

MacDon™

M100 Self-Propelled Windrower

**UNLOADING & ASSEMBLY
INSTRUCTIONS**

for

NORTH AMERICAN SHIPMENTS



MACDON M100 SELF PROPELLED WINDROWER

INTRODUCTION

This instruction describes the unloading, set-up and pre-delivery requirements for the MacDon M100 Self-Propelled Windrower. 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.

TABLE OF CONTENTS

| | |
|---|----|
| INTRODUCTION..... | 1 |
| GENERAL SAFETY | 3 |
| RECOMMENDED TORQUES | 5 |
| A. GENERAL..... | 5 |
| B. SAE BOLTS | 5 |
| C. METRIC BOLTS | 5 |
| D. HYDRAULIC FITTINGS..... | 6 |
| CONVERSION CHART..... | 7 |
| ACCRONYMS AND ABBREVIATIONS | 8 |
| STEP 1. UNLOAD WINDROWER..... | 9 |
| A. TWO FORKLIFT METHOD | 9 |
| B. SINGLE FORKLIFT METHOD | 10 |
| METHOD 1..... | 10 |
| METHOD 2..... | 10 |
| STEP 2. REPOSITION RH LEG (BOLTED FRAME) | 12 |
| STEP 3. INSTALL FRONT WHEELS | 13 |
| STEP 4. INSTALL CASTER WHEELS (FIXED FRAME) | 14 |
| METHOD 1..... | 14 |
| METHOD 2..... | 15 |
| STEP 5. REPOSITION CASTER WHEELS (BOLTED FRAME)..... | 16 |
| STEP 6. INSTALL STEPS | 17 |
| STEP 7. INSTALL CENTER LINK..... | 17 |
| STEP 8. INSTALL BATTERY | 18 |
| STEP 9. INSTALL AM/FM RADIO..... | 19 |
| STEP 10. ATTACH HEADER | 20 |
| A. HEADER ATTACHMENT - D SERIES | 20 |
| B. HEADER ATTACHMENT – A SERIES | 24 |
| STEP 11. LUBRICATE MACHINE..... | 27 |
| STEP 12. PROGRAM CDM..... | 28 |
| STEP 12. PROGRAM CDM..... | 29 |
| STEP 13. SET KNIFE SPEED..... | 34 |
| STEP 14. PERFORM PRE-DELIVERY CHECKS..... | 36 |
| A. SERIAL NUMBERS | 36 |
| B. FINAL DRIVE LUBRICANT LEVEL..... | 36 |
| C. TIRE PRESSURES | 36 |
| D. ENGINE COOLANT..... | 36 |
| E. AIR CLEANER..... | 36 |
| F. HYDRAULIC OIL LEVEL..... | 37 |
| G. FUEL SEPARATOR | 37 |
| H. A/C COMPRESSOR BELT..... | 37 |
| I. FAN BELT..... | 37 |
| J. PERFORM SAFETY SYSTEM CHECKS..... | 38 |
| K. OPERATIONAL CHECKS | 39 |
| I. ENGINE WARNING LIGHTS | 39 |
| II. CHECK FUEL LEVEL | 39 |
| III. START ENGINE..... | 39 |
| IV. CDM DISPLAY | 40 |
| V. ENGINE SPEED | 40 |
| VI. ALTERNATOR CHARGE RATE | 40 |

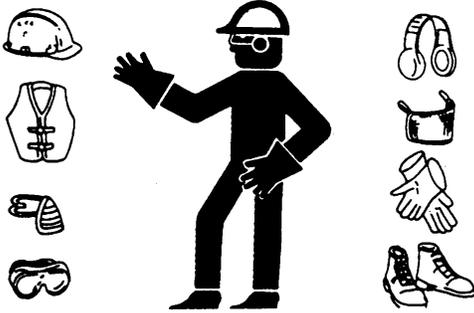
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| VII. | OPERATOR'S PRESENCE SYSTEM CHECKS | 41 |
| VIII. | EXTERIOR LIGHTS | 41 |
| IX. | INTERIOR LIGHTS | 42 |
| X. | A/C AND HEATER | 43 |
| L. | MANUALS..... | 43 |
| M. | CAB INTERIOR | 43 |

GENERAL SAFETY



CAUTION

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



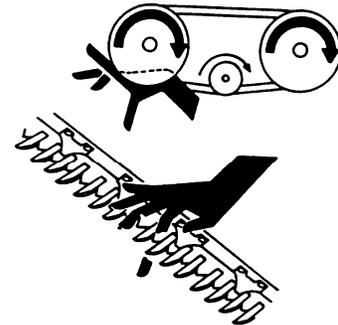
- Protect yourself.
- When assembling, operating and servicing machinery, wear all the protective clothing and personal safety devices that **COULD** be necessary for the job at hand. Don't take chances.
- You may need:
 - a hard hat.
 - protective shoes with slip resistant soles.
 - protective glasses 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)

- 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.



RECOMMENDED TORQUES

A. GENERAL

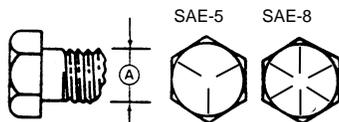
The tables shown below give correct torque values for various bolts and capscrews.

- 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. When using locking elements, increase torque values by 5%.

B. SAE BOLTS

| BOLT DIA. "A" in. | NC BOLT TORQUE* | | | |
|-------------------|-----------------|-----|--------|------|
| | SAE 5 | | SAE 8 | |
| | lbf-ft | N-m | lbf-ft | N-m |
| 1/4 | 9 | 12 | 11 | 15 |
| 5/16 | 18 | 24 | 25 | 34 |
| 3/8 | 32 | 43 | 41 | 56 |
| 7/16 | 50 | 68 | 70 | 95 |
| 1/2 | 75 | 102 | 105 | 142 |
| 9/16 | 110 | 149 | 149 | 202 |
| 5/8 | 150 | 203 | 200 | 271 |
| 3/4 | 265 | 359 | 365 | 495 |
| 7/8 | 420 | 569 | 600 | 813 |
| 1 | 640 | 867 | 890 | 1205 |

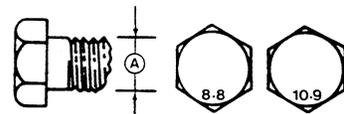
* Torque categories for bolts and capscrews are identified by their head markings.



C. METRIC BOLTS

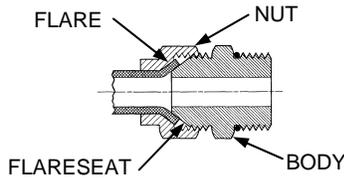
| BOLT DIA. "A" | NC BOLT TORQUE* | | | |
|---------------|-----------------|------|--------|------|
| | 8.8 | | 10.9 | |
| | lbf-ft | N-m | lbf-ft | N-m |
| M3 | 0.4 | 0.5 | 1.3 | 1.8 |
| M4 | 2.2 | 3 | 3.3 | 4.5 |
| M5 | 4 | 6 | 7 | 9 |
| M6 | 7 | 10 | 11 | 15 |
| M8 | 18 | 25 | 26 | 35 |
| M10 | 37 | 50 | 52 | 70 |
| M12 | 66 | 90 | 92 | 125 |
| M14 | 103 | 140 | 148 | 200 |
| M16 | 166 | 225 | 229 | 310 |
| M20 | 321 | 435 | 450 | 610 |
| M24 | 553 | 750 | 774 | 1050 |
| M30 | 1103 | 1495 | 1550 | 2100 |
| M36 | 1917 | 2600 | 2710 | 3675 |

* Torque categories for bolts and capscrews are identified by their head markings.



D. HYDRAULIC FITTINGS

FLARE TYPE

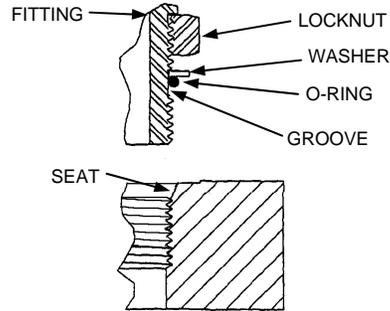


- Check flare and flare seat for defects that might cause leakage.
- Align tube with fitting before tightening.
- Lubricate connection and hand tighten swivel nut until snug.
- To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.

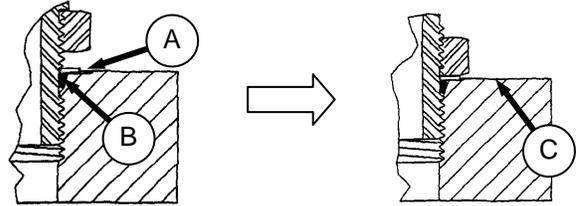
| SAE NO. | TUBE SIZE O.D. (in.) | THD SIZE (in.) | NUT SIZE ACROSS FLATS (in.) | TORQUE VALUE* | | RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING) | |
|---------|----------------------|----------------|-----------------------------|---------------|-----|--|-------|
| | | | | ft-lbf | N-m | Flats | Turns |
| 3 | 3/16 | 3/8 | 7/16 | 6 | 8 | 1 | 1/6 |
| 4 | 1/4 | 7/16 | 9/16 | 9 | 12 | 1 | 1/6 |
| 5 | 5/16 | 1/2 | 5/8 | 12 | 16 | 1 | 1/6 |
| 6 | 3/8 | 9/16 | 11/16 | 18 | 24 | 1 | 1/6 |
| 8 | 1/2 | 3/4 | 7/8 | 34 | 46 | 1 | 1/6 |
| 10 | 5/8 | 7/8 | 1 | 46 | 62 | 1 | 1/6 |
| 12 | 3/4 | 1-1/16 | 1-1/4 | 75 | 102 | 3/4 | 1/8 |
| 14 | 7/8 | 1-3/16 | 1-3/8 | 90 | 122 | 3/4 | 1/8 |
| 16 | 1 | 1-5/16 | 1-1/2 | 105 | 142 | 3/4 | 1/8 |

* The torque values shown are based on lubricated connections as in reassembly.

O-RING TYPE



- Inspect O-ring and seat for dirt or obvious defects.



- On angle fittings, back off the lock nut until washer (A) bottoms out at top of groove (B) in fitting.
- Hand tighten fitting until back up washer (A) or washer face (if straight fitting) bottoms on part face (C) and O-ring is seated.
- Position angle fittings by unscrewing no more than one turn.
- Tighten straight fittings to torque shown.
- Tighten angle fittings to torque shown in the following table while holding body of fitting with a wrench.

| SAE NO. | THD SIZE (in.) | NUT SIZE ACROSS FLATS (in.) | TORQUE VALUE* | | RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING) | |
|---------|----------------|-----------------------------|---------------|-----|--|-------|
| | | | ft-lbf | N-m | Flats | Turns |
| 3 | 3/8 | 1/2 | 6 | 8 | 2 | 1/3 |
| 4 | 7/16 | 9/16 | 9 | 12 | 2 | 1/3 |
| 5 | 1/2 | 5/8 | 12 | 16 | 2 | 1/3 |
| 6 | 9/16 | 11/16 | 18 | 24 | 2 | 1/3 |
| 8 | 3/4 | 7/8 | 34 | 46 | 2 | 1/3 |
| 10 | 7/8 | 1 | 46 | 62 | 1-1/2 | 1/4 |
| 12 | 1-1/16 | 1-1/4 | 75 | 102 | 1 | 1/6 |
| 14 | 1-3/16 | 1-3/8 | 90 | 122 | 1 | 1/6 |
| 16 | 1-5/16 | 1-1/2 | 105 | 142 | 3/4 | 1/8 |
| 20 | 1-5/8 | 1-7/8 | 140 | 190 | 3/4 | 1/8 |
| 24 | 1-7/8 | 2-1/8 | 160 | 217 | 1/2 | 1/12 |

* The torque values shown are based on lubricated connections as in reassembly.

CONVERSION CHART

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

ACCRONYMS AND ABBREVIATIONS

| TERM | DEFINITION |
|------------------|---|
| API | American Petroleum Institute |
| ASTM | American Society Of Testing And Materials |
| cc | cubic centimeters |
| C | Celsius |
| CDM | Cab Display Module |
| F | Fahrenheit |
| ft/min | feet per minute |
| ft/s | feet per second |
| gpm | U.S. gallons per minute |
| GSL | Ground Speed Lever |
| hp | horsepower |
| in. | inches |
| in ³ | cubic inches |
| kg | kilograms |
| kPa | kilopascals |
| lbf. | pounds force |
| lbf.ft or ft-lbf | pound feet or foot pounds |
| lbf.in or in-lbf | pound inches or inch pounds |
| L/min | liters per minute |
| mm | millimeters |
| mph | miles per hour |
| N | Newtons |
| N·m | newton meters |
| N-DETENT | The slot opposite the neutral position on operator's console. |
| oz. | ounces |
| psi | pounds per square inch |
| rpm | Revolutions Per Minute |
| SAE | Society Of Automotive Engineers |
| SCA | Supplemental Coolant Additives |
| WCM | Windrower Control Module |

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 | |
|-------------------------|-------------------|
| Min. Lifting Capacity * | 5500 lb (2500 kg) |
| Min. 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 in. (610 mm) ahead of back end of the forks. To obtain the forklift capacity at 48 in. (1220 mm), check with your forklift distributor.

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



BOLTED FRAME SHOWN
FIXED FRAME SIMILAR

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

NOTE

Windrower center of gravity is approximately 55 in. (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. Place wooden blocks under front shipping stands if ground is soft.
- Back off forklifts.
- Check windrower for shipping damage and check shipment for missing parts.

UNLOADING AND ASSEMBLY

B. SINGLE FORKLIFT METHOD

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 | |
|-------------------------|-------------------|
| Min. Lifting Capacity * | 5500 lb (2500 kg) |

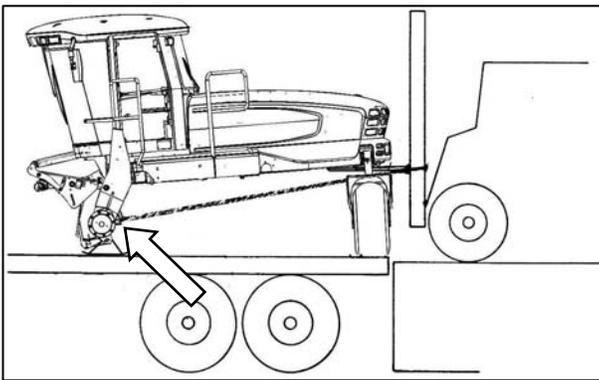
* At 48 in. (1220 mm) from back end of forks.

IMPORTANT

Forklifts are normally rated for a load located 24 in. (610 mm) ahead of back end of the forks. To obtain the forklift capacity at 48 in. (1220 mm), check with your forklift distributor.

| CHAIN | |
|-------------------|-------------------------------------|
| Type | Overhead Lifting Quality (1/2 inch) |
| Min. 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.

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 | |
|-------------------------|--------------------|
| Min. Lifting Capacity * | 11000 lb (4994 kg) |
| Min. 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 in. (610 mm) ahead of back end of the forks. To obtain the forklift capacity at 48 in. (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



BOLTED FRAME SHOWN
FIXED FRAME SIMILAR

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

NOTE

Windrower center of gravity is approximately 55 in. (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. Place wooden blocks under front shipping stands if ground is soft.
- g. Back off forklift.
- h. Check windrower for shipping damage and check shipment for missing parts.

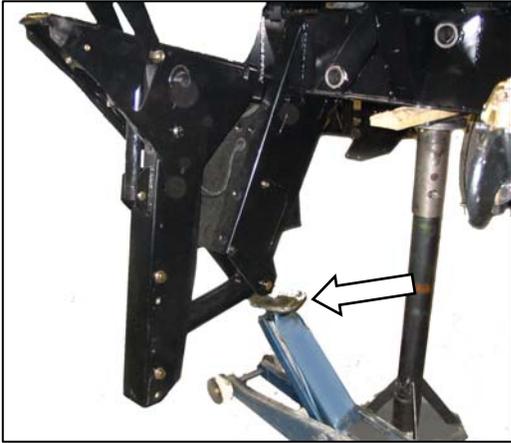
UNLOADING AND ASSEMBLY

STEP 2. REPOSITION RH LEG (BOLTED FRAME)

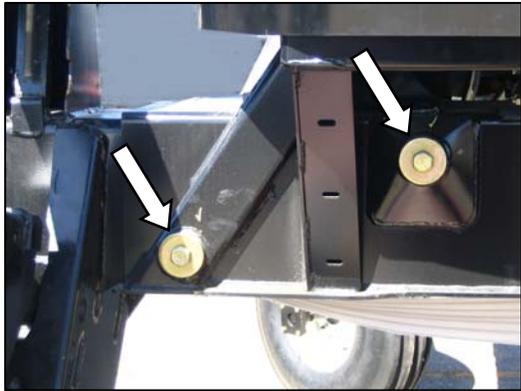
For Fixed Frame windrower, proceed to STEP 3
INSTALL FRONT WHEELS.

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

- a. Support the front of the windrower leg off the
ground with stand (or equivalent).



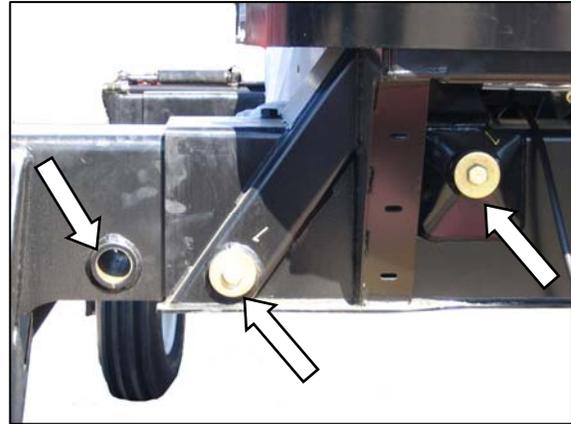
- b. Position jack under RH leg and raise jack slightly
to take some weight off leg.



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



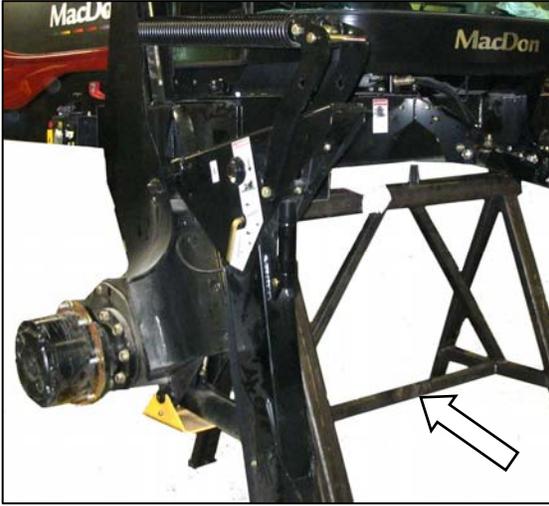
- d. Tap out the two pins with a hammer.



- e. Move leg out to expose one hole.
- f. Re-install pins and secure with bolts, washers,
and nuts (not shown). Torque nuts to 100 ft-lbf
(136 N·m).
- g. Lower the jack and remove it from RH leg.

UNLOADING AND ASSEMBLY

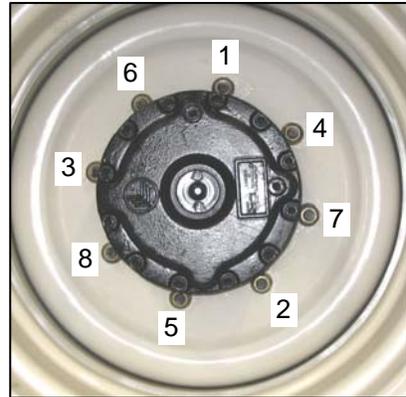
STEP 3. INSTALL FRONT WHEELS



- a. Support the front of the windrower off the ground with stand(s).



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

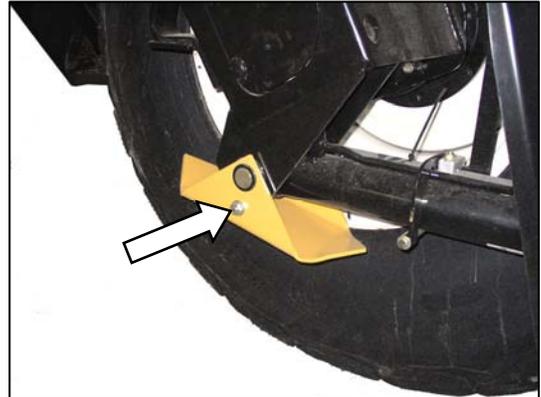


- e. Install wheel nuts and tighten to 175-200 ft-lbf (237-271 N-m) using the tightening sequence as shown.

NOTE

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

- f. Repeat sequence three times.
- g. Repeat above steps b. to f. for opposite wheel.
- h. Remove stand(s) and lower windrower to ground.



BOLTED FRAME SHIPPING SKID
BOTH SIDES

- i. Remove bolt and shipping skid on LH and RH leg. Discard.
- j. For Bolted Frame windrowers, proceed to STEP 5. REPOSITION CASTER WHEELS
- k. For Fixed Beam windrower, proceed to STEP 4 INSTALL CASTER WHEELS.

UNLOADING AND ASSEMBLY

STEP 4. INSTALL CASTER WHEELS (FIXED FRAME)

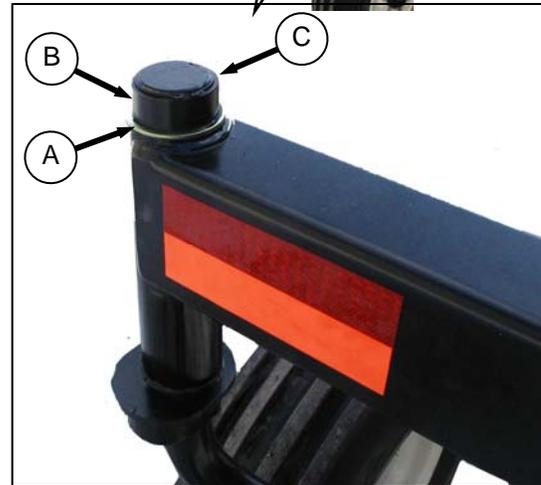
METHOD 1



- a. Support rear of windrower with a forklift or equivalent. Distance between walking beam and ground should be 55-58 in. (1400-1473 mm).



- b. Position caster spindle into walking beam.
c. Slowly lower rear of windrower while manoeuvring caster so that spindle slides freely into walking beam.



- d. Secure caster in walking beam with washer (A), bushing (B), and clip (C).
e. Raise rear of windrower again and repeat above steps for other caster.



- f. Remove rear shipping stand.
g. Proceed to STEP 6. INSTALL STEPS.

UNLOADING AND ASSEMBLY

METHOD 2



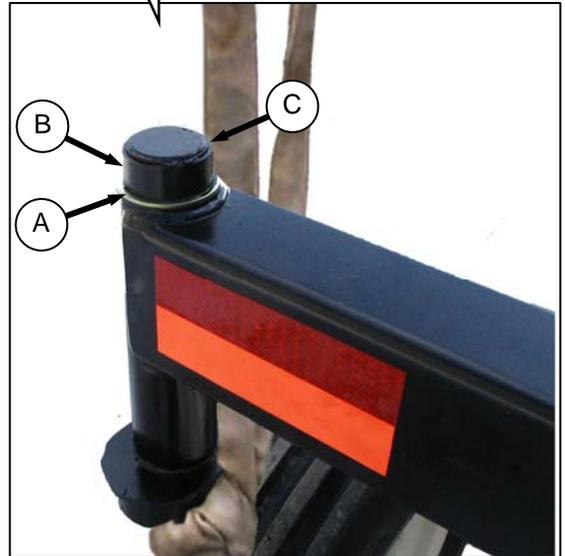
- a. Support rear of windrower with jack stands under the rear frame or with a support under the shipping stand. Distance between walking beam and ground should be 55-58 in. (1400-1473 mm).

IMPORTANT

The support(s) must be capable of supporting 5000 lb (2270 kg).



- b. Attach a sling around caster and the other end to a lifting device.
- c. Hoist caster into position and locate caster spindle into walking beam.
- d. Slowly raise caster while manoeuvring caster so that spindle slides freely into walking beam.



- e. Secure caster in walking beam with washer (A), bushing (B), and clip (C).
- f. Lower lifting device and remove sling.
- g. Repeat above steps for other caster.
- h. Raise rear of windrower so that stand can be removed, and lower windrower to the ground.



- i. Remove rear shipping stand.
- j. Proceed to STEP 6. INSTALL STEPS.

UNLOADING AND ASSEMBLY

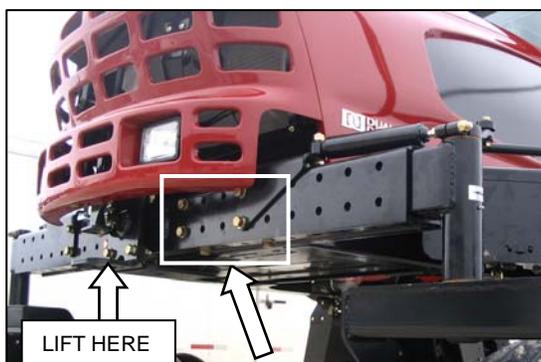
STEP 5. REPOSITION CASTER WHEELS (BOLTED FRAME)

As an option, the rear casters can be adjusted to a narrow tread width to allow loading and shipping without having to remove them. A narrow tread width also suits smaller headers by allowing more space to the uncut crop and provides more maneuverability around poles, irrigation inlets, or other obstacles. A wider tread width is useful in heavy crops that produce large windrows so that run-over is reduced.

- 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).



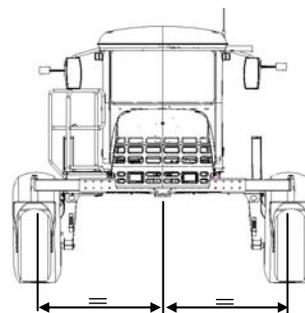
- b. Remove six bolts (four on backside, two on underside) and washers from left and right side of walking beam.



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

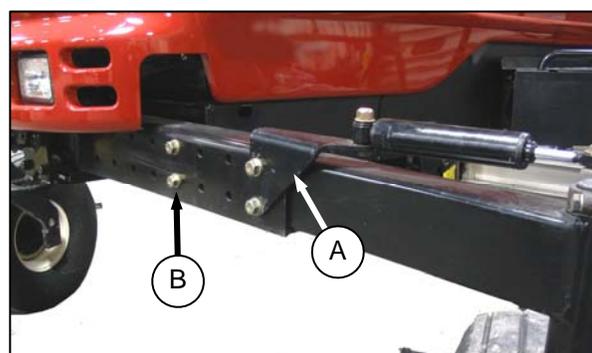
NOTE

Illustration shows widest tread width.



IMPORTANT

Caster wheels must be equidistant from center of windrower.



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

IMPORTANT

Retorque bolts after first 5 and 10 hours of operation.

UNLOADING AND ASSEMBLY

STEP 6. INSTALL STEPS



- a. Install two ½ in. x 1.0 hex bolts in upper holes in platform. Do not thread in fully.
- b. Hang step assembly on bolts.



- c. Install two ½ in. x 1.0 hex bolts in lower holes in step and tighten.
- d. Tighten upper bolts installed in step a.

STEP 7. INSTALL CENTER LINK MECHANICAL LINK

- a. Remove clevis pin from center link.



- b. Position link between mounting brackets on front frame and attach at lower hole location.
- c. Install clevis pin and secure with hair pin.

HYDRAULIC LINK – OPTION



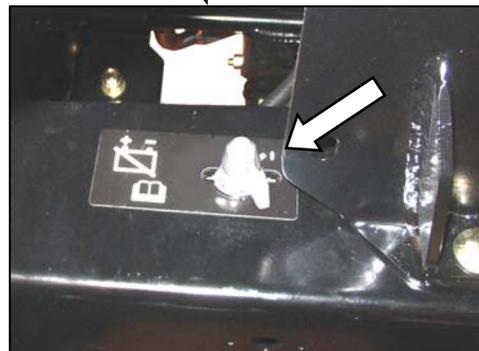
The hydraulic center link is supplied in a separate kit that is included with the shipment. Refer to installation instructions in the kit.

UNLOADING AND ASSEMBLY

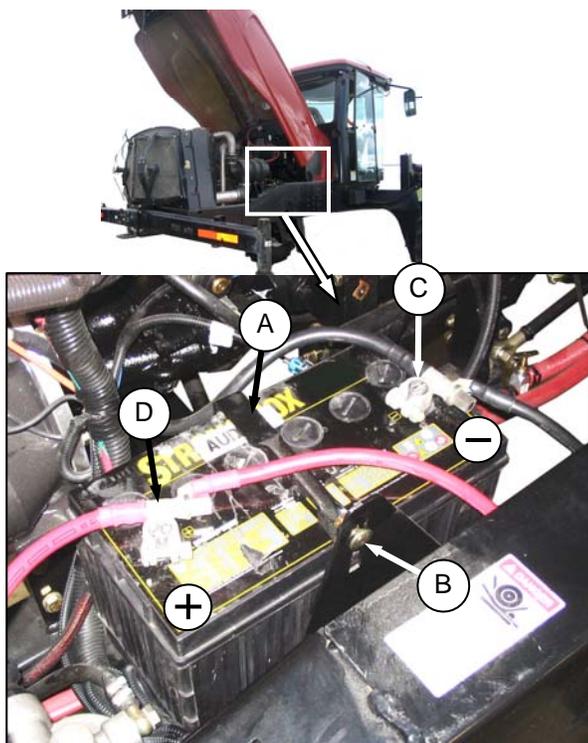
STEP 8. INSTALL BATTERY

| RATING | GROUP | CCA | VOLT | MAX. DIMENSION |
|--|---------|-----|------|---------------------------------------|
| Heavy Duty, Off-Road, Vibration Resistant | BCI 31A | 950 | 12 | 13x6.81 x9.43 in. (330x173x240 mm) |

- Open engine compartment hood to highest position.
- Remove cable ties securing battery clamps and cables to frame.
- Position new battery on holder.



- Switch battery disconnect switch to ON.
- Close engine hood.



- Install strap (A) with bolt (B) provided and tighten securely.

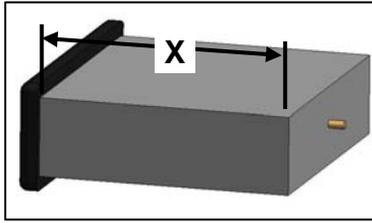
IMPORTANT

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

- Attach negative (black) cable clamp (C) to negative post on battery and tighten clamp.
- Attach positive (red) cable clamp (D) to positive post on battery and tighten. Position plastic covers onto clamps.

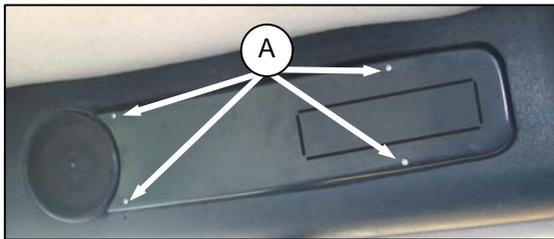
UNLOADING AND ASSEMBLY

STEP 9. INSTALL AM/FM RADIO

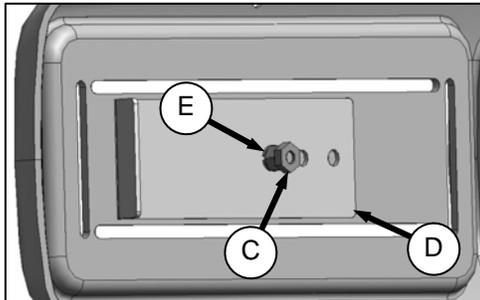


Provision has been made for installation of AM/FM radio. The mounting is designed to fit a DIN E style radio with a depth $X=161$ mm and having a 5 mm threaded stud centered on the rear for support. Provision has been made for adjustments should the radio fall outside these parameters.

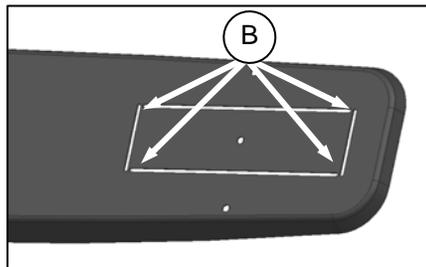
- a. Ensure the ignition is turned to the OFF position.



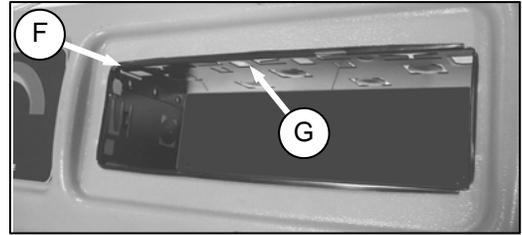
- b. Remove radio panel by removing four screws (A).



- 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.



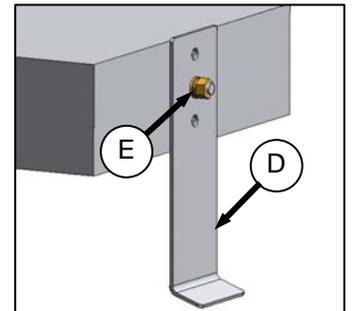
- e. Locate receptacle (F) (supplied with radio) in opening and secure by bending tabs (G) on receptacle against panel.



- f. Insert radio into receptacle and attach radio bezel. Ensure radio locks into position and faceplate (H) is against the panel.

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

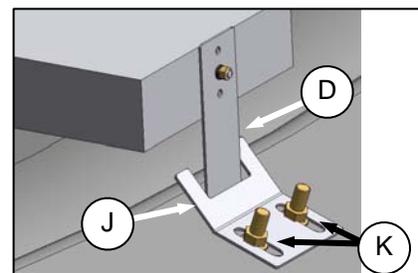
- h. Attach support (D) to stud on back of radio chassis with lock washer and metric nut (E) that was supplied with the support. Support can be attached to chassis in multiple locations to allow for proper mounting of radio.



- i. Attach harness included with radio and connect to windrower harness.

- j. Attach antenna.

- k. Reinstall radio panel with original screws.



- l. Adjust bracket (J) if necessary by loosening nuts (K) to allow radio to slide into opening, and securely capture support (D).

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

UNLOADING AND ASSEMBLY

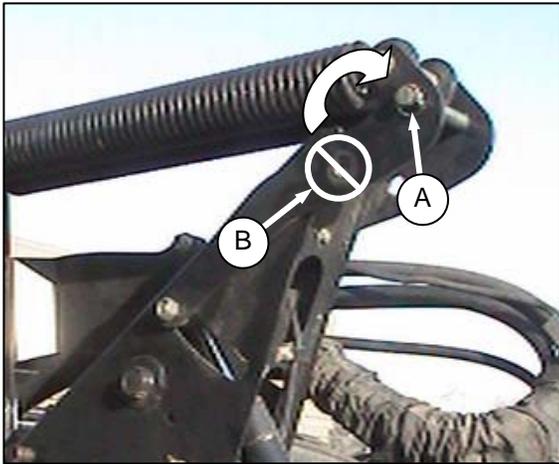
STEP 10. ATTACH HEADER

A. HEADER ATTACHMENT - D SERIES



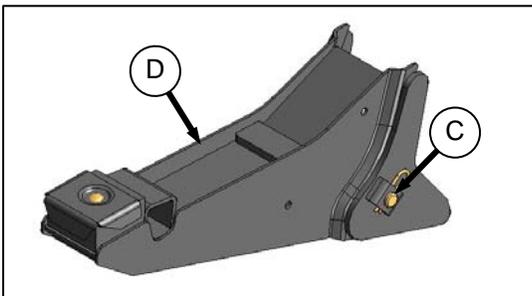
IMPORTANT

A light header float kit may need to be installed, depending on the header size and configuration.

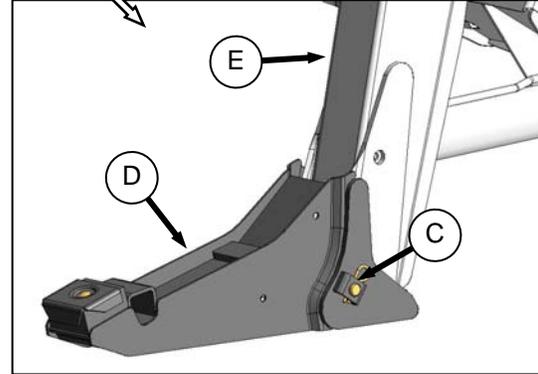


IMPORTANT

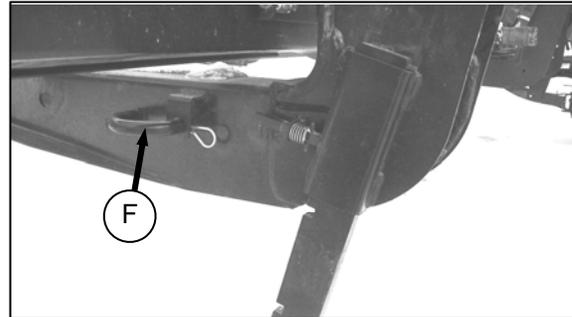
To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to windrower, ensure that float engagement pin is installed in storage location (A), and **not** installed at hole location (B).



- a. If not installed, attach draper header boots (supplied with header) to windrower lift linkage as follows:
1. Remove hairpin and remove pin (C) from boot (D).



2. Locate boot (D) on lift linkage (E) and reinstall pin (C). Pin may be installed from either side of boot.
3. Secure pin (A) with hairpin.
4. Repeat for opposite side.



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

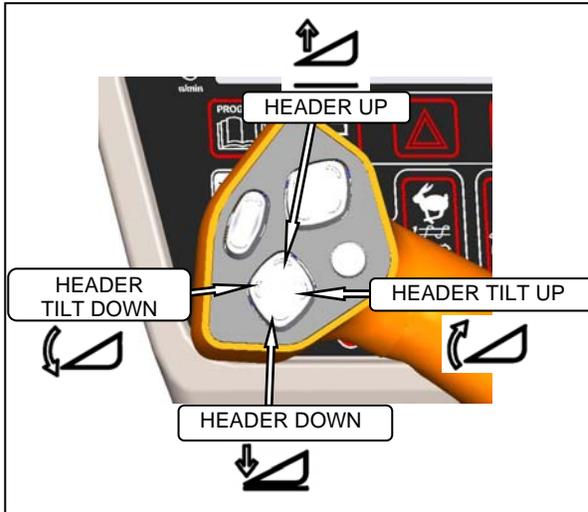


CAUTION

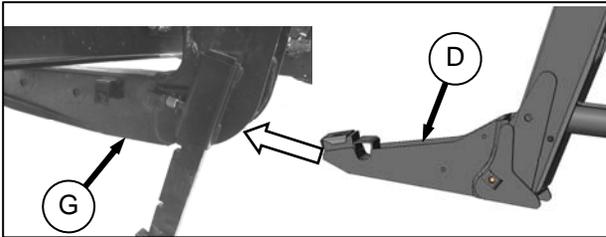
Check to be sure all bystanders have cleared the area.

(continued next page)

UNLOADING AND ASSEMBLY



- c. Start the engine and activate header down button on the GSL to fully retract header lift cylinders.



- d. Slowly drive windrower forward so that boots (D) enter header legs (G). Continue to drive slowly forward until lift linkages contact support plates in the header legs, and header nudges forward.
 e. Check that linkages are properly engaged in header legs, contacting support plates.
 f. Stop engine and remove key

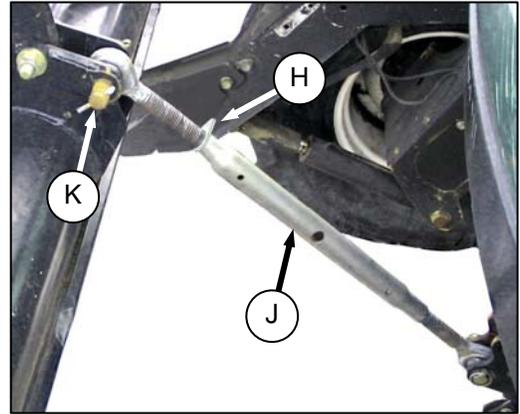


DANGER

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.

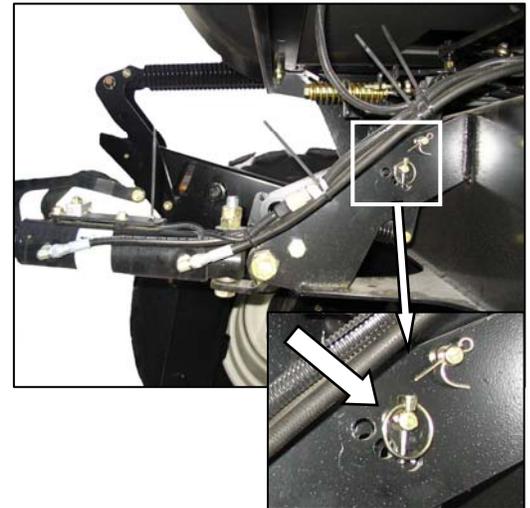
- g. Connect center link as follows:

MECHANICAL LINK – M150



1. Loosen nut (H) and rotate barrel (J) to adjust length so that link lines up with header bracket.
2. Install pin (K) and secure with cotter pin.
3. Adjust link to required length for proper header angle by rotating barrel (J). Tighten nut (H) against barrel. A slight tap with a hammer is sufficient.
4. Proceed to step h.

HYDRAULIC LINK – OPTION



1. Re-locate the pin at the frame linkage as required to position the hook over the header pin.



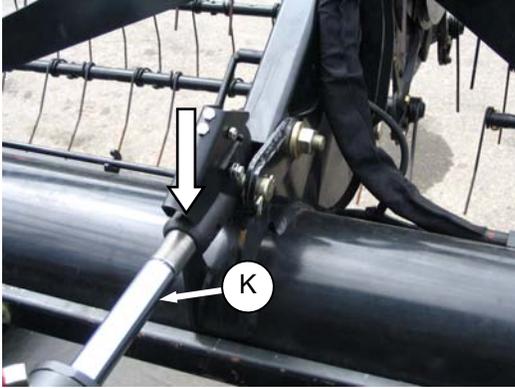
CAUTION

Check to be sure all bystanders have cleared the area.

2. Start engine and activate header tilt cylinder switches on GSL to extend or retract center link cylinder so that the hook lines up with the header attachment pin.

(continued next page)

UNLOADING AND ASSEMBLY



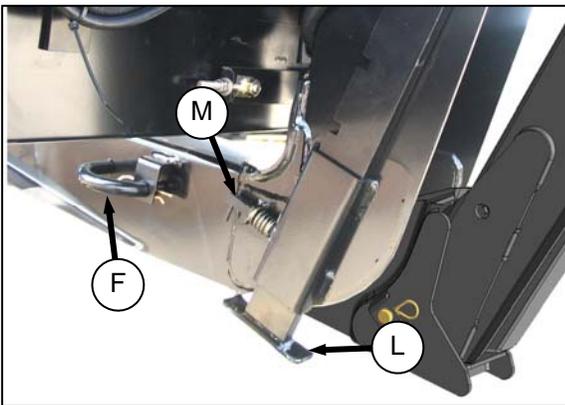
3. Push down on rod end of link cylinder (K) until hook engages pin on header and is locked. Check that center link is locked onto header by pulling upward on rod end of cylinder.
- h. Raise the header fully with the header up switch on the GSL. Stop engine and remove key.



DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header.

- i. Engage lift cylinder stops on both lift cylinders.

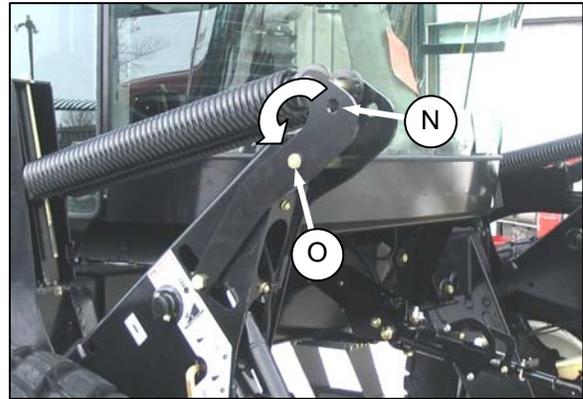


- j. Install pin (F) through header leg, (engaging U-bracket in lift linkage) on both sides and secure with hairpin.

NOTE

Install hairpin with open end facing aft.

- k. Raise header stand (L) to storage position by pulling pin (M) and lifting stand into uppermost position. Release pin (M).



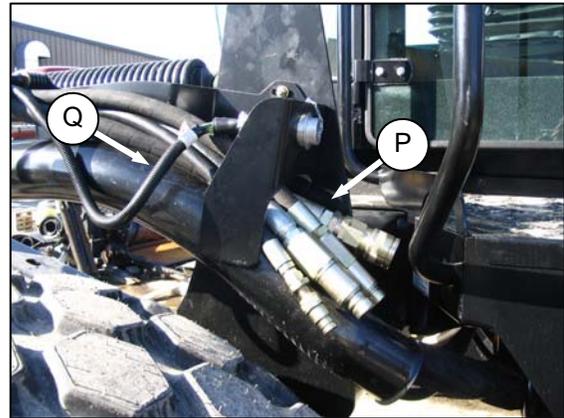
- l. Remove pin from storage position (N) in linkage and insert in hole (O) to engage float springs. Secure with hairpin.
- m. Disengage lift cylinder stops.
- n. Start engine and activate header lift cylinders (switch on GSL) to lower header fully.



DANGER

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.

- o. Stop engine and remove key.

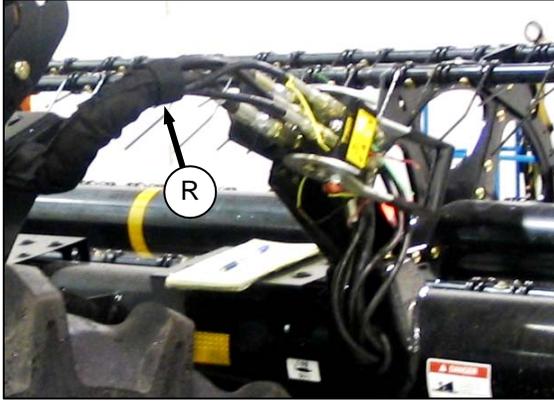


HEADER DRIVE HOSES

- p. Connect header drive hoses (P) and electrical harness (Q) to header. Refer to the Draper Header Operator's Manual.

(continued next page)

UNLOADING AND ASSEMBLY

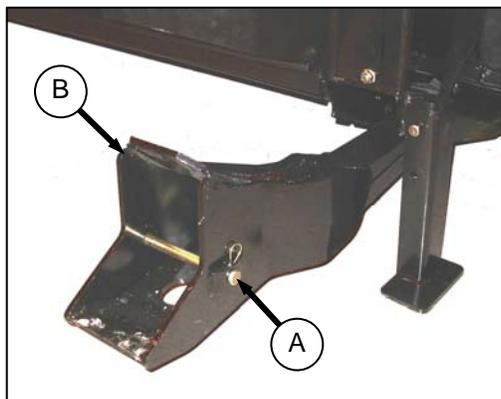


REEL HYDRAULICS

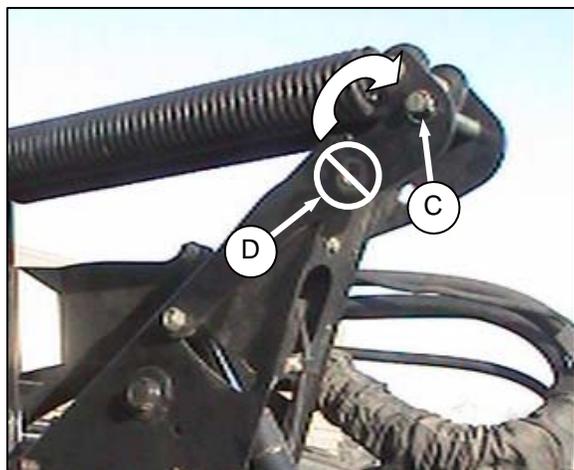
- q. Connect reel hydraulics (R) at RH side of windrower. Refer to the Draper Header Operator's Manual.

UNLOADING AND ASSEMBLY

B. HEADER ATTACHMENT – A SERIES



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



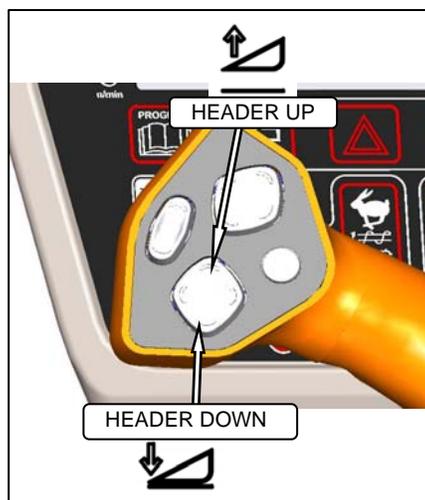
IMPORTANT

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).

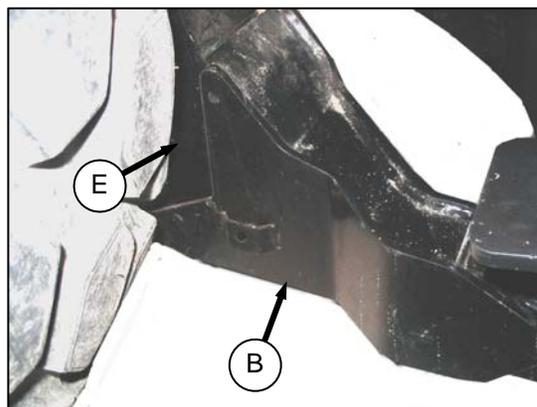


CAUTION

Check to be sure all bystanders have cleared the area.



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



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



DANGER

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.

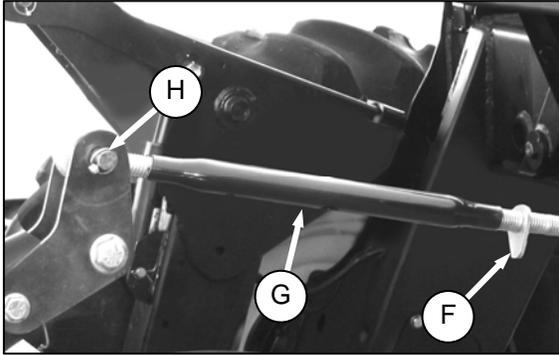
- d. Stop engine and remove key.

(continued next page)

UNLOADING AND ASSEMBLY

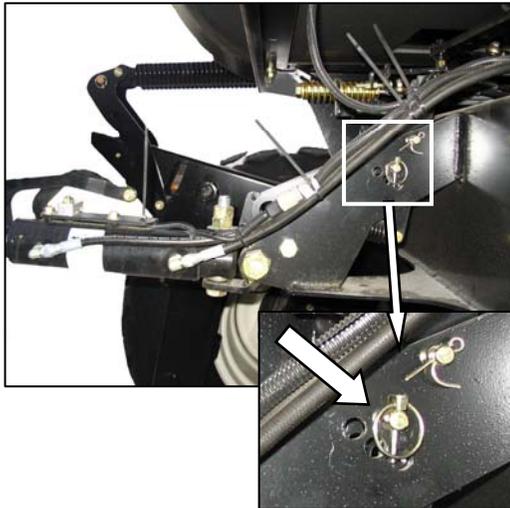
e. Connect center link as follows:

MECHANICAL LINK – M150



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

HYDRAULIC LINK - OPTION



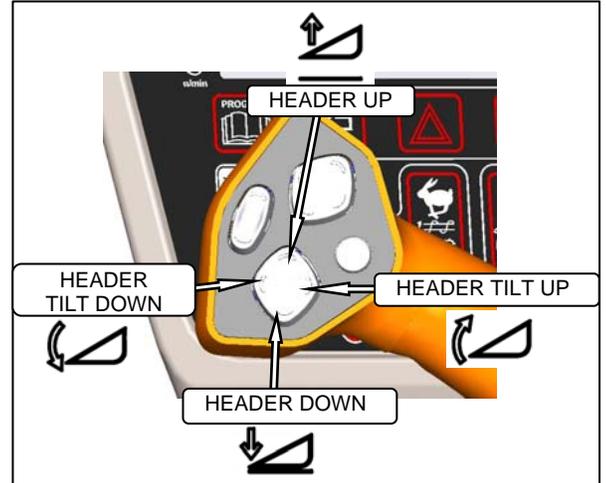
1. Re-locate the pin at the frame linkage as required to position the hook over the header pin.



CAUTION

Check to be sure all bystanders have cleared the area.

2. Start engine.



3. Activate HEADER TILT cylinder switches on GSL to extend or retract center link cylinder so that the hook lines up with the header attachment pin.
4. Stop engine and remove key.



5. Push down on rod end of link cylinder until hook engages pin on header and is locked.
6. Check that center link is locked onto header by pulling upward on rod end of cylinder.
- f. Start engine and raise the header fully with the HEADER UP switch on the GSL. Stop engine and remove key.



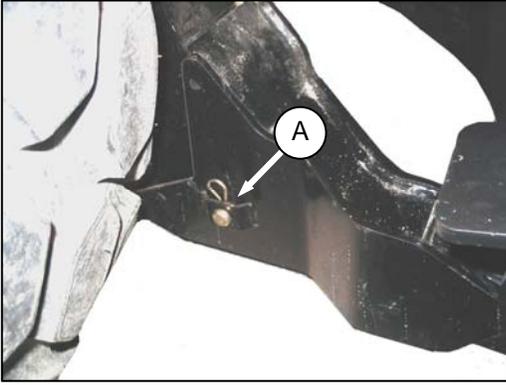
DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header.

- g. Engage lift cylinder stops on both lift cylinders.

(continued next page)

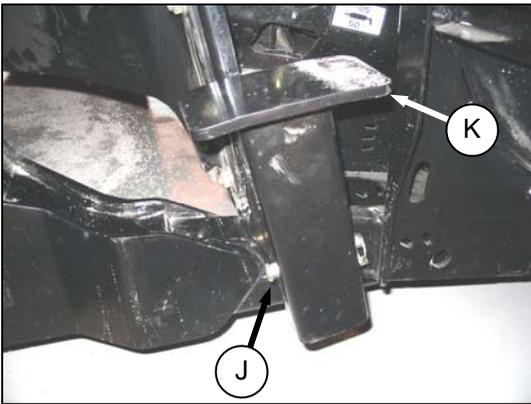
UNLOADING AND ASSEMBLY



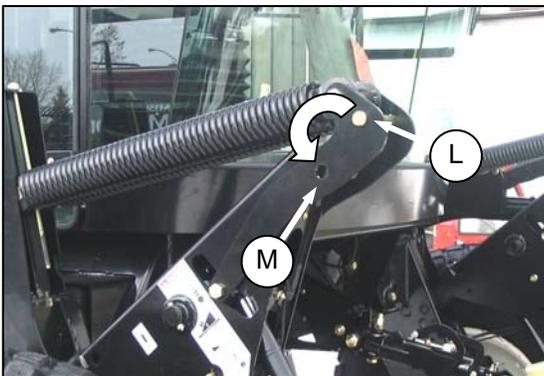
- h. Install pin (A) through each boot and foot and secure with hairpin..

IMPORTANT

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

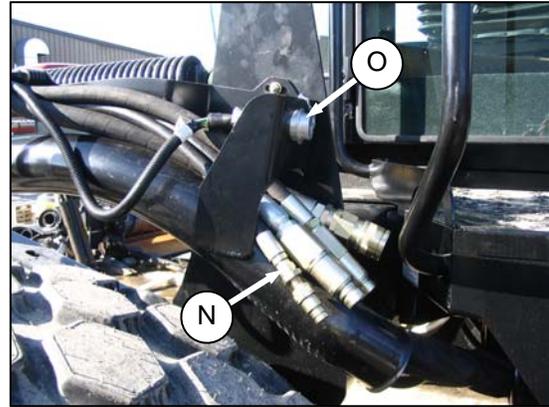


- i. Remove lynch pin from pin (J) in stand (K).
- j. Hold stand and remove pin (J).
- k. Reposition stand to storage position by inverting stand and re-locating on bracket as shown. Reinsert pin (J) and secure with lynch pin.



- l. Remove pin (L) from storage position in linkage and insert in hole (M) to engage float springs. Secure with lynch pin.

- m. Disengage lift cylinder stops.
- n. Start engine, and activate header lift cylinder switch on GSL to lower header fully. Stop engine and remove key.



- o. Connect header drive hydraulics (N) and electrical harness (O) to header. Refer to Auger Header Operator's Manual.

UNLOADING AND ASSEMBLY

STEP 11. LUBRICATE MACHINE

Recommended Lubricant

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



DANGER

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.

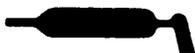
- a. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
- b. Inject grease through fitting with grease gun until grease overflows fitting, except where noted.
- c. Leave excess grease on fitting to keep out dirt.
- d. Replace any loose or broken fittings immediately.
- 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 for identifying the various locations that require lubrication.

(continued next page)

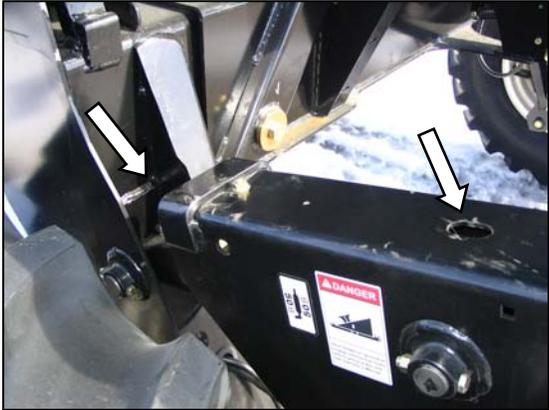
UNLOADING AND ASSEMBLY

Lubrication Points (continued)

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



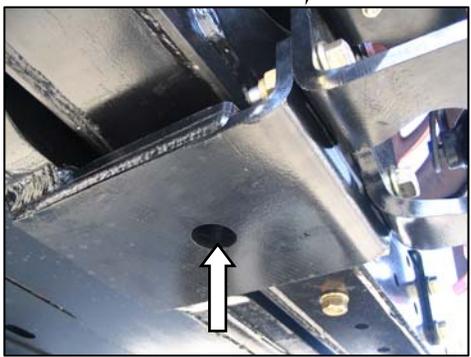
CASTER PIVOT
(BOTH SIDES)



TOP LINK – TWO FITTINGS
(BOTH SIDES)



FORMED CASTER WHEEL BEARING
1 PLACE (BOTH WHEELS)



WALKING BEAM PIVOT



FORKED CASTER SPINDLE BEARINGS
TWO PLACES (BOTH WHEELS)

UNLOADING AND ASSEMBLY

STEP 12.PROGRAM CDM

The monitoring system requires programming for each header and the **header must be attached to the windrower**. 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 off the ignition.

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.

Proceed as follows to program the CDM:

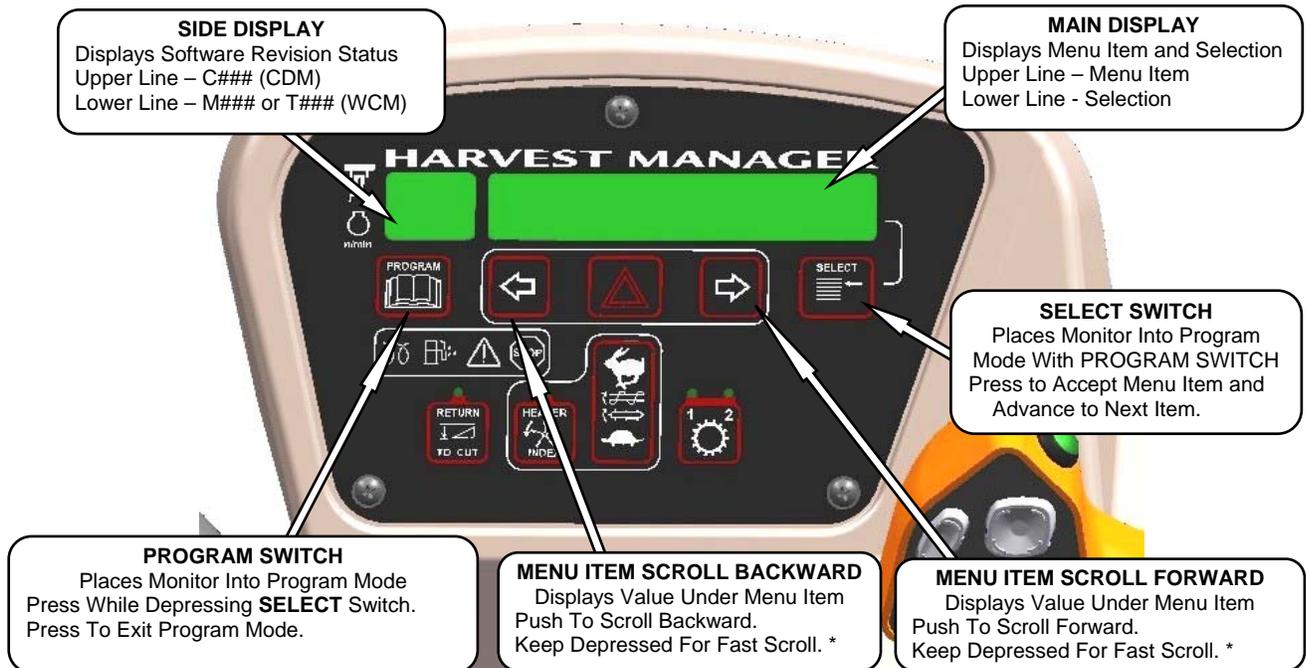
- Turn ignition key to RUN, or start the engine. See II. START ENGINE on page 41.
- Press PROGRAM and SELECT on CDM to enter programming mode.

- Press SELECT. TRACTOR SETUP? is displayed on upper line.
- Press \leftarrow and then SELECT.
- HEADER TYPE? is displayed. DRAPER is flashing on lower line.
- Press \leftarrow or \rightarrow to change value on lower line.
- Press SELECT.
- TILT CYL INSTALLED? is displayed.
- Press \leftarrow or \rightarrow to change value on lower line.
- Press SELECT to advance to the next L1 item and press arrow keys to change values.
- Press PROGRAM to exit programming mode when finished entering desired values.

Refer to Detailed Programming Instructions on following pages.

NOTE

Contact the manufacturer for information regarding software updates to the electronic modules.



* Fast scroll applies only when changing OVERLOAD SPEED (with expansion module), and TIRE SIZE.

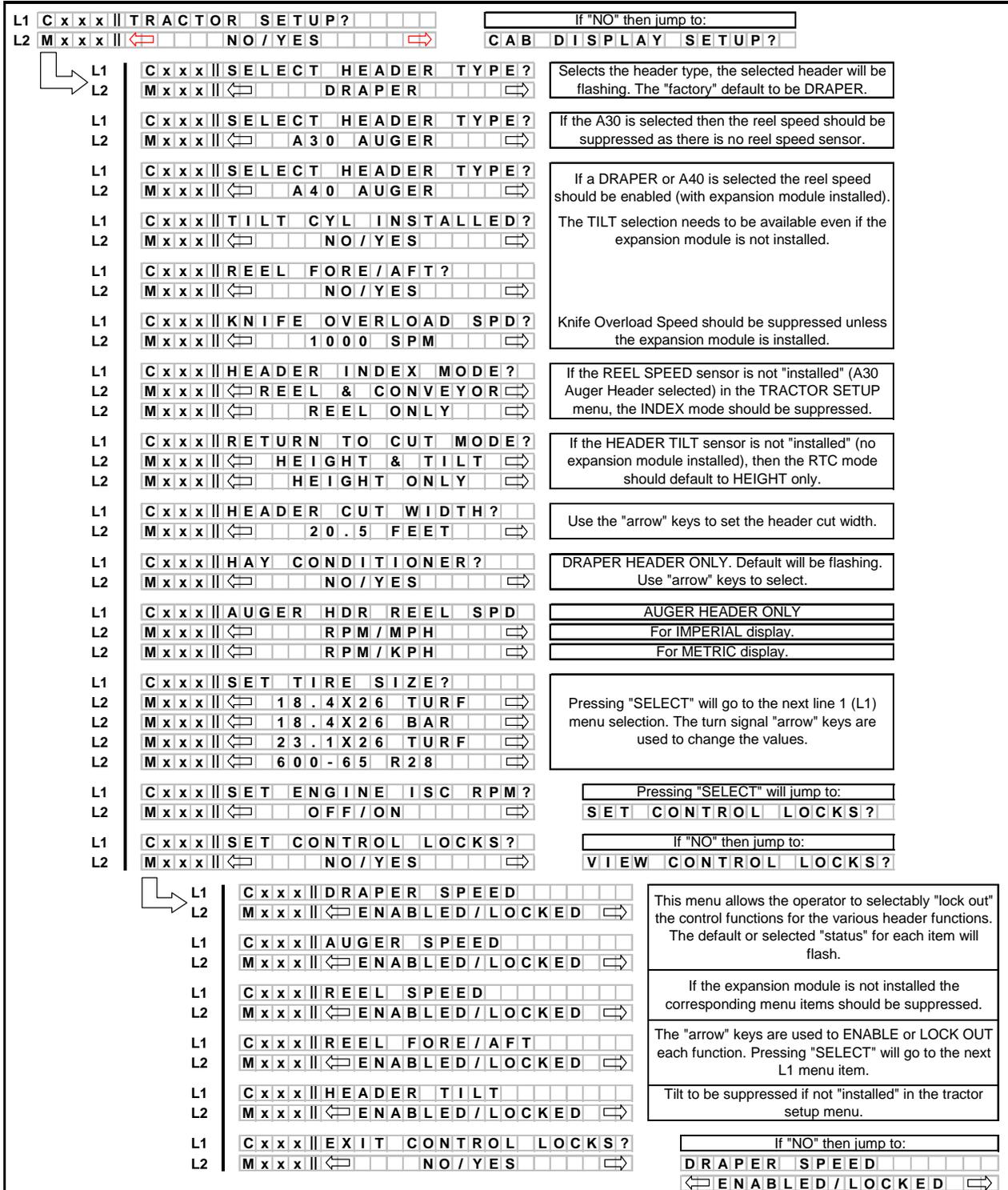
UNLOADING AND ASSEMBLY

DETAILED PROGRAMMING INSTRUCTIONS

(Key On / Engine Running or Not / Header Disengaged).

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

Programming Menu Flow Chart



(continued next page)

UNLOADING AND ASSEMBLY

| | | | |
|----|---------|---------------------|-----------------------|
| L1 | C x x x | VIEW CONTROL LOCKS? | If "NO" then jump to: |
| L2 | M x x x | ← NO / YES → | EXIT TRACTOR SETUP? |

| | | | |
|----|---------|---------------|---------|
| 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 | 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 | 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 | HEADER TILT | ← → |
| 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 → | DRAPER SPEED ← → |

| | | | |
|----|---------|---------------------|-----------------------|
| L1 | C x x x | EXIT TRACTOR SETUP? | If "NO" then jump to: |
| L2 | M x x x | ← NO / YES → | TILT CYL INSTALLED? |

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.

Using the "arrow" keys allows the operator to select the various functions. Pressing "SELECT" will go to the EXIT VIEW LOCKOUTS? menu selection.

If any of the HDR ANGLE / KNIFE SPEED or REEL SPEED sensors are not "installed" (no expansion module or A30 Auger header selected, they should be suppressed.

| | | | |
|----|---------|--------------------|-----------------------|
| L1 | C x x x | CAB DISPLAY SETUP? | If "NO" then jump to: |
| L2 | M x x x | ← NO / YES → | CALIBRATE SENSORS? |

| | | | |
|----|---------|-------------------|---|
| L1 | C x x x | DISPLAY LANGUAGE? | |
| L2 | M x x x | ← ENGLISH → | → |
| L2 | M x x x | ← ESPANOL → | → |
| L2 | M x x x | ← RUSSIAN → | → |

| | | | |
|----|---------|----------------|---|
| L1 | C x x x | DISPLAY UNITS? | |
| L2 | M x x x | ← IMPERIAL → | → |
| L2 | M x x x | ← METRIC → | → |

| | | | |
|----|---------|-------------------|---|
| L1 | C x x x | CDM BUZZER VOLUME | |
| L2 | M x x x | ← [Bar Graph] → | → |

| | | | |
|----|---------|------------------|---|
| L1 | C x x x | CDM BACKLIGHTING | |
| L2 | M x x x | ← [Bar Graph] → | → |

| | | | |
|----|---------|-----------------|---|
| L1 | C x x x | CDM CONTRAST | |
| L2 | M x x x | ← [Bar Graph] → | → |

| | | | |
|----|---------|---------------------|-----------------------|
| L1 | C x x x | EXIT DISPLAY SETUP? | If "NO" then jump to: |
| L2 | M x x x | ← NO / YES → | 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.

| | | | |
|----|---------|--------------------|-----------------------|
| L1 | C x x x | CALIBRATE SENSORS? | If "NO" then jump to: |
| L2 | M x x x | ← NO / YES → | DIAGNOSTIC MODE? |

| | | | |
|----|---------|---------------------|---|
| L1 | C x x x | TO CALIBRATE SELECT | |
| L2 | M x x x | ← HEADER HEIGHT → | → |
| L2 | M x x x | ← HEADER TILT → | → |
| L2 | M x x x | ← STOP & EXIT → | → |

| | | | |
|----|---------|--------------------|---|
| L1 | C x x x | HEIGHT SENSOR CAL | |
| L2 | M x x x | RAISE HDR TO START | → |

| | | | |
|----|---------|--------------------|------|
| L1 | C x x x | CALIBRATING HEIGHT | |
| L2 | M x x x | RAISE HEADER | HOLD |
| L2 | M x x x | RAISE HEADER | DONE |

| | | | |
|----|---------|--------------------|---|
| L1 | C x x x | HEIGHT SENSOR CAL | |
| L2 | M x x x | PRESS LOWER HEADER | → |

| | | | |
|----|---------|--------------------|----------|
| L1 | M x x x | CALIBRATING HEIGHT | |
| L2 | M x x x | LOWER HEADER | HOLD |
| L2 | M x x x | HT SENSOR | COMPLETE |

The operator can select any of the two items requiring calibration or to STOP & EXIT the menu.

When a function is activated, the display will indicate the function being calibrated. HOLD will flash until the system has completed reading in the signal with the header fully raised.

DONE will flash and prompt the operator to COMPLETE the sensor calibration by lowering the header.

(continued next page)

UNLOADING AND ASSEMBLY

```

L1 C x x x || TO CALIBRATE SELECT
L2 M x x x || ← HEADER HEIGHT →

L1 C x x x || TO CALIBRATE SELECT
L2 M x x x || ← HEADER HEIGHT →
L2 M x x x || ← HEADER TILT →

L1 M x x x || HDR TILT SENSOR CAL
L2 M x x x || EXTEND TLT TO START

L1 C x x x || CALIBRATING TILT
L2 M x x x || EXTEND TILT HOLD
L2 M x x x || EXTEND TILT DONE

L1 M x x x || HDR TILT SENSOR CAL
L2 M x x x || PRESS RETRACT TILT

L1 C x x x || CALIBRATING TILT
L2 M x x x || RETRACT TILT HOLD
L2 M x x x || HDR TILT COMPLETE

L1 C x x x || TO CALIBRATE SELECT
L2 M x x x || ← HEADER TILT →
L2 M x x x || ← STOP & EXIT →

L1 C x x x || EXIT CALIBRATION?
L2 M x x x || ← NO / YES →
    
```

The menu will display the last item selected when the calibration routine is completed.

If the HEADER TILT option in the TRACTOR SETUP is set to NO then only HEIGHT should be available as a menu selection for calibration.

If "NO" then jump to:
TO CALIBRATE SELECT

```

L1 C x x x || DIAGNOSTIC MODE?
L2 M x x x || ← NO / YES →
    
```

If "NO" then jump to:
TRACTOR SETUP?

```

L1 C x x x || VIEW ERROR CODES?
L2 M x x x || ← NO / YES →
    
```

If "NO" then jump to:
ENTER SENSOR SETUP?

```

L1 C x x x || VIEW TRACTOR CODES?
L2 M x x x || ← NO / YES →
    
```

If "NO" then jump to:
ENTER SENSOR SETUP?

```

L1 1 || 1 2 3 4 . 5 HRS 1 2 3
L2 E 4 7 || SENSOR VOLTS LOW
    
```

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.

```

L1 2 || 1 2 3 4 . 5 HRS 1 2 3
L2 E 7 1 || LOW HYDRAULIC OIL
    
```

```

L1 C x x x || EXIT TRACTOR CODES?
L2 M x x x || ← NO / YES →
    
```

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

```

L1 C x x x || ENTER SENSOR SETUP?
L2 M x x x || ← NO / YES →
    
```

If "NO" then jump to:
READ SENSOR INPUTS?

```

L1 C x x x || HEADER HT SENSOR
L2 M x x x || ← ENABLE / DISABLE →
    
```

The operator can select each sensor and selectively enable or disable the sensor in the event of a sensor malfunction.

```

L1 C x x x || HEADER TILT SENSOR
L2 M x x x || ← ENABLE / DISABLE →
    
```

If no expansion module or an A30 auger header is selected, the corresponding menu items should be suppressed.

```

L1 C x x x || KNIFE SPEED SENSOR
L2 M x x x || ← ENABLE / DISABLE →
    
```

When "SELECT" is pressed the program goes to the EXIT SENSOR SETUP? selection.

```

L1 C x x x || REEL SPEED SENSOR
L2 M x x x || ← ENABLE / DISABLE →
    
```

```

L1 C x x x || EXIT SENSOR SETUP?
L2 M x x x || ← NO / YES →
    
```

If "NO" then jump to:
KNIFE SPEED SENSOR

Or to the first sensor "installed"

(continued next page)

UNLOADING AND ASSEMBLY

| | | |
|---|-------------------------------|--|
| L1 | C x x x READ SENSOR INPUTS? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | ACTIVATE FUNCTIONS? |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x HDR HEIGHT 3 . 5 9 V </div> | | For diagnostic purposes each sensors input signal can be read. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x HEADER ANGLE 1 . 8 4 V </div> | | If no expansion module or an A30 auger header is selected, the corresponding menu items should be suppressed. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x KNIFE SPEED 1 2 3 HZ </div> | | When "SELECT" is pressed the program goes to the EXIT READ SENSORS? menu selection. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x REEL SPEED 1 2 3 HZ </div> | | |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x WHEEL SPEED 1 2 3 HZ </div> | | Adds a selection to be able to read in the wheel speed frequency. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x EXIT READ SENSORS? L2 M x x x ← NO / YES → </div> | | If "NO" then jump to: S E N S O R I N P U T ← → H D R H E I G H T 3 . 5 9 V |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x HDR HEIGHT SENSOR </div> | | If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x HEADER ANGLE SENSOR </div> | | If no expansion module or an A30 auger header is selected, the corresponding menu items should be suppressed. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x KNIFE SPEED SENSOR </div> | | |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x SENSOR INPUT ← → L2 M x x x REEL SPEED SENSOR </div> | | |
| L1 | C x x x ACTIVATE FUNCTIONS? | If "NO" then jump to: |
| L2 | M x x x ← NO / YES → | EXIT DIAGNOSTICS? |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x ACTIVATE FUNCTIONS? L2 M x x x HEADER DOWN / UP </div> | | 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. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x ACTIVATE FUNCTIONS? L2 M x x x REEL DOWN / UP </div> | | |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x ACTIVATE FUNCTIONS? L2 M x x x HDR TILT IN / OUT </div> | | If the HEADER TILT cylinder or the REEL FORE / AFT valve is not installed under the TRACTOR SETUP menu then the ACTIVATE FUNCTIONS menu selection for these items should be suppressed. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x ACTIVATE FUNCTIONS? L2 M x x x KNIFE DRIVE ON </div> | | |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x ACTIVATE FUNCTIONS? L2 M x x x DRAPER / AUGER ON </div> | | ACTIVATE HYD PURGE - This is to allow the operator to purge the air from a new or changed pump system. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x ACTIVATE FUNCTIONS? L2 M x x x REEL FORE / AFT </div> | | |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x ACTIVATE HYD PURGE? L2 M x x x ← NO / YES → </div> | | 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. |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x TO ACTIVATE PURGE L2 M x x x PRESS AND HOLD </div> | | |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x PURGE CYCLE STARTED L2 M x x x PRESS AND HOLD </div> | | If "NO" then jump to: H E A D E R DOWN / UP |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x PURGE CYCLE ENDED L2 M x x x </div> | | |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x PURGE CYCLE ENDED L2 M x x x ← NO EXIT YES → </div> | | If "NO" then jump to: D I A G N O S T I C M O D E ? |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x EXIT FUNCTION MENU? L2 M x x x ← NO / YES → </div> | | |
| <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px; margin-left: 10px;"> L1 C x x x EXIT DIAGNOSTICS? L2 M x x x ← NO / YES → </div> | | |

UNLOADING AND ASSEMBLY

STEP 13. SET KNIFE SPEED

The knife speed is manually set by making adjustments to the knife drive pump and has been pre-set at the factory. For optimum performance, adjust the knife speed according to the header being used. See the following table.

NOTE

The knife speed should stay within the range specified for each header.

| HEADER DESCRIPTION | | KNIFE SPEED | | | |
|--------------------|---------|-------------|------|---------|------|
| TYPE | SIZE | MINIMUM | | MAXIMUM | |
| | | RPM | SPM | RPM | SPM |
| Draper DK | 15 | 750 | 1500 | 950 | 1900 |
| Draper DK | 20 & 25 | 700 | 1400 | 850 | 1700 |
| Draper DK | 30 | 600 | 1200 | 800 | 1600 |
| Draper DK | 35 | | | 700 | 1400 |
| Draper SK | 20 & 25 | | | 750 | 1500 |
| Draper SK | 30 | | | 700 | 1400 |
| Draper SK | 35 | 550 | 1100 | | |
| Grass Seed | All | 700 | 1400 | 975 | 1950 |
| Auger A40D | All | | | | |
| Auger A30D | | | 775 | 1550 | 925 |
| Auger A30S | All | 625 | 1250 | 775 | 1550 |

RPM = speed of wobble box pulley.
 SPM = strokes per minute of knife (RPM x 2).

- a. Determine the knife speed as follows if the machine is not equipped with the optional module:



CAUTION

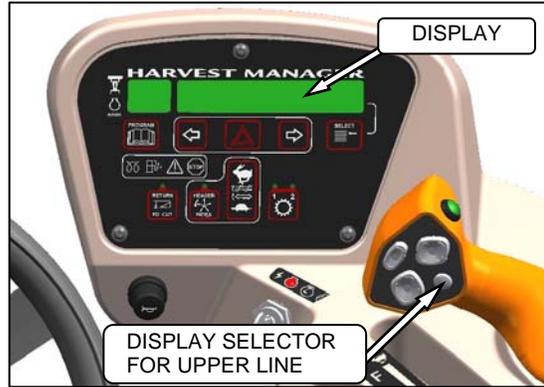
Check to be sure all bystanders have cleared the area.

- 1. Run engine at 2600 rpm with the header drive engaged and ISC off (see CDM Programming).



- 2. Check wobble box pulley speed with a hand-held tachometer.

- 3. Multiply the rpm reading by two for the knife speed in strokes per minute.
- b. Determine the knife speed as follows if the machine is equipped with the optional module:
 - 1. Run engine at 2600 rpm with the header drive engaged and ISC off (see CDM Programming).



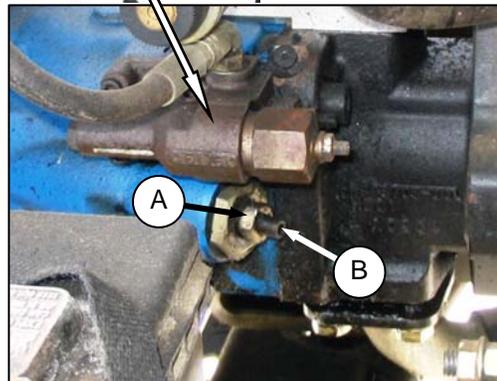
- 2. Press SELECTOR button on the GSL until the CDM displays the knife speed in SPM.
- c. If required, adjust knife speed as follows:



DANGER

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.

- 1. Shutdown engine and open engine hood.



- 2. Loosen jam-nut (A).

(continued next page)

UNLOADING AND ASSEMBLY

3. Turn adjuster screw (B) clockwise (screw in) to decrease knife speed, and counter-clockwise (screw out) to increase the knife speed.

NOTE

One turn of the adjuster screw will change the knife speed by approximately 116 strokes per minute, or the wobble box pulley speed by 58 revolutions per minute.

4. Once adjustment has been made re-torque jam nut (A) as shown.
- d. Start engine and recheck knife speed.

PRE-DELIVERY CHECKS

STEP 14. 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 the 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 the following pages for detailed instructions as indicated on the checklist.
- The completed checklist should be retained either by the operator or the dealer.

A. SERIAL NUMBERS



- Record serial numbers on checklist.

B. FINAL DRIVE LUBRICANT LEVEL



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

C. TIRE PRESSURES

Measure tire pressure with a gauge.

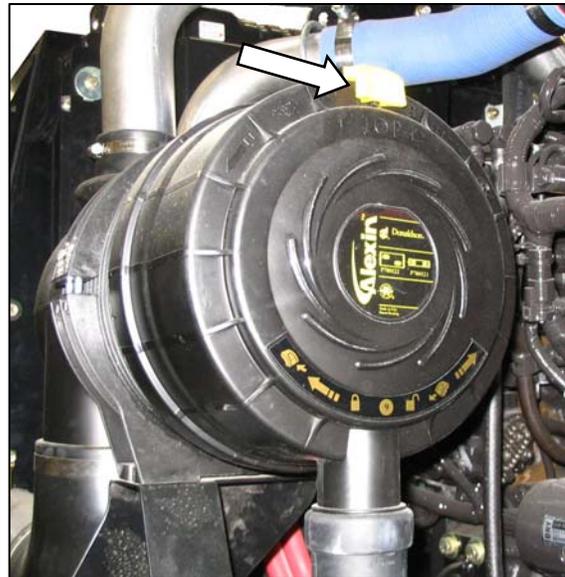
Bar – 32 psi (221 kPa)
Turf – 20 psi (138 kPa)
Caster - 10 psi (69 kPa)

D. ENGINE COOLANT



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

E. AIR CLEANER



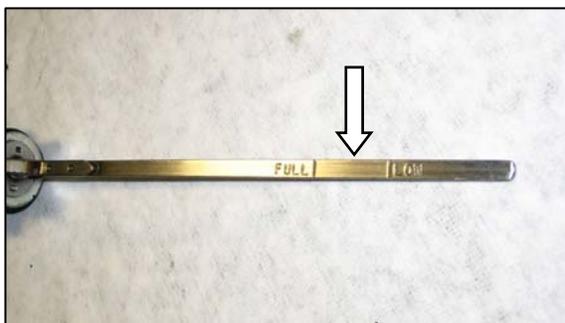
- Check that air cleaner cap is firmly attached and that all clamps on air cleaner are secure.

PRE-DELIVERY CHECKS

F. HYDRAULIC OIL LEVEL



- b. Turn filler cap counterclockwise to loosen bung, and remove dipstick.



- c. Check that level is between LOW and FULL marks.
- d. Reinstall filler cap and turn clockwise to tighten bung.

G. FUEL SEPARATOR



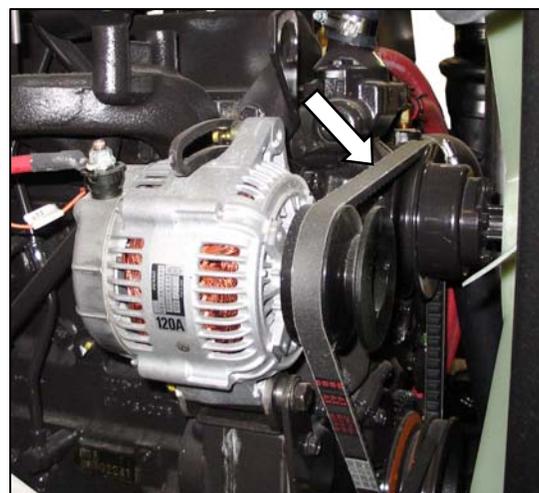
- a. Turn drain valve by hand $1\frac{1}{2}$ to 2 turns counterclockwise until draining occurs.
- b. Drain the filter sump of water and sediment until clear fuel is visible. Clean as necessary.
- c. Turn the valve clockwise to close the drain.

H. A/C COMPRESSOR BELT



- a. Tension on A/C compressor belt should be such that a force of 8 to 12 lbf (35-55 N) deflects the belt $\frac{3}{16}$ in. (5 mm) at mid-span.

I. FAN BELT



- a. Tension on fan belt should be such that a force of 22 lbf (100 N) deflects belt $\frac{5}{16}$ to $\frac{1}{2}$ in. (8 to 12 mm) at mid-span.

PRE-DELIVERY CHECKS

J. PERFORM SAFETY SYSTEM CHECKS



CAUTION

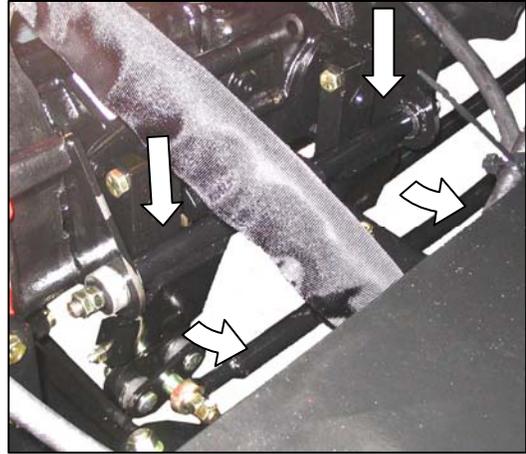
Check to be sure all bystanders have cleared the area.

A properly functioning system should operate as follows:

- The starter should engage ONLY when the GSL is in N-DETENT, steering wheel 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 M100 Operator's Manual for adjustment procedures.

- a. With the engine shut down and the header drive switch engaged:
 1. Try to start the engine. The CDM will display "HEADER ENGAGED" on the upper line, and "DISENGAGE HEADER" on the lower line.
 2. If the engine turns over, the system requires adjustment, refer to the M100 Operator's Manual for adjustment procedures.
- b. With the engine shut down:
 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 $\frac{3}{4}$ in. (19 mm) thick between the other channel and 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 M100 Operator's Manual for adjustment procedures.
 7. Remove key.
 8. Remove wood block inserted at step 3 above and close hood.
- c. With the engine shut down, 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.
 2. If the engine turns over, the system requires adjustment, refer to the M100 Operator's Manual for adjustment procedures.

PRE-DELIVERY CHECKS

K. OPERATIONAL CHECKS

I. ENGINE WARNING LIGHTS



- Turn ignition key (A) to RUN position.
- Single loud tone sounds, and engine warning lights (B) illuminate.
- Turn ignition key to OFF.

II. CHECK FUEL LEVEL

- Turn ignition key (A) to RUN position.
- Check fuel level by pressing the selector switch (C) on the CDM until FUEL LEVEL is displayed at (D). If required add sufficient fuel for a 15 minute run.

III. START ENGINE

- Start engine as follows:



- Move GSL (E) into N-DETENT.
- Turn steering wheel until it locks.
- Push header drive switch (F) to off.

- Normal Start - Engine temperature above 60°F (16°C):

- Set throttle to start position (G) – fully back.
- Turn ignition key (A) to RUN position.
- Single loud tone sounds, engine warning lights illuminate and CDM displays HEADER DISENGAGED or DISENGAGE HEADER and IN PARK.



CAUTION

Check to be sure all bystanders have cleared the area.

- Sound horn three times with horn button (H).
- Turn ignition key to START position until engine starts and then release key. Tone ceases and warning lights go out. CDM displays programmed header data for 5 seconds 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 following table:

| PROBLEM | SOLUTION |
|---------------------------------------|---|
| Controls not in neutral. | Move GSL to neutral. Move steering wheel to locked position. Disengage header clutch. |
| Neutral interlock misadjusted. | Refer to the M100 Operator's Manual. |
| 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. |
| Poor battery connection. | Clean and tighten loose connections. |
| Faulty starter. | Refer to the M100 Engine Manual. |
| Wiring shorted, circuit breaker open. | Check continuity of wiring and breaker (manual reset). |
| Faulty injectors. | Refer to the M100 Engine Manual. |

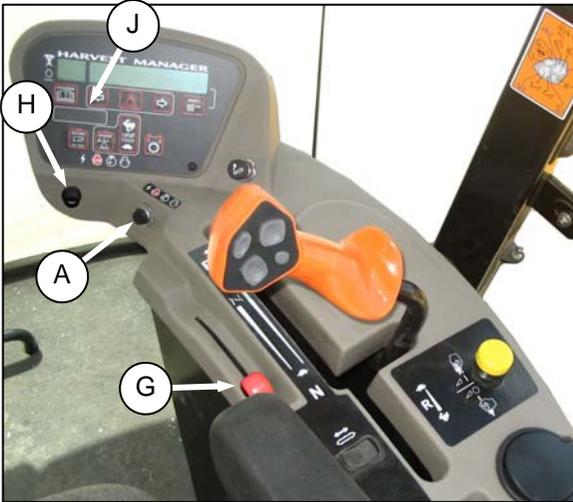
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PRE-DELIVERY CHECKS

- c. Cold Start - Engine temperature 20°F (-7°C) or lower.

NOTE

Grid heater will not operate if engine temperature is 20°F (-6°C) or higher.



1. Set throttle (G) to start position – fully back (low idle).
2. Turn ignition key (A) to RUN.
3. Single loud tone sounds, engine warning lights illuminate and CDM displays HEADER DISENGAGED or DISENGAGE HEADER and IN PARK.
4. Grid heater light (J) on CDM will cycle on/off/on after 2 seconds for a pre-set length of time. The operating period for the grid heater and light will change depending engine temperature.
5. When grid heater light goes out, sound horn (H), and turn key to START and crank engine until it starts. Leave throttle at IDLE.

IMPORTANT

If engine fails to start within 15 seconds, cease cranking and wait two minutes to allow the starting motor to cool before attempting to re-start the engine.

6. If engine fails to start, repeat steps 1 to 4.
7. After start-up, the engine will cycle through a period where it appears to labour.

IMPORTANT

Do not operate engine above 1500 rpm until engine temperature gauge is above 100°F (38°C).

NOTE

Throttle is non-responsive during this time as engine is in “warm up” mode. This mode lasts from 30 seconds to 3 minutes depending on temperature. After engine stabilized and idling normally, throttle becomes active.

IV. CDM DISPLAY



Check CDM display (D) is working by pushing SELECT (C) on CDM or SELECT button (K) on GSL.

V. ENGINE SPEED

Check engine rpm on CDM at (L).

| IDLE RPM | MAX RPM (No Load) |
|----------|-------------------|
| 1100 | 2630-2650 |

VI. ALTERNATOR CHARGE RATE

Push SELECT switch (C) on CDM until VOLTS displays at (D). Reading should be 13.8-15.0 VOLTS.

PRE-DELIVERY CHECKS

VII. OPERATOR'S PRESENCE SYSTEM CHECKS

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



CAUTION

Check to be sure all bystanders have cleared the area.

- b. With everyone clear of the machine, engage header drive switch.
 1. 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, refer to the M100 Operator's Manual for adjustment procedures.

NOTE

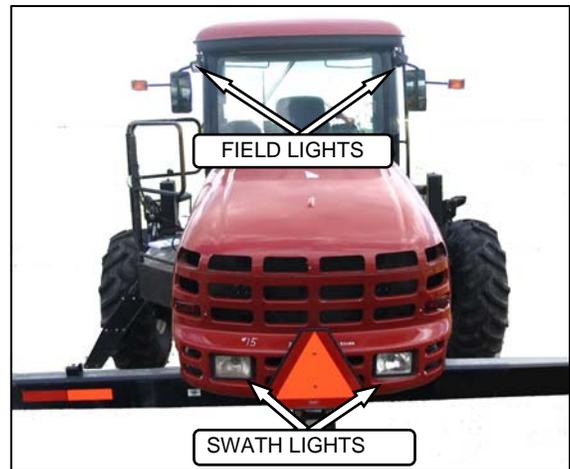
To restart the header, move the header engage switch to "OFF" position and back to the "ON" position again.

- c. With the windrower moving at less than 3 mph;
 1. Stand up out of the seat.
 2. 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.
 3. If the engine does not shut down, the operator presence system requires adjustment, refer to the M100 Operator's Manual for adjustment procedures.
- d. With the windrower moving at more than 3 mph;
 1. Stand up out of the seat.
 2. The CDM beeps once and displays "NO OPERATOR" on the lower line.
 3. If not, the operator presence system requires adjustment, refer to the M100 Operator's Manual for adjustment procedures.

VIII. EXTERIOR LIGHTS



FRONT



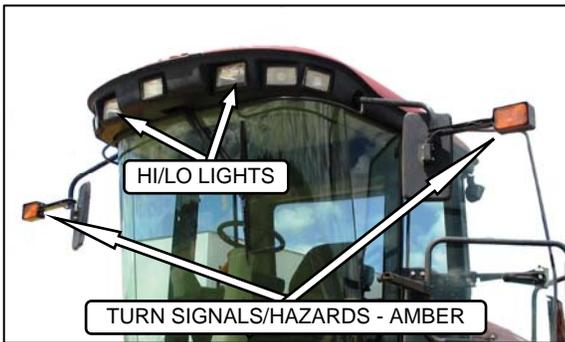
REAR

- a. Switch on field lights and check that all lights as shown are functioning.
- b. Turn off lights.

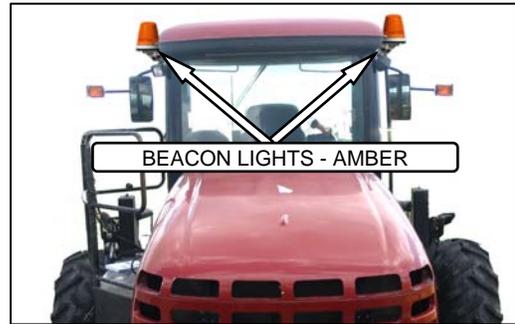
(continued next page)

PRE-DELIVERY CHECKS

- c. Switch on road lights and check that all lights shown are functioning.



FRONT



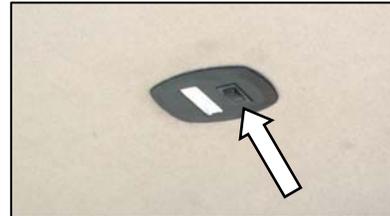
- f. Switch on beacons (if installed) and check that they are functioning. The ignition switch must be at RUN but the engine does not need to be running.



REAR

- d. Activate hi/lo switch.
e. Activate turn signals and hazard warning lights with switches on CDM.

IX. INTERIOR LIGHTS



- a. Switch lights on and off with switches on each light. Interior lights only work with road or field light switch on.

PRE-DELIVERY CHECKS

X. A/C AND HEATER

IMPORTANT

To distribute the oil throughout the system, perform the following steps whenever the machine is first started after storage for more than one week.

- a. Ensure heater shut-off valve at engine is open.

TEMPERATURE CONTROL
Controls Cab Temperature
INCREASE – Clockwise
DECREASE - Counter-Clockwise

BLOWER SWITCH
Controls Blower Speed
OFF/LO/MEDIUM/HI



AIR CONDITIONING SWITCH
Controls A/C System
OFF - A/C Does Not Operate.
ON - A/C Operates With Blower Switch On.

- b. With the engine running, turn blower switch to the first position, turn temperature control switch to maximum heating, and A/C control to "OFF".
- c. 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



- a. The following manuals should be stored in the manual storage compartment behind the operator's seat:
 - M100 Self-Propelled Windrower PARTS CATALOG. See below.
 - M100 Self-Propelled Windrower OPERATOR'S MANUAL. See below.

| WINDROWER | OPERATOR'S MANUAL NUMBER | PARTS CATALOG NUMBER |
|-----------|--------------------------|----------------------|
| MacDon | 169304 | 169305 |
| Westward | 169306 | 169307 |
| Premier | 169308 | 169309 |

- Engine Manual

M. CAB INTERIOR

- a. Remove plastic coverings from console and seats after pre-delivery check is complete.

NOTES

NOTES

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DEALERS

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Printed in Canada

M100 Self-Propelled Windrower Pre-Delivery Checklist – N.A.

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: _____

| ✓ | <u>ITEM</u> | <u>PAGE</u> |
|--|--|-------------|
| | Check for shipping damage or missing parts. Be sure all shipping dunnage is removed. | - |
| | Check for loose hardware. Tighten to required torque if necessary. | 5 |
| | Check tire air pressures and adjust as required. | 36 |
| | Check final drive hub lubricant level. | 36 |
| | Check engine coolant level and strength at reserve tank. | 36 |
| | Check air cleaner and clamps. | 36 |
| | Check hydraulic oil level and check for leaks along lines. | 37 |
| | Check fuel separator for water & foreign material. Drain and clean as necessary. Add fuel. | 37 |
| | Check tension of A/C compressor belt. | 37 |
| | Check tension of fan belt. | 37 |
| | Check machine completely lubricated. | 27 |
| | Check neutral interlock system. | 38 |
| | Check engine warning lights at Cab Display Module. | 39 |
| START ENGINE AND RUN TO OPERATING TEMPERATURE | | |
| | Check Cab Display Module for operation. | 40 |
| | Check operator's presence system. | 41 |
| | Check alternator charge rate on CDM. | 40 |
| | Check air conditioning functioning properly. | 43 |
| | Check heater functioning properly. | 43 |
| | Check interior lights for operation. | 42 |
| | Check maximum (no load) engine speed at Cab Display Module – 2630-2650 rpm. | 40 |
| | Check exterior lights for operation. | 41 |
| | Complete the Header Pre-Delivery Checklist. | - |
| | Check that manuals are with the windrower. | 43 |
| | Check plastic coverings from cab interior removed. | 43 |

Date Checked: _____

Checked by: _____