics and Supports
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<td>128994</td>
<td>ROTARY SENSOR HV</td>
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<td>PIN – LYNCH</td>
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<th>Qty</th>
<th>Serial Number</th>
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<td>M</td>
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<td>WASHER – SAE FLAT 13/16 I.D. X 1.5 IN. O.D. ZP</td>
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5.3 Decals
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<th>Serial Number</th>
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<td>DECAL – DOWN FORCE</td>
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<td>DECAL – READ MANUAL</td>
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<td>302204</td>
<td>DECAL – CA PROPOSITION 65</td>
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2. May not be exactly as shown.
Chapter 6: Reference

6.1 Torque Specifications

The following tables provide correct torque values for various bolts, cap screws, and hydraulic fittings.

- Tighten all bolts to torque values specified in charts (unless otherwise noted throughout this manual).
- Replace hardware with same strength and grade of bolt.
- Use torque value tables as a guide and periodically check tightness of bolts.
- Understand torque categories for bolts and cap screws by using their identifying head markings.

**Jam nuts**

When applying torque to finished jam nuts, multiply the torque applied to regular nuts by f=0.65.

**Self-tapping screws**

Standard torque is to be used (NOT to be used on critical or structurally important joints).

### 6.1.1 Metric Bolt Specifications

**Table 6.1 Metric Class 8.8 Bolts and Class 9 Free Spinning Nut**

<table>
<thead>
<tr>
<th>Nominal Size (A)</th>
<th>Torque (Nm)</th>
<th>Torque (lbf-ft) (*lbf-in)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
<td>Max.</td>
</tr>
<tr>
<td>3-0.5</td>
<td>1.4</td>
<td>1.6</td>
</tr>
<tr>
<td>3.5-0.6</td>
<td>2.2</td>
<td>2.5</td>
</tr>
<tr>
<td>4-0.7</td>
<td>3.3</td>
<td>3.7</td>
</tr>
<tr>
<td>5-0.8</td>
<td>6.7</td>
<td>7.4</td>
</tr>
<tr>
<td>6-1.0</td>
<td>11.4</td>
<td>12.6</td>
</tr>
<tr>
<td>8-1.25</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>10-1.5</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>12-1.75</td>
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<td>105</td>
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<td>14-2.0</td>
<td>152</td>
<td>168</td>
</tr>
<tr>
<td>16-2.0</td>
<td>236</td>
<td>261</td>
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<tr>
<td>20-2.5</td>
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![Figure 6.1: Bolt Grades](image)
### Table 6.2 Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut

<table>
<thead>
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<th>Nominal Size (A)</th>
<th>Torque (Nm)</th>
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<td></td>
<td>Min.</td>
<td>Max.</td>
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</tr>
<tr>
<td>3.5-0.6</td>
<td>1.5</td>
<td>1.7</td>
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<tr>
<td>4-0.7</td>
<td>2.3</td>
<td>2.5</td>
</tr>
<tr>
<td>5-0.8</td>
<td>4.5</td>
<td>5</td>
</tr>
<tr>
<td>6-1.0</td>
<td>7.7</td>
<td>8.6</td>
</tr>
<tr>
<td>8-1.25</td>
<td>18.8</td>
<td>20.8</td>
</tr>
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<td>41</td>
</tr>
<tr>
<td>12-1.75</td>
<td>65</td>
<td>72</td>
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<tr>
<td>14-2.0</td>
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<td>115</td>
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<tr>
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### Table 6.3 Metric Class 10.9 Bolts and Class 10 Free Spinning Nut

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<th>Torque (Nm)</th>
<th>Torque (lbf-ft) (*lbf-in)</th>
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<td>Max.</td>
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<tr>
<td>3-0.5</td>
<td>1.8</td>
<td>2</td>
</tr>
<tr>
<td>3.5-0.6</td>
<td>2.8</td>
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</tr>
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<td>4.6</td>
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<td>5-0.8</td>
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Table 6.4 Metric Class 10.9 Bolts and Class 10 Distorted Thread Nut

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<tbody>
<tr>
<td></td>
<td>Min.</td>
<td>Max.</td>
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<tr>
<td>3-0.5</td>
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6.1.2 Metric Bolt Specifications Bolting into Cast Aluminum

Table 6.5 Metric Bolt Bolting into Cast Aluminum

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<th>Nominal Size (A)</th>
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<td>M4</td>
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<td>–</td>
</tr>
<tr>
<td>M6</td>
<td>9</td>
</tr>
<tr>
<td>M8</td>
<td>20</td>
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<tr>
<td>M10</td>
<td>40</td>
</tr>
<tr>
<td>M12</td>
<td>70</td>
</tr>
<tr>
<td>M14</td>
<td>–</td>
</tr>
<tr>
<td>M16</td>
<td>–</td>
</tr>
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</table>
6.1.3 O-Ring Boss Hydraulic Fittings – Adjustable

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Back off lock nut (C) as far as possible. Ensure that washer (D) is loose and is pushed toward lock nut (C) as far as possible.
3. Check that O-ring (A) is NOT on threads and adjust if necessary.
4. Apply hydraulic system oil to O-ring (A).

5. Install fitting (B) into port until backup washer (D) and O-ring (A) contact part face (E).
6. Position angle fittings by unscrewing no more than one turn.
7. Turn lock nut (C) down to washer (D) and tighten to torque shown. Use two wrenches, one on fitting (B) and other on lock nut (C).
8. Check final condition of fitting.
Table 6.6 O-Ring Boss (ORB) Hydraulic Fittings – Adjustable

<table>
<thead>
<tr>
<th>SAE Dash Size</th>
<th>Thread Size (in.)</th>
<th>Torque Value(^3)</th>
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<tr>
<td></td>
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<td>6–7</td>
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<td>3/8–24</td>
<td>12–13</td>
</tr>
<tr>
<td>-4</td>
<td>7/16–20</td>
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<td>21–33</td>
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<tr>
<td>-6</td>
<td>9/16–18</td>
<td>26–29</td>
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<td>-8</td>
<td>3/4–16</td>
<td>46–50</td>
</tr>
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<td>-10</td>
<td>7/8–14</td>
<td>75–82</td>
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<tr>
<td>-12</td>
<td>1 1/16–12</td>
<td>120–132</td>
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<td>-14</td>
<td>1 3/8–12</td>
<td>153–168</td>
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<tr>
<td>-16</td>
<td>1 5/16–12</td>
<td>176–193</td>
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<td>-20</td>
<td>1 5/8–12</td>
<td>221–243</td>
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<tr>
<td>-24</td>
<td>1 7/8–12</td>
<td>270–298</td>
</tr>
<tr>
<td>-32</td>
<td>2 1/2–12</td>
<td>332–365</td>
</tr>
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</table>

\(^3\) Torque values shown are based on lubricated connections as in reassembly.
6.1.4 O-Ring Boss Hydraulic Fittings – Non-Adjustable

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Check that O-ring (A) is NOT on threads and adjust if necessary.
3. Apply hydraulic system oil to O-ring.
4. Install fitting (C) into port until fitting is hand-tight.
5. Torque fitting (C) according to values in Table 6.7, page 70.
6. Check final condition of fitting.

Figure 6.8: Hydraulic Fitting

Table 6.7 O-Ring Boss (ORB) Hydraulic Fittings – Non-Adjustable

<table>
<thead>
<tr>
<th>SAE Dash Size</th>
<th>Thread Size (in.)</th>
<th>Torque Value&lt;sup&gt;4&lt;/sup&gt;</th>
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</thead>
<tbody>
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<td></td>
<td>Nm</td>
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<td>5/16–24</td>
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<td>-8</td>
<td>3/4–16</td>
<td>46–50</td>
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<td>7/8–14</td>
<td>75–82</td>
</tr>
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<td>1 1/16–12</td>
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<td>153–168</td>
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<td>1 5/16–12</td>
<td>176–193</td>
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<td>1 5/8–12</td>
<td>221–243</td>
</tr>
<tr>
<td>-24</td>
<td>1 7/8–12</td>
<td>270–298</td>
</tr>
<tr>
<td>-32</td>
<td>2 1/2–12</td>
<td>332–365</td>
</tr>
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</table>

<sup>4</sup> Torque values shown are based on lubricated connections as in reassembly.
6.1.5 O-Ring Face Seal Hydraulic Fittings

1. Check components to ensure that sealing surfaces and fitting threads are free of burrs, nicks, scratches, or any foreign material.

2. Apply hydraulic system oil to O-ring (B).

3. Align tube or hose assembly so that flat face of sleeve (A) or (C) comes in full contact with O-ring (B).

4. Thread tube or hose nut (D) until hand-tight. The nut should turn freely until it is bottomed out.

5. Torque fittings according to values in Table 6.8, page 71.

NOTE:
If applicable, hold hex on fitting body (E) to prevent rotation of fitting body and hose when tightening fitting nut (D).

6. Use three wrenches when assembling unions or joining two hoses together.

7. Check final condition of fitting.

Table 6.8 O-Ring Face Seal (ORFS) Hydraulic Fittings

<table>
<thead>
<tr>
<th>SAE Dash Size</th>
<th>Thread Size (in.)</th>
<th>Tube O.D. (in.)</th>
<th>Torque Value$^5$</th>
</tr>
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<tbody>
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<td>Nm</td>
</tr>
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</tr>
<tr>
<td>-8</td>
<td>13/16</td>
<td>1/2</td>
<td>55–61</td>
</tr>
<tr>
<td>-10</td>
<td>1</td>
<td>5/8</td>
<td>80–88</td>
</tr>
<tr>
<td>-14</td>
<td>Note$^6$</td>
<td>7/8</td>
<td>–</td>
</tr>
</tbody>
</table>

$^5$ Torque values and angles shown are based on lubricated connection as in reassembly.

$^6$ O-ring face seal type end not defined for this tube size.
### 6.1.6 Tapered Pipe Thread Fittings

Assemble pipe fittings as follows:

1. Check components to ensure that fitting and port threads are free of burrs, nicks, scratches, or any form of contamination.
2. Apply pipe thread sealant (paste type) to external pipe threads.
3. Thread fitting into port until hand-tight.
4. Torque connector to appropriate torque angle. The turns from finger tight (TFFT) and flats from finger tight (FFFT) values are shown in Table 6.9, page 72. Make sure that tube end of a shaped connector (typically 45° or 90°) is aligned to receive incoming tube or hose assembly. Always finish alignment of fitting in tightening direction. Never back off (loosen) pipe threaded connectors to achieve alignment.
5. Clean all residue and any excess thread conditioner with appropriate cleaner.
6. Assess final condition of fitting. Pay special attention to possibility of cracks to port opening.
7. Mark final position of fitting. If a fitting leaks, disassemble fitting and check for damage.

**NOTE:**

Overtorque failure of fittings may not be evident until fittings are disassembled.

#### Table 6.8 O-Ring Face Seal (ORFS) Hydraulic Fittings (continued)

| SAE Dash Size | Thread Size (in.) | Tube O.D. (in.) | Torque Value[
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Nm</td>
</tr>
<tr>
<td>-16</td>
<td>1 7/16</td>
<td>1</td>
<td>150–165</td>
</tr>
<tr>
<td>-20</td>
<td>1 11/16</td>
<td>1 1/4</td>
<td>205–226</td>
</tr>
<tr>
<td>-24</td>
<td>1–2</td>
<td>1 1/2</td>
<td>315–347</td>
</tr>
<tr>
<td>-32</td>
<td>2 1/2</td>
<td>2</td>
<td>510–561</td>
</tr>
</tbody>
</table>

#### Table 6.9 Hydraulic Fitting Pipe Thread

<table>
<thead>
<tr>
<th>Tapered Pipe Thread Size</th>
<th>Recommended TFFT</th>
<th>Recommended FFFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8–27</td>
<td>2–3</td>
<td>12–18</td>
</tr>
<tr>
<td>1/4–18</td>
<td>2–3</td>
<td>12–18</td>
</tr>
<tr>
<td>3/8–18</td>
<td>2–3</td>
<td>12–18</td>
</tr>
<tr>
<td>1/2–14</td>
<td>2–3</td>
<td>12–18</td>
</tr>
<tr>
<td>3/4–14</td>
<td>1.5–2.5</td>
<td>12–18</td>
</tr>
<tr>
<td>1–11 1/2</td>
<td>1.5–2.5</td>
<td>9–15</td>
</tr>
<tr>
<td>1 1/4–11 1/2</td>
<td>1.5–2.5</td>
<td>9–15</td>
</tr>
<tr>
<td>1 1/2–11 1/2</td>
<td>1.5–2.5</td>
<td>9–15</td>
</tr>
<tr>
<td>2–11 1/2</td>
<td>1.5–2.5</td>
<td>9–15</td>
</tr>
</tbody>
</table>

---

7. Torque values and angles shown are based on lubricated connection as in reassembly.
### 6.2 Conversion Chart

#### Table 6.10 Conversion Chart

<table>
<thead>
<tr>
<th>Quantity</th>
<th>SI Units (Metric)</th>
<th>Factor</th>
<th>US Customary Units (Standard)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit Name</td>
<td>Abbreviation</td>
<td>Factor</td>
</tr>
<tr>
<td>Area</td>
<td>hectare</td>
<td>ha</td>
<td>x 2.4710 =</td>
</tr>
<tr>
<td>Flow</td>
<td>liters per minute</td>
<td>L/min</td>
<td>x 0.2642 =</td>
</tr>
<tr>
<td>Force</td>
<td>Newton</td>
<td>N</td>
<td>x 0.2248 =</td>
</tr>
<tr>
<td>Length</td>
<td>millimeter</td>
<td>mm</td>
<td>x 0.0394 =</td>
</tr>
<tr>
<td>Length</td>
<td>meter</td>
<td>m</td>
<td>x 3.2808 =</td>
</tr>
<tr>
<td>Power</td>
<td>kilowatt</td>
<td>kW</td>
<td>x 1.341 =</td>
</tr>
<tr>
<td>Pressure</td>
<td>kilopascal</td>
<td>kPa</td>
<td>x 0.145 =</td>
</tr>
<tr>
<td>Pressure</td>
<td>megapascal</td>
<td>MPa</td>
<td>x 145.038 =</td>
</tr>
<tr>
<td>Pressure</td>
<td>bar (Non-SI)</td>
<td>bar</td>
<td>x 14.5038 =</td>
</tr>
<tr>
<td>Torque</td>
<td>Newton meter</td>
<td>Nm</td>
<td>x 0.7376 =</td>
</tr>
<tr>
<td>Torque</td>
<td>Newton meter</td>
<td>Nm</td>
<td>x 8.8507 =</td>
</tr>
<tr>
<td>Temperature</td>
<td>degrees Celsius</td>
<td>ºC</td>
<td>(ºC x 1.8) + 32 =</td>
</tr>
<tr>
<td>Velocity</td>
<td>meters per minute</td>
<td>m/min</td>
<td>x 3.2808 =</td>
</tr>
<tr>
<td>Velocity</td>
<td>meters per second</td>
<td>m/s</td>
<td>x 3.2808 =</td>
</tr>
<tr>
<td>Velocity</td>
<td>kilometers per hour</td>
<td>km/h</td>
<td>x 0.6214 =</td>
</tr>
<tr>
<td>Volume</td>
<td>liter</td>
<td>L</td>
<td>x 0.2642 =</td>
</tr>
<tr>
<td>Volume</td>
<td>milliliter</td>
<td>mL</td>
<td>x 0.0338 =</td>
</tr>
<tr>
<td>Volume</td>
<td>cubic centimeter</td>
<td>cm³ or cc</td>
<td>x 0.061 =</td>
</tr>
<tr>
<td>Weight</td>
<td>kilogram</td>
<td>kg</td>
<td>x 2.2046 =</td>
</tr>
</tbody>
</table>
Index

13125 ................................................................. 59
16652 ................................................................. 57
18601 ................................................................. 61
18648 ................................................................. 59
21763 ................................................................. 61
30505 ................................................................. 61
30628 ................................................................. 61
30753 ................................................................. 61
32247 ................................................................. 57
42046 ................................................................. 59
50193 ................................................................. 59
111978 ............................................................... 59
112940 ............................................................... 59
128697 ............................................................... 57
128699 ............................................................... 59
128729 ............................................................... 57
128737 ............................................................... 57, 59
128740 ............................................................... 57
128756 ............................................................... 59
128762 ............................................................... 59
128764 ............................................................... 59
128768 ............................................................... 59
128770 ............................................................... 59
128773 ............................................................... 59
128776 ............................................................... 59
128780 ............................................................... 59
128781 ............................................................... 59
128788 ............................................................... 59
128789 ............................................................... 59
128973 ............................................................... 59, 63
128974 ............................................................... 59
128994 ............................................................... 59
135312 ............................................................... 59
135337 ............................................................... 57
135386 ............................................................... 59
135474 ............................................................... 59
135691 ............................................................... 61
135778 ............................................................... 59
135799 ............................................................... 61
136095 ............................................................... 59
136144 ............................................................... 61
136149 ............................................................... 59
136151 ............................................................... 61
136178 ............................................................... 61
136194 ............................................................... 59
136604 ............................................................... 61
136655 ............................................................... 59
136731 ............................................................... 61
152439 ............................................................... 57
152668 ............................................................... 57, 61
152732 ............................................................... 61
166466 ............................................................... 63
174683 ............................................................... 63
184372 ............................................................... 63
184595 ............................................................... 61
184692 ............................................................... 57
184694 ............................................................... 61
184701 ............................................................... 61
184711 ............................................................... 61
184714 ............................................................... 61
191393 ............................................................... 57
197230 ............................................................... 61
203350 ............................................................... 57
209256 ............................................................... 59
232597 ............................................................... 59
247693 ............................................................... 57
252291 ............................................................... 61
252872 ............................................................... 57
277041 ............................................................... 59
277042 ............................................................... 59
277044 ............................................................... 59
277323 ............................................................... 57
277331 ............................................................... 59
277405 ............................................................... 57
277409 ............................................................... 57
277440 ............................................................... 57
277441 ............................................................... 57
277444 ............................................................... 59
277435 ............................................................... 59
291638 ............................................................... 63
302204 ............................................................... 63
306165 ............................................................... 57

A
adjustments
  compression ......................................................... 42
side defectors ..................................................... 42

C
controls and automated functions
  compression ......................................................... 42
lock and unlock .................................................. 43
one-touch-return ................................................. 41
conversion chart ................................................. 73

D
decals
  parts list ......................................................... 62
  safety signs ..................................................... 13
### INDEX

**E**
- electrical system
  - harness – MD #209256 ................................... 48–49
  - installing electrical harness ................................... 23
  - maintaining electrical system ................................ 47
  - rotary sensor – MD #128994 ................................... 47

**H**
- harness – MD #209256 ................................... 48–49
- harvest performance tracker (HPT)
  - activating ......................................................... 31
- hydraulics
  - fittings
    - O-ring boss (ORB) adjustable ................................... 68
    - O-ring boss (ORB) non-adjustable ................................... 70
    - O-ring face seal (ORFS) ......................................... 71
    - tapered pipe thread fittings ................................... 72
  - hydraulic safety ............................................... 6
- harvest performance tracker (HPT)
  - activating ......................................................... 31

**I**
- installation ............................................................ 15
  - activating swath compressor with HPT .................... 31
  - initial settings ..................................................... 40
  - installing electrical harness ................................... 23
  - installing shield assembly ..................................... 26
  - removing from shipping crate ................................ 15

**L**
- locks
  - lock and unlock swath compressor .......................... 43

**M**
- maintenance and servicing ....................................... 45
  - electrical system ............................................... 47
  - installing electrical harness ................................... 23
  - safety ............................................................... 5
  - shield assembly
    - installing shield assembly ................................... 26
    - removing shield assembly ................................... 45
  - maintenance requirements
    - electrical system ............................................... 47
    - safety ............................................................ 5
  - metric bolts
    - torque specifications ........................................... 65

**O**
- one-touch-return

- programming ..................................................... 41
- operation ............................................................. 31
- controls ............................................................... 38
- initial settings ..................................................... 40
- one-touch-return ................................................ 41

**P**
- parts lists .......................................................... 55
  - decals .............................................................. 62
  - hydraulics and supports ....................................... 58
  - swath compressor frame ..................................... 56
  - predelivery checklist .......................................... 79

**R**
- references
  - torque specifications ........................................... 65

**S**
- safety ................................................................. 1
  - general safety ................................................... 3
  - hydraulic safety ................................................ 6
  - maintenance safety ............................................. 5
  - safety alert symbols ........................................... 1
  - safety sign decals ................................................ 12–13
    - installing decals .................................................. 12
  - parts list .......................................................... 62
  - signal words ....................................................... 2
  - welding precautions ........................................... 7
  - sensors
    - activating ......................................................... 31
  - serial numbers .................................................... iii
  - setup ............................................................... 15
  - See also installation
    - initial settings ................................................ 40
  - shields
    - installing shield assembly ................................... 26
    - removing shield assembly ................................... 45
  - side deflectors ................................................... 42
  - specifications
    - torque specifications ........................................... 65
  - swath compressors
    - adjusting
      - compression .................................................... 42
      - side deflectors ................................................ 42
    - controls and automated functions
      - compression .................................................... 42
      - lock and unlock ............................................... 43
      - side deflectors ................................................ 42
    - installing ........................................................ 15, 18
      - electrical harness ........................................... 23
      - frame ......................................................... 18

- See also:
  - installation
  - initial settings

- See also:
  - maintenance requirements
  - metric bolts
  - torque specifications

- See also:
  - electrical system
  - installing electrical harness
  - maintaining electrical system

- See also:
  - safety
  - hydraulics
  - harvest performance tracker

- See also:
  - locks
  - installing locks
  - removing locks

- See also:
  - hydraulics fittings
  - O-ring boss (ORB)
  - O-ring face seal (ORFS)

- See also:
  - one-touch-return
  - programming
  - operation

- See also:
  - parts lists
  - decals
  - hydraulics and supports
  - swath compressor frame
  - predelivery checklist

- See also:
  - general safety
  - hydraulic safety
  - maintenance safety
  - safety alert symbols
  - safety sign decals
  - signal words
  - welding precautions

- See also:
  - sensors
  - activating
  - serial numbers
  - setup
  - See also:
    - installation
    - initial settings

- See also:
  - shields
  - installing shields
  - removing shields

- See also:
  - side deflectors
  - adjusting
  - installing

- See also:
  - specifications
  - torque specifications

- See also:
  - swath compressors
  - adjusting
  - installing

- See also:
  - See also:
    - electrical system
    - installing electrical harness
    - maintaining electrical system

- See also:
  - hydraulics fittings
  - O-ring boss (ORB)
  - O-ring face seal (ORFS)

- See also:
  - one-touch-return
  - programming
  - operation

- See also:
  - parts lists
  - decals
  - hydraulics and supports
  - swath compressor frame
  - predelivery checklist

- See also:
  - general safety
  - hydraulic safety
  - maintenance safety
  - safety alert symbols
  - safety sign decals
  - signal words
  - welding precautions

- See also:
  - sensors
  - activating
  - serial numbers
  - setup
  - See also:
    - installation
    - initial settings

- See also:
  - shields
  - installing shields
  - removing shields

- See also:
  - side deflectors
  - adjusting
  - installing

- See also:
  - specifications
  - torque specifications

- See also:
  - swath compressors
  - adjusting
  - installing
removing from shipping crate .............................................. 15
shield assembly ..................................................................... 26
lock and unlock .................................................................. 43
maintaining ........................................................................... 45
operating .............................................................................. 31, 38
initial settings ...................................................................... 40
one-touch-return .................................................................. 41
overview .............................................................................. i
parts lists .............................................................................. 55
decals .................................................................................... 62
frame ..................................................................................... 56
hydraulics and supports ................................................... 58
shield
installing shield assembly ................................................... 26
removing shield assembly ................................................... 45

torque specifications .............................................................. 65
metric bolt specifications ..................................................... 65
bolting into cast aluminum ................................................... 67
O-ring boss (ORB) hydraulic fittings – adjustable .............. 68
O-ring boss (ORB) hydraulic fittings – non-adjustable ............ 70
O-ring face seal (ORFS) fittings ........................................... 71
tapered pipe thread fittings .................................................. 72

welding .................................................................................. 7
# Predelivery Checklist

Perform these checks and adjustments prior to delivery to your Customer. The completed checklist should be retained by either the Operator or the Dealer.

⚠️ **CAUTION**

Follow the instructions carefully. Pay attention to safety-related messages, and avoid unsafe practices.

<table>
<thead>
<tr>
<th>✓ Item</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check for shipping damage or missing parts. Be sure all shipping dunnage is removed.</td>
<td>—</td>
</tr>
<tr>
<td>Check for loose hardware. Tighten to required torque.</td>
<td>6.1 Torque Specifications, page 65</td>
</tr>
<tr>
<td>Raise and lower swath compressor to check for linkage binding. Rubber bumpers at rear should contact windrower frame when fully raised. If binding occurs, adjust by adding washers where rear supports are fastened to the outside of frame.</td>
<td>2.2.1 Installing Frame, page 18</td>
</tr>
<tr>
<td>Ensure sensor arm does not bind when raising or lowering the swath compressor.</td>
<td>2.2.1 Installing Frame, page 18</td>
</tr>
<tr>
<td>Ensure fuel filter sensor wire does not contact swath compressor frame when fully raised.</td>
<td>2.2.1 Installing Frame, page 18</td>
</tr>
<tr>
<td>Check hydraulic hose routing for clearance when raising or lowering swath compressor. Adjust as necessary.</td>
<td>2.2.3 Connecting Hydraulics, page 24</td>
</tr>
<tr>
<td>Ensure hydraulic hoses are secured in place with cable ties.</td>
<td>2.2.3 Connecting Hydraulics, page 24</td>
</tr>
<tr>
<td>Ensure swath compressor lock is functioning properly.</td>
<td>3.3.6 Locking and Unlocking the Swath Compressor, page 43</td>
</tr>
<tr>
<td>Check for hydraulic leaks.</td>
<td>—</td>
</tr>
<tr>
<td>Ensure side deflectors are set evenly to desired position.</td>
<td>3.3.5 Adjusting Side Deflectors, page 42</td>
</tr>
<tr>
<td>Ensure latest software version is installed in windrower.</td>
<td>—</td>
</tr>
</tbody>
</table>

Date checked: ________________________________ Checked by: ________________________________