



Hay Conditioner (Worldwide Edition)



JOHN DEERE



OPERATOR'S MANUAL

Hay Conditioner (Worldwide Edition)

OMFH320058 ISSUE K2 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:



WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

John Deere Ottumwa Works

Worldwide Edition
PRINTED IN U.S.A.



Introduction

Foreword

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your machine may also be available in other languages. (See your John Deere dealer to order.)

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing in the direction the implement will travel when going forward.

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I. N.) in the Specification section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate or statement which you should have received from your dealer

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied. Setting fuel delivery above specifications or otherwise overpowering machines will result in such action.

THE TIRE MANUFACTURER'S warranty applicable to your machine may not apply outside the U.S.

If you are not the original owner of this machine, it is in your interest to contact your local John Deere dealer to inform them of this unit's serial number. This will help John Deere notify you of any issues or product improvements.

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Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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Safety

Recognize Safety Information



T81389—UN—28JUN13

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

DX,ALERT-19-03OCT22

Understand Signal Words



▲ WARNING

▲ CAUTION

TS187—19—30SEP88

DANGER; The signal word DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION; The signal word CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events which could lead to personal injury.

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards. DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

DX,SIGNAL-19-05OCT16

Follow Safety Instructions



TS201—UN—15APR13

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

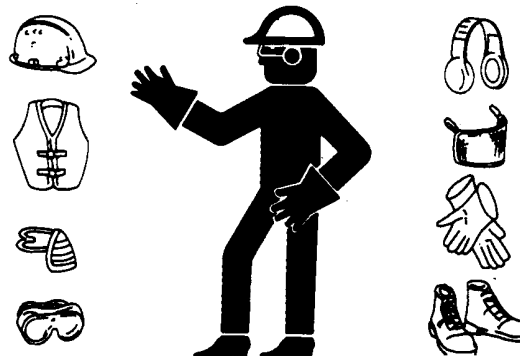
Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

DX,READ-19-01AUG22

Wear Protective Clothing



TS206—UN—15APR13

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

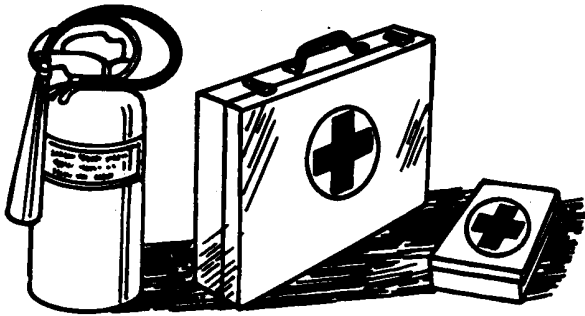
Wear a suitable hearing protective device such as

earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

DX,WEAR-19-10SEP90

Prepare for Emergencies



TS291—UN—15APR13

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

DX,FIRE2-19-03MAR93

Store Attachments Safely



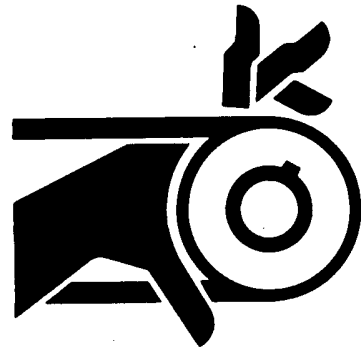
TS219—UN—23AUG88

Stored attachments such as dual wheels, cage wheels, and loaders can fall and cause serious injury or death.

Securely store attachments and implements to prevent falling. Keep playing children and bystanders away from storage area.

DX,STORE-19-03MAR93

Guards and Shields



TS285—UN—23AUG88

Keep guards and shields in place at all times. Ensure that they are serviceable and installed correctly.

Always disengage main clutch, shut off engine and remove key before removing any guards or shields.

Keep hands, feet and clothing away from moving parts.

MM95366,0000251-19-01JUN12

Practice Safe Maintenance



TS218—UN—23AUG88

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing away from power-driven parts. Disengage all power and operate

controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

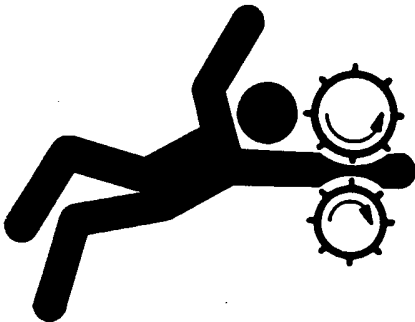
On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.

Falling while cleaning or working at height can cause serious injury. Use a ladder or platform to easily reach each location. Use sturdy and secure footholds and handholds.

DX,SERV-19-28FEB17

Service Machines Safely



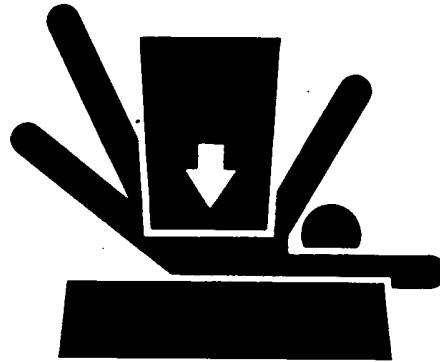
TS228—UN—23AUG88

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.

DX,LOOSE-19-04JUN90

Support Machine Properly



TS229—UN—23AUG88

Always lower the attachment or implement to the ground before you work on the machine. If the work requires that the machine or attachment be lifted, provide secure support for them. If left in a raised position, hydraulically supported devices can settle or leak down.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

When implements or attachments are used with a machine, always follow safety precautions listed in the implement or attachment operator's manual.

DX,LOWER-19-24FEB00

Avoid Contact with Moving Parts

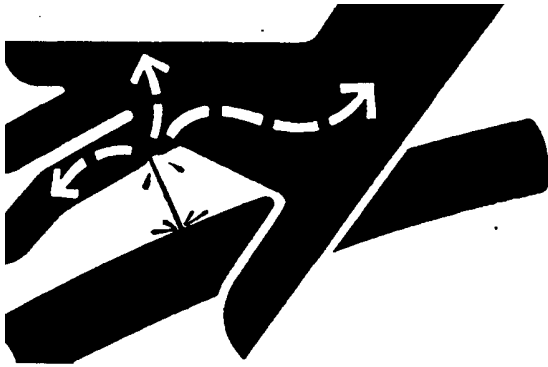


TS256—UN—23AUG88

Keep hands, feet and clothing away from power driven parts. Never clean, lubricate or adjust machine when it is running.

MM95366,0000252-19-01JUN12

Avoid High-Pressure Fluids



X9811—UN—23AUG88

Inspect hydraulic hoses periodically – at least once per year – for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

DX,FLUID-19-12OCT11

Remove Paint Before Welding or Heating



TS220—UN—15APR13

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.

Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.

DX,PAINT-19-24JUL02

Avoid Heating Near Pressurized Fluid Lines

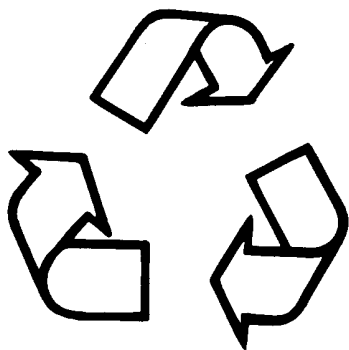


TS953—UN—15MAY90

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.

DX,TORCH-19-10DEC04

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Carefully drain engines, fuel tanks, radiators, hydraulic cylinders, reservoirs, and lines before recycling components. Use leak-proof containers when draining fluids. Do not use food or beverage containers.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids (example: oil, fuel, coolant, brake fluid); filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
- Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.

- Contact your local environmental or recycling center, or your John Deere dealer for information on the proper way to recycle or dispose of waste.

DX,DRAIN-19-01JUN15

Replace Safety Signs



TS201—UN—15APR13

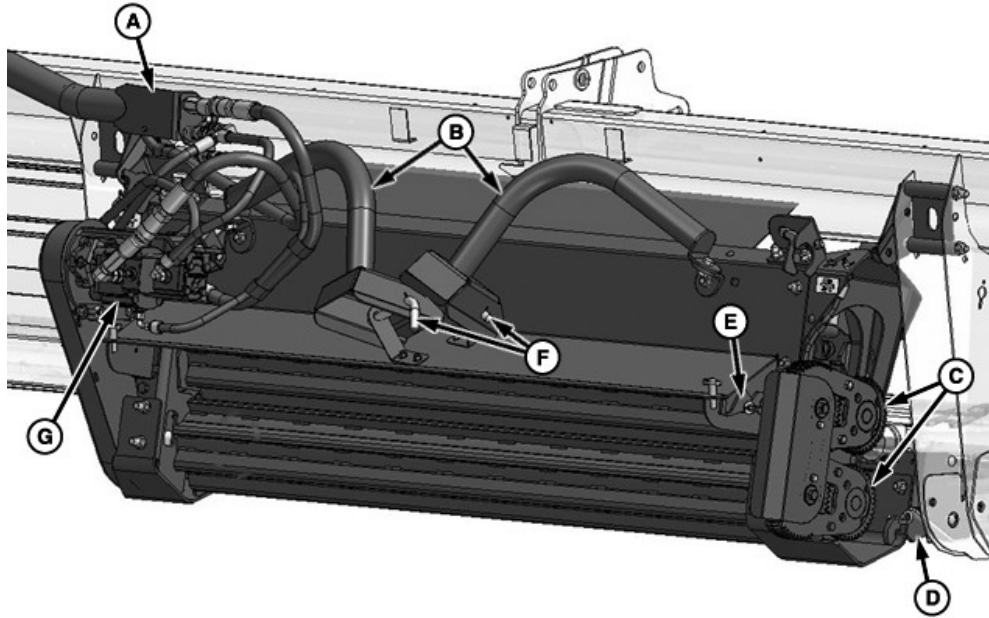
Replace missing or damaged safety signs. Use this operator's manual for correct safety sign placement.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

DX,SIGNS-19-18AUG09

Unloading and Assembly

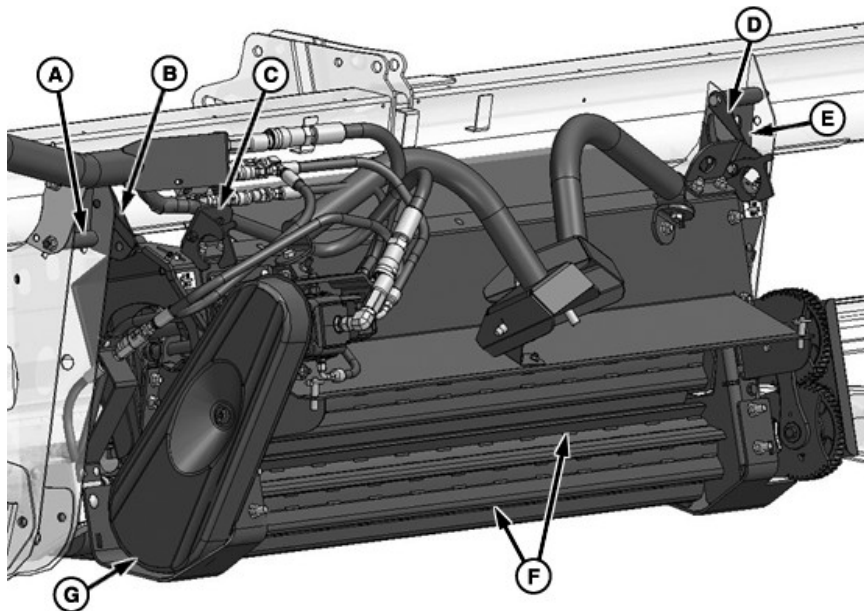
Component Identification



E64392—UN—11JUN12

A—Hydraulics to Header
B—Lift Arms
C—Stand
D—Timing Gears

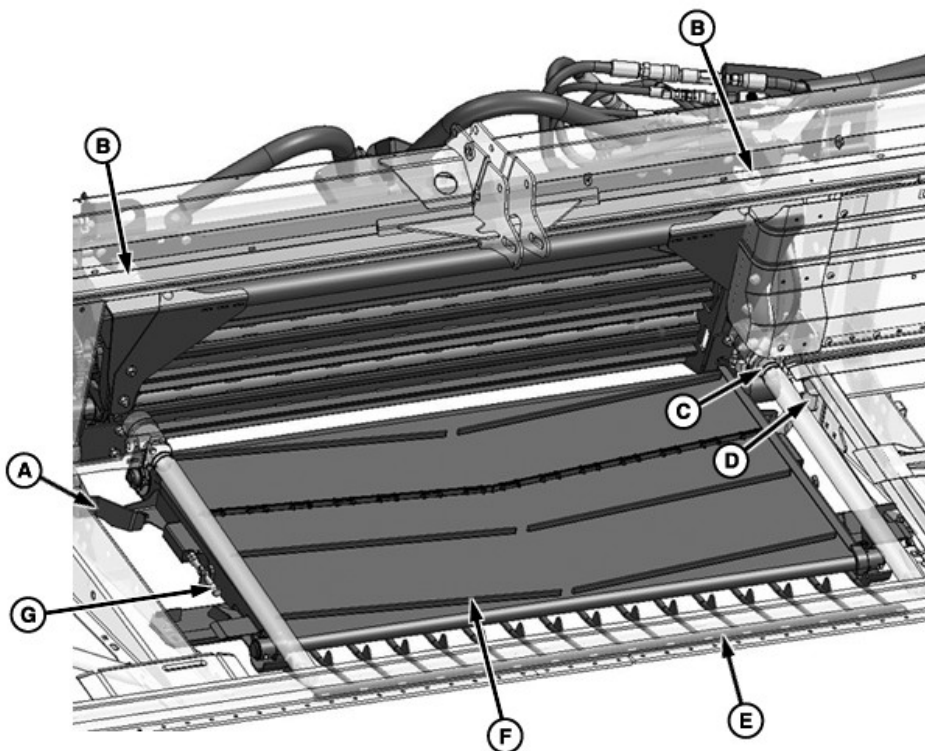
E—Roll Timing Tool
F—L-Pins
G—Hydraulic Motor



E64393—UN—11JUN12

A—Spacer
B—Mounting Bracket
C—Lifting Lugs
D—Mounting Bracket

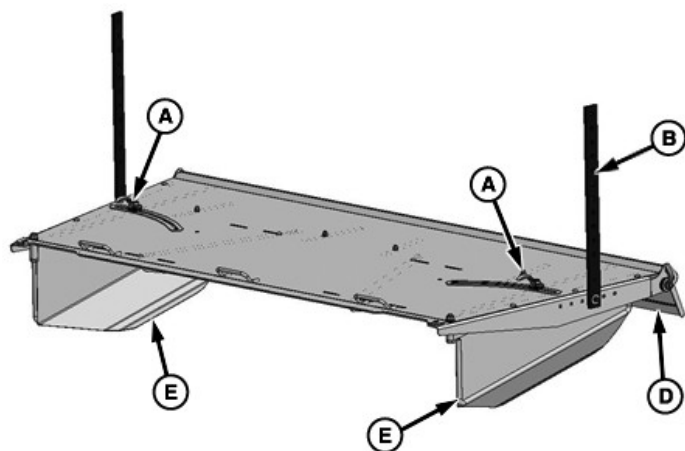
E—Spacer
F—Rolls
G—Drive Belt Shield



E64394—UN—11JUN12

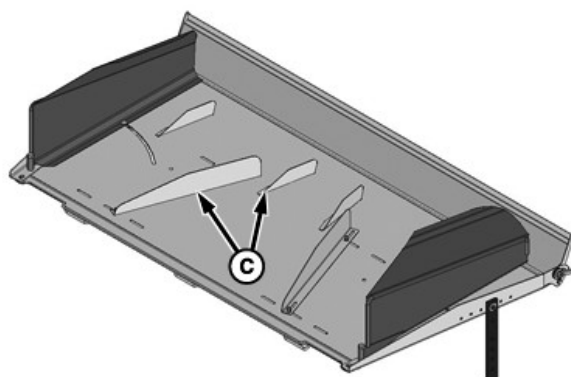
A—Mounting Bracket
B—Roll Gap Adjusters
C—Feed Deck Drive Motor
D—Mounting Bracket

E—Rock Grate
F—Feed Deck
G—Draper Tension Adjuster (2 used)



A—Side Deflector Adjusters
B—Height Adjust Strap (2 used)
C—Deflector Fins

D—Fluffer Shield
E—Side Deflectors



E64395—UN—15MAY12

MM95366,0000266-19-01OCT12

Unload Hay Conditioner

CAUTION: To avoid injury to bystanders, do not allow persons to stand in unloading area.

Equipment used for unloading must meet or exceed the requirements specified. Using inadequate equipment results in vehicle tipping or machine damage.

Minimum lifting capacity	908 kg (2000 lb)
Minimum fork length	1524 mm (60 in)

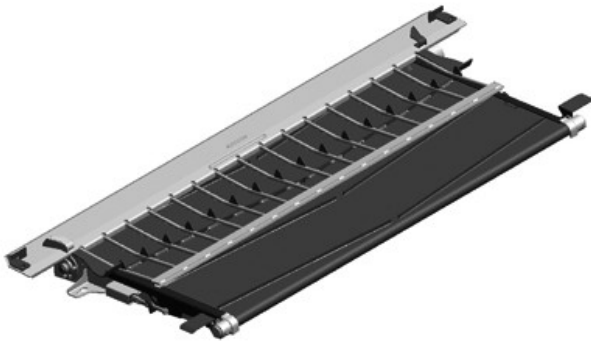
IMPORTANT: Forklifts are rated for a load located 610 mm (24 in) ahead of the back of the forks. Check with your forklift distributor to learn the capacity of the forklift when the load is positioned 1220 mm (48 in) ahead of the back of the forks.

Ensure that the load is secure on the forks.



Hay Conditioner Bundle

E64323—UN—15MAY12



Feed Deck Bundle

E64324—UN—15MAY12

1. To secure the hay conditioner, remove tie-down straps and chains.
2. Use the forklift to lift the first of the three pallets of components off of the trailer deck.
3. Back the forklift up until the forks and pallet clear the trailer. Slowly lower the pallet until it is 150 mm (6 in) above the ground.
4. Take the pallet to the storage or setup area.
5. Place pallets securely on the level ground.
6. Repeat step 2 to step 5 to remove the remaining pallet.
7. Check the shipment for damage and missing parts.

sg77823,1662964830754-19-30SEP22



Forming Shield Bundle

E64325—UN—15MAY12

Prepare Header

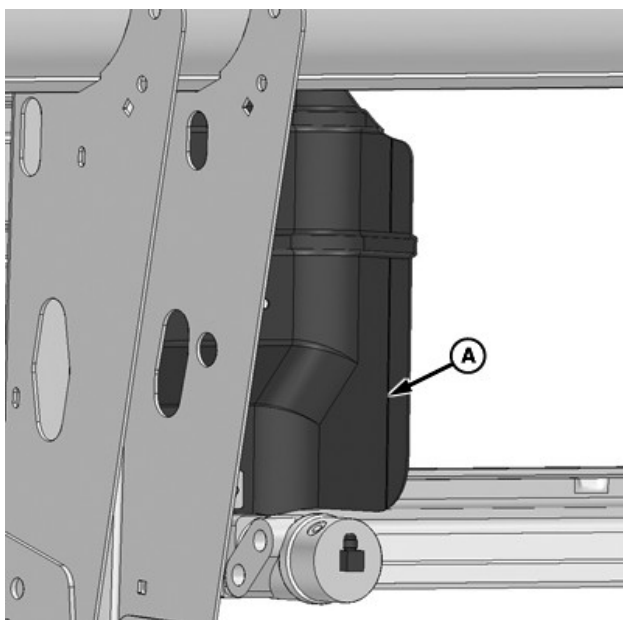
The header to which the hay conditioner has to be attached needs its deflector shield modified.



A—Header Stand

E64326—UN—15MAY12

1. Move header stand (A) to the middle position.
2. Locate plastic deflector on the left-hand side of the header opening.



A—Creased Line

E64327—UN—15MAY12

3. Trim the plastic deflector along creased line (A).

NOTE: The deflector must be trimmed in order to fit the hay conditioner in the header opening.

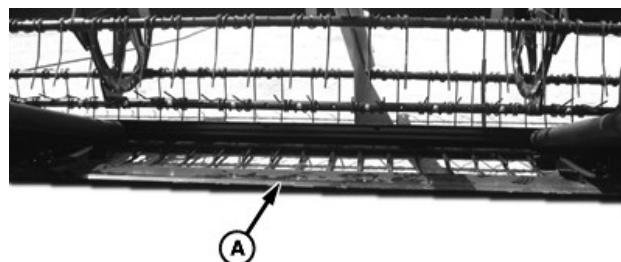
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Install Rock Grate into Header



E64324—UN—15MAY12
Feed Deck/Rock Grate Bundle

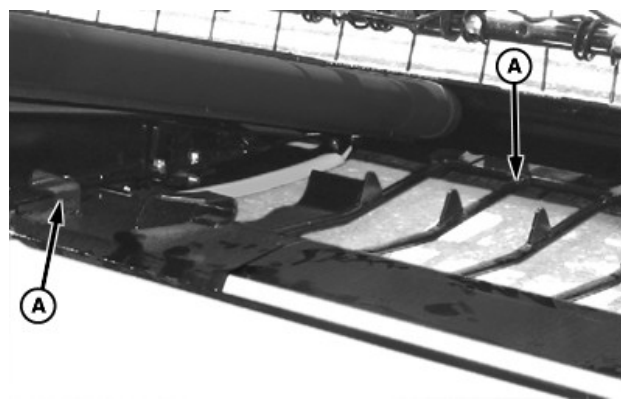
1. Unpack feed deck/rock grate bundle.



E64329—UN—15MAY12

A—Rock Grate

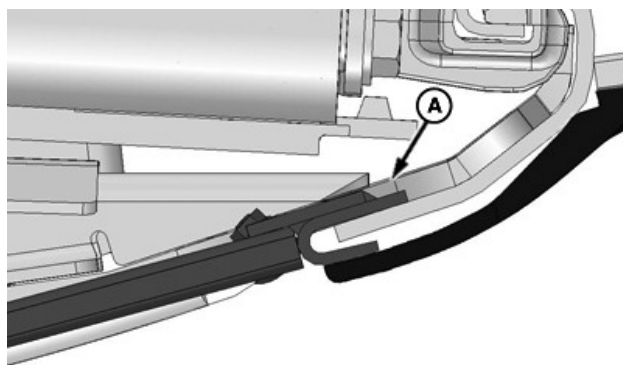
2. Position the rock grate (A) into the center area of the header.



E64330—UN—15MAY12

A—Rear Tabs

3. Position the rock grate so the rear tabs (A) slide over the header leg flanges.

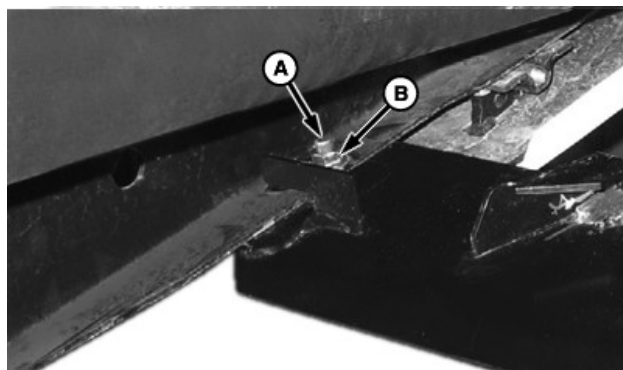


A—Bottom Edge of Cutterbar

E64331—UN—15MAY12

4. Position the front of the rock grate at the bottom edge of cutterbar (A) and slide it forward to engage cutterbar.

NOTE: If the header is equipped with a cutterbar poly wear plate, set the rock grate on top of the poly wear plate in the front of the cutterbar. Push down and forward to seat the rock grate onto the cutterbar.



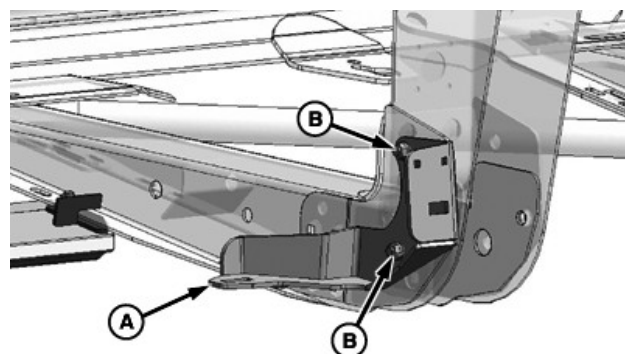
A—Cap Screw (1 each side)
B—Nut (1 each side)

E92601—UN—30OCT19

5. Push the rock grate fully forward, install cap screw (A) from the underside, and retain with nut (B).

MT2WJML_0000136-19-12NOV19

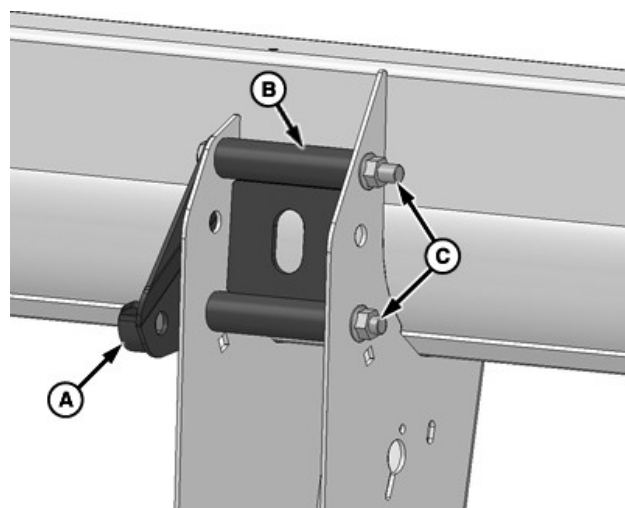
Install Deck Bracket



A—Lower Bracket (2 used)
B—Cap Screw and Nut (4 used)

E64333—UN—15MAY12

1. Attach lower bracket (A) to the inside of both of the center header legs with cap screws and nuts (B).

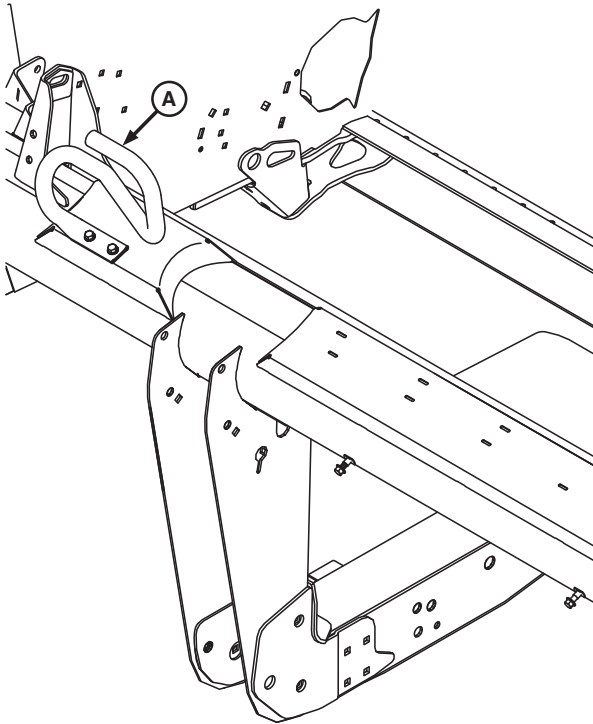


A—Right-Hand Bracket
B—Spacer
C—Cap Screw and Nut (2 used)

E64334—UN—15MAY12

2. Install right-hand upper bracket (A) and spacer (B) onto the right-hand center leg using cap screws and nuts (C).

NOTE: A 15 ft header is shown. Install cap screws from the outboard side for headers with sheet metal hose cover.



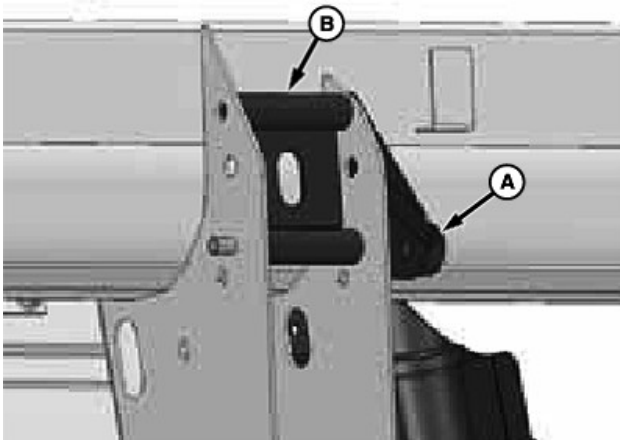
E92602—UN—01NOV19

Hose Guide - 415D Header Shown

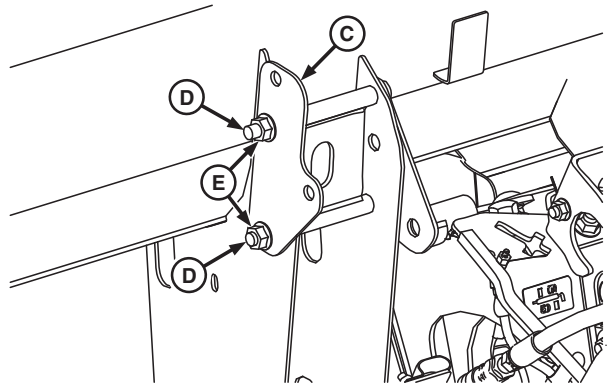
A—Hose Guide

3. Remove hose guide support (A). It is near the left center leg.

NOTE: On 20 ft and larger headers, remove support from position on sheet metal hose cover.



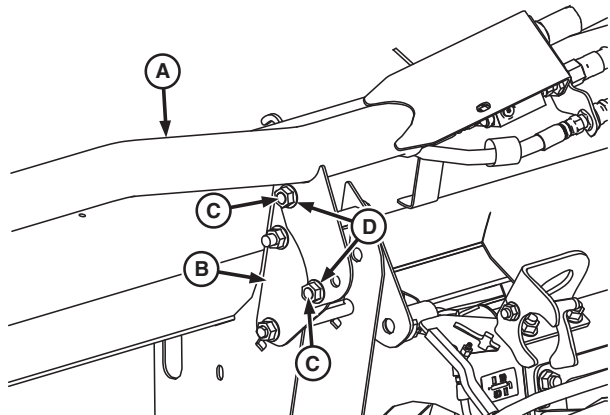
E92603—UN—01NOV19



E92604—UN—01NOV19

- A—Left-Hand Bracket
- B—Spacer
- C—Adapter Plate
- D—Cap Screw (2 used)
- E—Nut (2 used)

4. Attach left-hand upper bracket (A) and spacer (B) onto the inboard side of the left-hand center leg.
5. Install adapter plate (C) and retain with cap screws (D) and nuts (E).
6. Tighten all the hardware as required.



E92605—UN—06NOV19

- A—Hose Assembly
- B—Adapter Plate
- C—Cap Screw (2 used)
- D—Nut (2 used)

7. Attach hose assembly (A) to adapter plate (B) using cap screws (C) and nuts (D).
8. Tighten all the hardware as required.

MT2WJML,0000137-19-12NOV19

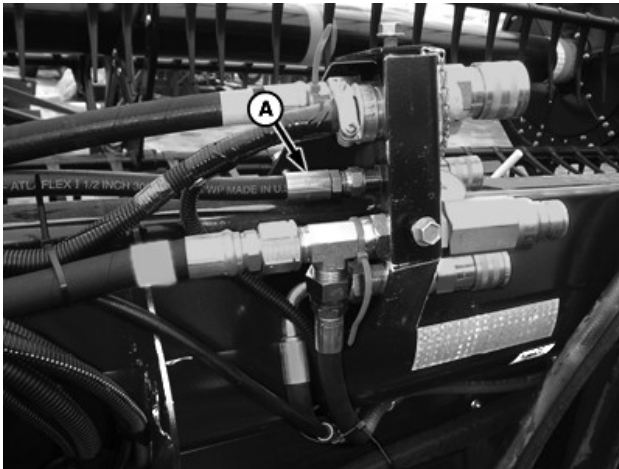
Hydraulic Connections—All Headers Except 15 ft



E64338—UN—15MAY12

A—Hose Cover

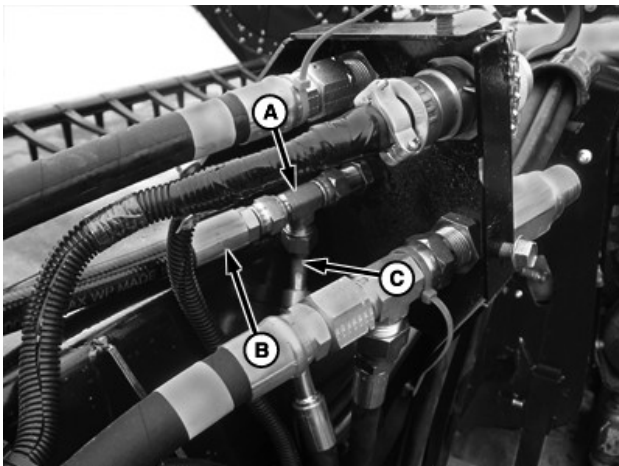
1. Remove the hose cover (A).



E64339—UN—15MAY12

A—Case Drain Hose

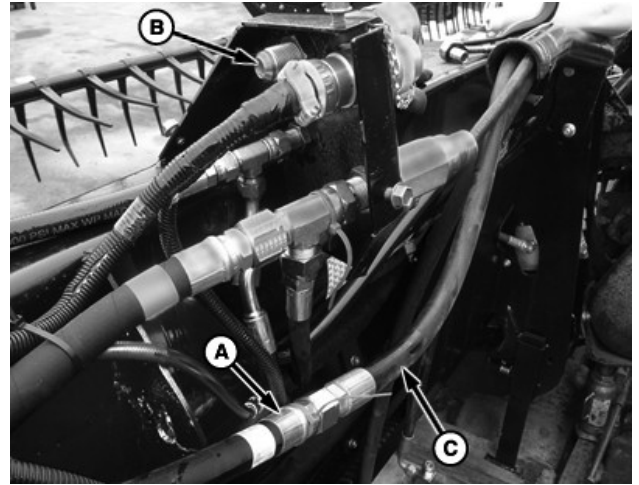
2. Disconnect a case drain hose (A).



E64340—UN—08JUN12

A—T-fitting
B—Hose
C—Case Drain Hose

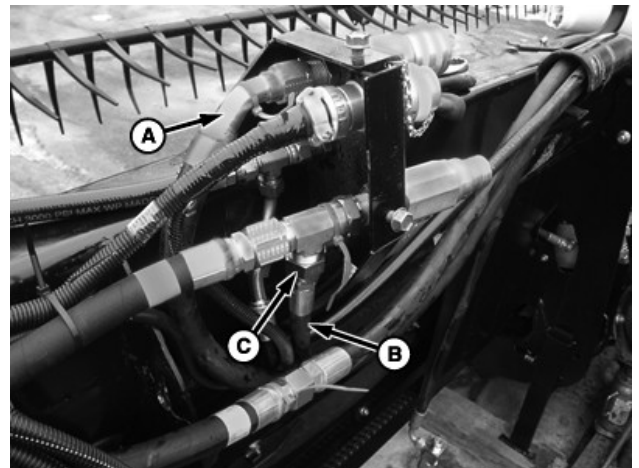
3. Connect T-fitting (A) to hose (B) and to fitting on header.
4. Connect a case drain hose (C) (with 45° tube end) to T-fitting.



E64341—UN—15MAY12

A—Top Knife Drive Hose
B—Fitting
C—Conditioner Return Hose

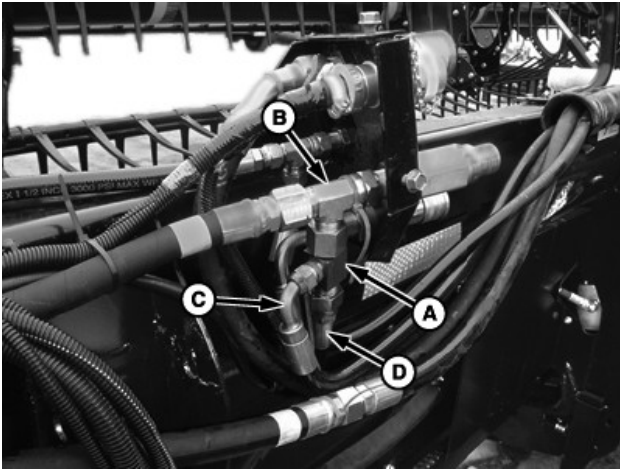
5. Disconnect the top knife drive hose (A) from fitting (B) and connect to a conditioner return hose (C).



E64342—UN—15MAY12

A—Conditioner Drive Hose
B—Draper Return Hose
C—Main Return T-fitting

6. Connect a conditioner drive hose (A).
7. Disconnect the side draper return hose (B) at main return T-fitting (C).



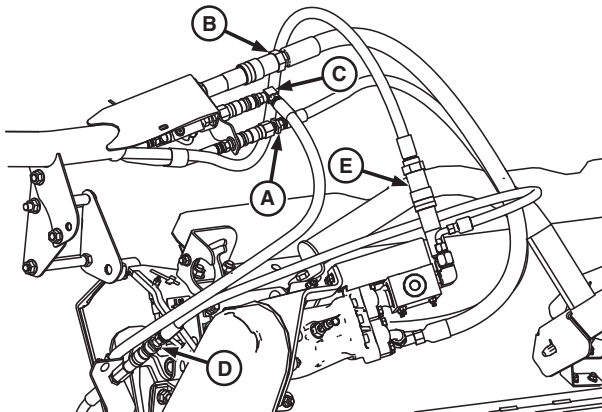
E64343—UN—15MAY12

- A—Check Valve T-fitting
- B—Return T-fitting
- C—Feed Deck Return Hose
- D—Draper Return Hose

8. Connect check valve T-fitting (A) to return T-fitting (B).
9. Connect a feed deck return hose (C) to check valve T-fitting.
10. Reconnect side draper return hose (D) to T-fitting.

NOTE: Verify that hose routing clears sharp edges, use tie bands as needed.

11. Replace a hose cover.



E92611—UN—05NOV19

- A—Case Drain Hose
- B—Conditioner Motor Pressure Hose
- C—Deck Motor Return Hose
- D—Deck Motor Pressure Hose
- E—Conditioner Motor Return Hose

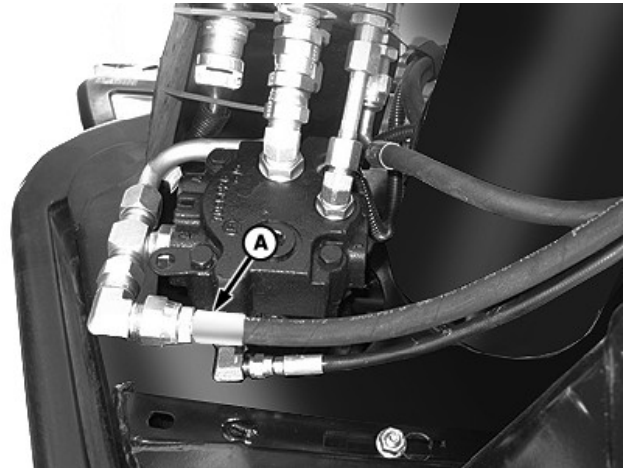
12. Connect hydraulic hoses as follows:

- Case drain hose (A)—Small male quick-disconnect from motor to platform.
- Conditioner motor pressure hose (B)—Large female quick-disconnect from motor to platform.
- Deck motor return hose (C)—Small female quick-disconnect from deck to platform.

- Deck motor pressure hose (D)—Small female quick-disconnect from motor to deck.
- Conditioner motor return hose (E)—Large female quick-disconnect from platform to motor.

SG77823,00006E7-19-27SEP22

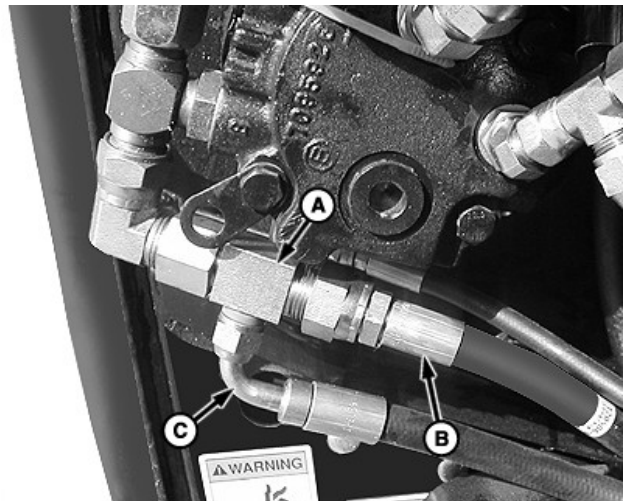
Hydraulic Connections—15 ft Headers



E64344—UN—15MAY12

- A—Return Hose

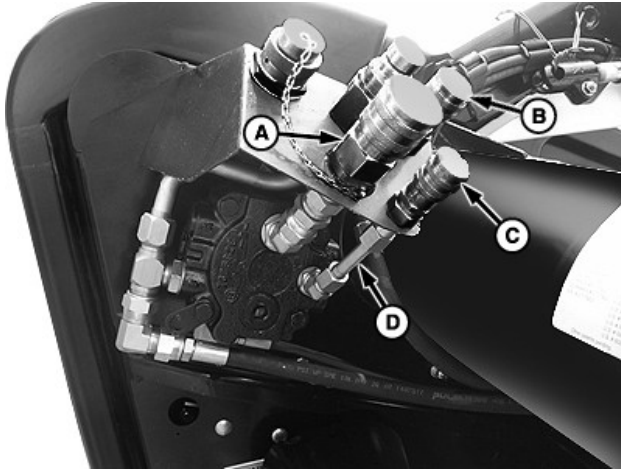
1. Disconnect the return hose (A).



E64345—UN—01JUN12

- A—Check Valve
- B—Return Hose
- C—Draper Return Line

2. Connect check valve (A) to elbow and reconnect return hose (B).
3. Connect supplied feed draper return line (C) from the conditioner hose package to the check valve (A).



E64346—UN—01JUN12

A—Knife Drive Coupler
B—Draper Drive Coupler
C—Case Drain Coupler
D—Extension Tube

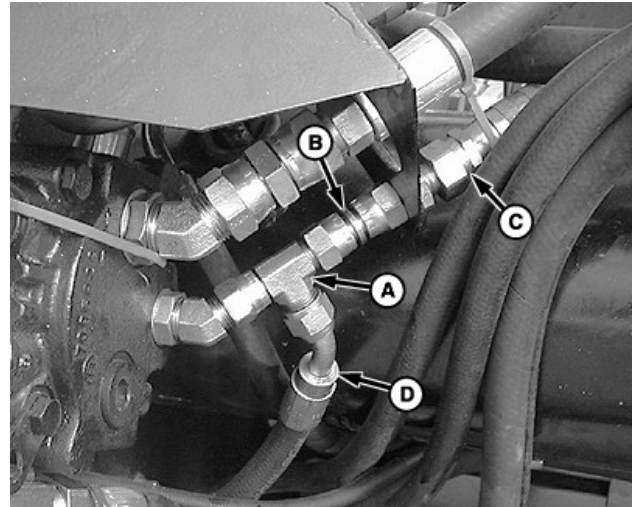
4. Remove knife drive coupler (A), draper drive coupler (B), and case drain coupler (C) along with extension tube (D).



E64347—UN—01JUN12

A—Coupler Bracket
B—Draper Drive Coupler
C—Knife Drive Coupler

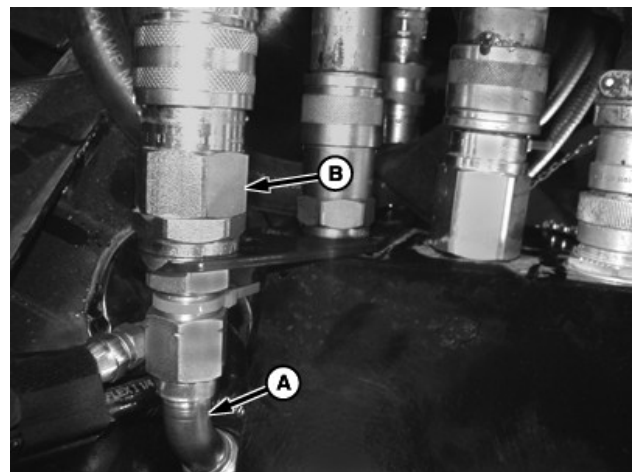
5. Attach supplied coupler bracket (A) onto housing.
6. Reconnect draper drive coupler (B) in its original location.
7. Install knife drive coupler (C) onto the end of coupler bracket (A).



E64348—UN—01JUN12

A—T-Fitting
B—Union
C—Case Drain Coupler
D—Condition Case Drain Hose

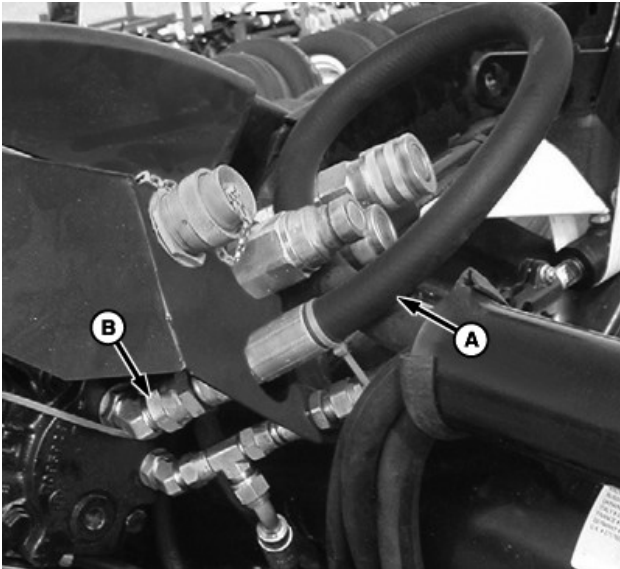
8. Connect T-fitting (A) and union (B) on a motor case drain.
9. Reconnect case drain coupler (C).
10. Route conditioner case drain hose (D) (45° bent tube) behind motor and connect to T-fitting (A).



E64349—UN—15MAY12

A—Conditioner Pressure Hose
B—Coupler

11. Route conditioner pressure hose (A) behind motor and connect to coupler (B).



- A—Case Drain Hose
- B—Conditioner Motor Pressure Hose
- C—Deck Motor Return Hose
- D—Deck Motor Pressure Hose
- E—Conditioner Motor Return Hose

13. Connect hydraulic hoses as follows:

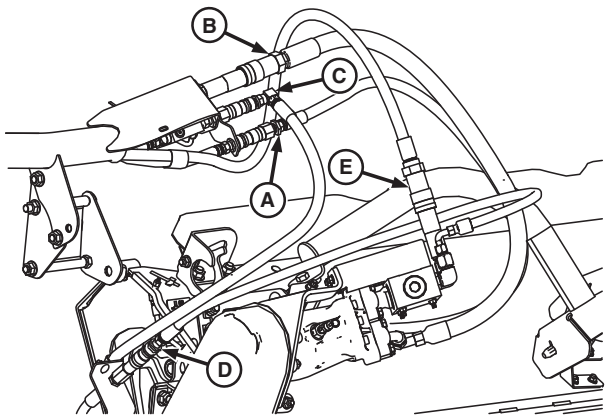
- Case drain hose (A)—Small male quick-disconnect from motor to platform.
- Conditioner motor pressure hose (B)—Large female quick-disconnect from motor to platform.
- Deck motor return hose (C)—Small female quick-disconnect from deck to platform.
- Deck motor pressure hose (D)—Small female quick-disconnect from motor to deck.
- Conditioner motor return hose (E)—Large female quick-disconnect from platform to motor.

SG77823,00006E6-19-16OCT22

- A—Conditioner Return Line
- B—Pressure Port

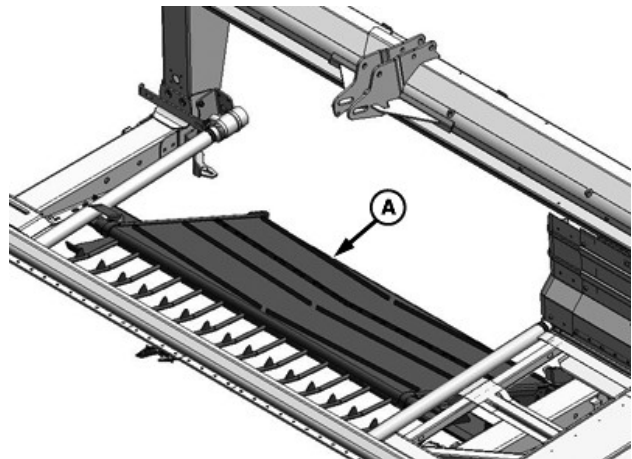
12. Route conditioner return line (A) over the top of couplers and connect to the pressure port (B).

NOTE: Ensure that all hoses installed so far are clear of the windrower tires.



E92611—UN—05NOV19

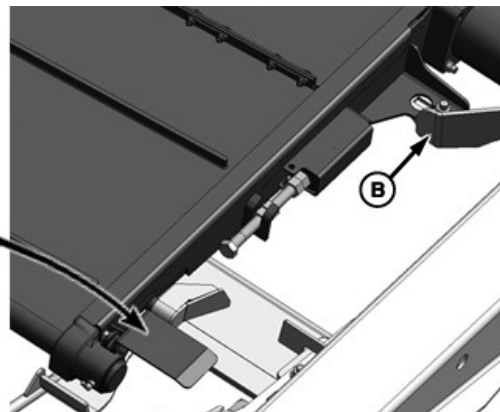
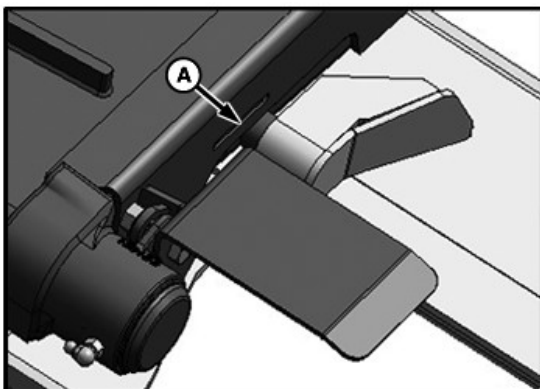
Feed Deck Installation



E64351—UN—15MAY12

- A—Feed Deck

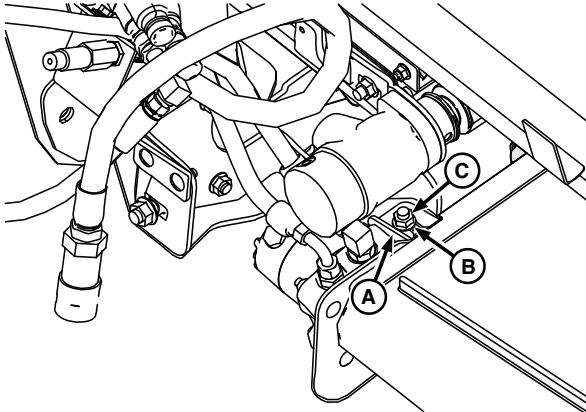
1. Slide feed deck (A) under the header opening from the rear.



E64352—UN—11JUN12

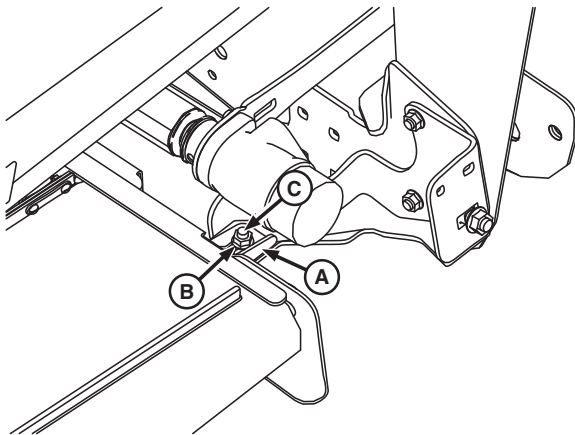
A—Rock Grate

- Position the front of the deck onto the rock grate (A), then slide the feed deck forward until locating pins (B) reaches to pockets on the rock grate.



Feed Deck - Left Side

E92606—UN—04NOV19



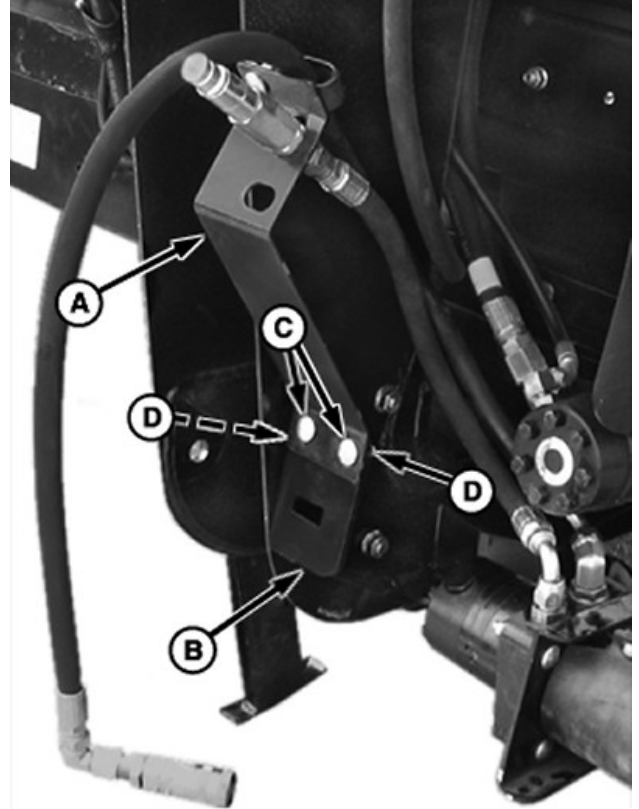
Feed Deck - Right Side

E92607—UN—04NOV19

- A—Bracket (2 used)
- B—Nut (2 used)
- C—Cap Screw (2 used)

- Lift rear feed deck until mounts clear brackets (A).
- Install one cap screw (C) into each mounting bracket (A).
- Install nuts (B) and tighten as required.

B—Locating Pins



E92609—UN—01NOV19

- A—Hose Bracket
- B—Mounting Bracket
- C—Cap Screw (2 used)
- D—Nut (2 used)

- Attach hose bracket (A) to the mounting bracket (B) with cap screws (C) and nuts (D). Tighten all hardware as required.
- Adjust header side drapers to overlap feed deck by 65 —75 mm (2.5 — 3 in). See header Operator's Manual for procedure.

SG77823,000069F-19-10OCT22

Install Conditioner

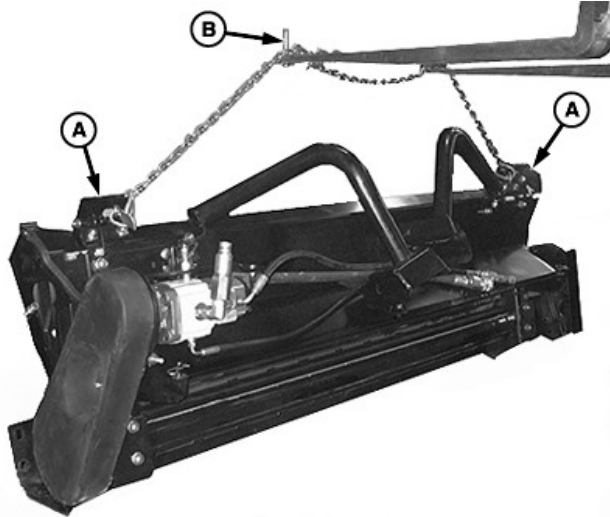
Lifting Method

CAUTION: To prevent possible injury or damage from vehicle tipping over, use a correct equipment that meets the specified requirements.

Lifting Vehicle Specifications	
Minimum Lifting Capacity*	Minimum Fork Length
908 kg (2000 lb)	1524 mm (60 in)
* At 1220 mm (48 in) from the back end of forks.	

IMPORTANT: Most forklifts are rated for a load 610 mm (24 in) ahead of the back end of the forks. Obtain a forklift with the proper load rating of 1220 mm (48 in) ahead of the back end of the forks for this procedure.

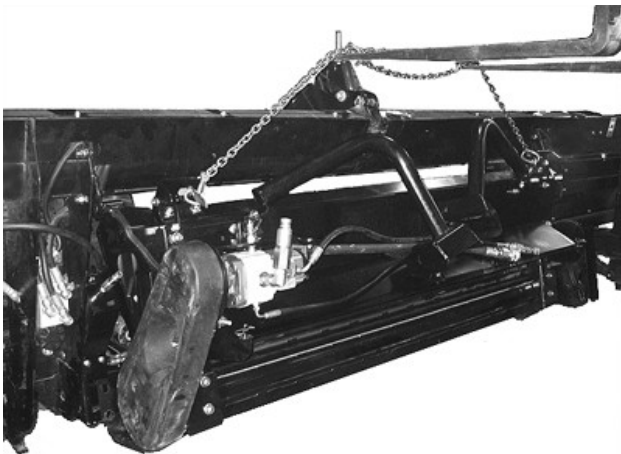
Lifting Chain Specifications	
Chain Type	Minimum Working Load
Overhead Lifting Quality 13 mm (1/2 in)	2270 kg (5000 lb)



E64356—UN—01JUN12

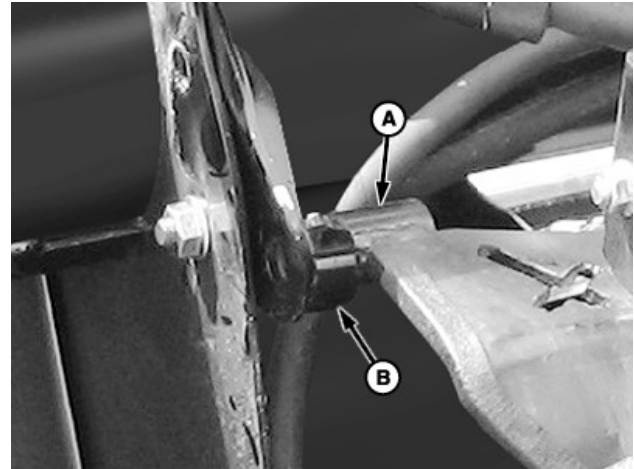
A—Lift Bracket (2 used)
B—Lifting Device

1. Attach a chain to lift brackets (A) on the conditioner and lifting device (B).
2. Lift the conditioner off of the shipping pallet.



E64357—UN—15MAY12

3. Position the conditioner into the platform opening.

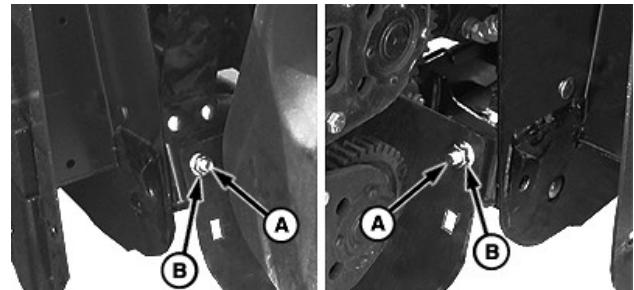


E64358—UN—11JUN12

A—Upper Mounting Lug (2 used)
B—Hanging Bracket (2 used)

4. Lower upper mounting lugs (A) of conditioner onto the hanging brackets (B).

NOTE: Verify that the conditioner is seated properly in the hanging brackets before removing chains.

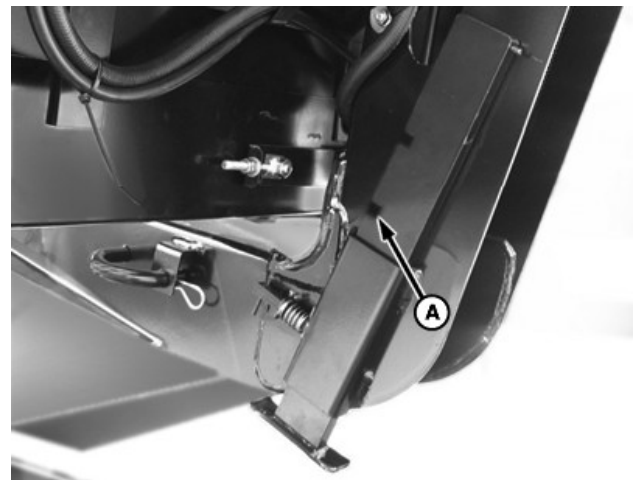


E92620—UN—07NOV19

A—Cap Screw (2 used)
B—Nut (2 used)

5. Install cap screws (A) and nuts (B) in the lower attachment locations. Tighten all hardware as required.

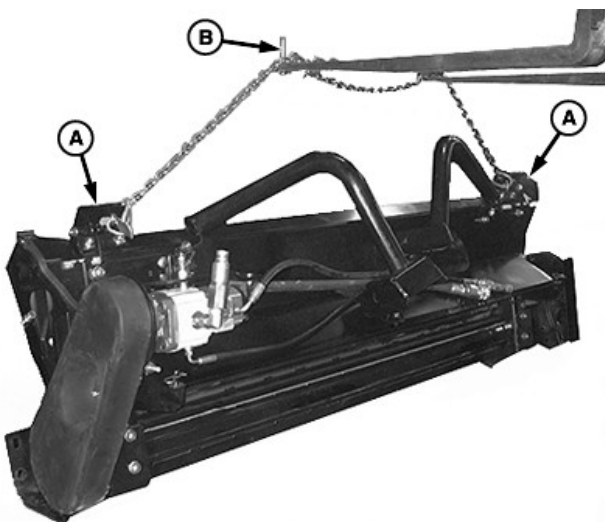
Windrower Method



E64326—UN—15MAY12

A—Middle Position

1. Adjust the platform stand to the middle position (A).

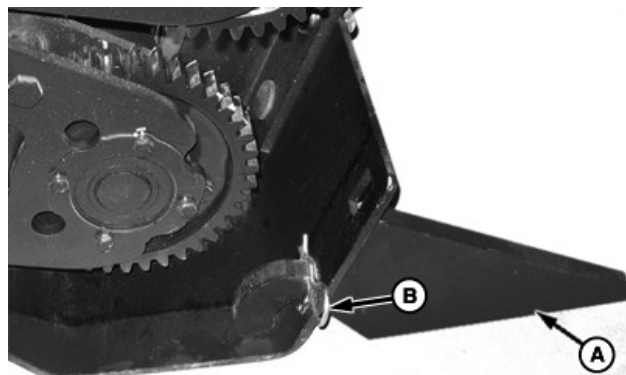


A—Lift Bracket (2 used)
B—Lifting Device

E64356—UN—01JUN12

2. Attach a chain to lift brackets (A) on the conditioner and lifting device (B).

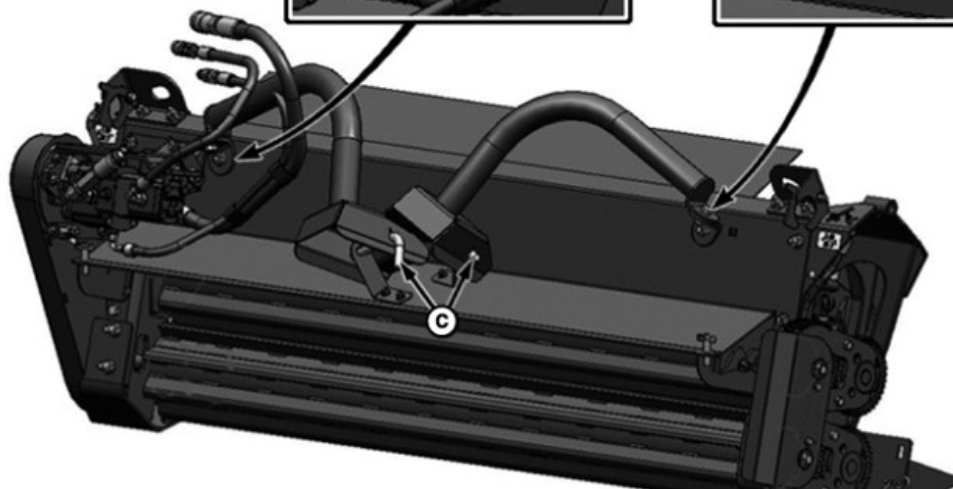
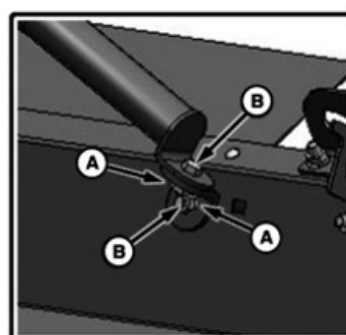
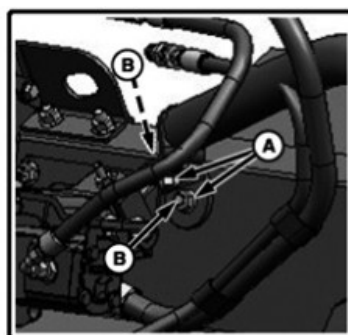
3. Lift the conditioner off of the shipping pallet and remove the shipping blocks.



E64363—UN—15MAY12

A—Support
B—Pin

4. Install supplied support (A) in the slot at the lower right-hand end of conditioner. Retain with the pin (B).
5. Remove shipping blocks from the conditioner (if these are present).
6. Lower conditioner to the ground.
7. To allow lift arms to swing out, loosen cap screws (B).

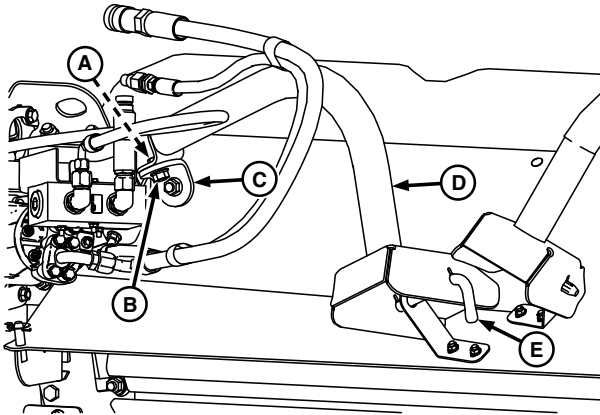


A—Nut (2 used)
B—Cap Screw (2 used)

C—L-Pin (2 used)

E548072—UN—17OCT22

8. Remove L-pin (C) from the right side.



E92614—UN—05NOV19

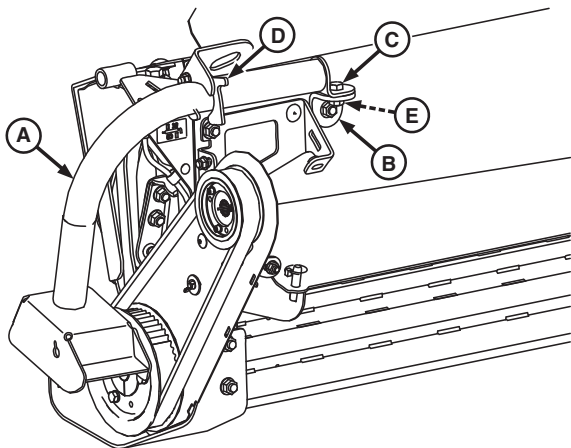
A—Cap Screw
B—Nut
C—Bracket
D—Lift Arm
E—L-Pin

9. Remove and retain cap screw (A) and nut (B).

10. Remove L-pin (E) securing lift arm (D) to the conditioner.

NOTE: Rotate L-pin (E) to align the key-hole slot.

11. Remove lift arm (D) from bracket (C).



E92615—UN—05NOV19

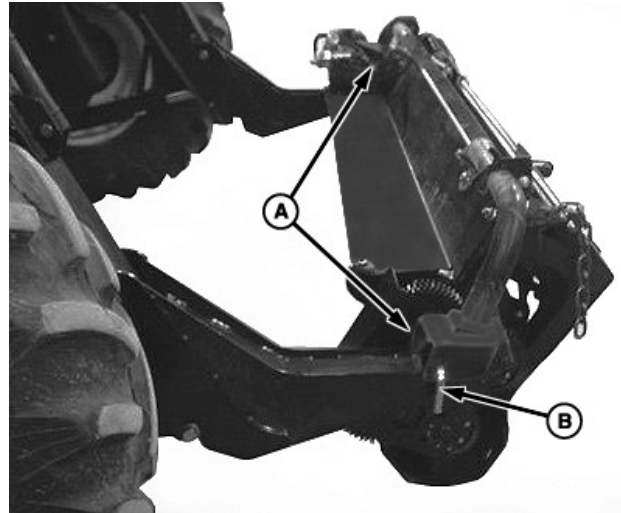
A—Lift Arm
B—Bracket
C—Cap Screw
D—Latch
E—Nut

12. Position lift arm (A) as shown and secure with latch (D).

13. Install cap screw (C) through the lift arm (A) and bracket (B).

14. Secure with nut (E).

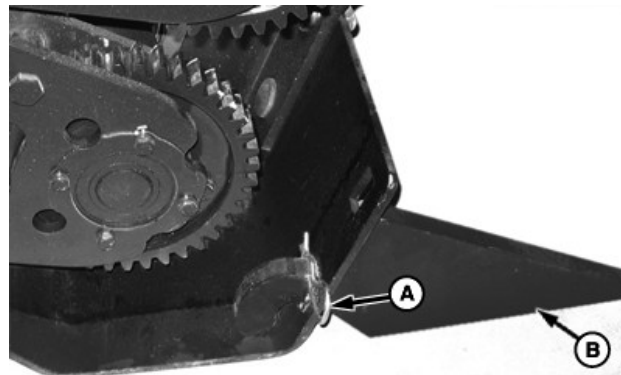
15. Tighten all the hardware as required.



E64366—UN—15MAY12

A—Windrower Arm (2 used)
B—L-Pin (2 used)

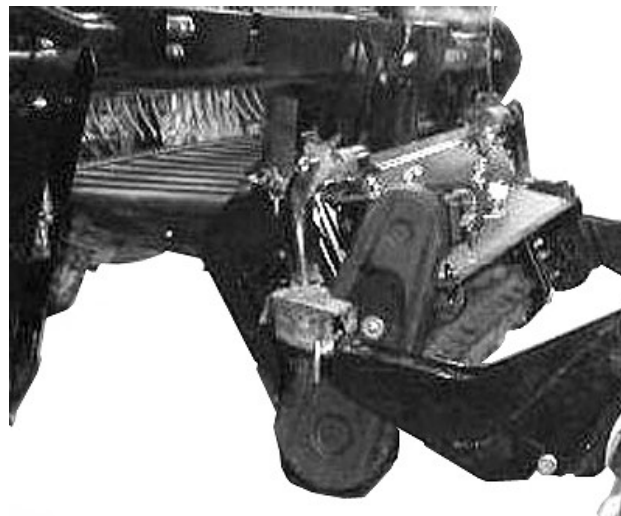
16. Position the windrower arms (A) in lift arm pockets and retain with L-pins (B).



E64367—UN—18MAY12

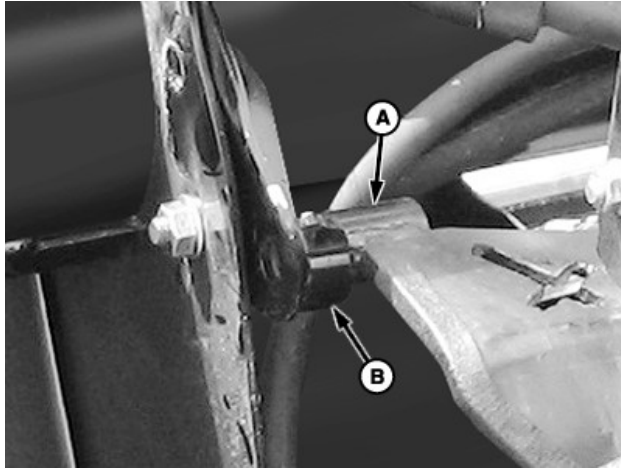
A—Pin
B—Stand

17. Remove the pin (A) and stand (B).



E64368—UN—15MAY12

18. Lift the conditioner and position into the platform opening from the rear.

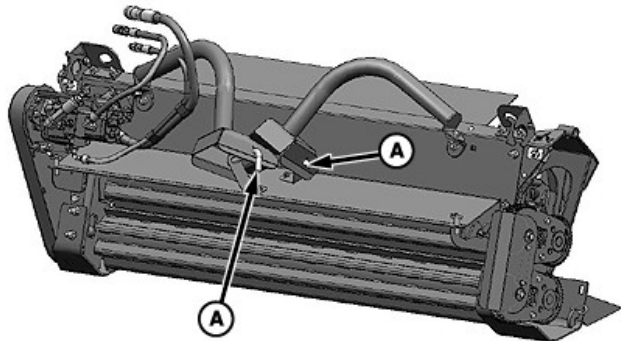


A—Upper Mounting Lug (2 used)
B—Hanging Bracket (2 used)

E64358—UN—11JUN12

19. Lower the upper mounting lugs (A) of conditioner onto hanging brackets (B).

NOTE: Verify that the conditioner is seated properly in brackets before removing chains.

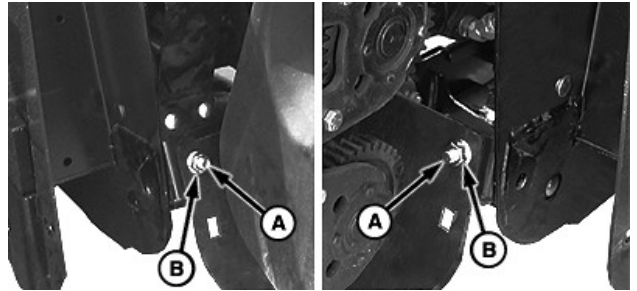


E64370—UN—15MAY12

A—L-Pin (2 used)

To release the lift arm, remove the L-pin (A). To fold-up the lift arm to storage position, repeat steps 5—13 in reverse order.

NOTE: For the left-hand bracket, install the cap screw with the head facing conditioner.



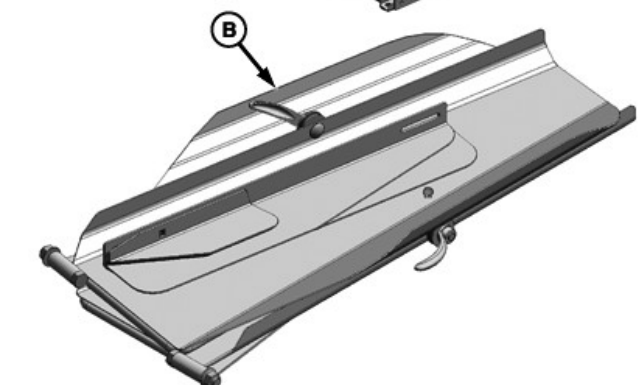
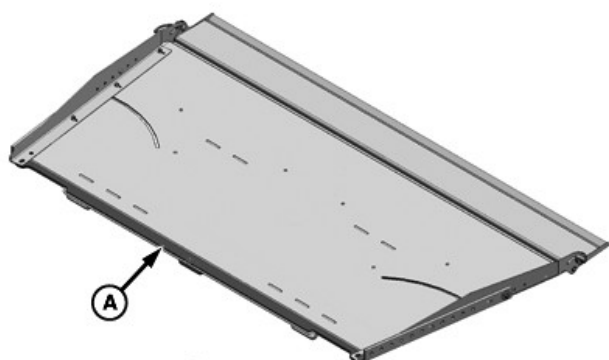
E92620—UN—07NOV19

A—Cap Screw (2 used)
B—Nut (2 used)

20. Install cap screws (A) and nuts (B), and tighten as required.

SG77823.000069C-19-17OCT22

Assemble Forming Shield



A—Forming Shield Cover
B—Deflector and Fin

E64373—UN—15MAY12

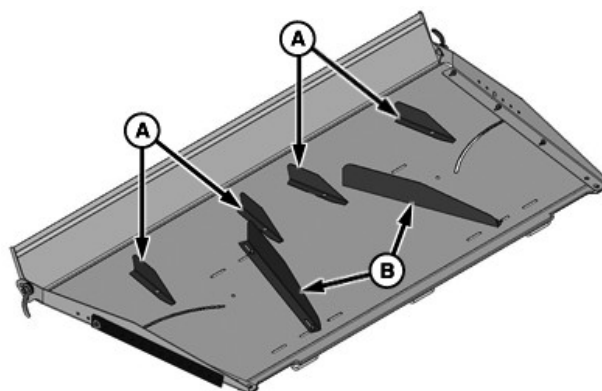
1. Unpack forming shield cover (A) and deflector and fin (B).



A—Forming Shield Cover

E64374—UN—15MAY12

2. Position cover (A) on flat surface with flanges facing up.

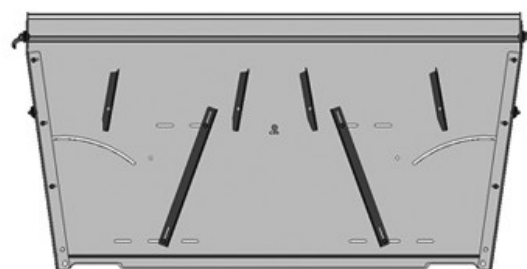


E64375—UN—15MAY12

A—Short Fin
B—Long Fin

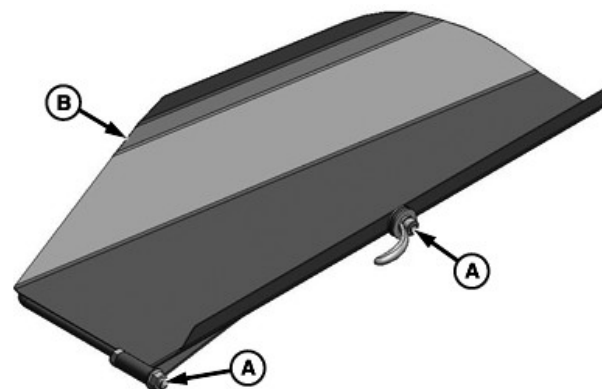
3. Attach short fin (A) to the bottom of the shield as shown using the hardware provided.
4. Follow same step for all short fins and long fins.
5. Install fin (B) with cap screws on outboard side of fin. Cap screws must be installed with nuts against fin.

NOTE: The fins are only effective for windrowers greater than 1778 mm (70in), or if the shape of the windrower is unsatisfactory.



E64376—UN—15MAY12

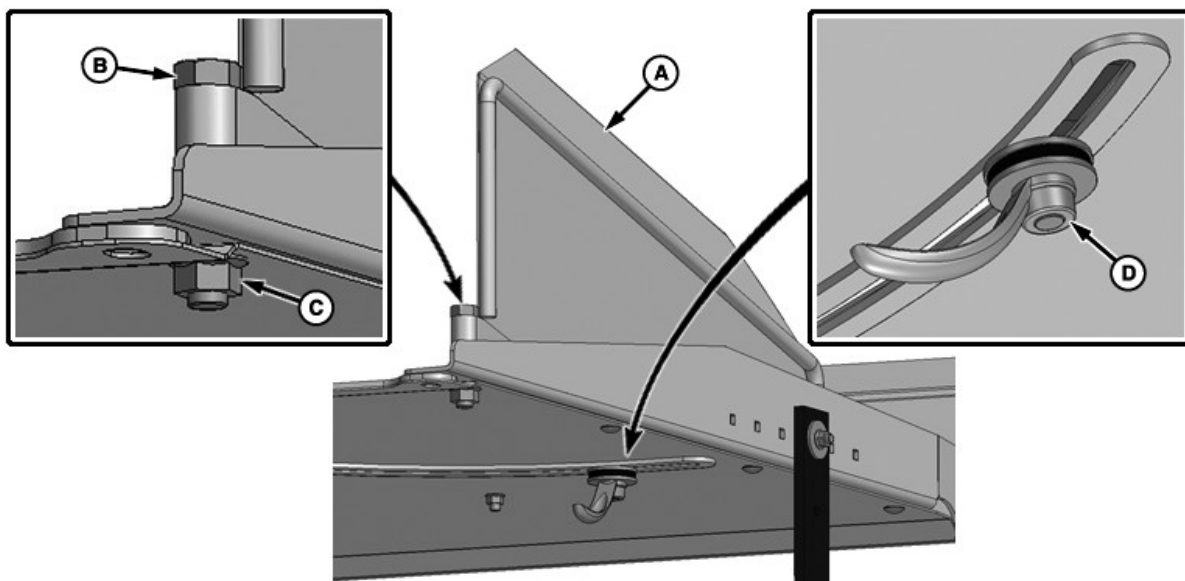
6. Position fins as shown and tighten hardware.



E64377—UN—15MAY12

A—Hardware
B—Side Deflector

7. Remove hardware (A) from side deflectors (B).



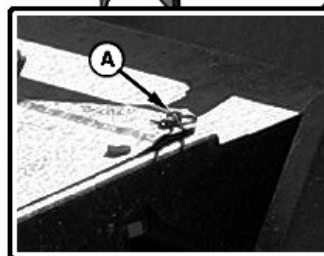
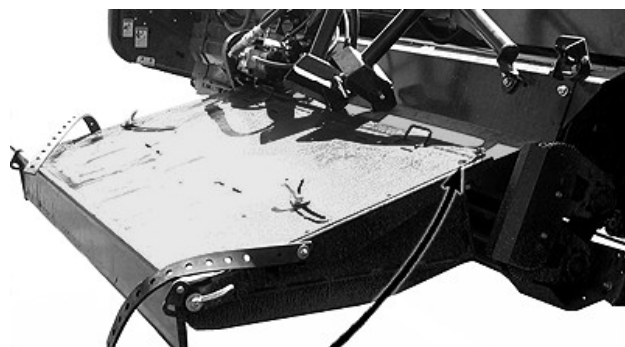
E64378—UN—01JUN12

A—Deflector
B—Cap Screw

C—Flange Nut
D—Handle Nut

Forming Shield Installation

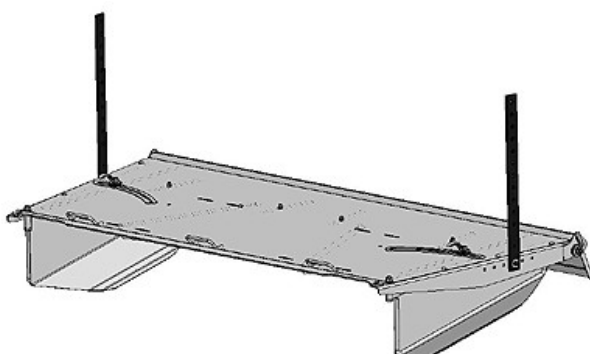
8. Position deflector (A) on cover. Install cap screw (B) and hand tighten flange nut (C) to hold deflector in position.
9. Tighten the flange nut enough so that it holds deflector (A) in position, but still allows the deflector to be adjusted.
10. Install cap screw, washers, and handle nut (D) (rubber washer between metal washers). Tighten handle nut (D) to lock deflector in desired position.
11. Repeat step 7 for other deflector.



E64380—UN—15MAY12

A—Quick-Lock Pin

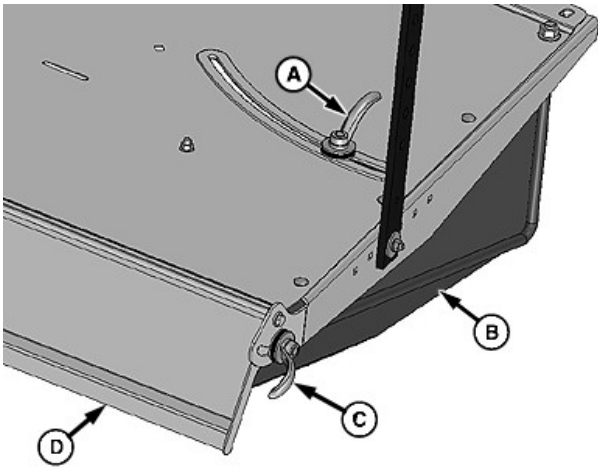
1. Position forward end of forming shield on pins located on rear cover, retain with quick-lock pins (A).



E64379—UN—15MAY12

12. Invert forming shield to installation position.

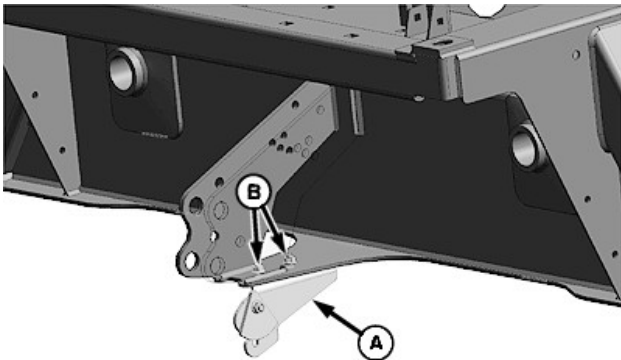
MM95366,0000208-19-16OCT22



E64381—UN—01JUN12

A—Handle
B—Side Deflector
C—Handle
D—Fluffer Shield

2. Loosen handle (A) and position side deflector (B) to desired width and tighten handle. Set both side deflectors to same position.
3. Loosen handles (C) and adjust fluffer shield (D) to middle position and tighten.



E64382—UN—01JUN12

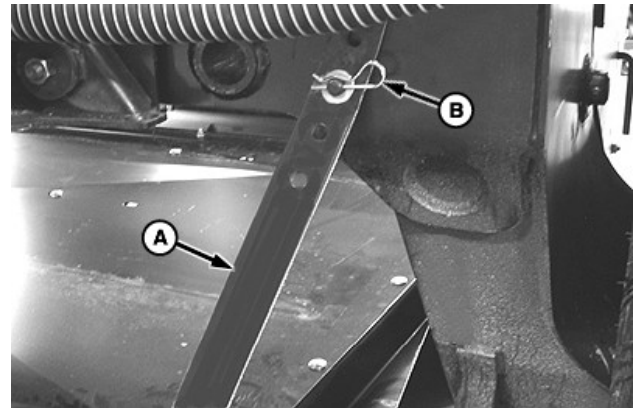
A—Transport Support
B—Round Head Bolts and Nuts

4. Install shield transport support (A) on traction unit frame with round head bolts and nuts (B).

MM95366,0000209-19-18JUN12

Header Installation

NOTE: Refer to *W Series Self-Propelled Windrower Unloading & Assembly Instructions* or *Operator's Manual* for instructions on attaching header to *W Series Traction unit*.



E64383—UN—01JUN12

A—Strap
B—Washer and Pin

1. Lift aft end of forming shield and attach strap (A), retain with provided washer and pin (B). Use middle hole and adjust height to crop.

MM95366,000020A-19-14JUN12

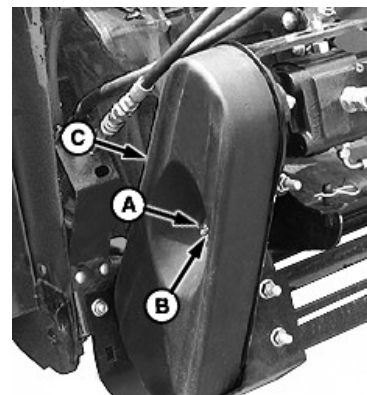
Pre-Delivery Checks

IMPORTANT: Prevent possible machine damage or poor performance. Perform checks and adjustments listed.

Checking Roll Drive Belt Tension

NOTE: The tension on the hay conditioner's drive belt must be set correctly in order for the conditioner drive to function.

1. Locate the belt drive cover on the right side of the hay conditioner. Remove the wing nut (A), washer (B), and cover (C).

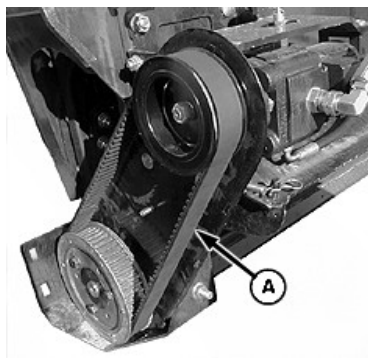


E64386—UN—29MAY12

A—Wing Nut
B—Washer
C—Cover

2. Belt deflection is 7.9 mm (5/16 in) when 22—49 kg (5—11 lbf) is applied at the center of span (A).

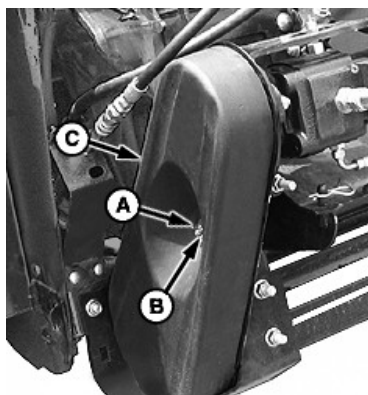
To adjust the belt tension, refer to Roll Drive Belt in Maintenance section.



E64387—UN—15MAY12

A—Center of Span

3. Position cover (C) as shown. Secure the cover with wing nut (A) and washer (B).



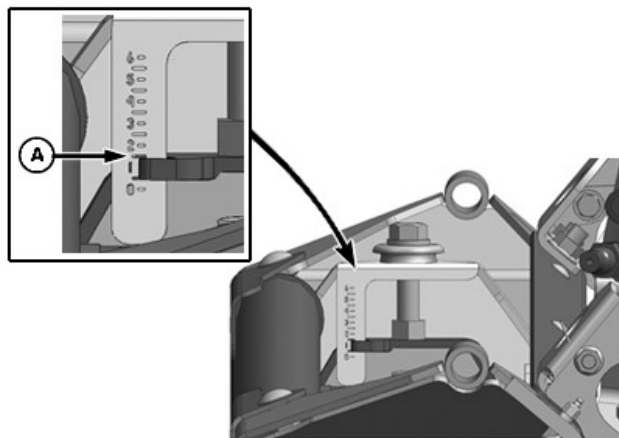
E64386—UN—29MAY12

**A—Wing Nut
B—Washer
C—Cover**

Checking Conditioner Rolls

Roll Gap

1. The gap between the hay conditioner rolls determines the degree to which crop is conditioned as it passes through the rolls. The gap is set at factory, but it must be inspected before the hay conditioner is used.



E64389—UN—15MAY12

A—Gauge

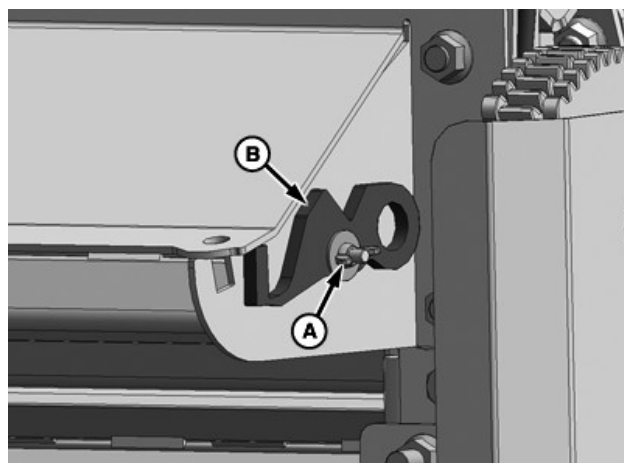
To adjust belt tension, refer to Roll Drive Belt in Maintenance section.

2. Factory setting is 20 mm (0.75 in) or 1.5 on gauge (A). Make sure that the gauge readings are the same at both ends of the roll.

NOTE: Measurements must be identical at each end of the rolls.

Checking Roll Timing

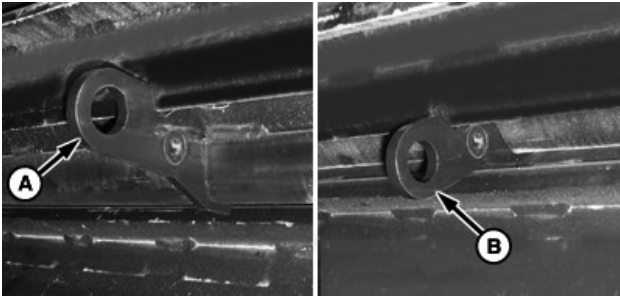
The bars on one of the hay conditioner rolls must intermesh with the bars on the other roll.



E64390—UN—15MAY12

**A—Wing Nut and Washer
B—Timing Tool**

1. Lower the platform to the ground, shut off the engine, and remove the ignition key.
2. Remove the wing nut and washer (A) and timing tool (B) from the panel at the right-hand end of the conditioner.



A—Start Position
B—Gauge Position

E64391—UN—15MAY12

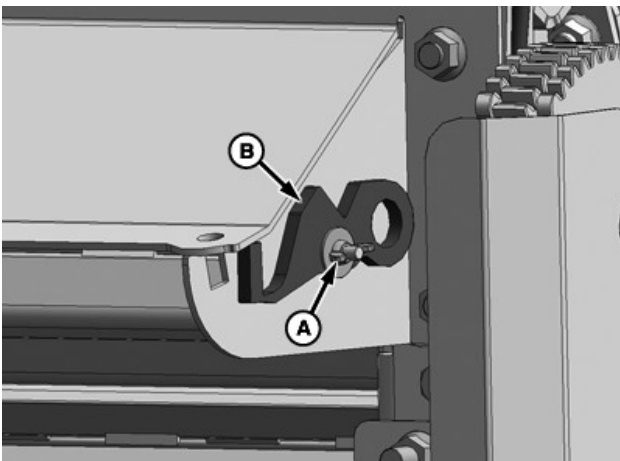
3. From the rear of the conditioner, position the tool at the center of the rolls as shown.
4. Manually turn rolls to the limits (start position [A] and gauge position [B]) of the tool. If the roll timing is correct, rolls engage the tool.
5. Manually turn rolls to release the timing tool.
6. If necessary, adjust the roll timing.
7. Return timing tool (B) to the storage location on the right end of the conditioner. Secure the tool with wing nut and washer (A).

interfering parts. Run the machine for a total of 15 minutes.

IMPORTANT: Ensure that the timing tool is removed from the rolls and replaced in the storage position. The timing tool damages rolls if it is not removed before the hay conditioner is engaged.

2. Perform the header's run-up check to ensure that the machine is field-ready. Refer to the header's unloading and assembly instructions.

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E64390—UN—15MAY12

A—Wing Nut and Washer
B—Timing Tool

IMPORTANT: Ensure that the timing tool is removed from the rolls and replaced in the storage position. The timing tool damages rolls if it is not removed before the hay conditioner is engaged.

Run the Conditioner

NOTE: Refer to the W-Series Self-Propelled Windrower Operator's Manual for operating instructions.

1. Start the windrower and run the machine. Operate the conditioner slowly for 5 minutes. From the operator's seat, watch and listen for binding or

Pre-Delivery Checklist

Perform checks and adjustments prior to delivery to customer. Refer to Set-Up Instructions for adjustment details. Completed checklist should be retained by operator or dealer.

Conditioner Serial Number: _____

⚠ CAUTION: Be alert for safety related hazard and unsafe practice messages.

✓	Item	Section
	Check for shipping damage or missing parts. Remove all shipping dunnage.	20
	Check roll drive belt tension.	40
	Check conditioner roll gap, timing, and alignment.	20
	Check rear and side forming shields are set to desired position.	20
	Grease all bearings.	50
	Check roll intermesh hardware is securely tightened.	30
	Check hydraulic hose routing.	20
	Run-up Procedure	20
	Check reverse operating mode.	See Windrower Manual
	Check hydraulic hose routing for clearance when raising or lowering header.	
	Post run-up checks. Stop Engine	
	Check for hydraulic leaks.	
	Check belt drive for alignment and heated bearings.	40
	Check manuals in Windrower cab.	

Date Checked: _____

Checked by: _____

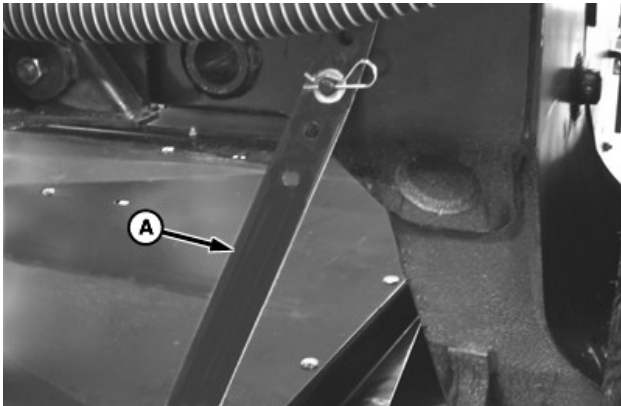
Operation

Attaching Hay Conditioner

Refer to Unloading and Assembly Section to install Hay Conditioner and Forming Shield on D Series Draper Header.

MM95366,0000243-19-01OCT12

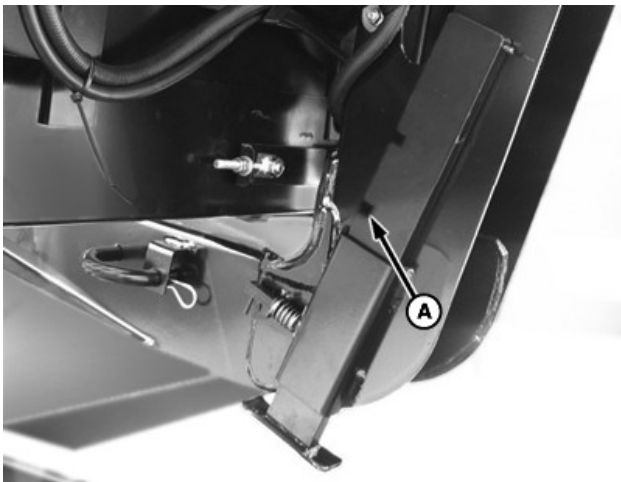
Detaching Hay Conditioner



E64396—UN—15MAY12

A—Strap (1 each side)

1. Disconnect straps (A) from the traction unit frame.

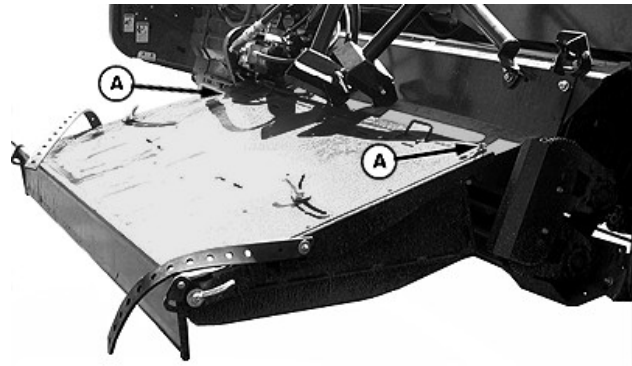


E64326—UN—15MAY12

A—Mid-Position

2. Lower header-stand to mid-position (A).
3. Detach header from the traction unit.

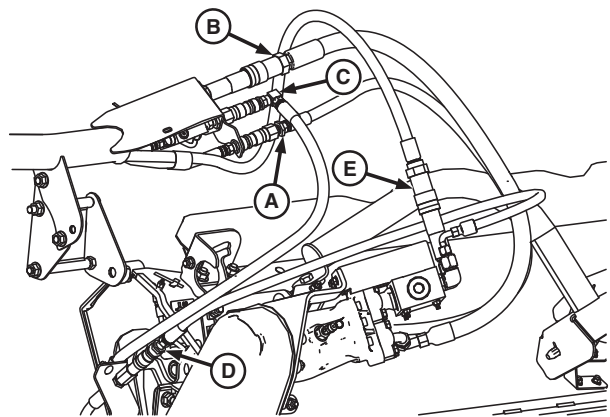
NOTE: Refer to *W Series Self-Propelled Windrower Operator's Manual* for instructions.



E64398—UN—15MAY12

A—Quick-Lock Pin (1 each side)

4. Remove quick-lock pins (A) and the forming shield.

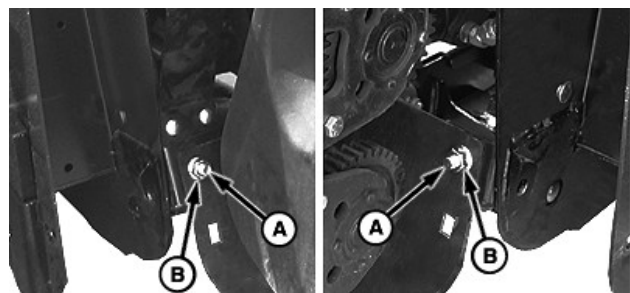


E92611—UN—05NOV19

**A—Case Drain
B—Conditioner Motor Pressure
C—Deck Motor Return
D—Deck Motor Pressure
E—Conditioner Motor Return**

5. Disconnect hydraulic hoses as follows:

- Case drain hose (A)—Small male quick-disconnect from motor to platform.
- Conditioner motor pressure hose (B)—Large female quick-disconnect from motor to platform.
- Deck motor return hose (C)—Small female quick-disconnect from deck to platform.
- Deck motor pressure hose (D)—Small female quick-disconnect from motor to deck.
- Conditioner motor return hose (E)—Large female quick-disconnect from platform to motor.

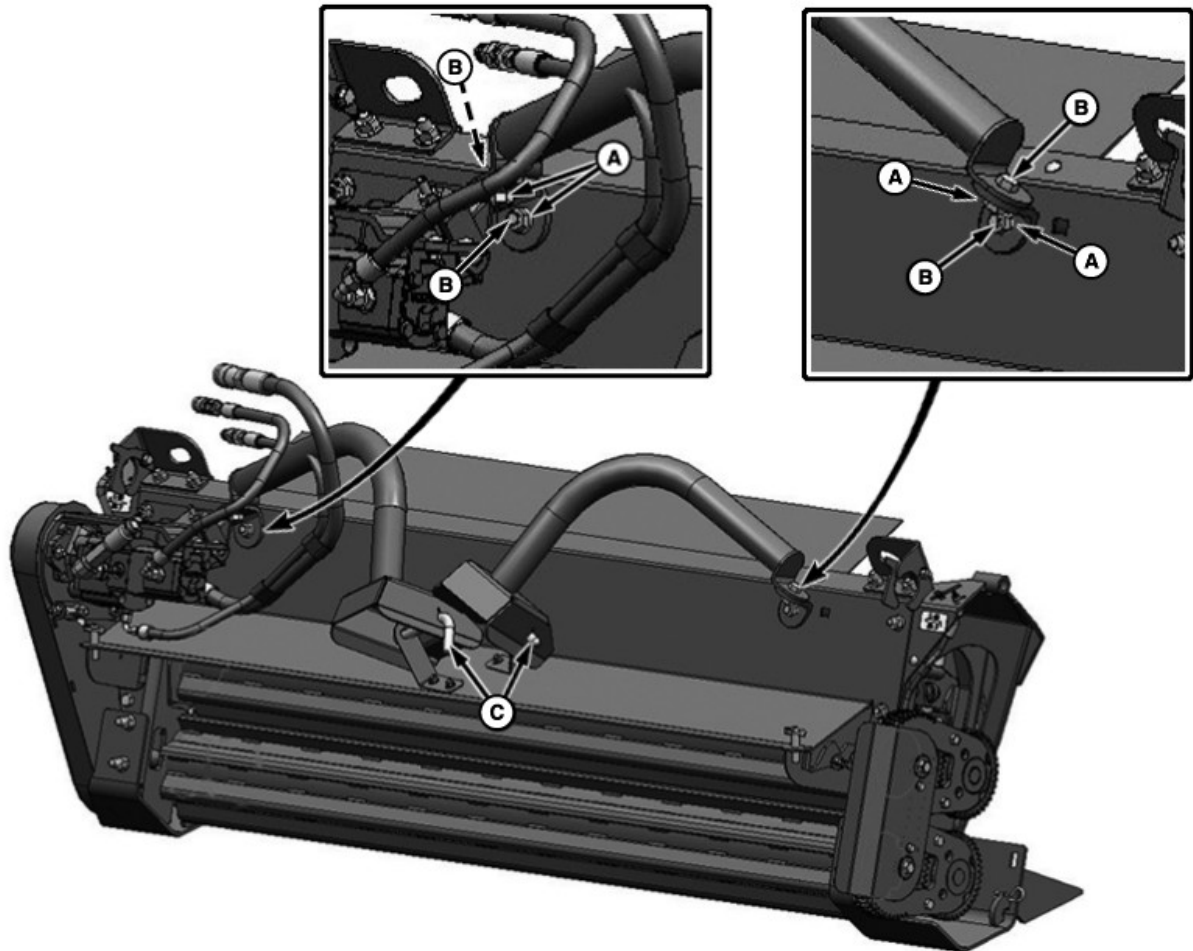


E92620—UN—07NOV19

A—Cap Screw (1 each side)
B—Nut (1 each side)

6. Remove cap screws (A) and nuts (B) that attach the conditioner to the header.

Traction Unit Method

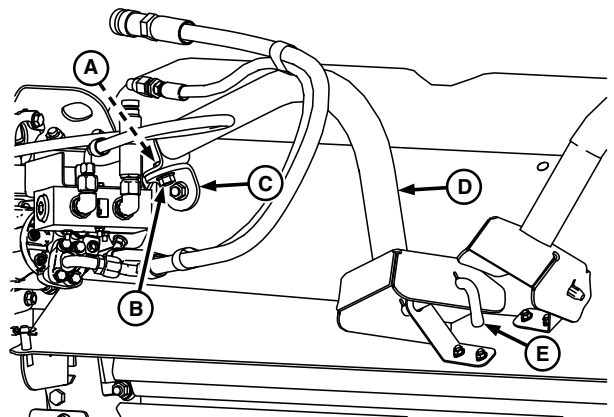


A—Nut (2 each side)
B—Cap Screw (2 each side)

C—L-Pin (2 used)

E92612—UN—01NOV19

1. To allow lift arms to swing out, loosen cap screws (B).
2. Remove L-pin (C) from the right side.

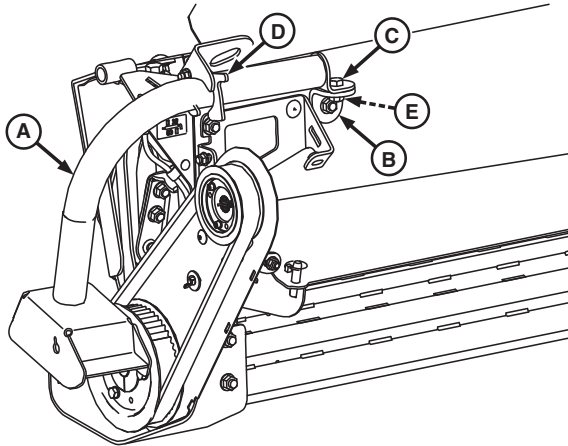


A—Cap Screw
B—Nut
C—Bracket

E92614—UN—05NOV19

D—Lift Arm
E—L-Pin

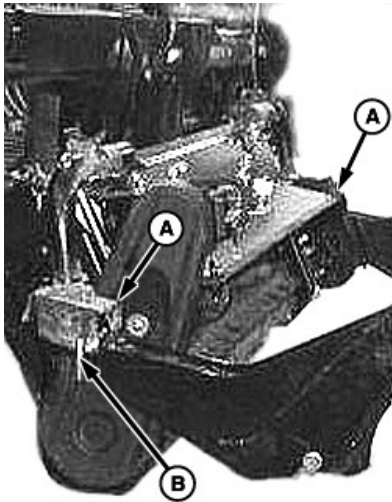
3. Remove and retain cap screw (A) and nut (B).
4. Remove L-pin (E).
5. Remove lift arm (D) from bracket (C).



E92615—UN—05NOV19

A—Lift Arm
B—Bracket
C—Cap Screw
D—Latch
E—Nut

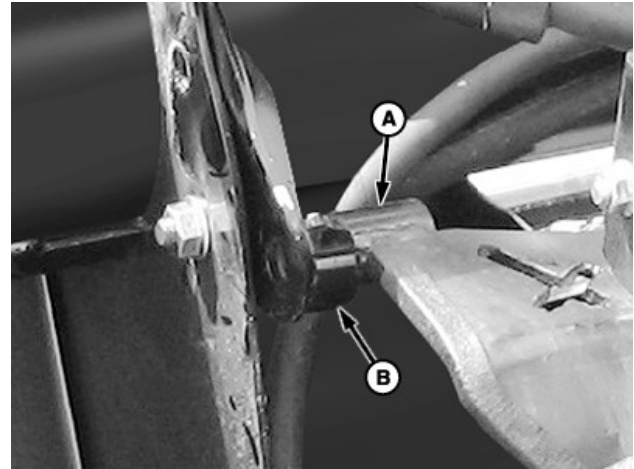
6. Position lift arm (A) as shown and secure with latch (D).
7. Install cap screw (C) through the lift arm (A) and bracket (B).
8. Secure with nut (E).
9. Tighten all the hardware as required.



E64403—UN—15MAY12

A—Traction Unit Arm (1 each side)
B—L-Pin (2 used)

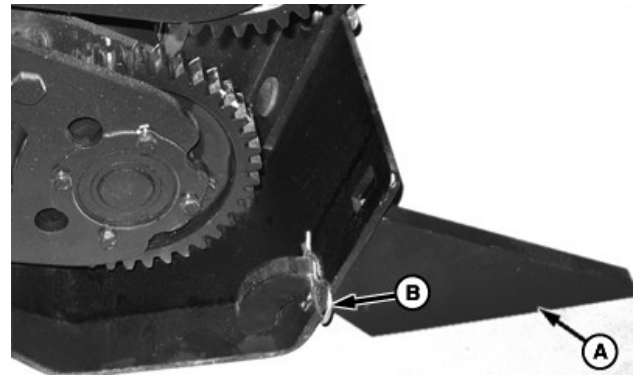
10. Position traction unit arms (A) in the lift-arm pockets and retain with L-pin (B).



E64358—UN—11JUN12

A—Lug (1 each side)
B—Bracket (1 each side)

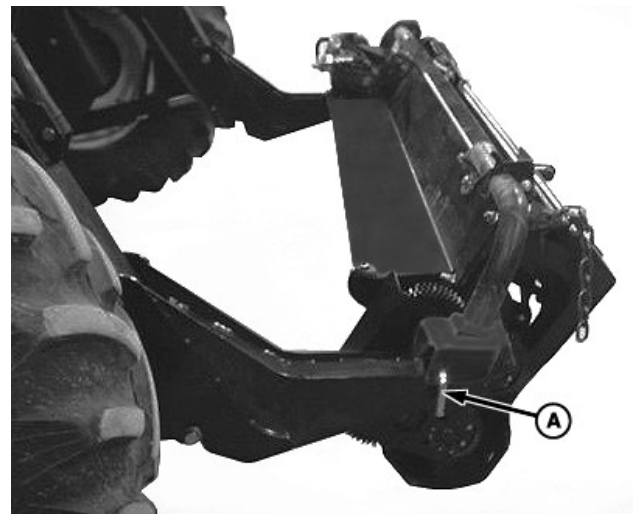
11. Raise traction unit lift legs until lugs (A) on the conditioner clear the U-shaped brackets (B).
12. Slowly back traction unit away from header.



E64363—UN—15MAY12

A—Stand
B—Pin

13. Install stand (A) in the slot at bottom of the conditioner base and secure with pin (B).

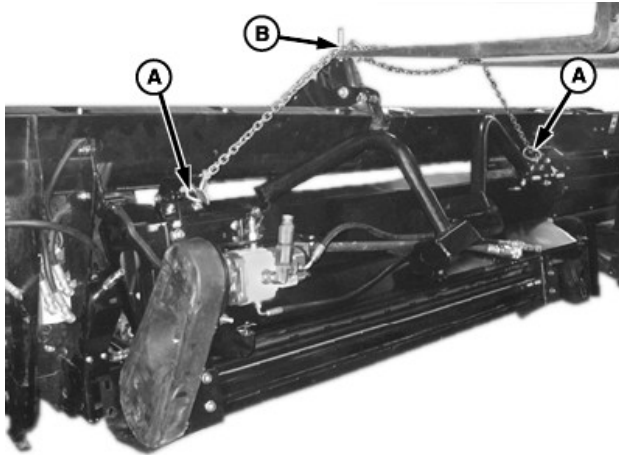


E64406—UN—24MAY12

A—L-Pin (1 each side)

14. Lower conditioner to ground, remove L-pins (A) from lift arms, and back traction unit away. Replace the L-pins.

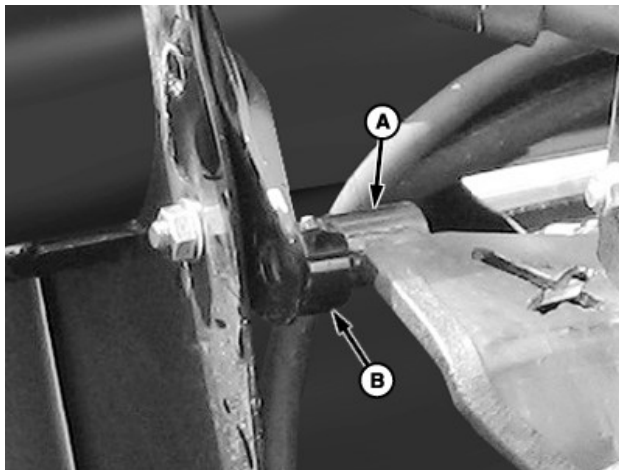
Lifting Method



A—Lifting Bracket (1 each side)
B—Lifting Device

E64407—UN—23MAY12

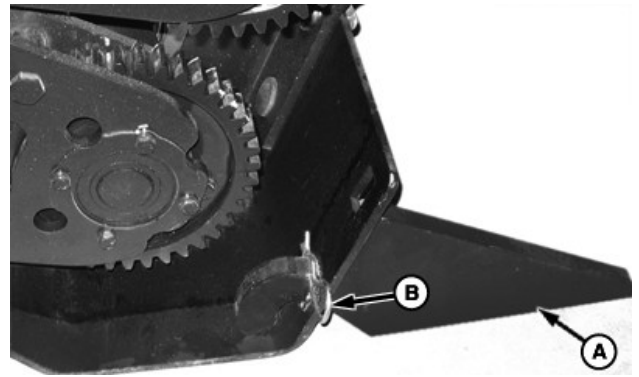
1. Attach chain to lifting brackets (A) and lifting device (B).



A—Lug (1 each side)
B—Bracket (1 each side)

E64358—UN—11JUN12

2. Elevate lifting device until lugs (A) clear brackets (B). Back forklift away from the header.



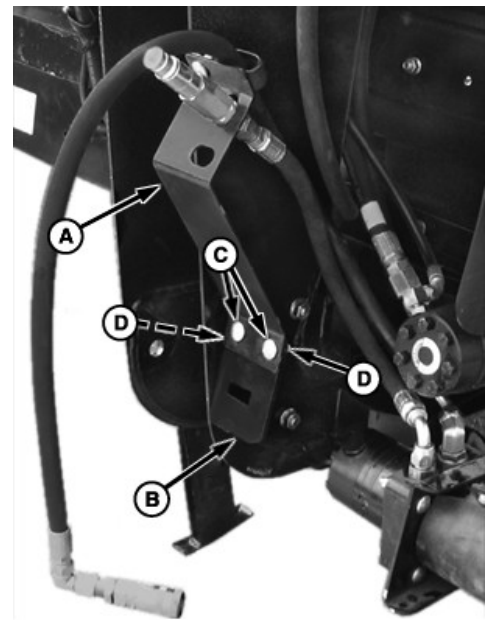
E64363—UN—15MAY12

A—Stand
B—Pin

3. Install stand (A) in the slot at bottom of the conditioner base and retain with pin (B).
4. Lower conditioner to ground and remove chains.

MT2WJML,000013B-19-13NOV19

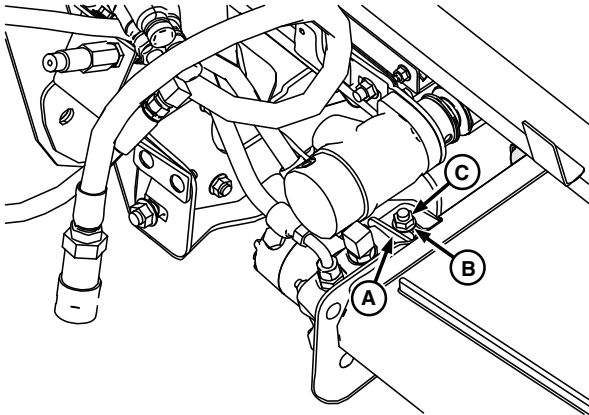
Detaching Feed Deck and Rock Grate



E92608—UN—01NOV19

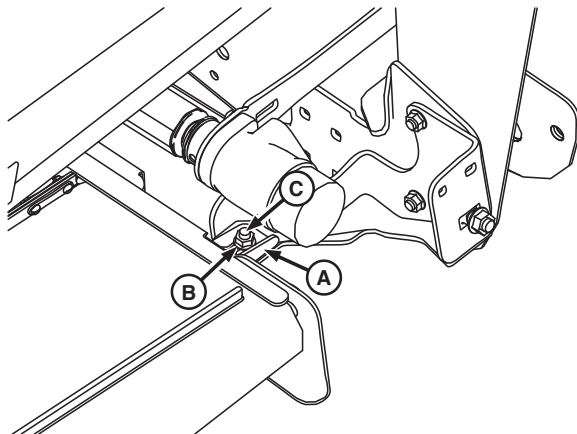
A—Hose Bracket
B—Support
C—Cap Screw (2 used)
D—Nut (2 used)

1. Remove hose bracket (A) from support (B) by removing cap screws (C) and nuts (D). Place hoses on the deck.



Feed Deck - Left Side

E92606—UN—04NOV19

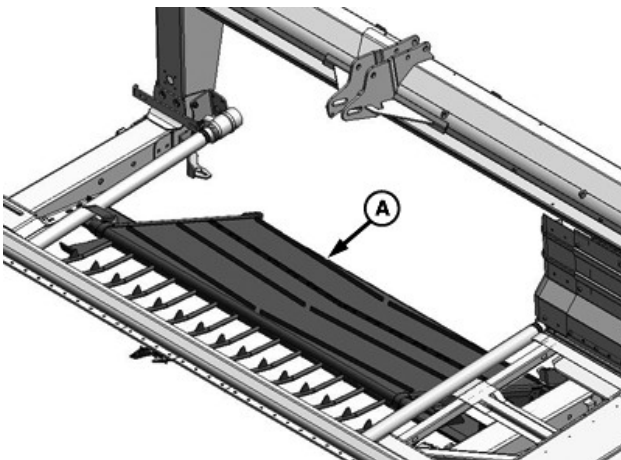


Feed Deck - Right Side

E92607—UN—04NOV19

A—Bracket (2 used)
B—Nut (2 used)
C—Cap Screw (2 used)

2. Remove cap screws (C) and nuts (B) from brackets (A).

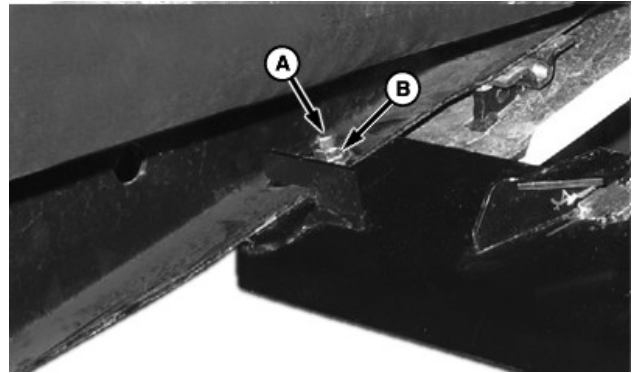


A—Deck

E64351—UN—15MAY12

3. Slide deck (A) back until the mounts clear the header brackets. Lower aft of the deck to the ground.

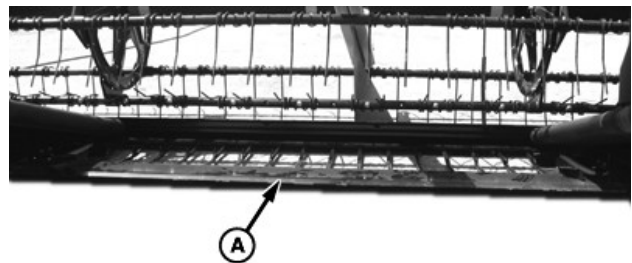
4. Slide deck back until it clears rock grate. Place deck in storage.



E92601—UN—30OCT19

A—Cap Screw (2 used)
B—Nut (2 used)

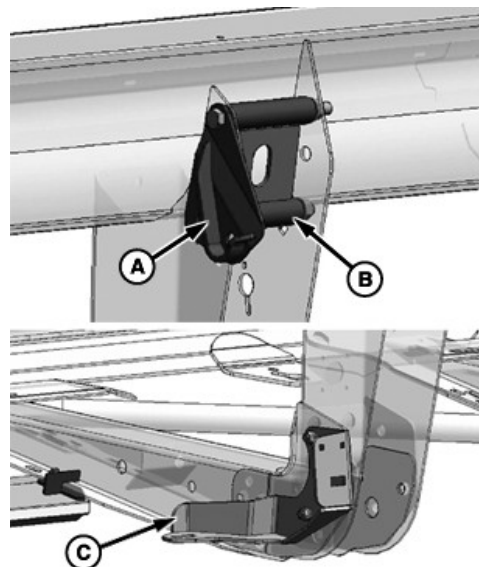
5. Remove cap screws (A) and nuts (B).



E64329—UN—15MAY12

A—Rock Grate

6. Pull off rock grate (A) and the header legs. Place rock grate in storage.



E64415—UN—11JUN12

A—Bracket
B—Spacer
C—Header Leg

7. If necessary, remove brackets (A), spacer (B), and the header leg (C). Store with the feed deck.

MT2WJML,000013C-19-12NOV19

Break-In Period

NOTE: When operating hay conditioner for the first time, operate slowly for 5 minutes, watching and listening FROM OPERATOR'S SEAT for binding or interfering parts.

Conditioner will not operate until oil flow fills the lines.

- Adjust tension of roll drive belt after 5 hour run-in period (refer to Roll Drive Belt in Maintenance section). Check belt tension periodically for the first 50 hours.
- Tighten loose hardware after first 5 hours of operation (refer to Specifications Section) for torque specifications.

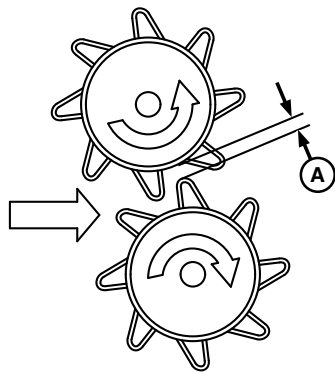
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Conditioner Operation

Roll and Feed Draper Speed

Roll and feed draper speed changes when header knife speed is changed, both drives use same hydraulic circuit. They can not be independently adjusted.

Roll Gap



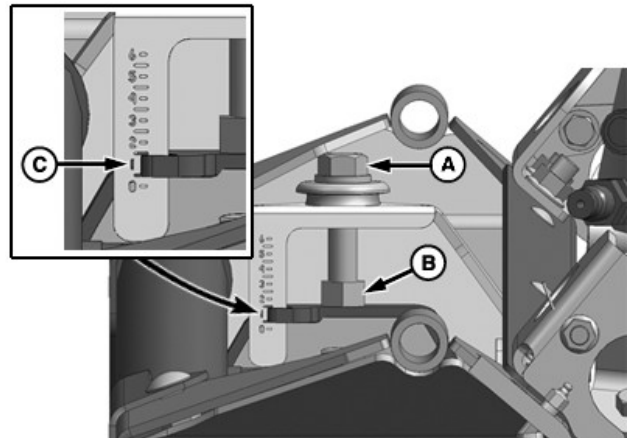
E64416—UN—01JUN12

A—Roll Gap

- Steel rolls condition crop by crimping and crushing the stem in several places. This allows moisture release for quick dry. Roll gap (A) determines degree of crop is conditioned.
- Gap is factory set at 20 mm (0.75 in). Gauge readings must be same at both ends of roll.
- Correct conditioning of alfalfa, clover, and other legumes is usually indicated when 90% of the stems

show cracking, but not more than 5% of the leaves are damaged. Adjust roll gap to achieve this result.

- Larger gap (up to 25 mm [1 in]) must be desirable for thick stemmed cane-type crops. Too large gap causes feeding problems.
- Grass type crops require less gap for proper feeding and conditioning.



E64417—UN—01JUN12

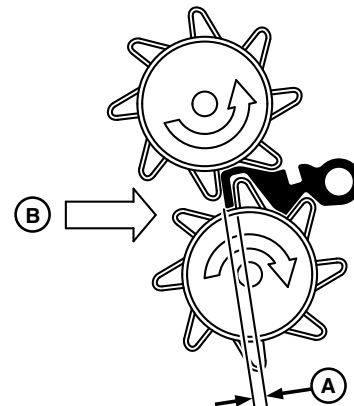
A—Nut
B—Adjuster
C—Gauge

1. If required, loosen nut (A) and turn adjuster (B) to adjust gap to 1.5 line or 20 mm (0.75 in) on gauge (C). Retighten the nut (A).

IMPORTANT: When adjusting roll gap, decal reading must be the same on both sides of conditioner roll to achieve consistent intermesh across rolls.

Roll Timing

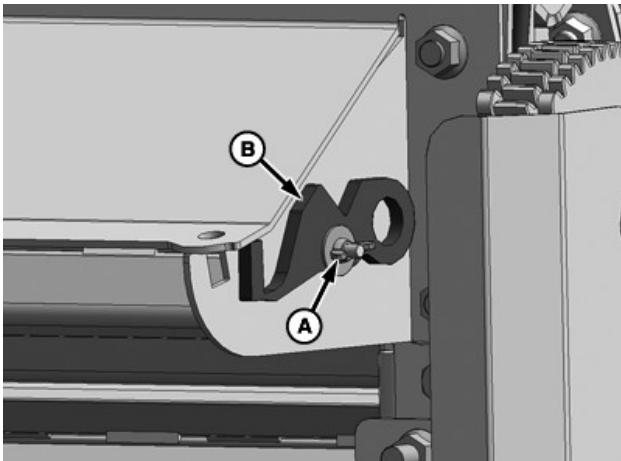
IMPORTANT: For proper conditioning, rolls must be properly timed and aligned with each steel bar on one roll centered between two bars of the other roll (A). Factory setting must be suitable for most crop conditions.



E64418—UN—15MAY12

A—Timing Gap

B—Crop

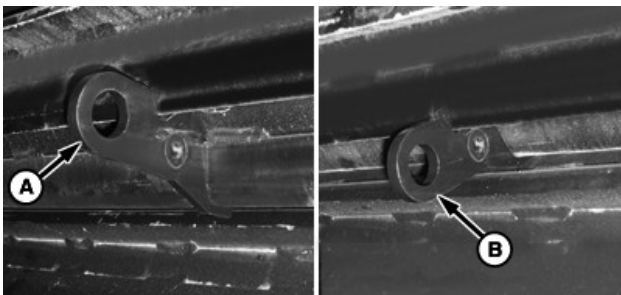


E64390—UN—15MAY12

A—Wing Nut
B—Tool

Check roll timing as follows:

1. Lower header to ground, shut down tractor, and remove the key.
2. Remove wing nut (A) and tool (B) from panel at right-hand end of conditioner.



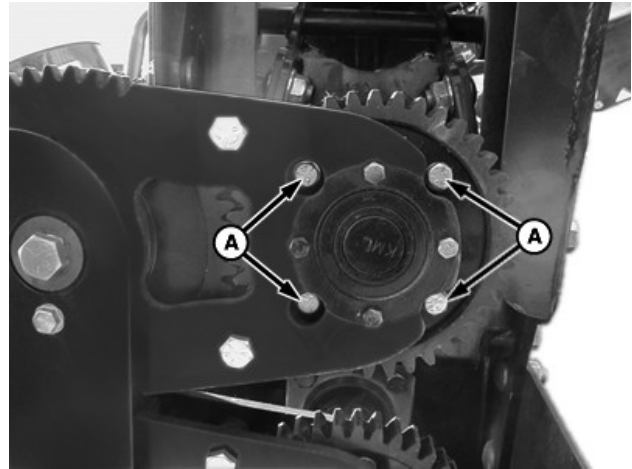
E64391—UN—15MAY12

A—Start Position
B—Gauge Position

3. From rear of conditioner, locate tool at start position (A) and gauge position (B) at center of rolls.
4. Manually turn rolls to limits of tool. Rolls engage tool if timing is correct. Manually turn rolls to release tool.

CAUTION: Remove tool from rolls and return to storage location before starting machine.

5. Reinstall tool on conditioner and retain with washer and wing nut.



E64421—UN—15MAY12

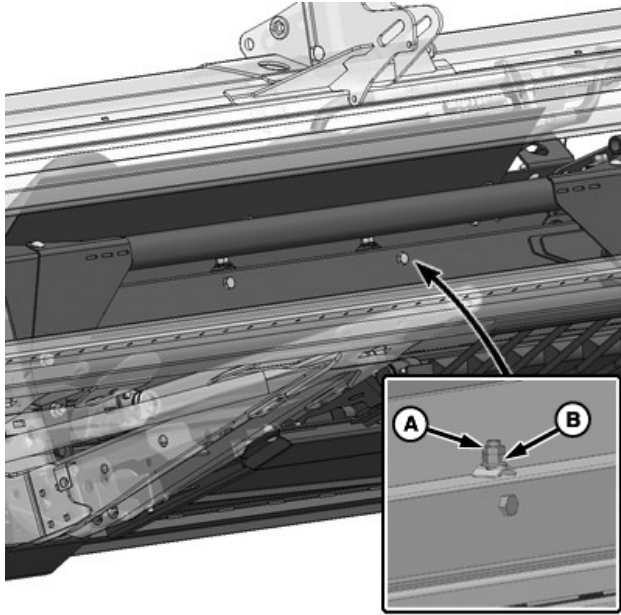
A—Cap Screws (4 used)

If required, adjust roll timing as follows:

1. Loosen four cap screws (A) on small timing gear.
2. Insert tool as previously described, allow rolls to adjust to tool.
3. Tighten cap screws on timing gear and return tool to storage.
4. Return the roll timing tool to its storage location on the right end of the conditioner. Secure it with a washer and wing nut.

Roll Tension

IMPORTANT: Conditioner roll tension is maintained by two tension springs that provide pressure for correct conditioning of crop. These springs allow rolls to open to allow passage of small solid objects without damage to the rolls. Roll tension is factory set and does not require adjustment. If adjustment is required, proceed as follows:



E64422—UN—15MAY12

A—Lock Nut
B—Adjusting Nut

1. Loosen lock nut (A).
2. Turn adjusting nut (B) clockwise to increase tension and counterclockwise to decrease tension.
3. Equally adjust nuts on both sides.
4. Tighten lock nut (A).

Forming Shields

Position of forming shield controls width and placement of windrow. Forming shield position (settings between 915 and 2346 mm [36 and 92 in]) must be based on the following factors:

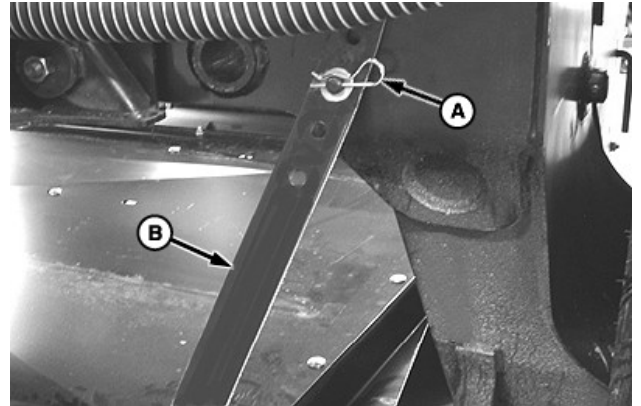
- Weather conditions (rain, sun, humidity, and wind)
- Type and yield of crop
- Drying time available
- Method of processing (bales, silage, and green-feed)

A wider windrow dries faster and more evenly, resulting in less protein loss. Fast drying is especially important in areas where the weather allows only few days to cut and bale.

Where weather conditions permit or when drying is not critical, for example, when cutting for silage or green-feed, a narrower windrow must be preferred for ease of pick-up.

Forming Shield Height

Height of forming shield affects shape and consistency of windrow. A heavy crop requires forming shield to be set near highest position and a lighter crop needs forming shield to be lower.



E64423—UN—25MAY12

A—Pin
B—Strap

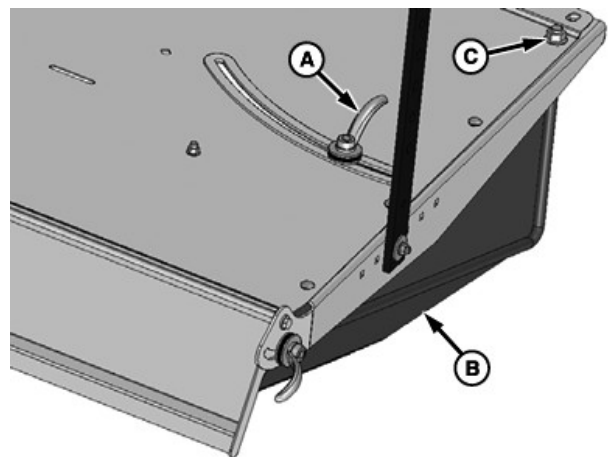
Adjust forming shield height as follows:

1. Remove pin (A) from strap (B).
2. Support aft end of forming shield and relocate straps to desired position and retain with pin.

Adjusting Side Deflectors

Position of side deflectors control width and placement of windrow.

IMPORTANT: To ensure windrow placement is centered with respect to traction unit wheels, adjust both side deflectors to the same position. To achieve this setting, adjuster handles must be in the same location on both sides.



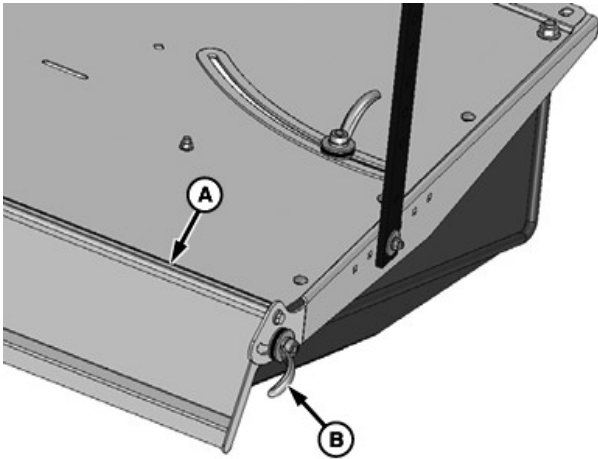
E64446—UN—25MAY12

A—Handle
B—Side Deflector
C—Nut

1. Loosen handle (A) and position side deflector (B) to desired width and tighten handle. Set both deflectors to same position.
2. Tighten or loosen nut (C) to adjust side deflector attachment.

Adjust Rear Deflector (Fluffer Shield)

IMPORTANT: To avoid injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.



E64447—UN—01JUN12

A—Deflector
B—Locking Bolt

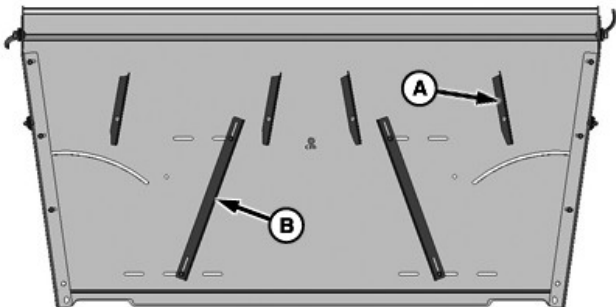
2. **For lighter crop :** Lower rear deflector (A) by pushing on the deflector on both sides. Locking bolts (B) are located at both ends of the deflector and need to be loosened slightly.
3. **For heavier crop :** Raise the deflector by pulling up on both sides of the deflector.

NOTE: For even windrow formation, ensure that the deflector is not twisted.

Adjust Deflector Fins

Adjustable deflector fins provide different swath widths and distribution of crop across windrow.

NOTE: Position fins parallel to side deflectors for wide swath, adjust as necessary for even distribution of crop across full width. Remove fins for narrow windrow less than 1780 mm (70 in).



E64424—UN—15MAY12

A—Short Fin
B—Long Fin

1. As required, loosen mounting cap screws to rotate short fins (A).
2. Adjust long fins (B) using slots in cover.

Unplugging Conditioner

Refer to W-Series Self-Propelled Windrower Operator's Manual for procedures on reversing header drive.

sg77823,1663306637139-19-10OCT22

Maintenance and Servicing

Preparing Hay Conditioner for Servicing

CAUTION: Prevent possible injury or death. Perform following steps before servicing the conditioner or opening drive covers.

- Fully lower the platform (to service in a raised position, always engage the lift cylinder stops).
- Shut off the engine and remove the ignition key.
- Engage the park brake.
- Wait for all moving parts to stop.

sg77823,1663314408713-19-29SEP22

Maintenance

Following instructions are provided to assist an operator to use a conditioner. Detailed maintenance and service information is available in the Repair Technical Manual.

Interval	Service
First use	Perform break-in procedures.
10 hours or daily	Check hydraulic hoses and lines.
50 hours	Grease roll shaft bearings. Grease the feed deck drive and idler roller bearings.
100 hours or annually	Check tension on the roll drive belt.
End of season	Perform end of season maintenance.

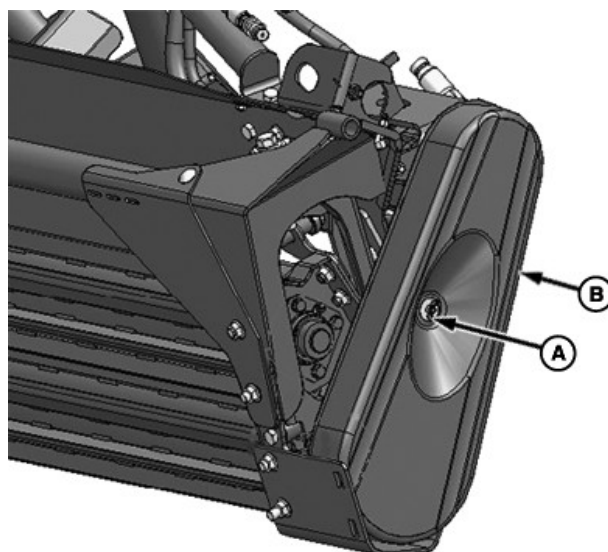
sg77823,1663589605141-19-30SEP22

Recommended Safety Procedures

- Park on a firm, level surface. Block wheels securely if the windrower is parked on an incline.
- Follow all recommendations in your windrower Operator's Manual.
- Follow all safety procedures in the Safety section.

OOU6064,0002640-19-04FEB19

Drive Shields and Covers



E64425—UN—29MAY12

A—Wing Nut and Washer
B—Shield

1. Loosen and remove the wing nut and washer (A).
2. Remove the shield (B).
3. Position the shield over drive pulleys and reinstall with the wing-nut and washer (A).

OOU6064,0002641-19-30SEP22

Lubricating Platform

CAUTION: Prevent possible injury or death. Follow procedures in Preparation for Servicing Section before servicing the platform or opening the drive covers.

OOU6064,0002642-19-04FEB19

Lubricant Storage

- Machine can operate at top efficiency only if clean lubricants are used.
- Use clean containers to handle all lubricants.
- Store in an area protected from dust, moisture, and other contaminants.

OOU6064,0002643-19-04FEB19

Greasing Requirements

1. Wipe the grease fitting with a clean cloth before greasing, avoid injecting dirt and grit.
2. Inject grease through the fitting with a grease gun until the grease overflows the fitting, except where noted.

3. To keep out dirt, leave excess grease on the fitting.
4. Replace any loose or broken fittings.
5. If the fitting does not take grease, remove and clean thoroughly, replace if necessary.

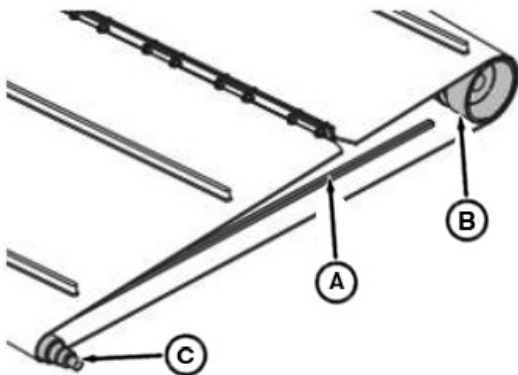
OUO6064,0002644-19-07FEB19

Feed Draper

Adjust the feed draper tension to prevent slipping and from sagging below the cutterbar.

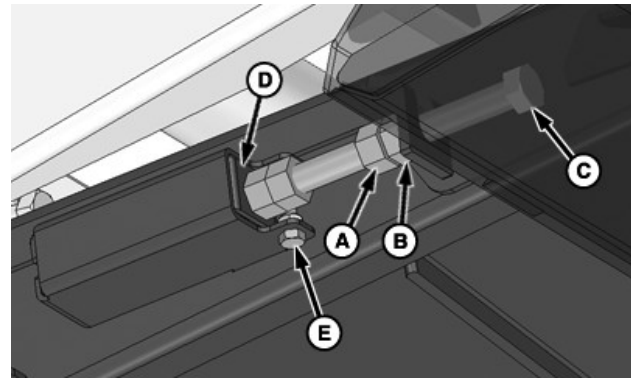
⚠ CAUTION: Prevent possible injury or death from the fall of a raised machine. Engage the lift cylinder stops before going under the platform. See the Operator's Manual for instructions for use of the lift cylinder stops.

1. Raise the header fully.
2. Stop the engine.
3. Remove a key from the ignition.
4. Engage safety props on the windrower. For instructions, refer to the windrower Operator's Manual.
5. Ensure that draper guide (A) (which is a rubber track on the underside of the draper) is fully engaged in the groove of drive roller (B) and that idler roller (C) is inboard of the draper guide.



E548069—UN—19SEP22

A—Draper Guide
B—Drive Roller
C—Idler Roller



E64429—UN—15MAY12

A—Nut
B—Nut
C—Cap Screw
D—Retainer
E—Cap Screw

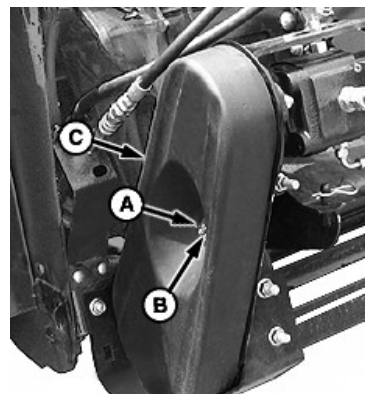
⚠ CAUTION: Prevent possible injury or death from the fall of a raised machine. Engage the lift cylinder stops before going under the platform. See the Operator's Manual for instructions for use of the lift cylinder stops.

6. Loosen the nut (A). Retain the nut (B) with a wrench and turn the cap screw (C) clockwise to increase or counterclockwise to decrease the tension.
7. Tension is correct when the retainer (D) is flush with the spring holder and cap screw (E) is free.
8. Tighten the nut (A). Adjust on both sides of the draper.

sg77823,1663665545137-19-30SEP22

Roll Drive Belt

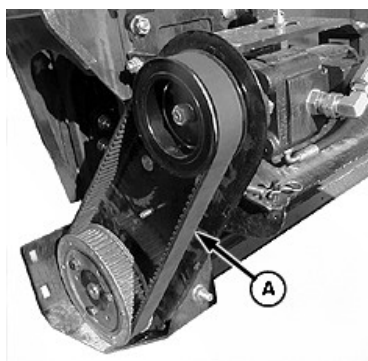
Adjusting Drive Belt Tension



E64386—UN—29MAY12

A—Wing Nut
B—Washer
C—Drive Belt Cover

1. Remove the wing nut (A), washer (B), and drive belt cover (C).

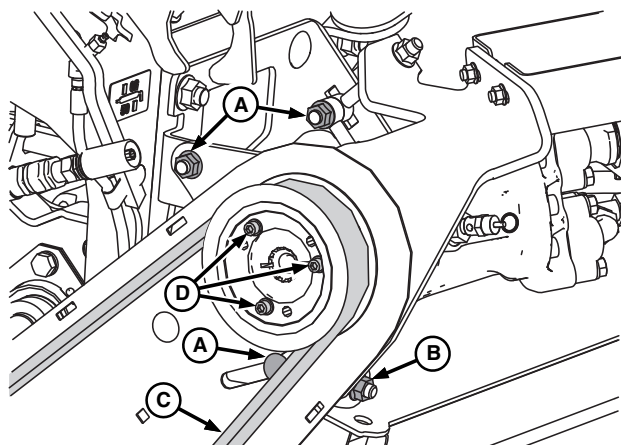


E64387—UN—15MAY12

A—Center of Span

2. Belt deflection is 7.9 mm (5/16 in) when 22—49 kgf (5—11 lbf) is applied to the center of span (A). If the belt deflects by a greater or lesser amount, the tension on the belt requires adjustment.

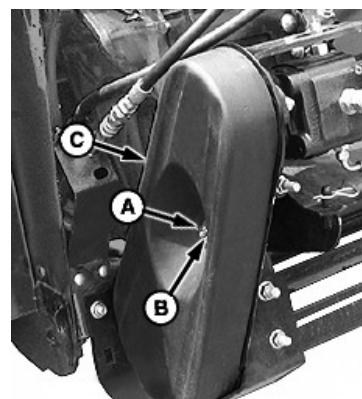
If necessary, adjust the tension as follows:



E92616—UN—05NOV19

A—Motor Mount Nut (3 used)
B—Tension Nut
C—Belt
D—Cap Screw (3 used)

1. Loosen the motor mount nuts (A).
2. Turn the tension nut (B) clockwise to tighten the belt and counterclockwise to loosen.
3. Tighten the motor mount nuts (A) and recheck the tension on belt (C). Continue adjusting the tension as needed.
4. If the drive pulley is loose, was removed, or was replaced for any reason, tighten cap screws (D).
5. Replace the wing nut (A), washer (B), and drive belt cover (C).



E64386—UN—29MAY12

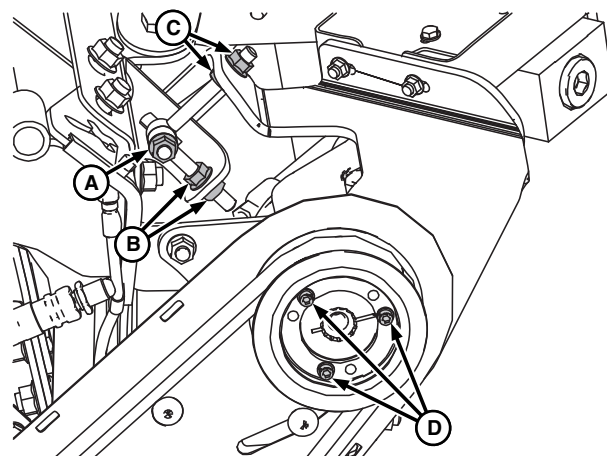
A—Wing Nut
B—Washer
C—Belt Drive Cover

6. Readjust tension of a new belt after a short run-in period (about 5 hours).

MT2WJML,000013D-19-20SEP22

Pulley Adjustment

Pulleys are to be aligned so that the belt tracks properly.
Adjust as follows:



E92617—UN—05NOV19

A—Nut
B—Nut (2 used)
C—Nut (2 used)
D—Cap Screw (3 used)

1. Loosen the nut (A).
2. Adjust nuts (B) to align the drive pulley horizontally.
3. Adjust nuts (C) to align the drive pulley vertically.

NOTE: If the drive pulley is loose, was removed, or was replaced for any reason, tighten cap screws (D).

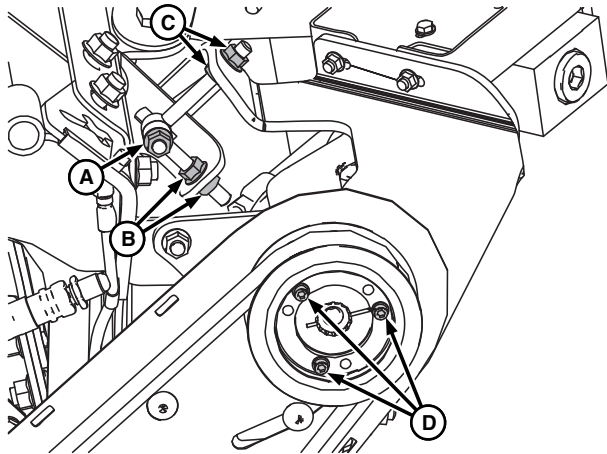
4. Tighten the nut (A).

- Replace the cover and secure with the washer and wing nut.

MT2WJML,000013E-19-12NOV19

Belt Tracking

Proper tracking of the belt ensures that there is no rubbing on either pulley. **Adjust as follows:**



E92617—UN—05NOV19

A—Nut
B—Nut (2 used)
C—Nut (2 used)
D—Cap Screw (3 used)

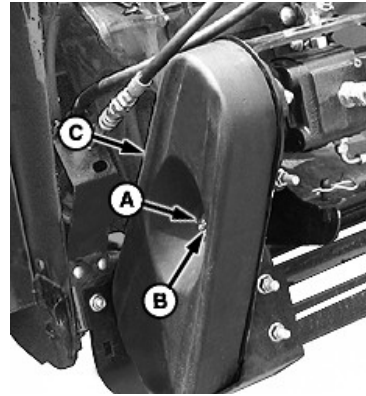
- Loosen the nut (A).
- If the belt is tracking to the outside of the pulley, turn nuts (B) clockwise.
- If the belt is tracking to the inside of the pulley, turn nuts (C) counterclockwise.

NOTE: If the drive pulley is loose, was removed, or was replaced for any reason, tighten cap screws (D).

- Tighten the nut (A).
- Replace the cover and retain with the washer and wing nut.

MT2WJML,000013F-19-13NOV19

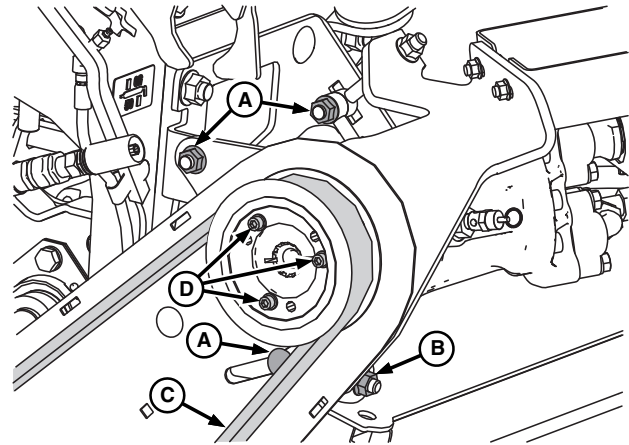
Replace Drive Belt



E64386—UN—29MAY12

A—Wing Nut
B—Washer
C—Drive Belt Cover

- Remove the wing nut (A), washer (B), and drive belt cover (C).



E92616—UN—05NOV19

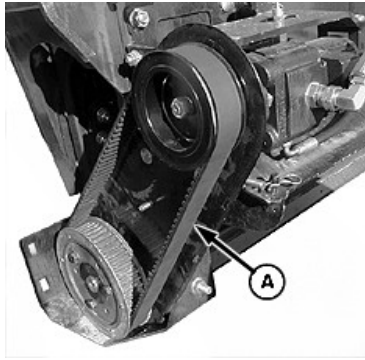
A—Motor Mount Nut (3 used)
B—Tension Nut
C—Drive Belt
D—Cap Screw (3 used)

- Loosen the motor mount nuts (A).
- Turn the tension nut (B) counterclockwise to loosen so that the drive belt (C) can be slipped off the pulleys.

NOTE: When installing a new belt, never pry the belt over the pulley. Ensure that the adjusting device is fully loosened.

- Install new belt.

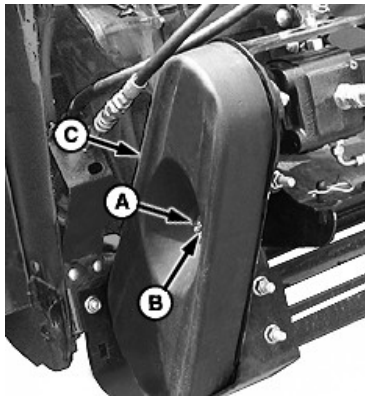
NOTE: If the drive pulley is loose, was removed, or was replaced for any reason, tighten cap screws (D).



E64387—UN—15MAY12

A—Center of Span

5. Belt deflection is 7.9 mm (5/16 in) when 22—49 kg (5—11 lbf) is applied to the center of span (A).



E64386—UN—29MAY12

A—Wing Nut
B—Washer
C—Drive Belt Cover

6. Replace the drive belt cover (C) and retain with the washer (B) and wing nut (A).

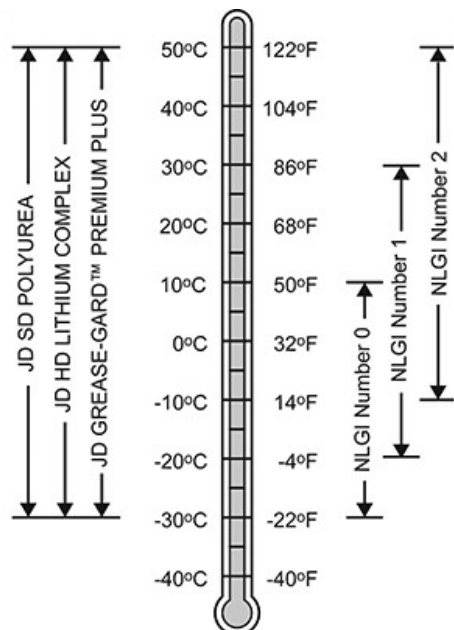
IMPORTANT: Readjust the tension of the new belt after a short run-in period (5 hours).

sg77823,1664443463729-19-10OCT22

Lubrication

Multipurpose Extreme Pressure (EP) Grease

IMPORTANT: For automated lubrication systems different ambient air temperatures need to be considered.



RG30199—UN—08MAR18

Greases for Air Temperature Ranges

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

The following greases are also recommended:

- John Deere HD Lithium Complex Grease
- John Deere Grease-Gard™ Premium Plus

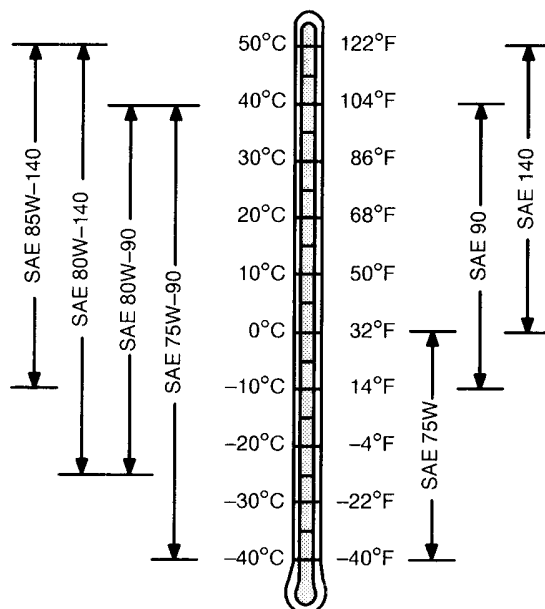
Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB
- ISO-L-X-BDHB 2 or DIN KP 2 N-10 Lithium Complex, Non-Synthetic Base Oil (100 to 220 mm²/s @ 40°C)

IMPORTANT: Some types of thickeners, base oils, and additives used in greases are not compatible with others. Mixing greases should be avoided. Consult your grease supplier before mixing different types of grease.

DX,GREA1-19-13JAN18

Gear Oil



TS1653—UN—14MAR96

Oil Viscosities for Air Temperature Ranges

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere GL-5 Gear Lubricant
- John Deere EXTREME-GARD™

Other oils may be used if they meet the following:

- API Service Category GL-5

DX,GEOIL-19-14APR11

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

Properly dispose of all old containers and any residual lubricant they may contain.

DX,LUBST-19-11APR11

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to John Deere branded fluids or fluids that have been tested and/or approved for use in John Deere equipment.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER-19-13JAN18

Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

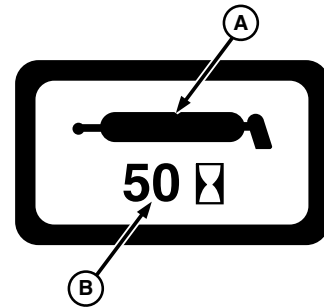
Mixing different oils can interfere with the proper

functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX-19-18MAR96

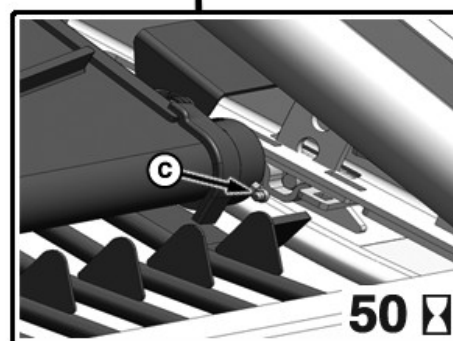
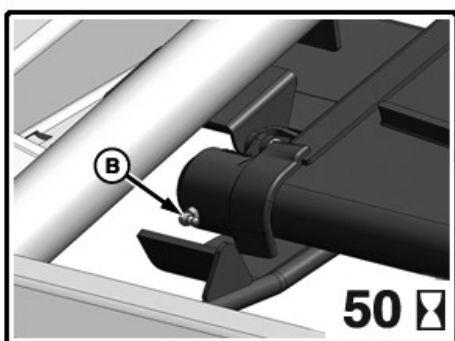
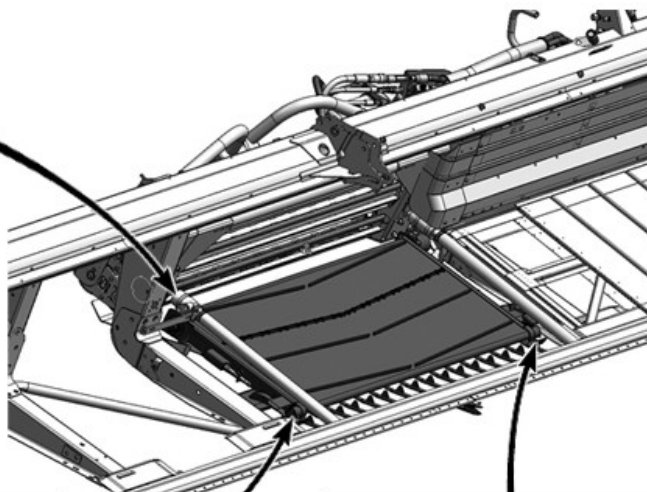
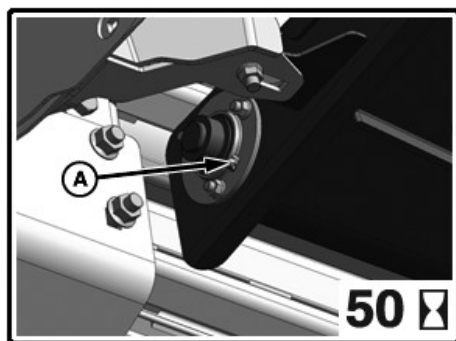
Lubrication Points



E64426—UN—15MAY12

A—Grease Gun
B—Grease Interval in Hours

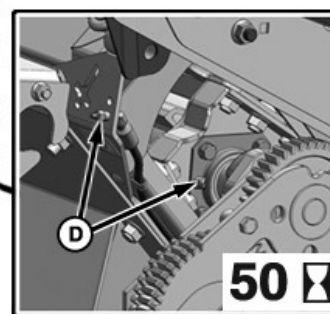
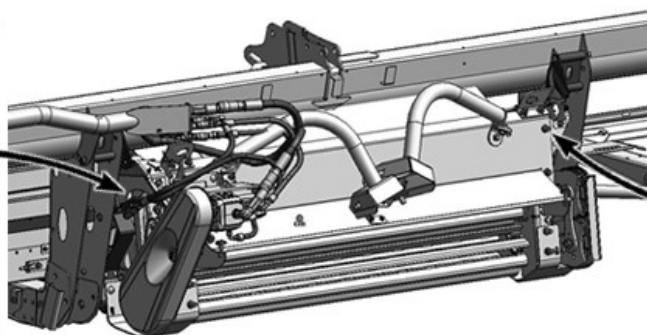
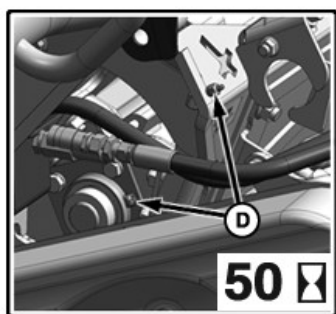
1. Grease intervals of 50 hours or less are marked on machine by decals showing a grease gun (A) and grease interval (B) in hours of operation.
2. Log hours of operation and use provided maintenance checklist. Refer to Maintenance Schedule.
3. Lubrication points:



A—Drive Roller Bearing
B—Idler Roller Bearing

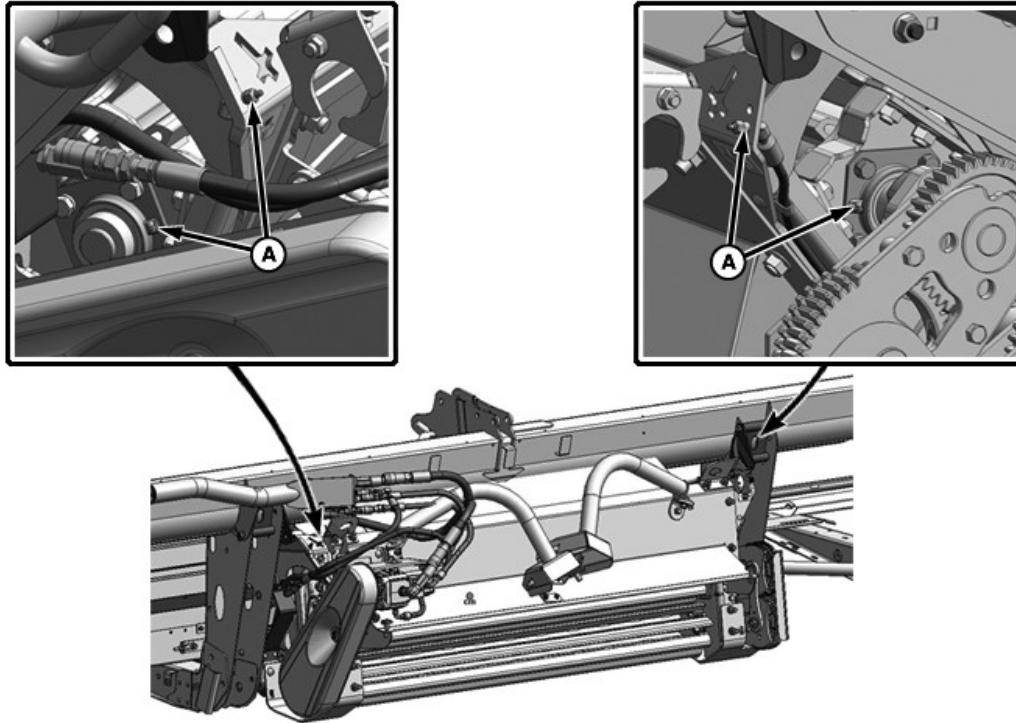
C—Idler Roller Bearing

E64427—UN—11JUN12



D—Roll Shaft Bearing (4 used)

E64428—UN—11JUN12



A—Roll Shaft Bearing (4 used)

sg77823,1663578124006-19-17OCT22

E64384—UN—15MAY12

thoroughly. Clean lubricant passageway. Replace fitting, if necessary.

sg77823,1663070730369-19-17OCT22

Lubricate Conditioner

The hay conditioner must be greased before it is delivered to the customer.

1. Prepare the hay conditioner for service.
2. To add grease to a fitting, follow this procedure:

CAUTION: Avoid bodily injury or death from unexpected start-up or fall of raised machine. Stop engine, remove key and engage lift cylinder stops before going under machine. Stop engine, remove key, and engage the lift cylinder stops before going under the platform.

NOTE: High temperature, extreme pressure (EP2) performance with 0-1% maximum molybdenum disulphide (NLGI grade 2) lithium complex, base oil viscosity of 190–250 CST at 40°C is recommended.

- Prepare the hay conditioner for service. Refer Preparing Hay Conditioner for Servicing.
- Wipe grease fitting with clean cloth before greasing.
- Inject grease until grease purges at bearing housing.
- Leave excess grease on fitting to keep out dirt.
- Replace any loose or broken fittings.
- If fitting does not take grease, remove and clean

End of Season Storage

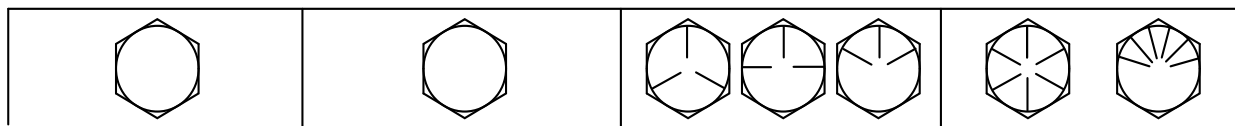
Storage

1. Clean conditioner thoroughly.
2. Store in dry, protected place. Cover with protective waterproof material for outdoor storage.
3. To prevent rust, repaint worn or chipped surfaces.
4. Loosen drive belt.
5. Lubricate conditioner thoroughly, Leave excess grease on fittings to keep moisture out of bearings. Apply grease to exposed threads, and sliding component surfaces.
6. Check and repair worn and broken components.
7. Replace or tighten any missing or loose hardware. Refer to "Specification Section" for recommended torques.

MM95366,0000254-19-01JUN12

Specifications

Unified Inch Bolt and Screw Torque Values



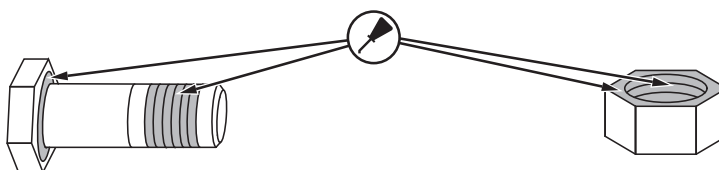
TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1 ^a				SAE Grade 2 ^b				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
1/4	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
													N·m	lb·ft	N·m	lb·ft
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
									N·m	lb·ft	N·m	lb·ft				
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
					N·m	lb·ft	N·m	lb·ft								
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
	N·m	lb·ft	N·m	lb·ft												
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

^aGrade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.

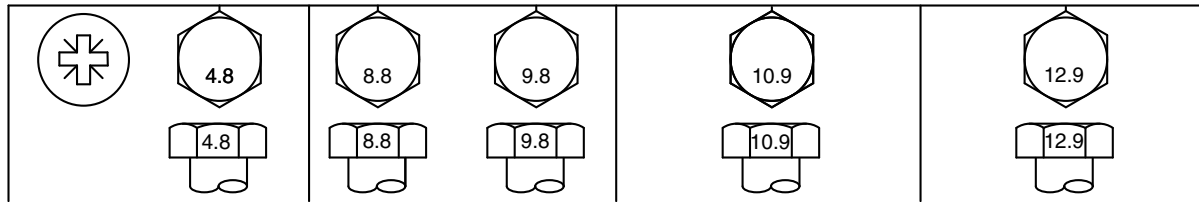
^bGrade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.

^cHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^dHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1-19-09MAY22

Metric Bolt and Screw Torque Values



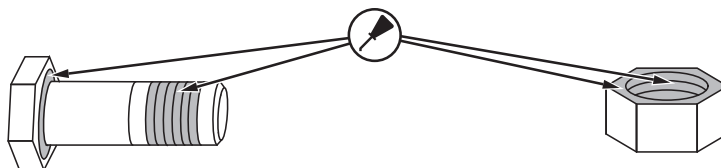
TS1742—UN—31MAY18

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

^aHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^bHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2-19-09MAY22

