

MacDon®

M155 and M205 Self-Propelled Windrower

UNLOADING AND ASSEMBLY INSTRUCTIONS for NORTH AMERICAN SHIPMENTS

Published: July, 2013
Original Instructions

INTRODUCTION

This instructional manual describes the unloading, set-up and pre-delivery requirements for the MacDon M155 and M205 Self-Propelled Windrowers.

Use the Table of Contents to guide you to specific areas. Retain this instruction for future reference.

CAREFULLY READ ALL THE MATERIAL PROVIDED BEFORE ATTEMPTING TO UNLOAD, ASSEMBLE, OR USE THE MACHINE.



MACDON M155 AND M205 SELF-PROPELLED WINDROWERS

TABLE OF CONTENTS

| Section/Title | Page |
|---|-------------|
| INTRODUCTION | 2 |
| GENERAL SAFETY | 5 |
| RECOMMENDED TORQUES | 7 |
| A. GENERAL | 7 |
| B. SAE BOLTS | 7 |
| C. METRIC BOLTS..... | 9 |
| D. FLARE TYPE HYDRAULIC FITTINGS..... | 10 |
| E. O-RING BOSS (ORB) HYDRAULIC FITTINGS..... | 10 |
| F. O-RING FACE SEAL (ORFS) HYDRAULIC FITTINGS..... | 12 |
| CONVERSION CHART | 13 |
| DEFINITIONS | 14 |
| STEP 1. UNLOAD WINDROWER | 15 |
| A. TWO FORKLIFT METHOD..... | 15 |
| B. SINGLE FORKLIFT METHODS..... | 16 |
| STEP 2. REPOSITION RH LEG | 18 |
| STEP 3. INSTALL FRONT WHEELS | 19 |
| STEP 4. REPOSITION CASTER WHEELS | 19 |
| STEP 5. INSTALL STEPS | 20 |
| STEP 6. UNPACK IGNITION KEYS | 21 |
| STEP 7. CONNECT BATTERIES | 22 |
| STEP 8. INSTALL AM/FM RADIO | 23 |
| STEP 9. INSTALL SLOW MOVING VEHICLE (SMV) SIGN | 25 |
| STEP 10. ATTACH HEADER | 26 |
| A. HEADER ATTACHMENT: D SERIES..... | 26 |
| B. HEADER ATTACHMENT: A SERIES | 32 |
| C. HEADER ATTACHMENT: R SERIES..... | 38 |
| STEP 11. LUBRICATE MACHINE | 43 |
| STEP 12. PROGRAM CAB DISPLAY MODULE (CDM) | 45 |
| A. M205 DETAILED PROGRAMMING INSTRUCTIONS | 46 |
| B. M155 DETAILED PROGRAMMING INSTRUCTIONS | 50 |
| STEP 13. PERFORM PRE-DELIVERY CHECKS | 55 |
| A. SERIAL NUMBERS..... | 55 |
| B. FINAL DRIVE LUBRICANT LEVEL | 55 |
| C. TIRE PRESSURE AND BALLAST | 55 |
| D. ENGINE COOLANT | 56 |
| E. AIR CLEANER | 57 |
| F. HYDRAULIC OIL LEVEL..... | 57 |
| G. FUEL SEPARATOR..... | 58 |
| H. GEAR BOX LUBRICANT LEVEL..... | 58 |
| I. A/C COMPRESSOR BELT | 58 |
| J. PERFORM SAFETY SYSTEM CHECKS | 59 |

TABLE OF CONTENTS

| | | |
|----|-------------------------|----|
| K. | OPERATIONAL CHECKS..... | 60 |
| L. | MANUALS | 65 |
| M. | CAB INTERIOR..... | 66 |

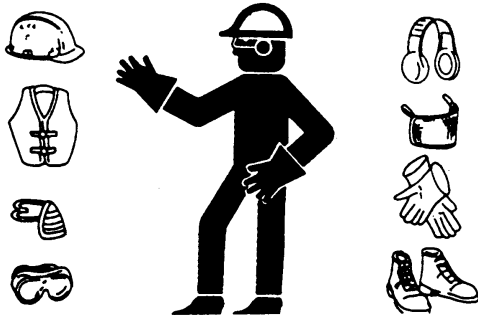
GENERAL SAFETY



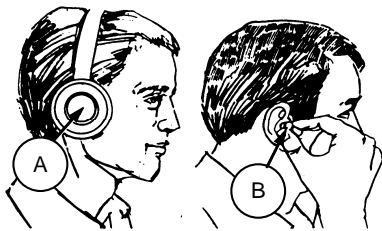
CAUTION

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

- Protect yourself.
- When assembling, operating and servicing machinery, wear all the protective clothing and personal safety devices that **COULD** be necessary for the job at hand. Don't take chances.
- You may need:



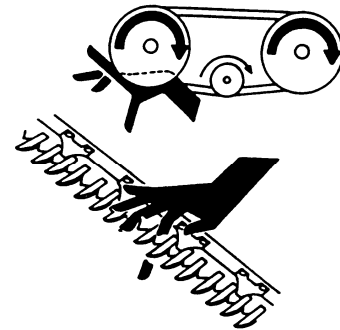
- a hard hat.
- protective shoes with slip resistant soles.
- protective glasses or goggles.
- heavy gloves.
- wet weather gear.
- respirator or filter mask.



- hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs (A) or ear plugs (B) protects against objectionable or loud noises.



- Provide a first-aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine. Be sure the extinguisher is properly maintained and 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 to get finished. Take the time to consider the 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 hands, feet, clothing and hair away from moving parts. Never attempt to clear obstructions or objects from a machine while the engine is running.



- Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft and can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.
- Do **NOT** modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.

(continued next page)

SAFETY

- **Stop engine, and remove key from ignition before leaving Operator's seat for any reason. A child or even a pet could engage an idling machine.**



- **Keep the area used for servicing machinery clean and dry. Wet 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.**
- **Use adequate light for the job at hand.**
- **Keep machinery clean. 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.**

GENERAL

RECOMMENDED TORQUES

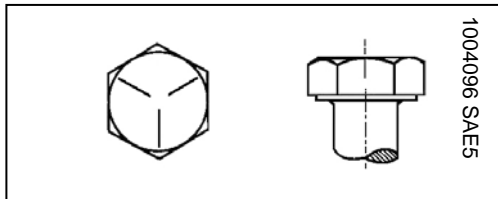
A. GENERAL

The tables shown below give correct torque values for various bolts and capscrews.

- Tighten all bolts to the torques specified in chart (unless otherwise noted throughout this manual).
- Check tightness of bolts periodically, using bolt torque chart as a guide.
- Replace hardware with the same strength bolt.
- Torque figures are valid for non-greased or non-oiled threads and heads unless otherwise specified. Do **NOT** grease or oil bolts or capscrews unless specified in this manual.
- Torque categories for bolts and capscrews are identified by their head markings.

B. SAE BOLTS

SAE Grade 5 Bolt and Grade 5 Free Spinning Nut

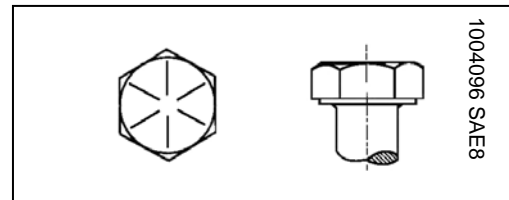


| Nominal Size | Torque (ft-lbf) (*in-lbf) | | Torque (N-m) | |
|--------------|---------------------------|------|--------------|------|
| | Min. | Max. | Min. | Max. |
| 1/4-20 | *106 | *117 | 11.9 | 13.2 |
| 5/16-18 | *218 | *241 | 24.6 | 27.1 |
| 3/8-16 | 32 | 36 | 44 | 48 |
| 7/16-14 | 52 | 57 | 70 | 77 |
| 1/2-13 | 79 | 87 | 106 | 118 |
| 9/16-12 | 114 | 126 | 153 | 170 |
| 5/8-11 | 157 | 173 | 212 | 234 |
| 3/4-10 | 281 | 311 | 380 | 420 |
| 7/8-9 | 449 | 496 | 606 | 669 |
| 1-8 | 611 | 676 | 825 | 912 |

SAE Grade 5 Bolt and Grade 5 Distorted Thread Nut

| Nominal Size | Torque (ft-lbf) (*in-lbf) | | Torque (N-m) | |
|--------------|---------------------------|------|--------------|------|
| | Min. | Max. | Min. | Max. |
| 1/4-20 | *72 | *80 | 8.1 | 9.0 |
| 5/16-18 | *149 | *164 | 16.7 | 18.5 |
| 3/8-16 | 22 | 24 | 30 | 33 |
| 7/16-14 | 35 | 39 | 48 | 53 |
| 1/2-13 | 54 | 59 | 73 | 80 |
| 9/16-12 | 77 | 86 | 105 | 116 |
| 5/8-11 | 107 | 118 | 144 | 160 |
| 3/4-10 | 192 | 212 | 259 | 286 |
| 7/8-9 | 306 | 338 | 413 | 456 |
| 1-8 | 459 | 507 | 619 | 684 |

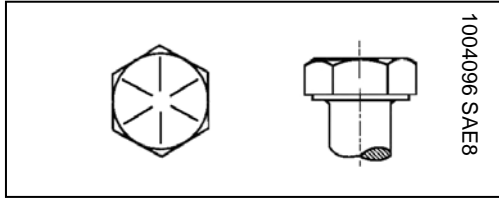
SAE Grade 8 Bolt and Grade 8 Free Spinning Nut



| Nominal Size | Torque (ft-lbf) (*in-lbf) | | Torque (N-m) | |
|--------------|---------------------------|------|--------------|------|
| | Min. | Max. | Min. | Max. |
| 1/4-20 | *150 | *165 | 16.8 | 18.6 |
| 5/16-18 | 26 | 28 | 35 | 38 |
| 3/8-16 | 46 | 50 | 61 | 68 |
| 7/16-14 | 73 | 81 | 98 | 109 |
| 1/2-13 | 111 | 123 | 150 | 166 |
| 9/16-12 | 160 | 177 | 217 | 239 |
| 5/8-11 | 221 | 345 | 299 | 330 |
| 3/4-10 | 393 | 435 | 531 | 587 |
| 7/8-9 | 633 | 700 | 855 | 945 |
| 1-8 | 863 | 954 | 1165 | 1288 |

GENERAL

SAE Grade 8 Bolt and Grade 8 Distorted Thread Nut

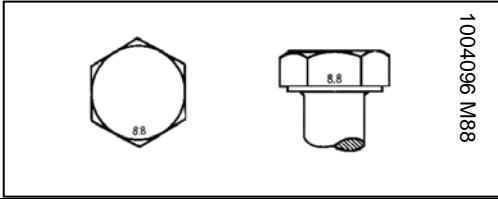


| Nominal Size | Torque (ft-lbf) (*in-lbf) | | Torque (N·m) | |
|--------------|------------------------------|------|--------------|------|
| | Min. | Max. | Min. | Max. |
| 1/4-20 | *150 | *165 | 16.8 | 18.6 |
| 5/16-18 | 18 | 19 | 24 | 26 |
| 3/8-16 | 31 | 34 | 42 | 46 |
| 7/16-14 | 50 | 55 | 67 | 74 |
| 1/2-13 | 76 | 84 | 102 | 113 |
| 9/16-12 | 109 | 121 | 148 | 163 |
| 5/8-11 | 151 | 167 | 204 | 225 |
| 3/4-10 | 268 | 296 | 362 | 400 |
| 7/8-9 | 432 | 477 | 583 | 644 |
| 1-8 | 647 | 716 | 874 | 966 |

GENERAL

C. METRIC BOLTS

Metric Class 8.8 Bolts and Class 9 Free Spinning Nut

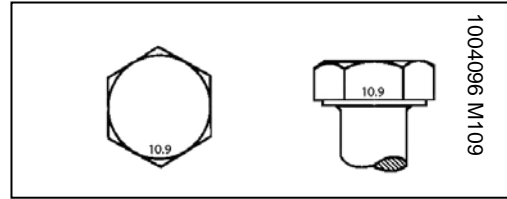


| Nominal Size | Torque (ft-lbf) (*in-lbf) | | Torque (N-m) | |
|--------------|---------------------------|------|--------------|------|
| | Min. | Max. | Min. | Max. |
| 3-0.5 | *13 | *14 | 1.4 | 1.6 |
| 3.5-0.6 | *20 | *22 | 2.2 | 2.5 |
| 4-0.7 | *29 | *32 | 3.3 | 3.7 |
| 5-0.8 | *59 | *66 | 6.7 | 7.4 |
| 6-1.0 | *101 | *112 | 11.4 | 12.6 |
| 8-1.25 | 20 | 23 | 28 | 30 |
| 10-1.5 | 40 | 45 | 55 | 60 |
| 12-1.75 | 70 | 78 | 95 | 105 |
| 14-2.0 | 113 | 124 | 152 | 168 |
| 16-2.0 | 175 | 193 | 236 | 261 |
| 20-2.5 | 341 | 377 | 460 | 509 |
| 24-3.0 | 589 | 651 | 796 | 879 |

Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut

| Nominal Size | Torque (ft-lbf) (*in-lbf) | | Torque (N-m) | |
|--------------|---------------------------|------|--------------|------|
| | Min. | Max. | Min. | Max. |
| 3-0.5 | *9 | *10 | 1.0 | 1.1 |
| 3.5-0.6 | *14 | *15 | 1.5 | 1.7 |
| 4-0.7 | *20 | *22 | 2.3 | 2.5 |
| 5-0.8 | *40 | *45 | 4.5 | 5.0 |
| 6-1.0 | *69 | *76 | 7.7 | 8.6 |
| 8-1.25 | *167 | *185 | 18.8 | 20.8 |
| 10-1.5 | 28 | 30 | 37 | 41 |
| 12-1.75 | 48 | 53 | 65 | 72 |
| 14-2.0 | 77 | 85 | 104 | 115 |
| 16-2.0 | 119 | 132 | 161 | 178 |
| 20-2.5 | 233 | 257 | 314 | 347 |
| 24-3.0 | 402 | 444 | 543 | 600 |

Metric Class 10.9 Bolts and Class 10 Free Spinning Nut



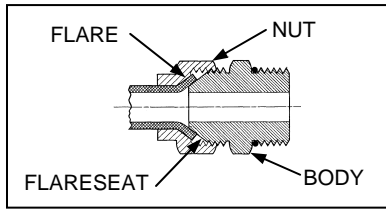
| Nominal Size | Torque (ft-lbf) (*in-lbf) | | Torque (N-m) | |
|--------------|---------------------------|------|--------------|------|
| | Min. | Max. | Min. | Max. |
| 3-0.5 | *18 | *19 | 1.8 | 2.0 |
| 3.5-0.6 | *27 | *30 | 2.8 | 3.1 |
| 4-0.7 | *41 | *45 | 4.2 | 4.6 |
| 5-0.8 | *82 | *91 | 8.4 | 9.3 |
| 6-1.0 | *140 | *154 | 14.3 | 15.8 |
| 8-1.25 | 28 | 31 | 38 | 42 |
| 10-1.5 | 56 | 62 | 75 | 83 |
| 12-1.75 | 97 | 108 | 132 | 145 |
| 14-2.0 | 156 | 172 | 210 | 232 |
| 16-2.0 | 242 | 267 | 326 | 360 |
| 20-2.5 | 472 | 521 | 637 | 704 |
| 24-3.0 | 815 | 901 | 1101 | 1217 |

Metric Class 10.9 Bolts and Class 10 Distorted Thread Nut

| Nominal Size | Torque (ft-lbf) (*in-lbf) | | Torque (N-m) | |
|--------------|---------------------------|------|--------------|------|
| | Min. | Max. | Min. | Max. |
| 3-0.5 | *12 | *13 | 1.3 | 1.5 |
| 3.5-0.6 | *19 | *21 | 2.1 | 2.3 |
| 4-0.7 | *28 | *31 | 3.1 | 3.4 |
| 5-0.8 | *56 | *62 | 6.3 | 7.0 |
| 6-1.0 | *95 | *105 | 10.7 | 11.8 |
| 8-1.25 | 19 | 21 | 26 | 29 |
| 10-1.5 | 38 | 42 | 51 | 57 |
| 12-1.75 | 66 | 73 | 90 | 99 |
| 14-2.0 | 106 | 117 | 143 | 158 |
| 16-2.0 | 165 | 182 | 222 | 246 |
| 20-2.5 | 322 | 356 | 434 | 480 |
| 24-3.0 | 556 | 614 | 750 | 829 |

GENERAL

D. FLARE TYPE HYDRAULIC FITTINGS



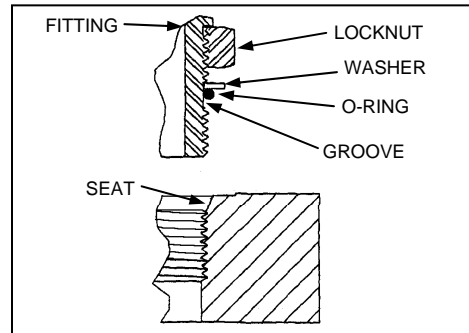
- a. Check flare and flare seat for defects that might cause leakage.
- b. Assemble fittings without lubrication until the flared surfaces contact each other (some fittings may require a wrench).
- c. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body, and with the second, tighten the swivel nut to the specified number of FFFT or to the torque shown.
- d. Check the final condition of the fitting.

| SAE DASH SIZE | THD SIZE (in.) | TORQUE VALUE* | | FLATS FROM FINGER TIGHT (FFFT) | |
|---------------|----------------|------------------|---------|--------------------------------|--------------------------|
| | | ft·lbf (*in·lbf) | N·m | TUBE CONN. | SWIVEL NUT OR HOSE CONN. |
| -3 | 3/8-24 | *60-72 | 7-8 | -- | -- |
| -4 | 7/16-20 | *156-168 | 18-19 | 2-1/2 | 2 |
| -5 | 1/2-20 | 14-15 | 19-21 | 2 | 2 |
| -6 | 9/16-18 | 22-24 | 30-33 | 2 | 1-1/2 |
| -8 | 3/4-16 | 42-46 | 57-63 | 2 | 1-1/2 |
| -10 | 7/8-14 | 60-66 | 81-89 | 1-1/2 | 1-1/2 |
| -12 | 1-1/16-12 | 83-91 | 113-124 | 1-1/2 | 1-1/4 |
| -14 | 1-3/8-12 | 100-110 | 136-149 | 1-1/2 | 1-1/4 |
| -16 | 1-5/16-12 | 118-130 | 160-176 | 1-1/2 | 1 |
| -20 | 1-5/8-12 | 168-184 | 228-250 | 1 | 1 |
| -24 | 1-7/8-12 | 195-215 | 264-291 | 1 | 1 |

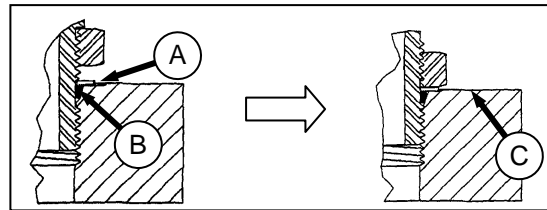
* Torque values shown are based on lubricated connections as in re-assembly.

E. O-RING BOSS (ORB) HYDRAULIC FITTINGS

I. ADJUSTABLE



- a. Inspect O-ring and seat for dirt or obvious defects.
- b. Back off the lock nut as far as possible. Ensure that washer is not loose, and is pushed toward the lock nut as far as possible.
- c. Check that O-ring is not on the threads, adjust if necessary.
- d. Apply hydraulic system oil to the O-ring.



- e. Install fitting into port until back up washer (A) and O-ring contacts on part face (C).
- f. Position angle fittings by unscrewing no more than one turn.

(continued next page)

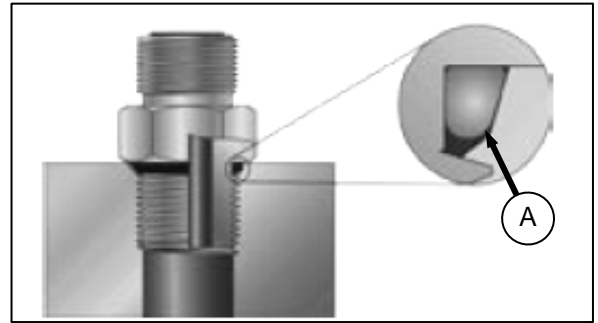
GENERAL

- g. Turn lock-nut down to washer, and tighten to torque shown. Use two wrenches, one on the fitting and the other on the lock-nut.
- h. Check the final condition of the fitting.

| SAE DASH SIZE | THD SIZE (in.) | TORQUE VALUE* | |
|---------------|----------------|--------------------|---------|
| | | ft.-lbf (*in.-lbf) | N·m |
| -3 | 3/8-24 | *106-115 | 12-13 |
| -4 | 7/16-20 | 14-15 | 19-21 |
| -5 | 1/2-20 | 15-24 | 21-33 |
| -6 | 9/16-18 | 19-21 | 26-29 |
| -8 | 3/4-16 | 34-37 | 46-50 |
| -10 | 7/8-14 | 55-60 | 75-82 |
| -12 | 1-1/16-12 | 88-97 | 120-132 |
| -14 | 1-3/8-12 | 113-124 | 153-168 |
| -16 | 1-5/16-12 | 130-142 | 176-193 |
| -20 | 1-5/8-12 | 163-179 | 221-243 |
| -24 | 1-7/8-12 | 199-220 | 270-298 |

* Torque values shown are based on lubricated connections as in re-assembly.

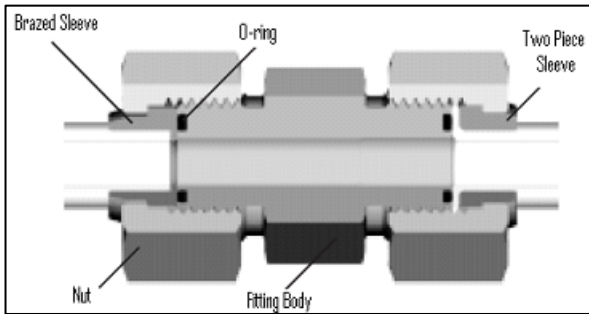
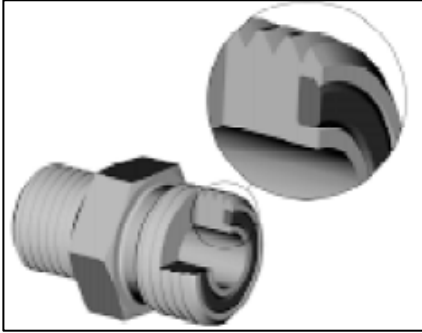
II. NON-ADJUSTABLE



- a. Inspect O-ring (A) and seat for dirt or obvious defects.
- b. Check that O-ring is not on the threads, adjust if necessary.
- c. Apply hydraulic system oil to the O-ring.
- d. Install fitting into port until fitting is hand tightened.
- e. Torque the fitting to the proper value as shown.
- f. Check the final condition of the fitting.

GENERAL

F. O-RING FACE SEAL (ORFS) HYDRAULIC FITTINGS



- a. Check components to ensure that the sealing surfaces and fitting threads are free of burrs, nicks, and scratches, or any foreign material.
- b. Apply hydraulic system oil to the O-ring.
- c. Align the tube or hose assembly. Ensure that flat face of the mating flange comes in full contact with O-ring.
- d. Thread tube or hose nut until hand-tight. The nut should turn freely until it is bottomed out.
- e. Torque fitting further to a given torque value in the table shown in the opposite column.

NOTE

If applicable, always hold the hex on the fitting body to prevent unwanted rotation of fitting body and hose when tightening the fitting nut.

- f. When assembling unions or two hoses together, three wrenches will be required.
- g. Check the final condition of the fitting.

| SAE DASH SIZE | THD SIZE (in.) | TORQUE VALUE* | |
|---------------|----------------|------------------|---------|
| | | ft-lbf (*in-lbf) | N·m |
| -3 | *** | -- | -- |
| -4 | 9/16-18 | 18–21 | 25–28 |
| -5 | *** | -- | -- |
| -6 | 11/16-16 | 29–32 | 40–44 |
| -8 | 13/16-16 | 41–45 | 55–61 |
| -10 | 1-14 | 59–65 | 80–88 |
| -12 | 1-3/16-12 | 85–94 | 115–127 |
| -14 | *** | | -- |
| -16 | 1-7/16-12 | 111–122 | 150–165 |
| -20 | 1-11/16-12 | 151–167 | 205–226 |
| -24 | 2-12 | 232–256 | 315–347 |
| -32 | 2-1/2-12 | 376–414 | 510–561 |

* Torque values and angles shown are based on lubricated connection, as in re-assembly.

** Always default to the torque value for evaluation of adequate torque

***O-ring face seal type end not defined for this tube size.

GENERAL

CONVERSION CHART

| QUANTITY | INCH-POUND UNITS | | FACTOR | SI UNITS (METRIC) | |
|--------------------|---|-------------------|--------------------------|---------------------|-----------------------|
| | UNIT NAME | ABBR. | | UNIT NAME | ABBR. |
| Area | acres | acres | x 0.4047 = | hectares | ha |
| Flow | gallons per minute (US) gallons per minute (Imp) | gpm (US) gpm | x 3.7854 = x 4.5460 = | liters per minute | L/min |
| Force | pounds force | lbf | x 4.4482 = | Newtons | N |
| Length | inch | in. | x 25.4 = | millimeters | mm |
| | foot | ft | x 0.305 = | meters | m |
| Power | horsepower | hp | x 0.7457 = | kilowatts | kW |
| Pressure | pounds per square inch | psi | x 6.8948 = | kilopascals | kPa |
| | | | x .00689 = | megapascals | MPa |
| Torque | pound feet or foot pounds | lbf-ft or ft-lbf | x 1.3558 = | newton meters | N·m |
| | pound inches or inch pounds | lbf-in. or in-lbf | x 0.1129 = | | |
| Temperature | degrees Fahrenheit | °F | (°F - 32) x 0.56 = | degrees Celsius | °C |
| Velocity | feet per minute | ft/min | x 0.3048 = | meters per minute | m/min |
| | feet per second | ft/s | x 0.3048 = | meters per second | m/s |
| | miles per hour | mph | x 1.6063 = | kilometers per hour | km/h |
| Volume | ounces | oz. | x 29.5735 = | milliliters | ml |
| | cubic inches | in. ³ | x 16.3871 = | cubic centimeters | cm ³ or cc |
| | quarts (US) quarts (Imperial) | US qt. qt. | x 0.96464 x 1.1365 | liters | L |
| | gallons (US) gallons (Imperial) | US gal. gal. | x 3.7854 = x 4.5460 = | | |
| Weight | pounds | lb | x 0.4536 = | kilograms | kg |

GENERAL

DEFINITIONS

| TERM | DEFINITION |
|--------------------------|---|
| API | American Petroleum Institute |
| ASTM | American Society of Testing And Materials |
| Cab-Forward | Windrower operation with the Operator and cab facing in the direction of travel. |
| CDM | Cab Display Module |
| DWA | Double Windrow Attachment |
| Engine-Forward | Windrower operation with the Operator and engine facing in the direction of travel. |
| ISC | Intermediate Speed Control |
| N-DETENT | The slot opposite the NEUTRAL position on Operator's console. |
| rpm | revolutions per minute |
| SAE | Society Of Automotive Engineers |
| WCM | Windrower Control Module |
| Windrower | Windrower with header attached. |
| Windrower Tractor | Power unit only (Windrower without the header attached). |

UNLOADING AND ASSEMBLY

STEP 1. UNLOAD WINDROWER



CAUTION

To avoid injury to bystanders from being struck by machinery, do NOT allow persons to stand in unloading area.

A. TWO FORKLIFT METHOD



CAUTION

Equipment used for unloading must meet or exceed the requirements specified below. Using inadequate equipment may result in chain breakage, vehicle tipping or machine damage.

| LIFTING VEHICLE | |
|---------------------|-------------------|
| Minimum Capacity * | 5500 lb (2500 kg) |
| Minimum Fork Length | 78 in. (1981 mm) |

* At 48 inches (1220 mm) from back end of forks.

IMPORTANT

Forklifts are normally rated for a load located 24 inches (610 mm) ahead of back end of the forks.

To obtain the forklift capacity at 48 inches (1220 mm), check with your forklift distributor.

- Move trailer into position, and block trailer wheels.
- Set forklift tines to the widest possible setting.



- Position one forklift on either side of trailer, and position forks under windrower frame.

NOTE

Windrower center of gravity is approximately 55 inches (1397 mm) rearward of drive wheel center.

- Lift with both forklifts simultaneously until windrower is clear of trailer bed.



WARNING

Be sure forks are secure before moving trailer away from load. Stand clear when lifting.

- Drive the truck slowly forward until trailer bed is clear of windrower.
- Lower unit slowly and simultaneously with both forklifts to the ground. If ground is soft, place wooden blocks under front shipping stands.
- Back off forklifts.
- Check windrower for shipping damage, and check shipment for missing parts.

UNLOADING AND ASSEMBLY

B. SINGLE FORKLIFT METHODS

There are two methods that can be used.

I. METHOD 1



CAUTION

Equipment used for unloading must meet or exceed the requirements specified below. Using inadequate equipment may result in chain breakage, vehicle tipping or machine damage.

| LIFTING VEHICLE | |
|--------------------|-------------------|
| Minimum Capacity * | 5500 lb (2500 kg) |

* At 48 inches (1220 mm) from back end of forks.

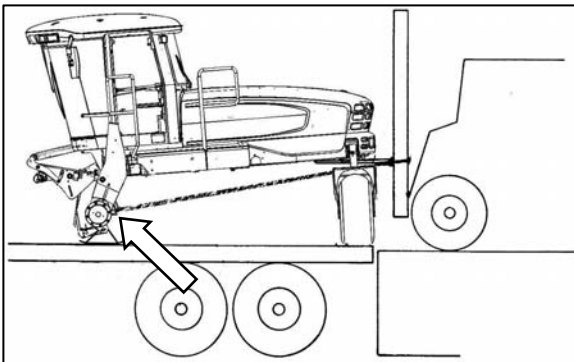
IMPORTANT

Forklifts are normally rated for a load located 24 inches (610 mm) ahead of back end of the forks.

To obtain the forklift capacity at 48 inches (1220 mm), check with your forklift distributor.

| CHAIN | |
|----------------------|-------------------------------------|
| Type | Overhead Lifting Quality (1/2 inch) |
| Minimum Working Load | 5000 lb (2270 kg) |

- a. Position rear of trailer against unloading dock that is the same height or slightly lower than the trailer bed.
- b. Remove shipped parts from under windrower frame.
- c. Set forklift tines to widest possible setting.



- d. Position forklift up to rear of windrower, and place forks under the rear frame cross member.

- e. Install chains from forklift mast to jacking brackets on both front legs of windrower.
- f. Chains must be the same length.



CAUTION

The front legs rest on the trailer bed on skid shoes. Ensure there are no obstructions to prevent rearward sliding of the skid shoes and watch carefully that as unit is dragged, the skid shoes are not sliding sideways towards the edge of the trailer bed.

- g. Drag windrower rearward off of carrier.
- h. Remove chains, and back off the forklift.
- i. Check windrower for shipping damage, and check shipment for missing parts.

II. METHOD 2



CAUTION

Equipment used for unloading must meet or exceed the requirements specified below. Using inadequate equipment may result in chain breakage, vehicle tipping or machine damage.

| LIFTING VEHICLE | |
|---------------------|---------------------|
| Minimum Capacity * | 11,000 lb (4994 kg) |
| Minimum Fork Length | 78 in. (1981 mm) |

* At 48 in. (1220 mm) from back end of forks.

IMPORTANT

Forklifts are normally rated for a load located 24 inches (610 mm) ahead of back end of the forks.

To obtain the forklift capacity at 48 inches (1220 mm), check with your forklift distributor.



WARNING

Be sure forks are secure before moving away from load. Stand clear when lifting.

- a. Move trailer into position, and block trailer wheels.
- b. Set forklift tines to the widest possible setting.

(continued next page)

UNLOADING AND ASSEMBLY



- c. Position forklift on left or right side of trailer, and position forks under windrower frame.

NOTE

Windrower center of gravity is approximately 55 inches (1397 mm) rearward of drive wheel center.



WARNING

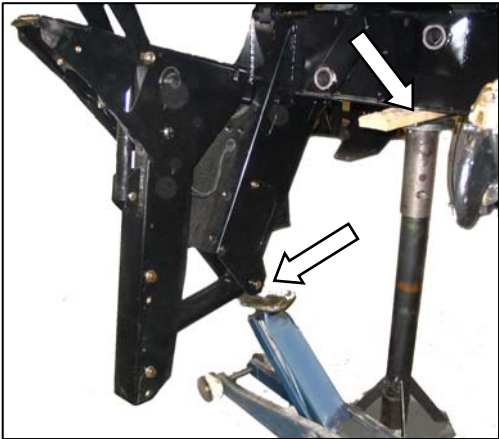
Ensure forks project beyond far side of frame.

- d. Lift until windrower is clear of trailer bed.
- e. Slowly back forklift away from trailer until windrower is clear of trailer.
- f. Lower unit slowly to the ground. If ground is soft, place wooden blocks under front shipping stands.
- g. Back off forklift.
- h. Check windrower for shipping damage, and check shipment for missing parts.

UNLOADING AND ASSEMBLY

STEP 2. REPOSITION RH LEG

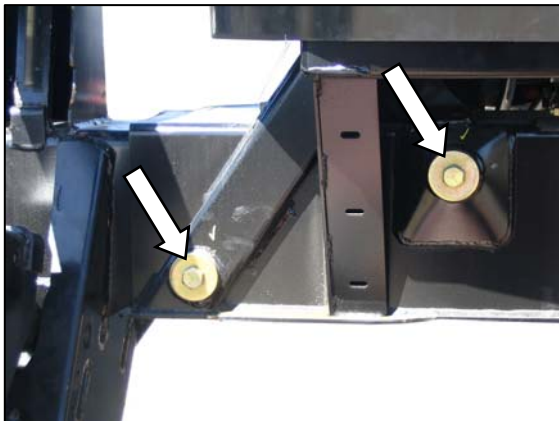
Only the right cab-forward leg requires repositioning from shipping to field configuration.



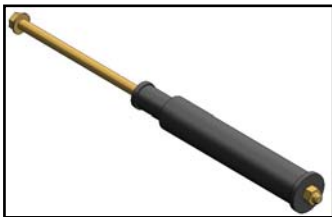
- Support front of windrower with stand (or equivalent) so that the RH leg is off the ground.
- Position jack under RH leg, and raise jack slightly to take some weight off leg.

IMPORTANT

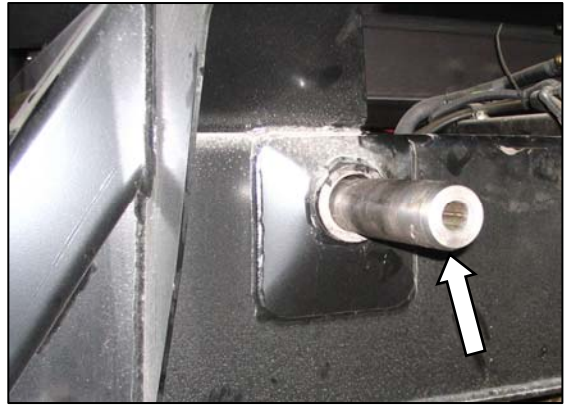
Removal of pins will be difficult if jack is **NOT** positioned to take weight off leg.



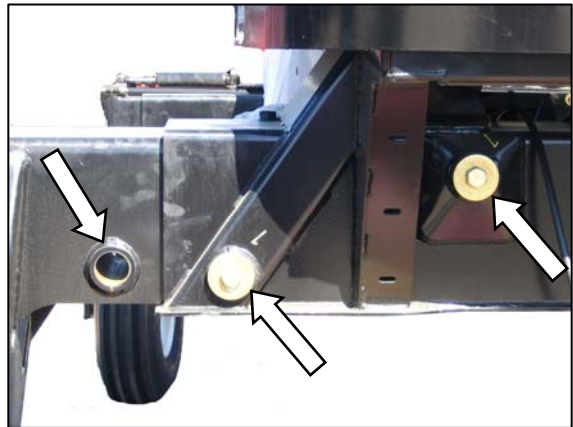
- Remove two bolts, washers, and nuts from frame.



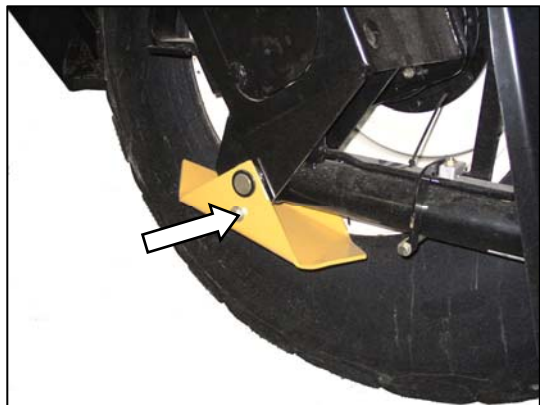
TOOL - B5442



- Adjust jack height while observing pin position in bore. When pin is loosest, tap out pin with hammer or use tool (shown at the bottom of the previous column) to extract pin.
- Repeat above step for second pin.



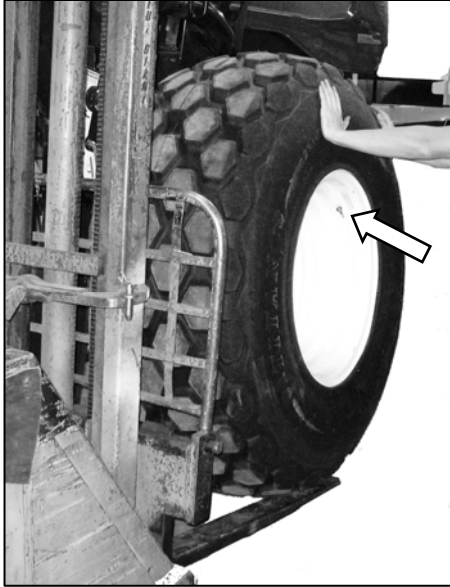
- Move leg out to expose one hole.
- Reinstall pins, and secure with bolts, washers, and nuts (not shown). Torque nuts to 100 ft-lbf (136 N·m).



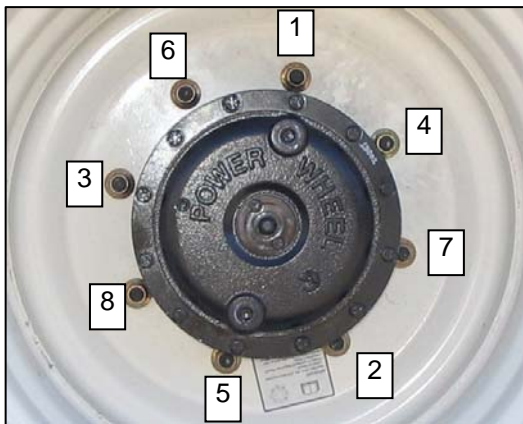
- Remove bolt and shipping skids from legs.

UNLOADING AND ASSEMBLY

STEP 3. INSTALL FRONT WHEELS



- a. Position wheel against hub, so that that air valves are on the outside, and tire tread points forward.
For Turf tires (diamond tread), be sure arrow on sidewall points in forward rotation.
- b. Lift wheel on hub with a forklift (or equivalent). Lower forklift.
- c. Rotate wheel to align holes with studs, and push wheel onto studs.



- d. Install wheel nuts, and tighten to 220 ft-lbf (300 N·m) using the tightening sequence as shown above.

NOTE

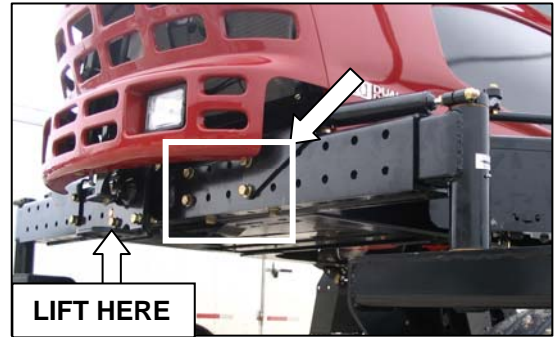
To avoid damage to wheel disks, do **NOT** over-tighten wheel nuts.

- e. Repeat sequence three times.

IMPORTANT

After one hour of operation, re-torque wheel nuts as per steps d. and e. above. Repeat torquing procedure at one hour intervals of operation until two consecutive checks produce no movement of the nuts.

STEP 4. REPOSITION CASTER WHEELS



- a. Raise rear of windrower slightly so that most of the weight is off the casters, using a jack or other lifting device under the frame where shown.

NOTE

Lifting device should have a lifting capacity of at least 5000 lb. (2270 kg).

- b. Remove six bolts (four on backside, two on underside), and washers from left and right side of walking beam.



- c. Slide extensions outboard equal amounts, and align holes at desired location.

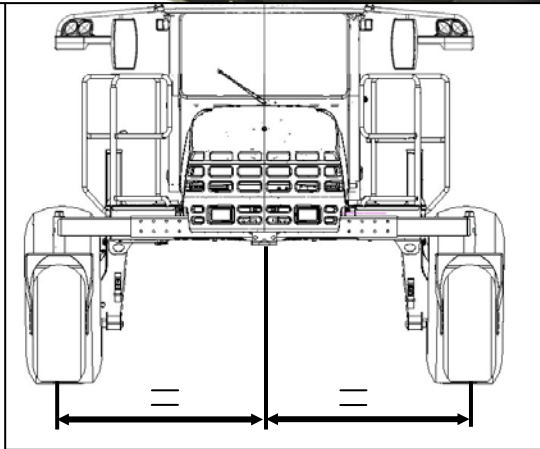
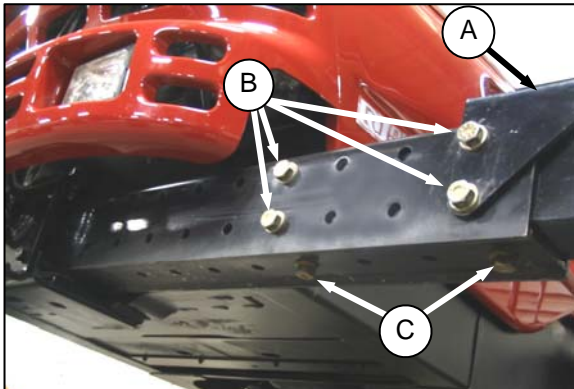
NOTE

Use the caster wheels to assist in moving the axle by rotating the caster so that wheel is parallel to the axle.

UNLOADING AND ASSEMBLY

IMPORTANT

Caster wheels must be equi-distant from center of windrower.



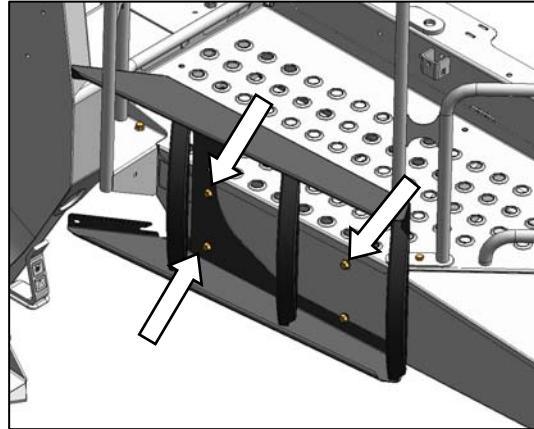
WIDEST TREAD WIDTH SHOWN

- d. Position bracket (A), and install bolts (B). The two shorter bolts are installed at the back inboard locations.
- e. Install bottom bolts (C).
- f. Tighten bolts as follows:
 1. Snug bottom bolts (C).
 2. Tighten and torque back bolts (B) to 330 ft·lbf (447 N·m).
 3. Tighten and torque bottom bolts (C) to 330 ft·lbf (447 N·m).
- g. Lower windrower to ground.

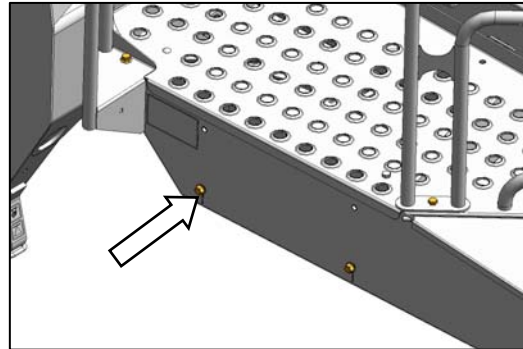
IMPORTANT

Re-torque bolts after first 5, and 10 hours of operation.

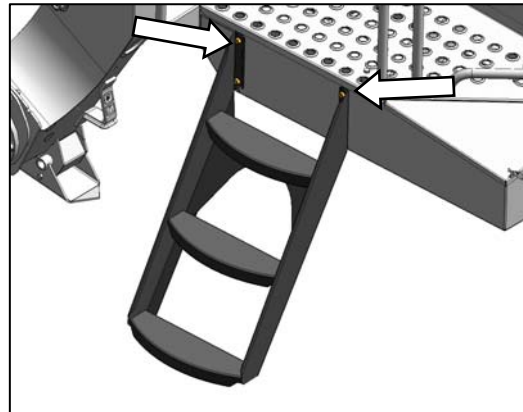
STEP 5. INSTALL STEPS



- a. Remove two bolts securing steps to platform, and remove steps.
- b. Remove the one existing upper bolt.



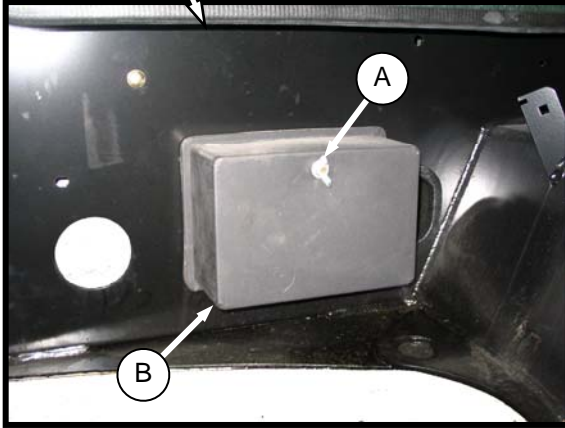
- c. Reinstall one bolt in lower hole in platform. Do **NOT** thread in fully.
- d. Hang step assembly on bolts. Back off bolts if required.



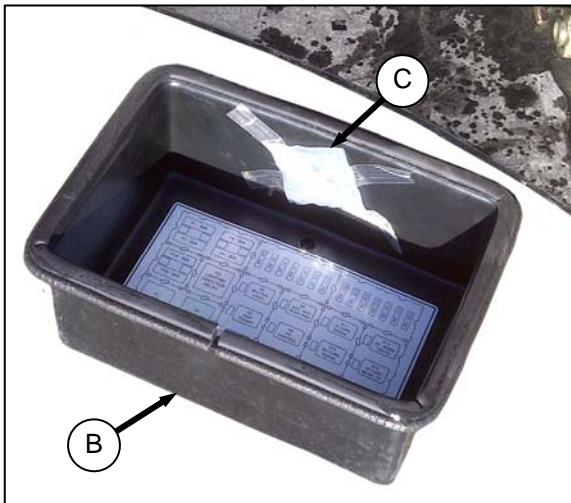
- e. Install two remaining bolts in upper holes in step, and tighten.
- f. Repeat for other step assembly.

UNLOADING AND ASSEMBLY

STEP 6. UNPACK IGNITION KEYS



- a. Remove wing nut (A) from fuse box cover (B), and remove cover.

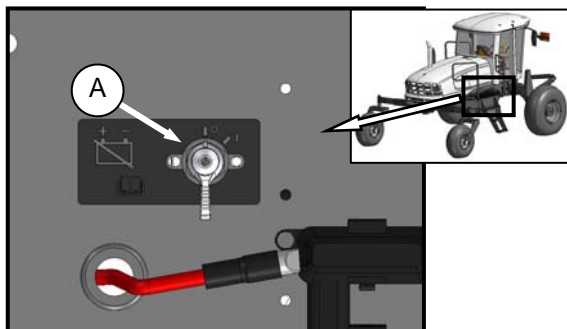


- b. Remove tape and keys (C) from inside cover (B). Discard tape.
- c. Unlock cab doors, and place key on console.
- d. Close cab doors.
- e. Reinstall cover (B) with wing nut (A).

UNLOADING AND ASSEMBLY

STEP 7. CONNECT BATTERIES

- a. Open right hand (cab-forward) maintenance platform.

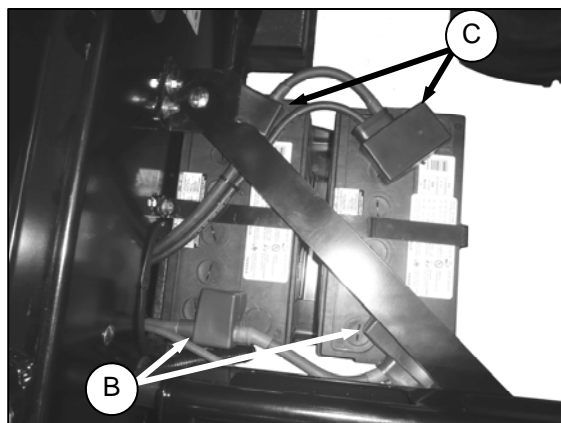


- f. Attach negative (black) cable terminals to negative post (C) on batteries, and tighten clamps.
- g. Turn battery switch (A) to POWER ON position.
- h. Move platform back to closed position.

- b. The battery main disconnect switch (A) is located on the RH frame rail beside the batteries. Ensure battery switch (A) is switched to POWER OFF position.
- c. Remove cable ties securing battery cables to battery clamp.

IMPORTANT

BATTERY IS NEGATIVE GROUNDED. Always connect red starter cable to the positive (+) terminal of battery and black ground cable to negative (-) terminal of battery. Reversed polarity in battery or alternator may result in permanent damage to electrical system.



- d. Remove plastic caps from battery posts.

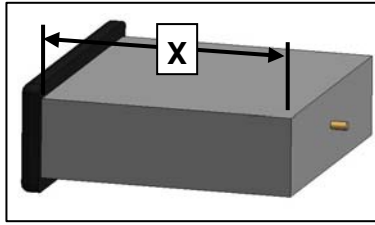
NOTE

Ensure that batteries are positioned so that the positive posts (B) face aft.

- e. Attach positive (red) cable terminals to positive post (B) on batteries, and tighten. Reposition plastic covers onto clamps.

UNLOADING AND ASSEMBLY

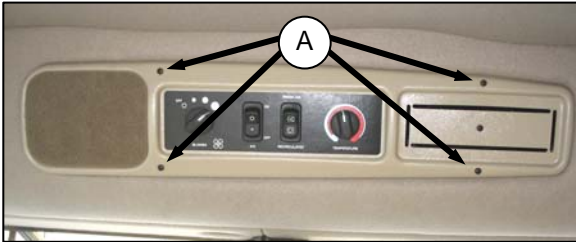
STEP 8. INSTALL AM/FM RADIO



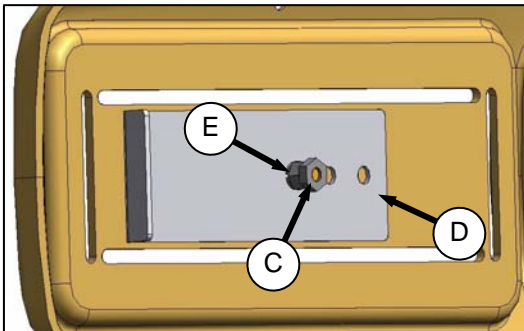
Provision has been made for installation of AM/FM radio. The mounting is designed to fit a DIN E style radio with a depth of 'X' = 161 mm, and having a 5 mm threaded stud centered on the rear for support.

Adjustments can be made should the radio fall outside these parameters.

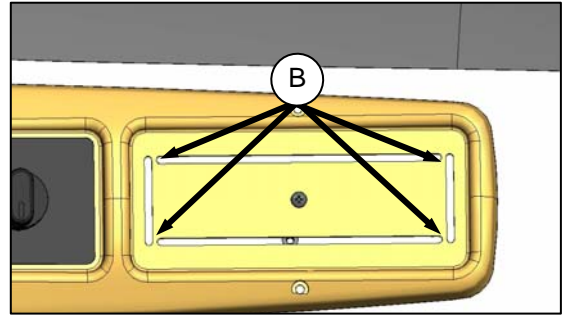
- a. Ensure battery disconnect switch is turned to OFF position, and the ignition is turned to OFF position.



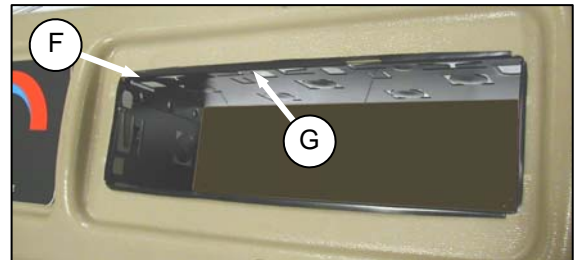
- b. Remove radio panel by removing four screws (A).



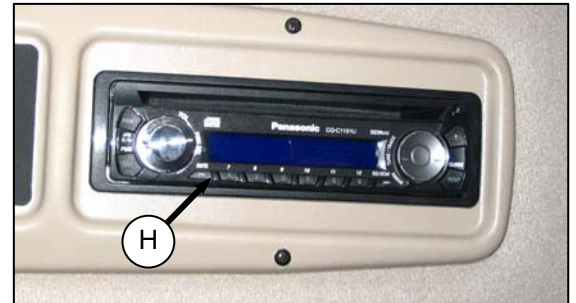
- c. Remove screw and nut (C) to remove support (D) from panel. Retain metric nut (E) and lockwasher.



- d. Remove the cut-out by cutting the tabs (B) in the panel. Remove sharp edges on panel.

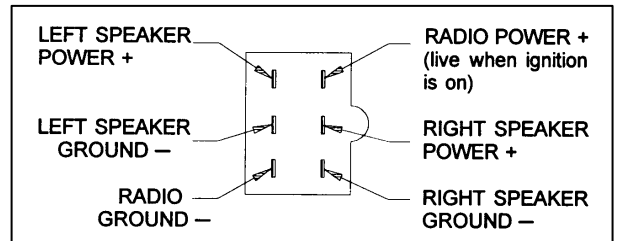


- e. Locate receptacle (F) (supplied with radio) in opening, and secure by bending tabs (G) on receptacle against panel.



- f. Insert radio into receptacle, and attach radio bezel. Ensure radio locks into position, and faceplate (H) is against the panel.
- g. A six-pin connector for the radio is included in the wiring harness.

In order to mate properly with this connector, the radio must have a six-pin connector (Packard #2977042), and have a terminal arrangement as follows:



(continued next page)

UNLOADING AND ASSEMBLY

- h. Attach two additional wires in the wiring harness to the radio:
 - 1. **Circuit 503:** Red with 1/4 in. female blade terminal. This is a live wire provided for powering a radio clock/memory (if these exist on your radio).
 - 2. **Circuit 315:** Black ground wire attaches to radio body.
- i. Plug cable from antenna into radio.

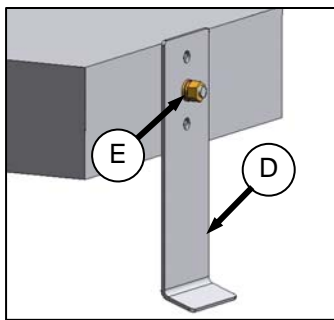
NOTE

An approved radio package is available from Radio Engineering Industries (REI) of Omaha, Nebraska.

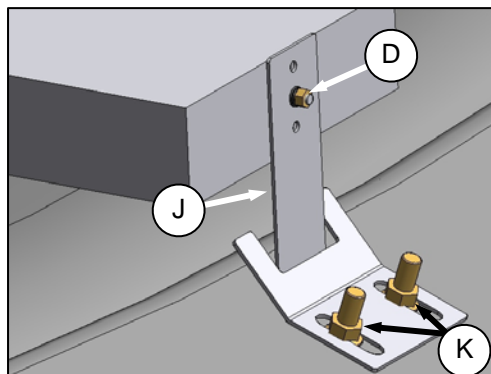
- j. Attach stud (supplied with radio) to center rear of radio.

- k. Attach support (D) to stud on back of radio chassis with lock washer and metric nut (E) that were supplied with the support.

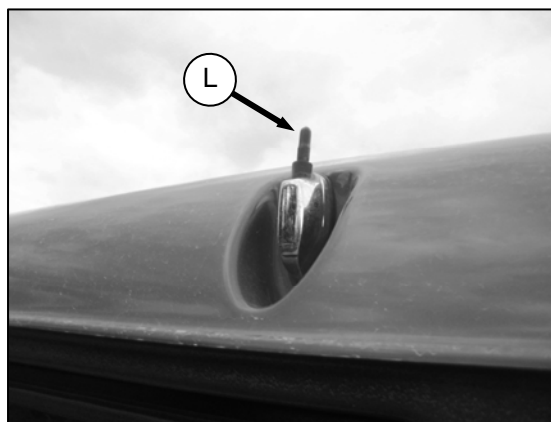
Support can be attached to chassis in multiple locations to allow for proper mounting of radio.



- l. Reinstall radio panel with original screws.



- m. Adjust bracket (J) if necessary by loosening nuts (K) to allow radio to slide into opening, and securely capture support (D). Retrieve antenna from inside cab and remove protective cover from base end.
- n. Retrieve antenna from inside cab and remove protective cover from base end.



- o. Remove protective cover (L) from antenna mount on cab roof and thread antenna onto base until hand-tight.

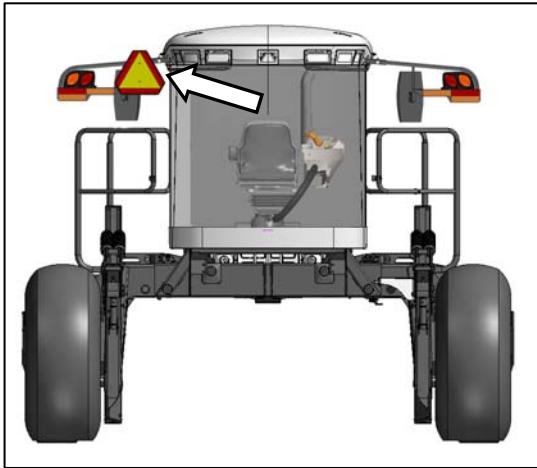
NOTE

Store protective cover in cab to protect antenna mount if antenna needs to be removed.

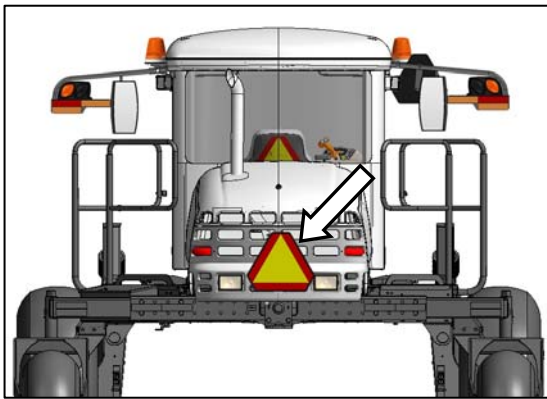
- p. Turn ignition key to ACC, switch radio ON, and check operation in accordance with instructions supplied with the radio.

UNLOADING AND ASSEMBLY

STEP 9. INSTALL SLOW MOVING VEHICLE (SMV) SIGN



ENGINE - FORWARD

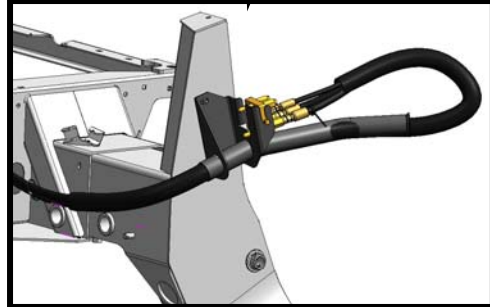


WITH LIGHT KIT:
CAB-FORWARD

- a. Install SMV sign (shipped in cab) on windrower in accordance with instructions supplied with the sign.
- b. The SMV signs must be visible when travelling on the road.

UNLOADING AND ASSEMBLY

STEP 10. ATTACH HEADER

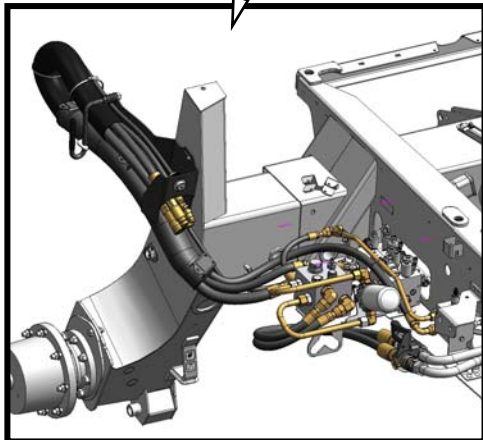


DRAPER HEADER REEL HYDRAULICS

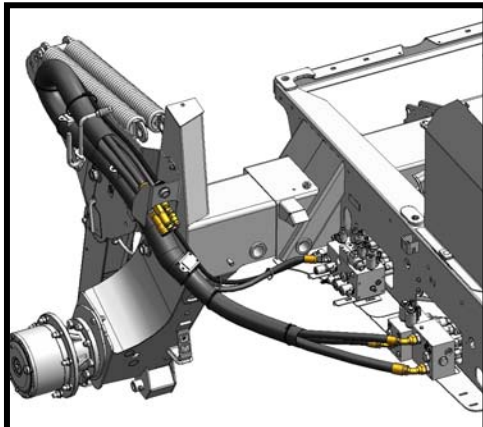
A. HEADER ATTACHMENT: D SERIES

I. CONFIGURE HYDRAULICS

M205 and M155 windrowers must be fitted with a draper drive basic kit and a completion kit to operate the D-Series draper headers.



DRAPER HEADER HYDRAULICS FOR M205



DRAPER HEADER HYDRAULICS FOR M155

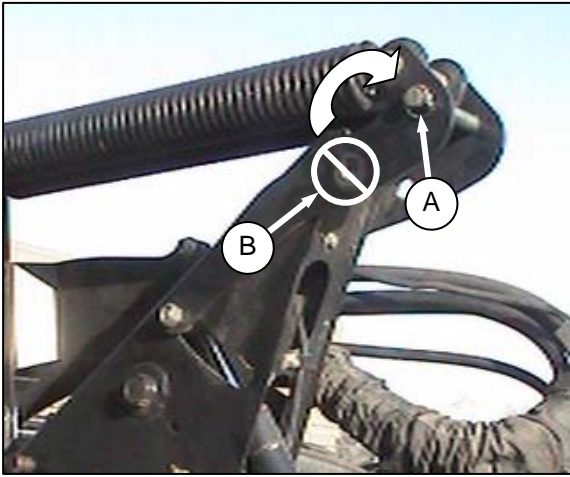
Windrowers equipped with D-Series hydraulics have four header drive hoses on the LH side, and up to five reel drive hoses on the RH side.

If necessary, obtain the following kits from your MacDon Dealer, and install them in accordance with the instructions supplied with the kits.

| KIT DESCRIPTION | KIT NUMBER | |
|-----------------|------------|-----------|
| | M205 | M155 |
| Base Kit | MD #B5491 | MD #B5577 |
| Completion | MD #B5496 | --- |

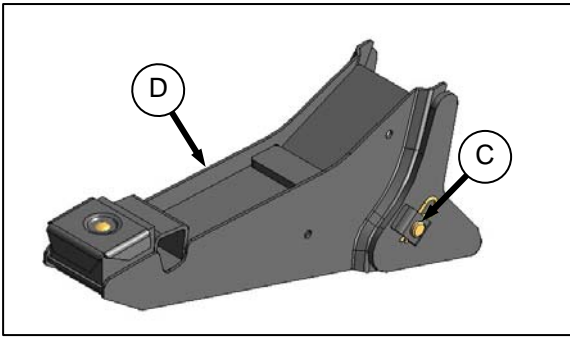
UNLOADING AND ASSEMBLY

II. ATTACH HEADER BOOTS



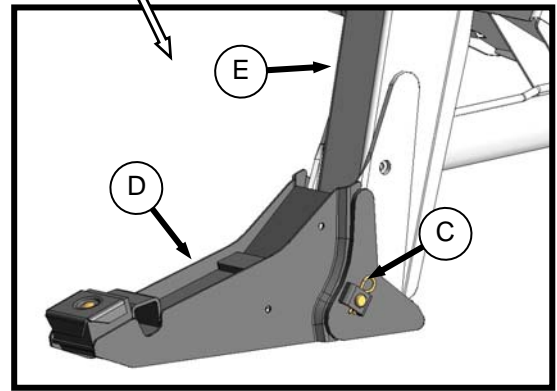
IMPORTANT

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to windrower, ensure that float engagement pin is installed in storage location (A), and **NOT** installed at hole location (B).



If not installed, attach draper header boots (supplied with header) to windrower lift linkage as follows:

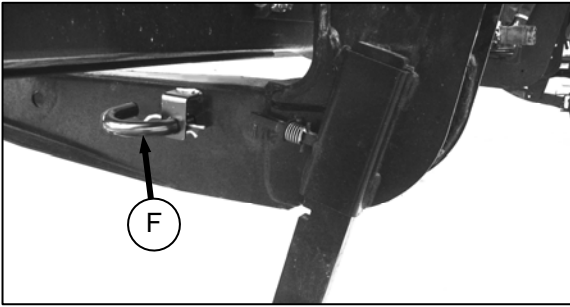
- a. Remove pin (C) from boot (D).



- b. Locate boot (D) on lift linkage (E), and reinstall pin (C). Pin may be installed from either side of boot.
- c. Secure pin (C) with hairpin.
- d. Repeat for opposite side.

UNLOADING AND ASSEMBLY

III. ATTACH HEADER



- a. Remove hairpin on pins (F), and remove pins from header legs.

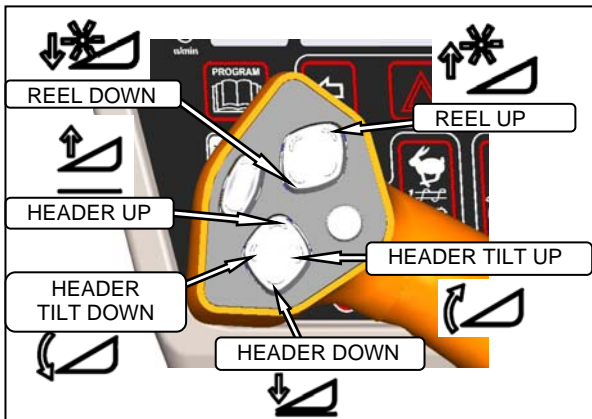


CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT

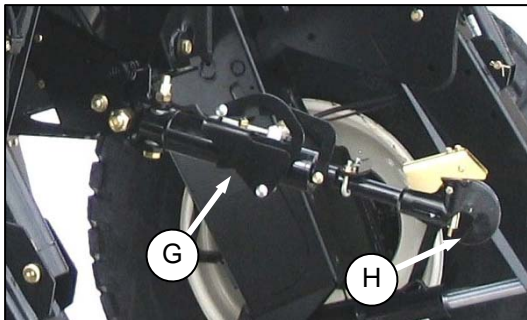
Remove protective cover from exhaust stack prior to starting engine.



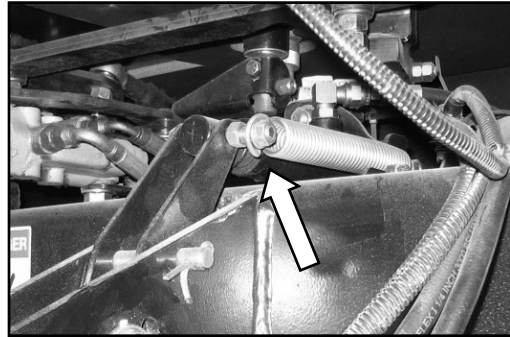
- b. Start engine, and activate HEADER DOWN button on the GSL to fully retract header lift cylinders.

IMPORTANT

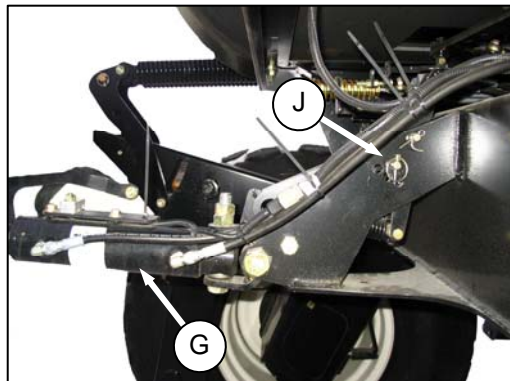
If the center-link is too low, it may contact the header as the windrower approaches the header for hook-up.



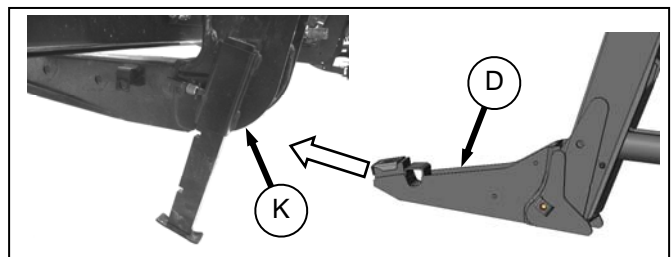
- c. If necessary, adjust position of the hydraulic center-link (G) so that the hook (H) is above the attachment pin on the header by one of the following methods:



1. If the optional center-link self-alignment kit is installed, activate the REEL UP switch on the GSL to raise the center-link (G).



2. Without the self-alignment kit, re-locate the pin (J) at the frame linkage as required to raise the center-link (G).



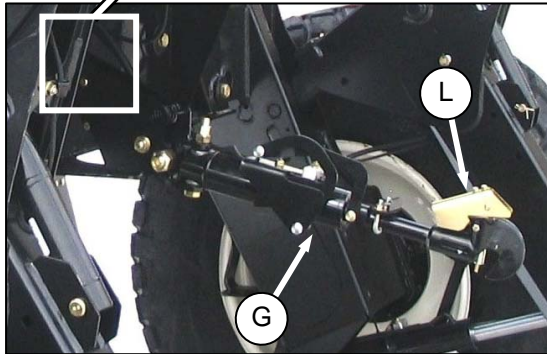
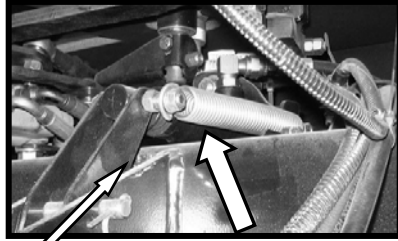
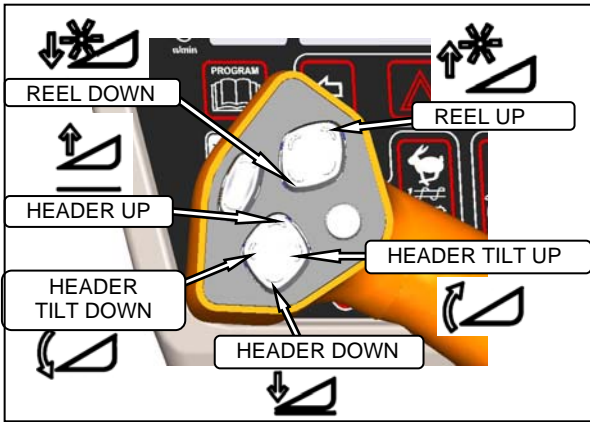
- d. Slowly drive windrower forward so that boots (D) enter header legs (K). Continue to drive slowly forward until lift linkages contact support plates in the header legs, and header nudges forward.
- e. Ensure that lift linkages are properly engaged in header legs, contacting support plates.

(continued next page)

UNLOADING AND ASSEMBLY

f. Connect center-link:

HYDRAULIC LINK WITH OPTIONAL SELF-ALIGNMENT KIT

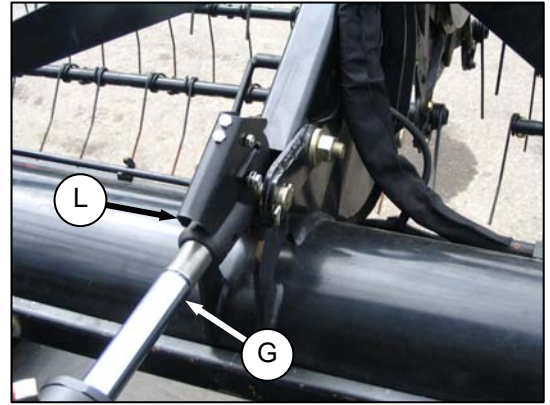


1. Adjust position of the center-link cylinder (G) with the REEL UP and REEL DOWN switches, and HEADER TILT switches on the GSL to position the hook above the header attachment pin.

IMPORTANT

Hook release (L) must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

2. Lower center-link (G) onto the header with REEL DOWN switch until it locks into position (hook release (L) is down).



3. Check that center-link (G) is locked onto header by pressing the REEL UP switch on the GSL.
4. Proceed to step g. on next page.

HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT (M205 STANDARD, M155 OPTIONAL)

1. Activate HEADER TILT cylinder switches on GSL to extend or retract center-link cylinder (G) so that the hook lines up with the header attachment pin.
2. Stop engine, and remove key from ignition.
3. Push down on rod end of link cylinder (G) until hook engages pin on header, and is locked.

IMPORTANT

Hook release (L) must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

4. Check that center-link is locked onto header by pulling upward on rod end of cylinder.
5. Proceed to step g. on next page.

(continued next page)

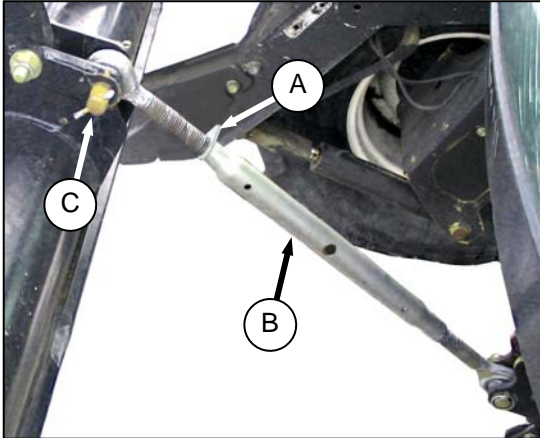
UNLOADING AND ASSEMBLY

MECHANICAL LINK (M155 OPTIONAL)



WARNING

Stop windrower engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

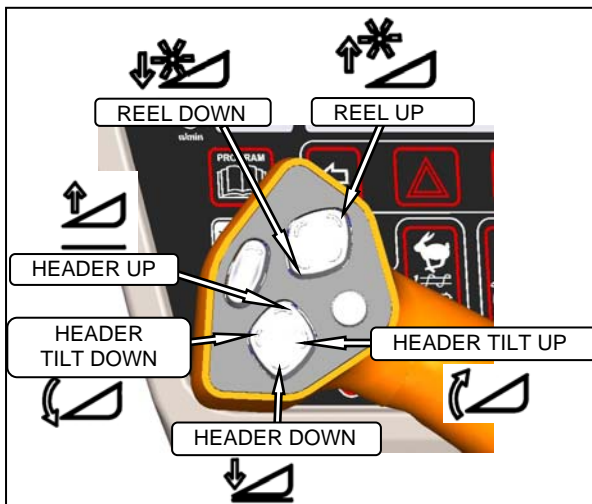


1. Stop engine, and remove key from ignition.
2. Loosen nut (A), and rotate barrel (B) to adjust length so that the link lines up with header bracket.
3. Install pin (C), and secure with cotter pin.
4. Adjust link to required length for proper header angle by rotating barrel (N). Tighten nut (M) against barrel. A slight tap with a hammer is sufficient.



CAUTION

Check to be sure all bystanders have cleared the area.



- g. Start engine, and press HEADER UP switch to raise header to maximum height.

NOTE

If one end of the header does **NOT** raise fully, the lift cylinders require re-phasing. If re-phasing is needed, proceed as follows:

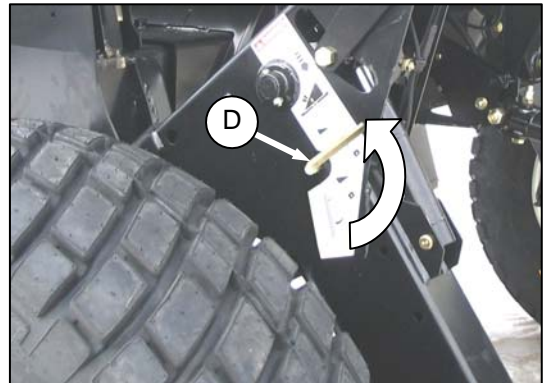
1. Press and hold the HEADER UP switch until both cylinders stop moving.
2. Continue to hold the switch for 3–4 seconds.
3. Cylinders are phased.



DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header, and before going under header for any reason.

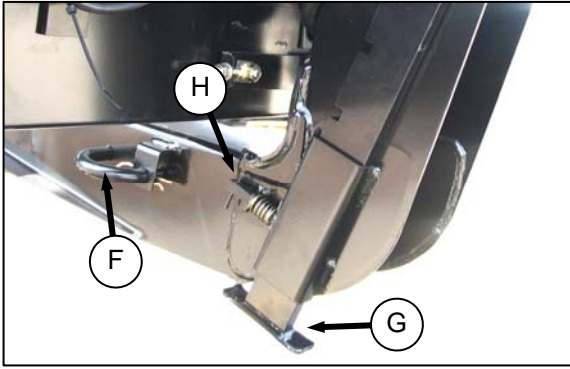
- h. Cylinder stops are located on both header lift cylinders on the windrower. Engage lift cylinder stops on both lift cylinders as follows:
 1. Stop engine, and remove key from ignition.



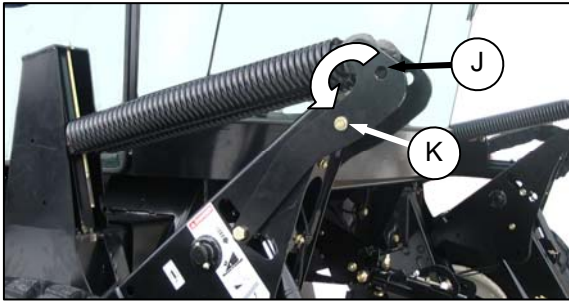
2. Pull lever (D), and rotate toward header to release and lower cylinder stop (E) onto cylinder.
3. Repeat for opposite lift cylinder.

(continued next page)

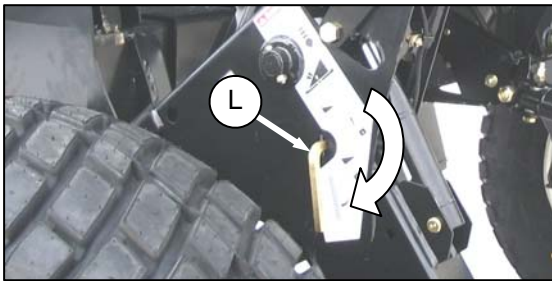
UNLOADING AND ASSEMBLY



- i. Install pin (F) through header leg, (engaging U-bracket in lift linkage) on both sides, and secure with hairpin.
- j. Raise header stand (G) to storage position by pulling pin (H), and lifting stand into uppermost position. Release pin (H).



- k. Remove pin from storage position (J) in linkage, and insert in hole (K) to engage float springs. Secure with hairpin.



- l. Disengage lift cylinder stop by turning lever (L) downward to release and lower stop until lever locks into vertical position.
- m. Repeat for opposite lift cylinder stop.



CAUTION

Check to be sure all bystanders have cleared the area.

- n. Start engine, and activate HEADER DOWN switch on GSL to lower header fully. Stop engine, and remove key.

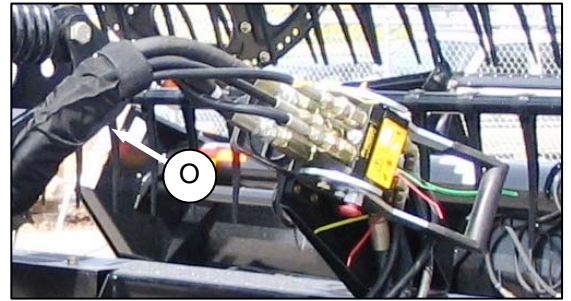


WARNING

Stop windrower engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.



- o. Connect header drive hoses (M) and electrical harness (N) to header. Refer to the Draper Header Operator's Manual.



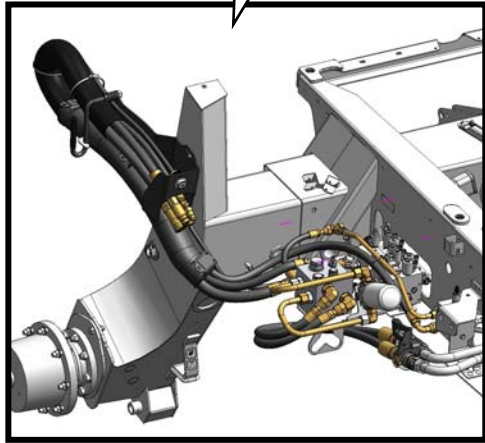
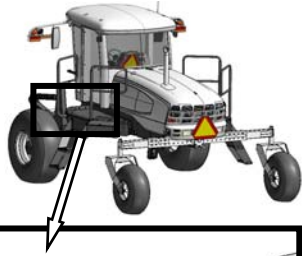
- p. Connect reel hydraulics (O) at RH side of windrower. Refer to the Draper Header Operator's Manual.

UNLOADING AND ASSEMBLY

B. HEADER ATTACHMENT: A SERIES



I. CONFIGURE HYDRAULICS



AUGER HEADER HYDRAULICS FOR M205

The M205 windrower must be fitted with an auger drive completion kit to operate the A-Series draper header.

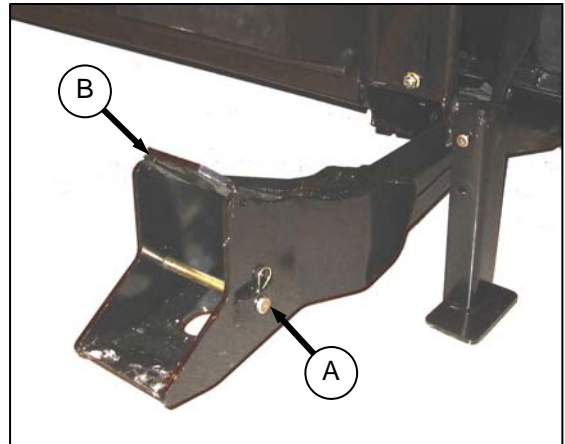
Windrowers equipped with A-Series hydraulics have four header drive hoses on the LH side.

If necessary, obtain the following kit from your MacDon Dealer, and install it in accordance with the instructions supplied in the kit.

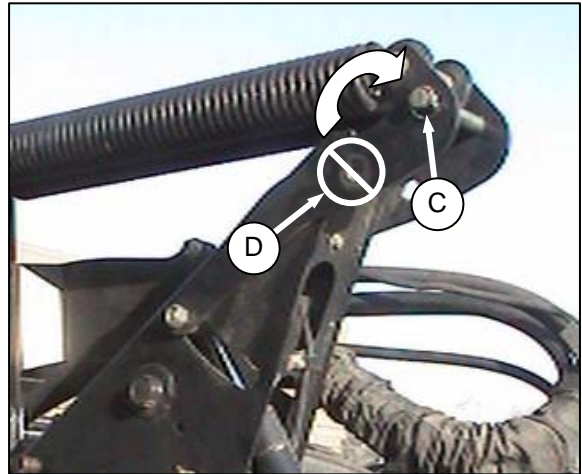
| KIT DESCRIPTION | KIT NUMBER |
|---------------------|------------|
| Basic Drive | MD #B5491 |
| Completion/Reverser | MD #B5492 |

The M155 is factory-equipped to run the A-Series auger headers.

II. ATTACH HEADER



- a. Remove hairpin from pin (A), and remove pin from left and right header boots (B) on header.



IMPORTANT

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to windrower, ensure that float engagement pin is installed in storage location (C), and **NOT** installed at hole location (D).

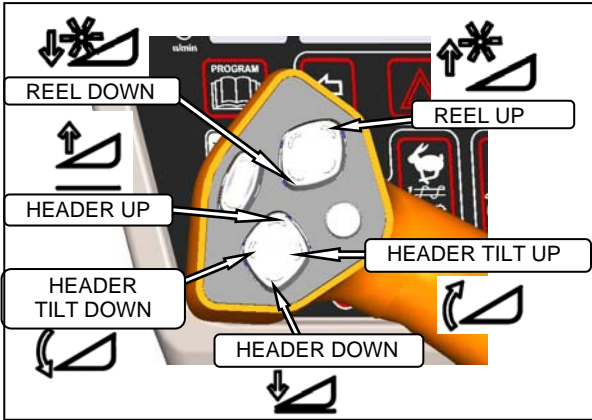
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UNLOADING AND ASSEMBLY



CAUTION

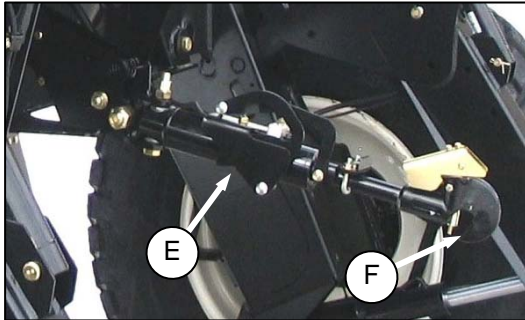
Check to be sure all bystanders have cleared the area.



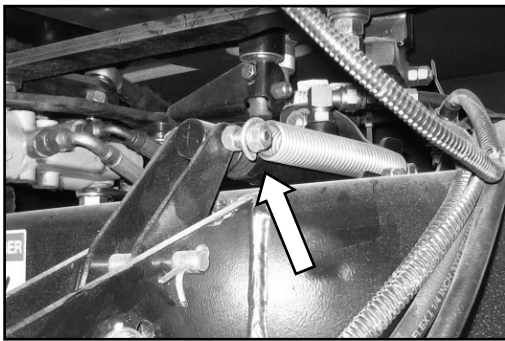
- b. Start engine, and activate HEADER DOWN button on the GSL to fully retract header lift cylinders.

IMPORTANT

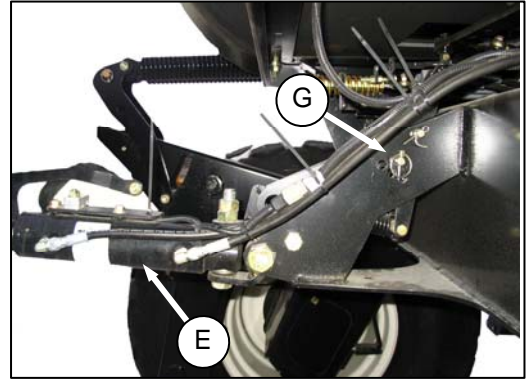
If the center-link is too low, it may contact the header as the windrower approaches the header for hook-up.



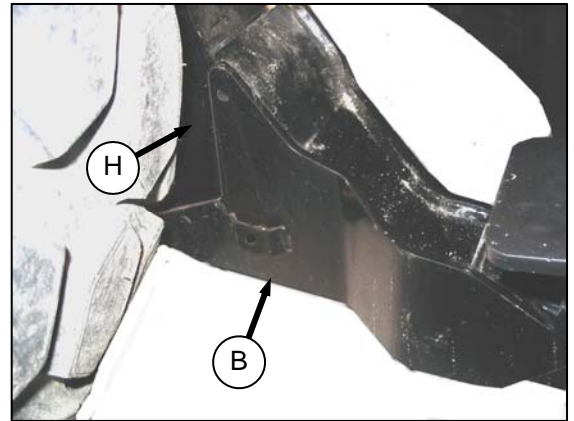
- c. If necessary, adjust position of the hydraulic center-link (E) so that the hook (F) is above the attachment pin on the header by one of the following methods:



1. If the optional center-link self-alignment kit is installed, activate the REEL UP switch on the GSL to raise the center-link (E).



2. Without the self-alignment kit, re-locate the pin (G) at the frame linkage as required to raise the center-link (E).



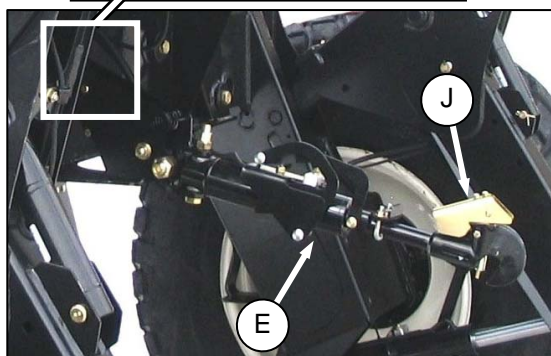
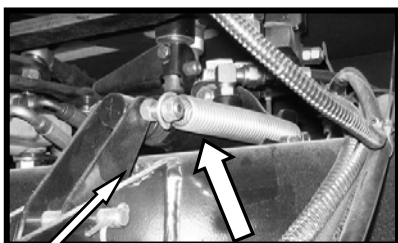
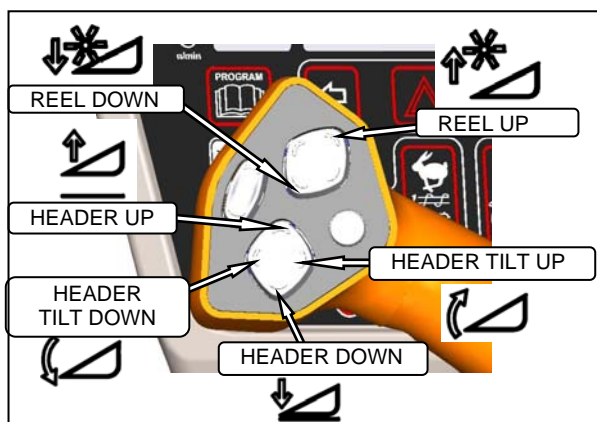
- d. Slowly drive windrower forward so that feet (H) on windrower enter boots (B) on the header. Continue to drive slowly forward until feet engage the boots, and header nudges forward.

(continued next page)

UNLOADING AND ASSEMBLY

e. Connect center-link:

HYDRAULIC LINK WITH OPTIONAL SELF-ALIGNMENT KIT



1. Adjust position of the center-link cylinder (E) with the REEL UP and REEL DOWN switches, and HEADER TILT switches on the GSL to position the hook above the header attachment pin.

IMPORTANT

Hook release (J) must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

2. Lower the center-link onto the header with REEL DOWN switch until it locks into position (hook release (J) is down).
3. Check that center-link is locked onto header by pressing the REEL UP switch on the GSL.
4. Proceed to step g. on next page.

HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT (M205 STANDARD, M155 OPTIONAL)

1. Activate HEADER TILT cylinder switches on GSL to extend or retract center-link cylinder (E) so that the hook lines up with the header attachment pin.
2. Stop engine, and remove key from ignition.
3. Push down on rod end of link cylinder (E) until hook engages pin on header, and is locked.

IMPORTANT

Hook release (J) must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

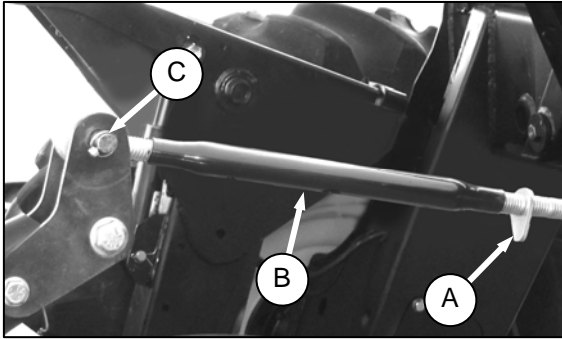
4. Check that the center-link is locked onto header by pulling upward on rod end of cylinder.
5. Proceed to step g. on next page.

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UNLOADING AND ASSEMBLY

MECHANICAL LINK (M155 OPTIONAL)

1. Stop engine, and remove key from ignition.

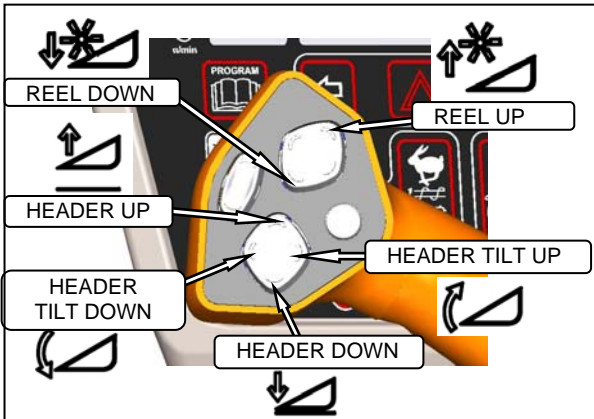


2. Loosen nut (A), and rotate barrel (B), to adjust length so that other end lines up with header bracket.
3. Install pin (C), and secure with cotter pins.
4. Adjust link to required length for proper header angle by rotating barrel (B). Tighten nut (A) against barrel. A slight tap with a hammer is sufficient.



CAUTION

Check to be sure all bystanders have cleared the area.



- f. If engine is not running, start engine, and press HEADER UP switch to raise header to maximum height.

NOTE

If one end of the header does not raise fully, the lift cylinders require re-phasing. If re-phasing is needed, proceed as follows:

1. Press and hold HEADER UP switch until both cylinders stop moving.
2. Continue to hold the switch for 3-4 seconds.
3. Cylinders are phased.



WARNING

Stop windrower engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

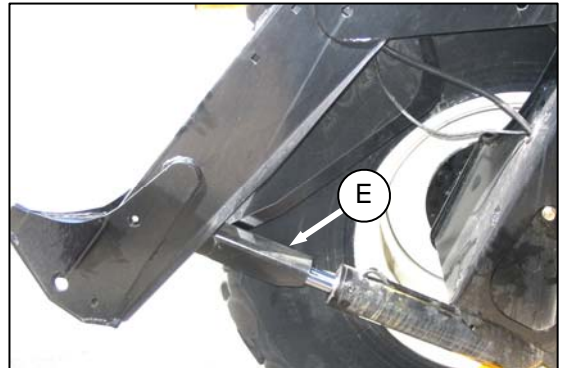
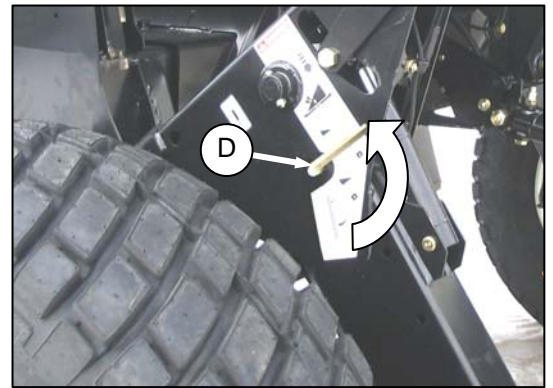


DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header, and before going under header for any reason.

- g. Cylinder stops are located on both header lift cylinders on the windrower. Engage lift cylinder stops on both lift cylinders as follows:

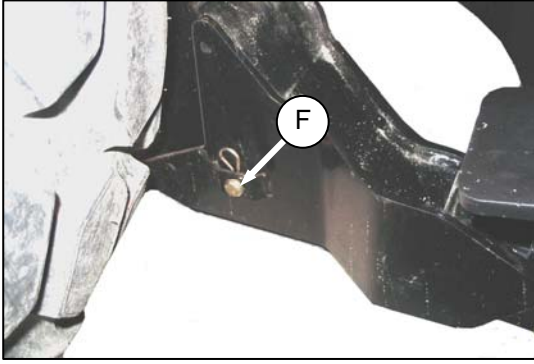
1. Stop engine, and remove key from ignition.



2. Pull lever (D), and rotate toward header to release and lower cylinder stop (E) onto cylinder.
3. Repeat for opposite lift cylinder.

(continued next page)

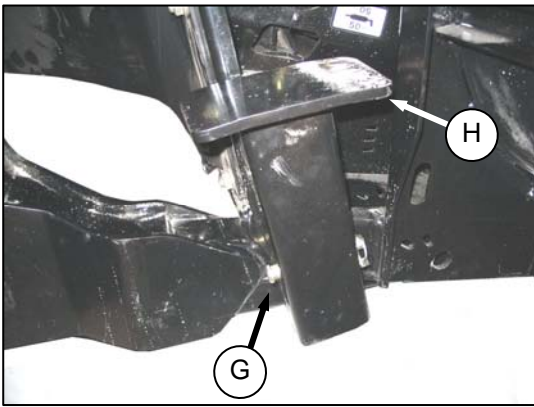
UNLOADING AND ASSEMBLY



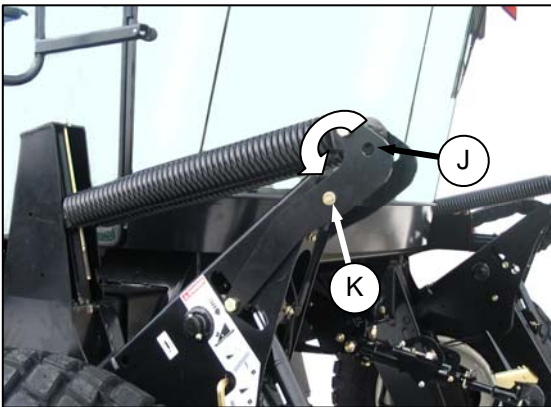
- h. Install pin (F) through each boot and foot, and secure with hairpin.

IMPORTANT

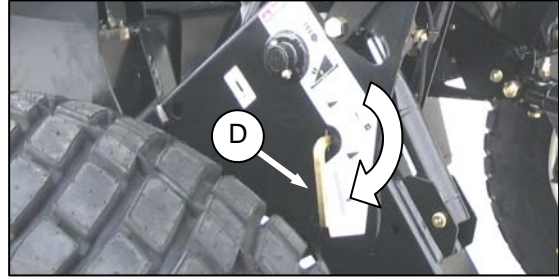
Ensure pin (F) is fully inserted, and hairpin is installed behind bracket.



- i. Remove lynch pin from pin (G) in stand (H).
 j. Hold stand (H), and remove pin (G).
 k. Reposition stand to storage position by inverting stand, and re-locating on bracket as shown
 l. Re-insert pin (G), and secure with lynch pin.



- m. Remove pin (J) from storage position in linkage, and insert in hole (K) to engage float springs. Secure with lynch pin.

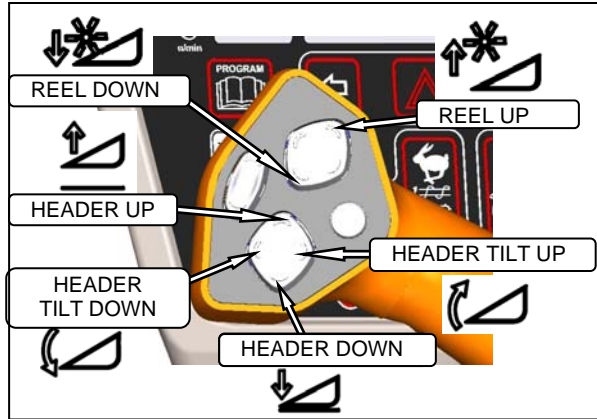


- n. Disengage lift cylinder stop by turning lever (D) downward to raise stop until lever locks into vertical position.
 o. Repeat for opposite cylinder stop.



CAUTION

Check to be sure all bystanders have cleared the area.



- p. Start engine, and activate HEADER DOWN switch on GSL to lower header fully.

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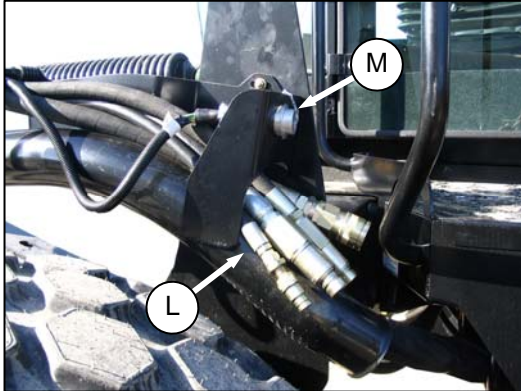
UNLOADING AND ASSEMBLY



WARNING

Stop windrower engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

- q. Stop engine, and remove key.



- r. Connect header drive hydraulics (L) and electrical harness (M) to header. Refer to Auger Header Operator's Manual.

UNLOADING AND ASSEMBLY

C. HEADER ATTACHMENT: R SERIES

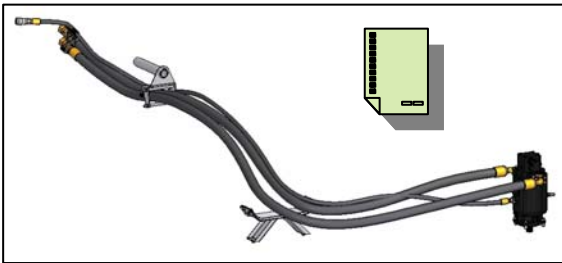


I. CONFIGURE HYDRAULICS

M205

The M205 is factory-equipped with hydraulics and connections to run the R-Series Rotary Disc headers.

R85 16 and 19 FT headers are factory-equipped with hydraulic connections for attachment to the M205 windrower.



KIT MD #B5456

13 FT R80 and R85 headers need to be equipped with Kit MD #B5456 (motor and hoses).

M155

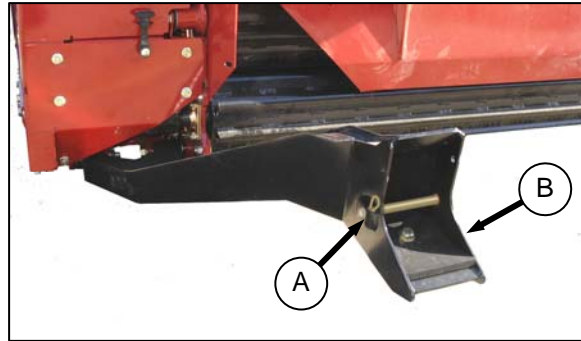


KIT MD #B5510

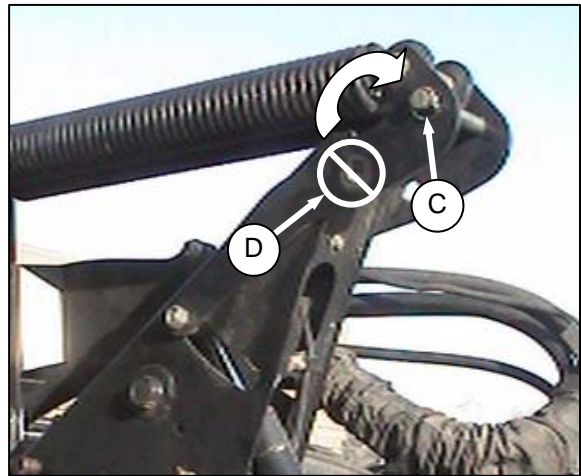
The M155 windrower operates **ONLY** the R85 and R80 13 FT headers, and these headers need to be equipped with Kit MD #B5510 (motor and hoses).

To operate these headers, the M155 windrower requires the installation of hydraulic valve Kit MD #B4657.

II. ATTACH HEADER



- Remove hairpin from pin (A), and remove pin from on left and right header boots (B) on header.



IMPORTANT

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to windrower, ensure that float engagement pin is installed in storage location (C), and **NOT** installed at hole location (D).

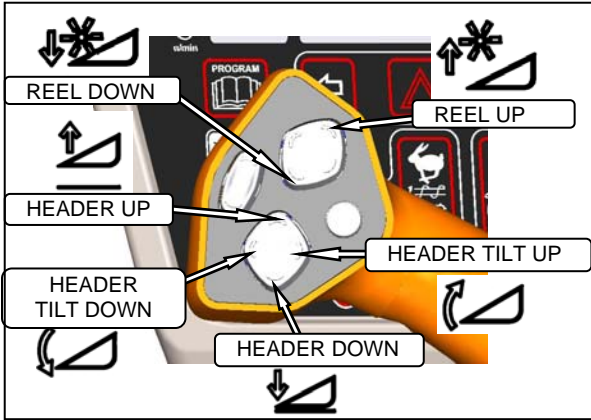
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UNLOADING AND ASSEMBLY



CAUTION

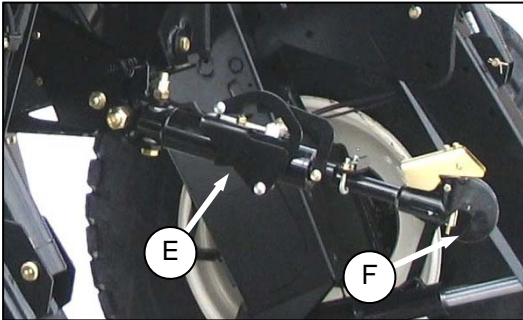
Check to be sure all bystanders have cleared the area.



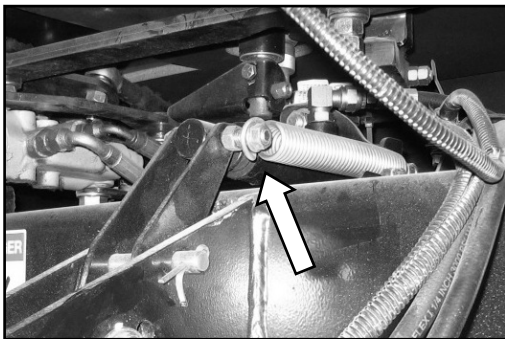
- b. Start engine, and activate HEADER DOWN button on the GSL to fully retract header lift cylinders.

IMPORTANT

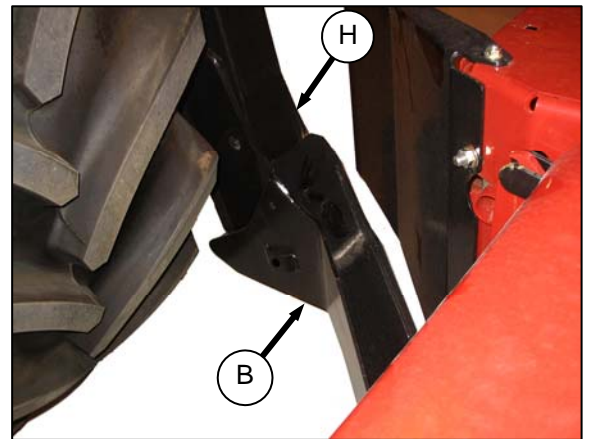
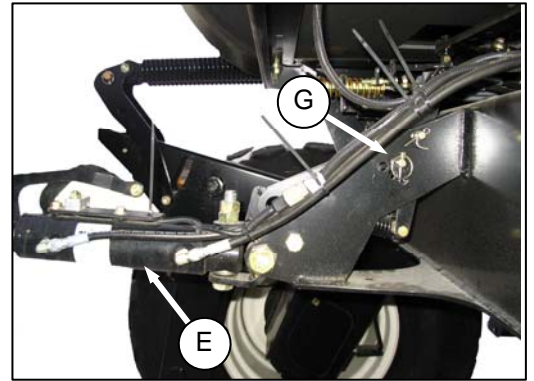
If the center-link is too low, it may contact the header as the windrower approaches the header for hook-up.



- c. If necessary, adjust position of the hydraulic center-link (E) so that the hook (F) is above the attachment pin on the header by one of the following methods:



1. If the optional center-link self-alignment kit is installed, activate the REEL UP switch on the GSL to raise the center-link (E).



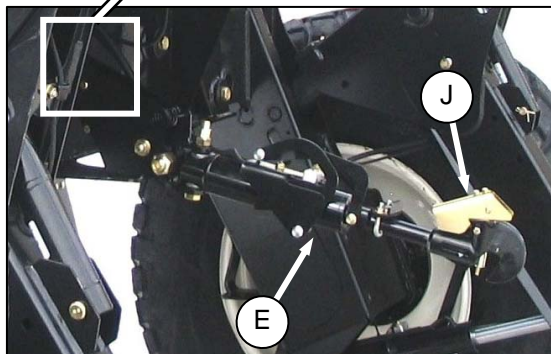
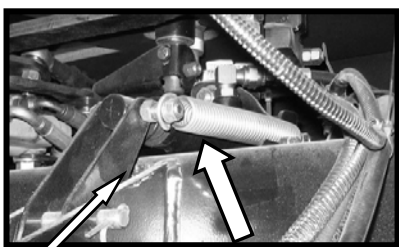
2. Without the self-alignment kit, re-locate the pin (G) at the frame linkage as required to raise the center-link (E).
- d. Slowly drive windrower forward so that feet (H) on windrower enter boots (B) on the header.
- e. Continue to drive slowly forward until feet engage the boots, and header nudges forward.

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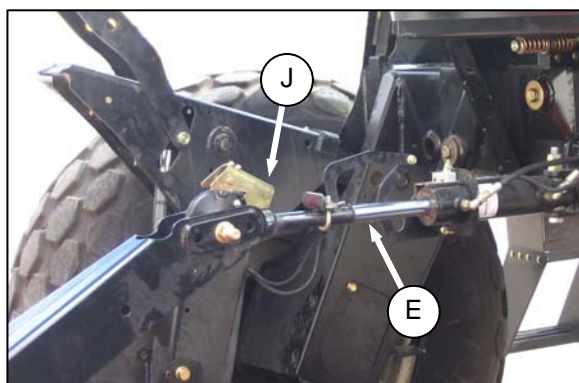
UNLOADING AND ASSEMBLY

f. Connect center-link:

HYDRAULIC LINK WITH OPTIONAL SELF-ALIGNMENT KIT



1. Adjust position of the center-link cylinder (E) with the REEL UP and REEL DOWN switches, and HEADER TILT switches on the GSL to position the hook above the header attachment pin.



IMPORTANT

Hook release (J) must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

2. Push the REEL DOWN switch on the GSL to lower the center-link onto the header until it locks into position (release (J) is down).
3. Check that center-link is locked onto header by pressing the REEL UP switch on the GSL.
4. Proceed to step g. on next page.

HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT (M205 STANDARD, M155 OPTIONAL)

1. Activate HEADER TILT cylinder switches on GSL to extend or retract center-link cylinder (E) so that the hook lines up with the header attachment pin.
2. Stop engine, and remove key from ignition.
3. Push down on rod end of link cylinder (E) until hook engages pin on header, and is locked.

IMPORTANT

Hook release (J) must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

4. Check that center-link is locked onto header by pulling upward on rod end of cylinder.
5. Proceed to step g. on next page.

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UNLOADING AND ASSEMBLY

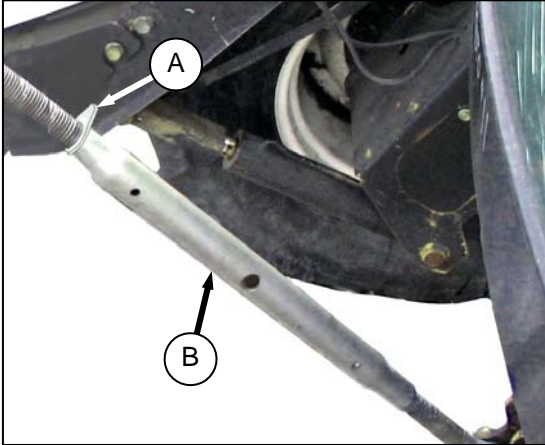
MECHANICAL LINK (M155 OPTIONAL)



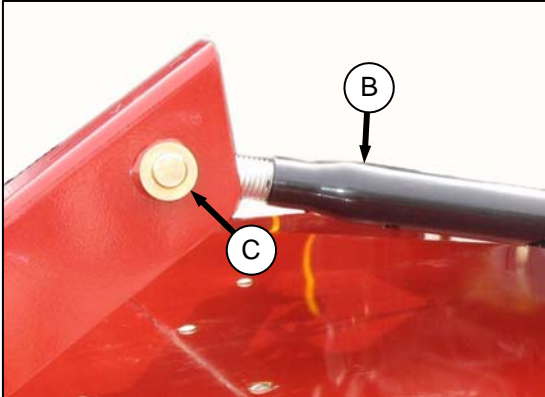
WARNING

Stop windrower engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

1. Stop engine, and remove key from ignition.



2. Loosen nut (A), and rotate barrel (B), to adjust length so that other end lines up with header bracket.

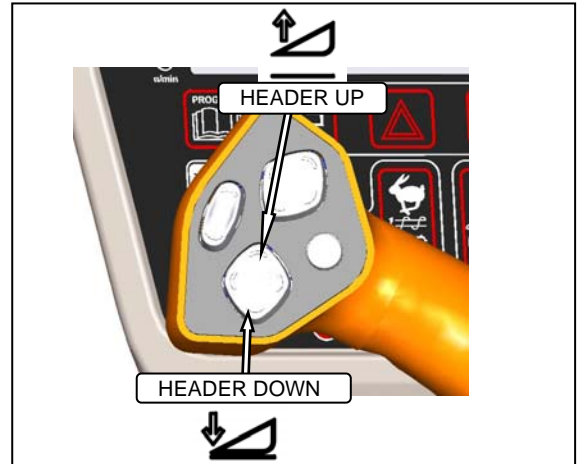


3. Install clevis pin (C), and secure with cotter pin.
4. Adjust link to required length for proper header angle by rotating barrel (B). Tighten nut (A) against barrel. A slight tap with a hammer is sufficient.



CAUTION

Check to be sure all bystanders have cleared the area.



- g. Start engine (if not running), and press HEADER UP switch to raise header to maximum height.

NOTE

If one end of the header does not raise fully, the lift cylinders require re-phasing. If re-phasing is needed, proceed as follows:

1. Press and hold HEADER UP switch until both cylinders stop moving.
2. Continue to hold the switch for 3–4 seconds.
3. Cylinders are phased.

(continued next page)

UNLOADING AND ASSEMBLY



DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header, and before going under header for any reason.

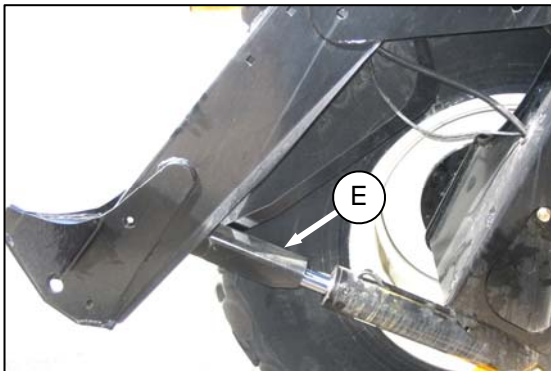
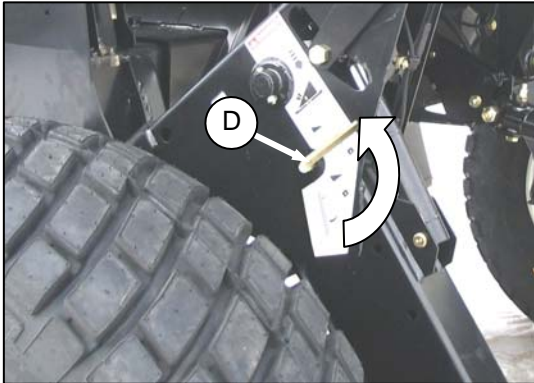
- h. Cylinder stops are located on both header lift cylinders on the windrower. Engage lift cylinder stops on both lift cylinders as follows:



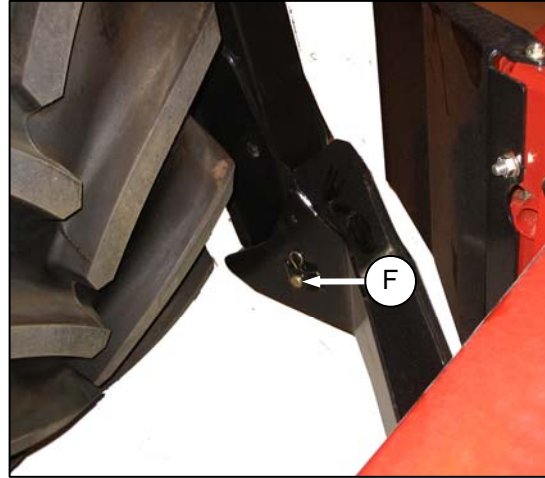
WARNING

Stop windrower engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

1. Stop engine, and remove key from ignition.



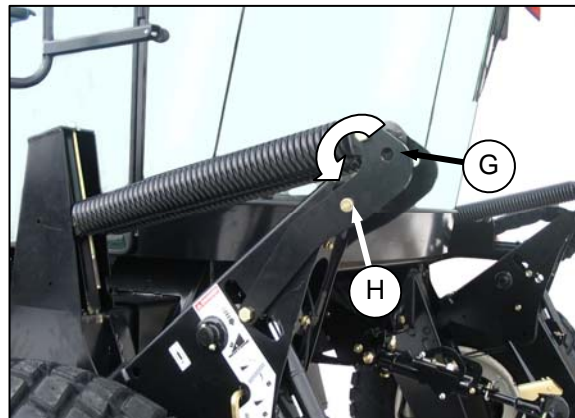
2. Pull lever (D), and rotate toward header to release and lower cylinder stop (E) onto cylinder.
3. Repeat for opposite lift cylinder.



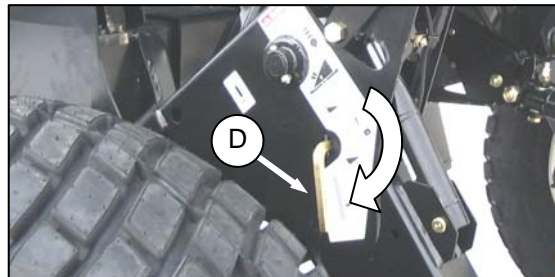
- i. Install pin (F) through each boot and foot, and secure with hairpin.

IMPORTANT

Ensure pin (F) is fully inserted, and hairpin is installed behind bracket.



- j. Remove pin (G) from storage position in linkage, and insert in hole (H) to engage float springs. Secure with hairpin.



- k. Disengage lift cylinder stops by turning lever (D) away downward to release and lower stop until lever locks into vertical position. Repeat for opposite lift cylinder stop.

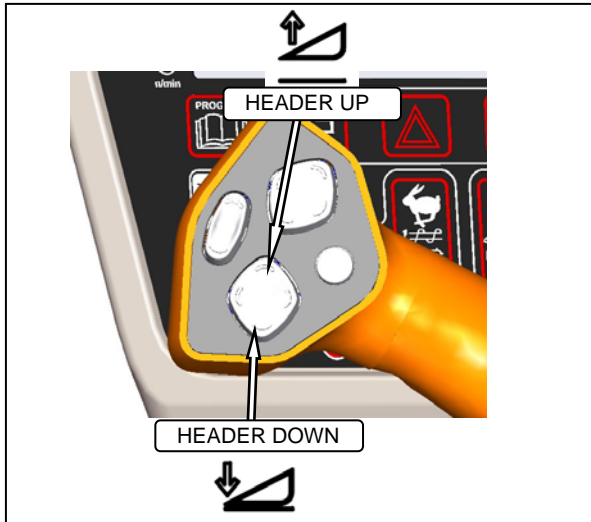
(continued next page)

UNLOADING AND ASSEMBLY



CAUTION

Check to be sure all bystanders have cleared the area.



- I. Start engine, and activate HEADER DOWN switch on GSL to lower header fully. Stop engine, and remove key.



WARNING

Stop windrower engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

- m. Connect header drive hydraulics and electrical harness to header. Refer to your Rotary Disc Header Operator's Manual.

STEP 11. LUBRICATE MACHINE

Recommended Lubricant:

| SPEC | DESCRIPTION | USE |
|-------------------|--|---|
| SAE Multi-Purpose | High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base. | As Required Unless Otherwise Specified. |

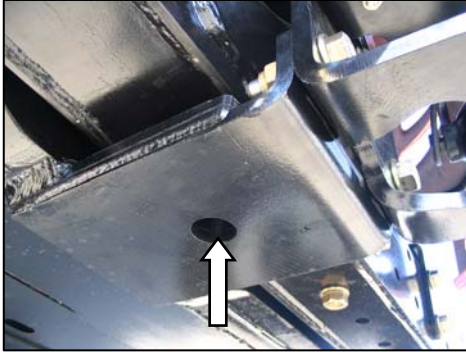
- a. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
- b. Inject grease through fitting with grease gun until grease overflows fitting, except where noted.
- c. Leave excess grease on fitting to keep out dirt.
- d. Replace any loose or broken fittings immediately.
- e. If fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
- f. Refer to the following illustrations to identify locations that require lubrication.

(continued next page)

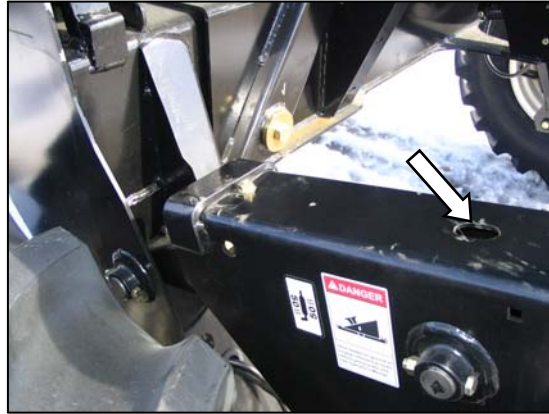
UNLOADING AND ASSEMBLY

Lubrication Points (cont'd)

High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2). Lithium Base.



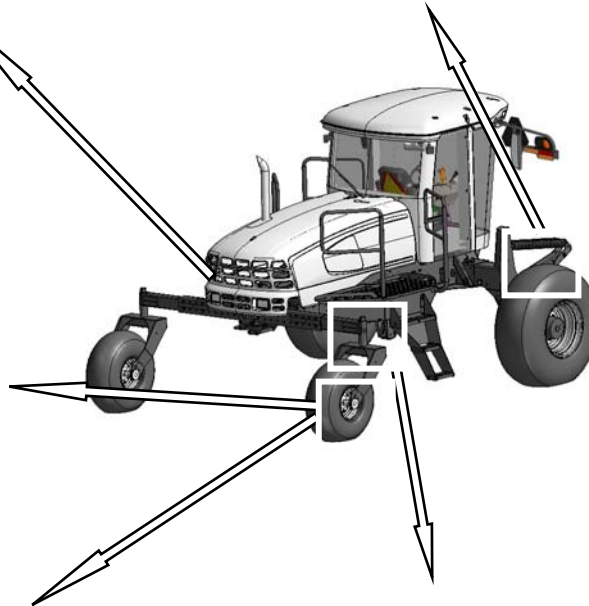
WALKING BEAM PIVOT)



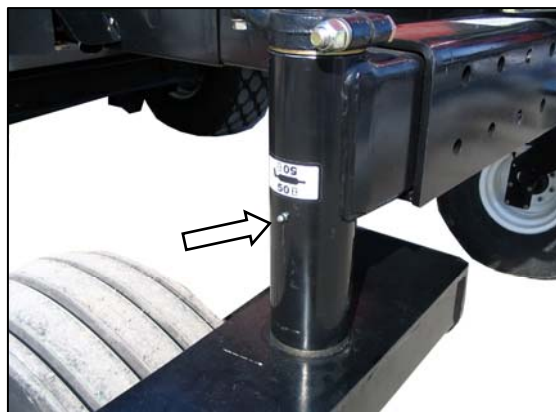
TOP LINK - TWO FITTINGS (BOTH SIDES)



FORMED CASTER WHEEL BEARING
1 PLACE (BOTH WHEELS)



FORKED CASTER SPINDLE BEARINGS
TWO PLACES (BOTH WHEELS)



CASTER PIVOT
(BOTH SIDES)

UNLOADING AND ASSEMBLY

STEP 12. PROGRAM CAB DISPLAY MODULE (CDM)

The monitoring system requires programming for each header, and the **header must be attached to the windrower** so that the CDM recognizes the type of header.

Programming the system may be accomplished with or without the engine running. If the engine is running, the transmission must be in NEUTRAL. If the engine is **NOT** running, the ignition must be ON.

Exit programming mode at any time by pressing the PROGRAM switch, or by turning ignition OFF.

The system only needs to be programmed once for each header. The Operator may make changes later on to a particular setting to suit windrowing conditions or modifications to the machine. Most functions have been pre-programmed at the factory, but can be changed by the Operator if required.

The following functions can be programmed by the Dealer provided he has the applicable information from the Operator, and the header is installed:

DWA INSTALLED (Double Window Attachment)
HEADER CUT WIDTH
HAY CONDITIONER INSTALLED
CALIBRATE SENSORS

Proceed as follows to program the CDM:

IMPORTANT

Header must be attached to the windrower so that the CDM can detect the type of header (Header ID), and adjust the programming mode accordingly.

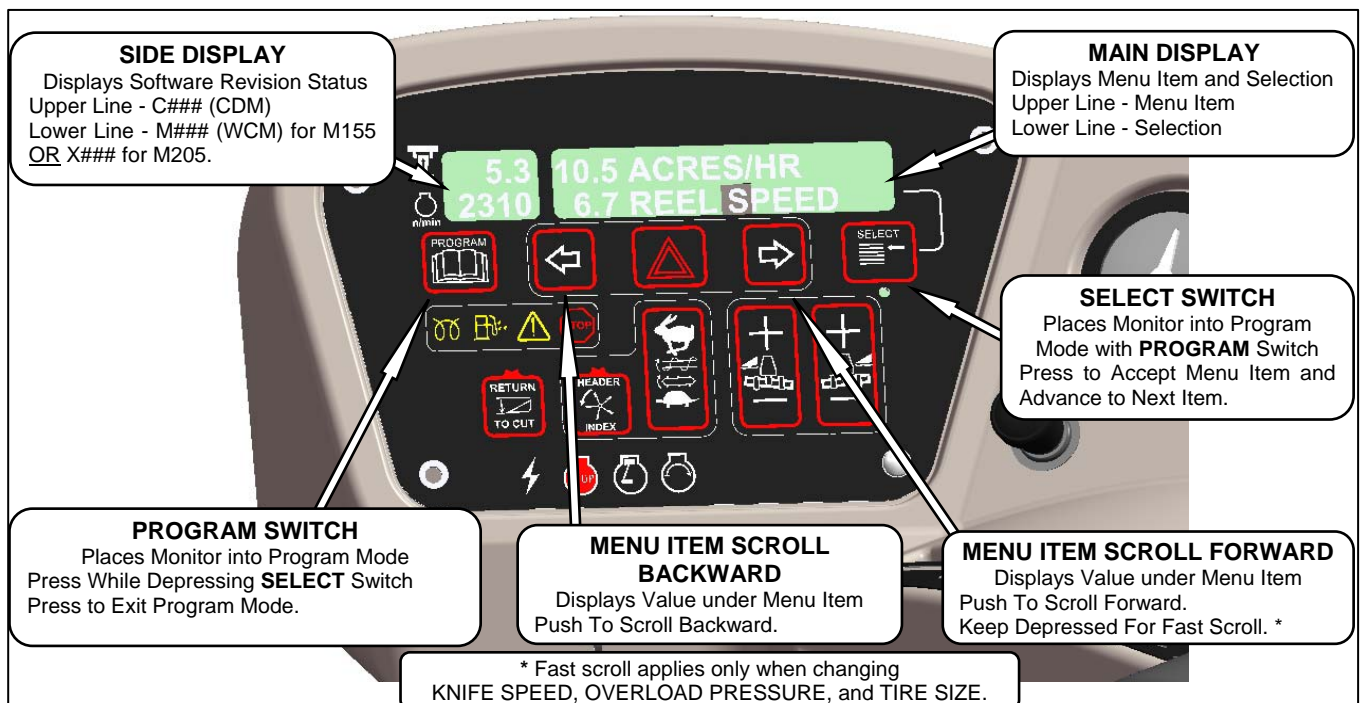
- Turn ignition key to RUN, or start the engine.
- Press PROGRAM and SELECT switches simultaneously on CDM to enter programming mode. Header ID code is displayed.
- Press SELECT. TRACTOR SETUP? is displayed.
- Press . SET KNIFE SPEED? is displayed.
- Press SELECT until DWA INSTALLED? is displayed.
- Press or .
- Press SELECT to advance to the next L1 item.
- Press PROGRAM to exit programming mode.
- Refer to Detailed Programming Instructions on following pages.

NOTE

The functions requiring programming are highlighted with in the Programming Instructions.

NOTE

If necessary, refer to the Windrower Operator's Manual to program CDM for specific crop types and conditions.



UNLOADING AND ASSEMBLY

A. M205 DETAILED PROGRAMMING INSTRUCTIONS

(Ignition ON / Engine Running or Not / Header Disengaged).

(Press **PROGRAM** and **SELECT** on CDM to enter programming mode).

(If necessary, refer to the M Series Windrower Operator's Manual for programming to specific crop types and conditions).

Programming Menu Flow Chart

| | | | |
|----|--|--|---|
| L1 | C x x x WINDROWER SETUP? | | If "NO" then jump to: |
| L2 | X x x x NO / YES | | C A B D I S P L A Y S E T U P ? |
| L1 | C x x x SET KNIFE SPEED? | | When the programming mode is entered the header ID will be displayed on the top line of the CDM using the last 4 display positions. |
| L2 | X x x x # # # # S P M | | |
| L1 | C x x x KNIFE OVERLOAD SPD? | | -500 to -100 range offset from set point. -300 is default |
| L2 | X x x x # # # # S P M | | |
| L1 | C x x x DISK OVERLOAD SPD? | | -500 to -100 range offset from set point. -300 is default. For Disc Headers only |
| L2 | X x x x # # # # R P M | | |
| L1 | C x x x OVERLOAD PRESSURE? | | 4 0 0 0 P S I |
| L2 | X x x x 4 0 0 0 P S I | | |
| L1 | C x x x HEADER INDEX MODE? | | For Draper Header only. A40D headers have reel only |
| L2 | M x x x REEL & CONVEYOR | | |
| L2 | X x x x REEL ONLY | | Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values. Pressing "PROGRAM" at any time will cancel the programming mode / menus and return back to the main operating displays. |
| L1 | C x x x RETURN TO CUT MODE? | | |
| L2 | X x x x H E I G H T & T I L T | | The auto raise setting can be changed from 4.0 (min.) to 9.5 (max.) in 0.5 increments. 10= OFF disables the auto raise function. |
| L2 | X x x x H E I G H T O N L Y | | |
| L1 | C x x x AUTO RAISE HEIGHT? | | T I L T C Y L I N S T A L L E D ? |
| L2 | X x x x - 4 . 0 + | | |
| L2 | X x x x - O F F + | | |
| L1 | C x x x DWA INSTALLED? | | If "NO" then jump to: |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x SWAP DWA CONTROLS? | | Swaps the GSL reel fore / aft with the DWA console controls. If NO jump to TILT CYL INSTALLED? |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x DWA AUTO UP / DOWN? | | Enables the express up and down feature with the header RTC. If NO jump to TILT CYL INSTALLED? |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x HDR CUT WIDTH? 0 1 0 1 | | Use the "arrow" keys to set the header cut width. The header ID appears at the RHS. |
| L2 | X x x x 2 0 . 5 F E E T | | |
| L1 | C x x x HAY CONDITIONER? | | D R A P E R H E A D E R O N L Y . D e f a u l t w i l l b e flashing. Use "arrow" keys to select. |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x HEADER REEL SPD | | A U G E R & D R A P E R H E A D E R S O N L Y |
| L2 | X x x x R P M / M P H | | |
| L2 | X x x x R P M / K P H | | |
| L1 | C x x x SET TIRE SIZE? | | Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values. |
| L2 | X x x x 1 8 . 4 X 2 6 T U R F | | |
| L2 | X x x x 1 8 . 4 X 2 6 B A R | | |
| L2 | X x x x 2 3 . 1 X 2 6 T U R F | | |
| L2 | X x x x 6 0 0 - 6 5 R 2 8 | | |
| L2 | X x x x 5 8 0 / 7 0 R 2 6 T U R F | | |
| L1 | C x x x SET ENGINE ISC RPM? | | If "NO" then jump to: |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x PRESS HAZARD TO SET | | This is used to set the Intermediate Speed Control function for the engine. The default or last selected rpm will be displayed first and will be flashing. The "arrow" keys are used to cycle between the selections. When "SELECT" is pressed the program goes to the EXIT ENGINE ISC? menu selection. |
| L2 | X x x x I S C R P M 1 8 0 0 | | |
| L1 | C x x x PRESS HAZARD TO SET | | |
| L2 | X x x x I S C R P M 1 9 0 0 | | |
| L1 | C x x x PRESS HAZARD TO SET | | |
| L2 | X x x x I S C R P M 2 0 0 0 | | |
| L1 | C x x x PRESS HAZARD TO SET | | |
| L2 | X x x x I S C R P M E N D | | |
| L1 | C x x x EXIT ENGINE ISC? | | |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x SET CONTROL LOCKS? | | If "NO" then jump to: |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x HEADER TILT | | This menu allows the operator to selectably "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash. The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item. |
| L2 | X x x x E N A B L E D / L O C K E D | | |
| L1 | C x x x HEADER FLOAT | | |
| L2 | X x x x E N A B L E D / L O C K E D | | |
| L1 | C x x x REEL FORE / AFT | | |
| L2 | X x x x E N A B L E D / L O C K E D | | |
| L1 | C x x x DRAPER SPEED | | |
| L2 | X x x x E N A B L E D / L O C K E D | | |
| L1 | C x x x AUGER SPEED | | |
| L2 | X x x x E N A B L E D / L O C K E D | | |
| L1 | C x x x KNIFE SPEED | | |
| L2 | X x x x E N A B L E D / L O C K E D | | |
| L1 | C x x x DISK SPEED | | |
| L2 | X x x x E N A B L E D / L O C K E D | | |
| L1 | C x x x REEL SPEED | | |
| L2 | X x x x E N A B L E D / L O C K E D | | |
| L1 | C x x x EXIT CONTROL LOCKS? | | If "NO" then jump to: |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x VIEW CONTROL LOCKS? | | If "NO" then jump to: |
| L2 | X x x x N O / Y E S | | |
| L1 | C x x x HEADER TILT | | EXIT W I N D R W R S E T U P ? |

1004285

UNLOADING AND ASSEMBLY

| | | | |
|----|--------------------------------|---------|-----|
| L2 | X x x x 5 7 5 . 1 HRS | ENABLED | |
| L2 | X x x x 6 4 8 . 6 HRS | LOCKED | |
| L1 | C x x x HEADER FLOAT | | ← → |
| L2 | X x x x 5 7 5 . 1 HRS | ENABLED | |
| L2 | X x x x 6 4 8 . 6 HRS | LOCKED | |
| L1 | C x x x REEL FORE/AFT | | ← → |
| L2 | X x x x 5 7 5 . 1 HRS | ENABLED | |
| L2 | X x x x 6 4 8 . 6 HRS | LOCKED | |
| L1 | C x x x DRAPER SPEED | | ← → |
| L2 | X x x x 5 7 5 . 1 HRS | ENABLED | |
| L2 | X x x x 6 4 8 . 6 HRS | LOCKED | |
| L1 | C x x x AUGER SPEED | | ← → |
| L2 | X x x x 5 7 5 . 1 HRS | ENABLED | |
| L2 | X x x x 6 4 8 . 6 HRS | LOCKED | |
| L1 | C x x x KNIFE SPEED | | ← → |
| L2 | X x x x 5 7 5 . 1 HRS | ENABLED | |
| L2 | X x x x 6 4 8 . 6 HRS | LOCKED | |
| L1 | C x x x DISK SPEED | | ← → |
| L2 | X x x x 5 7 5 . 1 HRS | ENABLED | |
| L2 | X x x x 6 4 8 . 6 HRS | LOCKED | |
| L1 | C x x x REEL SPEED | | ← → |
| L2 | X x x x 5 7 5 . 1 HRS | ENABLED | |
| L2 | X x x x 6 4 8 . 6 HRS | LOCKED | |
| L1 | C x x x EXIT VIEW LOCKOUTS? | | ← → |
| L2 | X x x x NO / YES | | ← → |
| L1 | C x x x EXIT WINDRWR SETUP? | | ← → |
| L2 | X x x x NO / YES | | ← → |

If "NO" then jump to: HEADER TILT ← →

If "NO" then jump to: SET KNIFE SPEED? or DISC OVERLOAD SPD? Disc Header Only

| | | | |
|----|----------------------------------|--|-----|
| L1 | C x x x x CAB DISPLAY SETUP? | | ← → |
| L2 | X x x x x NO / YES | | ← → |
| L1 | C x x x x DISPLAY LANGUAGE? | | ← → |
| L2 | X x x x ENGLISH | | ← → |
| L2 | X x x x ESPANOL | | ← → |
| L1 | C x x x x DISPLAY UNITS? | | ← → |
| L2 | X x x x IMPERIAL | | ← → |
| L2 | X x x x METRIC | | ← → |
| L1 | C x x x x CDM BUZZER VOLUME | | ← → |
| L2 | X x x x | | ← → |
| L1 | C x x x x CDM BACKLIGHTING | | ← → |
| L2 | X x x x | | ← → |
| L1 | C x x x x CDM CONTRAST | | ← → |
| L2 | X x x x | | ← → |
| L1 | C x x x x EXIT DISPLAY SETUP? | | ← → |
| L2 | X x x x x NO / YES | | ← → |
| L1 | C x x x x CALIBRATE SENSORS? | | ← → |
| L2 | X x x x x NO / YES | | ← → |

If "NO" then jump to: CALIBRATE SENSORS? Only if Engine is running!

If "NO" then jump to: DISPLAY LANGUAGE?

Use the "arrow" keys to change the default language. Pressing "SELECT" goes to the next L1 menu selection.

The "arrow" keys are used to select between IMPERIAL or METRIC. The default value will be displayed first.

The "arrow" keys are used to change the CDM buzzer volume, CDM backlighting or the CDM contrast, with the bar graph indicating the relative level for each item. When "SELECT" is pressed the program goes to the EXIT DISPLAY SETUP? menu selection.

If "NO" then jump to: DISPLAY LANGUAGE?

If engine off then jump to diagnostic mode?

DIAGNOSTIC MODE?

The operator can select any of the three items requiring calibration (or exit the CAL menu) by using the turn signal switches to cycle through the choices. Pressing SELECT will take the operator to the calibration menu for that particular sensor.

The display will indicate the sensor being calibrated. The operator will be prompted to raise the header and HOLD will flash until the system has completed reading in the signal with the header fully raised. HOLD will change to DONE (with buzzer).

When the header raise is done, the CDM will prompt the user to lower the header. COMPLETE (with buzzer) will flash on the screen for 2 seconds when the calibration is finished.

The operator can select any of the three items requiring calibration (or exit the CAL menu) by using the turn signal switches to cycle through the choices. Pressing SELECT will take the operator to the calibration menu for that particular sensor.

The display will indicate the sensor being calibrated. The operator will be prompted to extend the header tilt and HOLD will flash until the system has completed reading in the signal with the header tilt fully extended. HOLD will change to DONE (with buzzer).

When the header tilt extend is done, the CDM will prompt the user to press the header tilt retract. COMPLETE (with buzzer) will flash on the screen for 2 seconds when the calibration is finished.

The operator can select any of the three items requiring calibration (or exit the CAL menu) by using the turn signal

1004286

(continued next page)

UNLOADING AND ASSEMBLY

| | |
|--|---|
| <p>L2 X x x x < HEADER TILT > </p> <p>L2 X x x x < HEADER FLOAT > </p> <p>L2 X x x x < STOP & EXIT > </p> <p>L1 C x x x < CALIBRATING FLOAT > </p> <p>L2 X x x x < PRESS FLT+ TO START > </p> <p>L1 C x x x < CALIBRATING FLOAT > </p> <p>L2 X x x x < FLOAT (+): HOLD > </p> <p>L2 X x x x < FLOAT (+): DONE > </p> <p>L1 C x x x < FLOAT SENSOR CAL > </p> <p>L2 X x x x < PRESS FLOAT (-) > </p> <p>L1 C x x x < CALIBRATING FLOAT > </p> <p>L2 X x x x < FLOAT (-): HOLD > </p> <p>L2 X x x x < HDR FLOAT COMPLETE > </p> <p>L2 C x x x < TO CALIBRATE SELECT > </p> <p>L2 X x x x < HEADER HEIGHT > </p> <p>L2 X x x x < HEADER TILT > </p> <p>L1 X x x x < HEADER FLOAT > </p> <p>L2 X x x x < EXIT CAL? NO/YES > </p> <p>L1 C x x x < DIAGNOSTIC MODE? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 C x x x < VIEW ERROR CODES? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 C x x x < VIEW WINDRWR CODES? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 1 < 1 2 3 4 . 5 HRS 1 2 3 > </p> <p>L2 E 4 7 < SENSOR VOLTS LOW > </p> <p>L1 2 < 1 2 3 0 . 5 HRS 1 2 3 > </p> <p>L2 E 7 1 < LOW HYDRAULIC OIL > </p> <p>L1 C x x x < EXIT WINDRWR CODES? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 C x x x < VIEW ENGINE CODES? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 1 < PREVIOUS ENG. CODES > </p> <p>L2 < # # # S # # F # # C > </p> <p>L1 C x x x < EXIT ENGINE CODES? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 C x x x < EXIT ERROR CODES? > </p> <p>L2 X x x x < NO/YES > </p> | <p>switches to cycle through the choices. Pressing SELECT will take the operator to the calibration menu for that particular sensor.</p> <p>The display will indicate the sensor being calibrated. The operator will be prompted to press the float (+) and HOLD will flash until the system has completed reading in the signal with the header float fully extended. HOLD will change to DONE (with buzze</p> <p>When the header float (+) is done, the CDM will prompt the user to press the header float (-). COMPLETE (with buzzer) will flash on the screen for 2 seconds when the calibration is finished.</p> <p>Select any of the sensors by using the turn signal switches to cycle through the choices. Pressing SELECT will take the operator to the calibration menu for that particular sensor. NO is the default for EXIT CAL?. If "NO" then jump to:</p> <p style="text-align: center;">TO CALIBRATE SELECT</p> <p>If "NO" then jump to:</p> <p style="text-align: center;">EXIT SETUP?</p> <p>If "NO" then jump to:</p> <p style="text-align: center;">ENTER SENSOR SETUP?</p> <p>If "NO" then jump to:</p> <p style="text-align: center;">VIEW ENGINE CODES?</p> <p>The last 10 distinct error codes are stored along with the code #, Exxx, engine hours and number of occurrences. The "arrow" keys are used to cycle between codes.</p> <p>If "NO" then jump to the first error code logged.</p> <p>If "NO" then jump to:</p> <p style="text-align: center;">EXIT ERROR CODES?</p> <p>The last 10 distinct error codes are stored.</p> <p>If "NO" then jump to the first engine error code logged.</p> <p>If "NO" then jump to:</p> <p style="text-align: center;">VIEW WINDRWR CODES?</p> |
| <p>L1 C x x x < ENTER SENSOR SETUP? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 C x x x < KNIFE SPEED SENSOR > </p> <p>L2 X x x x < ENABLE/DISABLE > </p> <p>L1 C x x x < HEADER HT SENSOR > </p> <p>L2 X x x x < ENABLE/DISABLE > </p> <p>L1 C x x x < HEADER TILT SENSOR > </p> <p>L2 X x x x < ENABLE/DISABLE > </p> <p>L1 C x x x < HEADER FLOAT SENSOR > </p> <p>L2 X x x x < ENABLE/DISABLE > </p> <p>L1 C x x x < OVERLOAD PRESSURE > </p> <p>L2 X x x x < ENABLE/DISABLE > </p> <p>L1 C x x x < HYD OIL TEMP SENSOR > </p> <p>L2 X x x x < ENABLE/DISABLE > </p> <p>L1 C x x x < EXIT SENSOR SETUP? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 C x x x < READ SENSOR INPUTS? > </p> <p>L2 M x x x < NO/YES > </p> <p>L1 C x x x < SENSOR INPUT > </p> <p>L2 X x x x < HDR HEIGHT 3 . 5 9 V > </p> <p>L1 C x x x < SENSOR INPUT > </p> <p>L2 X x x x < HDR ANGLE 1 . 8 4 V > </p> <p>L1 C x x x < SENSOR INPUT > </p> <p>L2 X x x x < 2 . 4 5 V FLOAT 2 . 8 4 V > </p> <p>L1 C x x x < SENSOR INPUT > </p> <p>L2 X x x x < KNIFE SPEED 1 2 3 HZ > </p> <p>L1 C x x x < SENSOR INPUT > </p> <p>L2 X x x x < WHEEL SPEED 1 2 3 HZ > </p> <p>L1 C x x x < SENSOR INPUT > </p> <p>L2 X x x x < HYD OIL TEMP 1 . 0 0 V > </p> <p>L1 C x x x < EXIT READ SENSORS? > </p> <p>L2 X x x x < NO/YES > </p> <p>L1 C x x x < SENSOR INPUT > </p> <p>L2 X x x x < HDR HEIGHT SENSOR > </p> <p>L1 C x x x < SENSOR INPUT > </p> <p>L2 X x x x < HDR ANGLE SENSOR > </p> <p>L1 C x x x < SENSOR INPUT > </p> | <p>If "NO" then jump to:</p> <p style="text-align: center;">READ SENSOR INPUTS?</p> <p>The operator can select each sensor and selectively enable or disable the sensor. This can be used to disable a failed sensor to eliminate false or erratic display readings.</p> <p>When "SELECT" is pressed the program goes to the EXIT SENSOR SETUP? menu selection.</p> <p>NOTE: The oil temp. readout applies to units with the Sensata oil temp. sensor.</p> <p>If "NO" then jump to:</p> <p style="text-align: center;">KNIFE SPEED SENSOR</p> <p>If "NO" then jump to:</p> <p style="text-align: center;">ACTIVATE FUNCTIONS?</p> <p>For diagnostic purposes each sensors input signal can be read. This helps in determining how each sensor is operating and if the proper output voltages are being received by the control system.</p> <p>When "SELECT" is pressed the program goes to the EXIT READ SENSORS? menu selection.</p> <p>If "NO" then jump to:</p> <p style="text-align: center;">SENSOR INPUT</p> <p style="text-align: center;">HDR HEIGHT 3 . 5 9 V</p> <p>If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been.</p> <p>If a sensor has been disabled "SENSOR" will be</p> |

1004287

(continued next page)

UNLOADING AND ASSEMBLY

| | | |
|--|--|---|
| | L2 X x x x 2 . 4 5 V F L O A T S E N S O R L1 C x x x S E N S O R I N P U T ← → L2 X x x x K N I F E S P E E D S E N S O R L1 C x x x S E N S O R I N P U T ← → L2 X x x x R E E L S P E E D S E N S O R L1 C x x x S E N S O R I N P U T ← → L2 X x x x H Y D O I L T E M P S E N S O R | flashing in the area where the input reading would have been. If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. NOTE: The oil temp. readout applies to the M205 model with the Sensata oil temp. sensor. |
| L1 C x x x A C T I V A T E F U N C T I O N S ? L2 X x x x ← N O / Y E S → | If "NO" then jump to: F O R C E H E A D E R T Y P E ? | For diagnostic purposes each header function can be activated by using the "arrow" keys on the CDM. When "SELECT" is pressed the program will go to the next function that can be activated. If a disk header is detected then the nameplate should read: DISC DRIVE instead of KNIFE DRIVE. PWM OPERATION: If the HAZARD switch is pressed instead of the TURN SIGNAL switch the GSL will operate the PWM valve (HAZARD sw must be held) and the PWM value will reset to zero when released. |
| L1 C x x x A C T I V A T E H E A D E R H T L2 X x x x ← D O W N / U P → L1 C x x x A C T I V A T E R E E L H T L2 X x x x ← D O W N / U P → L1 C x x x A C T I V A T E H D R T I L T L2 X x x x ← I N / O U T → L1 C x x x K N I F E D R V S P D X X X X L2 X x x x D 0 P 0 ← - ^ + → L1 C x x x D R A P E R D R V S P D X X X X L2 X x x x D 0 P 0 ← - ^ + → L1 C x x x R E E L D R V S P D X X X X L2 X x x x D 0 P 0 ← - ^ + → L1 C x x x D I S C D R V S P D X X X X L2 X x x x D 0 P 0 ← - ^ + → L1 C x x x A C T I V A T E D W A D R V L2 X x x x D 0 P 0 ← - ^ + → L1 C x x x A C T I V A T E R E E L F / A L2 X x x x ← F O R E / A F T → L1 C x x x A C T I V A T E H Y D P U R G E ? L2 X x x x ← N O / Y E S → L1 C x x x T O A C T I V A T E P U R G E L2 X x x x P R E S S A N D H O L D → L1 C x x x P U R G E C Y C L E S T A R T E D L2 X x x x P R E S S A N D H O L D → L1 C x x x P U R G E C Y C L E E N D E D L2 X x x x L1 C x x x P U R G E C Y C L E E N D E D L2 X x x x ← N O E X I T Y E S → L1 C x x x E X I T F U N C T I O N M E N U ? L2 X x x x ← N O / Y E S → | For Disc Header only The DWA menu selection should only be available if the DWA INSTALLED? is set to YES. For Disc Header only ACTIVATE HYD PURGE - This is to allow the operator to purge the air from a new or changed pump system. Pressing and holding the right hand "arrow" button activates a predetermined timed purge cycle. Releasing pressure on the switch or a completed cycle (timed out) will jump to the PURGE CYCLE ENDED menu selection. | |
| L1 C x x x F O R C E H E A D E R T Y P E ? "NO" then jump to: L2 X x x x ← N O / Y E S → E X I T D I A G N O S T I C ? | If "NO" then jump to: T O A C T I V A T E P U R G E If "NO" then jump to: A C T I V A T E H E A D E R H T | This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection. |
| L1 C x x x S E L E C T H E A D E R T Y P E L2 X x x x ← D I S K H E A D E R → L2 X x x x ← S K A U G E R → L2 X x x x ← D K A U G E R → L2 X x x x ← G R A S S S E E D → L2 X x x x ← 2 0 F T S K D R A P E R → L2 X x x x ← 2 5 F T S K D R A P E R → L2 X x x x ← 3 0 F T S K D R A P E R → L2 X x x x ← 3 5 F T S K D R A P E R → L2 X x x x ← 1 5 F T D K D R A P E R → L2 X x x x ← 2 0 F T D K D R A P E R → L2 X x x x ← 2 5 F T D K D R A P E R → L2 X x x x ← 3 0 F T D K D R A P E R → L2 X x x x ← 3 5 F T D K D R A P E R → L2 X x x x ← 4 0 F T D K D R A P E R → L1 C x x x E X I T F O R C E H E A D E R ? L2 X x x x ← N O / Y E S → L1 C x x x E X I T D I A G N O S T I C ? L2 X x x x ← N O / Y E S → L1 C x x x E X I T S E T U P ? L2 X x x x ← N O / Y E S → If "YES" then jump to: O P E R A T I N G S C R E E N S | If "NO" then jump to: S E L E C T H E A D E R T Y P E If "NO" then jump to: V I E W E R R O R C O D E S ? If "NO" then jump to: W I N D R O W E R S E T U P ? | |

END

UNLOADING AND ASSEMBLY

B. M155 DETAILED PROGRAMMING INSTRUCTIONS

(Ignition ON / Engine Running or Not / Header Disengaged).

(Press PROGRAM and SELECT on CDM to enter programming mode).

(If necessary, refer to the M Series Windrower Operator's Manual for programming to specific crop types and conditions).

Programming Menu Flow Chart

| | | | |
|----|-------------------------------------|--|---|
| L1 | C x x x WINDROWER SETUP? | | If "NO" then jump to: |
| L2 | M x x x NO / YES | | C A B D I S P L A Y S E T U P ? |
| L1 | C x x x SET KNIFE SPEED? | | |
| L2 | M x x x # # # # S P M | | When the programming mode is entered the header ID will be displayed on the top line of the CDM using the last 4 display positions. |
| L1 | C x x x KNIFE OVERLOAD SPD? | | -500 to -100 range offset from set point. -300 is default |
| L2 | M x x x # # # # S P M | | |
| L1 | C x x x DISK OVERLOAD SPD? | | -500 to -100 range offset from set point. -300 is default. For Disc Headers only |
| L2 | M x x x # # # # R P M | | |
| L1 | C x x x OVERLOAD PRESSURE? | | |
| L2 | M x x x 4 0 0 0 P S I | | |
| L1 | C x x x HEADER INDEX MODE? | | For Draper Header only. A40D headers have reel only |
| L2 | M x x x REEL & CONVEYOR | | |
| L2 | M x x x REEL ONLY | | |
| L1 | C x x x RETURN TO CUT MODE? | | Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values. Pressing "PROGRAM" at any time will cancel the programming mode / menus and return back to the main operating displays. |
| L2 | M x x x H E I G H T & T I L T | | |
| L2 | M x x x H E I G H T O N L Y | | |
| L1 | C x x x AUTO RAISE HEIGHT? | | The auto raise setting can be changed from 4.0 (min.) to 9.5 (max.) in 0.5 increments. 10= OFF disables the auto raise function. |
| L2 | M x x x - 4 . 0 + | | |
| L2 | M x x x - O F F + | | |
| L1 | C x x x DWA INSTALLED? | | If "NO" then jump to: |
| L2 | M x x x NO / YES | | T I L T C Y L I N S T A L L E D ? |
| L1 | C x x x SWAP DWA CONTROLS? | | Swaps the GSL reel fore / aft with the DWA console controls. If NO jump to TILT CYL INSTALLED? |
| L2 | M x x x NO / YES | | |
| L1 | C x x x DWA AUTO UP / DOWN? | | Enables the express up and down feature with the header RTC. If NO jump to TILT CYL INSTALLED? |
| L2 | M x x x NO / YES | | |
| L1 | C x x x TILT CYL INSTALLED? | | |
| L2 | M x x x NO / YES | | |
| L1 | C x x x DISC BLK INSTALLED? | | |
| L2 | M x x x NO / YES | | |
| L1 | C x x x HDR CUT WIDTH? 0 1 0 1 | | Use the "arrow" keys to set the header cut width. The header ID appears at the RHS. |
| L2 | M x x x 2 0 . 5 F E E T | | |
| L1 | C x x x HAY CONDITIONER? | | DRAPER HEADER ONLY. Default will be flashing. Use "arrow" keys to select. |
| L2 | M x x x NO / YES | | |
| L1 | C x x x HEADER REEL SPD | | AUGER & DRAPER HEADERS ONLY |
| L2 | M x x x R P M / M P H | | For IMPERIAL display. |
| L2 | M x x x R P M / K P H | | For METRIC display. |
| L1 | C x x x SET TIRE SIZE? | | Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values. |
| L2 | M x x x 1 8 . 4 X 2 6 T U R F | | |
| L2 | M x x x 1 8 . 4 X 2 6 B A R | | |
| L2 | M x x x 2 3 . 1 X 2 6 T U R F | | |
| L2 | M x x x 6 0 0 - 6 5 R 2 8 | | |
| L2 | M x x x 5 8 0 / 7 0 R 2 6 T U R F | | |
| L1 | C x x x SET ENGINE ISC RPM? | | If "NO" then jump to: |
| L2 | M x x x NO / YES | | S E T C O N T R O L L O C K S ? |
| L1 | C x x x PRESS HAZARD TO SET | | This is used to set the Intermediate Speed Control function for the engine. The default or last selected rpm will be displayed first and will be flashing. |
| L2 | M x x x I S C R P M 2 2 0 0 | | The "arrow" keys are used to cycle between the selections. When "SELECT" is pressed the program goes to the EXIT ENGINE ISC? menu selection. |
| L1 | C x x x PRESS HAZARD TO SET | | |
| L2 | M x x x I S C R P M 2 0 0 0 | | |
| L1 | C x x x PRESS HAZARD TO SET | | |
| L2 | M x x x I S C R P M 1 8 0 0 | | |
| L1 | C x x x EXIT ENGINE ISC? | | |
| L2 | M x x x NO / YES | | |
| | | | If "NO" then jump to: |
| | | | P R E S S H A Z A R D T O S E T |

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UNLOADING AND ASSEMBLY

| | | | |
|----|----------------------------------|--|-----------------------|
| L1 | C x x x SET CONTROL LOCKS? | If "NO" then jump to: | |
| L2 | M x x x ← NO / YES → | VIEW CONTROL LOCKS? | |
| L1 | C x x x HEADER TILT | <p>This menu allows the operator to selectably "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash.</p> <p>The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item.</p> | |
| L2 | M x x x ← ENABLED / LOCKED → | | |
| L1 | C x x x HEADER FLOAT | | |
| L2 | M x x x ← ENABLED / LOCKED → | | |
| L1 | C x x x REEL FORE / AFT | | |
| L2 | M x x x ← ENABLED / LOCKED → | | |
| L1 | C x x x DRAPER SPEED | | |
| L2 | M x x x ← ENABLED / LOCKED → | | |
| L1 | C x x x AUGER SPEED | | |
| L2 | M x x x ← ENABLED / LOCKED → | | |
| L1 | C x x x KNIFE SPEED | | |
| L2 | M x x x ← ENABLED / LOCKED → | | |
| L1 | C x x x DISK SPEED | | |
| L2 | M x x x ← ENABLED / LOCKED → | | |
| L1 | C x x x REEL SPEED | | |
| L2 | M x x x ← ENABLED / LOCKED → | | |
| L1 | C x x x EXIT CONTROL LOCKS? | | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | | HEADER TILT |
| L1 | C x x x VIEW CONTROL LOCKS? | If "NO" then jump to: | |
| L2 | M x x x ← NO / YES → | EXIT WINDRWR SETUP? | |
| L1 | C x x x HEADER TILT | <p>When the control lock outs are viewed the lower display line (L2) will show the engine hours and either ENABLED or LOCKED to indicate the present status along with the engine hours at which time the function was either ENABLED or LOCKED.</p> <p>Using the "arrow" keys allows the operator to select the various functions. Pressing "SELECT" will go to the EXIT VIEW LOCKOUTS? menu selection.</p> | |
| L2 | M x x x 5 7 5 . 1 HRS ENABLED | | |
| L2 | M x x x 6 4 8 . 6 HRS LOCKED | | |
| L1 | C x x x HEADER FLOAT | | |
| L2 | M x x x 5 7 5 . 1 HRS ENABLED | | |
| L2 | M x x x 6 4 8 . 6 HRS LOCKED | | |
| L1 | C x x x REEL FORE / AFT | | |
| L2 | M x x x 5 7 5 . 1 HRS ENABLED | | |
| L2 | M x x x 6 4 8 . 6 HRS LOCKED | | |
| L1 | C x x x DRAPER SPEED | | |
| L2 | M x x x 5 7 5 . 1 HRS ENABLED | | |
| L2 | M x x x 6 4 8 . 6 HRS LOCKED | | |
| L1 | C x x x AUGER SPEED | | |
| L2 | M x x x 5 7 5 . 1 HRS ENABLED | | |
| L2 | M x x x 6 4 8 . 6 HRS LOCKED | | |
| L1 | C x x x KNIFE SPEED | | |
| L2 | M x x x 5 7 5 . 1 HRS ENABLED | | |
| L2 | M x x x 6 4 8 . 6 HRS LOCKED | | |
| L1 | C x x x DISK SPEED | | |
| L2 | M x x x 5 7 5 . 1 HRS ENABLED | | |
| L2 | M x x x 6 4 8 . 6 HRS LOCKED | | |
| L1 | C x x x REEL SPEED | | |
| L2 | M x x x 5 7 5 . 1 HRS ENABLED | | |
| L2 | M x x x 6 4 8 . 6 HRS LOCKED | | |
| L1 | C x x x EXIT VIEW LOCKOUTS? | If "NO" then jump to: | |
| L2 | M x x x ← NO / YES → | HEADER TILT | |
| L1 | C x x x EXIT WINDRWR SETUP? | If "NO" then jump to: | |
| L2 | M x x x ← NO / YES → | SET KNIFE SPEED? | |
| | or DISC OVERLOAD SPD? | Disc Header Only | |

(continued next page)

UNLOADING AND ASSEMBLY

| | | |
|----|-------------------------------------|---|
| L1 | C x x x VIEW ERROR CODES? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | ENTER SENSOR SETUP? |
| L1 | C x x x VIEW WINDRWR CODES? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | VIEW ENGINE CODES? |
| L1 | 1 1 2 3 4 . 5 HRS 1 2 3 ← → | The last 10 distinct error codes are stored along with the code #, Exxx, engine hours and number of occurrences. The "arrow" keys are used to cycle between codes. |
| L2 | E 4 7 SENSOR VOLTS LOW | |
| L1 | 2 1 2 3 0 . 5 HRS 1 2 3 ← → | If "NO" then jump to the first error code logged. |
| L2 | E 7 1 LOW HYDRAULIC OIL | |
| L1 | C x x x EXIT WINDRWR CODES? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | EXIT ERROR CODES? |
| L1 | C x x x VIEW ENGINE CODES? | The last 10 distinct error codes are stored. |
| L2 | M x x x ← NO / YES → | |
| L1 | 1 PREVIOUS ENG. CODES | If "NO" then jump to the first engine error code logged. |
| L2 | # # # S # # F # # C | |
| L1 | C x x x EXIT ENGINE CODES? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | VIEW WINDRWR CODES? |
| L1 | C x x x EXIT ERROR CODES? | If "NO" then jump to the first error code logged. |
| L2 | M x x x ← NO / YES → | |
| L1 | C x x x ENTER SENSOR SETUP? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | READ SENSOR INPUTS? |
| L1 | C x x x KNIFE SPEED SENSOR | The operator can select each sensor and selectively enable or disable the sensor. This can be used to disable a failed sensor to eliminate false or erratic display readings. |
| L2 | M x x x ← ENABLE / DISABLE → | |
| L1 | C x x x HEADER HT SENSOR | When "SELECT" is pressed the program goes to the EXIT SENSOR SETUP? menu selection. |
| L2 | M x x x ← ENABLE / DISABLE → | |
| L1 | C x x x HEADER TILT SENSOR | NOTE: The oil temp. readout applies to units with the Sensata oil temp. sensor. |
| L2 | M x x x ← ENABLE / DISABLE → | |
| L1 | C x x x HEADER FLOAT SENSOR | If "NO" then jump to: |
| L2 | M x x x ← ENABLE / DISABLE → | |
| L1 | C x x x OVERLOAD PRESSURE | KNIFE SPEED SENSOR |
| L2 | M x x x ← ENABLE / DISABLE → | |
| L1 | C x x x HYD OIL TEMP SENSOR | When "SELECT" is pressed the program goes to the EXIT READ SENSORS? menu selection. |
| L2 | M x x x ← ENABLE / DISABLE → | |
| L1 | C x x x EXIT SENSOR SETUP? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | KNIFE SPEED SENSOR |
| L1 | C x x x READ SENSOR INPUTS? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | ACTIVATE FUNCTIONS? |
| L1 | C x x x SENSOR INPUT ← → | For diagnostic purposes each sensors input signal can be read. This helps in determining how each sensor is operating and if the proper output voltages are being received by the control system. |
| L2 | M x x x HDR HEIGHT 3 . 5 9 V | |
| L1 | C x x x SENSOR INPUT ← → | When "SELECT" is pressed the program goes to the EXIT READ SENSORS? menu selection. |
| L2 | M x x x HDR ANGLE 1 . 8 4 V | |
| L1 | C x x x SENSOR INPUT ← → | If "NO" then jump to: |
| L2 | M x x x 2 . 4 5 V FLOAT 2 . 8 4 V | |
| L1 | C x x x SENSOR INPUT ← → | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| L2 | M x x x KNIFE SPEED 1 2 3 HZ | |
| L1 | C x x x SENSOR INPUT ← → | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| L2 | M x x x WHEEL SPEED 1 2 3 HZ | |
| L1 | C x x x SENSOR INPUT ← → | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| L2 | M x x x HYD OIL TEMP 1 . 0 0 V | |
| L1 | C x x x EXIT READ SENSORS? | NOTE: The oil temp. readout applies to the M205 model with the Sensata oil temp. sensor. |
| L2 | M x x x ← NO / YES → | |
| L1 | C x x x SENSOR INPUT ← → | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| L2 | M x x x HDR HEIGHT SENSOR | |
| L1 | C x x x SENSOR INPUT ← → | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| L2 | M x x x HDR ANGLE SENSOR | |
| L1 | C x x x SENSOR INPUT ← → | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| L2 | M x x x 2 . 4 5 V FLOAT SENSOR | |
| L1 | C x x x SENSOR INPUT ← → | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| L2 | M x x x KNIFE SPEED SENSOR | |
| L1 | C x x x SENSOR INPUT ← → | NOTE: The oil temp. readout applies to the M205 model with the Sensata oil temp. sensor. |
| L2 | M x x x REEL SPEED SENSOR | |
| L1 | C x x x SENSOR INPUT ← → | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| L2 | M x x x HYD OIL TEMP SENSOR | |

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UNLOADING AND ASSEMBLY

| | | | | | |
|----|---------|--|---------------------|--|------------------------|
| L1 | C x x x | | ACTIVATE FUNCTIONS? | | If "NO" then jump to: |
| L2 | M x x x | | ← NO / YES → | | FORCE HEADER TYPE? |
| L1 | C x x x | | ACTIVATE HEADER HT | | |
| L2 | M x x x | | ← DOWN / UP → | | |
| L1 | C x x x | | ACTIVATE REEL HT | | |
| L2 | M x x x | | ← DOWN / UP → | | |
| L1 | C x x x | | ACTIVATE HDR TILT | | |
| L2 | M x x x | | ← IN / OUT → | | |
| L1 | C x x x | | KNIFE DRV SPD XXXX | | |
| L2 | M x x x | | D 0 P 0 ← - Δ + → | | |
| L1 | C x x x | | DRAPER DRV SPD XXXX | | |
| L2 | M x x x | | D 0 P 0 ← - Δ + → | | |
| L1 | C x x x | | REEL DRV SPD XXXX | | |
| L2 | M x x x | | D 0 P 0 ← - Δ + → | | |
| L1 | C x x x | | DISC DRV SPD XXXX | | |
| L2 | M x x x | | D 0 P 0 ← - Δ + → | | |
| L1 | C x x x | | ACTIVATE DWA DRV | | |
| L2 | M x x x | | D 0 P 0 ← - Δ + → | | |
| L1 | C x x x | | ACTIVATE REEL F/A | | |
| L2 | M x x x | | ← FORE / AFT → | | |
| L1 | C x x x | | ACTIVATE HYD PURGE? | | |
| L2 | M x x x | | ← NO / YES → | | |
| L1 | C x x x | | TO ACTIVATE PURGE | | |
| L2 | M x x x | | ← PRESS AND HOLD → | | |
| L1 | C x x x | | PURGE CYCLE STARTED | | |
| L2 | M x x x | | ← PRESS AND HOLD → | | |
| L1 | C x x x | | PURGE CYCLE ENDED | | |
| L2 | M x x x | | | | |
| L1 | C x x x | | PURGE CYCLE ENDED | | |
| L2 | M x x x | | ← NO EXIT YES → | | |
| L1 | C x x x | | EXIT FUNCTION MENU? | | |
| L2 | M x x x | | ← NO / YES → | | |
| L1 | C x x x | | FORCE HEADER TYPE? | | If "NO" then jump to: |
| L2 | M x x x | | ← NO / YES → | | EXIT DIAGNOSTIC? |
| L1 | C x x x | | SELECT HEADER TYPE | | |
| L2 | M x x x | | ← DISK HEADER → | | |
| L2 | M x x x | | ← SK AUGER → | | |
| L2 | M x x x | | ← DK AUGER → | | |
| L2 | M x x x | | ← GRASS SEED → | | |
| L2 | M x x x | | ← 20 FT SK DRAPER → | | |
| L2 | M x x x | | ← 25 FT SK DRAPER → | | |
| L2 | M x x x | | ← 30 FT SK DRAPER → | | |
| L2 | M x x x | | ← 35 FT SK DRAPER → | | |
| L2 | M x x x | | ← 15 FT DK DRAPER → | | |
| L2 | M x x x | | ← 20 FT DK DRAPER → | | |
| L2 | M x x x | | ← 25 FT DK DRAPER → | | |
| L2 | M x x x | | ← 30 FT DK DRAPER → | | |
| L2 | M x x x | | ← 35 FT DK DRAPER → | | |
| L2 | M x x x | | ← 40 FT DK DRAPER → | | |
| L1 | C x x x | | EXIT FORCE HEADER? | | |
| L2 | M x x x | | ← NO / YES → | | |
| L1 | C x x x | | EXIT DIAGNOSTIC? | | |
| L2 | M x x x | | ← NO / YES → | | |
| L1 | C x x x | | EXIT SETUP? | | |
| L2 | M x x x | | ← NO / YES → | | |
| | | | | | If "YES" then jump to: |
| | | | OPERATING SCREENS | | |

For diagnostic purposes each header function can be activated by using the "arrow" keys on the CDM. When "SELECT" is pressed the program will go to the next function that can be activated.

If a disk header is detected then the nomenclature should read: DISC DRIVE instead of KNIFE DRIVE.

PWM OPERATION: If the HAZARD switch is pressed instead of the TURN SIGNAL switch the GSL will operate the PWM valve (HAZARD sw must be held) and the PWM value will reset to zero when released.

For Disc Header only

The DWA menu selection should only be available if the DWA INSTALLED? is set to YES.

For Disc Header only

ACTIVATE HYD PURGE - This is to allow the operator to purge the air from a new or changed pump system.

Pressing and holding the right hand "arrow" button activates a predetermined timed purge cycle. Releasing pressure on the switch or a completed cycle (timed out) will jump to the PURGE CYCLE ENDED menu selection.

If "NO" then jump to:
TO ACTIVATE PURGE

If "NO" then jump to:
ACTIVATE HEADER HT

This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.

If "NO" then jump to:
SELECT HEADER TYPE

If "NO" then jump to:
VIEW ERROR CODES?

If "NO" then jump to:
WINDROWER SETUP?

END

1001070

PRE-DELIVERY CHECKS

STEP 13. PERFORM PRE-DELIVERY CHECKS



WARNING

Stop windrower engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

- Perform final checks and adjustments as listed on the Pre-Delivery Checklist (yellow sheet attached to back of this instruction) to ensure the machine is field-ready. Refer to referenced pages for detailed instructions as indicated on the Checklist.
- The completed Checklist should be retained either by the Operator or the Dealer.

NOTE

The majority of checks and adjustments are performed during the set-up procedures. The following additional inspections should be performed after the set-up is complete.

A. SERIAL NUMBERS



- Record windrower and engine serial numbers on the Checklist.

B. FINAL DRIVE LUBRICANT LEVEL



- Rotate drive wheel so that one of the plugs is horizontally aligned with the center of the hub.
- Remove the plug. Oil should be visible through the hole or slightly running out.

C. TIRE PRESSURE AND BALLAST

I. TIRE PRESSURES

Measure tire pressure with a gauge.

| TIRE TYPE | SIZE | PRESSURE |
|-----------|-----------|------------------|
| Bar | 18.4-26 | 32 psi (221 kPa) |
| | 600/65R28 | 26 psi (179 kPa) |
| Turf | 18.4-26 | 35 psi (241 kPa) |
| | 23.1-26 | 20 psi (138 kPa) |
| | 580/70R26 | 24 psi (165 kPa) |
| Rear | all | 10 psi (60 kPa) |

II. BALLAST REQUIREMENTS

- Fluid ballasting of rear caster tires is recommended to provide adequate machine stability when using large headers on the windrower.
- The stability of machine varies with different attachments, windrower options, terrain and Operator's driving technique.
- Ballast capability per tire is at a maximum fill of 75%, or when fluid is level with valve stem when the stem is positioned at the "12 o'clock" position.
- Fluid can be added to any level up to maximum fill, and always add an equal amount of fluid on both sides.

| TIRE SIZE | FLUID PER TIRE AT 75% FILL | TOTAL WEIGHT * OF BOTH TIRES |
|-------------|----------------------------|------------------------------|
| 7.5 X 16 | 10 US Gal (38 L) | 200 lb (91 L) |
| 10 X 16 | 18 US Gal (69L) | 380 lb (170 L) |
| 16.5 X 16.1 | 41 US Gal (158L) | 830 lb (377 L) |

* Weights are given for typical calcium chloride and water mixtures. Weight is reduced by 20% if only water is used (for areas that do not require anti-freeze protection).

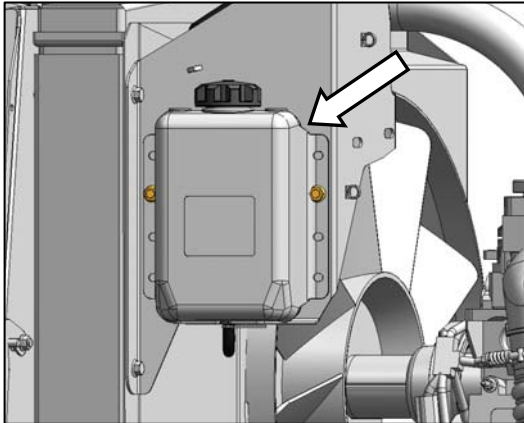
(continued next page)

PRE-DELIVERY CHECKS

| HEADER DESCRIPTION | | RECOMMENDED BALLAST | | | | RECOMMENDED TIRE SIZE |
|------------------------------|--|---------------------|------------|--------------------|------------|---|
| | | LEVEL GROUND | | HILLS | | |
| TYPE | SIZE | PER TIRE | BOTH TIRES | PER TIRE | BOTH TIRES | |
| | | U.S. Gal. (Liters) | lb (kg) * | U.S. Gal. (Liters) | lb (kg) * | |
| A Series and R Series | All | 0 | | | | 7.5 X 16 or 10 X 16 |
| D Series | 25 FT and Down | 0 | | | | 10 X 16 or 16.5 X 16.1 |
| | 30 FT Single or Split Reel without Conditioner. | 0 | 0 | 10 (38) | 200 (91) | 16.5 X 16.1 |
| | 35 FT Single Reel | | | | | |
| | 30 FT Split Reel Steel Fingers and Conditioner. 35 FT Split Reel (5 or 6-Bat) | 18 (69) | 380 (170) | 30 (115) | 630 (288) | Level Ground: 7.5 X 16 or 10 X 16 Hills: 16.5 X 16.1 |
| | 40 FT | 30 (115) | 630 (288) | 41 (158) | 830 (377) | 16.5 X 16.1 |

* If only water is used, increase volume of water by 20% (up to maximum allowable fill per tire) to compensate.

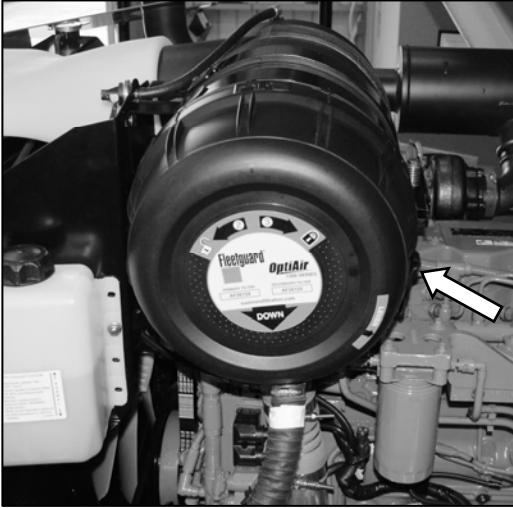
D. ENGINE COOLANT



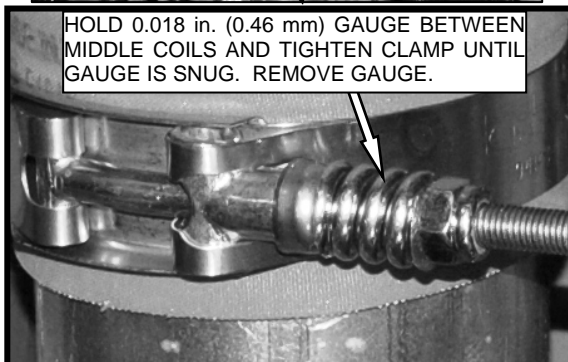
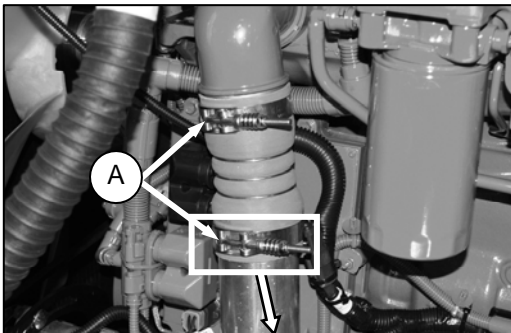
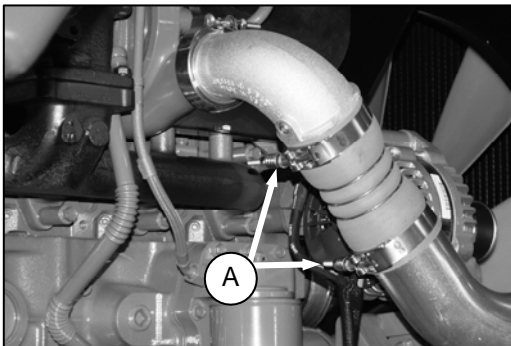
- a. Check coolant level in the coolant recovery tank. Tank should be at least one-half full.
- b. Check coolant concentration in the radiator. Coolant should be rated for temperatures of -30°F (-34°C).

PRE-DELIVERY CHECKS

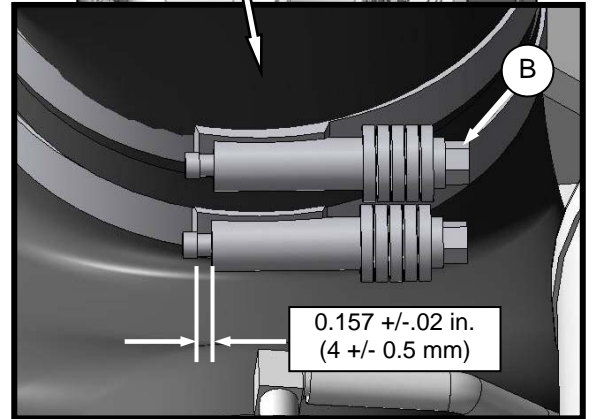
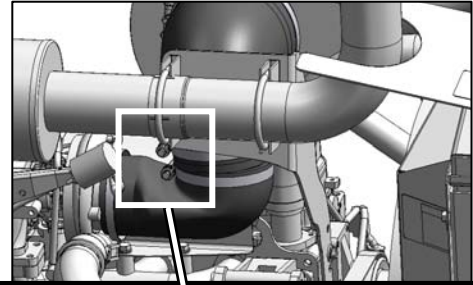
E. AIR CLEANER



- a. Check that air cleaner cap is firmly attached, and that all clamps are secure.

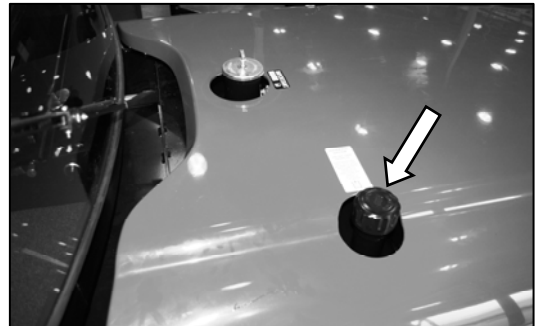


- b. Check spring clamps (A) on charge air cooling duct connections (at turbocharger outlet, engine intake, and inside cooling box).

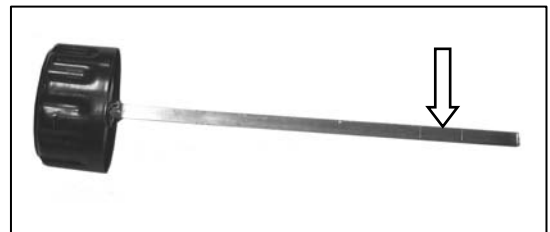


- c. Check constant torque type clamps (B). Gap should be as shown above.

F. HYDRAULIC OIL LEVEL



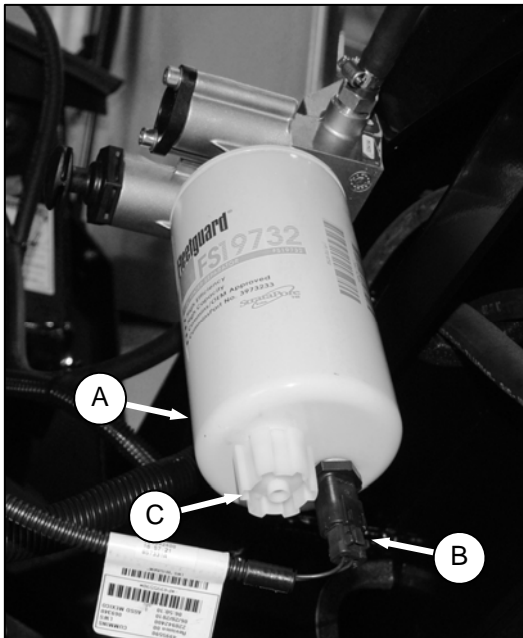
- a. Turn filler cap counterclockwise to unlock cap, and remove dipstick.



- b. Check that level is between LOW and FULL marks.
c. Reinstall dipstick, and turn clockwise to lock cap.

PRE-DELIVERY CHECKS

G. FUEL SEPARATOR

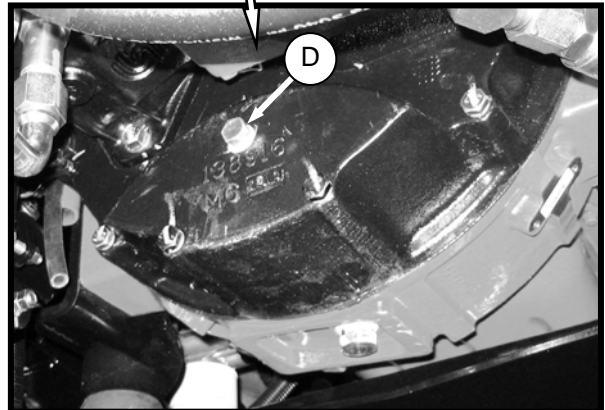


A fuel water separator is incorporated into the primary fuel filter (A). The separator is equipped with a sensor (B) (that detects water in the fuel, and alerts the Operator on the CDM), and a drain (C).

Drain the water and sediment as follows from the separator daily, or at any time the CDM Water in Fuel (WIF) light illuminates:

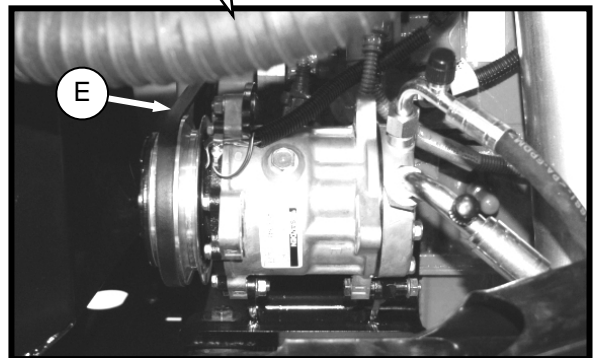
- Place a container under filter drain (C).
- Turn drain valve by hand 1-1/2 to 2 turns counterclockwise, until draining occurs.
- Drain the filter sump of water and sediment until clear fuel is visible. Clean as necessary.
- Turn valve clockwise to close the drain (C).
- Safely dispose of fluid.

H. GEAR BOX LUBRICANT LEVEL



- Remove plug (D). Lubricant should be visible through the hole, or slightly running out.
- Replace plug, and tighten.

I. A/C COMPRESSOR BELT



- Tension on A/C compressor belt (E) should be such that a force of 8 to 12 lbf (35–55 N) deflects the belt 3/16 inch (5 mm) at mid-span.

PRE-DELIVERY CHECKS

J. PERFORM SAFETY SYSTEM CHECKS

Ensure battery main disconnect switch is switched to POWER ON position. Refer to Section K. OPERATIONAL CHECKS.



CAUTION

Check to be sure all bystanders have cleared the area.

A properly functioning system should operate as follows:

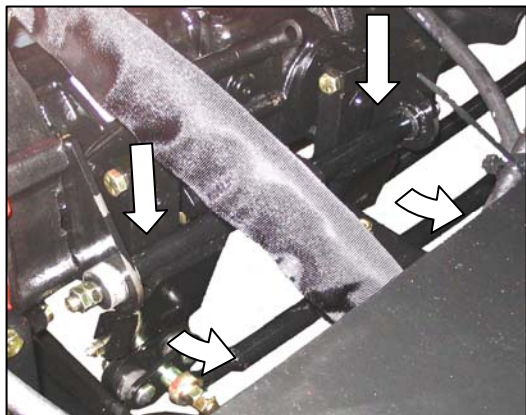
- The starter should engage **ONLY** when the GSL is in N-DETENT, the steering wheel is locked in the CENTER position, and the HEADER DRIVE switch is in the OFF position.
- Under the above conditions, the brake should engage, and the machine should **NOT** move after engine start-up.
- The steering wheel should **NOT** lock with the engine running, and the GSL is out of the N-DETENT.
- The machine should **NOT** move with the engine running, and with the steering wheel still centered, when the GSL is pulled straight out of N-DETENT (not in forward or reverse).

If the system does not function as described above, refer to the Technical Service Manual.

- a. With the engine shut down, and the HEADER DRIVE switch engaged, try to start the engine. The CDM will display "HEADER ENGAGED" on the upper line, and "DISENGAGE HEADER" on the lower line.

If the engine turns over, the system requires adjustment. Refer to the Technical Service Manual.

- b. With the engine shut down, do the following:
1. Open engine compartment hood.



2. Pry the steering interlock away from pintle arms by inserting a wedge or pry bar between one of the interlock channels and pintle arm.
3. Insert a wood block approximately 3/4 inch (19 mm) thick between the other channel and the pintle arm, so that the interlock channel is clear of the pintle arm.
4. Turn the steering wheel off-center, and move the GSL in N-DETENT.
5. Try to start the engine. The CDM will flash "CENTER STEERING", accompanied by a short beep with each flash, and the engine should **NOT** turn over.
6. If the engine turns over, the system requires adjustment. Refer to the Technical Service Manual.
7. Remove key.
8. Remove wood block inserted at step 3 above, and close hood.



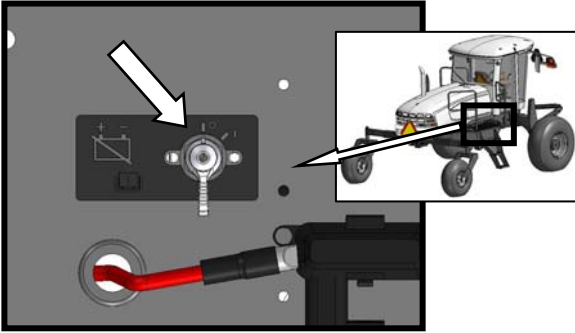
CAUTION

Check to be sure all bystanders have cleared the area.

- c. With the engine shut down, the steering wheel centered, and the GSL in NEUTRAL, but not in N-DETENT:
1. Try to start the engine. The CDM will flash "CENTER STEERING" on the upper line, and "PLACE GSL INTO N" on the lower line accompanied by a short beep with each flash, and the engine should **NOT** turn over.
- If the engine turns over, the system requires adjustment. Refer to the Technical Service Manual.
- d. With the engine shut down, the steering wheel centered, the GSL in N-DETENT, and the Operator's station **NOT** locked:
1. Try to start the engine. Engine will crank, but will not start. The CDM will display "SEAT BASE NOT LOCKED".
 2. If engine starts, the system requires adjustment. Refer to the Technical Service Manual.

PRE-DELIVERY CHECKS

K. OPERATIONAL CHECKS



A battery main disconnect switch is located on the RH (cab-forward) frame rail, behind the maintenance platform, and can be accessed by moving the platform. Ensure switch is switched to POWER ON position.

I. ENGINE WARNING LIGHTS

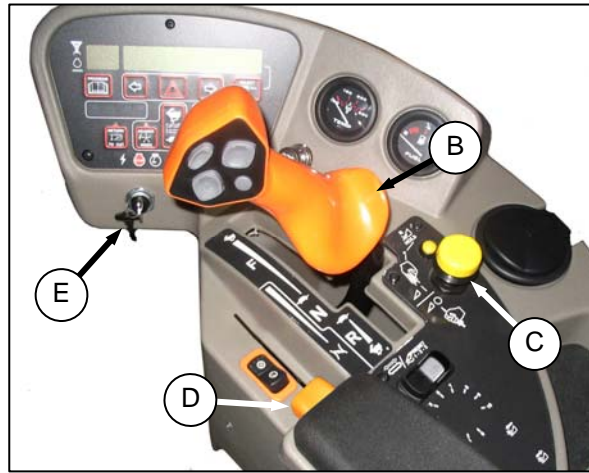
- Turn ignition key to RUN position.
- Single loud tone sounds, and engine warning lights illuminate briefly.

II. START ENGINE

- Check fuel level, and if required, add sufficient fuel for a 15 minute run.



- Operator's station lock (A) must be engaged at cab-forward or engine-forward position.
- Move GSL (B) into N-DETENT.
- Turn steering wheel until it locks.



- Push HEADER DRIVE switch (C) to OFF.
- Normal Start:** engine temperature above 60°F (16°C):
 - Set throttle (D) to START position (fully back).
 - Sound horn three times.
 - Turn ignition key (E) to RUN position.
 - Single loud tone sounds, engine warning lights illuminate briefly as a self-test, and CDM displays "HEADER DISENGAGED" and "IN PARK".



CAUTION

Check to be sure all bystanders have cleared the area.

Turn ignition key to START position until engine starts, and then release key. CDM displays programmed header data for 5 seconds if attached, and then returns to previous display.

IMPORTANT

Do not operate starter for longer than 15 seconds at a time.

If engine does not start, wait at least two minutes before trying again.

After the third 15 second crank attempt, allow starter to cool for 10 minutes before further cranking attempts.

If engine still does not start, refer to the table on the following page:

(continued next page)

PRE-DELIVERY CHECKS

| PROBLEM | SOLUTION |
|---------------------------------------|---|
| Controls not in NEUTRAL. | Move GSL to NEUTRAL. Move steering wheel to the locked position. Disengage header clutch. |
| Operator's station not locked. | Adjust Operator's station position. Ensure lock is engaged. |
| Neutral interlock misadjusted. | Contact MacDon Dealer. |
| No fuel to engine. | Fill empty fuel tank. Replace clogged filter. |
| Old fuel in tank. | Drain tank, refill with fresh fuel. |
| Water, dirt or air in fuel system. | Drain, flush, fill and prime system. |
| Improper type of fuel. | Use proper fuel for operating conditions. |
| Crankcase oil too heavy. | Use recommended oil. |
| Low battery output. | Have battery tested. Check battery electrolyte level. |
| Battery disconnect switch is OFF. | Turn battery switch ON. |
| Poor battery connection. | Clean and tighten loose connections. |
| Faulty starter. | Contact MacDon Dealer. |
| Wiring shorted, circuit breaker open. | Check continuity of wiring and breaker (manual reset). |
| Faulty injectors. | Contact MacDon Dealer. |

g. **Cold Start:** engine temperature below 40°F (5°C):



CAUTION

Check to be sure all bystanders have cleared the area.

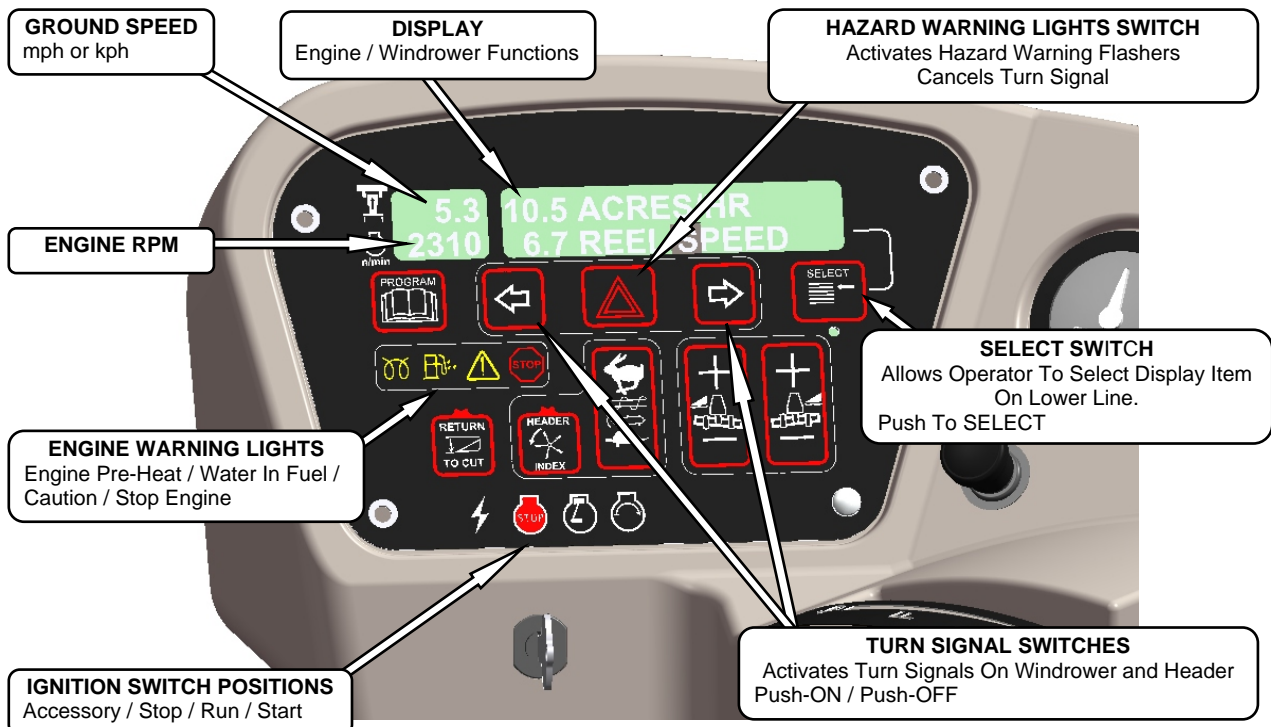
1. Follow procedure for **Normal Start** (on previous page).
2. Engine will cycle through a period where it appears to labor until engine warms up.

NOTE

Throttle is non-responsive during this time as engine is in "WARM UP" mode. This mode will last from 30 seconds to 3 minutes depending on temperature. After engine has stabilized and idling normally, throttle becomes active.

IMPORTANT

Do not operate engine above 1500 rpm until engine temperature gauge is above 100°F (37°C).

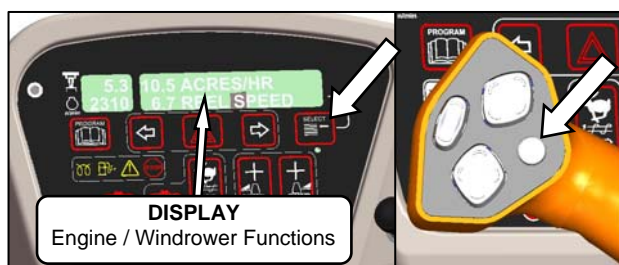


PRE-DELIVERY CHECKS

III. GAUGES AND CDM DISPLAY



- Check that engine temperature gauge and fuel gauge are working.
- Turn exterior lights ON, and check gauge lights are ON.



- Check CDM display is working by pushing SELECT on CDM, or SELECT button on GSL.

IV. ELECTRICAL

- Push the SELECT button on GSL, or SELECT switch on CDM to display VOLTS. The display indicates the condition of the battery and alternator. Refer to table below.

| IGNITION | ENGINE | READING | INDICATED CONDITION |
|----------|-----------|---------------------|--|
| ON | Running | 13.8–15.0 | Normal. |
| | | > 16.0 See Note. | Regulator Out of Adjustment. |
| | | < 12.5 See Note. | Alternator Not Working, OR Regulator Out of Adjustment. |
| | Shut Down | 12.0 | Battery Normal. |

NOTE

Display flashes voltage reading with single loud tone. Repeats every 30 minutes until condition is fixed.

V. ENGINE SPEED

| WINDROWER | IDLE RPM | MAX RPM (No Load) |
|-----------|-----------|-------------------|
| M155 | 1075–1150 | 2320–2350 |
| M205 | | 2250–2340 |

- Check engine idle and maximum rpm on CDM.

VI. OPERATOR'S PRESENCE SYSTEM CHECKS

- With the windrower engine running, place the GSL in NEUTRAL, and turn steering wheel until it locks.



CAUTION

Check to be sure all bystanders have cleared the area.

- With everyone clear of the machine, engage HEADER DRIVE switch.
 - After header drives are running, stand up out of the seat. In approximately 5 seconds, the header should shut off.
 - If not, the Operator Presence System requires adjustment. See Technical Service Manual.

NOTE

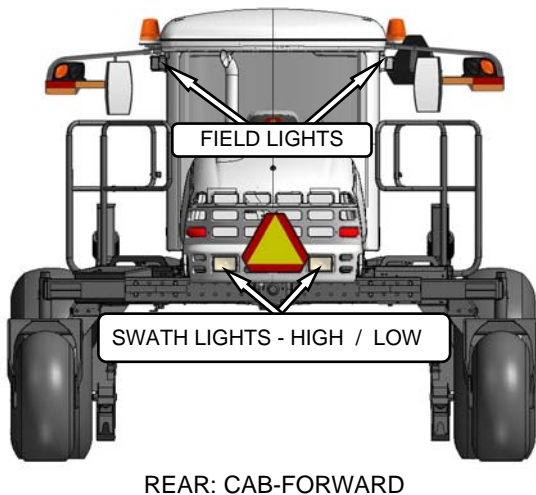
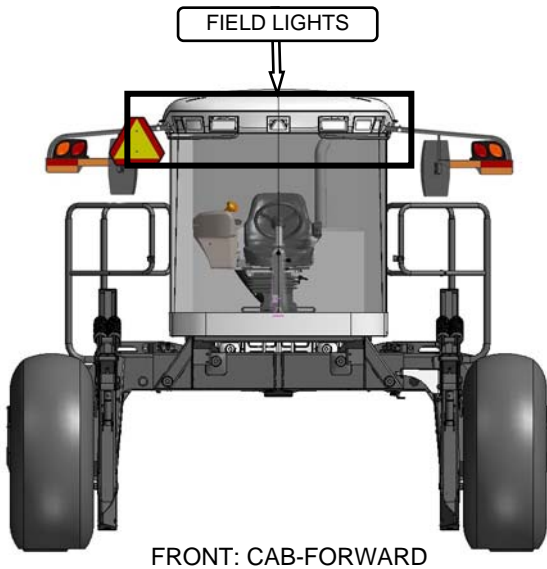
To re-start the header, move the header engage switch to OFF position, and back to the ON position again.

- With the engine running, position the GSL in NEUTRAL and in N-DETENT;
 - Swivel the Operator's station, but do **NOT** lock into position.
 - Move GSL out of N-DETENT. The engine should shut down, and the lower display will flash "LOCK SEAT BASE ---> CENTER STEERING WHEEL ---> NOT IN NEUTRAL".
 - Swivel and lock the Operator's station, and the display should return to normal.
 - If the engine does not shut down, the seat position switches require adjustment. Refer to Technical Service Manual.
- With windrower moving **AT LESS** than 5 mph (8 km/h):
 - Stand up out of the seat.
 - The CDM will flash "NO OPERATOR" on the upper line, and "ENGINE SHUTDOWN 5...4...3...2...1...0" on the lower line accompanied by a steady tone. At "0", the engine shuts down.
 - If the engine does not shut down, the Operator Presence System requires adjustment. See Technical Service Manual.
- With windrower moving **AT MORE** than 5 mph (8 km/h):
 - Stand up out of the seat.
 - The CDM beeps once, and displays "NO OPERATOR" on the lower line. If not, the Operator Presence System requires adjustment. See Technical Service Manual.

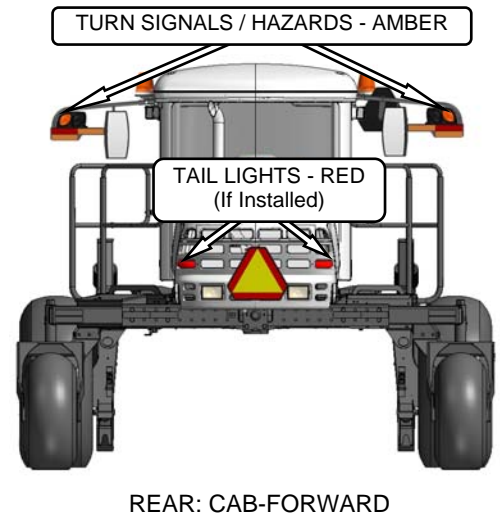
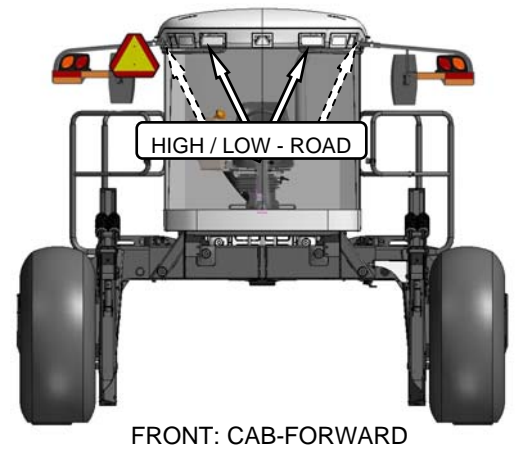
PRE-DELIVERY CHECKS

VII. EXTERIOR LIGHTS

- Ensure Operator's seat is locked in cab-forward mode.
- Switch FIELD lights ON, and check that all lights are functioning as shown below.



- Switch ROAD lights ON, and check that all lights are functioning as shown below.

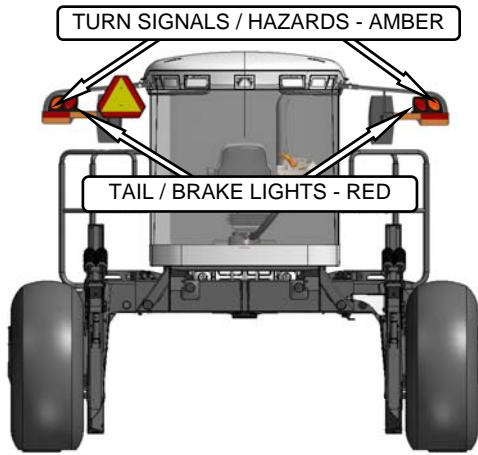


- Activate HIGH / LOW switch, and check lights.
- Activate turn signals and hazard warning lights with switches on CDM, and check lights.
- Turn lights OFF.

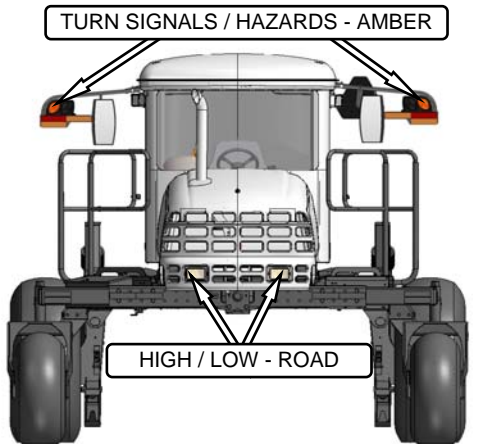
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PRE-DELIVERY CHECKS

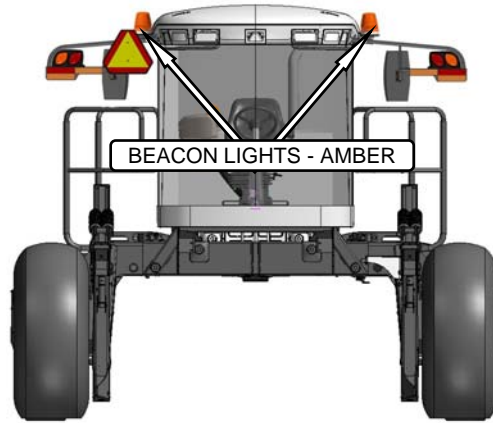
- g. Rotate Operator's seat to engine-forward mode.
- h. Switch ROAD lights ON, and check that all lights are functioning as shown below.



REAR: ENGINE-FORWARD



FRONT: ENGINE-FORWARD



VIII. BEACON (If Installed)

- a. Turn ignition ON, and activate beacon switch.
- b. Check beacons are working.



IX. HORN

- a. Push HORN button, and listen for horn.

- i. Activate HIGH/LOW switch, and check lights.
- j. Activate turn signals and hazard warning lights with switches on CDM, and check lights.

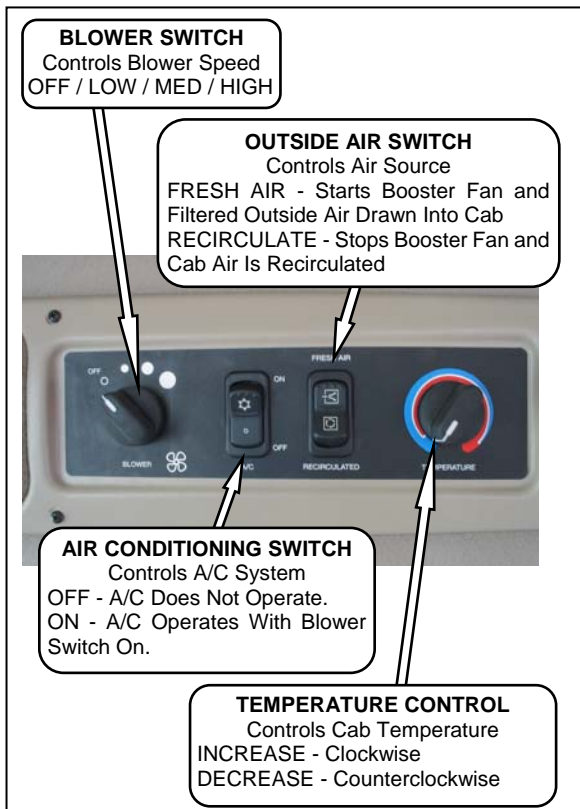
PRE-DELIVERY CHECKS

X. INTERIOR LIGHTS



- a. Switch lights ON and OFF with switches on each light. Interior lights only work with ROAD or FIELD light switch ON.

XI. A/C AND HEATER



IMPORTANT

To distribute oil throughout the system, perform the following steps:

- a. With the engine running, turn blower switch to the first position, turn temperature control switch to MAXIMUM heating, and A/C control to OFF.
- b. Click A/C switch from OFF to ON for one second, then back to OFF for 5 to 10 seconds. Repeat this step ten times.

L. MANUALS



The following items should be stored in the manual storage case behind the Operator's seat:



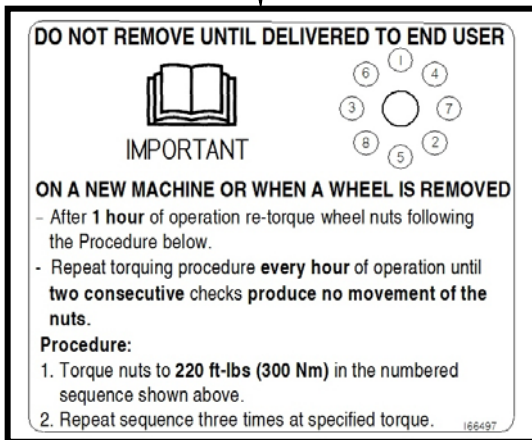
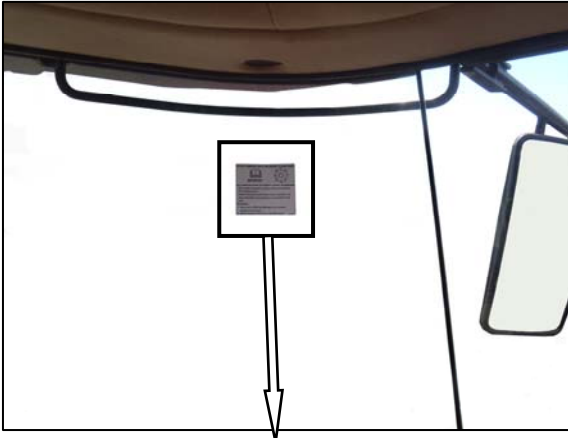
- Parts Catalog: See below.
- Operator's Manual: See below.
- Windrower Quick Card:
 - M155 - MD #169565
 - M205 - MD #169475
- Warranty Documents.
- Engine Manual - MD #166240.

| WINDROWER | OPERATOR'S MANUAL MD # | | PARTS CATALOG MD # | |
|-----------|------------------------|--------|--------------------|--------|
| | M155 | M205 | M155 | M205 |
| MacDon | 169563 | 169469 | 169564 | 169472 |
| Premier | 169566 | 169471 | 169567 | 169474 |
| Westward | 169568 | 169470 | 169569 | 169473 |

PRE-DELIVERY CHECKS

M. CAB INTERIOR

- a. Remove plastic coverings from Cab Display Module and seats, after pre-delivery check is complete.



- b. Remove decal (MD #166497) from windshield **ONLY** after machine is delivered to end user.

NOTES

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DEALERS

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Printed in Canada

M155 and M205 Self-Propelled Windrower Pre-Delivery Checklist

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



CAUTION: Carefully follow the instructions given. Be alert for safety related messages which bring your attention to hazards and unsafe practices.

Windrower Serial Number: _____ Engine Serial Number: _____

| ✓ | ITEM | PAGE |
|--|--|-----------|
| | Check for shipping damage or missing parts. Be sure all shipping dunnage is removed. | --- |
| | Check for loose hardware. Tighten to required torque. | 7 |
| | Check tire air pressures, and adjust as required. | 55 |
| | Check final drive hub lubricant level. | 55 |
| | Check engine coolant level and strength at reserve tank. | 56 |
| | Check air cleaner and clamps. | 57 |
| | Check hydraulic oil level, and check for leaks along lines. | 57 |
| | Check fuel separator for water and foreign material. Drain and clean as necessary. Add fuel. | 58 |
| | Check gear box lubricant level. | 58 |
| | Check tension of A/C compressor belt. | 58 |
| | Check machine completely lubricated. | 43-44 |
| | Check Neutral interlock system. | 59 |
| | Check horn operation. | 64 |
| | Check engine oil pressure indicator light at Cab Display Module (CDM). | 62 |
| START ENGINE AND RUN TO OPERATING TEMPERATURE | | 60 |
| | Check Cab Display Module (CDM) for operation. | 62 |
| | Check Operator's Presence System. | 62 |
| | Check alternator charge rate at instrument console. | 62 |
| | Check fuel gauge for operation. | 62 |
| | Check air conditioning functioning properly. | 65 |
| | Check heater functioning properly. | 65 |
| | Check instrument console gauge lights and interior lights for operation. | 62 & 65 |
| | Check maximum (no load) engine speed at Cab Display Module (CDM). | 62 |
| | Check exterior lights for operation. | 63 |
| | Check hazard and signal lights for operation. | 63 |
| | Check beacons for operation (if installed). | 64 |
| | Complete the Header Pre-Delivery Checklist. | --- |
| | Check that manuals are with the Windrower. | 65 |
| | Check that plastic coverings from cab interior have been removed. | 66 |

Date Checked: _____

Checked by: _____