330, 345, 360 and 375 Rotary Harvesting Units

OPERATOR'S MANUAL

330, 345, 360 and 375 Rotary Harvesting Units

OMKM97447 ISSUE B0 (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.

Additional Proposition 65 Warnings can be found in this manual.

Kemper
European Edition
PRINTED IN GERMANY

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 the safety signs on your machine may also be available in other languages (see your KEMPER 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 metric units. The customary U.S. unit equivalents are also quoted. 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.

THE TERM "TRANSPORT" refers to a rotary harvesting unit mounted on a forage harvester and transported from A to B on the forage harvester.

THE TERM "HAULAGE" refers to a rotary harvesting unit loaded on a flatbed carrier and transported from A to B on the flatbed carrier.

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I.N.) in the Specification or Identification Numbers section. Please note all numbers exactly. In the event of theft, these numbers may prove vital in tracing your property. Your KEMPER dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the engine or machine.

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection.

THIS ROTARY HARVESTING UNIT IS DESIGNED SOLELY for use in customary agricultural or similar operations ("INTENDED USE"). Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

THIS ROTARY HARVESTING UNIT SHOULD BE operated, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times. Any arbitrary modifications carried out on this rotary harvesting unit will relieve the manufacturer of all liability for any resulting damage or injury.

KM00321,0000169 -19-14MAY09-1/1

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Continued on next page

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.

Continued on next page

Serial Number

Predelivery Inspection

Predelivery Checklist

After the 330, 345, 360 or 375 rotary harvesting unit has been completely assembled, carry out an inspection to be sure it is in good running order before delivering it to the customer. Check off each item as it is found satisfactory or after making the necessary adjustments.

□ All shields open and close freely.

□ Rotary harvesting unit has been properly assembled.

□ Parts delivered separately have been properly installed.

□ Nuts on all screws are tightened.

□ All grease fittings have been lubricated.

□ Gear boxes have been properly filled (see Section Lubrication and Maintenance).

□ Knife attaching screws are tightened correctly.

□ All transport brackets have been removed.

□ Rotary harvesting unit can be folded correctly.

□ Rotary harvesting unit has been cleaned and touched up wherever paint is nicked or scratched.

□ All moving parts can move freely.

□ Inspect all friction clutches as described in Section Service.

□ All decals are in place and in good condition.

□ Additional warning lights are mounted on the basic machine.

□ This rotary harvesting unit has been tested and, to the best of my knowledge, is ready for delivery to the customer.

(Date of Inspection)

(Signature of Technician)

KM00321,000024A -19-07JAN10-1/1

Delivery Checklist

The following checklist is a reminder of very important information which should be conveyed directly to the customer when delivering the machine.

□ Advise the customer that the life expectancy of this or any other machine depends on regular lubrication as described in this operator's manual.

□ Discuss proper harvesting management practices; these are required for good silage.

□ Give the operator's manual to the customer and explain all operating adjustments.

□ Advise the customer of the proper weights and fluids that must be used in the tires, depending upon the forage harvester.

□ Advise the customer of the necessity to check the tension of the down-crop auger drive belts after the first 20 hours of operation and to check their tension regularly after that.

□ Advise the customer of the safety precautions that must be observed while using the rotary harvesting unit.

□ Invite the customer to come in and discuss any problems that may be encountered while operating the rotary harvesting unit.

□ Explain to the customer to record the serial number of his rotary harvesting unit in the space provided at the end of this manual.

□ Remove and file this page.

(Signature of Technician)

(Signature of Customer)

KM00321,000024B -19-12JAN10-1/1

Checklist for the First Harvest Season

Check the following items sometime during the first season of operation with the rotary harvesting unit:

□ Check the entire machine for loose or missing nuts and screws.

□ Check if all safety shields are in place and fastened securely.

□ Check for broken or damaged parts.

□ If possible, run the rotary harvesting unit to see if it is functioning properly.

□ Check condition of blade segments.

□ Check with the customer as to the performance of the rotary harvesting unit so far.

□ Make sure that the customer understands the best methods of rotary harvesting unit operation.

□ Review the entire operator's manual with the customer and stress the importance of proper and regular lubrication and safety precautions.

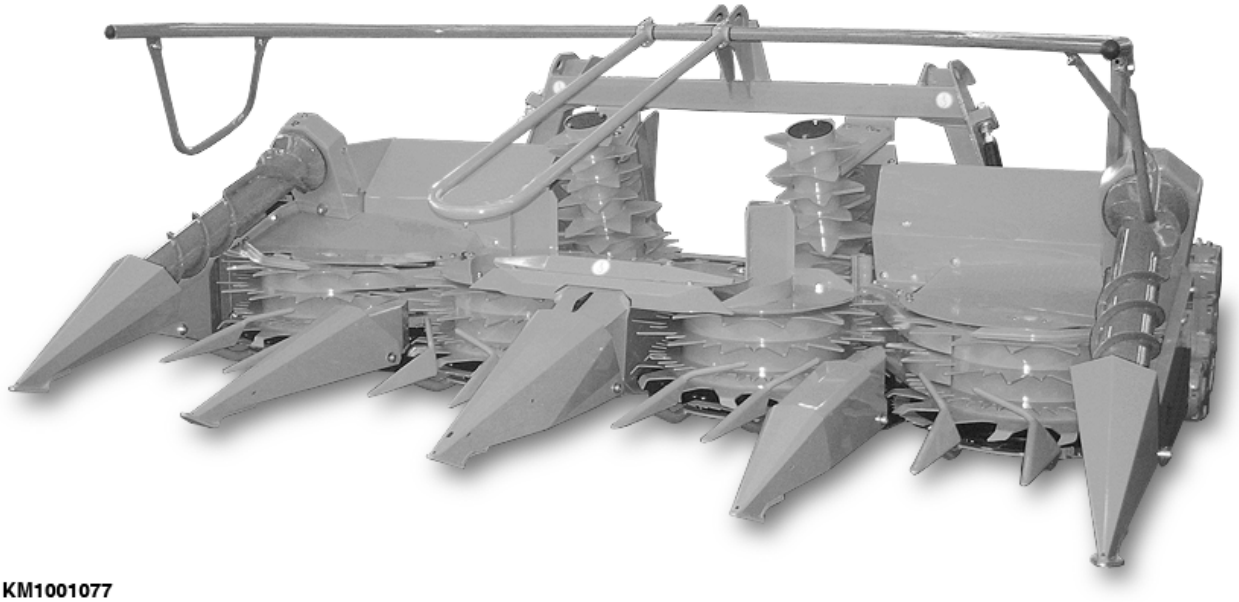
(Signature of Technician)

(Signature of Customer)

KM00321,000024C -19-11JAN10-1/1

Identification View

Identification Views

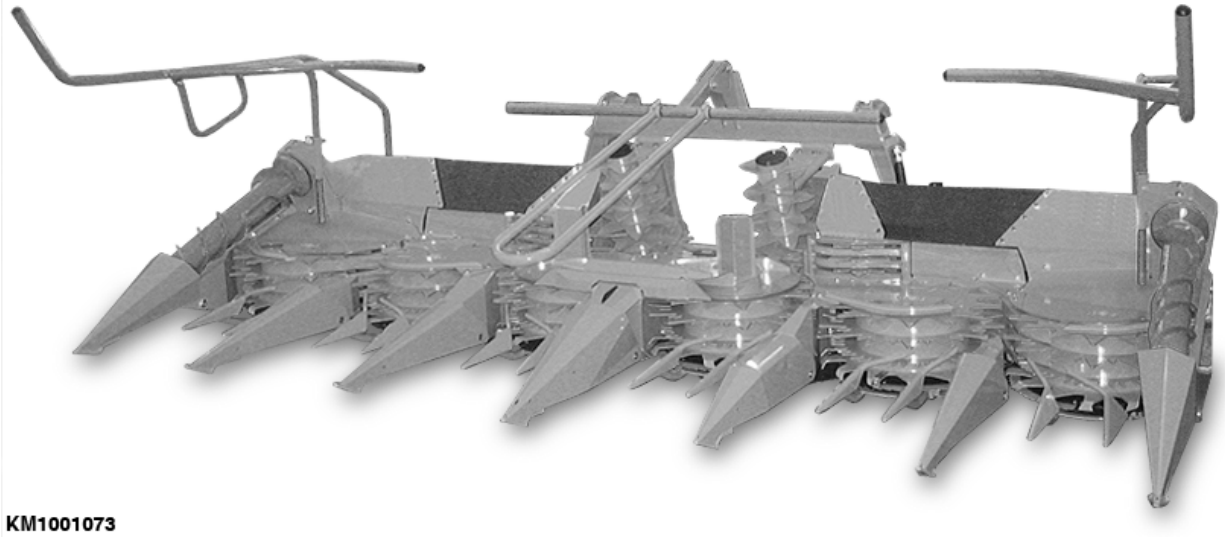


KM1001077

KM1001077 —UN—12JAN10

330 Rotary Harvesting Unit

KM00321,000024D -19-12JAN10-1/4



KM1001073

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345 Rotary Harvesting Unit

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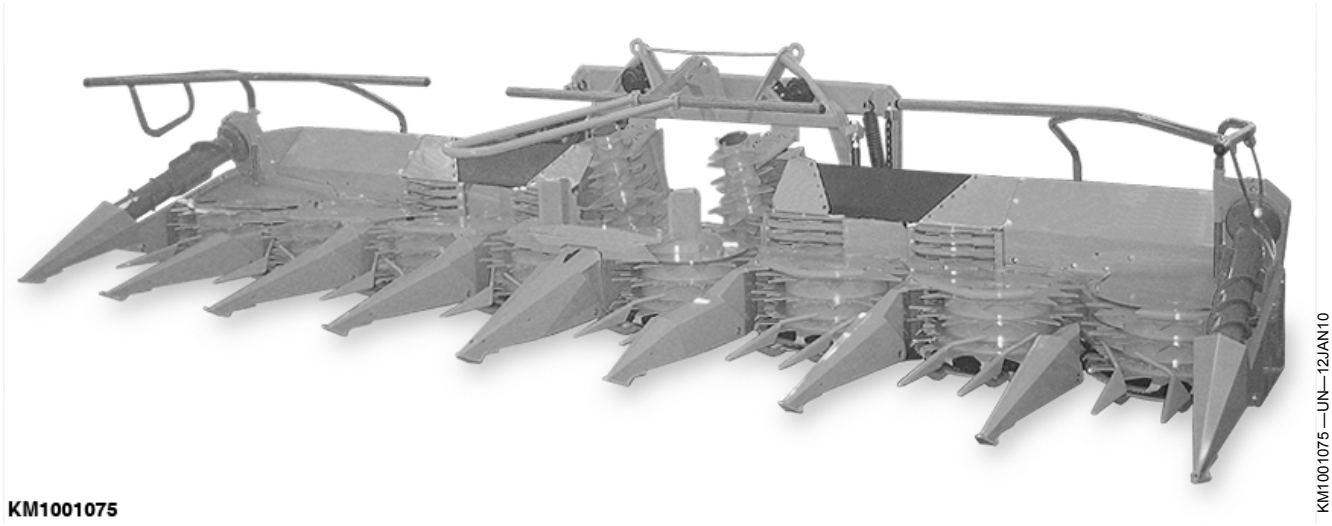
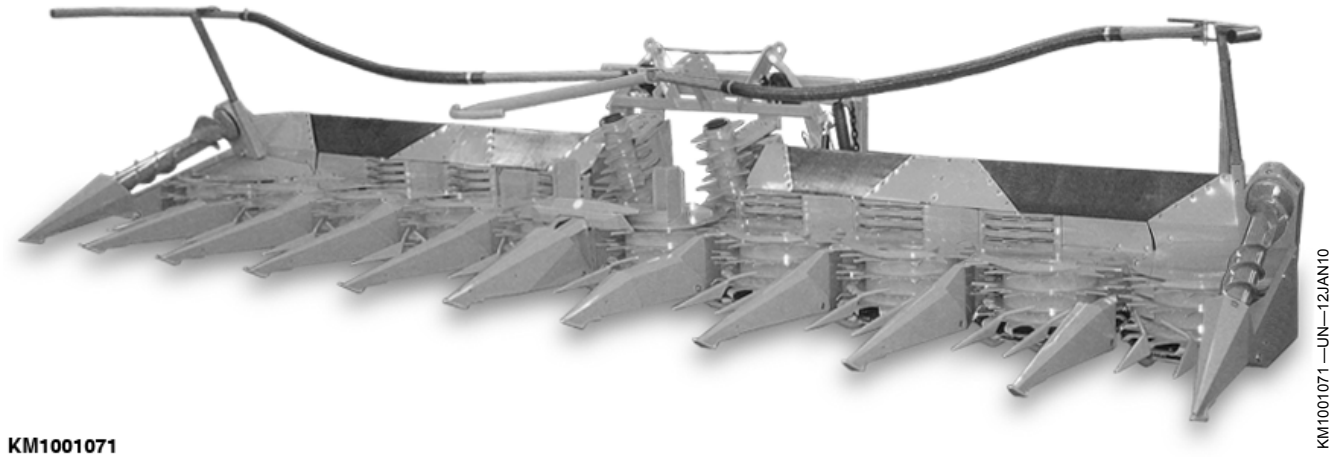
KM00321,000024D -19-12JAN10-2/4

Identification View



360 Rotary Harvesting Unit

KM00321,000024D -19-12JAN10-3/4



375 Rotary Harvesting Unit

KM00321,000024D -19-12JAN10-4/4

Recognize Safety Information

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.

T81389 —UN—07DEC88

DX,ALERT -19-29SEP98-1/1

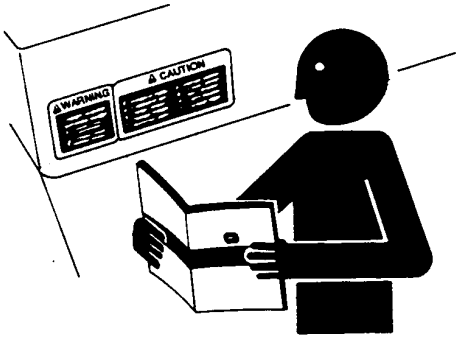
Follow Safety Instructions

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 KEMPER dealer.

Before you start working with the machine, 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 KEMPER dealer.



TS201 —UN—23AUG88

KM00321,000016B -19-14MAY09-1/1

Understand Signal Words

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.

TS187 —19—30SEP88

DX,SIGNAL -19-03MAR93-1/1

Observe Road Traffic Regulations

Always observe local road traffic regulations when using public roads.

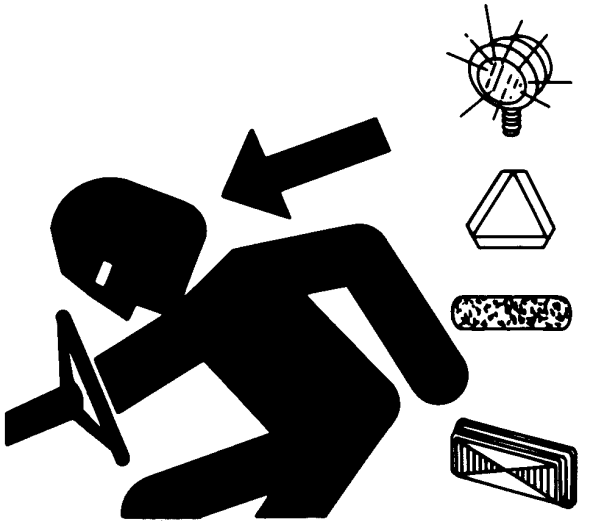
H28930 —UN—30JUN89

FX,ROAD -19-01MAY91-1/1

Use Safety Lights and Devices

Prevent collisions with other road users. Slow moving tractors with implements or drawn equipment, as well as self-propelled machines are especially dangerous on public roads. Always pay attention to traffic approaching from behind, particularly when changing direction. Provide for safe traffic conditions by using turn signals.

Use headlights, hazard warning lights, turn signals and other safety devices according to the local regulations. Keep safety devices in good condition. Replace missing or damaged items.



TS951 —UN—12APR90

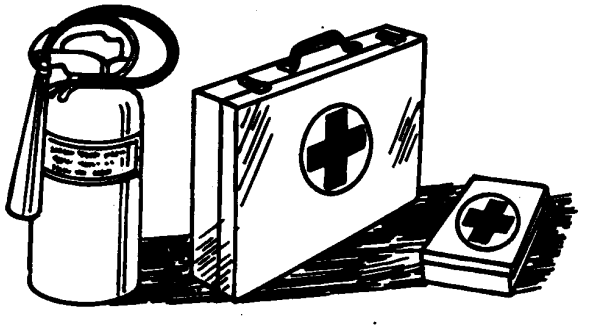
KM00321,000016C -19-14MAY09-1/1

Prepare for Emergencies

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.



TS291 —UN—23AUG88

DX,FIRE2 -19-03MAR93-1/1

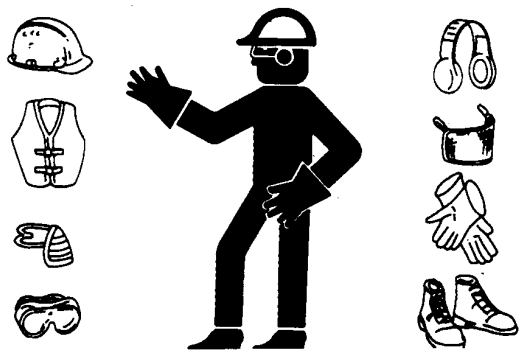
Wear Protective Clothing

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.



TS206 —UN—23AUG88

DX,WEAR -19-10SEP90-1/1

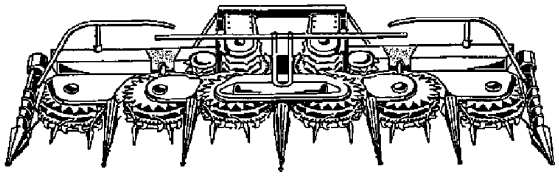
Check Machine Safety

Always check the road and general operating safety of the machine before using.

FX,READY -19-28FEB91-1/1

Avoid Entanglement in Gathering Drums

To avoid entanglement, do not feed crop into the machine by hand or foot. Do not attempt to clear obstructions while the machine is running. The feed rolls can feed crop material in faster than you can release your grip on the material.



ZX019534

ZX019534 —UN—15JAN00

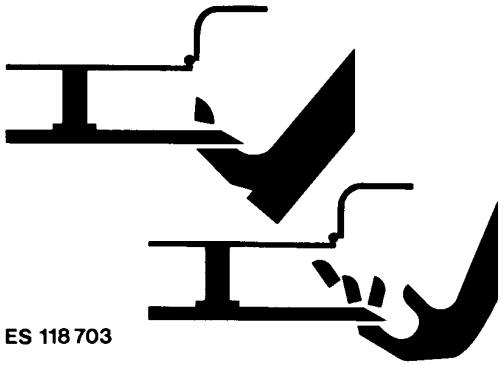
KM00321,000024E -19-12JAN10-1/1

Guards and Shields

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.



ES 118 703

ES118703 —UN—21MAR95

FX,DEVICE -19-04DEC90-1/1

Stay Clear of Harvesting Unit

Due to their function, the cutting rotors as well as gathering, cross and feed drums cannot be completely shielded. Stay clear of these moving elements during operation. Always disengage main clutch, shut off engine and remove key before servicing or unclogging harvesting unit.

ES118704 —UN—21MAR95

ZX,CUT688 -19-10FEB98-1/1

Keep Hands Away from Knives

Never attempt to clear obstructions in front of or on harvesting unit unless main clutch is disengaged, engine shut off and key removed.

Everyone must be clear of the forage harvester before starting the engine.

TS254 —UN—23AUG88

FX,KNIFE -19-21DEC90-1/1

Store Attachments Safely

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.

TS219 —UN—23AUG88

DX,STORE -19-03MAR93-1/1

Practice Safe Maintenance

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 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.

TS218 —UN—23AUG88

DX,SERV -19-17FEB99-1/1

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

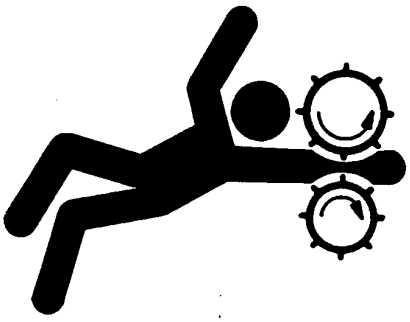
TS1644 —UN—22AUG95

DX,PTO -19-12SEP95-1/1

Service Machines Safely

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.



TS228 —UN—23AUG88

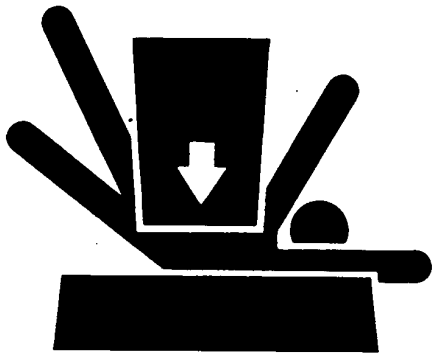
DX,LOOSE -19-04JUN90-1/1

Support Machine Properly

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.



TS229 —UN—23AUG88

DX,LOWER -19-24FEB00-1/1

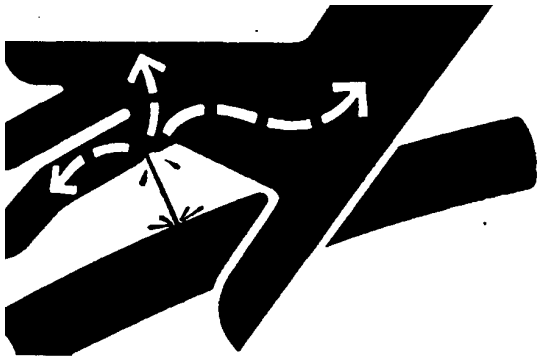
Avoid High-Pressure Fluids

Escaping oil under pressure can have sufficient pressure to penetrate the skin, causing serious personal injury.

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

Hydraulic oil escaping from pin-holes is difficult to detect, so use a piece of cardboard to search for leaks. 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.

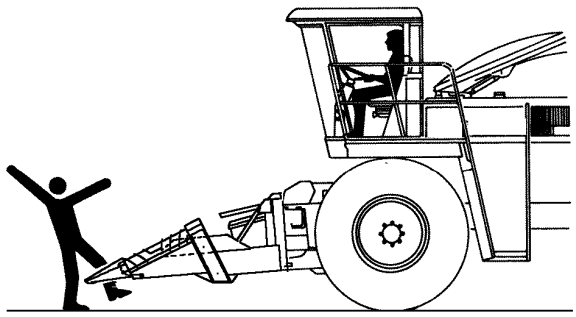


X9811 —UN—23AUG88

KM00321,000016D -19-14MAY09-1/1

Transport with Rotary Harvesting Unit Installed

Before driving the forage harvester on public roads, the rotary harvesting unit must be raised and secured in the raised position. It must not, however, obstruct the operator's view of the road.



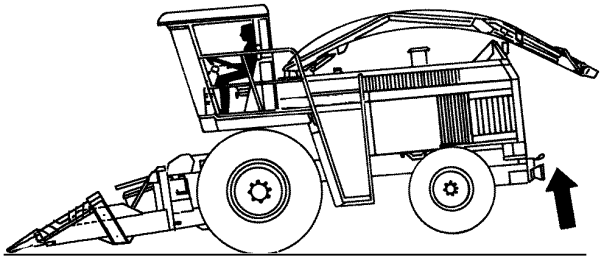
KM1001078

KM1001078 —UN—12JAN10

KM00321,000024F -19-12JAN10-1/1

Ballasting for Safe Ground Contact

Operating, steering and braking performance of forage harvester can be considerably affected by attachments which alter the center of gravity of the machine. To maintain safe ground contact, ballast the forage harvester at the rear end as necessary. Observe the maximum permissible axle loads and total weights.



KM1001079

KM1001079 —UN—12JAN10

KM00321,0000250 -19-12JAN10-1/1

Remove Paint Before Welding or Heating

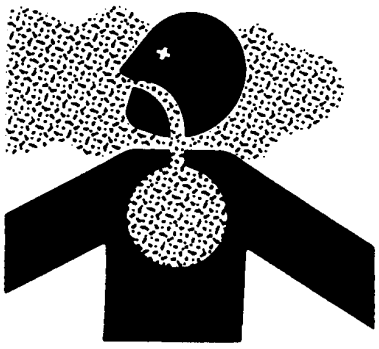
Avoid potentially toxic fumes and dust.

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.



TS220 —UN—23AUG88

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 -19-24JUL02-1/1

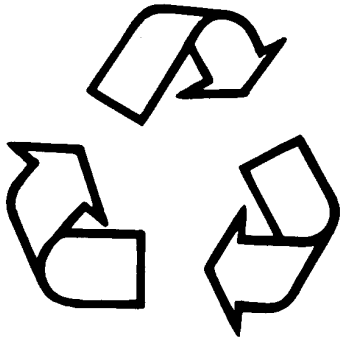
Dispose of Waste Properly

If waste disposal is carried out improperly, this may damage the environment and ecological systems. Potentially harmful waste used with KEMPER equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down the drain, or into any water source.

Air-conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air-conditioning service center to recover and recycle used air-conditioning refrigerants.



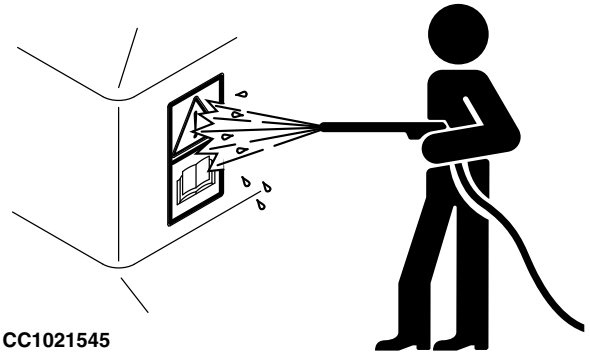
TS1133 —UN—26NOV90

KM00321,000016E -19-14MAY09-1/1

Avoid High-Pressure Jet on Safety Decals

The water jet can remove or damage safety decals. Avoid to direct the water jet on safety decals.

Immediately replace missing or damaged safety decals. Replacement safety decals are available from your KEMPER dealer.



CC1021545

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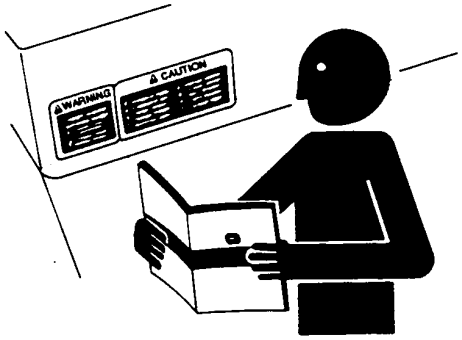
Replace Safety Signs

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



TS201 —UN—23AUG88

DX,SIGNS1 -19-04JUN90-1/1

Safety Decals

Pictorial Safety Signs

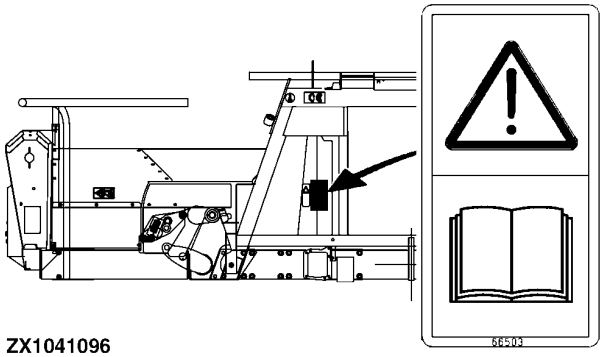
At several important places of this machine safety signs are affixed intended to signify potential danger. The hazard is identified by a pictorial in a warning triangle. An adjacent pictorial provides information how to avoid personal injury. These safety signs, their placement on the machine and a brief explanatory text are shown below.

TS231 —19—07OCT88

FX,WBZ -19-19NOV91-1/1

Operator's Manual

This operator's manual contains all important information necessary for safe machine operation. Carefully observe all safety rules to avoid accidents.



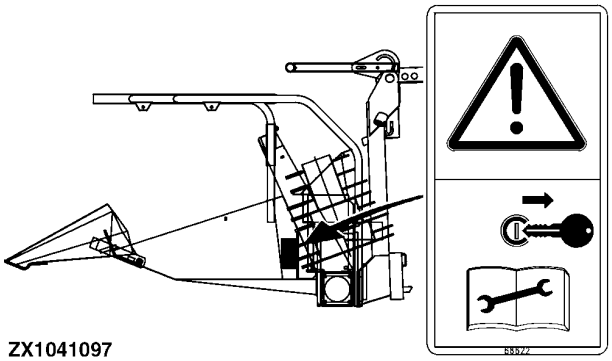
ZX1041096

ZX1041096 —UN—15OCT07

OUCC002,00027F4 -19-18SEP07-1/1

Repair and Maintenance

Before carrying out repair and maintenance work, shut off engine and remove key.



ZX1041097

ZX1041097 —UN—15OCT07

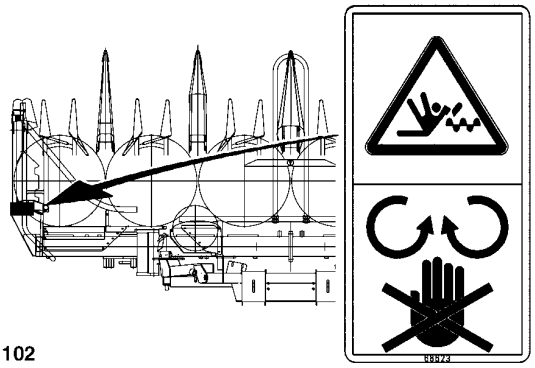
OUCC002,00027F5 -19-18SEP07-1/1

Rotary Harvesting Unit

Stay clear of rotary harvesting unit to avoid personal injury.

Arms, legs or loose clothing might become caught in the rotary harvesting unit when in operation.

Always keep the required safety distance from the rotary harvesting unit.



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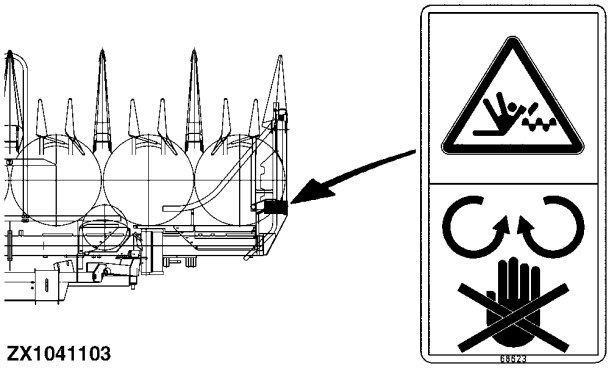
ZX1041102 —UN—15OCT07



ZX1041103

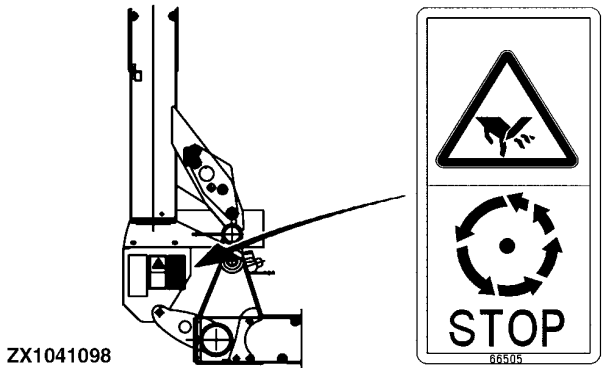
ZX1041103 —UN—15OCT07

OUCC002,00027F8 -19-18SEP07-1/1

Rotating Blade

Do not touch any moving machine parts. Wait until all moving parts have stopped.

The rotating blades are not immediately stopped when the machine is shut down.



ZX1041098

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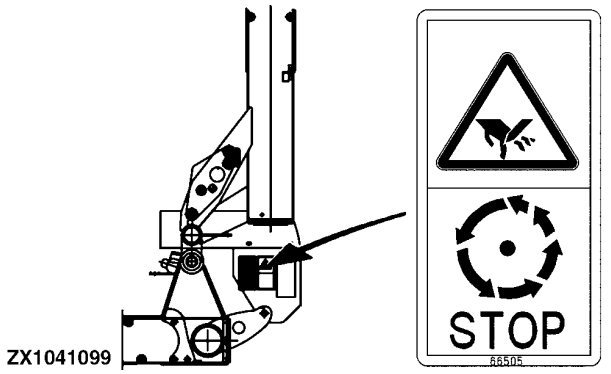

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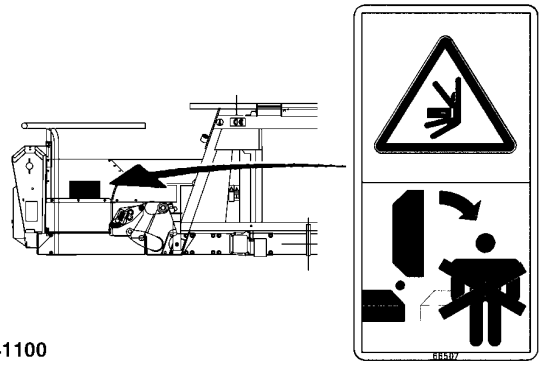
OUCC002,00027F6 -19-18SEP07-1/1

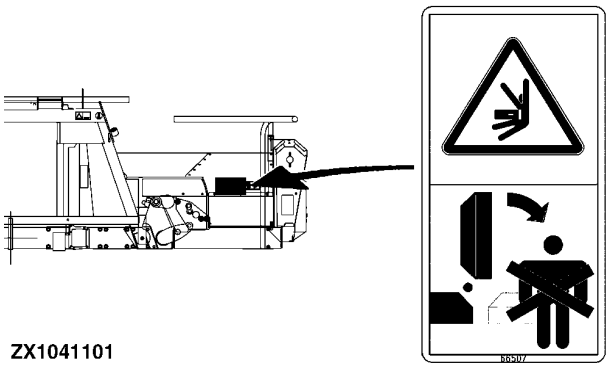
Folding Area—345, 360 and 375 Only

Stay clear of the folding area of the rotary harvesting unit.

When folding or unfolding the rotary harvesting unit, ensure that no persons are standing within the folding area.

Before folding or unfolding, ensure that all persons keep the required safety distance from the rotary harvesting unit.





OUCC002,00027F7 -19-18SEP07-1/1

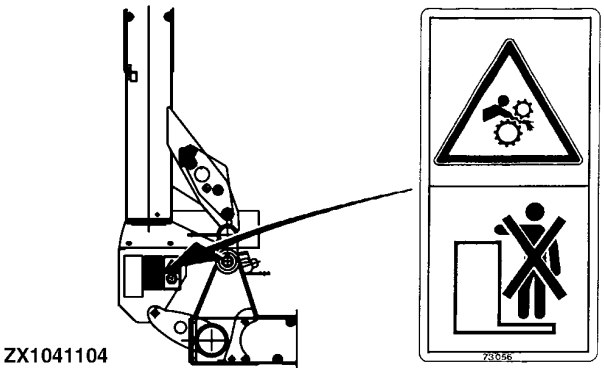
Rotating Drums

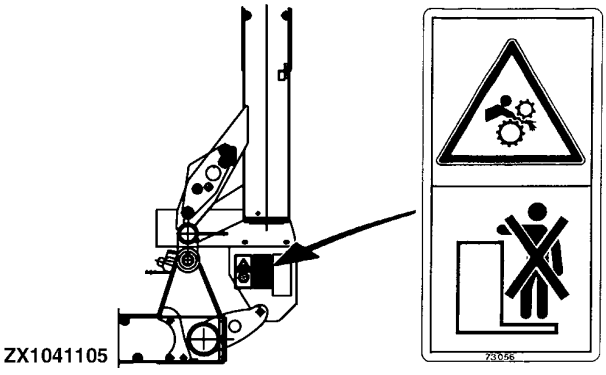
Stay clear of rotating drums to avoid personal injury.

Arms, legs or loose clothing might become caught by the rotating drums when in operation.

Always keep the required safety distance from the rotating drums.

Wait until all moving parts have stopped.





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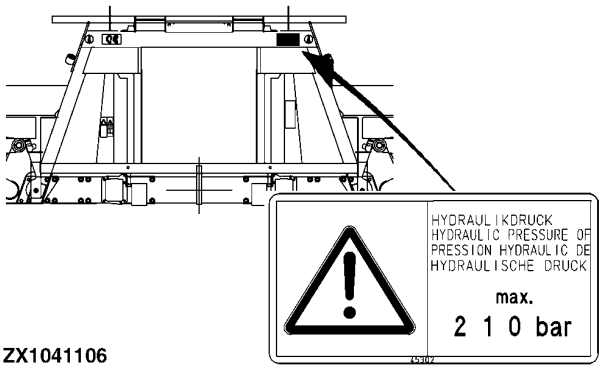
Hydraulic System—345, 360 and 375 Only

The hydraulic pressure must not exceed 21000 kPa (210 bar; 3046 psi).



ZX1041106

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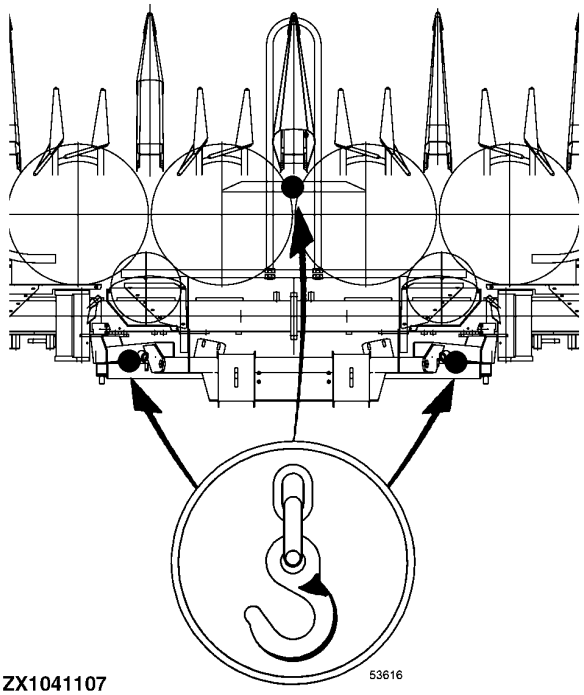
Hanging Points

Should the rotary harvesting unit be moved without being attached to the forage harvester, always use the hanging points.



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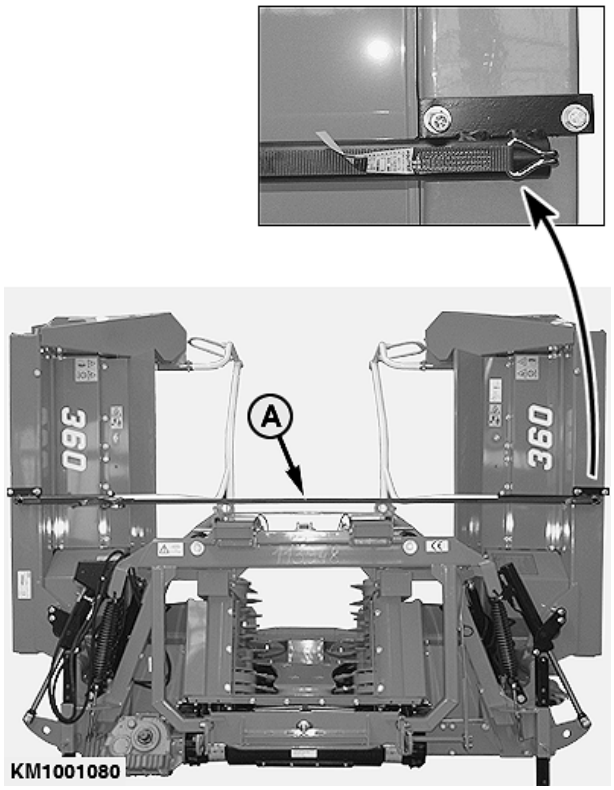
Prepare the Rotary Harvesting Unit for Haulage (Models 345 and 360)

Fold the rotary harvesting unit up.

To prevent the outer sections from lowering, install tensioner strap (A).

A—Tensioner strap



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Install the Transport Pallet (Model 375 Only)

To prevent damage to the rotary harvesting unit when transporting it on a fork lift, always use the transport pallet (A) supplied with the rotary harvesting unit.

NOTE: When transporting the rotary harvesting unit with a crane, always use the hanging points. For more information, see Loading with a Crane in this Section.

A—Transport pallet

KM1001081 —UN—22JAN10

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Loading with a Crane

CAUTION: Always use the hanging points (see arrows). This will prevent the machine from tipping.

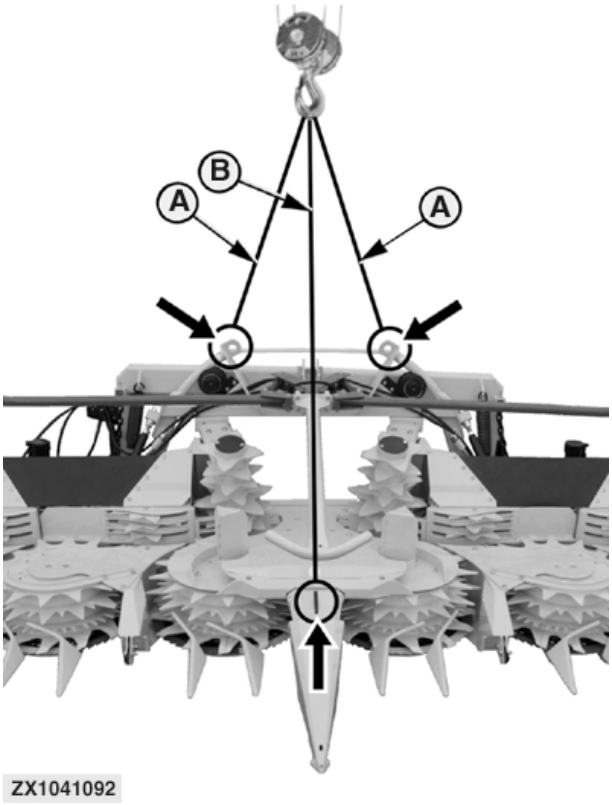
Always use chains or straps that meet the weight requirements of the rotary harvesting unit (see Section Specifications).

Particular care must be taken when loading in this way. Use additional securing chains, if necessary.

When loading the rotary harvesting unit with a crane, use chains or straps with the correct length as shown in the illustration.

A—1400 mm (4 ft. 7.08 in.)
B—1600 mm (5 ft. 2.88 in.) - rotary harvesting unit with rigid frame

B—2000 mm (6 ft. 6.72 in.) - rotary harvesting unit with tilt frame



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Preparation of the Rotary Harvesting Unit

Unpacking

As soon as packaging material is removed, check the unit for any damage that might have been incurred during transport.

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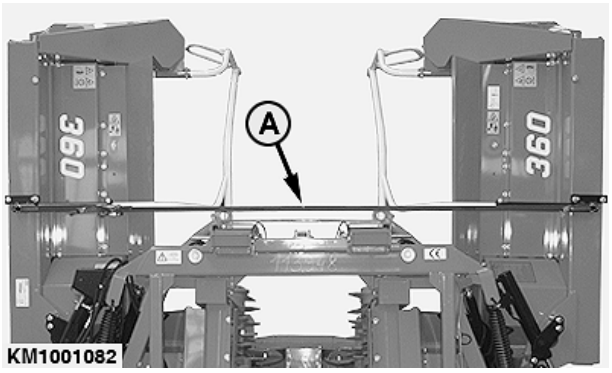
Remove Tensioner Strap (Models 345 and 360)

Remove tensioner strap (A).

NOTE: Do NOT discard tensioner strap (A); hand it over to the customer. It is required whenever the rotary harvesting unit is hauled separately.

A—Tensioner strap



KM1001082 —UN—22JAN10

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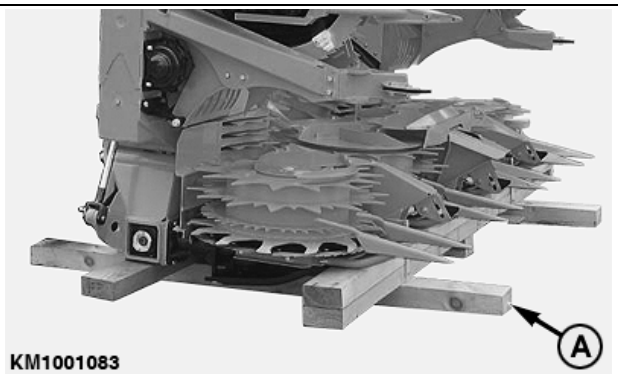
Remove Transport Pallet (Model 375 Only)

Remove transport pallet (A).

NOTE: Do NOT discard transport pallet (A); hand it over to the customer. It is always required to avoid damage to the machine when transporting the rotary harvesting unit separately.

A—Transport pallet



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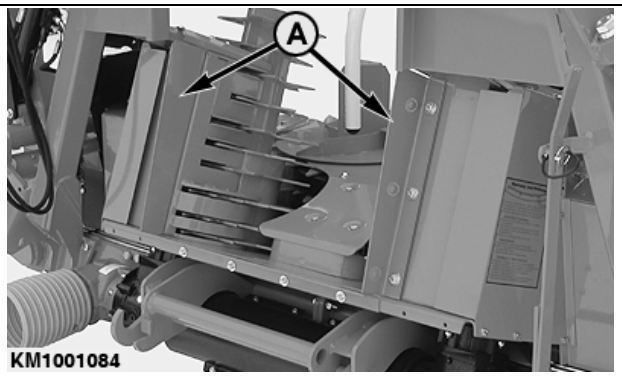
Adapt Feed Plates to Feed Passage

Before attaching the rotary harvesting unit to the forage harvester, make sure that the feed plates (A) match with the channel width of the forage harvester.

The feed plates (A) must be adjusted to the channel width of the relevant forage harvester model.

IMPORTANT: For more information, see Channel Width Adjustment in the Section for the relevant forage harvester type.

A—Feed plates



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Compatibility Chart (CLAAS Forage Harvesters)

⚠ CAUTION: Before attaching the rotary harvesting unit to a forage harvester, carry out the steps included in Section Prepare the Rotary Harvesting Unit.

The chart below gives the compatibility between rotary harvesting units and forage harvesters.

Compatibility rotary harvesting unit/forage harvester

330	685, 685 SL 690, 690 SL 695, 695 SL, 695 Mega 820 830 Type 492 840 850 Type 492 860 870 Type 492 880 890 Type 492 900 Type 492
345	820 830 Type 492/493 840 850 Type 492/493 860 870 Type 492/493 880 890 Type 492/493 900 Type 492/493 930 Type 494 940 Type 494 950 Type 494 960 Type 494 970 Type 494 980 Type 494
360	830 Type 492/493 840 850 Type 492/493 860 870 Type 492/493 880 890 Type 492/493 900 Type 492/493 930 Type 494 940 Type 494 950 Type 494 960 Type 494 970 Type 494 980 Type 494
375	890 Type 492/493 900 Type 492/493 950 Type 494 960 Type 494 970 Type 494 980 Type 494

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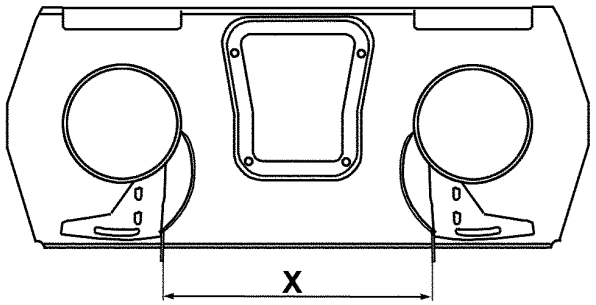
Channel Width Adjustment

The channel width of forage harvester and rotary harvesting unit must be the same.

Preset channel width

Preset channel width (X) for narrow intake (forage harvester types 685 - 695) is 570 mm (1 ft. 10.44 in.) and for wide intake (forage harvester types 820 - 980) 660 mm (2 ft. 1.98 in.).

X—Preset channel width



KM1001085

KM1001085 —UN—29JAN10

KM00321,000025E -19-29JAN10-1/2

Adjust channel width

The channel width of the rotary harvesting unit can be adjusted, if required.

Procedure:

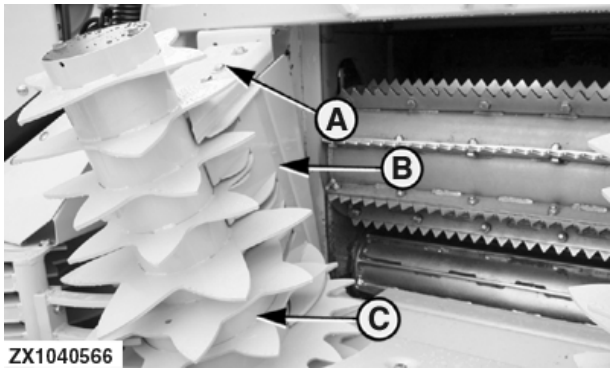
Loosen attaching screws (A).

Cover, feed plate and scraper assembly (B) can be turned round the feed drum (C) to modify channel width.

IMPORTANT: After adjustment, make sure that clearance between scraper and wall of feed drum does not exceed 5 mm (0.2 in.). See Scrapers on Feed Drums in Section Service.

Tighten attaching screws (A).

A—Attaching screws
B—Scraper assembly
C—Feed drum



ZX1040566

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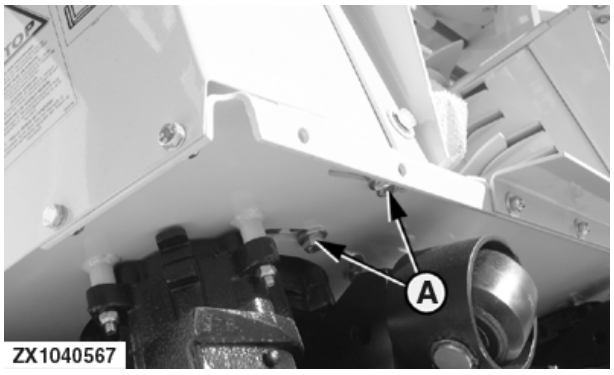

ZX1040567

ZX1040567 —UN—12APR07

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Improved Channel Width Adjustment

If the section between the housing and the feed plates is regularly blocked, adjust the channel width in such a way that the feed plates cover the outer edge of the front feed rolls.

ZX1041090

ZX1041090 —UN—19SEP07

KM00321,0000265 -19-29JAN10-1/1

Adjust Rotary Harvesting Unit Tilt

Depending on the condition of the crop, the rotary harvesting unit can be engaged in different positions.

Adjustment for rotary harvesting units with tilt frame

To guide the rotary harvesting unit flat on the ground, install mounting bracket (A) on both sides as shown in illustration 1 (factory setting).

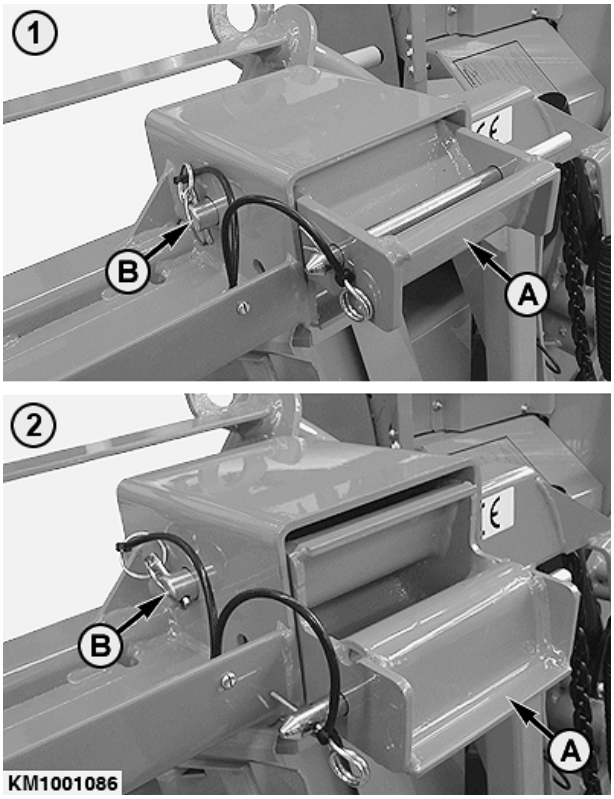
In certain harvesting conditions, mounting bracket (A) can be reversed on both sides to obtain a larger angle to the ground.

Procedure:

- Remove quick-lock pin and pull out pin (B).
- Reverse mounting bracket (A) on both sides and reinstall it.
- Install pin (B) and secure with quick-lock pin.

IMPORTANT: For normal harvesting conditions, the flat engagement position (illustration 1) is recommended.

A—Mounting bracket **B—Pin**



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Adjustment for rotary harvesting units with rigid frame

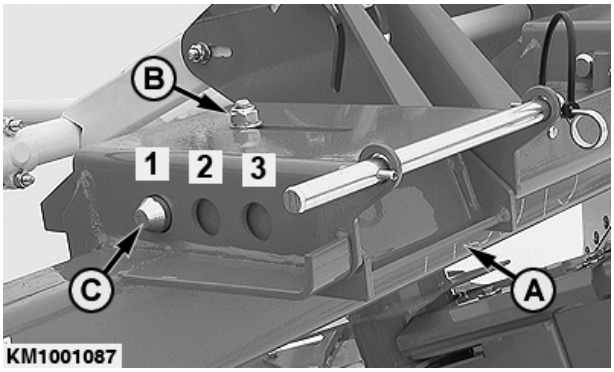
To guide the rotary harvesting unit flat on the ground, install mounting bracket (A) on both sides in bore 1 (factory setting).

In certain harvesting conditions, mounting bracket (A) can be moved on both sides to obtain a larger angle to the ground.

Procedure:

- Loosen nut (B) and remove pin (C).
- Move mounting bracket into one of the three possible positions.
- Tighten nut (B).
- Install pin (C) and secure it.

IMPORTANT: For normal harvesting conditions, the flat engagement position (bore 1) is recommended.



KM1001087 —UN—29JAN10

A—Mounting bracket **C—Pin**
B—Nut

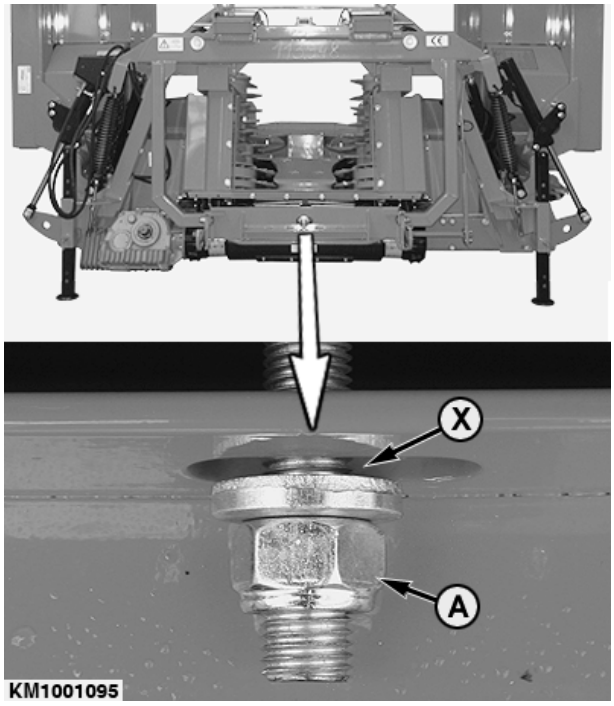
KM00321,0000266 -19-01FEB10-2/2

Adjust Play on Tilt Frame

For the tilt frame to operate properly, always maintain a play (X) of 3 mm (0.12 in.).

IMPORTANT: To avoid damage to the tilt frame, do not overtighten nut (A)!

A—Nut **X—3 mm (0.12 in.)**



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Attaching to CLAAS Forage Harvesters

Rotary harvesting unit with tilt frame

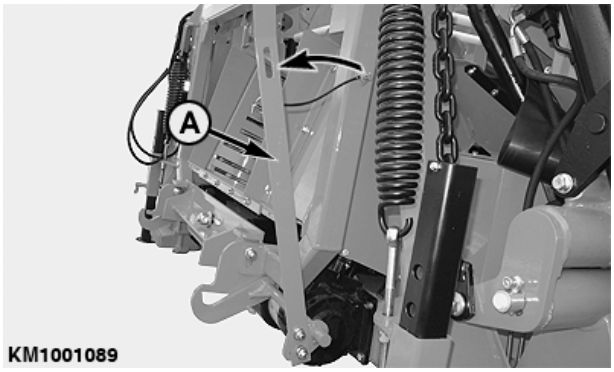
1. Unlock lever (A).
2. Drive the forage harvester close to the rotary harvesting unit's frame until attaching straps (B) protrude into mounting brackets (E) of the attaching frame.
3. Remove pins (D) on both sides.
4. Lift front shield (C) up until attaching straps (B) of the rotary harvesting unit lie in the mounting brackets (E).
5. Lock the rotary harvesting unit:
   Secure upper bearing point by installing pin (D).
   Lock lower bearing point by engaging lever (A).
6. Lock jackstands (G) in their highest position.

Adjust lever (A) (only for initial use):

- Loosen screws (F).
- Adjust lever (A) so that it can be secured.
- Tighten screws (F).

IMPORTANT: Secure lever (A) and pin (D) with spring pin.

A—Lever
B—Attaching straps
C—Front shield
D—Pin
E—Mounting bracket
F—Screws
G—Jackstands



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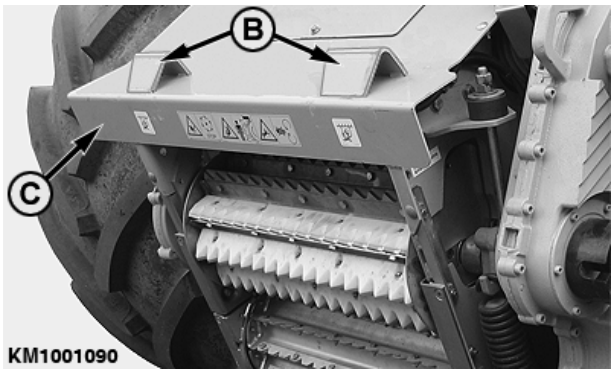
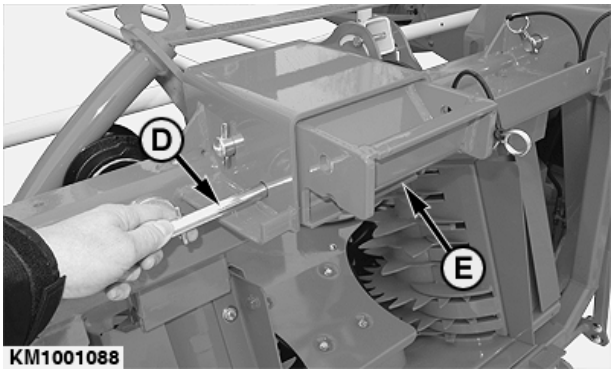
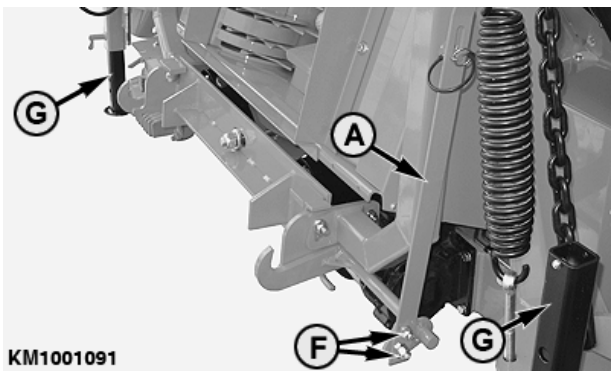


KM1001090 —UN—04FEB10



KM1001088 —UN—04FEB10



KM1001091 —UN—05FEB10

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Rotary harvesting unit with rigid frame

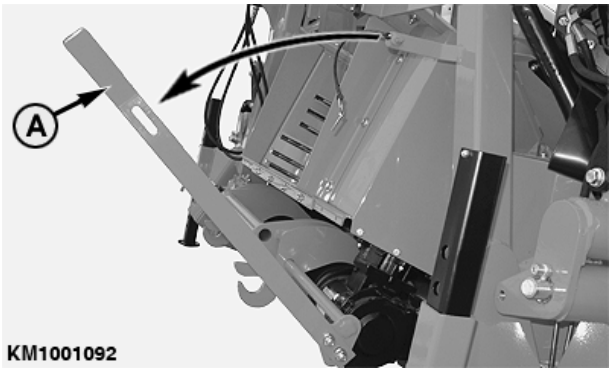
1. Unlock lever (A).
2. Drive the forage harvester close to the rotary harvesting unit's frame until attaching straps (B) protrude into mounting brackets (D) of the attaching frame.
3. Raise front shield (C).
4. Lock rotary harvesting unit by engaging lever (A).
5. Lock jackstands (F) in their highest position.

Adjust lever (A) (only for initial use):

- Loosen screws (E).
- Adjust lever (A) so that it can be secured.
- Tighten screws (E).

IMPORTANT: Secure lever (A) with spring pin.

A—Lever
B—Attaching straps
C—Front shield
D—Mounting bracket
E—Screws
F—Jackstands



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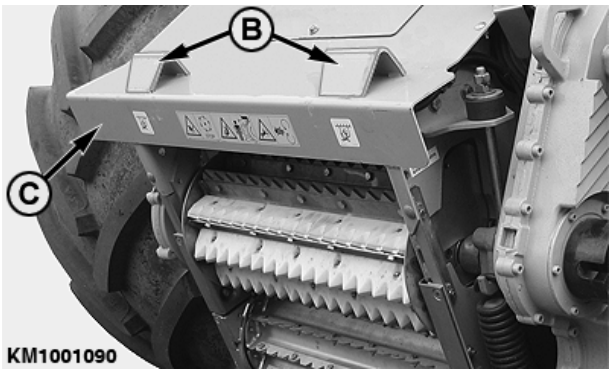

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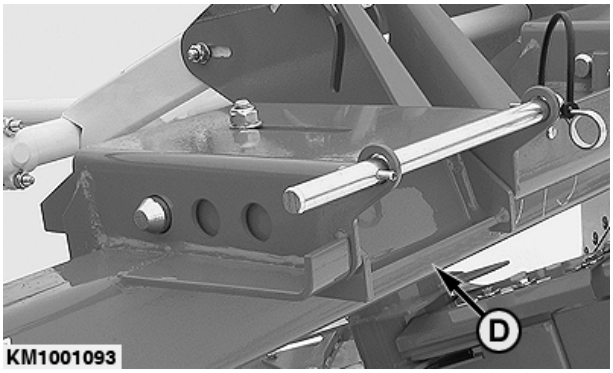

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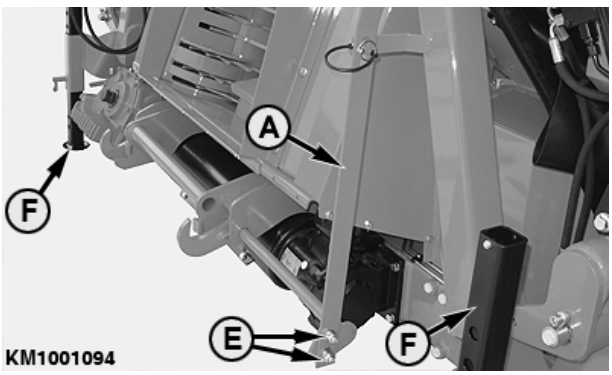

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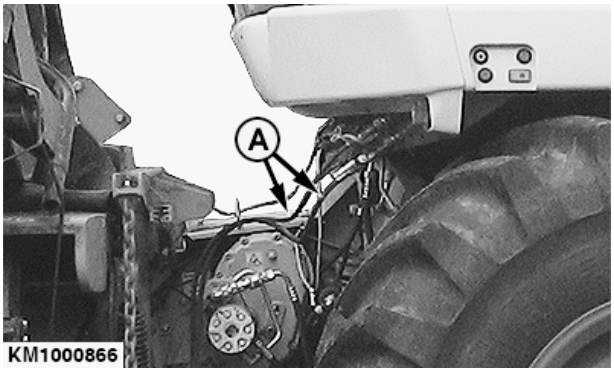
Connect Hydraulic Hoses

Connect hydraulic hoses (A) to forage harvester using quick couplers.

A—Hydraulic hoses



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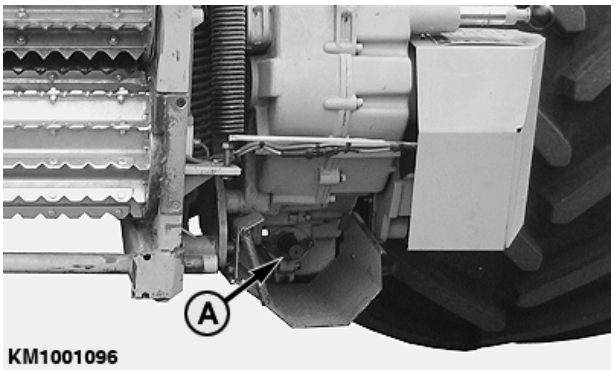
Connect the Drive (Forage Harvester Types 491 and 492)

330 and 345 rotary harvesting units

1. Slide u.j. shaft (B) on drive shaft (A) of the harvesting unit drive on the forage harvester.
2. Slide u.j. shaft (B) on drive shaft (C) of the rotary harvesting unit.

IMPORTANT: Make sure the quick-lock pins on both sides of the u.j. shaft engage.

A—Drive shaft
B—U.j. shaft
C—Drive shaft



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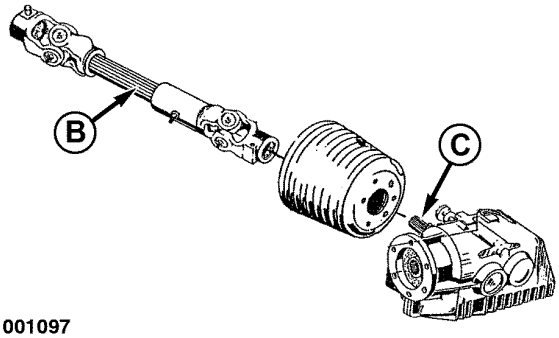

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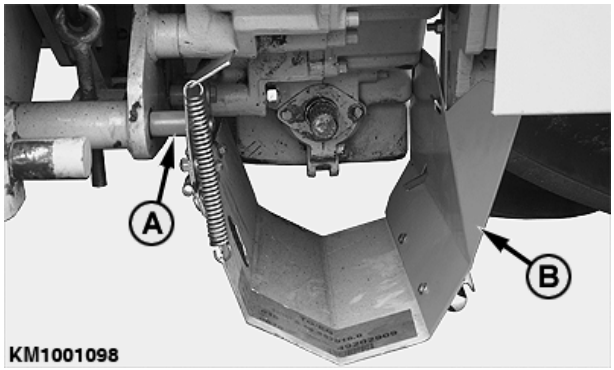
360 and 375 rotary harvesting units

1. Install spacer bushings (A).
2. Extend the equipped shield by attaching sheet (B).
3. Install protective cover (C).
4. Connect u.j. shaft (D).

IMPORTANT: Secure the u.j. shaft (D) with locking screws on both sides.

Make sure that u.j. shaft can no longer move.

A—Spacer bushings
B—Sheet
C—Protective cover
D—U.j. shaft



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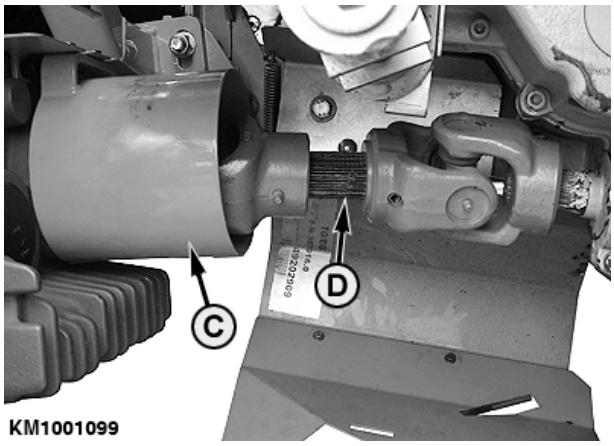

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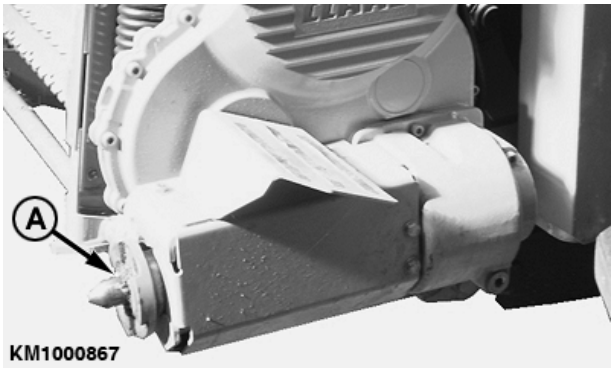
Connect the Drive (Forage Harvester Types 493 and 494)

1. Completely remove claw clutch (A) from rotary harvesting unit drive.

   To do this, disassemble items 1 to 11.

A—Claw clutch



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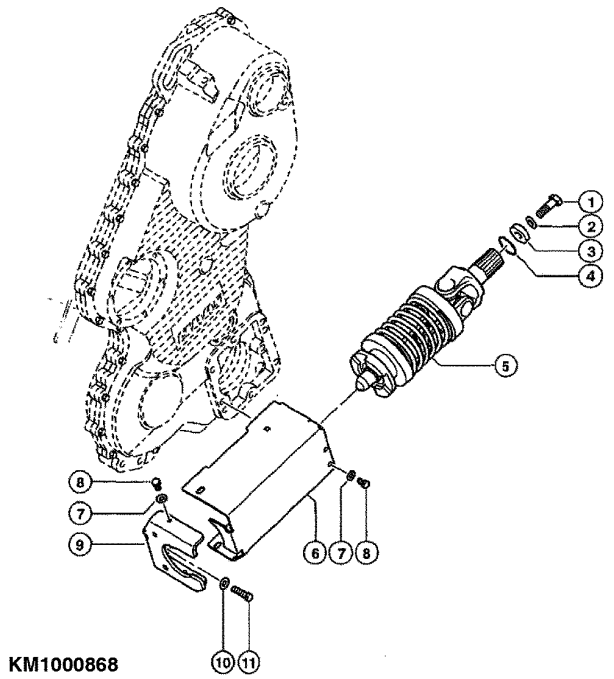

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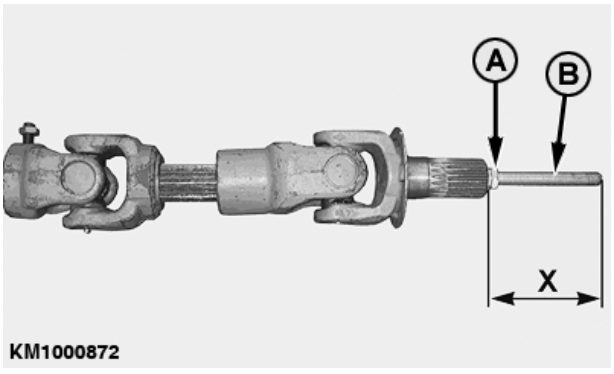
KM00321,000026A -19-09FEB10-1/7

2. Screw threaded rod (B) into u.j. shaft, adjust to 147 mm (X) and counterlock with hex. nut (A).

A—Hex. nut
B—Threaded rod
X—147 mm



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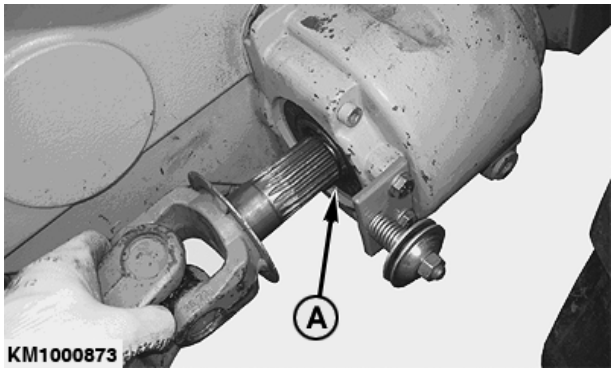
3. First insert u.j. shaft into splined bushing (A) of the rotary harvesting unit drive on the forage harvester.

A—Splined bushing

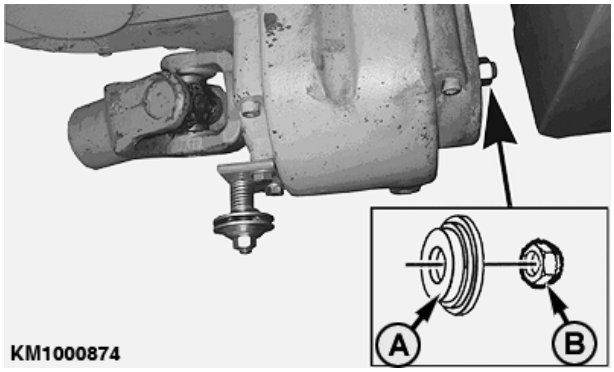


KM1000873 —UN—26MAY09

KM00321,000026A -19-09FEB10-3/7

4. Secure u.j. shaft with bushing (A) and retaining nut (B).

A—Bushing **B—Retaining nut**



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KM00321,000026A -19-09FEB10-4/7

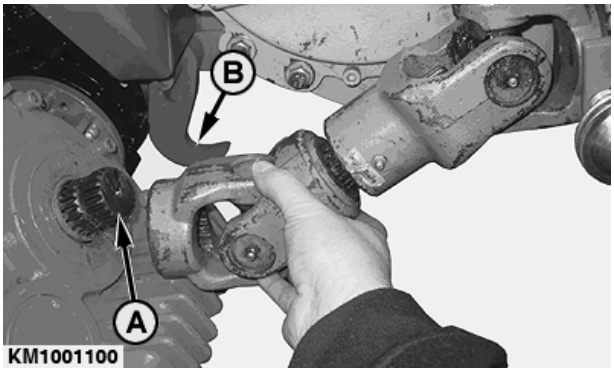
5. Put the other end of the u.j. shaft on the rotary harvesting unit gear box (A).

   Rotary harvesting units with rigid attaching frame only:

   Rotary harvesting units with rigid attaching frame must be lowered so that there is enough room to attach the u.j. shaft.

   - Disengage rotary harvesting locking device (B).
   - Press function key (C) and lower the rotary harvesting unit onto a flat surface.
   - Put the u.j. shaft on the rotary harvesting unit gear box (A).
   - Press function key (D) and raise the rotary harvesting unit.
   - Engage rotary harvesting locking device (B).

A—Gear box
B—Locking device
C—Function key
D—Function key



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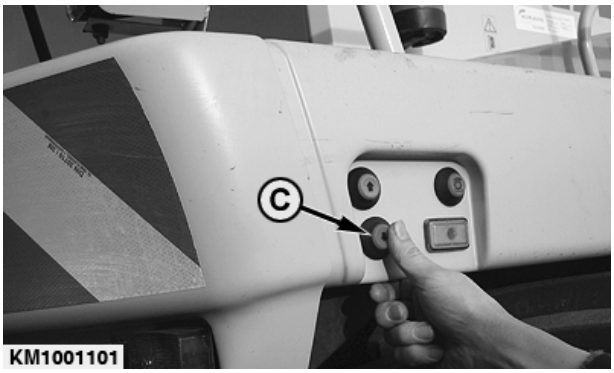

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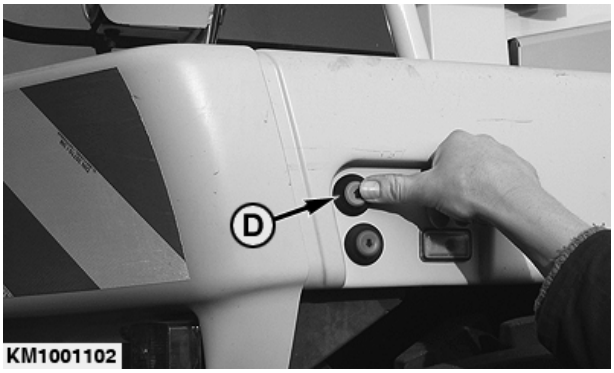

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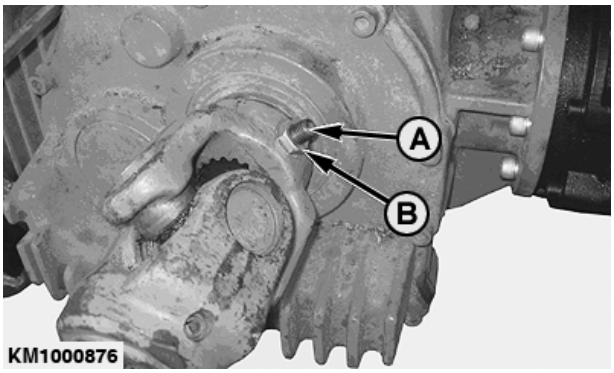
6. Engage locking screw (A) into groove of splined shaft.

   Make sure that u.j. shaft can no longer move.

   Tighten lock nut (B).

A—Locking screw
B—Lock nut



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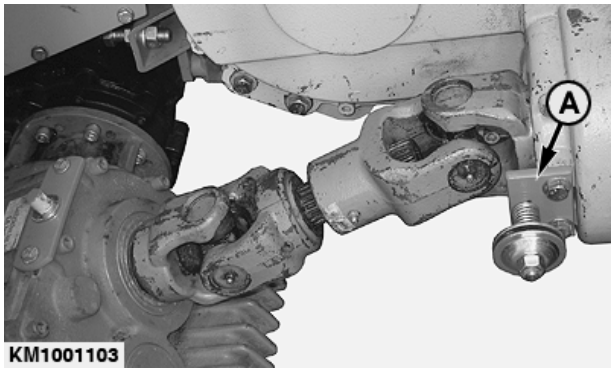
7. Install bracket (A).

   Install u.j. shaft shield (B).

A—Bracket
B—U.j. shaft shield
C—Spring ring
D—Screw
E—Washer
F—Retaining nut
G—Washer



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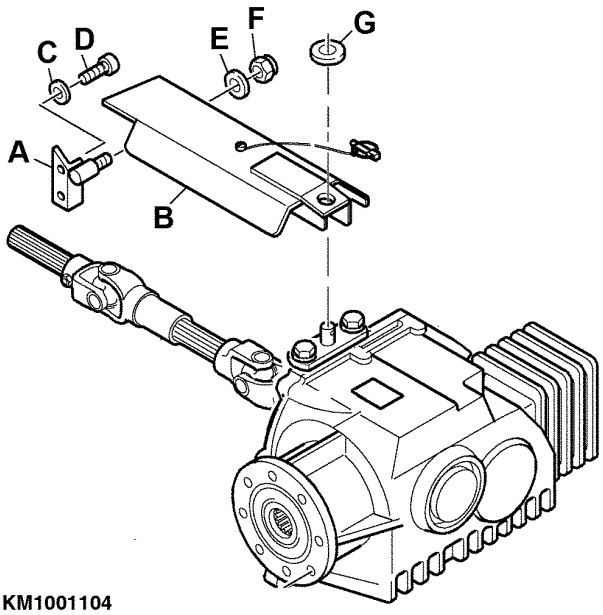

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Replace CLAAS Tray with KEMPER Tray

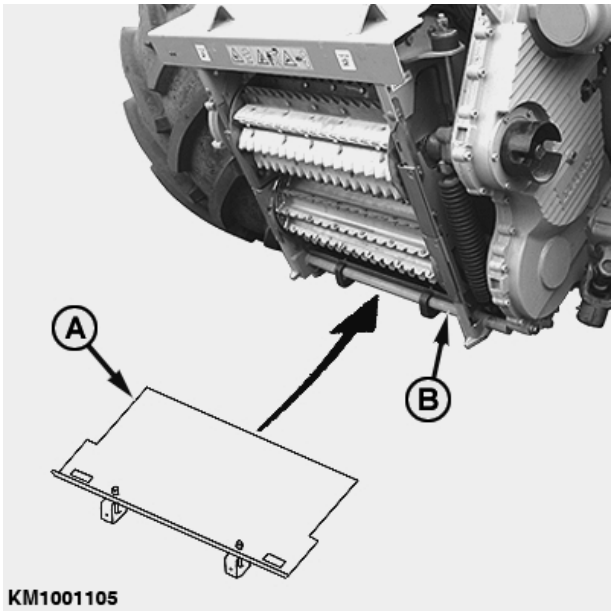
The curved CLAAS tray may impair material flow below the feed rolls. This problem will be resolved by using the straight KEMPER tray (A).

Installation:

Remove CLAAS tray, slide in straight KEMPER tray (A) and attach it to support shaft (B).

NOTE: When harvesting grass, remove the KEMPER tray.

A—KEMPER tray **B—Support shaft**



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Attaching to NEW HOLLAND and CASE Forage Harvesters

Prior to Attaching

IMPORTANT: Before attaching the rotary harvesting unit to a forage harvester, carry out the steps included in Section Prepare the Rotary Harvesting Unit.

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Compatibility Chart (NEW HOLLAND Forage Harvesters)

The chart below gives the compatibility between rotary harvesting units and forage harvesters.

Compatibility rotary harvesting unit	forage harvester
330, 345	FX 300 FX 375 FX 450 FX 28 FX 30 FX 38 FX 40 FX 48 FX 50 FX 58 FX 60
360	FX 450 FX 48 FX 50 FX 58 FX 60
375	FX 60

KM00321,000025A -19-10FEB10-1/1

Compatibility Chart (CASE Forage Harvesters)

The chart below gives the compatibility between rotary harvesting units and forage harvesters.

Compatibility rotary harvesting unit	forage harvester
330, 345	CHX 320 CHX 420 CHX 520 CHX 620
360	CHX 420 CHX 520 CHX 620
375	CHX 620

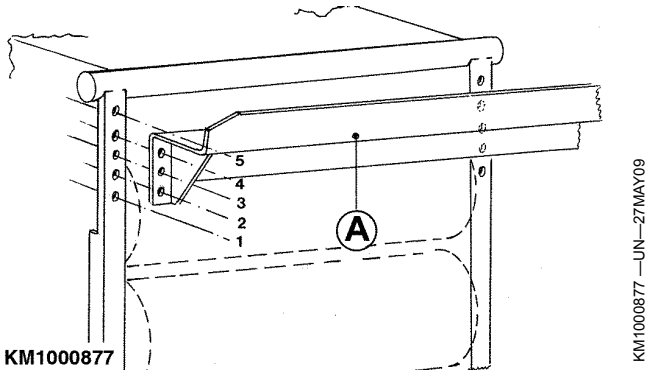
KM00321,000026C -19-10FEB10-1/1

Install Mounting Rail

IMPORTANT: Mounting rail (A) is supplied separately with the rotary harvesting unit and must be installed on the forage harvester first.

Secure mounting rail (A) in middle holes (2, 3 and 4) of the pattern on the feed roll housing.

A—Mounting rail



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Install Front Jackstand

When attaching or detaching, the rotary harvesting unit stands on three jackstands. Two jackstands (A) are located at the bottom of the attaching frame. When the implement is delivered, front jackstand (B) is mounted to the upper crossmember of the attaching frame.

Before attaching the rotary harvesting unit for the first time, the front jackstand must be installed:

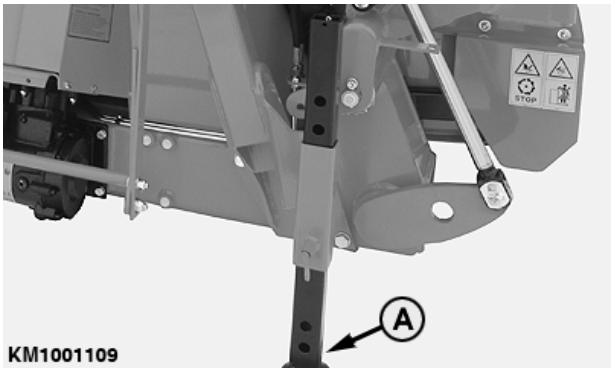
- Set the rotary harvesting unit down on a flat level paved surface.
- Raise the rotary harvesting unit with a crane or a forklift.

CAUTION: When working underneath the rotary harvesting unit, it must be supported securely.

CAUTION: Make sure that the crane or forklift meets the weight requirements of the rotary harvesting unit (see Section Specifications).

- Remove dummy plug and install front jackstand (B).

A—Rear jackstand **B—Front jackstand**



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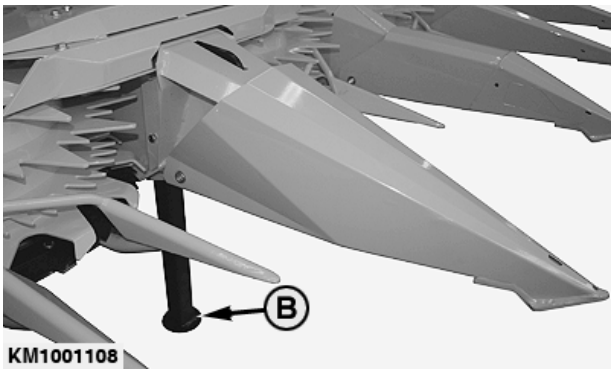

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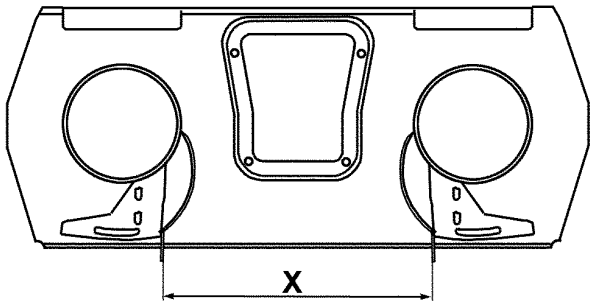
Channel Width Adjustment

The channel width of forage harvester and rotary harvesting unit must be the same.

Preset channel width

The preset channel width (X) varies depending on the configuration of rotary harvesting unit and forage harvester (see chart):



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X—Preset channel width

Forage Harvester	Rotary Harvesting Unit	
	With Rigid Attaching Frame	With Tilt Frame
FX 300 FX 375 FX 450 FX 28 FX 38 FX 48 FX 58	730 mm (2 ft. 4.68 in.)	700 mm (2 ft. 3.56 in.)
FX 30 FX 40 FX 50 FX 60 CHX 320 CHX 420 CHX 520 CHX 620	715 mm (2 ft. 4.15 in.)	700 mm (2 ft. 3.56 in.)

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KM00321,000026E -19-11FEB10-1/2

Adjust channel width

The channel width of the rotary harvesting unit can be adjusted, if required.

Procedure:

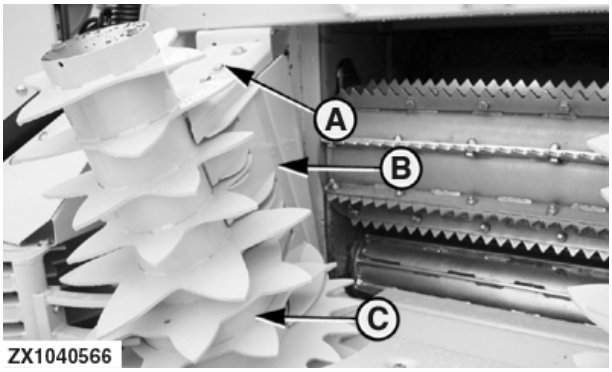
Loosen attaching screws (A).

Cover, feed plate and scraper assembly (B) can be turned round the feed drum (C) to modify channel width.

IMPORTANT: After adjustment, make sure that clearance between scraper and wall of feed drum does not exceed 5 mm (0.2 in.). See Scrapers on Feed Drums in Section Service.

Tighten attaching screws (A).

A—Attaching screws
B—Scraper assembly
C—Feed drum



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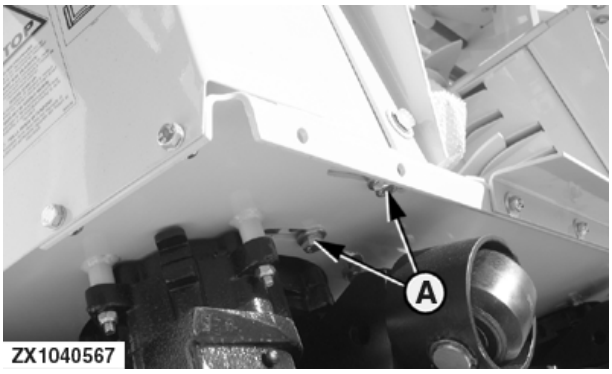

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Improved Channel Width Adjustment

If the section between the housing and the feed plates is regularly blocked, adjust the channel width in such a way that the feed plates cover the outer edge of the front feed rolls.

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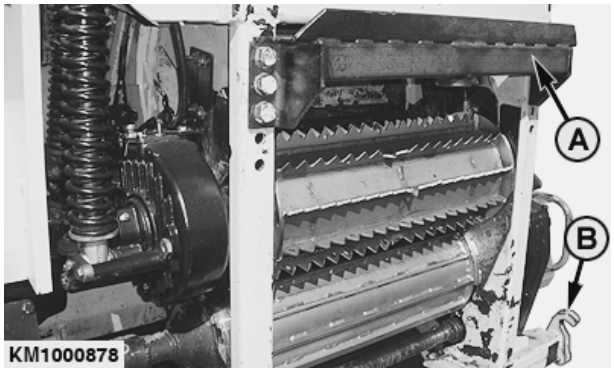
KM00321,0000265 -19-29JAN10-1/1

Attaching to NEW HOLLAND and CASE Forage Harvesters

1. Slowly drive the forage harvester forward until mounting rail (A) lies in the attaching frame of the rotary harvesting unit. Then raise the front shield and engage the rotary harvesting unit.
2. At left and right, engage retainer hooks (B) into the receiver openings of the attaching frame provided for them.
3. At left and right, tighten retainer hooks using threaded rod (C).

A—Mounting rail
B—Retainer hook
C—Threaded rod



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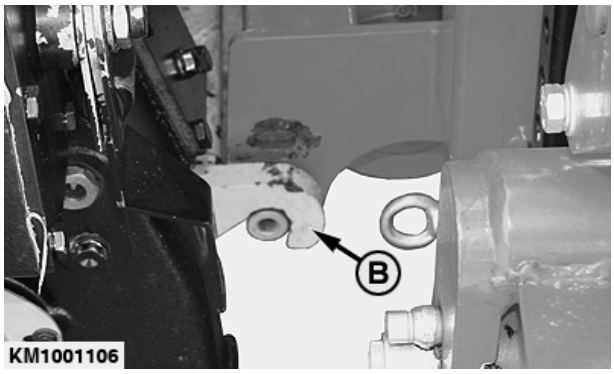

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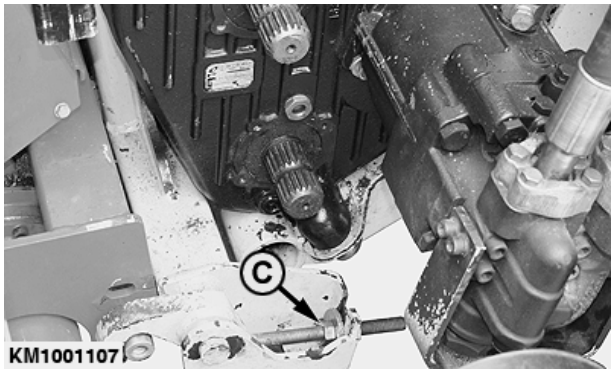

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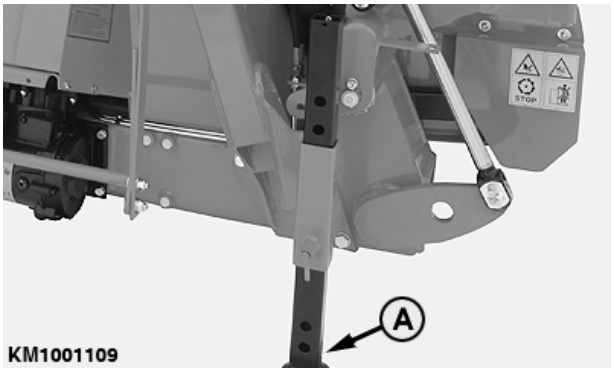
Lock Jackstands

Lock rear jackstands (A) in their highest position.

Remove front jackstand (B) and replace it with the dummy plug provided.

NOTE: When the rotary harvesting unit is attached to the forage harvester, slide front jackstand (B) into the bracket provided on the attaching frame.

A—Rear jackstand **B—Front jackstand**



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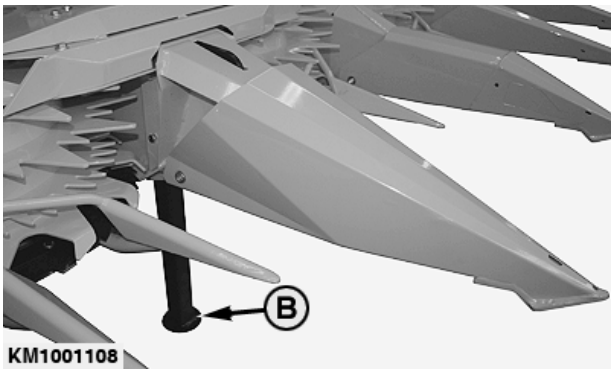

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Connect Drive Shaft

Connect drive shaft (A) to feed roll housing and to drive case of rotary harvesting unit.

CAUTION: To avoid serious injury, make sure that locking pins of drive shaft are engaged properly in the provided grooves on the splined shafts.

A—Drive shaft

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KM00321,000026F -19-18FEB10-1/1

Install U.J. Shaft Shields on Forage Harvester

On forage harvesters with infinitely variable length-of-cut adjustment "HydroLoc" only

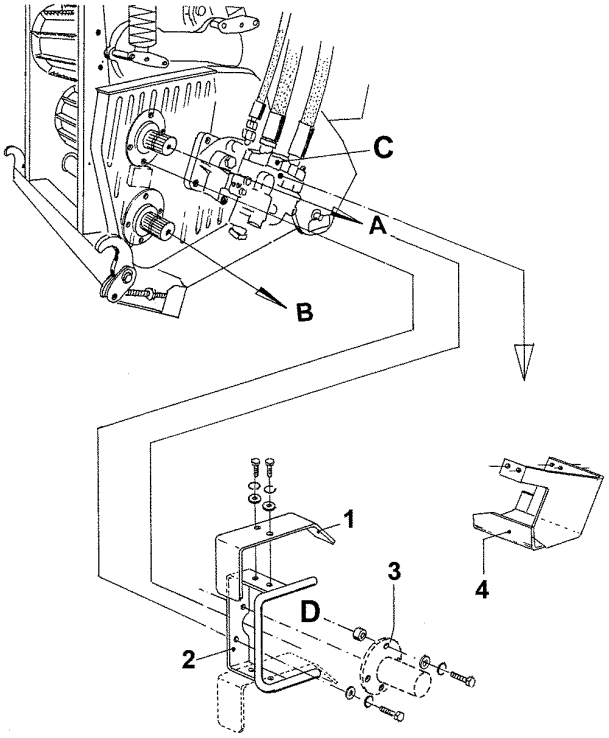
Cover both splined shafts (A) and (B) with protection device (D).

Depending on which splined shaft is used (A or B), cover plate (1) must be installed at the top or at the bottom of strap (2).

Depending on which splined shaft is used (A or B), shaft shield (3) must be installed at the top or at the bottom.

Cover hydraulic motor (C) with protective cover (4). Remove the equipped strap.

A—Splined shaft
B—Splined shaft
C—Hydraulic motor
D—Protection device
1— Cover plate
2— Strap
3— Shaft shield
4— Protective cover



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Attaching to a KRONE Forage Harvester

Compatibility Chart

The chart below gives the compatibility between rotary harvesting units and forage harvesters.

CAUTION: Before attaching the rotary harvesting unit to a forage harvester, carry out the steps included in Section Prepare the Rotary Harvesting Unit.

Compatibility rotary harvesting unit/forage harvester

345	BIG X 500
360	BIG X V8 BIG X 500 BIG X 650
375	BIG X V8 BIG X V12 BIG X 650 BIG X 800 BIG X 1000

KM00321,000025D -19-17FEB10-1/1

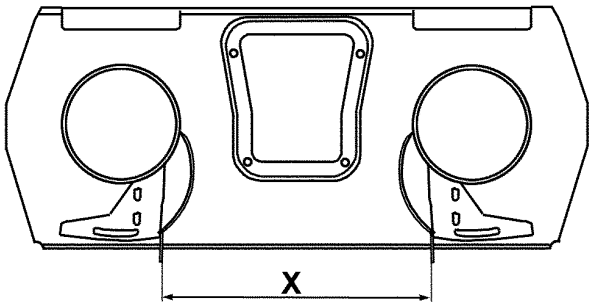
Channel Width Adjustment

The channel width of forage harvester and rotary harvesting unit must be the same.

Preset channel width

Preset channel width (X) is 648 mm (2 ft. 1.51 in.).

X—Preset channel width



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KM00321,0000261 -19-17FEB10-1/2

Adjust channel width

The channel width of the rotary harvesting unit can be adjusted, if required.

Procedure:

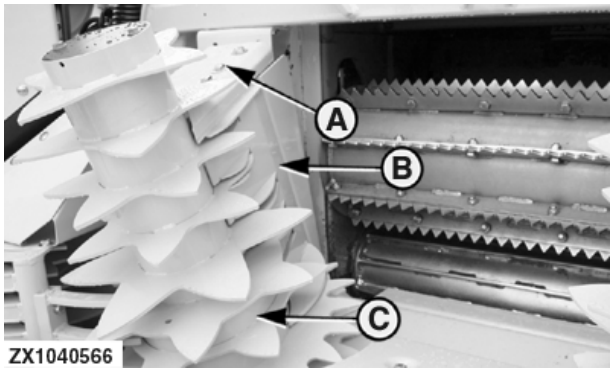
Loosen attaching screws (A).

Cover, feed plate and scraper assembly (B) can be turned round the feed drum (C) to modify channel width.

IMPORTANT: After adjustment, make sure that clearance between scraper and wall of feed drum does not exceed 5 mm (0.2 in.). See Scrapers on Feed Drums in Section Service.

Tighten attaching screws (A).

A—Attaching screws
B—Scraper assembly
C—Feed drum



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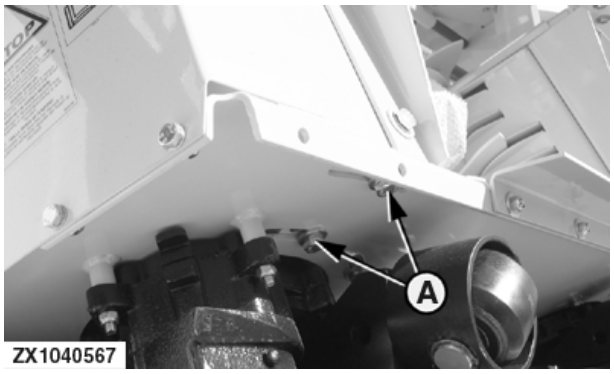

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KM00321,0000261 -19-17FEB10-2/2

Install Front Jackstand

When attaching or detaching, the rotary harvesting unit stands on three jackstands. Two jackstands (A) are located at the bottom of the attaching frame. When the implement is delivered, front jackstand (B) is mounted to the upper crossmember of the attaching frame.

Before attaching the rotary harvesting unit for the first time, the front jackstand must be installed:

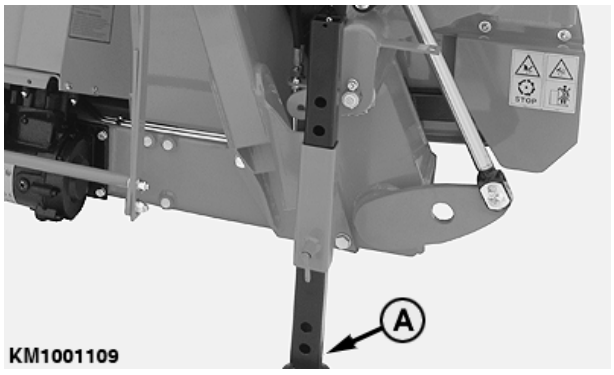
- Set the rotary harvesting unit down on a flat level paved surface.
- Raise the rotary harvesting unit with a crane or a forklift.

CAUTION: When working underneath the rotary harvesting unit, it must be supported securely.

CAUTION: Make sure that the crane or forklift meets the weight requirements of the rotary harvesting unit (see Section Specifications).

- Remove dummy plug and install front jackstand (B).

A—Rear jackstand
B—Front jackstand



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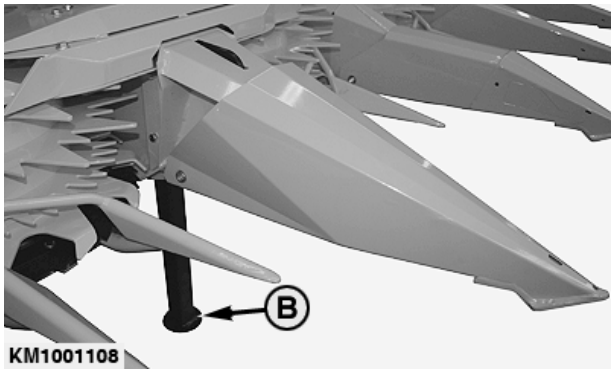

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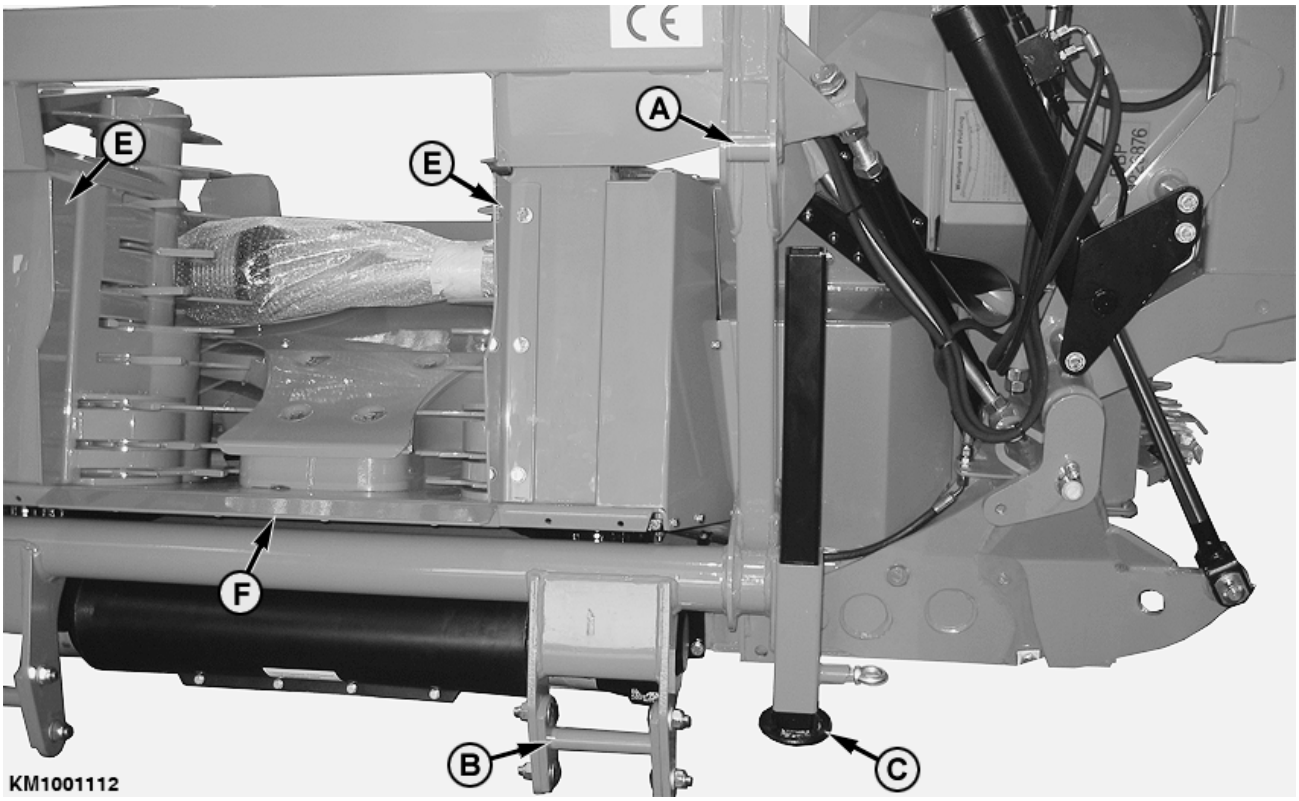
Attaching to KRONE Forage Harvesters



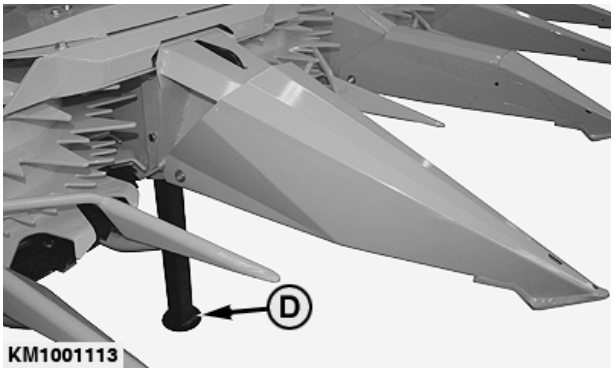
KM1001112 —UN—18FEB10

1. Place the rotary harvesting unit on jackstands (C) and (D) in front of the forage harvester.
2. Attach the rotary harvesting unit to the feed roll housing of the forage harvester using suspensions (A) and (B).
3. While raising the rotary harvesting unit slowly, observe feed plates (E) and guide plate (F).

   IMPORTANT: Feed plates (E) and guide plate (F) must not touch the feed rolls of the forage harvester.

4. Lift rear jackstands (C) and secure them.
5. Take out front jackstand (B) and insert dummy plug.
6. Lock rotary harvesting unit.

   IMPORTANT: For more information on the locking mechanism, see Operator's Manual of the forage harvester.



KM1001113 —UN—18FEB10

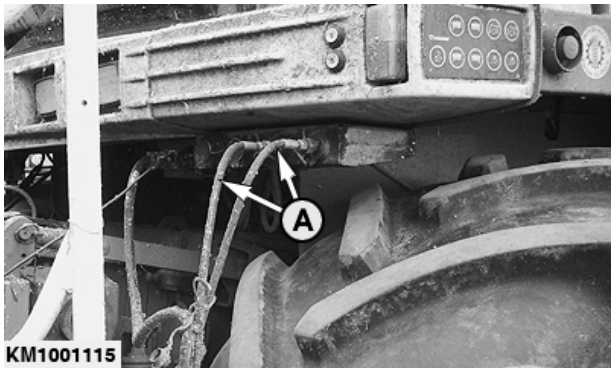
A—Suspension
B—Suspension
C—Rear jackstand
D—Front jackstand
E—Feed plates
F—Guide plate

KM00321,0000262 -19-18FEB10-1/1

Connect Hydraulic Hoses

Connect hydraulic hoses (A) for folding the rotary harvesting unit to the relevant hydraulic connections on the left side of the forage harvester.

A—Hydraulic hoses



KM1001115 —UN—18FEB10

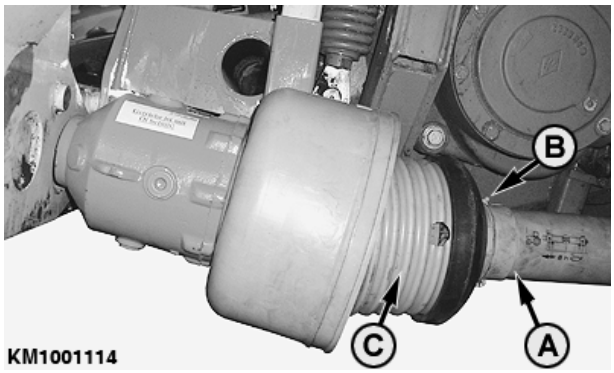
KM00321,0000278 -19-18FEB10-1/1

Connect Drive Shaft

Connect drive shaft (A) to forage harvester drive and to rotary harvesting unit input gear box.

NOTE: To facilitate installation of the u.j. shaft, loosen locking screw (B) and slide protective sleeve (C) on u.j. shaft to the rear. After installation of the u.j. shaft, reposition protective sleeve (C) and attach it with locking screw (B).

CAUTION: To avoid serious injury, make sure that pull-type locks of drive shaft are engaged properly in the provided grooves on the splined shafts.



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A—Hydraulic hoses

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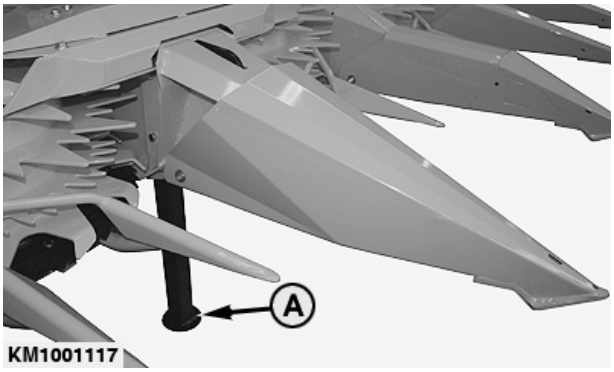
Detaching the Rotary Harvesting Unit

Install Front Jackstand (Except on Rotary Harvesting Units for CLAAS Forage Harvesters)

Before detaching the rotary harvesting unit, remove the dummy plug and install front jackstand (A).

CAUTION: When working underneath the rotary harvesting unit, it must be supported securely.

A—Jackstand



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Detach Rotary Harvesting Unit

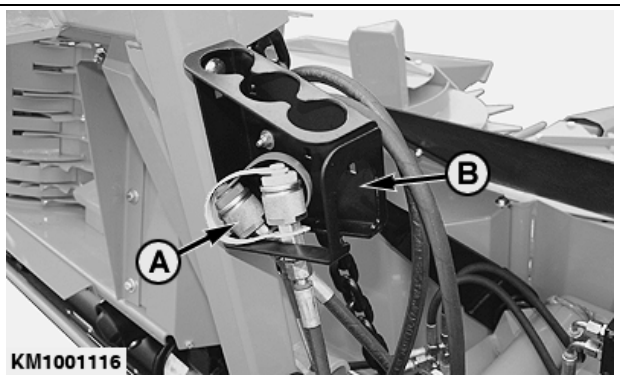
NOTE: Fold the rotary harvesting unit before setting it down.

1. Lower the rotary harvesting unit completely onto a flat level surface.
2. Shut off the forage harvester's engine, remove the key from the ignition and apply the park brake.
3. Disconnect hydraulic couplers (A) from the forage harvester and store them in the provided support (B).
4. Pull off the drive shaft.
5. At left and right, lower jackstands (C) and lock them at a suitable height. To do this, pull out spring-loaded pin (D) and let it re-engage when the jackstand has reached the correct height.

   NOTE: Leave the rotary harvesting unit standing at a height that allows the unit to be re-attached to a forage harvester at a later time. Never select a height that is too low.

6. Open the locking device on the attaching frame.
7. Start the forage harvester, lower the feed roll housing further and drive out of the rotary harvesting unit's attaching frame.

A—Hydraulic couplers
B—Bracket
C—Jackstand
D—Pin



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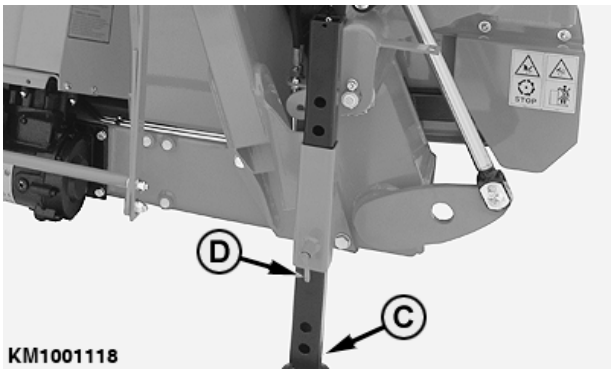

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KM00321,0000263 -19-18FEB10-1/1

Driving on Public Roads

CAUTION: When driving on public roads or highways at night or during the day, observe local traffic regulations regarding warning devices, lighting and safety. See Section Safety.

IMPORTANT: Refer to the relevant forage harvester Operator's Manual to meet local government regulations when driving the forage harvester on public roads.

Fold the outer sections for transport according to the local regulations.

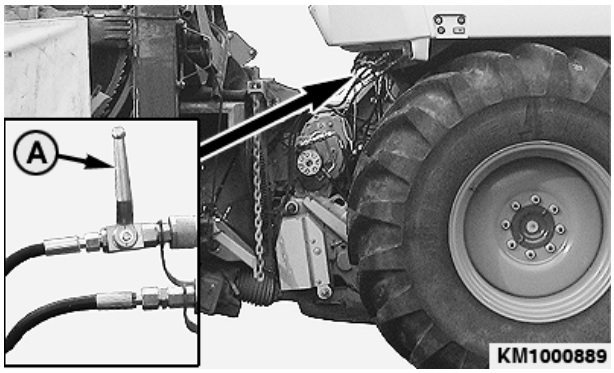
IMPORTANT: Risk of collision! To avoid damage, close the cab door of the forage harvester before folding the rotary harvesting unit.

KM00321,000027A -19-19FEB10-1/1

Close Safety Relief Valve (Rotary Harvesting Units for CLAAS Forage Harvesters Only)

Close safety relief valve (A) when driving on public roads to prevent unintended lowering of the outer sections.

A—Safety relief valve



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Accident Prevention

When driving on public roads, the entire area around the dividers must be secured by accident prevention device (C).

Installation of accident prevention device (C):

1. After the rotors have come to a complete stop, fold the side sections.
2. Attach accident prevention device (C) in central position and insert rubber rings.
3. Fold up protective profiles on the side and insert rubber rings.
4. The skid shoes, blades and other edges are covered with curtains (A).

Clearance and indicator lights:

As the clearance and indicator lights of the forage harvester are usually covered by the raised gathering drums, the accident prevention device is equipped with two additional clearance/indicator lights (B). For the 12 V power supply use the 7-pole connector located on the right side of the forage harvester.

Ground clearance:

KM1001119 —UN—19FEB10

A—Curtains
B—Clearance/indicator lights
C—Accident prevention device

When driving on public roads, the rotary harvesting unit must be raised so that the front of the accident prevention device (C) is approx. 300 mm (1 ft) above the ground.

KM00321,000027B -19-19FEB10-1/1

Locking/Unlocking Tilt Frame

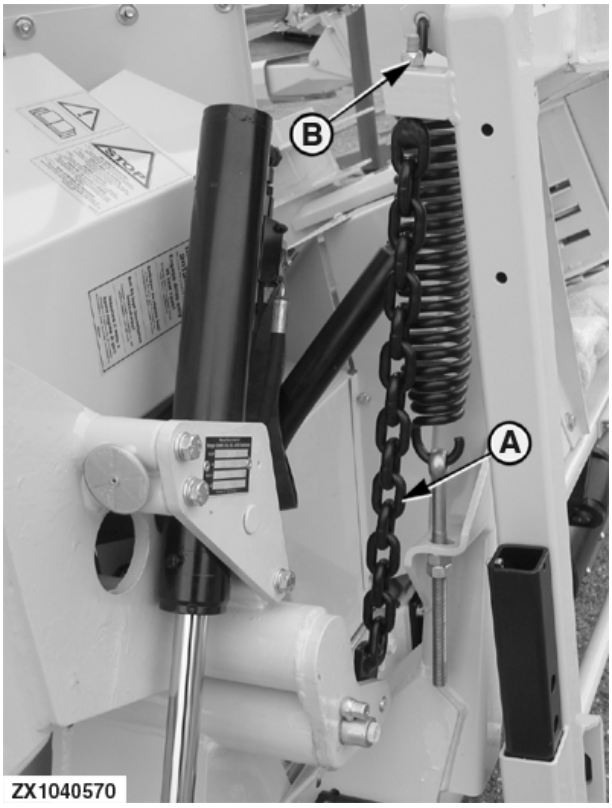
CAUTION: Always lock tilt frame to avoid uncontrolled movements of the harvesting unit while driving on public road.

When driving on public roads the harvesting unit has to be completely folded up (transport position). In this condition two chains (A) protect the harvesting unit from oscillation.

With harvesting unit in transport position, periodically re-tension the chains (A) by using nut (B) in such a way that a clearance (X) of about 1 mm (0.04 in.) is maintained between the chain links to avoid twisting and ensure a proper function.

A—Chain
B—Nut

X—1 mm (0.04 in.)



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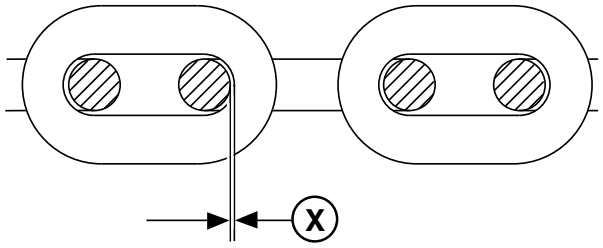

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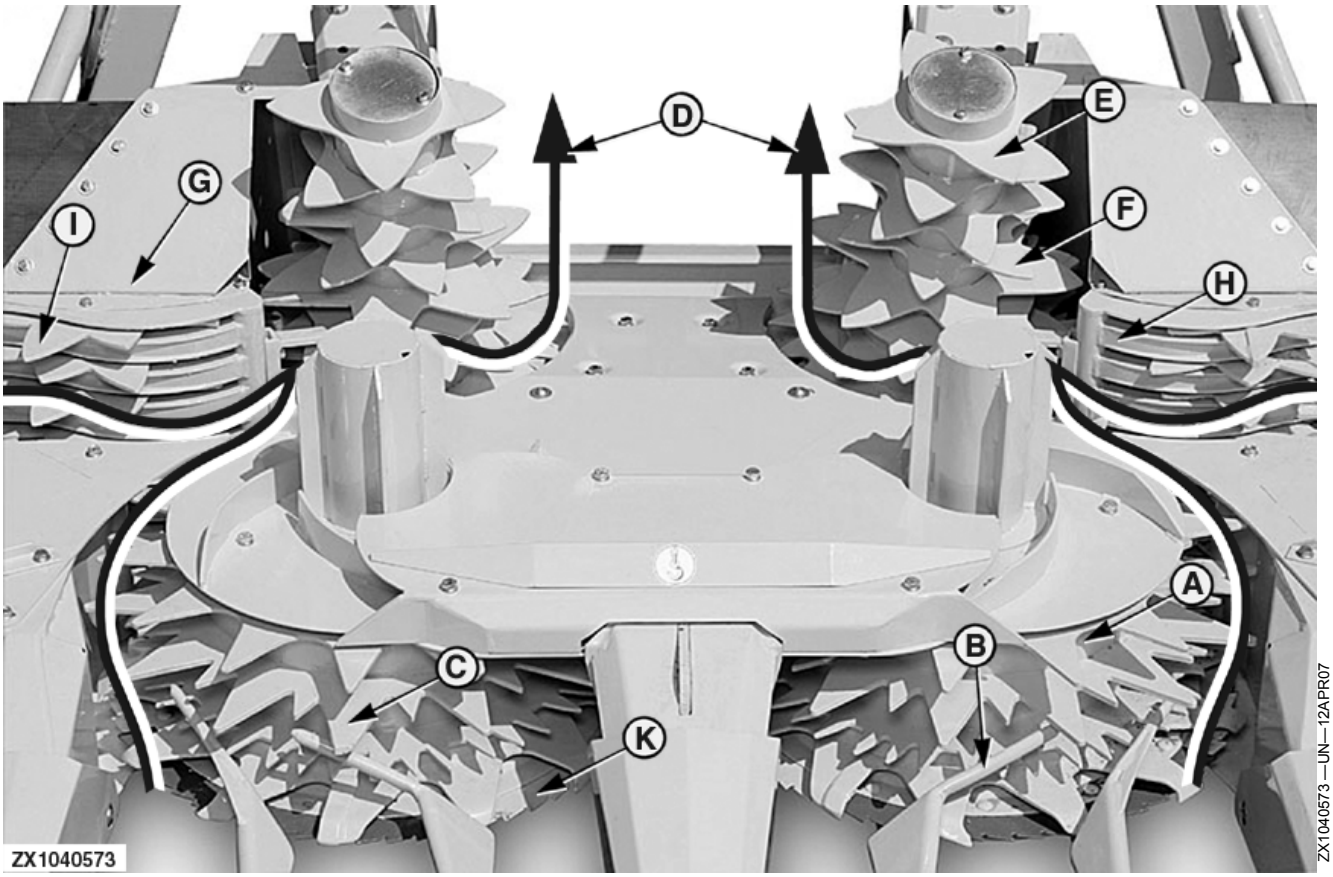
Operation of the Rotary Harvesting Unit

Harvesting Unit Method of Operation



A—Gathering drum
B—Intake bars
C—Row of teeth
D—Lengthwise direction of crop
E—Feed drums
F—Feed teeth
G—Cross feed drums
H—Guides and scrapers
I— Feed teeth
K—Rotating blade

The harvesting unit is basically to be operated in corn crop. Nevertheless, due to its capabilities, the harvesting unit is able to harvest whole-crop silage, alfalfa, rape, field beans, millet, sunflowers and other stalk-type plants.

The cutting system allows the crop to be harvested from any direction. It does not matter how the row is approached — it can be approached end-on, at right angles or at an oblique angle if so desired.

None of the stalks can escape the area covered by the rotary cutter. Although no counterknife is used, the fast rotating blades (K) cut all the stalks within the unit's operating width. The slowly rotating gathering drums (A) pass the stalks along the intake bars (B). The stalk is seized by the row of teeth (C) as if by a gripper.

The forward motion of the gathering drums (A) forces the crop against the feed teeth (I) and so the stalks are conveyed along the guides and scrapers (H) to the feed drum (E). The cross feed drums (G) force the stalks coming from left and right end sections to pass behind the gathering drums (A). Here the stalks come into contact with the feed teeth (F).

From there, the stalks are transported in a constant and compacted stream in direction (D) to the forage harvester's feed roll.

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Harvesting Unit Method of Operation—Higher Yields Through Narrow Corn Row Spacing

Higher yields are achieved by increasing the number of plants per surface unit.

The principle of this method is not to double rows, but to reduce usual row spacing of 75 cm (30 in.) to 30 cm (12 in.). With equal seed density (10 plants/m^2) plant spacing within the row can be increased.

Advantages of the method:

- The individual plants are more effectively placed.
- Faster shading of the soil as a result of the smaller row spacing.
- Reduction of erosion effect.
- Better utilization of nitrogen contained in the soil.
- Yields increased by approx. 12-17%.
- Higher quality.

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Operating the Harvesting Unit—General Use

Starting the forage harvester

Starting up the forage harvester, switching on the cutterhead and harvesting unit as well as reversing the feed rolls should always take place with the engine running at idle speed (see forage harvester Operator's Manual for details).

Engage forward gear at idling speed only. This avoids unnecessary wear on the clutches.

Reversing the harvesting unit

If a blockage occurs, stop the harvester and reverse feed rolls, thus bringing the rotary cutters to a standstill. Blockage must be cleared by hand!

⚠ CAUTION: When clearing a blockage by hand, first shut off the engine, remove the ignition key from the key switch and wait until all rotating components have come to a complete standstill.

To avoid injury or death to a bystander, press the quick-stop switch to stop the blades.

Operating the harvesting unit

Maximum operating speed in the fields is 15 km/h (9.32 mph) on 360 and 375 and 20 km/h (12.42 mph) on 330 and 345 harvesting unit.

For headland turns, maintain the rate of rotation. This avoids unnecessary wear on the harvesting unit drive.

When changing forage wagon, keep the harvesting unit engaged. This avoids unnecessary wear on the harvesting unit drive.

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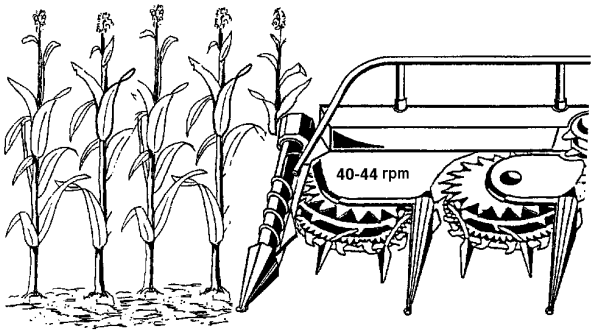
Corn Harvesting - Normal Harvesting Conditions

Once the cutterhead knives are rotating at the correct speed, and the gathering drums have obtained the relevant speed (40 to 44 rpm), drive into the standing crop.

Ground speed depends on crop density, crop type and performance of the forage harvester. The shorter the crop and the lower the crop density, the faster the operator should drive to ensure satisfactory operation of the feed elements.



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Corn Harvesting - Down Crop

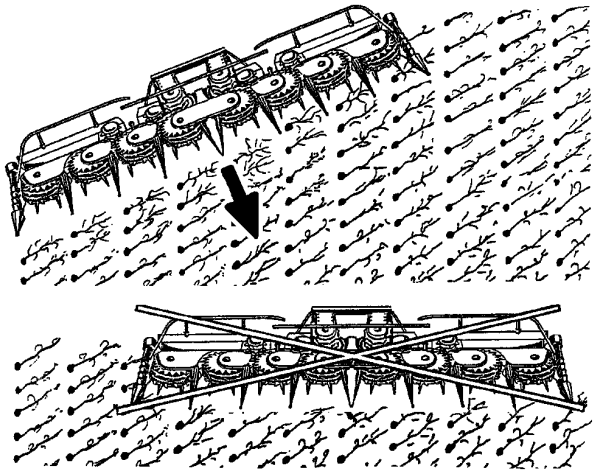
By driving round the field once, the operator will get an idea of which direction works best for harvesting the crop. Observe how the rotary harvesting unit feeds in the crop.

If possible, approach the crop at right angles to the direction it is lying in.

Install stalk lifters (A) on each small divider (B). Parts are available through the spare parts channel.

Drive fast into the crop with the gathering drums at the lowest possible speed (38 to 44 rpm).

Thus the most even crop flow is obtained.



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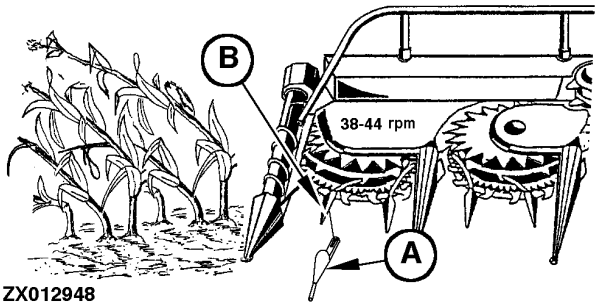

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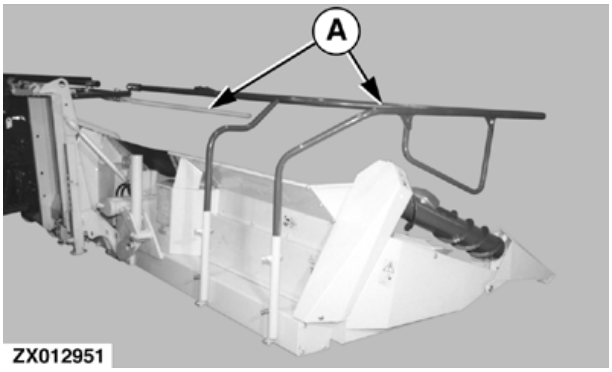
Harvesting Short-Stemmed Corn

When harvesting short-stemmed corn, approach the crop at full field speed.

Set the feed bars (A) lower so that the stalks do not approach the feed rolls vertically.

A—Feed bars



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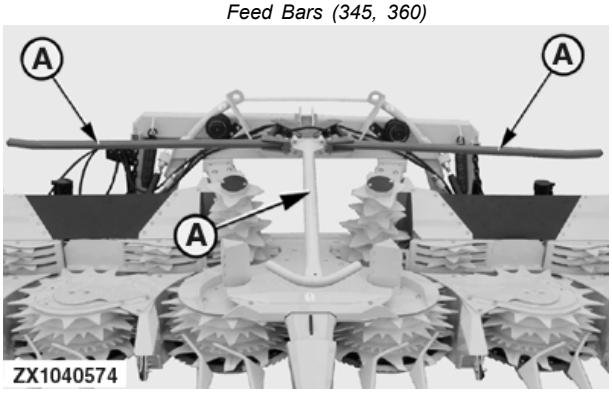
Feed Bars (345, 360)



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Central Feed Bars (375)

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Whole Crop Silage

Instructions for field operation

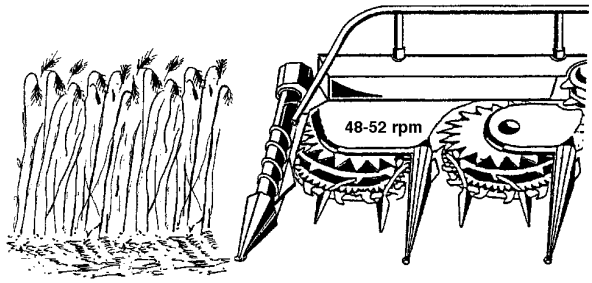
Good results can be achieved, if the following instructions are observed and conditions are good (e.g. dry crop).

The standing crop should be at least knee-high.

Use only sharp blades and undamaged cleaners.

If not equipped, install two-speed gear box (option).

Select a higher gathering drum speed (48 to 52 rpm).



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Instructions to prepare the rotary harvesting unit

If the crop is lying down, install stalk lifters (B) on each small divider (A).

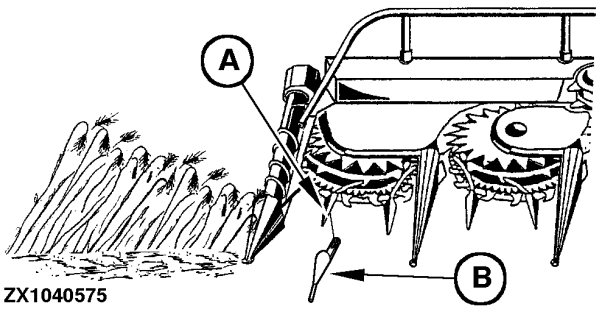
Check main drive slip and friction clutches before the beginning of the season. See Main Drive Slip Clutches - Water-Cooled (Optional on 345 and 360, Standard on 375), or Main Drive Friction Clutches (330, 345 and 360) in Section Service.

Sharp blades and undamaged cleaners are essential.

Install whole crop silage kit. This will significantly improve crop feeding (see Retrofit for Whole Crop Silage in this Section).

Adjust the scrapers as close as possible to the gathering and feed drums.

Install the inner large dividers as high as possible, see Adjusting the Large Dividers in this Section.



A—Small divider **B—Stalk lifter**

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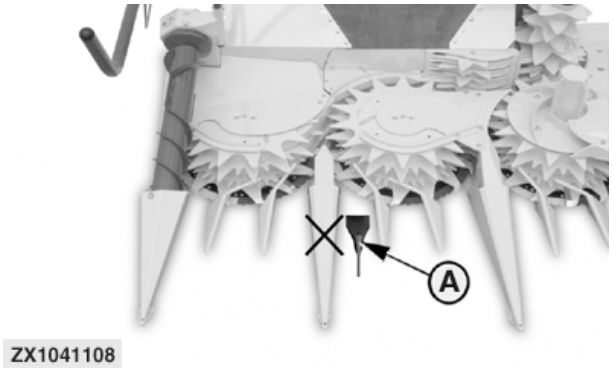
Technical Retrofitting to Whole-Crop Silage (WCS) Harvest

In case of harvesting whole-crop silage, install this special kit which is available through spare parts channel as follows:

1. Remove the two dividers between the two outer gathering drums (left- and right-hand sides) together with the pillow block and replace them with short WCS tips (A).
2. Align the two outer divider tips in their upper position and screw them to the smaller angle piece (B).

A—WCS tips **B—Angle**



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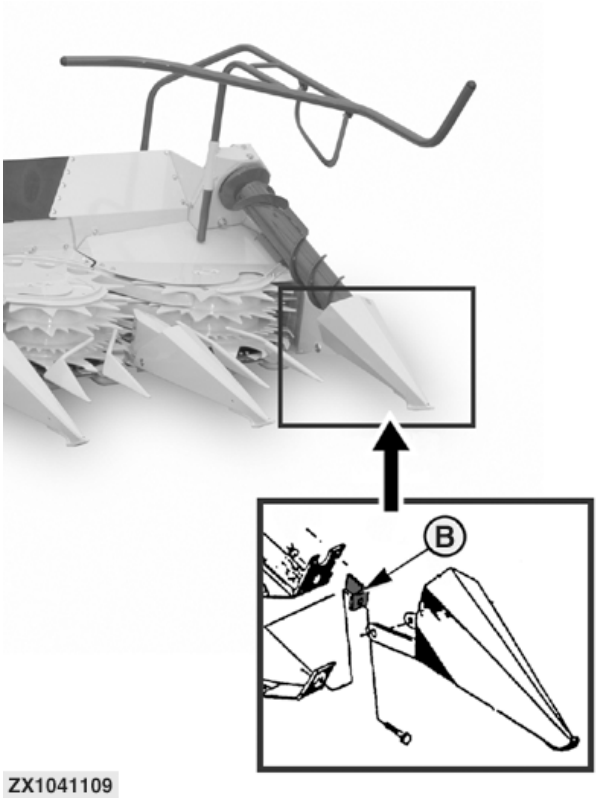

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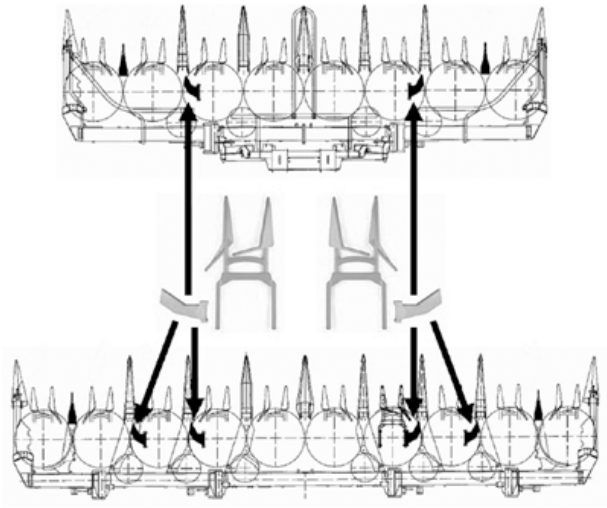
3. **On 360 and 375 rotary harvesting unit only:**

   The outer tips are installed with sickles facing outward. When folding up the outer folding sections, ensure that the sickles do not collide with other parts of the equipment. If necessary, rework the tips of the sickles.



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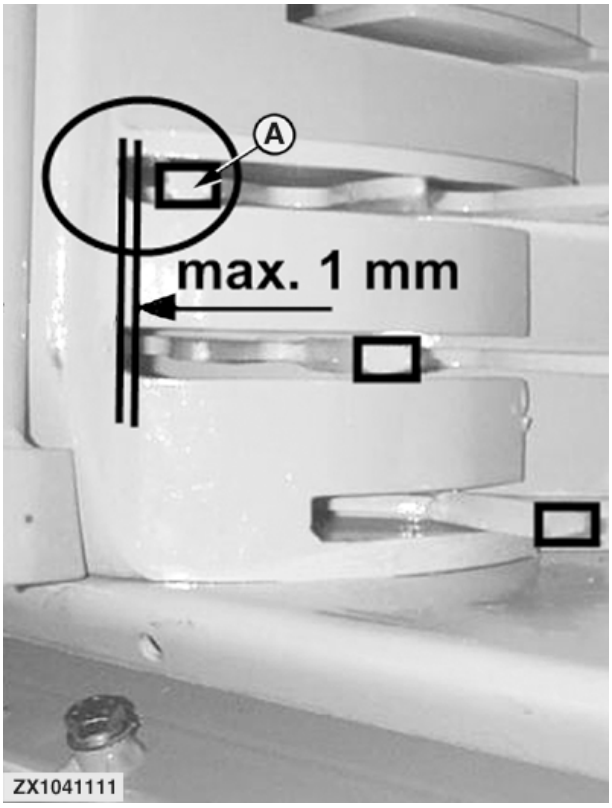
OUCC002,00027FC -19-19SEP07-2/6

Operating notes regarding WCS harvest

The cleaners (A) of all drums must have sharp edges and the gap between the scrapers and the drums may not exceed 1 mm (0.04 in.) when rotating.

A—Cleaner



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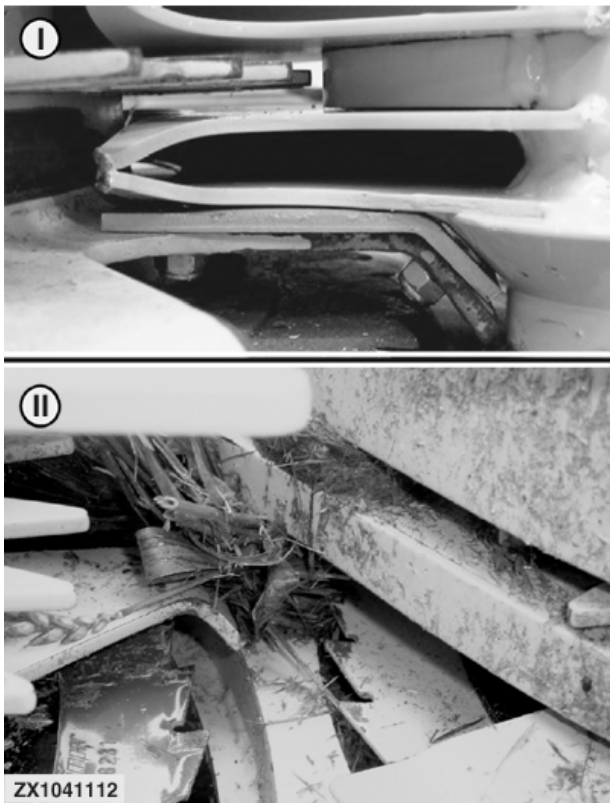
OUCC002,00027FC -19-19SEP07-3/6

Cleaners that can be adjusted with screws must be positioned so that there is only a minimal gap between the cone of the scraper and the cleaners (I). This prevents the formation of fibre bundles in the gaps (II).



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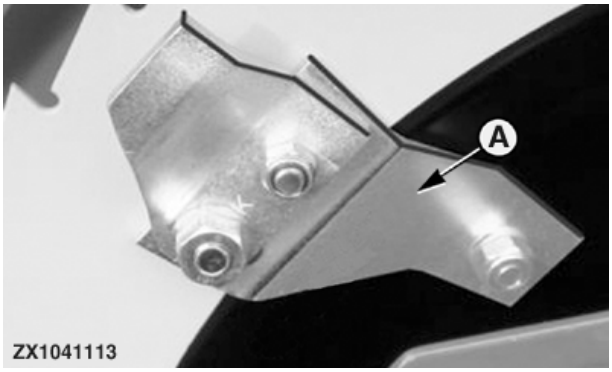
OUCC002,00027FC -19-19SEP07-4/6

It is very important that the cleaners (A) are not defective and that all edges are sharp. The flat cleaner (B) on the lower teeth row is screw-mounted so that it can be easily replaced.

A—Cleaner **B—Flat cleaner**



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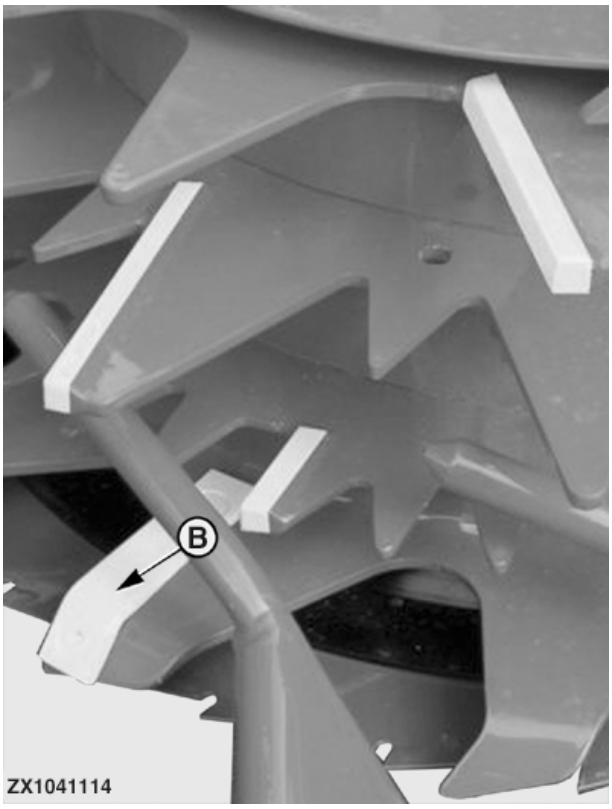

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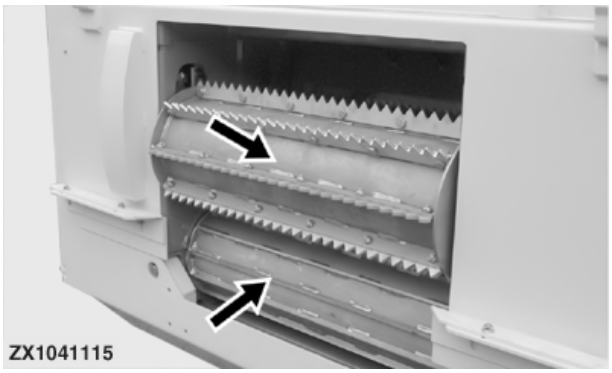
For the harvesting of crops with thin stalks, the spring tension of the front feedrolls must be reduced (see Forage Harvester Operator's Manual).



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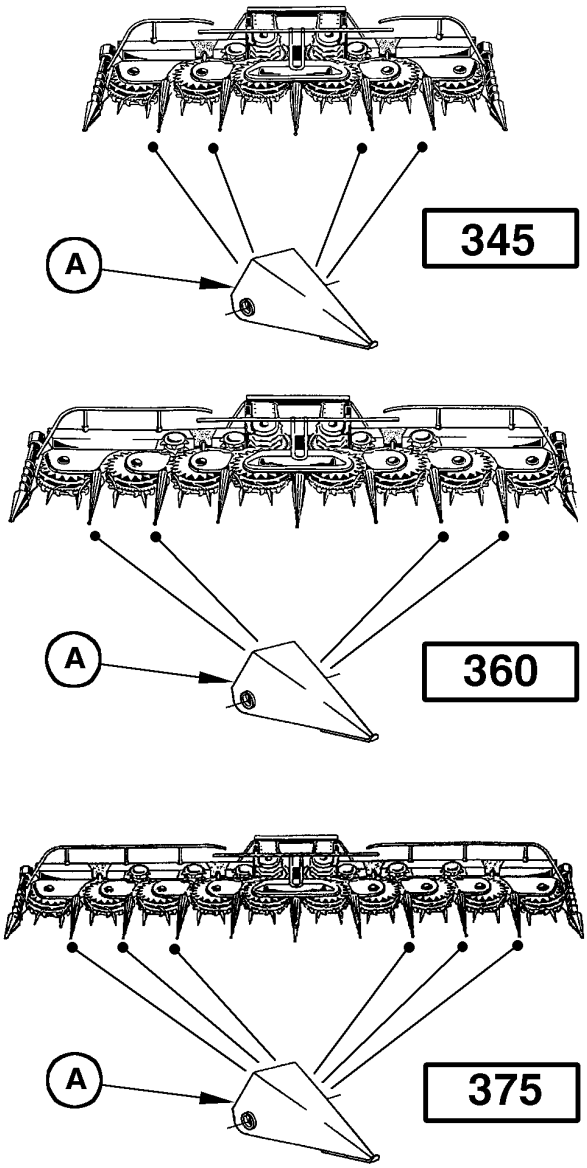
Harvesting Crop with Very Close or Wide Row Spacing (345, 360 and 375)

In such crop conditions, it is advisable to install a special kit composed of four short dividers (A) to improve crop feeding (see ”Attachments” Section).

IMPORTANT: The regular large dividers must be used in down crops.

Install short dividers (A) at the place of the large dividers as shown on illustration.



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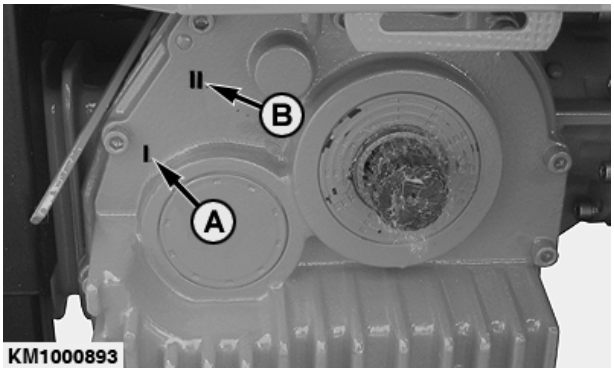
Length-of-Cut Adjustment with CLAAS Forage Harvester

On CLAAS forage harvesters the length-of-cut transmission and the drive speed for the rotary harvesting unit are shifted independently.

The CLAAS forage harvester has two gears for the rotary harvesting unit drive. For optimum operation of all lengths of cut, the KEMPER rotary harvesting unit must be equipped with a two-speed gear box (option).

See forage harvester operator's manual for adjustments of the forage harvester.

On the KEMPER rotary harvesting unit, 1st gear (A) and 2nd gear (B) are shifted directly at the drive case.



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A—1st gear **B—2nd gear**

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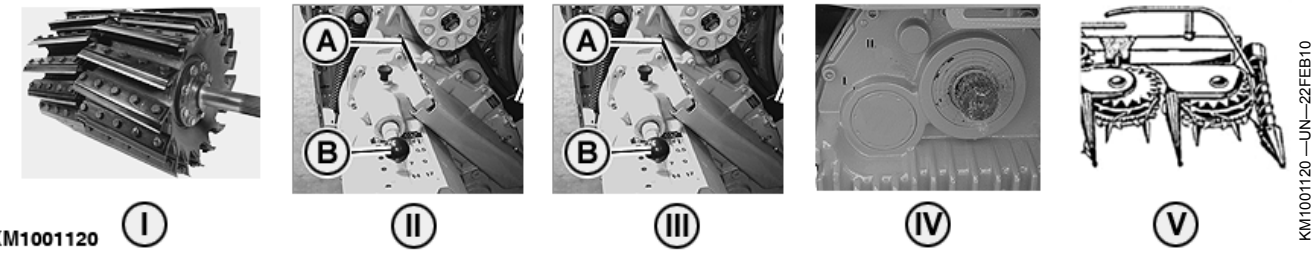
Length of Cut and Drum Speeds with CLAAS Forage Harvester 860-880 (Type 491)

Cutterhead with 24 knives (type 491)

See table below to determine length-of-cut adjustment.

NOTE: The two-speed gear box (IV) is optional. The ratio of the standard gear box equals the 1st gear of the two-speed gear box.



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II—Length of cut, cutterhead with 24 knives	II—Lever 1 (B) position	III—Lever 2 (A) position	IV—Rotary harvesting unit, gear	V—Gathering drum speed
4 mm	1	slow	2	33
5.5 mm	1	fast	2	42
7 mm	2	slow	1	42
9 mm	2	fast	1	52
14 mm	3	slow	1	42
17 mm	3	fast	1	52

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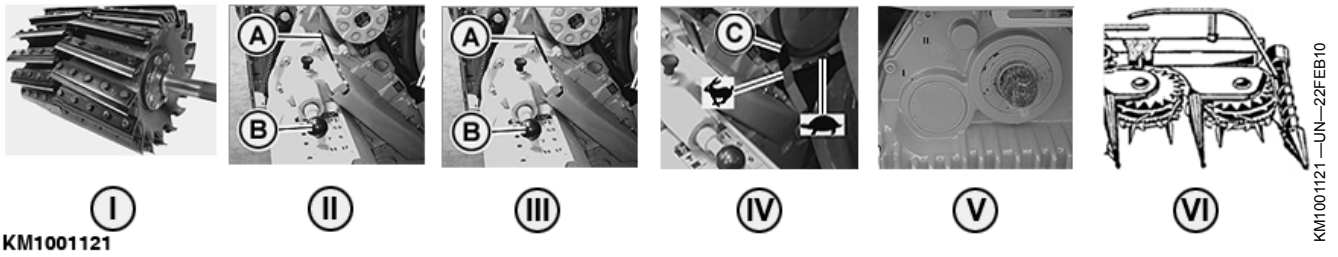
Length of Cut and Drum Speeds with CLAAS Forage Harvester 830-900 (Type 492)

Cutterhead with 24 knives (type 492)

See tables below to determine length-of-cut adjustment.

NOTE: The two-speed gear box (V) is optional. The ratio of the standard gear box equals the 1st gear of the two-speed gear box.



I—Length of cut, cutterhead with 2x12 knives	II—Lever 1 (B) position	III—Lever 2 (A) position	IV—Lever (C) position	V—Rotary harvesting unit, gear	VI—Gathering drum speed
4 mm	1	slow	slow	1	42
5.5 mm	1	fast	fast	1	51
7 mm	2	slow	slow	2	53
9 mm	2	fast	fast	1	51
14 mm	3	slow	slow	2	53
17 mm	3	fast	fast	2	64

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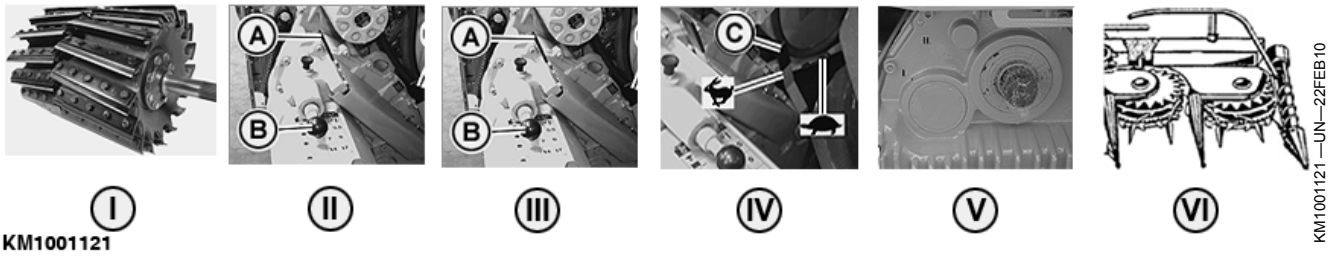
Cutterhead with 20 knives (type 492)



I—Length of cut, cutterhead with 2x10 knives	II—Lever 1 (B) position	III—Lever 2 (A) position	IV—Lever (C) position	V—Rotary harvesting unit, gear	VI—Gathering drum speed
5 mm	1	slow	slow	1	42
6.5 mm	1	fast	fast	1	51
8.5 mm	2	slow	slow	2	53
11 mm	2	fast	fast	1	51
17 mm	3	slow	slow	2	53
21 mm	3	fast	fast	2	64

KM00321,0000283 -19-25FEB10-2/2

Length of Cut and Drum Speeds with CLAAS Forage Harvester 830-900 (Type 493)

2-speed gear box

The two-speed gear box of the rotary harvesting unit is available in two versions:

- **Speed increase** for normal to long length of cut (standard)
- **Speed reduction** for short length of cut (option)

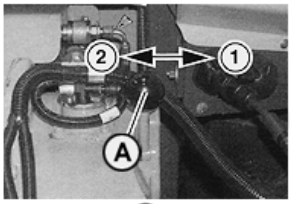
See tables below to determine length-of-cut adjustment.

Cutterhead with 28 knives (type 493)

Two-speed gear box (III) for normal to long length of cut (standard)

KM1001122

(I)



(II)

(III)

(IV)

KM1001122 —UN—22FEB10

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x14 knives	2x7 knives	Gear	Gear	rpm
5.1 mm	10.2 mm	1	1	51
6.0 mm	12.0 mm		1	51
6.9 mm	13.8 mm		1	51
7.7 mm	15.4 mm		1	51
8.6 mm	17.2 mm		2	64
6.9 mm	13.8 mm	2	1	51
7.7 mm	15.4 mm		1	51
8.6 mm	17.2 mm		2	64
9.4 mm	18.8 mm		2	64
10.3 mm	20.6 mm		2	64
11.1 mm	22.2 mm		2	64
12.0 mm	24.0 mm		2	64

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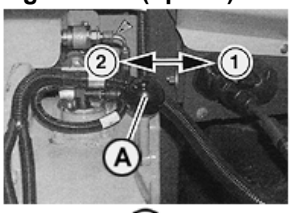
KM00321,0000284 -19-22FEB10-1/6

Cutterhead with 28 knives (type 493)

Two-speed gear box (III) for short length of cut (option)

KM1001122

(I)



(II)

(III)

(IV)

KM1001122 —UN—22FEB10

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x14 knives	2x7 knives	Gear	Gear	rpm
3.4 mm	6.8 mm	1	2	41
4.3 mm	8.6 mm		2	41
5.1 mm	10.2 mm		2	41
6.0 mm	12.0 mm		2	41
6.9 mm	13.8 mm		1	51
7.7 mm	15.4 mm		1	51
8.6 mm	17.2 mm		1	51
6.9 mm	13.8 mm	2	1	51
7.7 mm	15.4 mm		1	51
8.6 mm	17.2 mm		1	51
9.4 mm	18.8 mm		1	51

Continued on next page

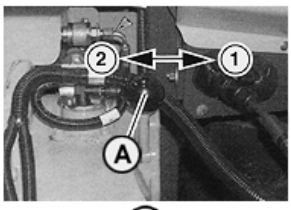
KM00321,0000284 -19-22FEB10-2/6

Cutterhead with 24 knives (type 493)

Two-speed gear box (III) for normal to long length of cut (standard)

KM1001122

Ⅰ



Ⅱ

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Ⅳ

KM1001122 —UN— 22FEB10

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x12 knives	2x6 knives	Gear	Gear	rpm
6 mm	12 mm	1	1	51
7 mm	14 mm		1	51
8 mm	16 mm		1	51
9 mm	18 mm		1	51
10 mm	20 mm		2	64
8 mm	16 mm	2	1	51
9 mm	18 mm		1	51
10 mm	20 mm		2	64
11 mm	22 mm		2	64
12 mm	24 mm		2	64
13 mm	26 mm		2	64
14 mm	28 mm		2	64

Continued on next page

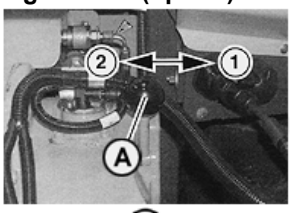
KM00321,0000284 -19-22FEB10-3/6

Cutterhead with 24 knives (type 493)

Two-speed gear box (III) for short length of cut (option)

KM1001122

(I)



(II)

(III)

(IV)

KM1001122 —UN—22FEB10

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x12 knives	2x6 knives	Gear	Gear	rpm
4 mm	8 mm	1	2	41
5 mm	10 mm		2	41
6 mm	12 mm		2	41
7 mm	14 mm		2	41
8 mm	16 mm		1	51
9 mm	18 mm		1	51
10 mm	20 mm		1	51
8 mm	16 mm	2	1	51
9 mm	18 mm		1	51
10 mm	20 mm		1	51
11 mm	22 mm		1	51

Continued on next page

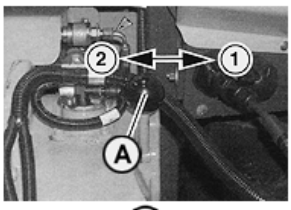
KM00321,0000284 -19-22FEB10-4/6

Cutterhead with 20 knives (type 493)

Two-speed gear box (III) for normal to long length of cut (standard)

KM1001122

Ⅰ



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KM1001122 —UN— 22FEB10

Ⅰ—Length of cut, number of knives		Ⅱ—Length-of-cut transmission, forage harvester	Ⅲ—Rotary harvesting unit drive	Ⅳ—Gathering drum speed
2x10 knives	2x5 knives	Gear	Gear	rpm
7.3 mm	14.7 mm	1	1	51
8.5 mm	17.0 mm		1	51
9.7 mm	19.3 mm		1	51
10.8 mm	21.7 mm		1	51
12 mm	24 mm		2	64
10 mm	20 mm	2	1	51
11.2 mm	22.4 mm		1	51
12.4 mm	24.8 mm		2	64
13.6 mm	27.2 mm		2	64
14.8 mm	29.6 mm		2	64
16 mm	32 mm		2	64
17.2 mm	34.4 mm		2	64

Continued on next page

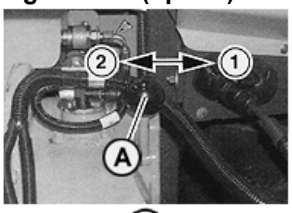
KM00321,0000284 -19-22FEB10-5/6

Cutterhead with 20 knives (type 493)

Two-speed gear box (III) for short length of cut (option)

KM1001122

(I)



(II)

(III)

(IV)

KM1001122 —UN—22FEB10

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x10 knives	2x5 knives	Gear	Gear	rpm
5.0 mm	10.0 mm	1	2	41
6.2 mm	12.3 mm		2	41
7.3 mm	14.7 mm		2	41
8.5 mm	17.0 mm		2	41
9.7 mm	19.3 mm		1	51
10.8 mm	21.7 mm		1	51
12.0 mm	24.0 mm		1	51
10.0 mm	20.0 mm	2	1	51
11.2 mm	22.4 mm		1	51
12.4 mm	24.8 mm		1	51
13.6 mm	27.2 mm		1	51

KM00321,0000284 -19-22FEB10-6/6

Length of Cut and Drum Speeds with CLAAS Forage Harvester 930-980 (Type 494)

2-speed gear box

The two-speed gear box of the rotary harvesting unit is available in two versions:

- **Speed increase** for normal to long length of cut (standard)
- **Speed reduction** for short length of cut (option)

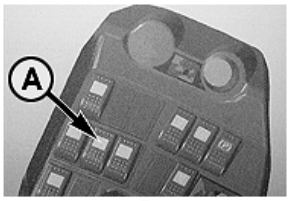
See tables below to determine length-of-cut adjustment.

Cutterhead with 36 knives (type 494)

Two-speed gear box (III) for normal to long length of cut (standard)

KM1001123

(I)



(II)

(III)

(IV)

KM1001123 —UN—22FEB10

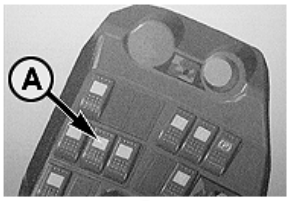
I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x18 knives	2x9 knives	Gear	Gear	rpm
4 mm	8 mm	1	1	51
4.7 mm	9.4 mm		1	51
5.3 mm	10.6 mm		1	51
6.0 mm	12.0 mm		1	51
6.7 mm	13.4 mm		2	64
7.3 mm	14.6 mm	2	2	64
8 mm	16 mm		2	64
8.7 mm	17.4 mm		2	64
9.3 mm	18.6 mm		2	64

Continued on next page

KM00321,0000285 -19-22FEB10-1/4

Cutterhead with 36 knives (type 494)

Two-speed gear box (III) for short length of cut (option)


KM1001123 (I) (II) (III) (IV)

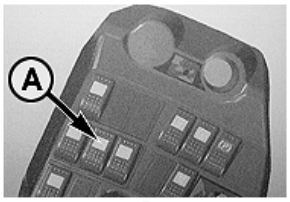
KM1001123 —UN—22FEB10

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x18 knives	2x9 knives	Gear	Gear	rpm
2.7 mm	5.4 mm	1	2	41
3.3 mm	6.6 mm		2	41
4.0 mm	8.0 mm		2	41
4.7 mm	9.4 mm		2	41
5.3 mm	10.6 mm		1	51
6.0 mm	12.0 mm		1	51
6.7 mm	13.4 mm		1	51
7.3 mm	14.6 mm	2	1	51

KM00321,0000285 -19-22FEB10-2/4

Cutterhead with 24 knives (type 494)

Two-speed gear box (III) for normal to long length of cut (standard)


KM1001123 (I) (II) (III) (IV)

KM1001123 —UN—22FEB10

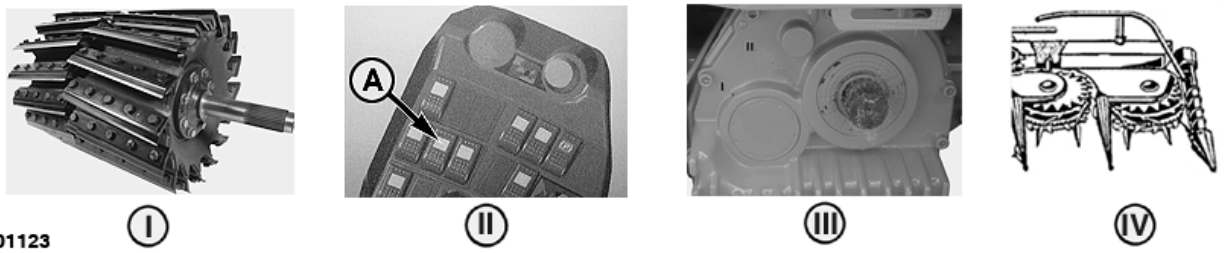
I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x12 knives	2x6 knives	Gear	Gear	rpm
6 mm	12 mm	1	1	51
7 mm	14 mm		1	51
8 mm	16 mm		1	51
9 mm	18 mm		1	51
10 mm	20 mm		2	64
11 mm	22 mm	2	2	64
12 mm	24 mm		2	64
13 mm	26 mm		2	64
14 mm	28 mm		2	64

Continued on next page

KM00321,0000285 -19-22FEB10-3/4

Cutterhead with 24 knives (type 494)

Two-speed gear box (III) for short length of cut (option)



KM1001123 —UN—22FEB10

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x12 knives	2x6 knives	Gear	Gear	rpm
4 mm	8 mm	1	2	41
5 mm	10 mm		2	41
6 mm	12 mm		2	41
7 mm	14 mm		2	41
8 mm	16 mm		1	51
9 mm	18 mm		1	51
10 mm	20 mm		1	51
11 mm	22 mm	2	1	51

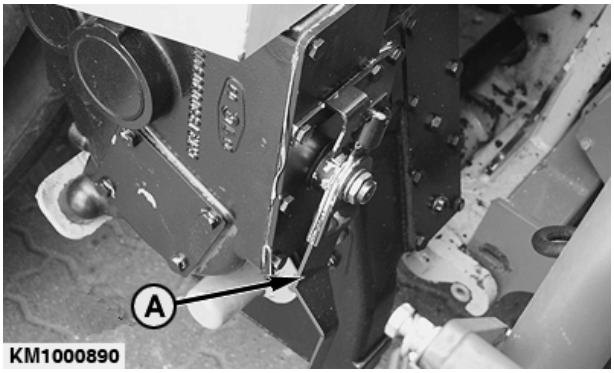
KM00321,0000285 -19-22FEB10-4/4

Length-of-Cut Adjustment with NEW HOLLAND and CASE Forage Harvester

IMPORTANT: On forage harvesters equipped with infinitely variable length-of-cut adjustment HYDROLOC the drum speed of the KEMPER rotary harvesting unit must not exceed 65 rpm. The relevant input speed at the drive case of the rotary harvesting unit is 620 rpm max.

The length-of-cut shift lever (A) is located on the right-hand side next to the feed roll housing (seen in the direction of travel).

When High (H) or Low (L) is shifted the drive speed of the rotary harvesting unit will change accordingly (refer to table below: Length of Cut and Drum Speeds with NEW HOLLAND and CASE Forage Harvester).



KM1000890 —UN—08JUN09

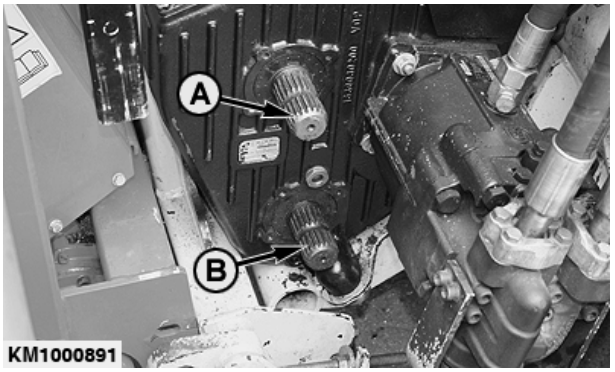
A—Shift lever

Continued on next page

KM00321,0000286 -19-22FEB10-1/3

The rotary harvesting unit is powered via drive shafts (A) and (B) on the left-hand side (seen in the direction of travel).

A—Drive shaft **B—Drive shaft**

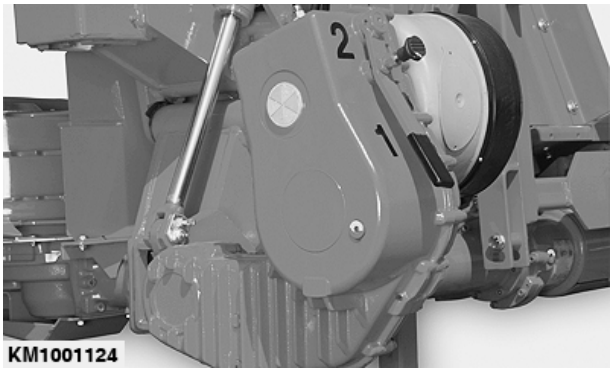


KM1000891 —UN—08JUN09

KM00321,0000286 -19-22FEB10-2/3

On the KEMPER rotary harvesting unit, 1st gear and 2nd gear are shifted directly at the drive case.

IMPORTANT: Drum speed must not exceed 65 rpm.



KM1001124 —UN—22FEB10

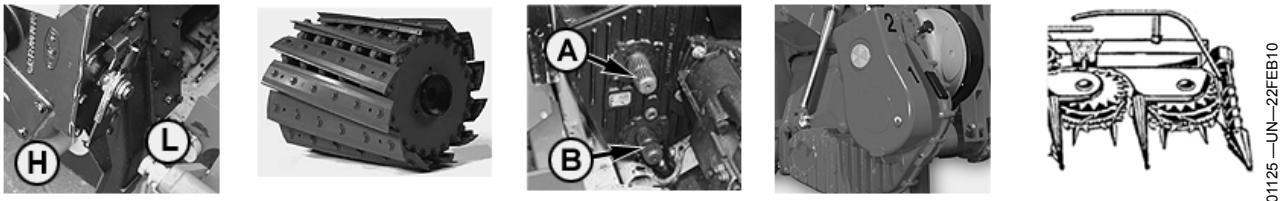
KM00321,0000286 -19-22FEB10-3/3

Length of Cut and Drum Speeds with NEW HOLLAND and CASE Forage Harvester

The table below shows the length-of-cut adjustment for the following forage harvester types:

NEW HOLLAND	FX 30 FX 40 FX 50 FX 60
CASE	CHX 320 CHX 420 CHX 520 CHX 620

Cutterhead with 12 knives



KM1001125 I II III IV V

KM1001125 —UN—22FEB10

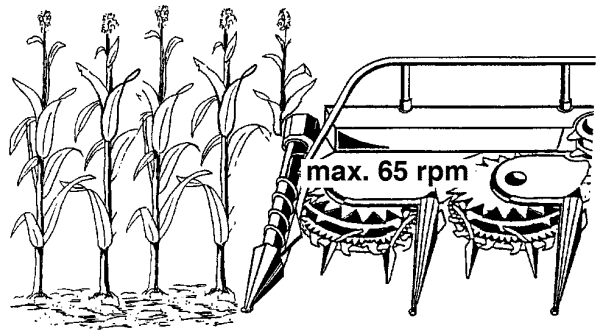
I—Forage harvester, gear	II—Length of cut, cutterhead with 12 knives	III—Drive shaft A/B	IV—Rotary harvesting unit, gear	V—Gathering drum speed
L	4 mm	A	1	24
	5 mm	A	1	30
	6 mm	A	1	36
	7 mm	A	1	42
	8 mm	A	1	48
	9 mm	A	1	54
	10 mm	A	1	60
H	8 mm	B	2	44
	9 mm	B	2	50
	10 mm	B	2	56
	11 mm	B	2	61
	12 mm	B	1	50
	13 mm	B	1	55
	14 mm	B	1	59
	15 mm	B	1	63
	16 mm	A	2	55
	17 mm	A	2	58
	18 mm	A	2	62
	19 mm	A	2	65
	20 mm	A	1	52

KM00321,0000287 -19-22FEB10-1/1

Length of Cut and Drum Speeds with KRONE Forage Harvester

See forage harvester Operator's Manual for information on length-of-cut adjustment.

IMPORTANT: To avoid damage to the rotary harvesting unit, the drum speed of the KEMPER rotary harvesting unit must not exceed 65 rpm.



KM00321,00002A4 -19-24FEB10-1/1

Adjusting Harvesting Unit Lateral Float (Optional on 345 and 360, Standard on 375)

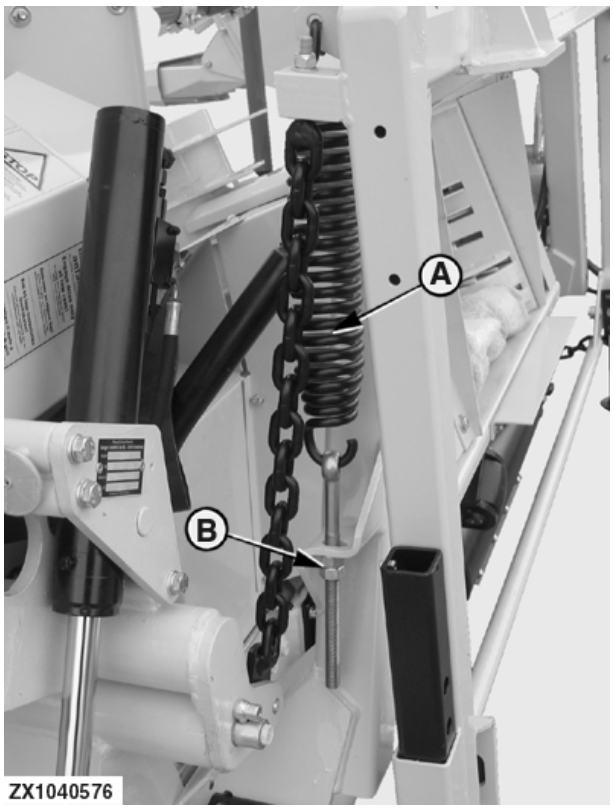
Minor irregularities in the ground are absorbed and balanced via the two tension springs (A). Normally, the harvesting unit is somewhat overhung above the ground. If harvesting unit is reacting insufficiently or excessively hard to bumps in the ground, the tension springs can be adjusted by turning the nuts (B).

- Loosen nuts (B) for more floating effect.
- Tighten nuts (B) for less floating effect.

Always lock nuts (B) after adjustment.

NOTE: Place the forage harvester on a flat ground before adjusting the tension springs and make sure that the harvesting unit is in a horizontal position.

A—Springs **B—Adjusting nuts**



OUCC002,00027DC -19-17SEP07-1/1

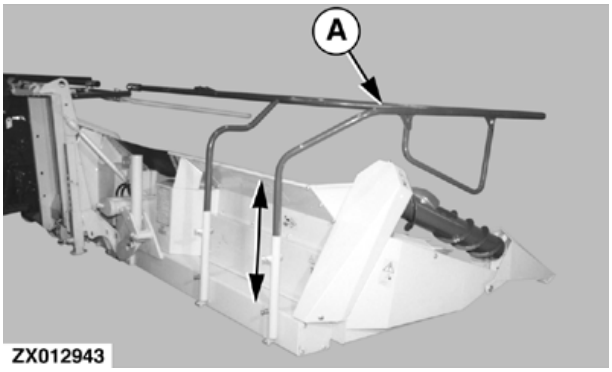
Adjusting the Feed Bars (330, 345 and 360)

Feed bar (A) pushes the stalks forward to improve crop intake. Its height can be altered to suit crop conditions.

Depending on the crop height, central feed bar should be set as high as possible.

IMPORTANT: Do not raise the feed bars so high that they collide with each other in the transport position. After adjustment, always carry out a test folding to prevent damage.

A—Feed bar

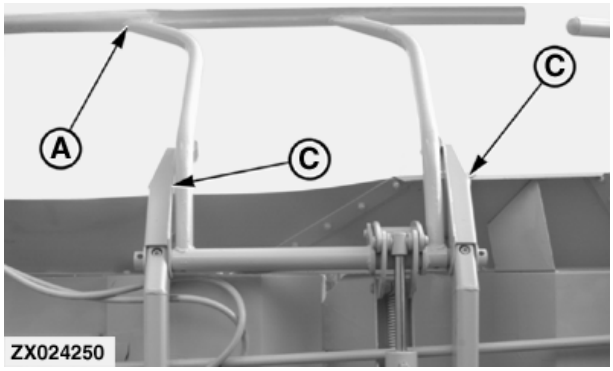


ZX012943 —UN—26NOV97

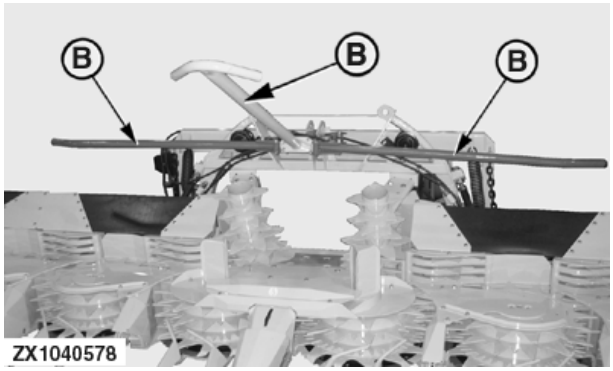
360 RHU Feed Bar

OUCC002,00027DD -19-11OCT07-1/1

Adjusting the Feed Bars (375 up to Construction Year 2009)



ZX024250 —UN—07MAR01



ZX1040578 —UN—12APR07

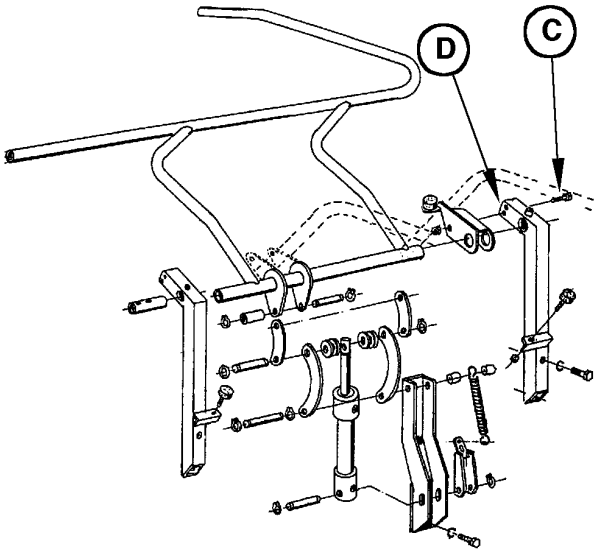
Feed bar (A) pushes the stalks forward to improve crop intake. Its height can be altered to suit crop conditions.

Depending on the crop height, central feed/guide bar (B) should be set as high as possible.

- Lateral feed bars (A) can be set into two positions (high or low) by inserting screws (C) in upper or lower hole of supports (D).
- Feed/guide bar (B) can be set into different positions by setting bolt (E) somewhere within slot.

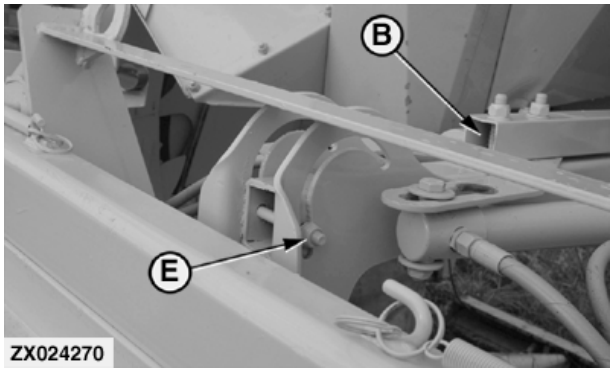
IMPORTANT: Do not raise the feed bars so high that they collide with each other in the transport position. After adjustment, always carry out a test folding to prevent damage.

A—Feed bar
B—Feed/guide bar
C—Fixing screw
D—Support
E—Adjusting bolt



ZX024251 —UN—07MAR01

ZX024251



ZX024270 —UN—07MAR01

KM00113,0000029 -19-03NOV09-1/1

Adjusting the Feed Bars (375 from Construction Year 2010)

Feed bars (A) and (B) push the stalks forward to improve crop intake.

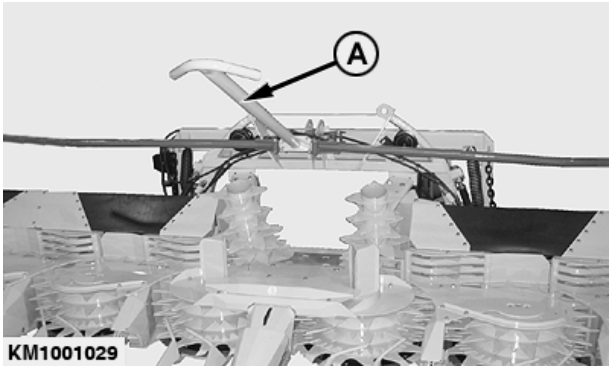
Height of central feed bar (A) can be altered to suit crop conditions.

Depending on the crop height, set central feed bar (A) as high as possible.

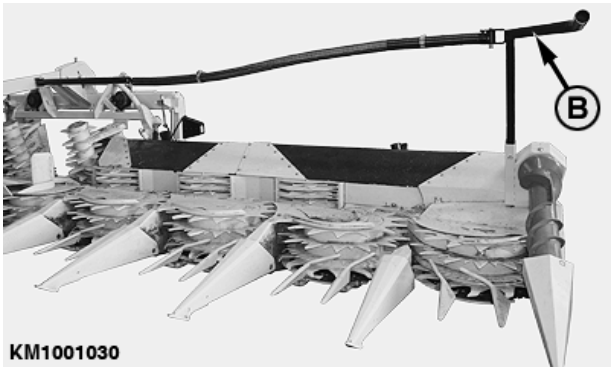
- Central feed bar (A) can be set into different positions by setting bolt (C) somewhere within slot.

CAUTION: Feed bars are spring-loaded by a gas pressure spring (D). Pay attention when adjusting the feed bars to avoid injuries.

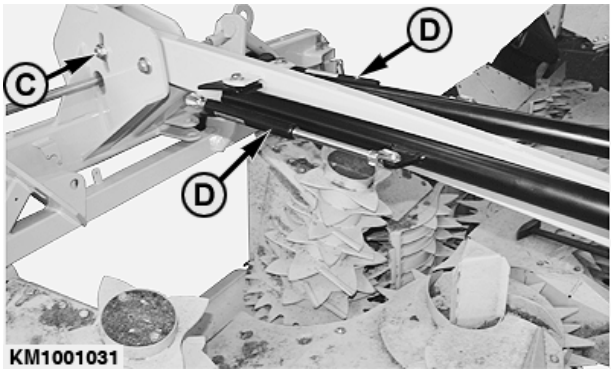
A—Central feed bar
B—Lateral feed bar
C—Adjusting bolt
D—Gas pressure spring



KM1001029 —UN—02NOV09



KM1001030 —UN—02NOV09



KM1001031 —UN—02NOV09

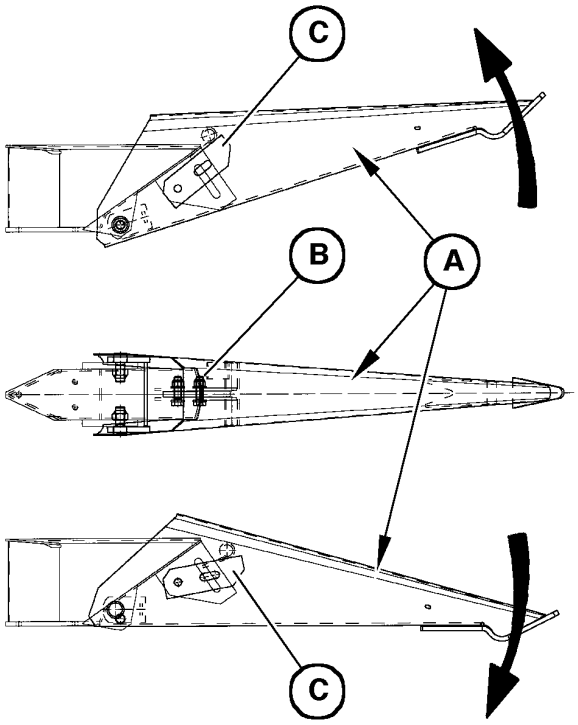
KM00113,000002B -19-03NOV09-1/1

Adjusting the Large Dividers

The working height of each large divider (A) can be adjusted.

Loosen fixing screw (B) of adjusting strap (C), then set divider (A) to the desired position.

Tighten screw (B).

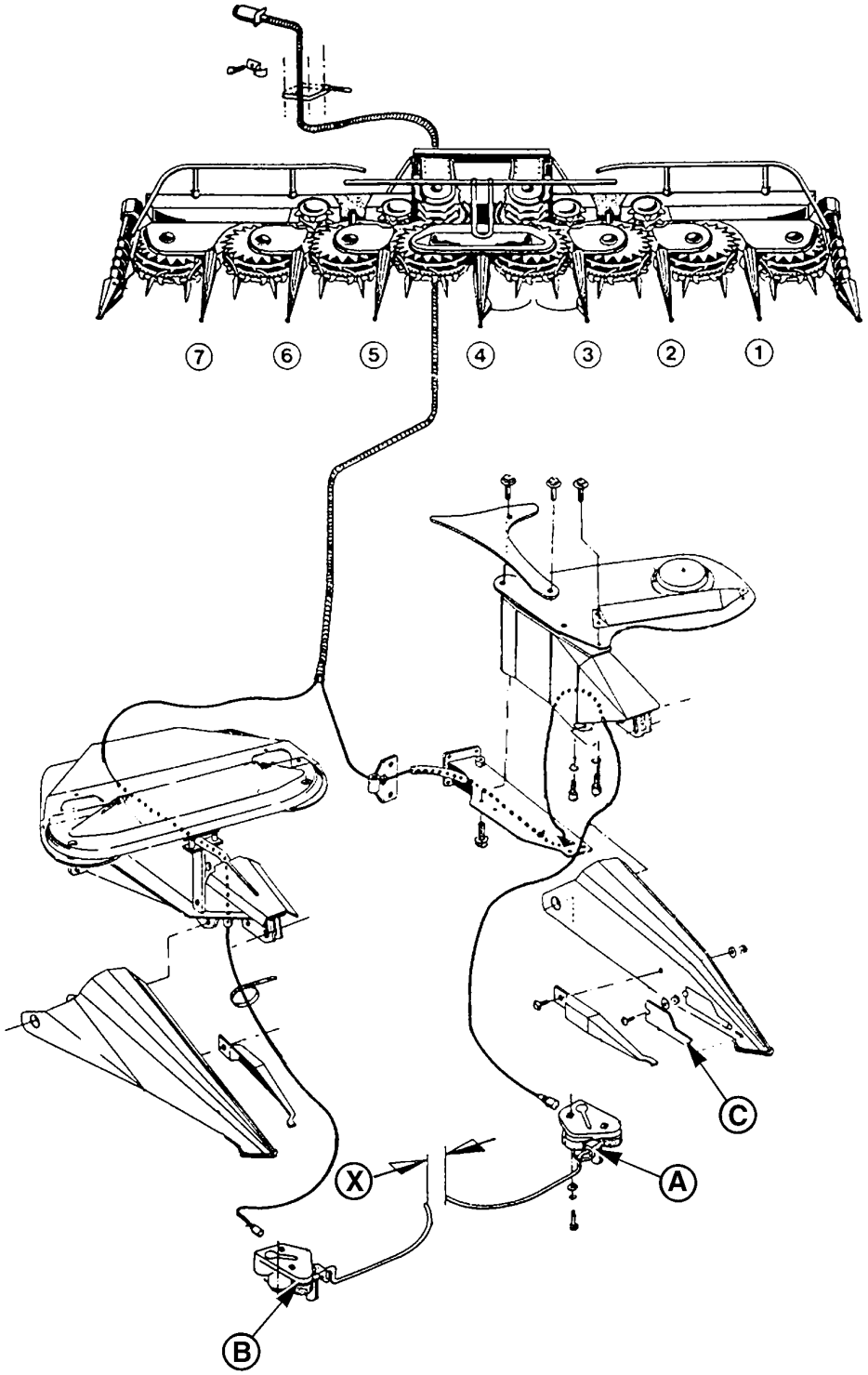


ZX016565

ZX016565 —UN—26FEB99

ZX,686RHU013510 -19-01MAR99-1/1

Steering Assistance (Option)



ZX1041120

ZX1041120 —UN—19SEP07

A—Sensor, left **B—Sensor, right** **C—Cover** **X—10 to 30 mm (0.40 to 1.18 in.)**

The rotary harvesting unit features standard equipment for mounting the row guidance (steering assistance) sensor system, i.e. the central divider (4) and the left divider (3) are fitted with a crossmember on which sensors (A) and (B) are mounted.

Continued on next page

KM00321,0000288 -19-23FEB10-1/3

- Without steering assistance, covers (C) are installed on the dividers (3) and (4).

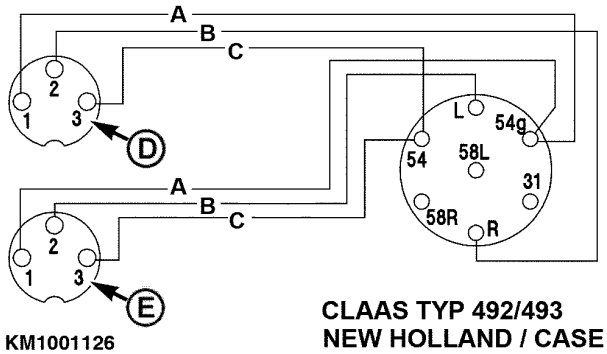
- With steering assistance (ex works or retrofitted), the two sensors (A) and (B) are integrated in the dividers (3) and (4).

IMPORTANT: When operating steering assistance device, make sure that distance (X) between tips of sensor feelers is 10 to 30 mm (0.40 to 1.18 in.) and that feelers move freely.

KM00321,0000288 -19-23FEB10-2/3

Depending on the forage harvester brand and model, the harness connection is different. Refer to the illustration opposite for proper harness connection.

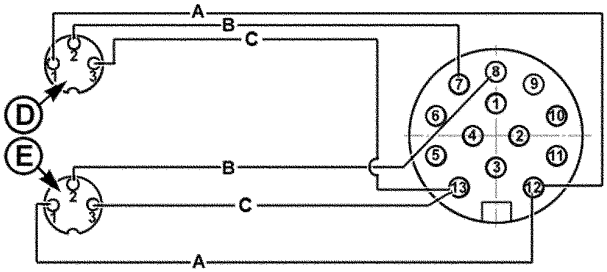
A—Blue
B—Green-yellow
C—Brown
D—Sensor, left
E—Sensor, right



KM1001126

CLAAS TYP 492/493
NEW HOLLAND / CASE

KM1001126 —UN—23FEB10



KM1001127

CLAAS TYP 494

KM1001127 —UN—23FEB10

KM00321,0000288 -19-23FEB10-3/3

Accessories

Special Kit for Row Guidance (Steering Assistance)

When driving a forage harvester 90 % of the driver's attention is focused on steering. Use of the entire machine capacities is thus only possible with assisted steering.

A special kit is available as an attachment and is composed of:

- (2) sensor systems with connecting cables
- (1) set of hardware for installation on harvesting unit
- (1) assembly instructions

OUCC002,00027FE -19-19SEP07-1/1

Automatic Height Control Kit

The automatic height control system consists of two sensors at both outer dividers that are touching the ground (following the ground contours) and keep the rotary harvesting unit parallel to the ground.

The electric impulses of the sensors are converted into hydraulic oil quantity by the SPFH main control unit.

See forage harvester Operator's Manual for operation of automatic height control.

A cylinder is retracted or extended depending on the oil quantity so that the rotary harvesting unit is always aligned parallel to the ground.

KM00321,0000289 -19-24FEB10-1/1

Special Kit for Whole-Crop Silage

To significantly improve capabilities of the harvesting unit to harvest whole-crop silage, a special kit is available as an attachment.

On 330 and 345 harvesting unit, the kit is composed of:

- (2) angles for the outer down-crop augers
- (2) tips which play the role of dividers
- (1) assembly instructions

On 360 harvesting unit, the kit is composed of:

- (2) hooks which play the role of counter-knives
- (2) angles for the outer down-crop augers
- (2) tips which play the role of dividers
- (1) assembly instructions

On 375 harvesting unit, the kit is composed of:

- (4) hooks which play the role of counter-knives
- (2) angles for the outer down-crop augers
- (2) tips which play the role of dividers
- (1) assembly instructions

OUCC002,00027DF -19-18SEP07-1/1

Special Kit for Crops with Very Close or Wide Row Spacing (345, 360 and 375)

To significantly improve capabilities of the harvesting unit to harvest such a kind of crop, a special kit is available as an attachment.

This kit is composed of short dividers which replace the large dividers.

OUCC002,00027E0 -19-18SEP07-1/1

Special Kit for Quality of Cut

To significantly improve quality of cut, a special kit is available as an attachment. To prevent plugging in the feeding channel especially when using one side of the rotary harvesting unit to harvest along the rows, this kit allows to adjust the feeding channel according to the forage harvester channel width.

The kit is composed of:

- (2) covers for feed drums
- (2) modified guide plates for enhanced alignment to the feeding channel
- (2) adjustable angles
- (1) assembly instructions

OUCC002,00025C6 -19-02APR07-1/1

Correction of Defects on the Rotary Harvesting Unit

CAUTION: Before carrying out adjustment or service work, ALWAYS shut off engine, remove ignition key and wait until all moving parts have come to a stop.

Symptom	Problem	Solution
Engine requirement becomes excessive	Dull blades	Replace blades.
	Defective cleaners	Install new cleaners.
Rotary cutters do not rotate evenly	Accumulation of leaves under the rotary cutters, dirt in the area of the drums	Clean the rotary cutters daily or as often as required when the machine is in continuous operation.
	Defective cleaners	Install new cleaners.
Rotary harvesting unit vibrates	Imbalance caused by asymmetrical blades	Replace blades in pairs.
	One of the cleaners is damaged.	Replace both cleaners.
	Imbalance caused by dirt inside the rotary cutter	Clean rotary cutter.
	Excessive vertical play of rotary cutter	Straighten the blades or install new blades.
Accumulation of husks at the scrapers	Scrapers are not positioned correctly.	See Section Service.
Stalks are pushed to the front before they are cut (long, uneven stubble)	Accumulation of leaves at the small dividers	Clean the dividers.
	One of the cleaners is damaged.	Replace both cleaners.
	Rotating blades are dull	Replace blades.
Transmission overheating	Transmission oil level too high or too low	Check transmission oil level.
Gathering or feed drums have stopped rotating (rotary cutters are still rotating)	Accumulation of crop in the feeding area	Reverse the feed rolls of the forage harvester briefly; if necessary, repeat this step.
	Transmission defective	Contact your KEMPER dealer.
The outer gatherer drums and rotary cutters stop rotating	Defective claw clutch (shift collar)	Contact your KEMPER dealer.
The entire l.h. or r.h. side of the rotary harvesting unit stops rotating.	L.h. or r.h. friction clutch defective	Contact your KEMPER dealer.
Obstruction in the hydraulic system of the outer section	Foreign body (e.g. grain of sand) is obstructing the restrictor.	Contact your KEMPER dealer.

KM00321,000028A -19-23FEB10-1/1

Service Intervals

CAUTION: Before making any adjustments or doing any service work, always:
- Switch the machine off
- Remove the key from the ignition
- Wait until all the moving parts have come to a standstill.

IMPORTANT: The intervals quoted here are for average conditions. Adverse operating conditions may make it necessary to apply lubrication or carry out an oil change more often.

IMPORTANT: Replace any damaged parts. Any screws that have worked loose must be retightened to the proper torque.

Clean grease fittings before lubrication. Replace lost or damaged grease fittings immediately. If a new fitting fails to take grease, remove it and check whether the grease passage is blocked.

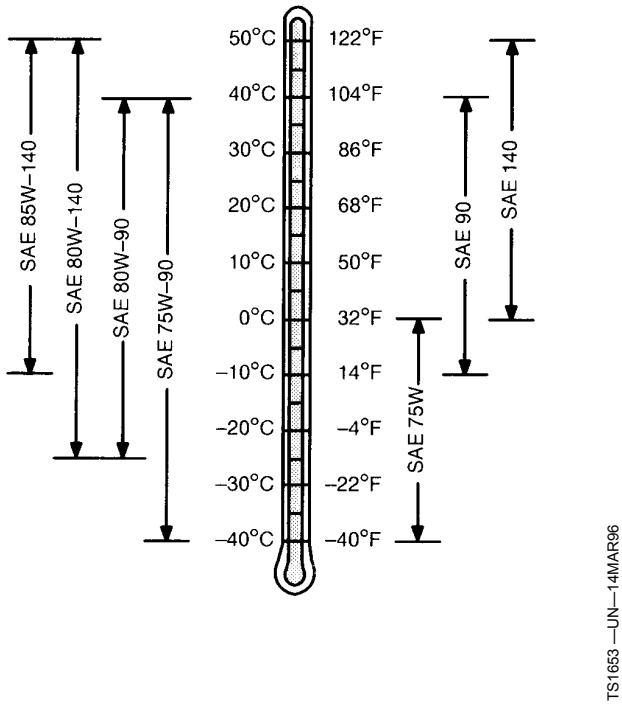
Perform lubrication and maintenance work mentioned in this section before and after every harvesting season as well.

OUKM001,0000012 -19-15FEB05-1/1

Transmission Oil

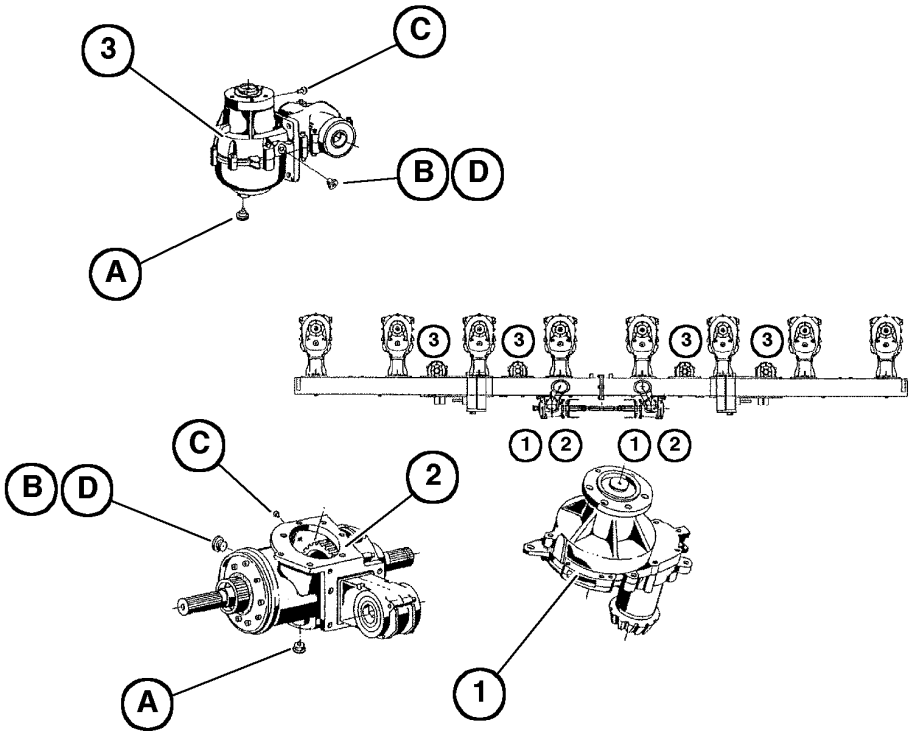
Use oil with a viscosity based on the expected air temperature range during the period between oil changes.

Transmission oils must meet API Service Classification GL-5.



KM00321,0000195 -19-10JUN09-1/1

General View of Drives and Oil Levels in the Rotary Harvesting Unit (Part 1)



KM1001132 —UN—24FEB10

360 Rotary Harvesting Unit Shown

A—Oil drain plug
B—Oil filler screw
C—Breather
D—Oil level screw
1— Spur-gear transmission of feed drum (permanently lubricated)
2— Spur gear angle drive - 1.0 L (0.26 US. gal)
3— Spur gear angle drive of cross feed drum - 0.85 L (0.22 US. gal)

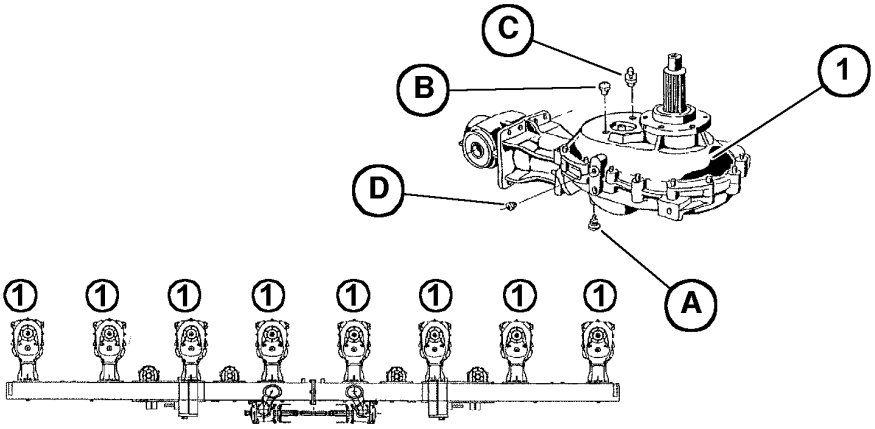
Rotary harvesting unit transmission

NOTE: Six spur gear angle drives (3) for cross feed drums are used on 375, four on 360 and two on 345 rotary harvesting unit.

NOTE: 330 rotary harvesting unit is not equipped with spur gear angle drives (3) for cross feed drums.

KM00321,000028B -19-24FEB10-1/1

General View of Drives and Oil Levels in the Rotary Harvesting Unit (Part 2)



ZX015517

ZX015517 —UN—19JUN98

360 Rotary Harvesting Unit Shown

A—Oil drain plug
B—Oil filler screw
C—Breather
D—Oil level plug
1— Spur gear angle drive of cross feed drum - 4.8 L (1.26 US. gal)

Rotary harvesting unit transmission (gathering drum)

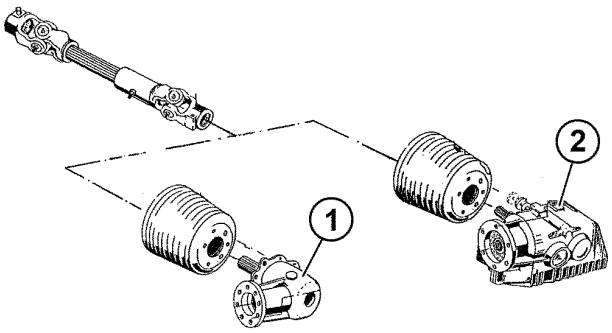
NOTE: Ten spur gear angle drives (1) for gathering drums are used on 375, eight on 360, six on 345 and four on 330 rotary harvesting unit.

KM00321,000028D -19-24FEB10-1/1

Overview of Oil Levels in Input Transmission

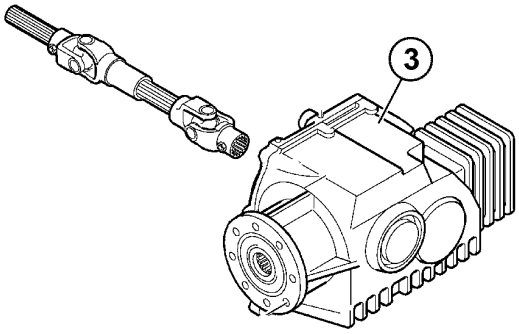
Rotary harvesting units for CLAAS forage harvesters

1— Angle drive - 0.9 L (0.24 U.S. gal)
2— Gear box for u.j. shaft W2400 - 4.5 L (1.19 U.S. gal)
3— Gear box for u.j. shaft W2500 - 4.3 L (1.14 U.S. gal)



KM1001128

KM1001128 —UN—23FEB10



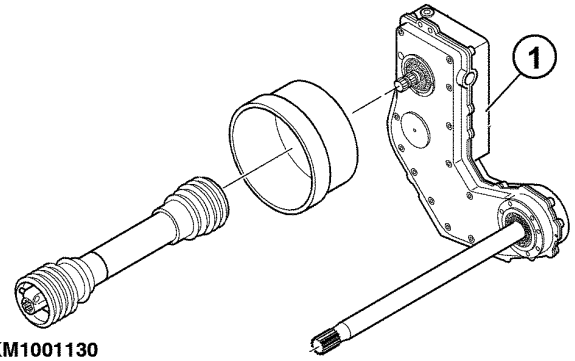
KM1001129

KM1001129 —UN—23FEB10

KM00321,000028C -19-23FEB10-1/3

Rotary harvesting units for NEW HOLLAND and CASE forage harvesters

1— Gear box for forage harvesters without IVLOC transmission - 3.5 L (0.92 U.S. gal)
1— Gear box for forage harvesters with IVLOC transmission - 4.0 L (1.06 U.S. gal)



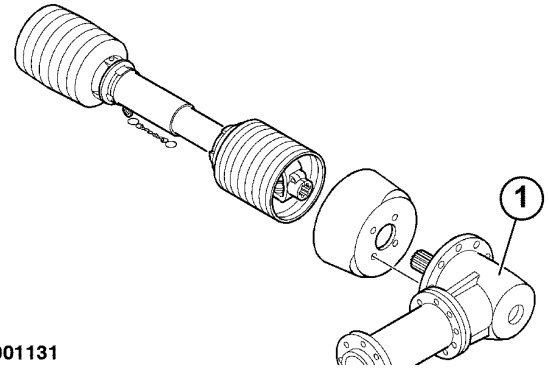
KM1001130

KM1001130 —UN—23FEB10

KM00321,000028C -19-23FEB10-2/3

Rotary harvesting units for KRONE forage harvesters

1— Angle drive - 0.9 L (0.24 U.S. gal) Hypoid-Oil Mobilube HD85W-140 or AVIA Hypoid 140 EP



KM1001131

KM1001131 —UN—23FEB10

KM00321,000028C -19-23FEB10-3/3

Checking Oil Level and Changing Oil

Raise harvesting unit slightly so that it is horizontal, and check oil level in transmissions and angle drives. Oil level is correct when it reaches the bottom edge of oil level plug (D).

Change the oil after every 500 hours of operation or at the end of each harvesting season.

Drain the oil while it is hot (i.e after operation). Pull out filler plug (B) and drain plug (A), then drain oil into a suitable receptacle. Clean drain plug (A) before reinstalling it and then add relevant transmission oil quantity.

IMPORTANT: Do not overfill transmissions as this will result in overheating and oil leakage.

Pay attention that breather is always installed at the outside of gathering drum spur gear angle drive in direction of travel.

ZX,688RHU009807 -19-19JUN98-1/1

Lubricants

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

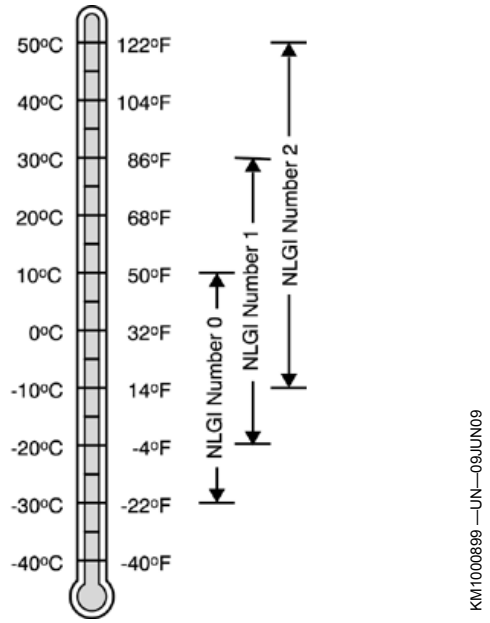
The following greases are recommended:

Manufacturer	Description
ARAL	ARALUB FDP 00
BP	ENERGREASE HT 00 EP
TEXACO	STARFAK E 900
WESTFALEN	GRESANAT X 00

Other greases may be used if they meet the following specification:

NLGI Service Classification GC-LB

IMPORTANT: Some types of grease thickeners are not compatible with others. Enquire with your lubricant supplier before mixing various types of lubricants.



KM00321,0000194 -19-09JUN09-1/1

Coolant for Main Drive Friction Clutch

The cooling system of the main drive friction clutch is filled to provide protection against corrosion and freeze protection to -37 °C (-34 °F).

Use a low silicate ethylene glycol base coolant concentrate. The mixing ratio is 50% concentrate and 50% water.

The coolant concentrate must be of a quality that protects the cast iron in the cooling system from cavitation corrosion.

A 50% mixture of ethylene coolant in water provides freeze protection to -37°C (-34°F). If protection at lower temperatures is required, consult your KEMPER dealer for recommendations.

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol based coolant concentrate.

Coolant Change Intervals

Drain coolant from the main drive friction clutch, flush the cooling system and refill with new coolant after the first 3 years or 3000 hours of operation. At each interval, drain the coolant, flush the cooling system, and refill with new coolant.

KM00321,0000196 -19-10JUN09-1/1

Alternative and Synthetic Lubricants

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

Some lubricants may not be available in your location.

Consult your KEMPER 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 both conventional and synthetic lubricants.

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

KM00321,0000197 -19-10JUN09-1/1

Mixing 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 KEMPER dealer to obtain information and recommendations.

KM00321,0000198 -19-10JUN09-1/1

Lubricant Storage

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

Use clean containers to handle all lubricants.

Whenever possible, 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.

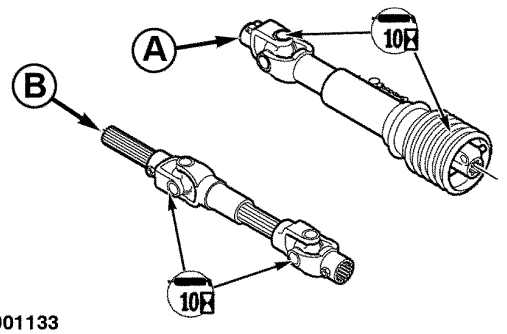
DX,LUBST -19-18MAR96-1/1

Every 10 Hours - U.J. Shaft

Lubricate with grease.

A—U.j. shaft, rotary harvesting units for NEW HOLLAND, CASE and KRONE forage harvesters

B—U.j. shaft, rotary harvesting units for CLAAS forage harvesters



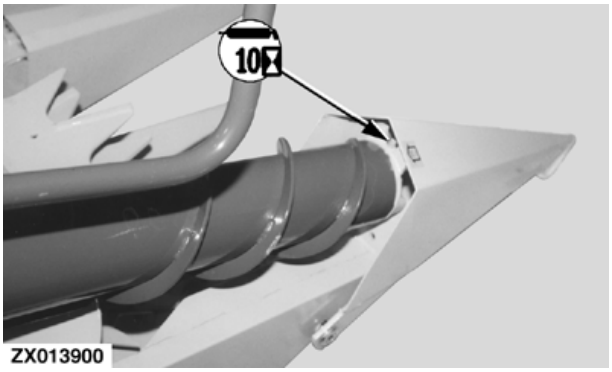
KM1001133

KM1001133 —UN—24FEB10

KM00321,000028E -19-24FEB10-1/1

Every 10 Hours - Rotating Crop Divider

Lubricate with grease.

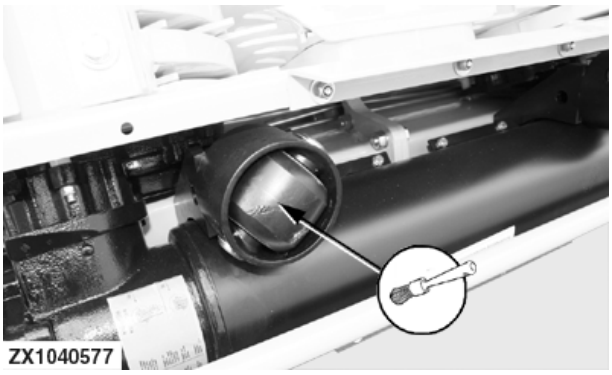


ZX013900 —UN—26NOV97

KM00321,000028F -19-24FEB10-1/1

Every 10 Hours - Lower Rolls of Tilt Frame (If Equipped, Standard on Model 375)

Lubricate with grease.

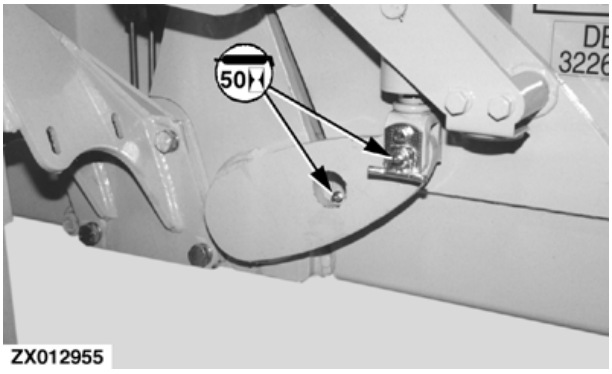


ZX1040577 —UN—12APR07

KM00321,0000290 -19-24FEB10-1/1

Every 50 Hours - Lower Axle Pin of Hydraulic Cylinder and Frame Hinge Clutch

Lubricate with grease.

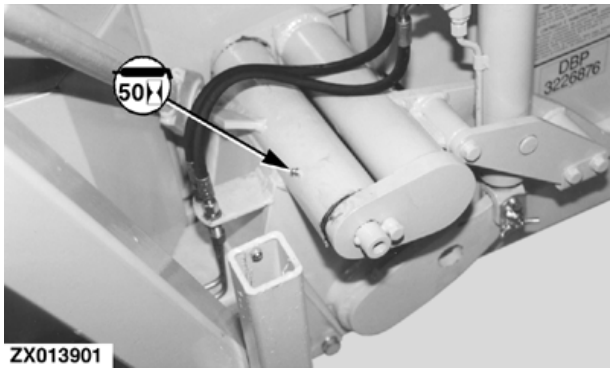


ZX012955 —UN—30JAN98

KM00321,0000291 -19-24FEB10-1/1

Every 50 Hours - Hinges of Outer Sections

Lubricate with grease.

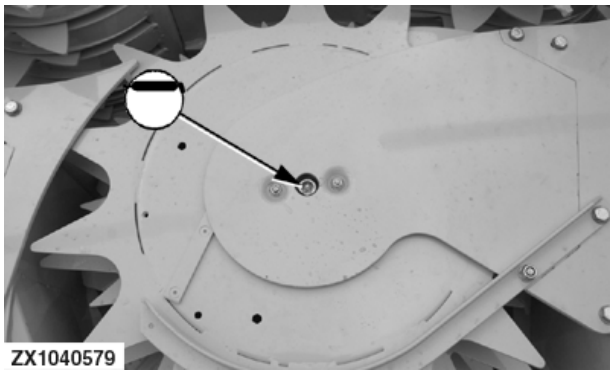


ZX013901 —UN—26NOV97

KM00321,0000292 -19-24FEB10-1/1

Once Every Year - Radial-Pin Clutch of Gathering Drum

Lubricate with high-temperature grease.

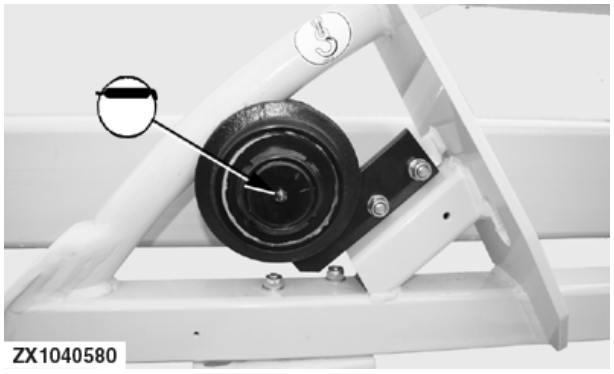


ZX1040579 —UN—12APR07

KM00321,0000293 -19-24FEB10-1/1

Once Every Year - Upper Rolls of Tilt Frame (If Equipped, Standard on Model 375)

Lubricate with grease.



ZX1040580 —UN—12APR07

KM00321,0000294 -19-24FEB10-1/1

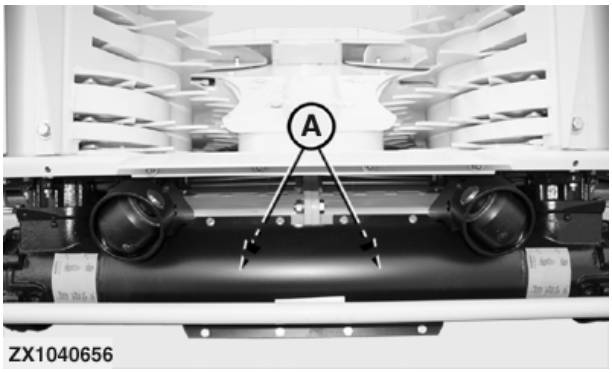
Every 3 Years - Change Coolant of Main Drive Friction Clutch (If Equipped, Standard on Model 375)

CAUTION: Never attempt to open drain or filler plug (B) when the friction clutch is hot! Wait until friction clutch has cooled down. First loosen plug (B) by one turn to relieve pressure.

The cavity of the friction clutch (A) can be drained and refilled. This service work requires the friction clutch to be removed from the machine. Therefore, it is advised to contact your KEMPER dealer to drain/refill the friction clutch.

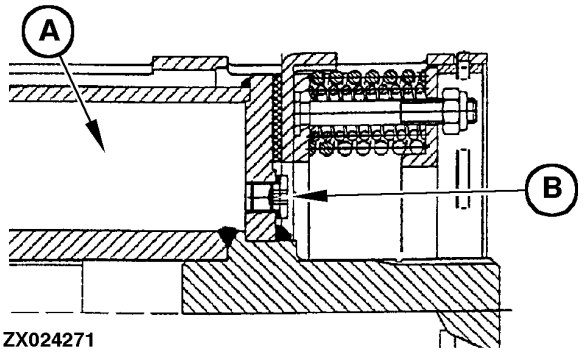
Specification

Main drive friction clutch cavity—Capacity..... 1.3 L (0.34 US gal.)



ZX1040656

ZX1040656 —UN—12APR07



ZX024271

ZX024271 —UN—07MAR01

KM00321,0000295 -19-24FEB10-1/1

Before Start of Season

Before the rotary harvesting unit is put into service, perform a general check of the main drive friction clutches. See Main Drive Friction Clutches (330, 345 and 360) in Section Service.

Run the machine and check all bearings for overheating and impermissible play.

KM00321,0000296 -19-24FEB10-1/1

Daily Maintenance (Or More Often if Necessary)

Check all cleaners (blunt or incorrectly positioned cleaner will cause plugging and expose drive system and friction clutches to unnecessary load).

After operating for a few hours check that all bolts are firmly seated; this also applies after changing blades or cleaners.

Clear the area around the gathering drums, rotating blades and scrapers of husks and bits of stalk.

Check all transmissions for signs of oil leaks.

Check cutting blades and replace them if worn (dull blades will cause extremely long stubble and expose drive system and friction clutches to unnecessary load).

ZX,688RHU009812 -19-01NOV97-1/1

Weekly Service

Perform all service work listed under Daily Service in this Section.

Check if all screws are tightened to the specified torque (see table).

Remove foreign bodies from the feeding and cutting area.

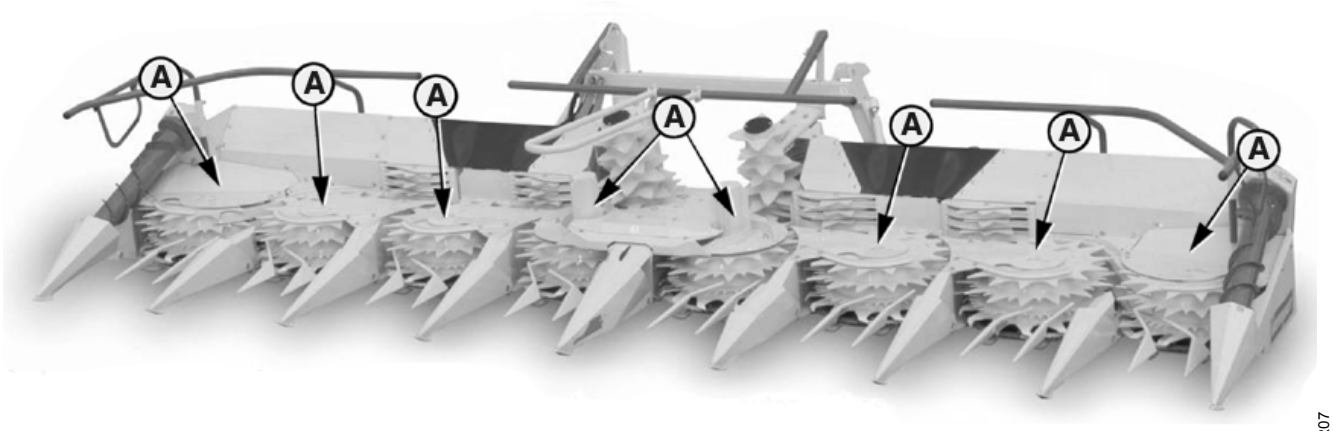
Clean clutch claws and spring assembly of the outer folding sections.

Check if shift pawl of clutch claws moves freely.

On rotary harvesting units with water-cooled slip clutch (option for models 345 and 360, standard for model 375), check the main drive slip clutch for coolant leakage. In case of escaping fluid, the slip clutch must be removed and repaired. Contact your KEMPER dealer.

KM00321,0000297 -19-24FEB10-1/1

End of Season Maintenance



ZX1040581

ZX1040581 —UN—12APR07

360 Rotary Harvesting Unit Shown

Clean and preserve the harvesting unit. Clean cavities (A) over the gathering drum radial-pin clutches.

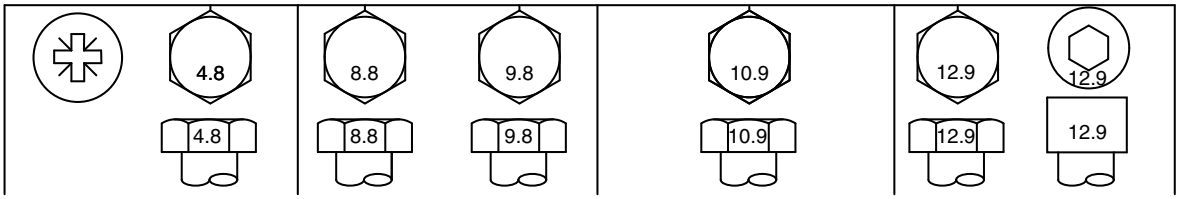
Change the oil and lubricate the harvesting unit.

Check all components for wear and order any spare parts that may be required in good time for the coming season.

OUCC002,00027E9 -19-18SEP07-1/1

Metric Bolt and Screw Torque Values

TS1670 —UN—01MAY03



Bolt or	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
Screw	Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]	
Size	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	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N·m	lb.-ft.														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. 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 fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] *"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C zinc flake coating.*

[b] *"Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B zinc flake coating.*

DX,TORQ2 -19-08DEC09-1/1

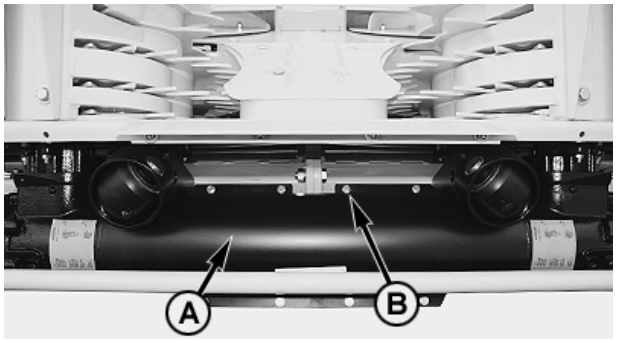
Main Drive Slip Clutches - Water-Cooled (Optional on 345 and 360, Standard on 375)

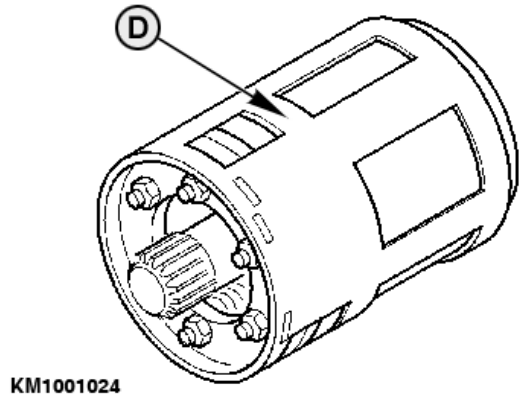
CAUTION: Before carrying out adjustment or service work:
- **shut off engine**
- **remove ignition key**
- **wait until all moving parts have come to a stop.**

The two slip clutches (D) on the main drive protect the rotary harvesting unit from unnecessary loads. Therefore, service the slip clutches regularly. The torque setting is different and depends on the forage harvesters the rotary harvesting unit is attached to. Refer to the following table for the correct torque value:

Forage harvesters		Torque
CLAAS	all models	900 N·m (657 lb.-ft.)
NEW HOLLAND	FX 30 FX 40 FX 50 FX 60	
CASE.....	CHX 320 CHX 420 CHX 520 CHX 620	
KRONE	all models	
NEW HOLLAND	FX 300 FX 375 FX 450 FX 28 FX 38 FX 48 FX 58	650 N·m (479 lb.-ft.)

IMPORTANT: Perform the following steps before the rotary harvesting unit is put into service for the first time and between harvesting seasons as well.





KM1001024

KM1001024 —UN—29OCT09

A—Cover
B—Screws
D—Slip clutch

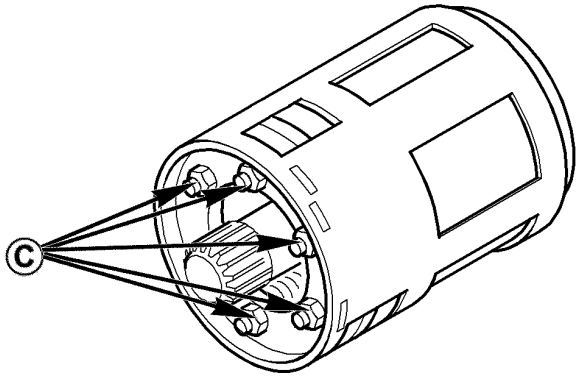
1. Remove screws (B) and cover (A).

KM00321,0000298 -19-24FEB10-1/2

2. Tighten screws (C). This will reduce pressure on the clutch disks.
3. Rotate the slip clutch by hand.

   IMPORTANT: If it is not possible to rotate the slip clutch by hand, it is necessary to disassemble and clean it for proper function. See Removal of Slip Clutch and Disassemble Slip Clutch in this Section.

4. Loosen screws (C) as far as the threads allow (without removing them completely).
5. Position cover (A) and install it using screws (B).



KM1000041 —UN—04APR05

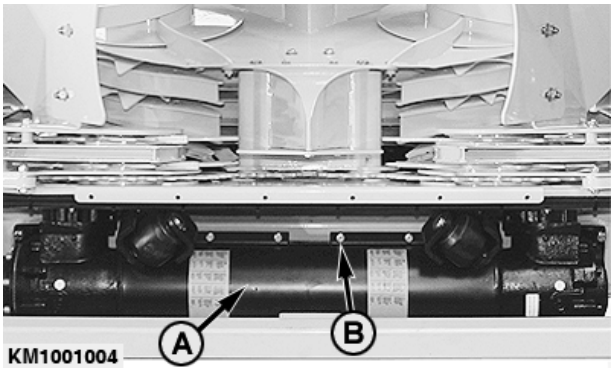
C—Screws

KM00321,0000298 -19-24FEB10-2/2

Removal of Slip Clutch

1. Remove cover (A). First take out screws (B).

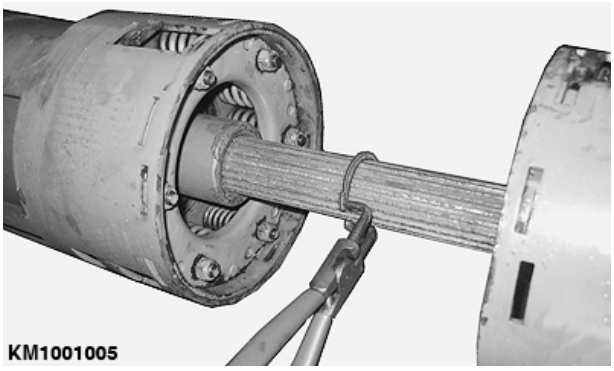
A—Cover **B—Screws**



KM1001004 —UN—01SEP09

KM00321,000022D -19-01SEP09-1/6

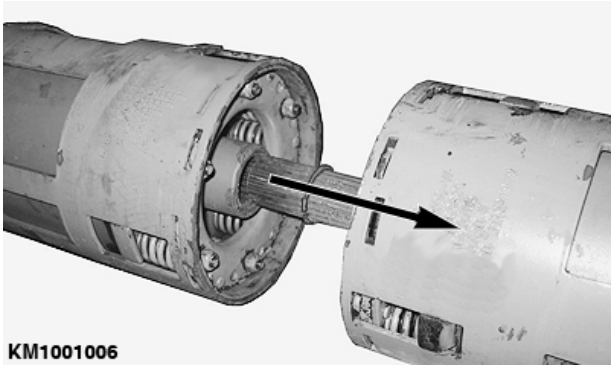
2. Open the snap rings and push them back on the splined shaft.



KM1001005 —UN—01SEP09

KM00321,000022D -19-01SEP09-2/6

3. Push the splined shaft in one slip clutch in such a way that it is completely removed from the other slip clutch.



KM1001006 —UN—01SEP09

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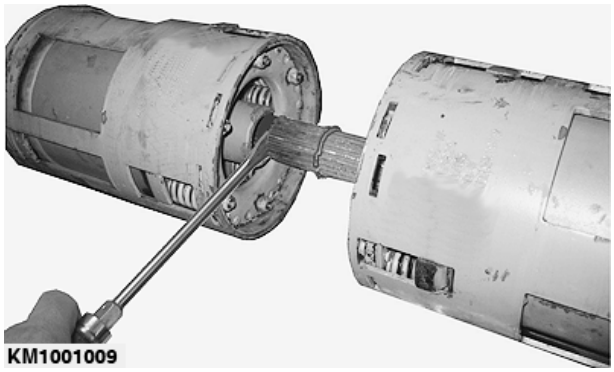
KM00321,000022D -19-01SEP09-3/6

4. Secure the splined shaft with a suitable tool against slipping.



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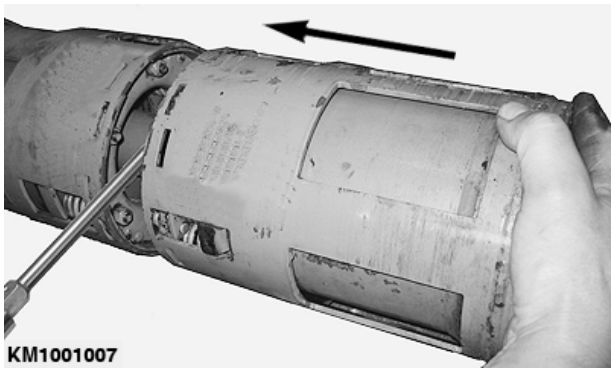
5. Move the slip clutch onto the splined shaft as shown. Remove the slip clutch with splined shaft.

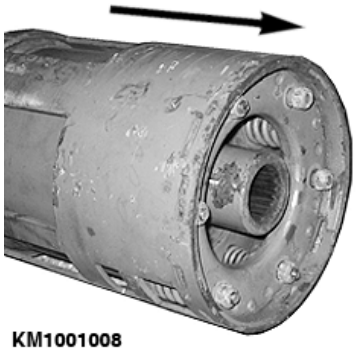


KM1001007 —UN—01SEP09

KM00321,000022D -19-01SEP09-5/6

6. Remove the second slip clutch.

NOTE: Assemble slip clutches in reverse order.



KM1001008 —UN—01SEP09

KM00321,000022D -19-01SEP09-6/6

Disassemble Slip Clutch

If it is not possible to rotate the slip clutch by hand as described under Main Drive Slip Clutches - Water-Cooled (Optional on 345 and 360, Standard on 375) it must be disassembled and cleaned.

Procedure:

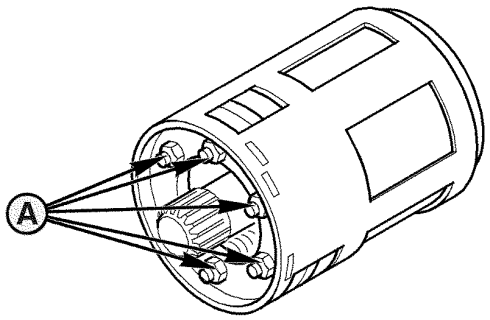
1. Remove slip clutch from rotary harvesting unit. See Remove Slip Clutch in this Section.
2. Tighten nuts (A). This will reduce pressure on the clutch disks.
3. First remove locking collar (I) from housing (B).
4. Then remove all slip clutch parts from housing (B).
5. Clean all parts, especially friction disks (C, E). Replace worn parts.
6. Reassemble all parts.
7. Install locking collar (I) as shown in Torque Settings below.
8. Loosen nuts (A) to the end of thread.
9. Reinstall slip clutches on the rotary harvesting unit.

Torque Settings:

IMPORTANT: The specified torque must not be exceeded. See torque table in Main Drive Slip Clutches - Water-Cooled (Optional on 345 and 360, Standard on 375).

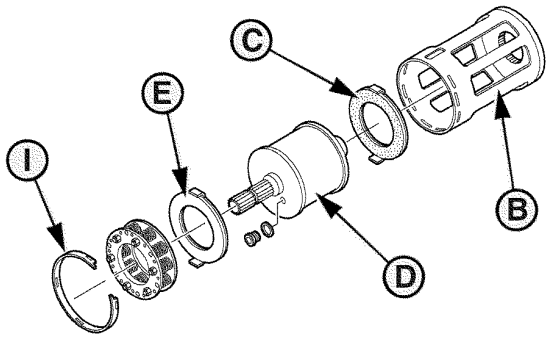
The torque value is set by positioning the profile (F) towards the outside and engaging the locking collar lugs in the **outer** recesses (G) of housing (B).

A—Nut
B—Housing
C—Friction disk
D—Coolant reservoir - 1.3 L (0.34 US gal.)
— 0.65 L (0.17 US gal.) of water
— 0.65 L (0.17 US gal.) of anti-freeze
E—Friction disk
F—Profile
G—Outer recess
H—Inner recess
I— Locking collar



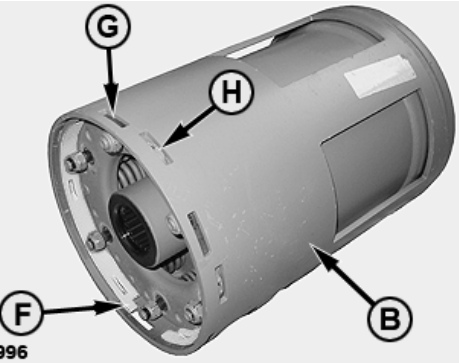
KM1000160

KM1000160 —UN—16OCT07



KM1000161

KM1000161 —UN—16OCT07



KM1000996

KM1000996 —UN—31AUG09

KM00321,0000299 -19-24FEB10-1/1

Main Drive Friction Clutches (330, 345 and 360)

General information

The two friction clutches (A) in the main drive protect the rotary harvesting unit from unnecessary loads. Therefore, it is required to keep the friction clutches properly serviced. Torque setting is:

Specification	
Main drive friction clutch—Torque	800 N·m (590 lb.-ft.)

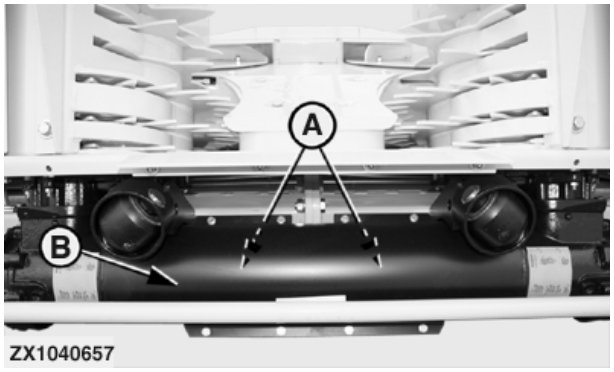
Check friction clutches

IMPORTANT: The following steps must be taken before the rotary harvesting unit is put into service for the first time, and after every protracted period it is not in use.

1. Remove cover (B).
2. Tighten nut (C). This will reduce pressure on the friction plates. Rotate the friction clutch.
3. Loosen nut (C) to the end of thread.
4. Install cover (B).

The friction clutches must be cleaned prior to every season as the specified torque must not be exceeded. Torque setting: Position notch (D) towards the inside and let it engage in the inner recess (E) of housing (F). A detailed check should be performed by removing, cleaning and reinstalling spring assembly, friction disks, friction plates, and hub.

IMPORTANT: A new friction clutch will reach its full torque only after a break-in period. For this reason, the rotary harvesting unit must be started cautiously, increasing load slowly. Full load should be applied only after the break-in period.



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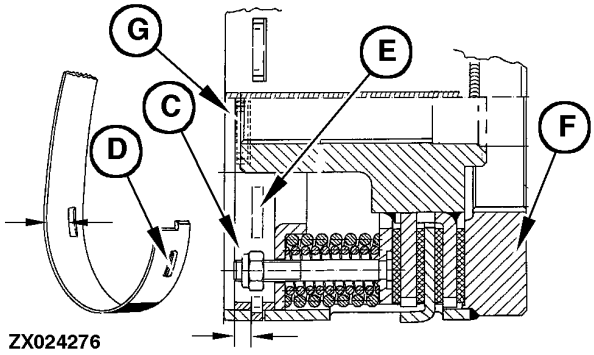


ZX024276 —UN—07MAR01

A—Friction clutches
B—Cover
C—Nut
D—Notch
E—Inner recess
F—Clutch housing
G—Outer recess

KM00321,000029A -19-24FEB10-1/1

Gathering, Cross Feed and Feed Drum Radial-Pin Clutches

General Information

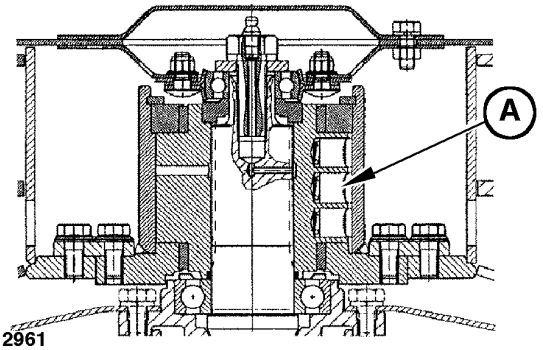
All the feed drums are equipped with radial-pin clutches to protect the drive elements against overloading.

Checking the radial-pin clutches

Gathering drum radial-pin clutches (A) are accessible from the inside of the drum. Once a year, clean free space over drum radial-pin clutch.

Cross feed and feed drum radial-pin clutches (B) and (C) are integrated into the transmissions and do not require particular maintenance.

NOTE: 330 harvesting unit is not equipped with cross feed drums (B).



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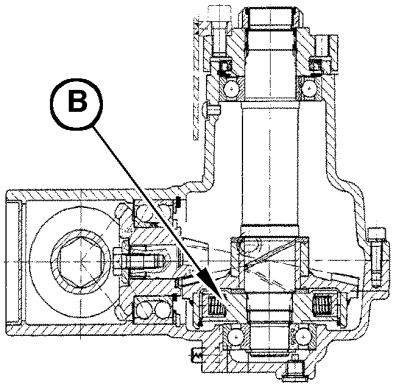

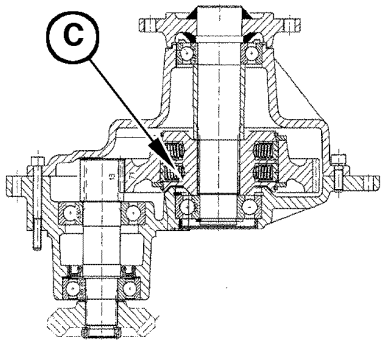

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OUCC002,00027EC -19-18SEP07-1/1

Feeding and Cutting Area

Small dividers

CAUTION: Before carrying out adjustment or service work, shut off engine and wait until all moving parts have come to a stop.

For the crop to be taken in, properly gathered, cut and fed further, it is essential that the parts listed below are aligned with each other:

Feed teeth (C) move at a distance (G) of 25 mm (0.98 in.) above the rotary cutter (B).

Distance (H) between the rear end of small divider (A) and feed tooth (C) without welded cleaner must be between 4 and 6 mm (0.16 and 0.24 in.). The narrower the distance, the easier it is to pick up down crop.

Distance (H) between the rear end of small divider (A) and feed tooth (C) with welded cleaner must be approx. 1 mm (0.04 in.).

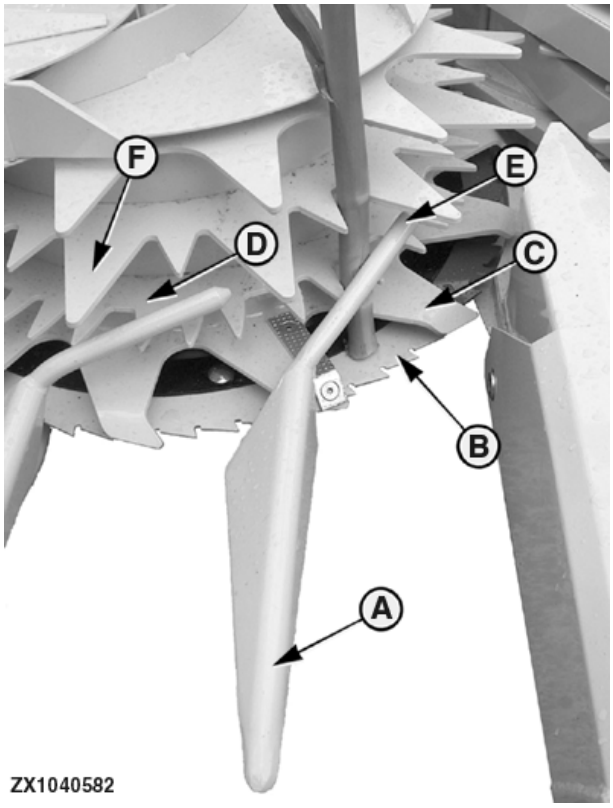
IMPORTANT: Straighten any feed teeth (C) deformed by foreign bodies immediately.

The intake bars (E) must force the crop into the row of closely-spaced teeth (D). Distance (J) between the end of intake bar (E) and row (F) of teeth must be 28 mm (1.10 in.). If necessary, bend the intake bar to obtain distance (J).

NOTE: When bending the intake bars, make sure that total height (K) of the small divider is approx. 185 mm (7.28 in.).

Have your KEMPER dealer replace any worn parts.

A—Small divider
B—Rotary cutter
C—Feed teeth
D—Row of teeth
E—Intake bar
F—Row of teeth
G—25 mm (0.98 in.)
H—4 to 6 mm (0.16 to 0.24 in.) or approx. 1 mm (0.04 in.)
J—28 mm (1.10 in.)
K—185 mm (7.28 in.)



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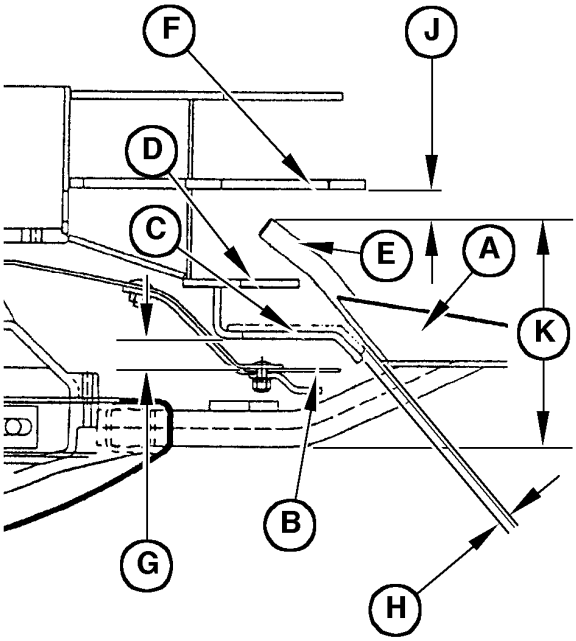

ZX012964

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KM00321,000029B -19-24FEB10-1/4

Rotary cutter

CAUTION: The rotary cutters stop rotating when the rotary harvesting unit has been shut off. Before carrying out adjustment or service work, shut off engine and wait until all moving parts have come to a stop.

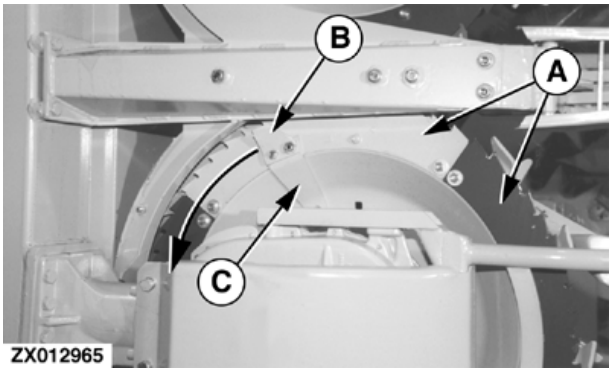
Blade tips and blade segments are installed in the direction of cut. The blade segments (A) are 2.5 mm (0.1 in.) thick.

Cleaners (B) clean the cutting area from weeds and husks; they are attached to the drum with an M10x25 screw and an M8x25 shear screw. Both screws are special screws (class 8.8).

Daily check cleaners (B) for wear or damage. Make sure that the tungsten carbide coating is facing to the front (seen in the direction of travel).

The cleaners (C) keep the area between rotary cutter and transmission free from accumulations of leaves and dirt. Intact cleaners protect the drive system from overload.

Check whether the front edge (in direction of rotation) of cleaner (C) is sharp.



ZX012965 —UN—26NOV97

IMPORTANT: When a blade segment is worn, the edge of the segment may be sharpened with a grinder instead of replacing the blade segment. This method will help for a short time only and will increase the load on all clutches.

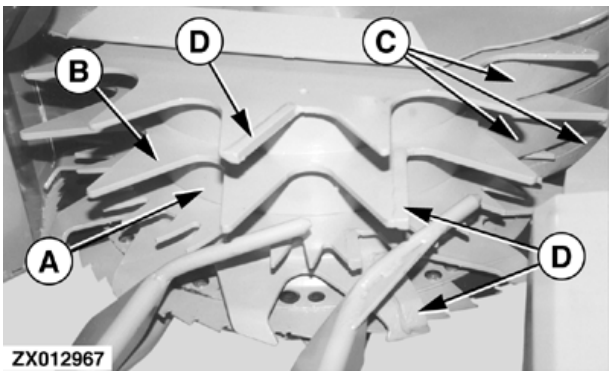
KM00321,000029B -19-24FEB10-2/4

Teeth on gathering drum

Teeth (B) of the gathering drum (A) must move through the guide slot in scraper (C) at a constant height.

Every row of teeth has a welded cleaner (D). It cleans the feeding area of the scraper. The gap between the tip of cleaner (D) and the edge of the slot in scraper (C) must not exceed 2 mm (0.08 in.).

Accumulation of husks in the scrapers indicate poor adjustment or wear of cleaner tips. The cleaners consist of special high-strength steel and can be returned to their original condition by means of steel electrodes (build-up welding).



ZX012967 —UN—26NOV97

A—Gathering drum
B—Tooth
C—Scrapers
D—Cleaners

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KM00321,000029B -19-24FEB10-3/4

Scrapers on gathering drums

To avoid obstructions in the feeding area, this area must be free from contamination.

The distance between scraper ends (A) and drum wall (B) must be as narrow as possible. A maximum distance (X) of 5 mm (0.2 in.) must not be exceeded.

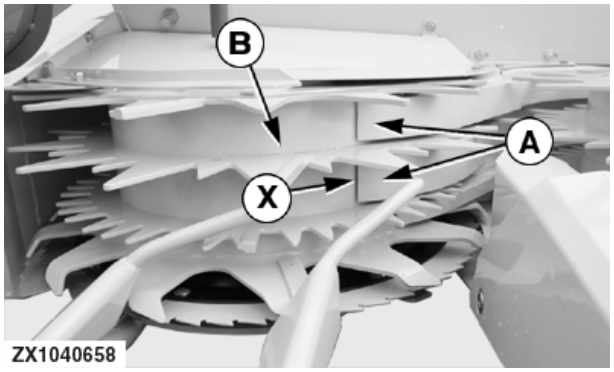
All scrapers can be adjusted as follows:

Loosen attaching screws, then slide scrapers within their attaching bores to obtain the specified dimension (X).

IMPORTANT: Reinstall all panels removed for adjustment purposes.

NOTE: Some attaching screws are accessible after having removed the panels. Other attaching screws (C) are directly accessible from the front side of the gathering drum.

A—Scraper end
B—Drum wall
C—Attaching screws
X—5 mm (0.2 in.)



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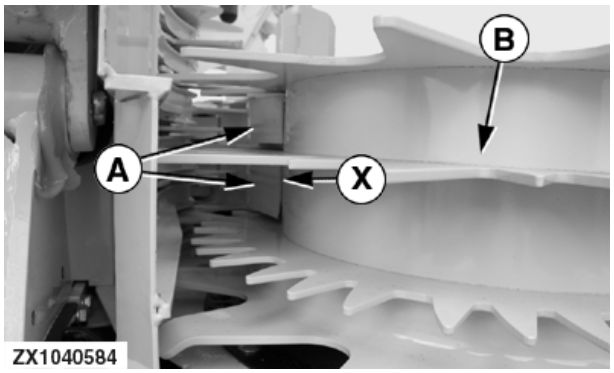

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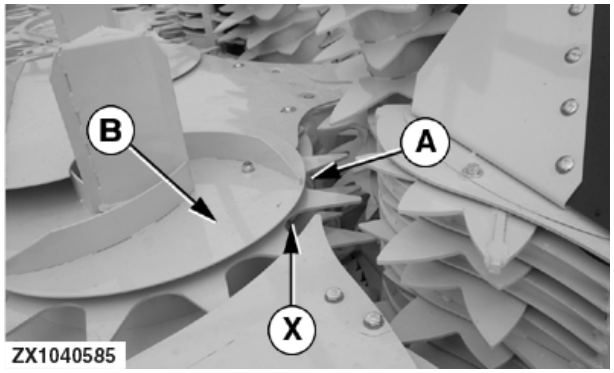

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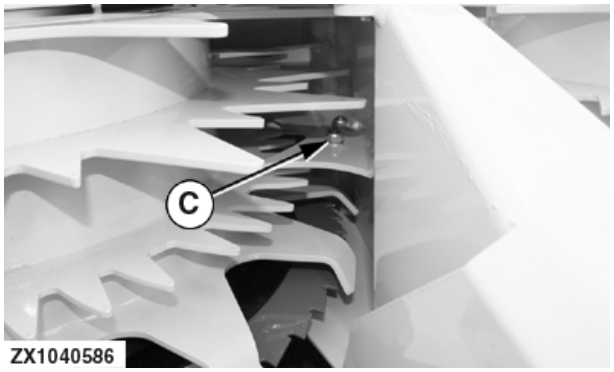

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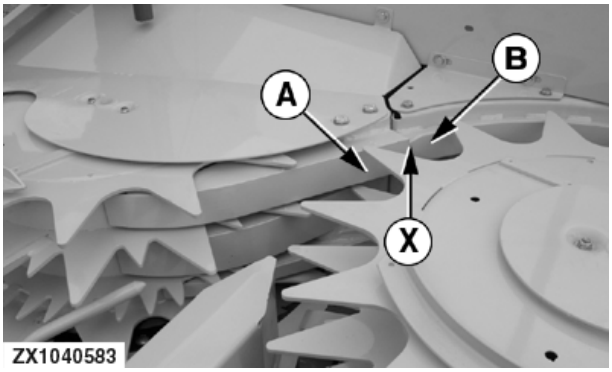
Crop Feed Area

Junction between scraper and guide

Scraper (A) and guide (B) must be adjusted so that the gap (X) between them does not exceed 3 mm (0.12 in.).

To ensure a constant flow of crop, guide (B) must remain about 2 mm (0.08 in.) behind scraper (A). The teeth must run through the area between the scraper and guide at a constant distance from the edges.

A—Scraper
B—Guide
X—3 mm (0.12 in.)



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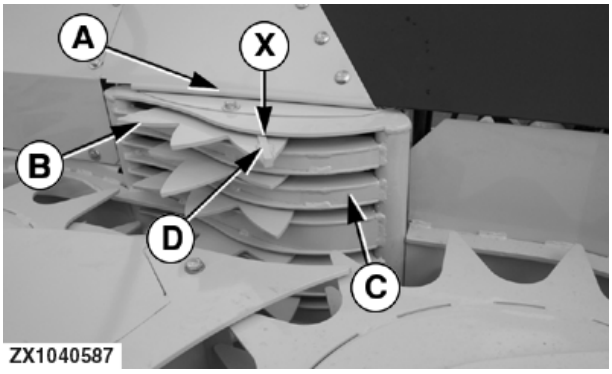
Teeth on cross feed crum (345, 360 and 375)

Teeth (B) on cross feed drum (A) should run at a constant height through the guide slot in the guide (C).

Some rows of teeth have a welded cleaner (D). This cleans the feed area of the guide. The gap (X) between the tip of cleaner (D) and the edge of the guide (C) slot should not exceed 2 mm (0.08 in.).

Accumulations of husks in the guide indicate poor adjustment or wear at the cleaner tips. The cleaners are made of special high-strength steel and can be returned to their original condition by means of steel electrodes (build-up welding).



ZX1040587 —UN—12APR07

A—Feed drum
B—Teeth
C—Guide
D—Cleaner
X—2 mm (0.08 in.)

OUCC002,00027ED -19-18SEP07-2/4

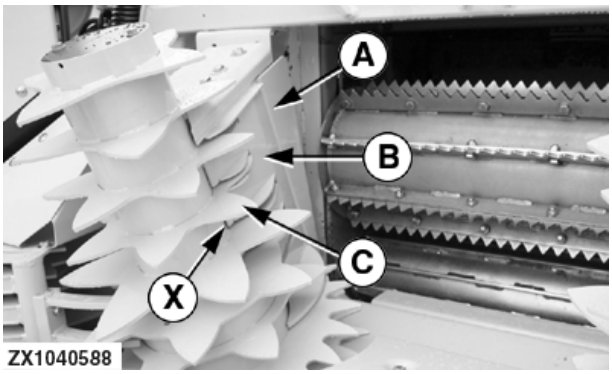
Scraper on feed drums

The scraper (B) with guide plate (A) can be turned so that it matches the width of the forage harvester's feed roll (see "Adjusting Channel Width" in "Attaching and Detaching" Section).

The rows of teeth (C) on the drum should run in the center of the slot in the scraper (B).

Gap (X) between the scraper and the wall of the drum must not exceed 5 mm (0.2 in.).

A—Guide plate
B—Scraper
C—Teeth
X—5 mm (0.2 in.)



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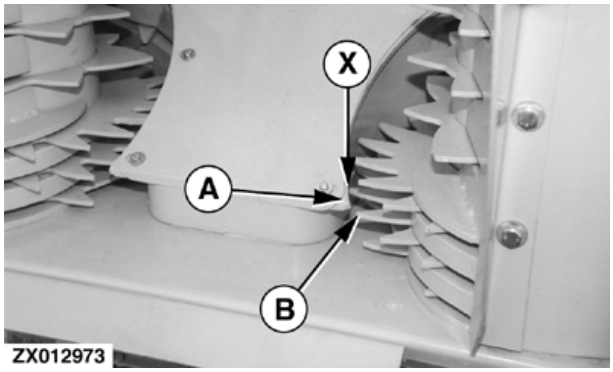
Lower feed teeth on feed drums

Deflectors (A) are set at a maximum distance (X) of 4 mm (0.16 in.) to the tips of feed teeth (B).



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Drive for Down-Crop Auger

The belt drive for the down-crop auger is located at the outer end of the folding sections.

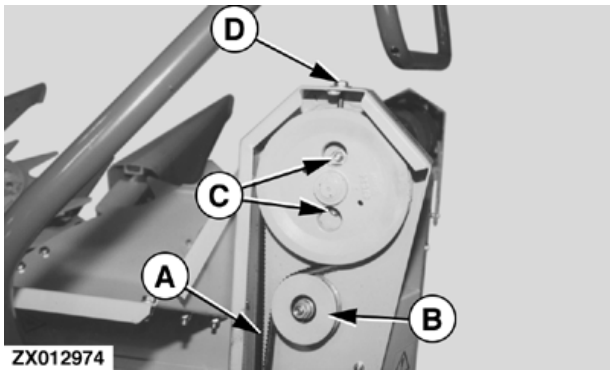
IMPORTANT: Adjust the tension of the belt after the first 20 hours of operation, then check regularly.

The crossed-over V-belt (A) is guided by a guide roll (B). Tension on the belt is adjusted by pulling the rear upper auger bearing upwards.

Adjust belt tension as follows:

IMPORTANT: Do not use guide roll (B) to tension drive belt (A).

1. Loosen upper auger bearing fixing nuts (C).
2. Turn the adjusting screw (D) clockwise to tension the drive belt (A).
3. Tighten fixing nuts (C).



ZX012974 —UN—26NOV97

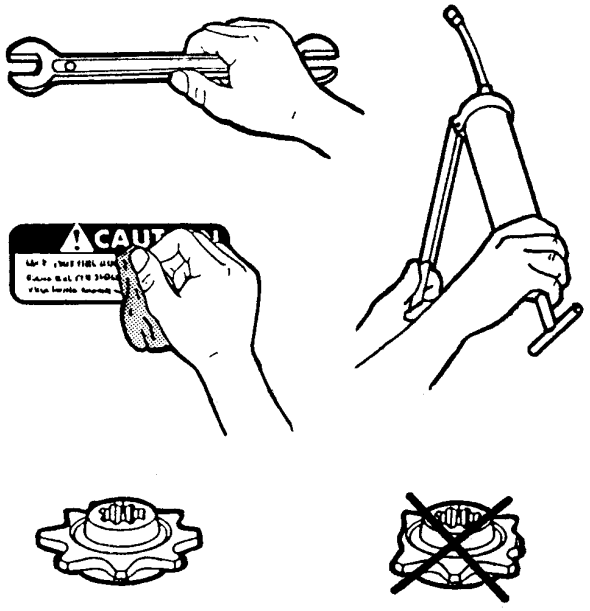
A—Belt
B—Guide roll
C—Fixing nuts
D—Adjusting screw

ZX,688RHU010143 -19-01MAR99-1/1

Storage

Storage at End of Harvesting Season

- Store the rotary harvesting unit in a dry place. If possible, store on level surface.
- Clean the rotary harvesting unit carefully and check all the slip clutches. Make any re-adjustments that may be necessary. In the Service Section, see Relieve Pressure on the Main Drive Slip Clutches.
- Lubricate the rotary harvesting unit or drain oil as indicated.
- Check the rotary harvesting unit for damaged or worn parts and replace them as necessary. For more detailed checks, see your KEMPER dealer.
- Touch up the paintwork if required, and clean the decals.



KM1000902

KM1000902 —UN—12JUN09

KM00321,000019E -19-12JUN09-1/1

Removing Harvesting Unit from Storage

If necessary, give the harvesting unit a thorough clean.

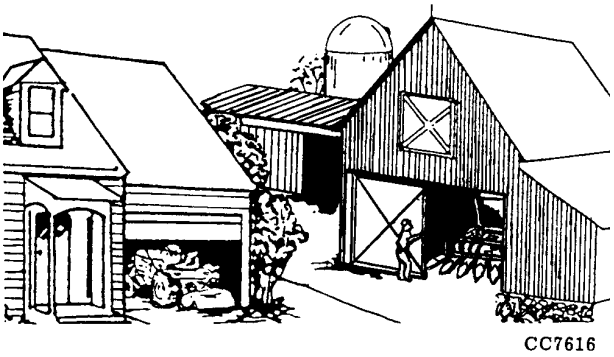
Lubricate the harvesting unit. See ”Lubrication and Maintenance” Section.

Tighten all screws and make sure they are seated firmly.

Check all clutches as shown in ”Service” Section.

Carry out all the operations described under ”Lubrication and Maintenance”.

Read the Operator’s Manual once again.



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CC7616 —UN—21MAR95

ZX,688RHU010145 -19-01NOV97-1/1

Specifications

330 Rotary Harvesting Unit

Drive system	Oil-bath transmission with safety clutch
Harvesting system	Cutting system with high-speed rotary cutters
Crop feed system	Four slowly rotating gathering drums, two cross feed drums and two feed drums in inclined position
Weight	approx. 1500 kg (3306 lb)
Width	
Transport width	3.00 m (9 ft. 10 in.)
Working width	3.00 m (9 ft. 10 in.)
Overall width	3.00 m (9 ft. 10 in.)
Height	1.36 m (4 ft. 5.5 in.)
Length	2.06 m (6 ft. 9 in.)
Maximum operating speed	20 km/h (12.4 mph)

KM00321,000029C -19-24FEB10-1/1

345 Rotary Harvesting Unit

Drive system	Oil-bath transmission with safety clutch
Harvesting system	Cutting system with high-speed rotary cutters
Crop feed system	Six slowly rotating gathering drums, two cross feed drums and two feed drums in inclined position
Weight	approx. 2100 kg (4630 lb)
Width	
Transport width	3.00 m (9 ft. 10 in.)
Working width	4.50 m (14 ft. 9.1 in.)
Overall width	4.50 m (14 ft. 9.1 in.)
Height	1.36 m (4 ft. 5.5 in.)
Length	2.06 m (6 ft. 9 in.)
Maximum operating speed	20 km/h (12.4 mph)

KM00321,000029D -19-24FEB10-1/1

360 Rotary Harvesting Unit

Drive system	Oil-bath transmission with safety clutch
Harvesting system	Cutting system with high-speed rotary cutters
Crop feed system	Eight slowly rotating gathering drums, four cross feed drums and two feed drums in inclined position
Weight	approx. 2680 kg (5908 lb)
Width	
Transport width	3.00 m (9 ft. 10 in.)
Working width	6.00 m (19 ft. 8.4 in.)
Overall width	6.00 m (19 ft. 8.4 in.)
Height	1.36 m (4 ft. 5.5 in.)
Length	2.06 m (6 ft. 9 in.)
Maximum operating speed	15 km/h (9.32 mph)

KM00321,000029E -19-24FEB10-1/1

375 Rotary Harvesting Unit

Drive system	Oil-bath transmission with safety clutch
Harvesting system	Cutting system with high-speed rotary cutters
Crop feed system	Ten slowly rotating gathering drums, six cross feed drums and two feed drums in inclined position
Weight	approx. 3250 kg (7165 lb)
Width	
Transport width	3.00 m (9 ft. 10 in.)
Working width	7.50 m (24 ft. 7.2 in.)
Overall width	7.50 m (24 ft. 7.2 in.)
Height	1.40 m (4 ft. 7.1 in.)
Length	2.06 m (6 ft. 9 in.)
Maximum operating speed	15 km/h (9.32 mph)

KM00321,000029F -19-24FEB10-1/1

Declaration of Conformity

Kemper GmbH & Co.KG
Am Breul
D-48703 Stadtlohn

The Rotary Harvesting Units

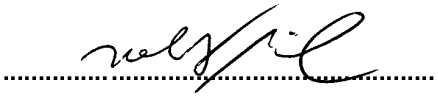
Models:

330, 345, 360 and 375

comply with the EU provisions:

98/37/EEC.....	Machinery Directive
EN292.....	Machinery - Safety
and EN632	Forage Harvesters - Safety

Stadtlohn, 26 February 2007



Norbert Weiand

General Manager

CC1029171 —UN—26FEB07

OUCC002,0002802 -19-20SEP07-1/1

EC Declaration of Conformity

Kemper GmbH & Co. KG
Am Breul
48703 Stadtlohn, Germany

The person named below declares that

Machine type: Rotary harvesting unit

Models: 330, 345, 360 and 375

fulfills all relevant provisions and essential requirements of the following directives:

DIRECTIVE	NUMBER	CERTIFICATION METHOD
Machinery directive	2006/42/EU	Self-certification
General safety requirements for agricultural machines	DIN EN ISO 4254-1	Self-certification
Machine safety	DIN EN ISO 12100	Self-certification
Safety of forage harvesters and combines	DIN EN 632	Self-certification
Safety of PTO shafts and their guards	DIN EN 12965	Self-certification

Name and address of the person in the European Community authorized to compile the technical construction file:

Henning Oppermann
D-68008 Mannheim, Germany

Place of declaration: 48703 Stadtlohn, Germany

Date of declaration: 10 August 2009

Manufacturing unit: Kemper Stadtlohn

Name: Norbert A. Weiand

Title: Managing Director

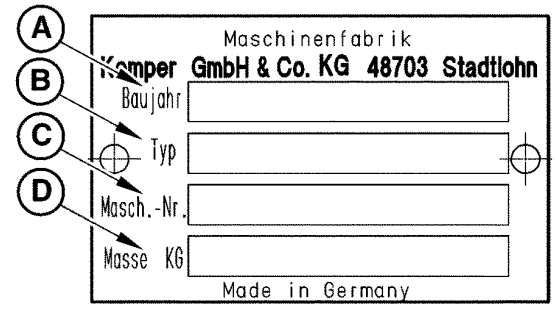
CE

DXCE01—UN—28APR09

KM00321,00002A0 -19-24FEB10-1/1

Rotary Harvesting Unit Serial Number Plate (Up to Year of Manufacture 2009)

A—Year of manufacture
B—Model designation
C—Product identification number
D—Weight



KM1000903

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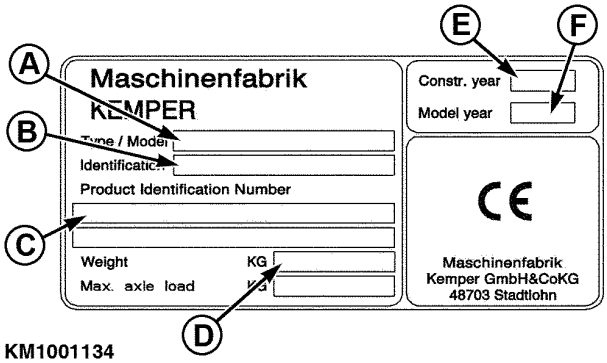
KM00321,00002A1 -19-24FEB10-1/1

Rotary Harvesting Unit Serial Number Plate (From Year of Manufacture 2010)

A—Type
B—Model designation
C—Product identification number
D—Weight
E—Year of manufacture
F—Model year



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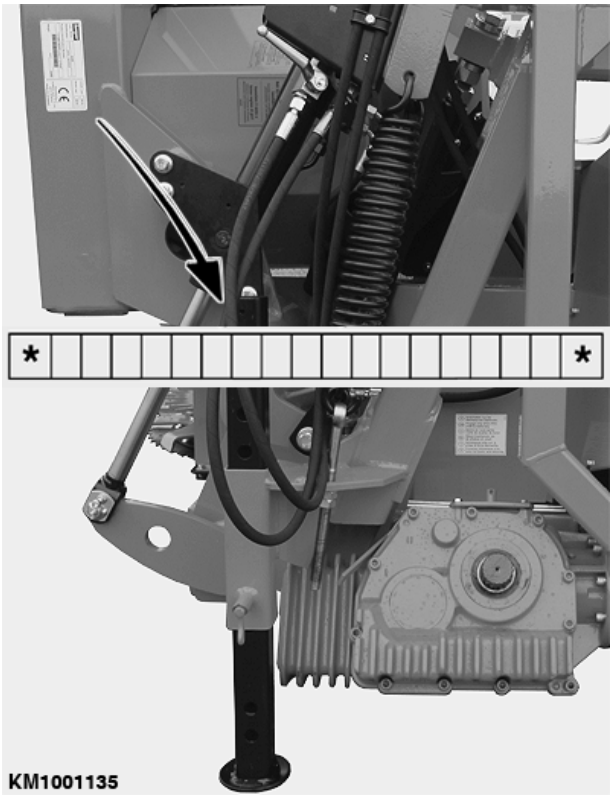
KM00321,00002A2 -19-24FEB10-1/1

Serial Number

When ordering parts, always quote the rotary harvesting unit serial number. The serial number is on a plate located on the left-hand side of the frame. Record the serial number in the space provided opposite.



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KM00321,00002A3 -19-24FEB10-1/1

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