

# 445 Rotary harvesting unit



## OPERATOR'S MANUAL 445 Rotary harvesting unit OMKM123308 ISSUE A9 (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.

**Maschinenfabrik Kemper GmbH & Co. KG**

European Version  
PRINTED IN GERMANY

# Introduction

## Foreword

READ THIS OPERATOR'S 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 rotary harvesting unit may be installed and operated on a forage harvester only. The user must be entitled to drive a forage harvester on public roads. This manual and safety signs on your machine are available in other languages. To order, see your KEMPER dealer.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and must 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. Only use components and bolts that fit. 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.

LOADING AND HAULAGE of this rotary harvesting unit must be performed only by persons familiar with how the load is secured, and who can provide evidence of this.

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

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

INTENDED USE: THIS ROTARY HARVESTING UNIT may be used ONLY for harvesting:

- thick-stemmed, flexible types of plant such as corn, elephant grass or bamboo
- thin-stemmed types of plant such as grain crop, mustard

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.

THIS ROTARY HARVESTING UNIT MUST NOT be used to manually transfer materials of any sort and is not suitable for the transfer and chopping of:

- woody plants with a diameter greater than 1 mm
- wood intended for chipping
- animal feed such as beets
- metallic objects
- materials that include stones

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 MUST be serviced and repaired ONLY by industrial mechanics, fitters or persons with comparable qualifications. The electrical system must be repaired only by electricians. 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. It is not permitted to alter the machine to accept materials other than those permitted in its intended use. Any arbitrary modifications carried out on this rotary harvesting unit will relieve the manufacturer of all liability for any resulting damage or injury.

THIS ROTARY HARVESTING UNIT MUST NOT be operated in the United States and Canada.

KM00321,00008A4 -19-23JAN19-1/1

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

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Zentralfunktionen  
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A John Deere ILLUSTRATION™ Manual

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# Pre-delivery Inspection

## Predelivery Checklist

After the 445 rotary harvesting unit has been completely assembled, inspect it to be sure it is in good running order before delivering it to the customer. Check off each item when 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 bolts have been tightened.
- All grease fittings have been lubricated.
- Gear cases have been properly filled (see Lubrication and Maintenance).
- Knife attaching screws are tightened correctly.

- Shipping brackets 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 are working freely.
- Check all slip clutches as shown in the Service section.
- All decals are in place and in good condition.
- Check that auxiliary lights are installed on basic harvester.
- This rotary harvesting unit has been tested and, to the best of my knowledge, is ready for delivery to the customer.

\_\_\_\_\_  
(Date Tested)

\_\_\_\_\_  
(Signature of Technician)

OUCC002,0002841 -19-16OCT07-1/1

## 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 the operator's manual.
- Discuss proper harvesting management practices required for good silage.
- Give operator's manual to customer and fully explain all operating adjustments.
- Advise the customer of the proper weights and fluids that must be used in the tires, depending upon forage harvester.

- Advise the customer of 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.
- Tell 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)

OUCC002,0002842 -19-16OCT07-1/1

### After-Sale Checklist

The following items should be checked sometime during the first season of operation with the rotary harvesting unit.

- Go over the entire machine for loose or missing nuts and bolts.
- 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 for worn rotary knives.
- Check with the customer as to the performance of the rotary harvesting unit thus far. Make sure the customer understands the best methods of rotary harvesting unit operation.
- Review the entire operator's manual together with your customer and stress the importance of proper and regular lubrication, as well as safety precautions.

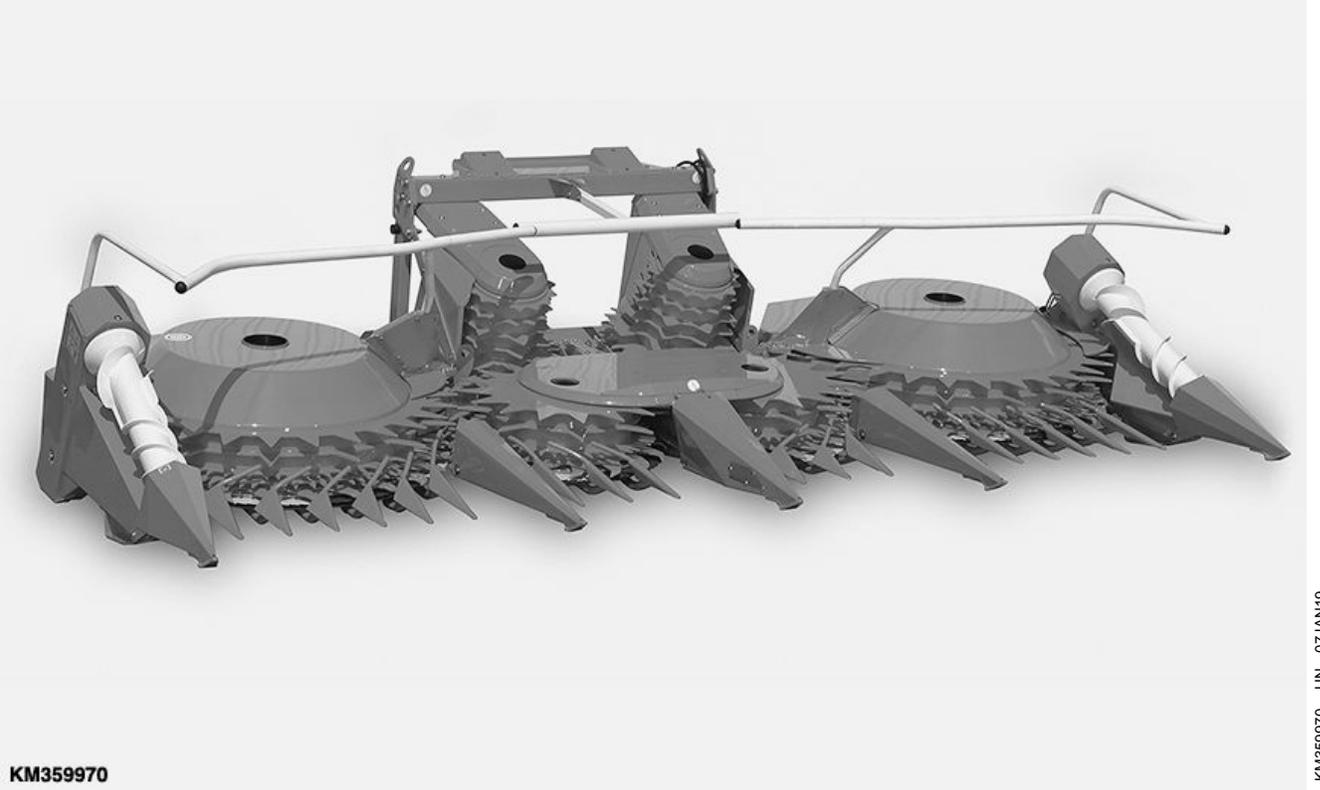
\_\_\_\_\_  
(Signature of Technician)

\_\_\_\_\_  
(Signature of Customer)

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# Identification View

## Identification View



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KM359970 —UN—07JAN19

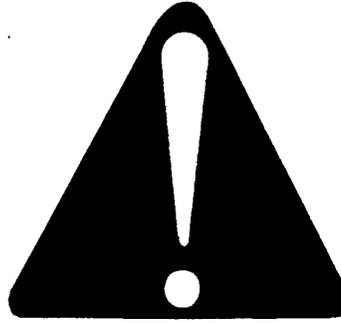
KM00321.0000882 -19-07JAN19-1/1

# Safety Measures

## 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.



TB1389 —UN—28JUN13

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—15APR13

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

### Operator Ability

- Machine owners must make sure that operators are responsible, trained, have read the operating instructions and warnings, and know how to operate the machine properly and safely.
- Age, physical ability, and mental capacity can be factors in machine-related injuries. Operators must be mentally and physically capable of accessing the operator station

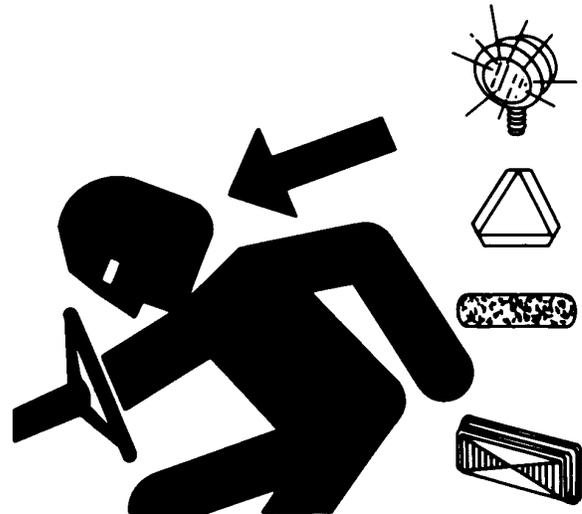
- and/or controls, and operating the machine properly and safely.
- Never allow a child or an untrained person to operate the machine. Instruct all operators not to give children a ride on the machine or an attachment.
- Never operate machine when distracted, fatigued, or impaired. Proper machine operation requires the operator's full attention and awareness.

DX,ABILITY -19-07DEC18-1/1

### 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.



TS961 — UN — 12APR90

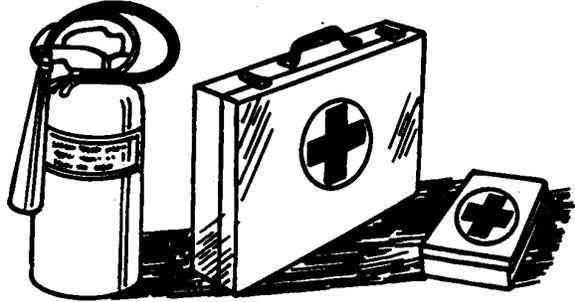
KM00321,000016C -19-14MAY09-1/1

### 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.



TSS291—UN—15APR13

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

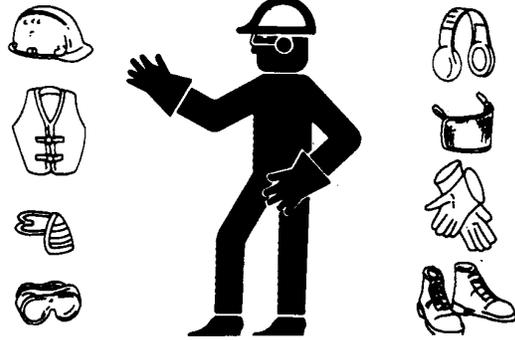
### Wear Protective Clothing

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.



TSS206—UN—15APR13

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

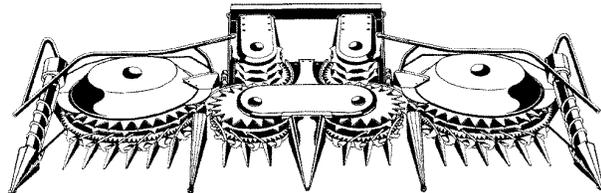
### Check Machine Safety

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

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

### Avoid Entanglement

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



KM1001038

KM1001038—UN—18NOV09

KM00321,0000242 -19-18NOV09-1/1

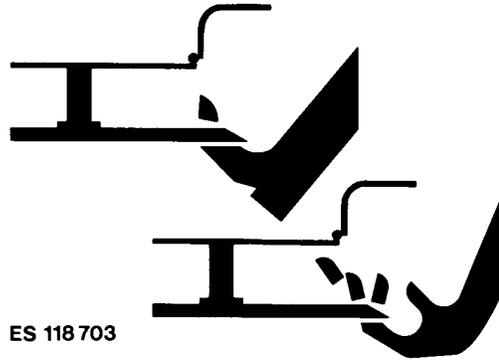
## Safety Measures

### 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.



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

ES118703—UN—21MAR95

### Stay Clear of Harvesting Units

Due to their function, the cutting, gatherer and feed drums cannot all 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 machine.



ZX,CUT676 -19-01NOV94-1/1

ES118704—UN—21MAR95

### 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.



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

TS254—UN—23AUG88

### 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 all shields in place at all times. Make sure rotating shields turn freely.

Wear close-fitting clothing. Stop the engine and be sure that all rotating parts and drivelines are stopped before making adjustments, connections, or performing any type of service on engine or machine driven equipment.



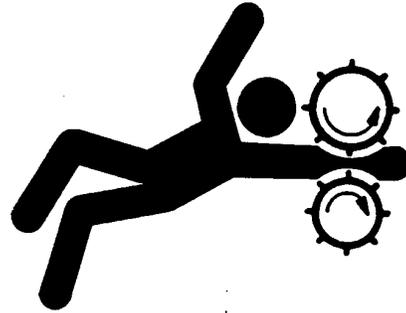
TS1644—UN—22AUG95

DX,ROTATING -19-18AUG09-1/1

### 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

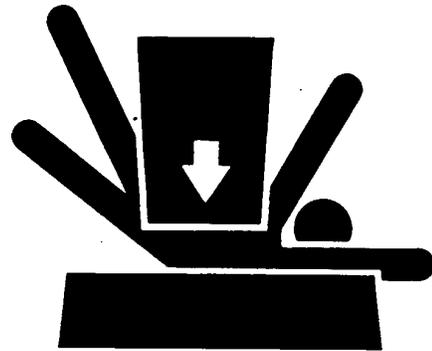
DX,LOOSE -19-04JUN90-1/1

### 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

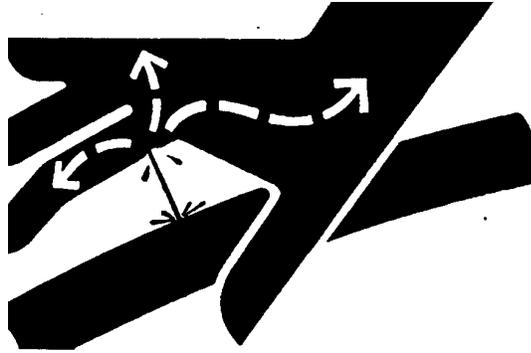
### Avoid High-Pressure Fluids

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.

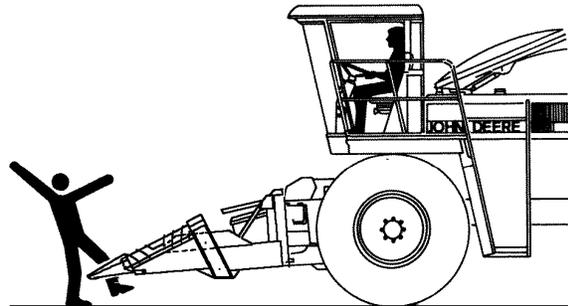


X9811 —UN—23AUG88

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

### Transport With Harvesting Unit Installed

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



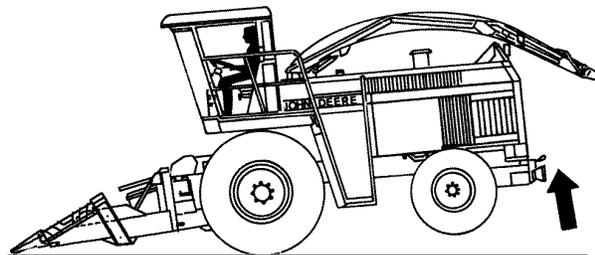
ZX007219

ZX007219 —UN—21MAR95

ZX,HEADER676 -19-20JAN95-1/1

### 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 harvester at the rear end as necessary. Observe the maximum permissible axle loads and total weights.



ZX007220

ZX007220 —UN—21MAR95

ZX,WEIGHT676 -19-20JAN95-1/1

### 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.



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

TS220 —UN—15APR13

### Correct Disposal of Waste

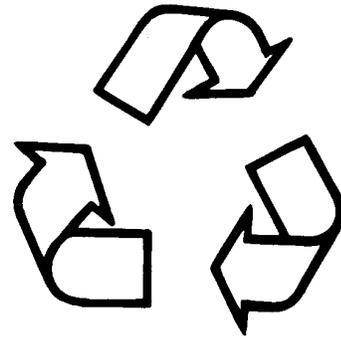
Incorrect disposal of waste may damage the environment and ecological systems. Potentially harmful waste used with KEMPER equipment includes such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leak-proof 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 a drain, or into any water source.

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

Inquire on the correct way to recycle or dispose of waste from your local environmental or recycling center, or from your KEMPER dealer.



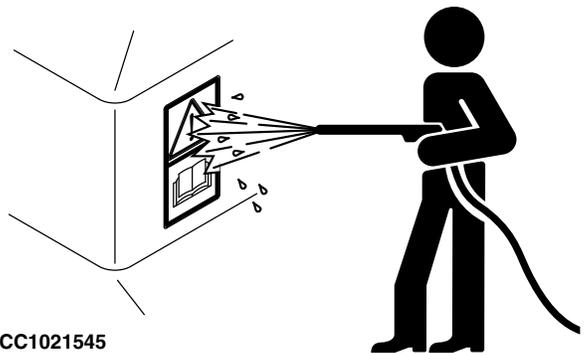
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TS1133 —UN—15APR13

### Avoid High-Pressure Jet on Safety Decals

Pressurized water can remove or damage safety decals. Avoid to direct high-pressure jet on safety decals.

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



CC1021545

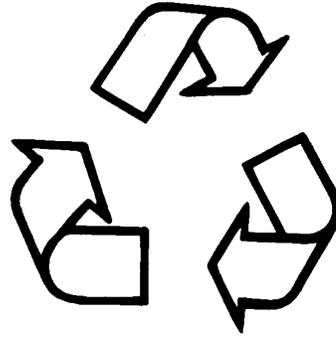
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CC1021545 —UN—23APR02

## Decommissioning — Proper Recycling and Disposal of Fluids and Components

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

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Carefully drain engines, fuel tanks, radiators, hydraulic cylinders, reservoirs, and lines before recycling components. Use leak-proof containers when draining fluids. Do not use food or beverage containers.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids (example: oil, fuel, coolant, brake fluid);



- filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
  - Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.
  - Contact your local environmental or recycling center, or your KEMPER dealer for information on the proper way to recycle or dispose of waste.

TSS1133 —JUN—15APR13

KM00321,00006C6 -19-28SEP17-1/1

# 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.



OUCC002,0002845 -19-16OCT07-1/1

TS231 —19—07OCT88

## Replace Safety Signs

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

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

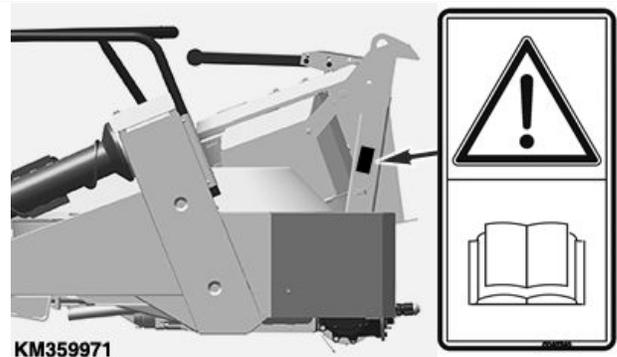


DX.SIGNS -19-18AUG09-1/1

TS201 —UN—15APR13

## Operator's Manual

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



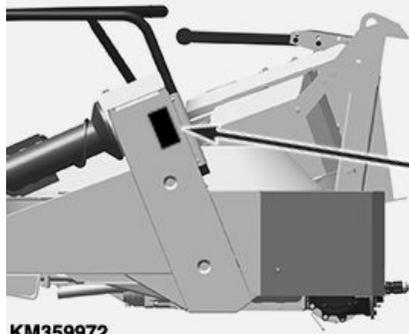
KM359971

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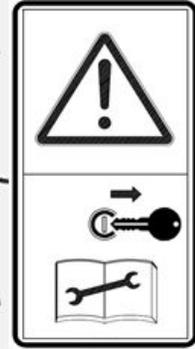
KM359971 —UN—16JAN19

### Repair and Maintenance

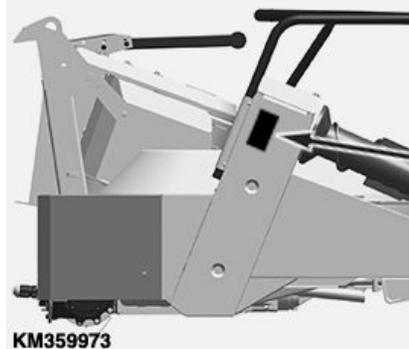
Before carrying out repair or maintenance work, shut off engine and remove key.



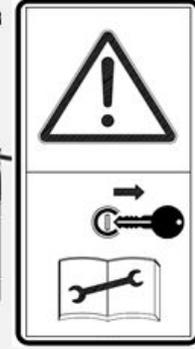
KM359972



KM359972 —UN—16JAN19



KM359973



KM359973 —UN—16JAN19

KM00321,0000885 -19-16JAN19-1/1

### Feed Components of the Rotary Harvesting Unit

Stay away from the rotary harvesting unit to avoid injuries. Arms, legs, or loose clothing can get caught in the rotary harvesting unit during operation.

If arms or legs reach into an area where there is a danger of them getting pulled in, serious injuries may be the result.

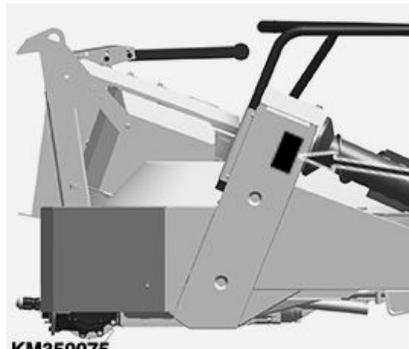
Always comply with the necessary safety distance to the rotary harvesting unit.



KM359974



KM359974 —UN—16JAN19



KM359975



KM359975 —UN—16JAN19

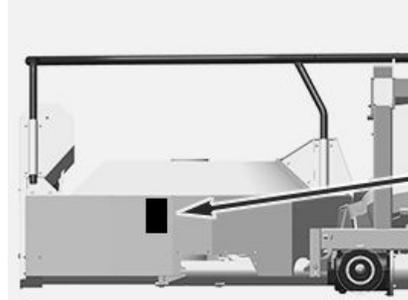
KM00321,0000887 -19-16JAN19-1/1

### Rotating Blades

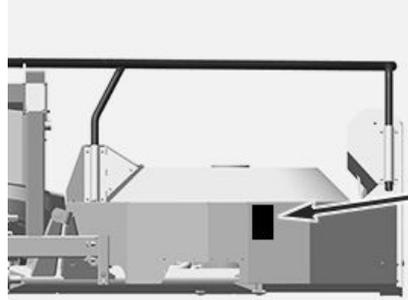
Do not touch any moving machine parts. Wait until it has stopped entirely.

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

Rotating blades can catch arms, legs or loose clothing as long as they are in motion and can cause serious injury.



KM359976



KM370742



KM359976 —UN—16JAN19

KM370742 —UN—16JAN19

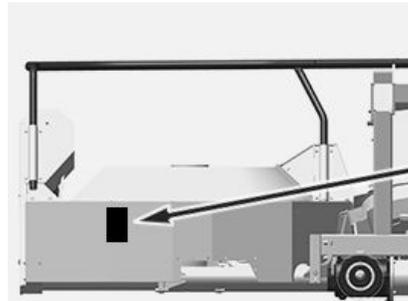
KM00321,0000888 -19-16JAN19-1/1

### Folding Area of the Rotary Harvesting Unit

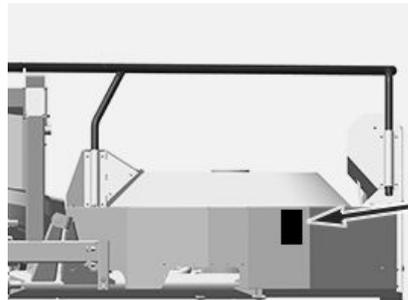
Stay clear of the folding area of the rotary harvesting unit.

When folding or unfolding the rotary harvesting unit, ensure that no persons are present in the danger zone.

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



KM370744



KM370743



KM370744 —UN—16JAN19

KM370743 —UN—16JAN19

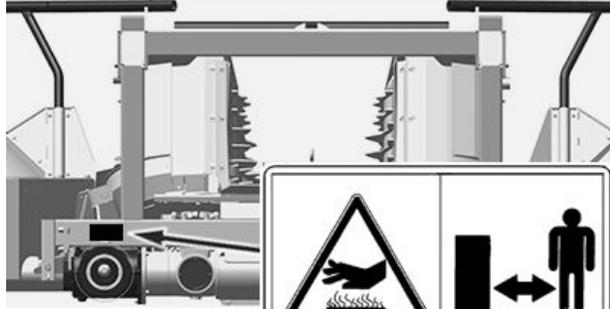
KM00321,0000888A -19-16JAN19-1/1

### Input Transmission

Excessive heat may develop at the input transmission.

Stay clear of hot surfaces.

Hot surfaces may cause serious burns.



KM370745

KM370745 —UN—16/JAN19

KM00321,000088B -19-16JAN19-1/1

# Attaching to a CLAAS Forage Harvester

## Compatibility Chart (Forage Harvester Types 492, 493, 494, 496, 497, and 498)

out the steps included in Section Prepare the Rotary Harvesting Unit.

**CAUTION:** Before attaching the rotary harvesting unit to a forage harvester, carry

The rotary harvesting unit is prepared for installation on the following CLAAS forage harvester types:

Compatibility chart rotary harvesting unit/CLAAS forage harvester

Type 492.....	820 830 840 850 860 870 880 890 900
Type 493.....	830 850 870 890 900
Type 496.....	840 850 860 870
Type 494/497/498 .....	930 940 950 960

KM00321.0000890 -19-17JAN19-1/1

## Ballasting Harvester

Before attaching the rotary harvesting unit, make sure harvester is ballasted correctly.

**IMPORTANT:** Always refer to the information given in **Wheels and Ballast Section of the forage harvester operator's manual.**

KM00321.0000204 -19-18AUG09-1/1

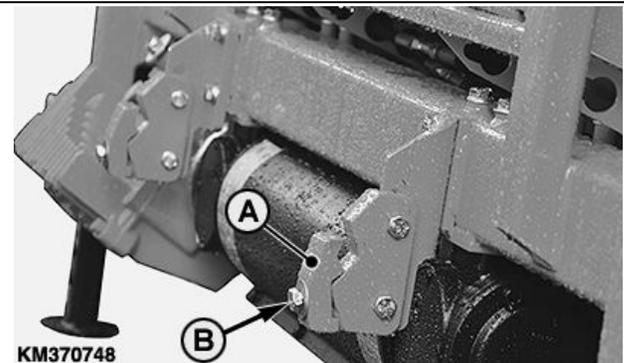
## Attaching to CLAAS Forage Harvesters

1. Remove the clamping piece (A) on both sides of the attaching frame of the rotary harvesting unit.

Loosen the screw (B) to do so.

A—Clamping piece

B—Screw



Continued on next page

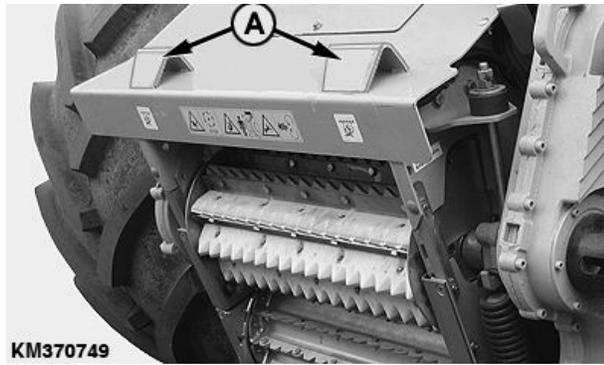
KM00321.0000896 -19-23JAN19-1/6

KM370748—UN—23JAN19

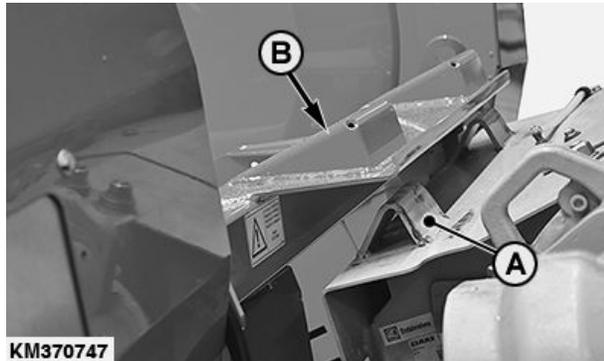
2. Drive the forage harvester close to the rotary harvesting unit's frame until latching hooks (A) protrude into brackets (B) of the attaching frame.
3. Lift the pressing rollers housing of the forage harvester until the rotary harvesting unit lies with the latching hooks (A) in the brackets (B).

A—Latching hooks

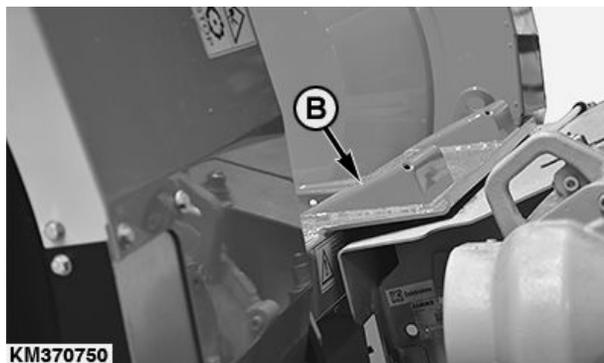
B—Brackets



KM370749 —UN—21JAN19



KM370747 —UN—21JAN19



KM370750 —UN—21JAN19

KM00321,0000896 -19-23JAN19-2/6

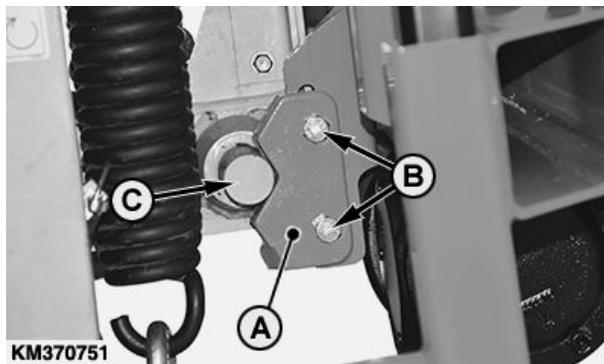
4. Engage the supporting claws (only for the first use):

**IMPORTANT:** The position of the supporting claw (A) must be adjusted to the initial attachment of the rotary harvesting unit.

- Unfasten screws (B).
- Adjust the supporting claw (A) so that the shaft (C) is centered in the supporting claw (A).
- Tighten screws (B).
- Repeat for the other side.

A—Locking pawl  
B—Screws

C—Shaft



KM370751 —UN—21JAN19

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KM00321,0000896 -19-23JAN19-3/6

5. Fit the clamping piece (A) on both sides.

**A—Clamping piece**



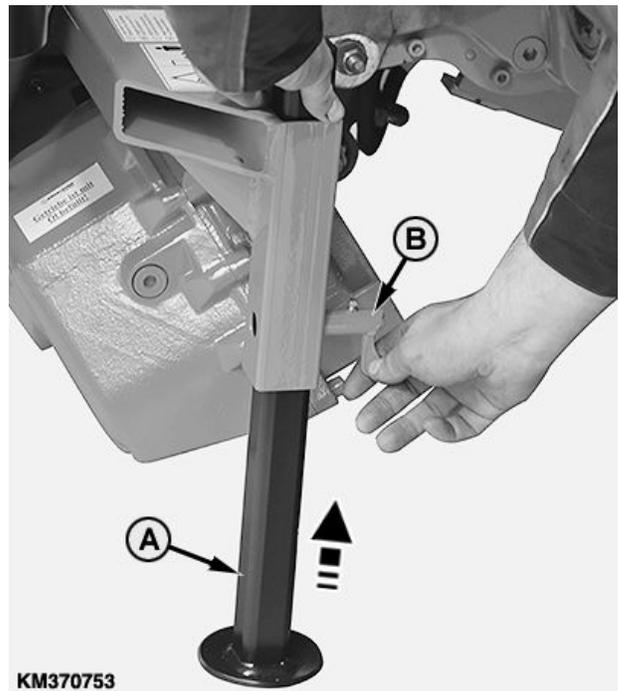
KM370752 —UN—21 JAN19

KM00321.0000896 -19-23JAN19-4/6

6. Raise the jackstand (A) on the left and right sides and secure it in the uppermost position with a spring-loaded pin.

**A—Jackstand**

**B—Spring-loaded pin**



KM370753 —UN—21 JAN19

KM00321.0000896 -19-23JAN19-5/6

7. Connect the hydraulic hoses (A) with the quick couplings on the forage harvester.

**A—Hydraulic hoses**



KM1000866 —UN—26 MAY09

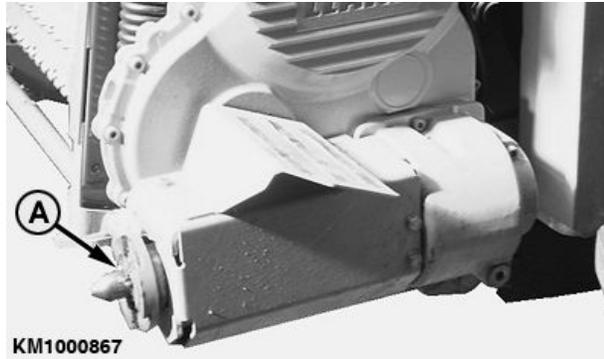
KM00321.0000896 -19-23JAN19-6/6

### Connecting the Drive (Forage Harvester Types 493, 494, 497 and 498)

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

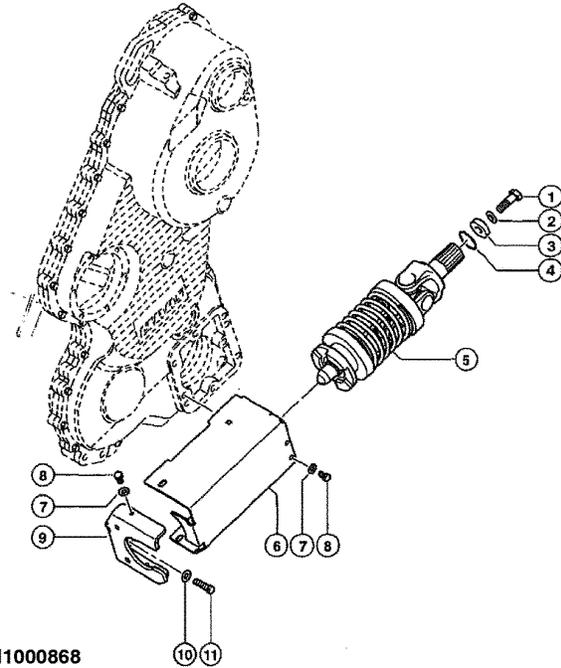
To do this, disassemble items 1 to 11.

A—Claw clutch



KM1000867

KM1000867 —JUN—26MAY09



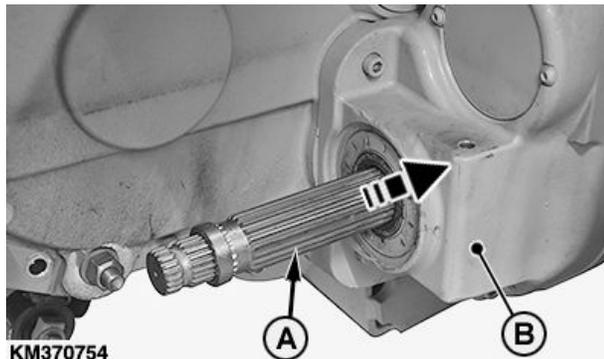
KM1000868

KM1000868 —JUN—26MAY09

KM00321,0000897 -19-28JAN19-1/9

2. Insert splined shaft (A) with grease in the splined bushing of the header drive (B) on the forage harvester.

A—Splined shaft



KM370754

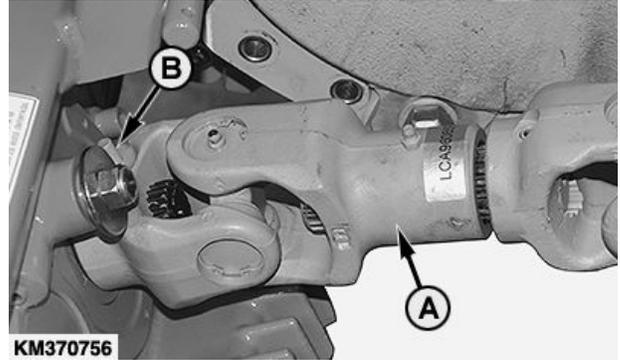
KM370754 —JUN—21JAN19

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KM00321,0000897 -19-28JAN19-2/9

3. Push the universal-jointed shaft (A) onto the transmission of the rotary harvesting unit until the sliding pin (B) engages.

A—Universal-jointed shaft      B—Sliding pin

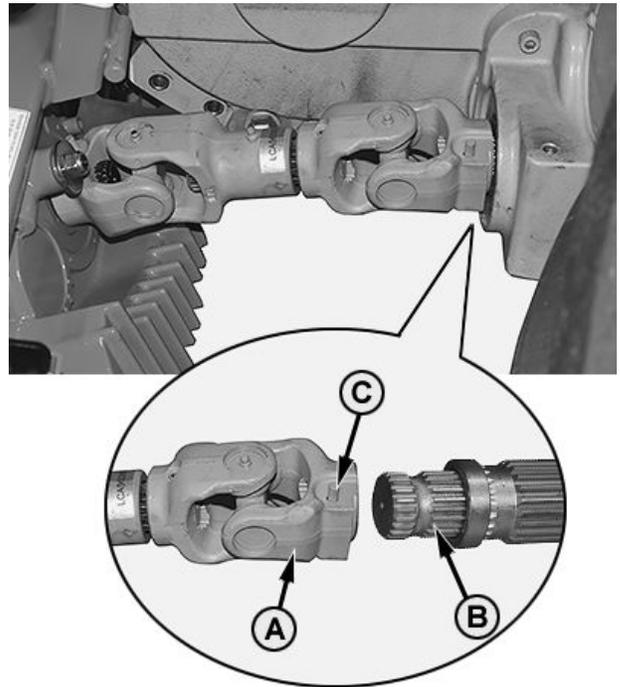


KM370756—UN—21JAN19

KM00321,0000897 -19-28JAN19-3/9

4. Press the sliding pin (C) and guide the splined shaft (B) so far into the universal-jointed shaft (A) until the sliding pin (C) engages.

A—Universal-jointed shaft      C—Sliding pin  
B—Splined shaft



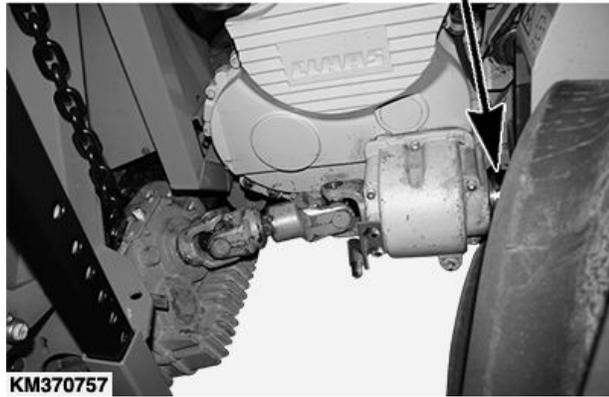
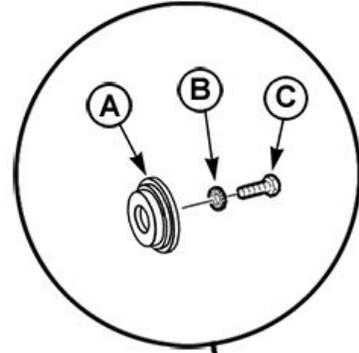
KM370755—UN—21JAN19

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KM00321,0000897 -19-28JAN19-4/9

- Secure the splined shaft with screw (C), tooth lock washers (B) and washer (A).

A—Screw  
 B—Tooth lock washer (3 pieces)  
 C—Holder



KM370757

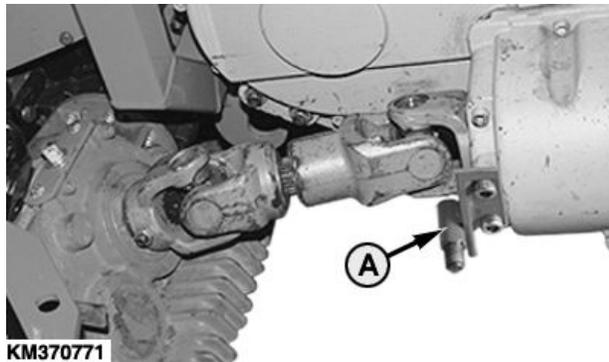
KM370757 —UN—21JAN19

KM00321,0000897 -19-28JAN19-5/9

### Installing the Universal-jointed Shaft Shield (Claas 493, 494 and 497)

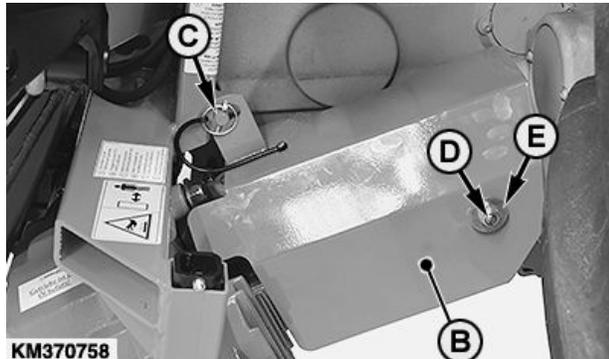
- Mount holder (A) with hex socket screws.
- Install the universal-jointed shaft shield (B) and secure with quick-lock pin (C) and lock nut (D).

A—Holder  
 B—Universal-jointed shaft shield  
 C—Quick-lock pin  
 D—retaining nut  
 E—Washer



KM370771

KM370771 —UN—23JAN19



KM370758

KM370758 —UN—21JAN19

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KM00321,0000897 -19-28JAN19-6/9

### Installing the Universal-jointed Shaft Shield (Claas 498)

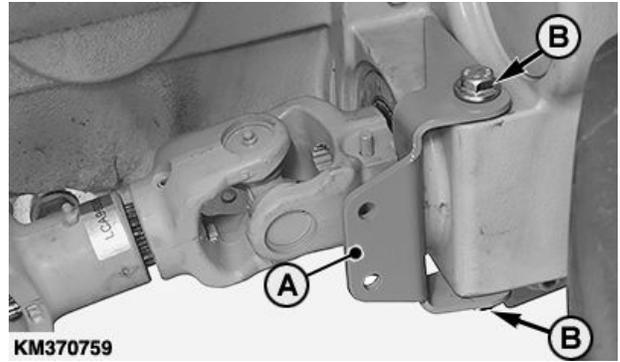
1. Fix adapter (A) with flange screws (B).

*NOTE: Insert washers (C) as needed.*

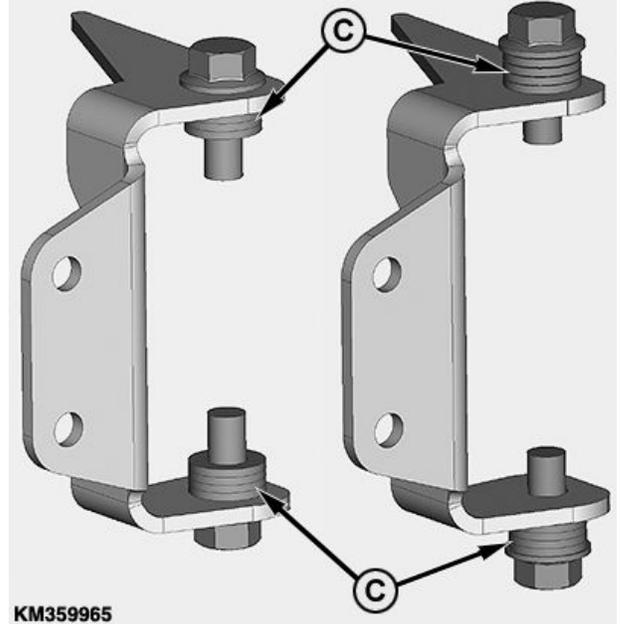
A—Adapter

C—Washers

B—Flange screw



KM370759



KM359965

KM00321,0000897 -19-28JAN19-7/9

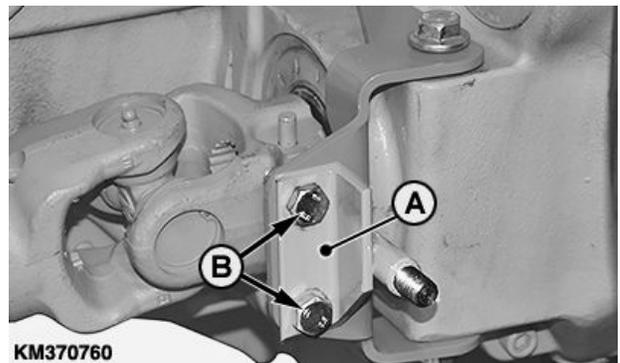
KM370759 —UN—21JAN19

KM359965 —UN—17DEC18

2. Install holder (A) with cap screws (B).

A—Holder

B—Cap screws



KM370760

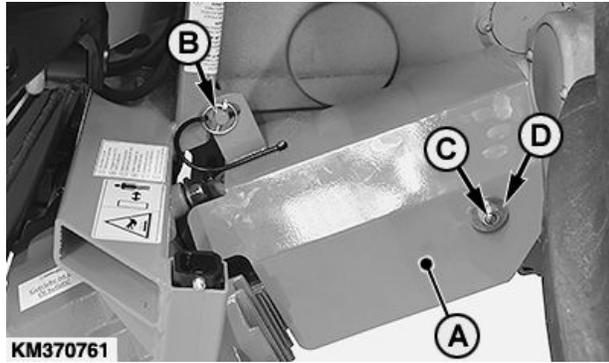
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KM370760 —UN—21JAN19

3. Install the universal-jointed shaft shield (A) and secure it with quick-lock pin (B) and lock nut (C).

A—Universal-jointed shaft shield  
 B—Quick-lock pin  
 C—retaining nut  
 D—Washer



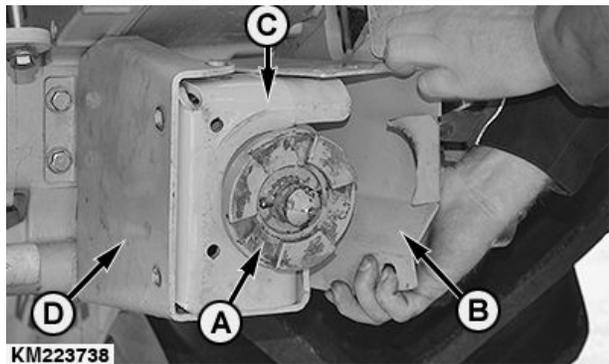
KM370761—UN—23.JAN19

KM00321,0000897 -19-28JAN19-9/9

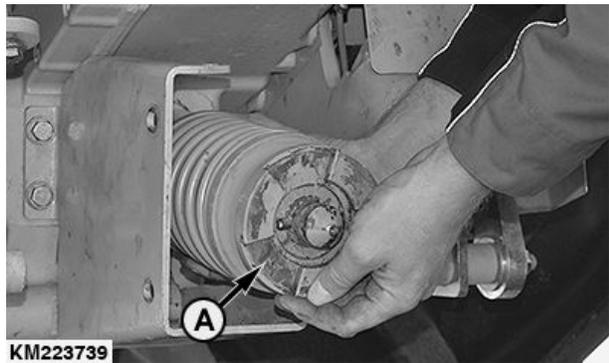
### Connecting the Drive (Forage Harvester Type 496)

1. Completely remove claw clutch (A) from forage harvester header drive.
2. To do this, remove plates (B), (C) and (D), and take off claw clutch (A).

A—Claw clutch  
 B—Plate  
 C—Plate  
 D—Plate



KM223738—UN—22OCT14



KM223739—UN—22OCT14

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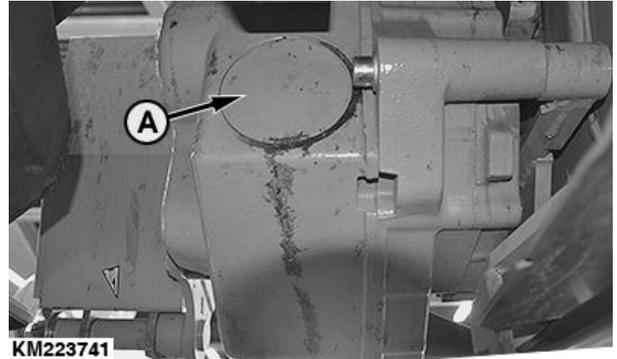
KM00321,0000898 -19-28JAN19-1/6

3. On the rear of the header drive, carefully force out the cap (A) using a 35 mm dia. shaft.

A—Cap



KM223740



KM223741

KM223740 —UN—22OCT14

KM223741 —UN—22OCT14

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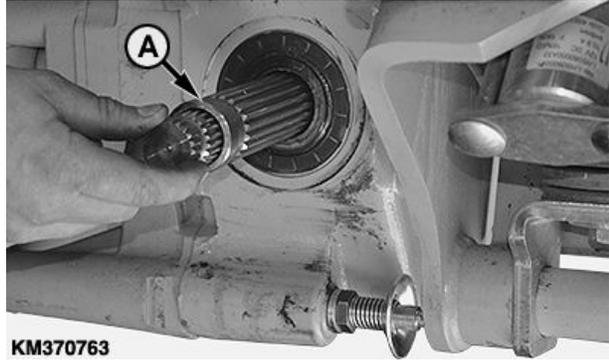
KM00321,0000898 -19-28JAN19-2/6

4. Insert the splined shaft (A) on the front of the header drive.
5. Secure it with bushing (B) on the back of the header drive.
6. Insert screw (C) with washer (D) and tighten it.

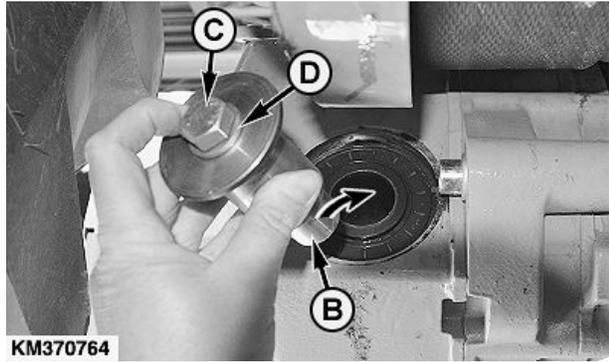
A—Splined shaft  
B—Bushing

C—Screw  
D—Tooth lock washer

KM370762 —UN—23JAN19



KM370763



KM370764

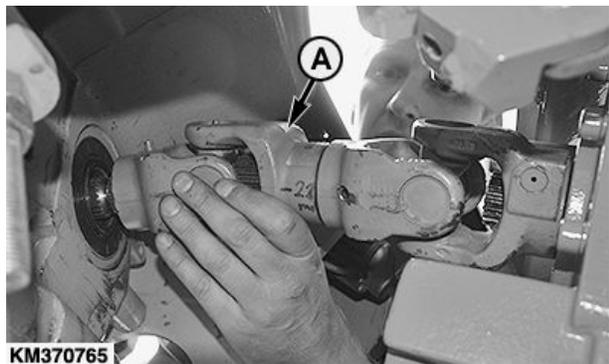
KM370763 —UN—23JAN19

KM370764 —UN—23JAN19

KM00321,0000898 -19-28JAN19-3/6

7. Mount the universal-jointed shaft (A) and secure it with sliding pins on both sides.

A—Universal-jointed shaft



KM370765

KM370765 —UN—23JAN19

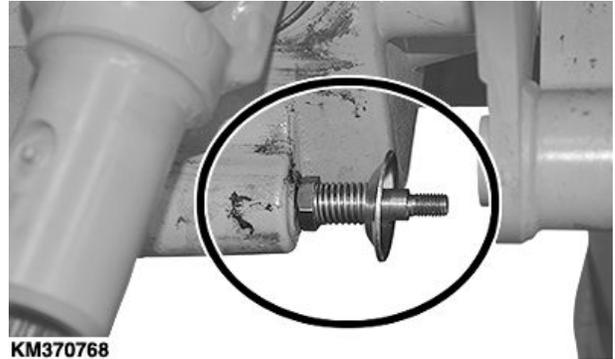
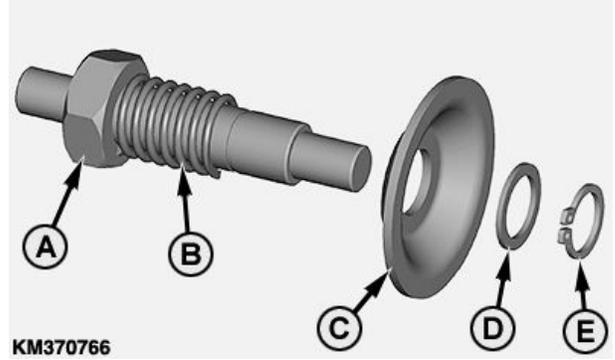
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KM00321,0000898 -19-28JAN19-4/6

### Installing the Universal-jointed Shaft Shield (Claas 496)

1. Pre-assemble the bracket and install it on the header drive of the forage harvester.

A—Shaft	D—Washer
B—Compression spring	E—Snap ring
C—Washer	



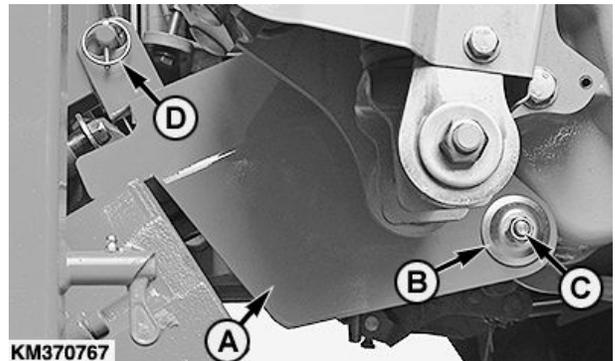
KM370766 —UN—23JAN19

KM370768 —UN—23JAN19

KM00321.0000898 -19-28JAN19-5/6

2. Install the universal-jointed shaft shield (A) and secure it with washer (B), lock nut (C) and quick-lock pin (D).

A—Universal-jointed shaft shield	C—retaining nut
B—Washer	D—Quick-lock pin



KM370767 —UN—23JAN19

KM00321.0000898 -19-28JAN19-6/6

### 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).

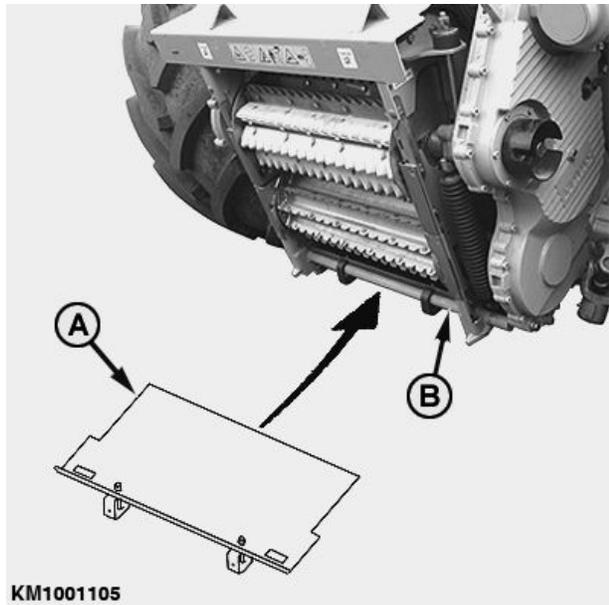
#### Installation:

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



KM1001105 —UN—10FEB10

KM00321.000026B -19-25FEB10-1/1

# Attaching to a NEW HOLLAND Forage Harvester

## Compatibility Chart

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

The rotary harvesting unit is prepared for installation on the following NEW HOLLAND forage harvester types:

Compatibility chart for rotary harvesting unit/NEW HOLLAND forage harvester

445 Rotary Harvesting Unit.....	FX 30
	FX 40
	FX 50
	FX 60

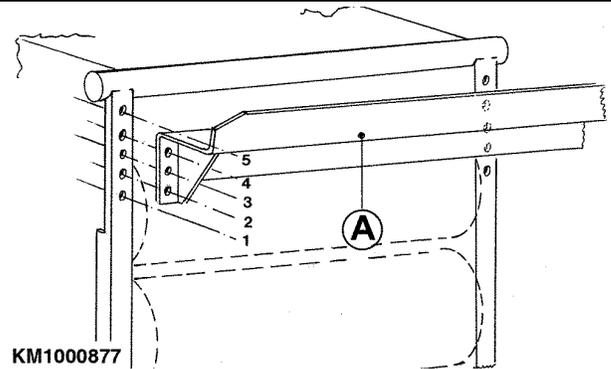
KM00321.0000891 -19-17JAN19-1/1

## Installing Mounting Rail

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

Fix the mounting rail (A) to the feed roll housing in the middle hole pattern 2, 3 and 4.

A—Mounting rail



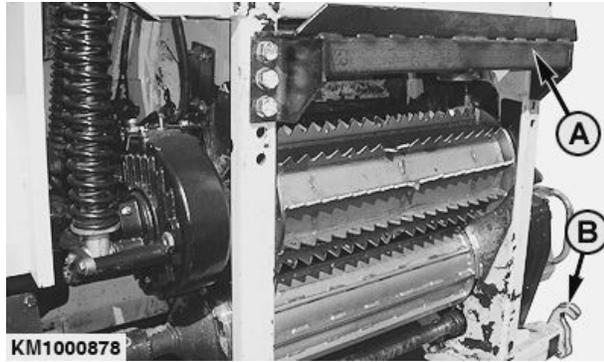
KM00321.0000893 -19-17JAN19-1/1

### Attaching to a NEW HOLLAND Forage Harvester

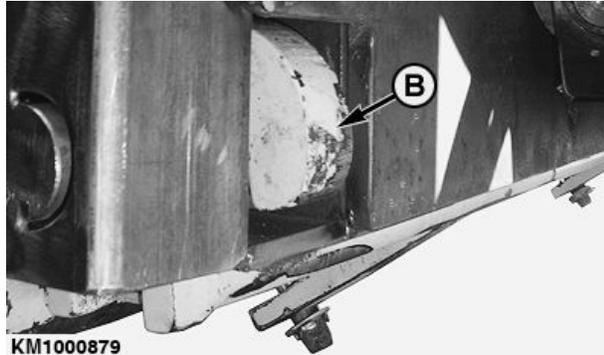
1. Drive the forage harvest slowly forward until the mounting rail (A) lies in the attaching frame of the rotary harvesting unit. Then raise the front shield and engage the rotary harvesting unit.
2. At left and right, engage retainer hooks (B) into the receiver openings of the attaching frame provided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

A—Mounting rail  
B—Retaining hook

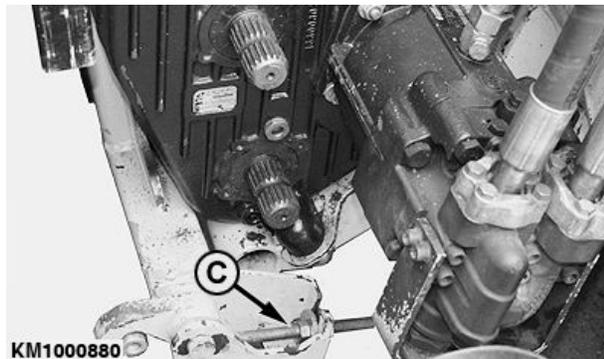
C—Threaded rod



KM1000878 —UN—27MAY09



KM1000879 —UN—27MAY09



KM1000880 —UN—27MAY09

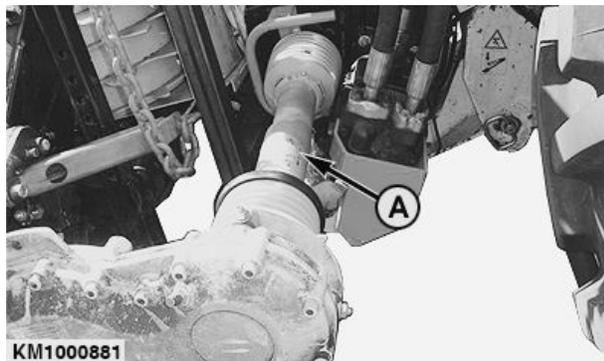
KM00321,0000894 -19-17JAN19-1/1

### Connecting the Driveshaft

The driveshaft (A) connected to the feed roll housing and the drive of the rotary harvesting unit.

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

A—Driveshaft



KM1000881 —UN—27MAY09

KM00321,0000895 -19-17JAN19-1/1

### Install Guards for U.J. Shaft on Forage Harvester

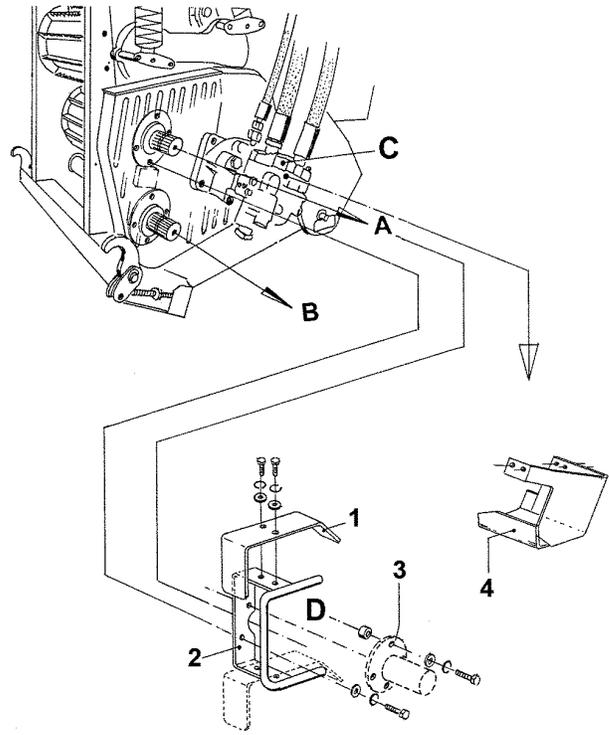
Cover both splined shafts (A) and (B) with protective guard (D).

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

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

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

- |                    |                     |
|--------------------|---------------------|
| A—Splined shaft    | 1— Cover plate      |
| B—Splined shaft    | 2— Strap            |
| C—Hydraulic motor  | 3— Shaft guard      |
| D—Protective guard | 4— Protective cover |



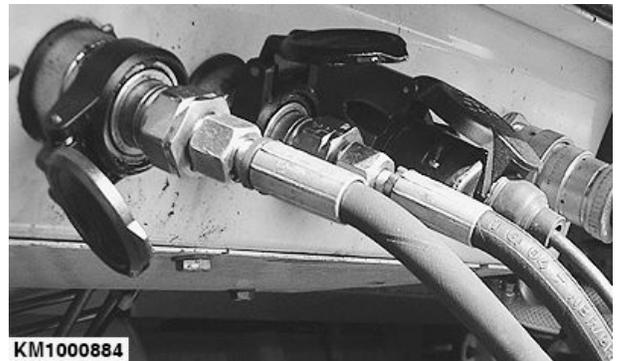
KM1000882

KM1000882—UN—27MAY09

KM00321,000017F -19-27MAY09-1/1

### Connect Hydraulic Hoses

Connect hydraulic hoses to the forage harvester.



KM1000884

KM1000884—UN—27MAY09

KM00321,0000180 -19-27MAY09-1/1

# Transport

## 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

## Accident Prevention

The entire area around the divider must be covered with a folding protection when driving on public roads.

### Installation of the folding accident protection (A):

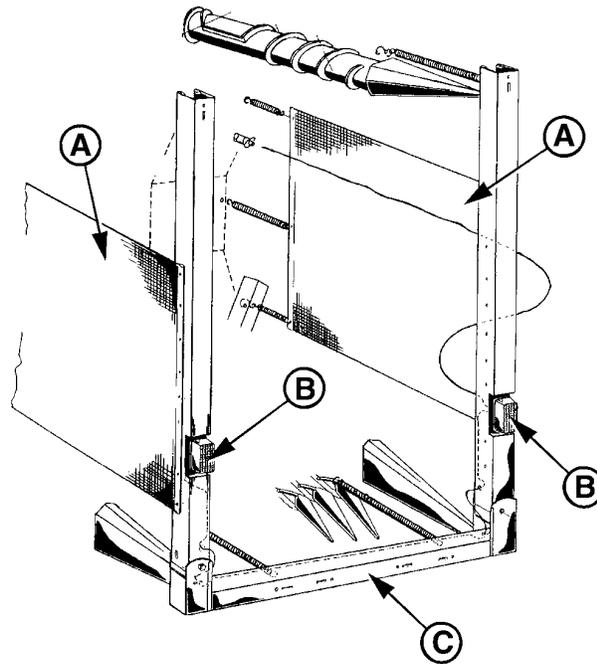
1. After the rotors have come to a stop, fold the side mowing units.
2. Put the folding accident protection in a central position and hook the springs.
3. Fold up the protection profiles on the side and secure them with springs.
4. The runners, blades and other edges are covered with protective curtains (A).

### Headlights and turn-signal lights on the sides:

Since the headlights and turn-signal lights on the sides of the forage harvester are usually covered by the collapsed feeder house drums, the safety device has two double position/turn-signal lights (B). For the 12 V power supply, connect the 7-pin connector to the corresponding socket on the forage harvester.

### Ground clearance:

When driving on public roads, the forage harvester must be raised so that the safety device (C) is approx. 300 mm (1 ft) above the ground in front.



KM1000200

KM1000200 —UN—08NOV07

A—Protective curtains  
B—items-/turn-signal lights

C—Safety devices

KM00321,000088D -19-16JAN19-1/1

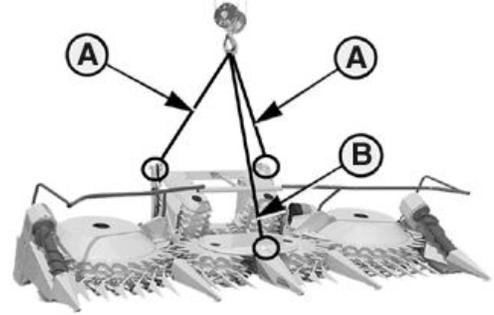
### Hanging Points

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

Make sure to use chains or slings that meet the weight requirements of the rotary harvesting unit (see "Technical Specifications" section).

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 slings with the correct length (See Figure).



KM1000201

A—1,400 mm (4 ft. 7.08 in.)

B—1,600 mm (5 ft. 2.88 in.)

KM00321.000088E -19-16JAN19-1/1

KM1000201 —UN—07NOV07

### Folding the Rotary Harvesting Unit

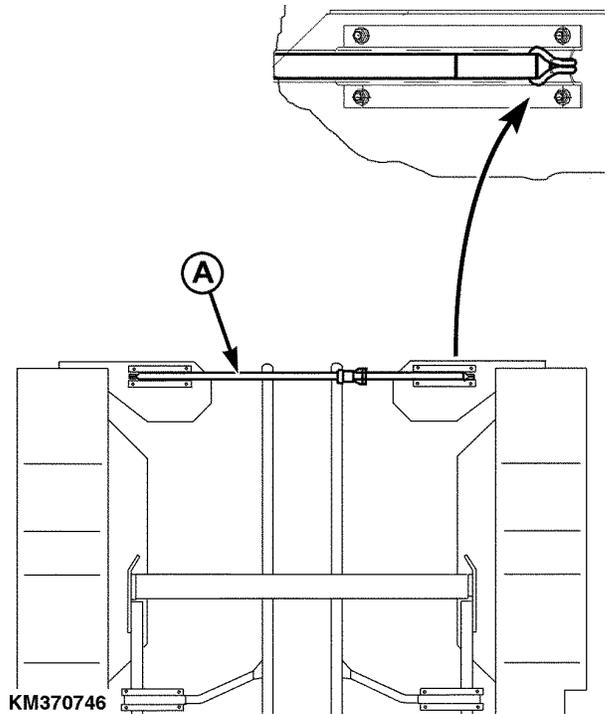
**CAUTION:** When driving on public roads, either at night or during the day, always comply with the relevant traffic regulations concerning warning equipment, lights and safety. See the "Safety" section.

Fold the outer mowing units for transport according to the local regulations.

When driving on public roads, the raised feeder house drums must be secured by a tensioning strap (C) in order to prevent unintentional lowering.

**NOTE:** The tensioning strap (A) is supplied along with the rotary harvesting unit.

A—Tensioning strap



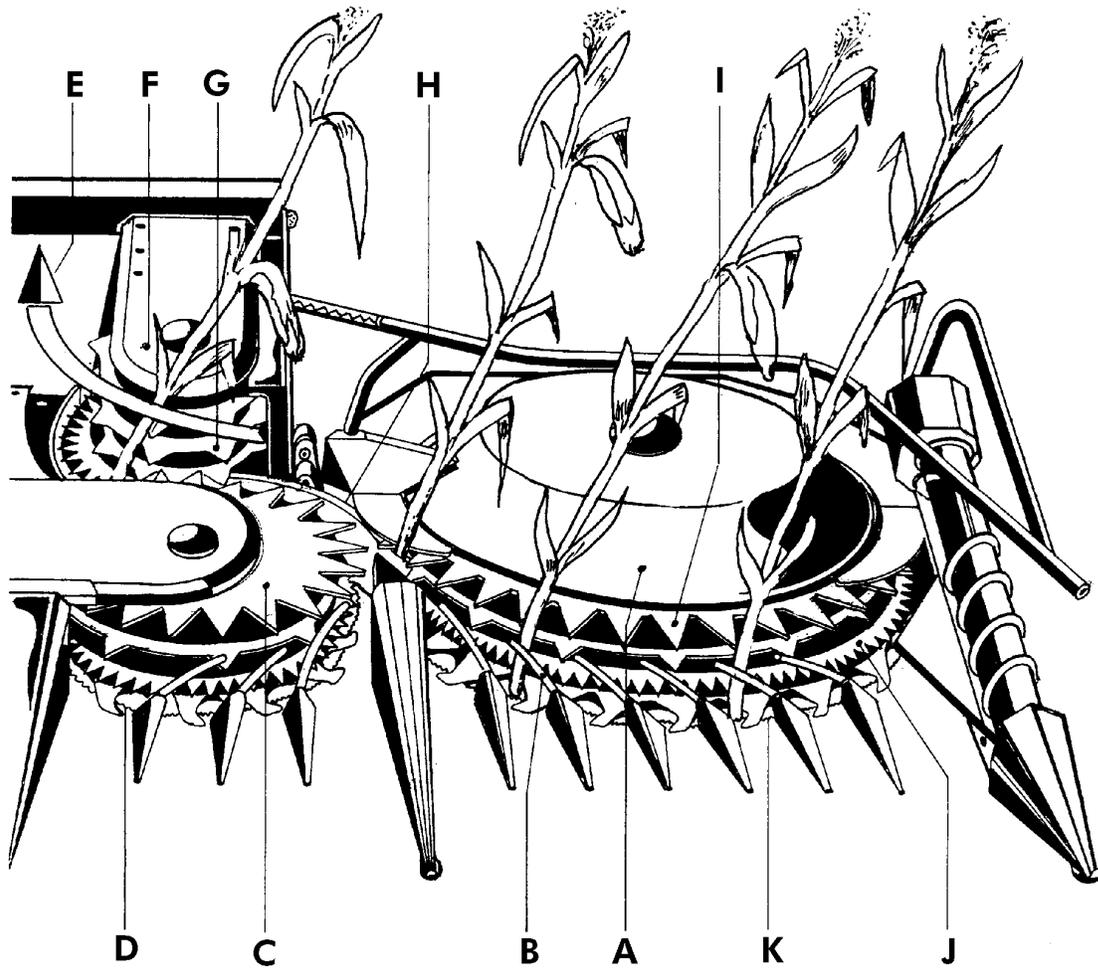
KM370746

KM00321.000088F -19-28JAN19-1/1

KM370746 —UN—16JAN19

# Operating the Rotary Harvesting Unit

## Principle of Operation of the 445 Rotary Harvesting Unit



ZX007019

A—Feeder house drum  
B—Intake bars  
C—Feeder house drum

D—Rotating blade  
E—Direction of crop  
F—Feed drum

G—Feed teeth  
H—Guides and scrapers  
I—Feed teeth

J—Row of teeth  
K—Rotating blade

The cutting system allows the crop to be harvested from any direction. It does not matter from which direction the harvester approaches the row. They can be approached end-on, at right angles or at an oblique angle if so desired. The cutting system can cut six narrow or four wide rows. None of the stalks can escape the area covered by the rotating blades. Although no stationary knife is used, the fast rotating rotary blades (D) cut all the stalks within the entire width of the rotary harvesting unit. The slowly

rotating feeder house drums (A) pass the stalks along the intake bars (B). The stalk is seized by the row of feed teeth (J) as if by a gripper. The forward motion of the feeder house 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 drums (F). Here the stalks come into contact with the feed teeth (G). From here, the stalks are transported in a constant and compacted stream in direction (E) to the forage harvester's feed roll.

KM00321,0000899 -19-22JAN19-1/1

ZX007019—UN—21MAR95

## Operating the Rotary Harvesting Unit - General Use

### Starting the Forage Harvester

Starting up the forage harvester, switching on the cutterhead and rotary harvesting unit, and reversing the feed rolls should always take place with the engine running at idle speed (see forage harvester operator's manual for details). The rotary cutters do not move (due to overrun devices).

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

### Operating the Rotary Harvesting Unit

Once the cutterhead is turning at the correct speed, and the rotary cutters are at the appropriate speed, drive into the standing crop.

Ground speed varies depending on the density of the crop, crop type and the performance of the forage harvester.

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

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

KM00321.000020F -19-24AUG09-1/1

## Clear Blockages

**CAUTION: Risk of serious injury! Never attempt to clear blockages in the rotary harvesting unit by hand while the unit is running. First shut off**

**the forage harvester's engine, and wait until all moving parts have come to a stop.**

During harvesting, most blockages can be cleared by briefly reversing the gathering drums.

KM1001192 -19-09JUN09-1/1

## Clear Blockages on CLAAS Forage Harvesters

When blockages occur, the gathering drums can be stopped and then reversed.

### To clear blockages:

- Stop driving the machine.
- Drive the forage harvester backwards a short distance.
- Briefly press button (A) and wait until feeder and rotary harvesting unit have stopped.
- Press button (A) again and hold until the blockage is cleared.

*NOTE: The reversing process takes place as long as button (A) is pressed.*

**CAUTION: Risk of serious injury! Never attempt to clear blockages in the rotary harvesting unit by hand while the unit is running. First shut off the forage harvester's engine, and wait until all moving parts have come to a stop.**

A—Button



KM1001192

KM1001192—UN—28APR10

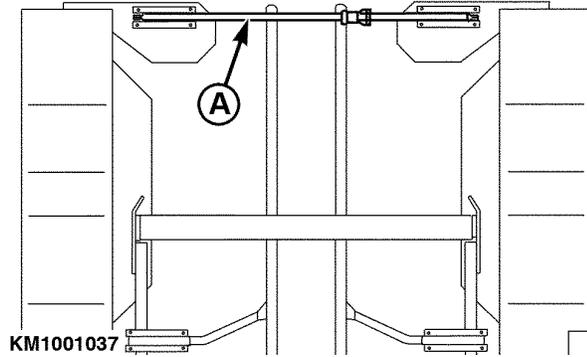
KM00321.0000198 -19-29JUN12-1/1

### Removing the Tensioning Strap

Remove the tensioning strap (A).

**NOTE:** Do NOT throw away the tensioning strap (A). Reinstall the tensioning strap (A) when driving on public roads so that the outer mowing units do not lower.

A—Tensioning strap



KM1001037 —UN—13NOV09

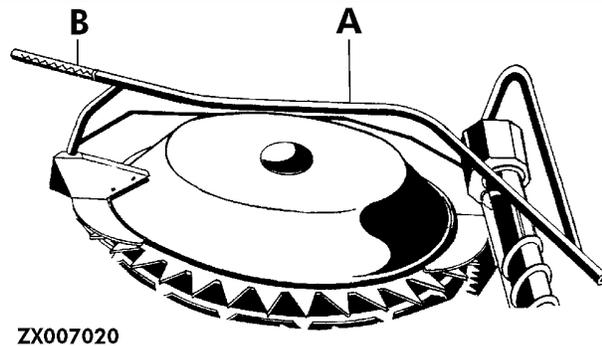
KM00321,000089A -19-22JAN19-1/1

### Adjusting the Feed Bar

**CAUTION:** The tube ends (B) of the feed bar are spring-loaded to allow for the transport position. Never use the tube ends as handles!

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

**NOTE:** Do not raise the feed bars so high that they collide with each other in the transport position.

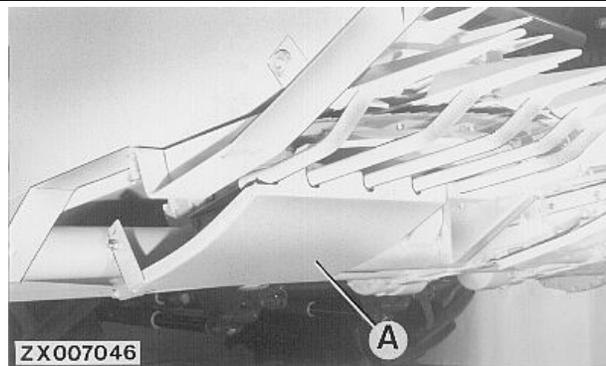


ZX007020 —UN—23MAR95

ZX,676RHU003845 -19-20JAN95-1/1

### Skid Plates

To allow the crop to be cut as close to the ground as possible without clogging the harvesting unit with soil, the underside of the rotary harvesting unit is equipped with four skid plates (A). The two outer plates located under the foldable mowing units, are wider than the plates in the middle and can be adjusted in height.



ZX007046 —UN—21MAR95

KM00321,000089B -19-22JAN19-1/1

## Operating the Rotary Harvesting Unit

### Starting the Forage Harvester

Starting up the forage harvester, switching on the cutterhead knife and rotary 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). The rotating blades are equipped with a freewheel and do not move.

Engage forward gear at idle speed only. This prevents unnecessary wear of the slip clutches.

### Normal Operating Conditions

Once the cutterhead knife is turning at the correct speed, and the rotating blades have reached the appropriate speed, drive into the standing crop.

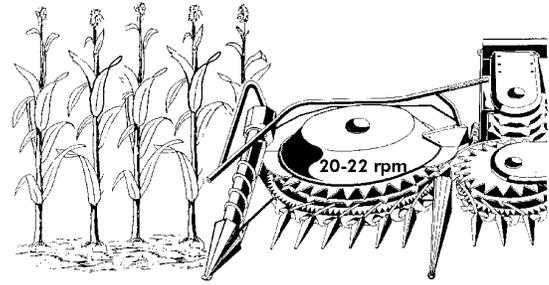
Ground speed depends on crop density, crop type and power of the forage harvester.

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

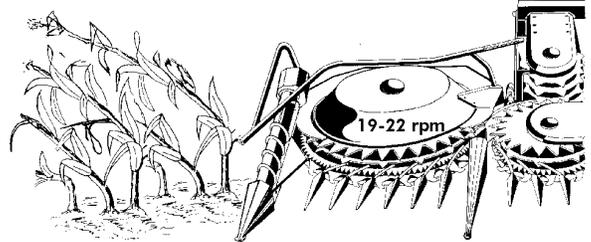
### Reversing the Rotary Harvesting Unit

If there is clogging, stop the chopper and reverse press rolls shortly without having to stop the rotating blades. The rotating blades cannot run backwards (because of the freewheel).

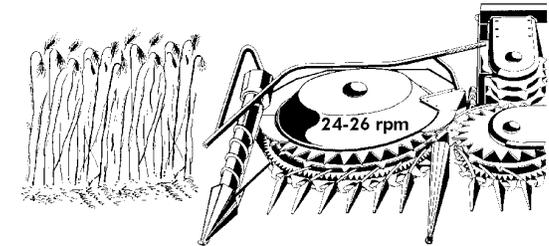
**CAUTION:** If clogging is removed by hand, first switch off the engine, remove the ignition key and wait until all moving parts have come to standstill.



ZX007021



ZX007022



ZX007023

KM00321,000089C -19-22JAN19-1/1

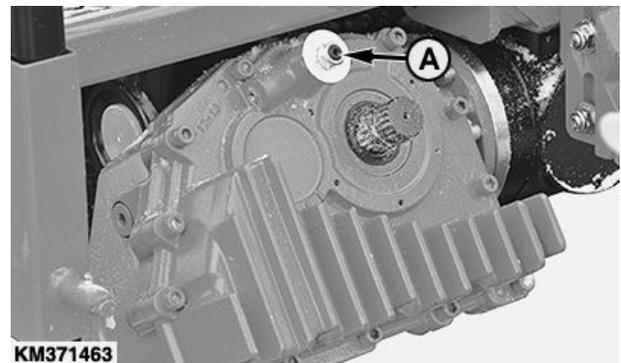
## Adjusting the Lengths of Cut in Conjunction with CLAAS Forage Harvester

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

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

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

- Shift lever (A) inserted (as shown): First gear
- Shift levers (A) pulled out: Second gear



KM371463

A—Shift lever

KM00321,00008A5 -19-23JAN19-1/1

### Overview of the Length of Cuts for CLAAS Forage Harvesters of the Types 493-498

*NOTE: The grayed out lengths of cut may under certain circumstances lead to problems in the material flow.*

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

Lengths of cut in mm															
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Gear selection (2-speed manual transmission)															
24/28 cutterhead	-	-	1	1	1	1	1	2	2	2	2	2	2	2	2

Lengths of cut in mm															
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Gear selection (2-speed manual transmission)															
36-knife cutterhead	1	1	1	2	2	2	2	2	-	-	-	-	-	-	-

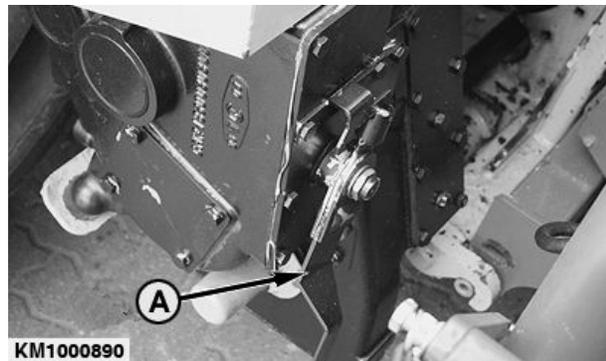
KM00321,00008A0 -19-23JAN19-1/1

### Length-of-Cut Adjustment with NEW HOLLAND 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 33 rpm. This is equivalent to an input speed at the drive gear of the rotary harvesting unit of max. 620 rpm.

The shift lever (A) for the cutting length is located in the direction of travel right next to the press roll housing.

With the switch set to high (H) or low (L), the drive speed of the rotary harvesting unit changes (see table below).



KM1000890

A—Shift lever

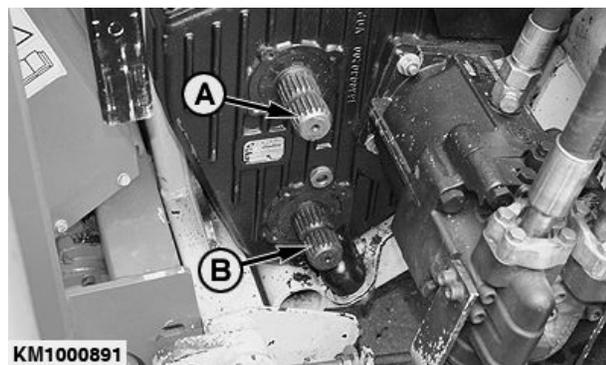
60N01  
KM1000890 —UN—08JUN09

KM00321,00008A1 -19-22JAN19-1/3

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

A—Driveshaft

B—Driveshaft



KM1000891

60N01  
KM1000891 —UN—08JUN09

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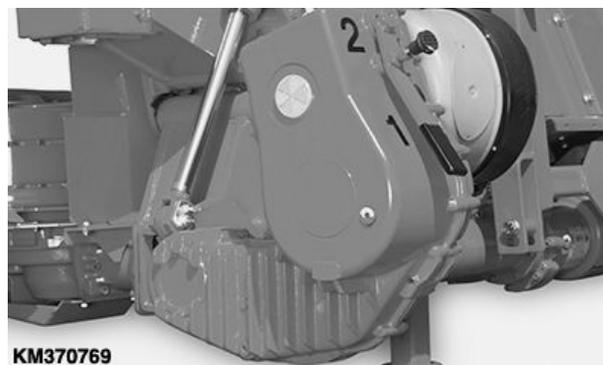
KM00321,00008A1 -19-22JAN19-2/3

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

**IMPORTANT: The drum speed must not exceed 33 rpm!**

A—1st gear

B—2nd gear



KM370769

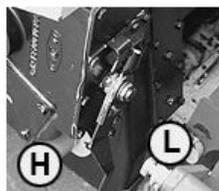
KM370769 —UN—22JAN19

KM00321,00008A1 -19-22JAN19-3/3

**Lengths of Cut and Drum Speeds with NEW HOLLAND Forage Harvester**

Cutterhead with 12 Knives (FX 30, FX 40, FX 50 and FX 60)

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

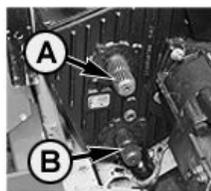


KM370770

I



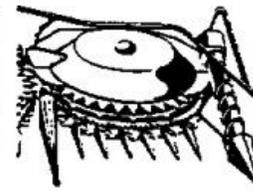
II



III



IV



V

KM370770 —UN—22JAN19

I—Forage harvester, gear	II—Length of cut, cutterhead with 12 knives	III—Driveshaft A/B	IV—Rotary harvesting unit, gear	V—Feeder house drum speed
L	4 mm	A	1	12
	5 mm	A	1	15
	6 mm	A	1	18
	7 mm	A	1	21
	8 mm	A	1	24
	9 mm	A	1	27
H	10 mm	A	1	30
	8 mm	B	2	23
	9 mm	B	2	26
	10 mm	B	2	28
	11 mm	B	2	31
	12 mm	B	1	26
	13 mm	B	1	28
	14 mm	B	1	30
	15 mm	B	1	32
	16 mm	A	2	28
	17 mm	A	2	30
	18 mm	A	2	31
	19 mm	A	2	33
20 mm	A	1	26	

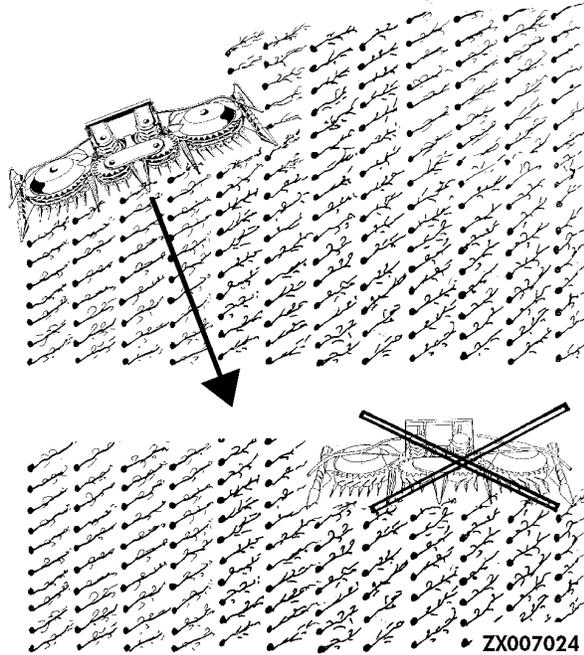
KM00321,00008A2 -19-23JAN19-1/1

### 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.

Usually, it is recommended to start harvesting the crop at a right angle to the direction of the plants.

Quickly drive to the crop, where the feeder house drum should run as slowly as possible. The most even crop flow is obtained in this way.



ZX007024 —UN—23MAR95

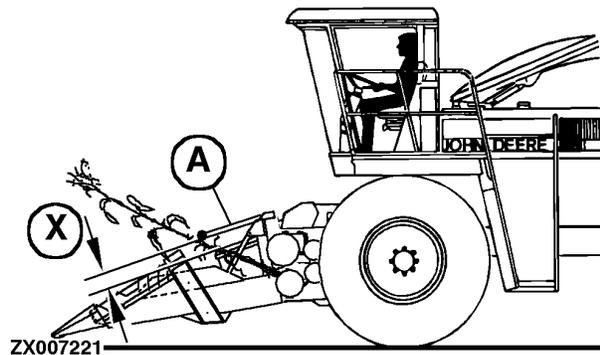
KM00321,000089D -19-22JAN19-1/1

### Harvesting Short Stalks with Corn

When harvesting short stalky corn, drive with maximum speed into the crop.

Lower the feed bar (A), so that the stems do not meet the press feed roll vertically.

Set the feed bar (A) to the level (X = 70 mm, 2.75 in.).



ZX007221 —UN—23MAR95

KM00321,000089E -19-22JAN19-1/1

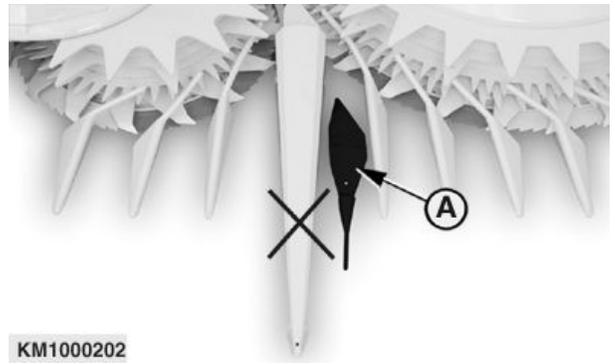
### Whole Crop Silage (WCS)

For harvesting the whole crop silage, install special mounting kit as follows, which is available from a spare parts dealer:

1. Remove the divider points between the two feeder house drums (left and right) including the bearing support and replace them with the short GPS divider points (A).
2. Align the two outer divider points in their upper position and fix them with screws on the smaller bracket (B).

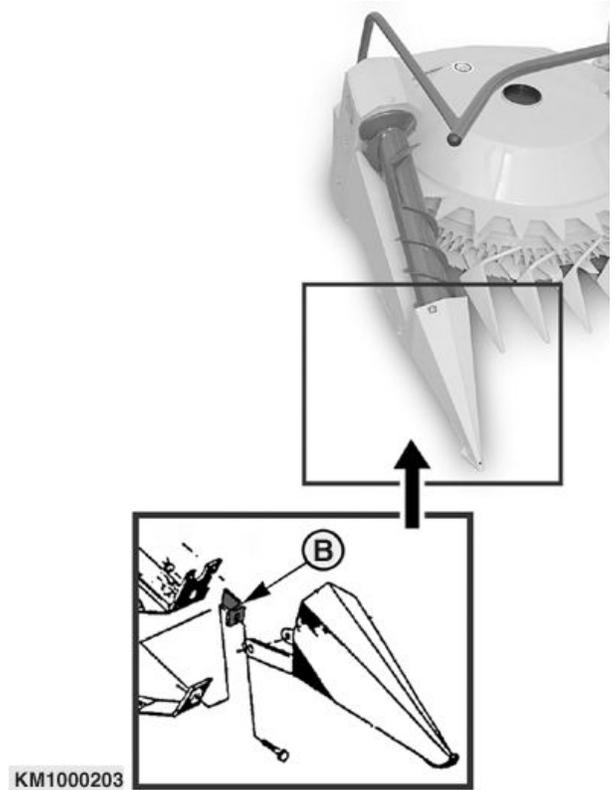
A—WCS tips

B—Angle



KM1000202

KM1000202—UN—07NOV07

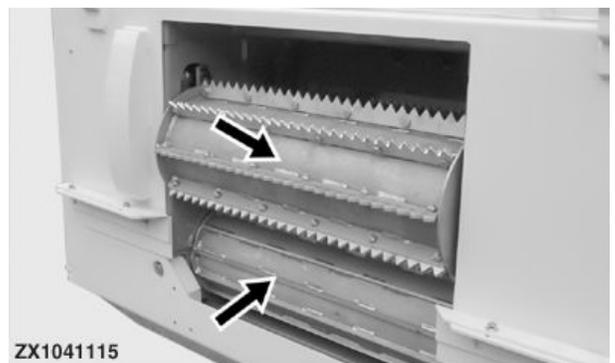


KM1000203

KM1000203—UN—07NOV07

KM00321.000089F -19-22JAN19-1/2

3. For harvesting thin stems-plants (see operating instructions of the forage harvester) the spring tension of the front feed rolls must be reduced.



ZX1041115

ZX1041115—UN—19SEP07

KM00321.000089F -19-22JAN19-2/2

# Additional Equipment

## Special Kit for Row Guidance (Steering Assistance)

When driving 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:

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

KM00321,0000382 -19-27JAN15-1/1

## 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.

The kit is composed of:

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

OUC002,0002861 -19-06NOV07-1/1

# Troubleshooting

## 445 Rotary Harvesting Unit

**remove ignition key and wait until all moving parts have come to a stop.**

**⚠ CAUTION:** Before carrying out adjustment or maintenance work, ALWAYS shut off engine,

Symptom	Problem	Solution
<b>Power requirement becomes excessively high</b>	Rotating blades are dull	Replace segments.
	Defective cleaners	Install new cleaners.
<b>Rotating blades do not rotate evenly</b>	Leaf collection under the rotors, dirt in the rotor area	Clean the rotating blades daily or as often as required when the machine is in continuous operation.
	Defective cleaners	Install new cleaners.
<b>Rotary harvesting unit is vibrating</b>	Imbalance caused by asymmetrical rotating blade segments	Replace blade rotor segments in pairs (two each, since they are mounted directly opposite one another).
	One of the cleaners is damaged	Replace both cleaners.
	Imbalance caused by dirt on the rotating blade	Clean the rotor.
	Excessive vertical play of rotating blade	Realign and tighten or install new blade rotor segments.
<b>Accumulation of husks at the scrapers Stalks are pushed to the front before they are cut (long, uneven stubble)</b>	Scrapers not aligned correctly	See chapter "Maintenance".
	Leaves accumulated at the small dividers	Clean the dividers.
	One of the cleaners is damaged	Replace both cleaners.
	Rotating blades are dull	Replace segments.
<b>Transmission overheating</b>	Excessive transmission oil present	Check the transmission oil level.
	Incorrect oil level	Check the transmission oil level.
<b>Feeder house or feed drums have stopped rotating (rotating blades are still rotating)</b>	Accumulation of crop in the feeding area	Let it reverse briefly. If necessary, repeat the procedure.
	Loosely screw on friction clutch	Tighten the screw.
	Dirty or worn friction pads	Clean or replace brake pads.
	Defective transmission	Contact a KEMPER dealer.
<b>The large feeder house drums and rotating blades stop rotating automatically</b>	Defective claw clutch (shift collar)	Contact a KEMPER dealer.

Continued on next page

KM00321.00008A3 -19-22JAN19-1/2

## *Troubleshooting*

<b>Symptom</b>	<b>Problem</b>	<b>Solution</b>
<b>The entire left or right side of the rotary harvesting unit is no longer starting up</b>	Left or right friction clutch defective	Contact a KEMPER dealer.
<b>Obstruction in hydraulic system of outer mowing unit</b>	A foreign body (e.g. grain of sand) is obstructing the restrictor	Contact a KEMPER dealer.
<b>Bad cut with wide row spacing</b>	The middle row of plants is located in the middle of the rotary harvesting unit, if 5 rows are approached	Approach only four rows if they are far apart. Contact a KEMPER dealer.

KM00321,00008A3 -19-22JAN19-2/2

# Lubrication and Periodic Service

## 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

## Grease

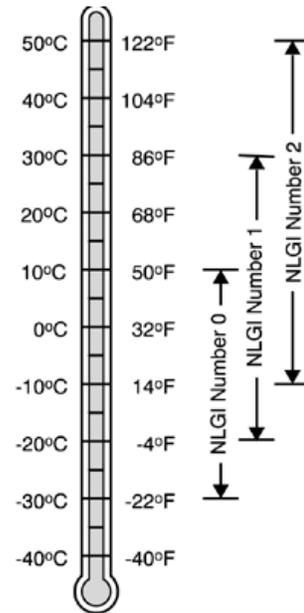
Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

AVIA AVIALITH 2 EP grease is recommended.

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. Contact your lubricant supplier before mixing various types of lubricants.



KM1000899

KM1000899—UN—09JUN09

KM00321,00002CB -19-03MAY10-1/1

## Fluid Grease for Drives

The spur gear angle drives of the feed drums are filled with fluid grease.

The following fluid greases are recommended:

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

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

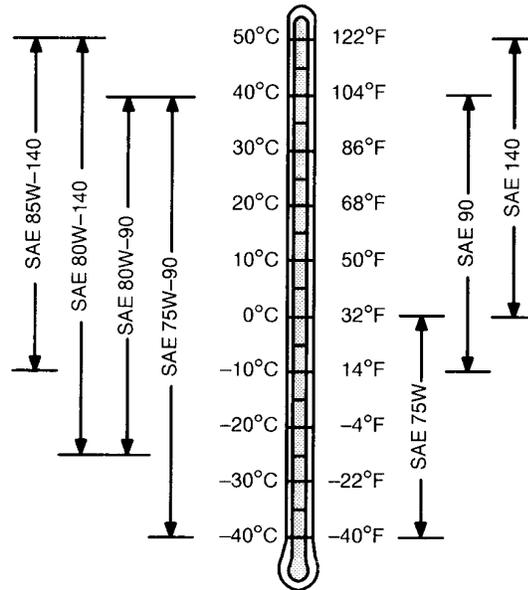
NLGI Service Classification NLGI 00

KM00321,00002CC -19-30APR10-1/1

## 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.



TS1653—UN—14MAR96

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

## Coolant for the Friction Clutch of the MGC (Main Gear Case)

The cooling system of the MGC friction clutch is filled to provide protection for a full year against corrosion and freeze protection up 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 such quality that it protects the cast iron in the cooling system from cavitation corrosion.

A 50:50 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.

The water quality is important for proper working of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol based coolant concentrate.

### Intervals for Coolant Change

After 3 years or 3,000 hours of operation, drain the coolant filling in the friction clutch of the MGC (main gear case), and fill it with new coolant. At each interval, drain the coolant, flush the cooling system and fill it with fresh coolant.

KM00321,00008A6 -19-23JAN19-1/1

### 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.

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

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

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

DX,LUBST -19-11APR11-1/1

### At the Start of Every Harvesting Season

Before putting the harvester into operation, carry out a general check of the friction clutches in the main drive, and do a check on the gatherer drums. In the "Service" section, see "Relieving Pressure at the Slip Clutches on the Main Drive".

Run the rotary harvesting unit for a few minutes. Then check all the bearings. If overheating or excessive play is found, replace the relevant bearings before operating the rotary harvesting unit.

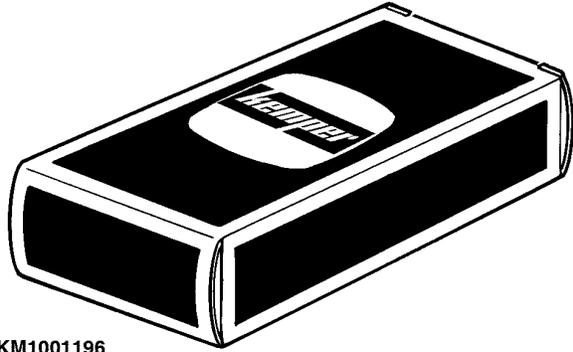
OUKM001.0000014 -19-15FEB05-1/1

### Use Genuine KEMPER Parts

Genuine KEMPER parts have been specifically designed for KEMPER machines.

Other parts are neither examined nor released by KEMPER. Installation and use of such products could have negative effects upon the design characteristics of KEMPER machines and thereby affect their safety.

Avoid this risk by using only genuine KEMPER parts.

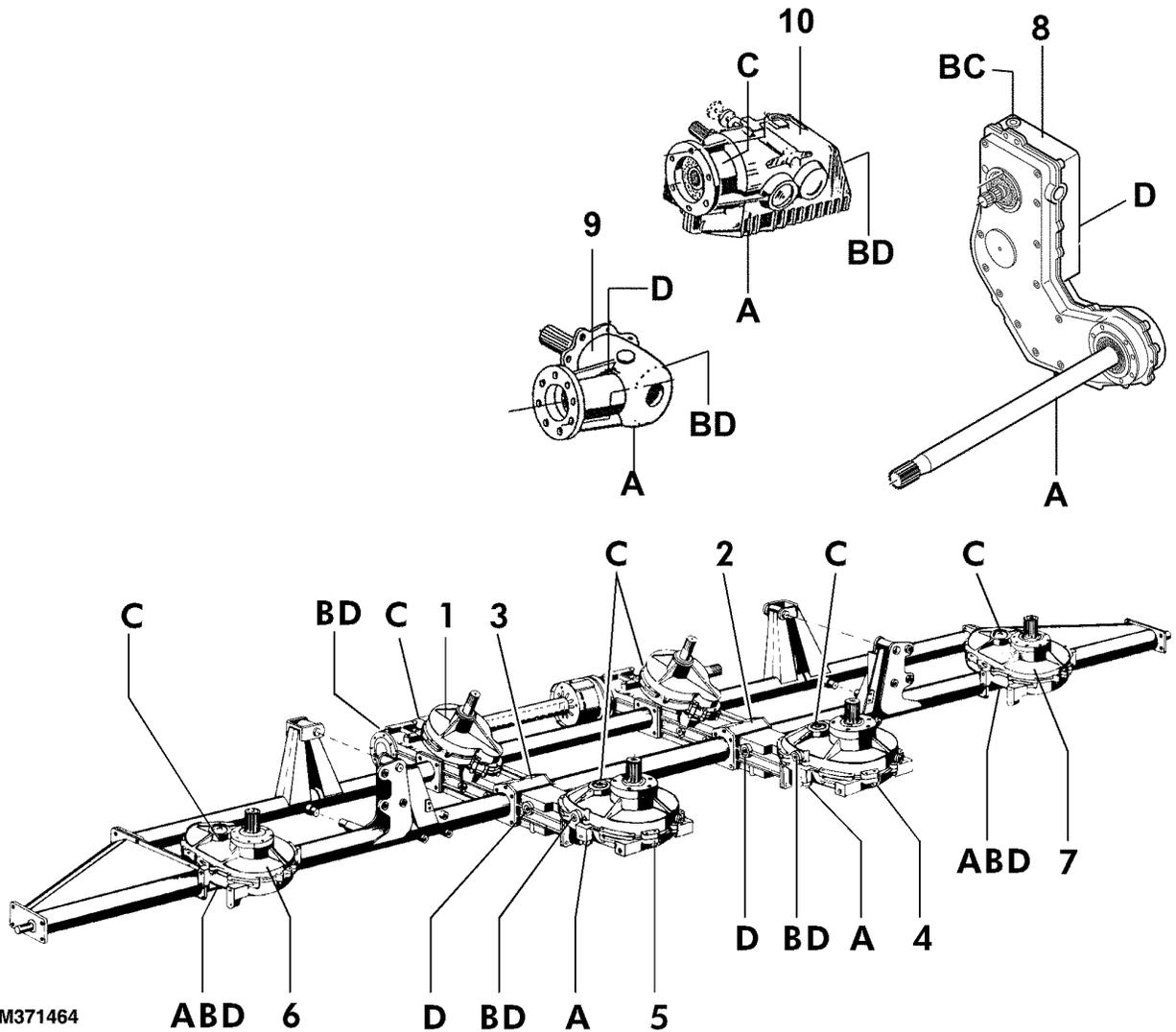


KM1001196

KM1001196 —UN—03MAY10

KM00321,00002CD -19-03MAY10-1/1

**General Overview of Drives and Oil Levels on the Rotary Harvesting Unit**



- A—Oil drain plug
- B—Oil filler plug
- C—Breather
- D—Oil level plug
- 1—Spur-gear transmission (permanently lubricated)
- 2—Bevel gear drive - 3.5 L (0.92 U.S. gal)
- 3—Bevel gear drive - 3.5 L (0.92 U.S. gal.)
- 4—Spur-gear angle drive - 3.0 L (0.79 U.S. gal.)
- 5—Spur-gear angle drive - 3.0 L (0.79 U.S. gal.)
- 6—Spur-gear angle drive - 3.5 L (0.92 U.S. gal.)
- 7—Spur-gear angle drive - 3.5 L (0.92 U.S. gal.)
- 8—Transmission (2 speed, New Holland forage harvesters - 4.0 l (1.05 US. gal.))
- 9—Transmission (Standard, Claas forage harvesters) - 0.9 L (0.24 U.S. gal.)
- 10—Transmission (2-speed CLAAS forage harvesters) - 4.5 L (1.19 U.S. gal.)

Raise rotary harvesting unit slightly so that it is horizontal, and check oil level in transmissions and bevel gear 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.

Check oil level in the bevel gear drives (6) and (7) with the mowing units folded up.

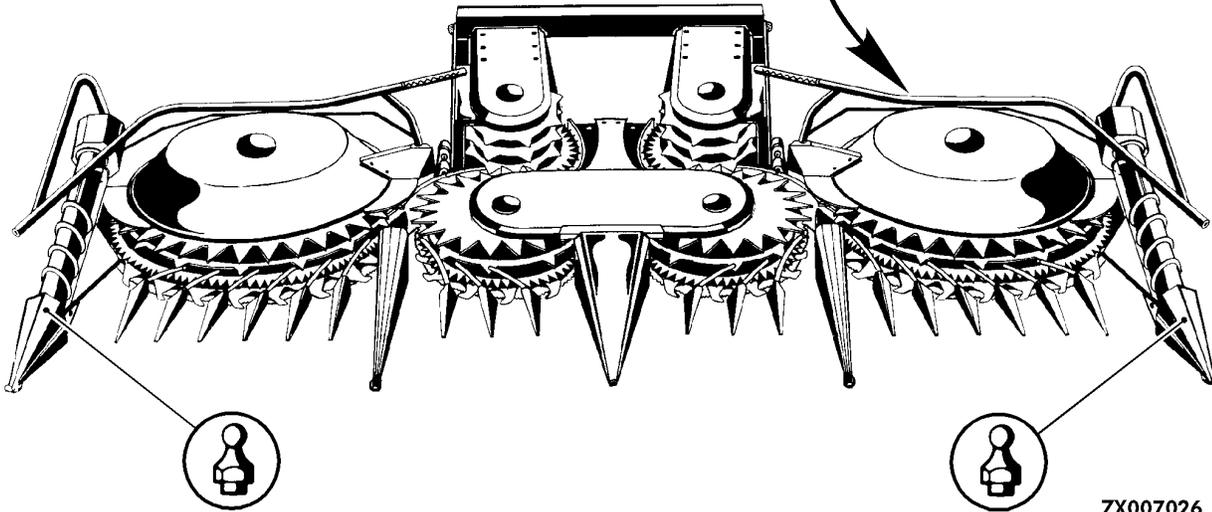
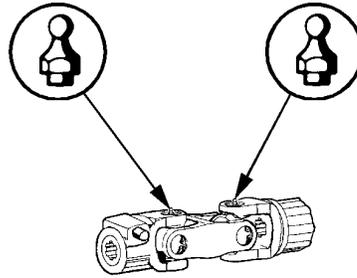
KM00321,00008A7 -19-23JAN19-1/1

KM371464 —UN—23JAN19

Every 10 Hours - Lubrication Service Points



 = 10



ZX007026

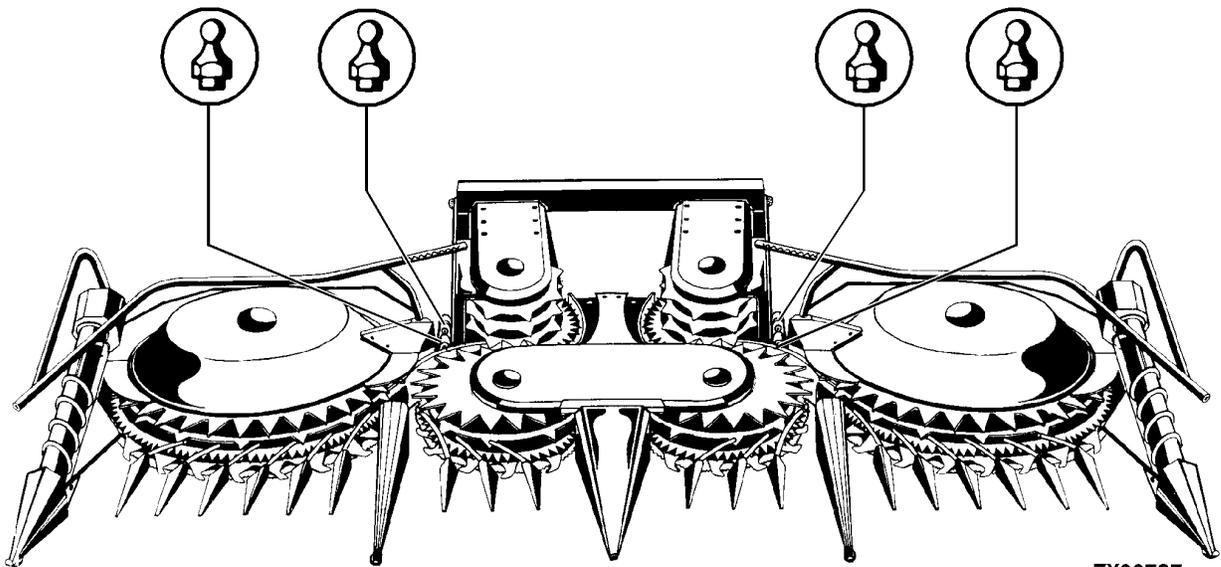
ZX007026—UN—21MAR95

KM00321,000037F -19-16JAN15-1/1

### Every 50 Operating Hours - Lubrication Service Points



 = 50



ZX00727

KM00321.00008A8 -19-24JAN19-1/1

ZX007027 —UN—21MAR95

#### At the Start of the Harvesting Season

Before putting the harvesting unit into operation, carry out a general check of the friction clutches in the main drive and the gathering and feed drum drives.

For details see “Friction Clutches in Main Drive” and “Friction Clutches in the Gathering and Feed Drums” in the “Service” section.

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

ZX,676RHU003855 -19-20JAN95-1/1

#### Every 10 Operating Hours

Clean the areas around the feeder house drums, blade rotor segments and scrapers of husks and stems.

Check all transmissions for signs of oil leakage.

KM00321.00008A9 -19-24JAN19-1/1

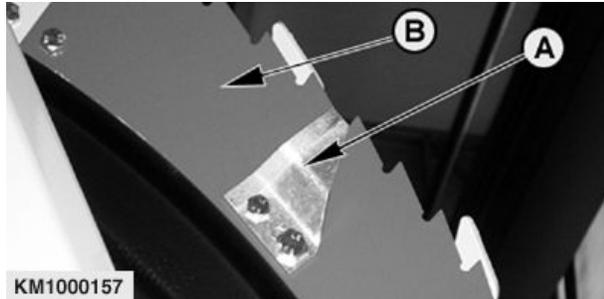
### Every 10 Operating Hours—Cleaners and Blade Rotor Segments

Check all cleaners (A) and blade rotor segments (B) for signs of wear.

Replace worn parts (see "Service" section).

A—Cleaner

B—Blade rotor segment



KM1000157 —UN—16OCT07

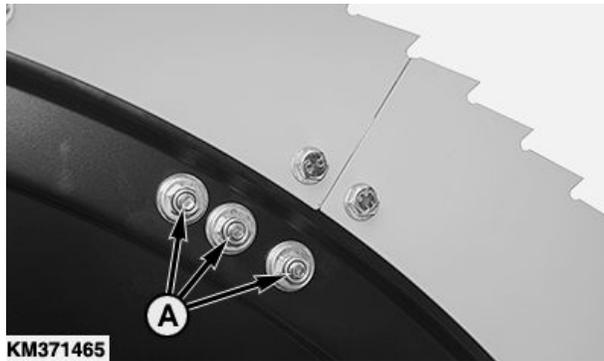
KM00321,00008AA -19-24JAN19-1/1

### Every 10 Operating Hours—Balance Weights

Check balancing weights (A) under the outer blade rotors for wear.

Replace any damaged or worn balancing weights and screws.

A—Balancing weights



KM371465 —UN—24JAN19

KM00321,00008AB -19-24JAN19-1/1

### Every 50 Hours (Once a Week)

Perform all the operations listed under "Every 10 Hours".

Check that all the bolts are firmly seated and tightened to the torques stated in the torque table.

Remove foreign bodies from the intake and cutting area.

Clean the couplings in the universally jointed shafts of the foldable end sections.

ZX,676RHU003857 -19-20JAN95-1/1

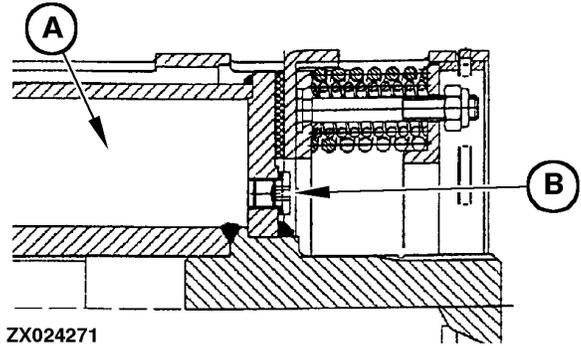
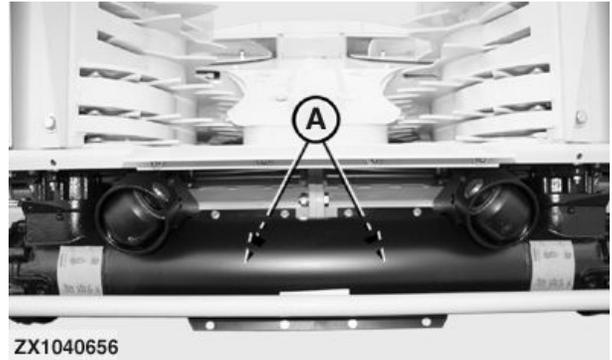
### Every 3 Years—Change Coolant of Main Drive Friction Clutch

**⚠ 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 (0.26 US gal.)

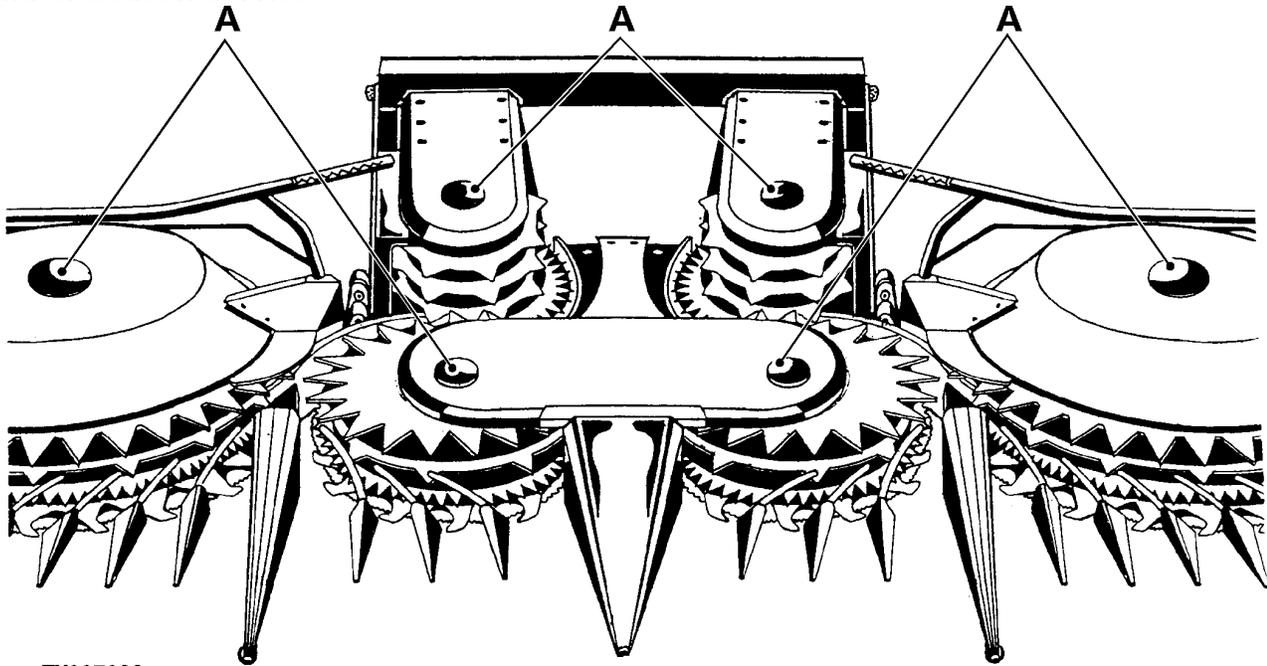


KM00321,000019A -19-12JUN09-1/1

ZX1040656 —UN—12APR07

ZX024271 —UN—07MAR01

**End-of-Season Service**



ZX007028

ZX007028—JUN—21MAR95

Clean and preserve the harvesting unit. Clean cavities (A) below the drum friction clutches.

Change the oil and lubricate the harvesting unit.

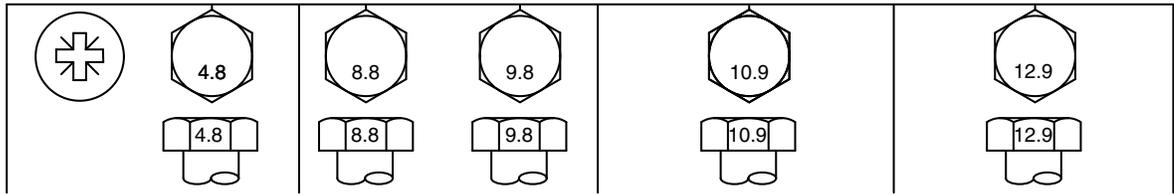
Check all components for wear and order any spare parts that may be required in good time for the coming season.

ZX,676RHU003858 -19-20JAN95-1/1

# Service

## Metric Bolt and Screw Torque Values

TS1742 —UN—31MAY18



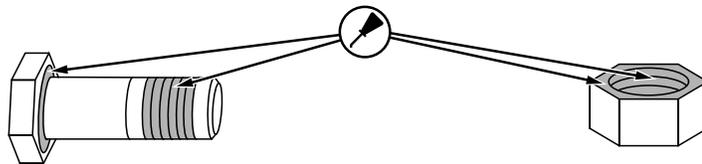
Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head <sup>a</sup>		Flange Head <sup>b</sup>		Hex Head <sup>a</sup>		Flange Head <sup>b</sup>		Hex Head <sup>a</sup>		Flange Head <sup>b</sup>		Hex Head <sup>a</sup>		Flange Head <sup>b</sup>	
	N·m	lb·in	N·m	lb·in			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

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

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

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

TS1741 —UN—22MAY18



<sup>a</sup>Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

<sup>b</sup>Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

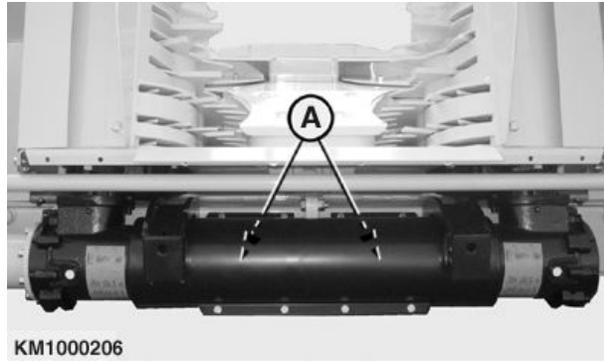
DX,TORQ2 -19-30MAY18-1/1

## Main Gear Case Friction Clutches

### General Information

The two friction clutches (A) in the main drive protect the entire rotary harvesting unit from unnecessary loads. Hence, these clutches must be maintained absolutely correctly. The torque setting is 700 Nm (511 lb-ft).

A—Friction clutch

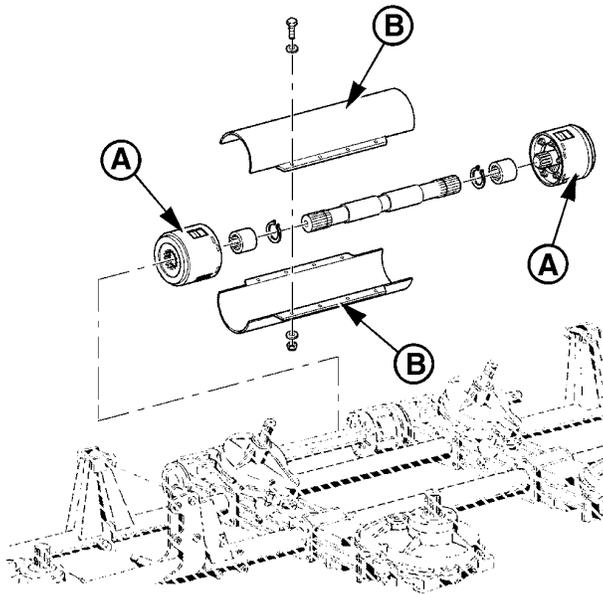


KM1000206

KM1000206—UN—07NOV07

KM00321,00008AC -19-28JAN19-1/3

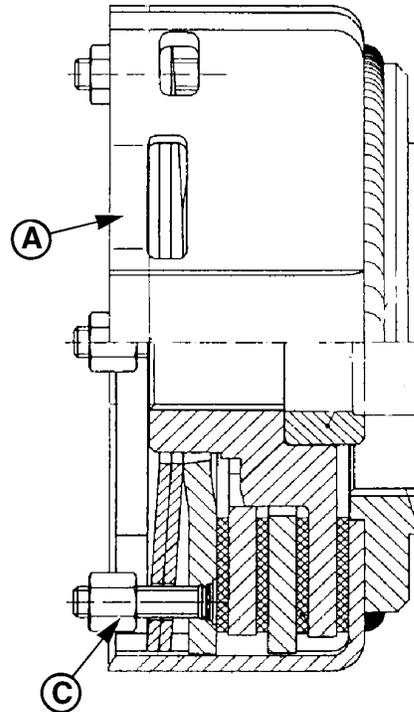
### Check Friction Clutches



KM1000207

A—Friction clutch

B—Protective tubing



C—Nut

**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.

Unscrew the protective tubes (B).

Tighten nut (C). As a result, the driving disks will be relieved. Turn clutch (A).

Loosen nut (C) to the end of thread.

Install protection tubes (B).

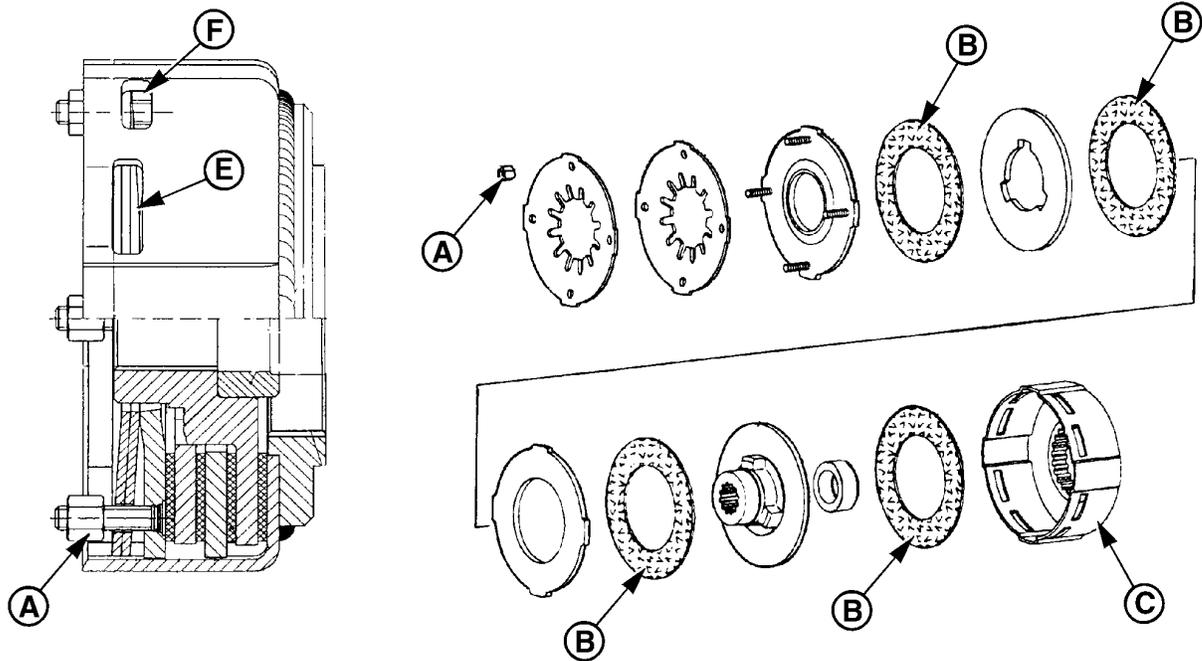
*NOTE: Once in a year, have general maintenance of the friction clutches done by KEMPER dealer personnel.*

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KM00321,00008AC -19-28JAN19-2/3

KM1000207—UN—07NOV07

**Annual Maintenance of Friction Clutches**

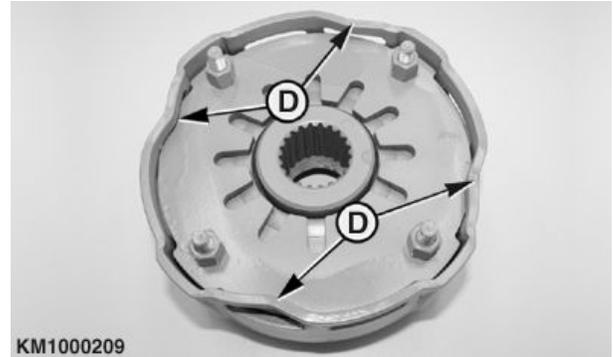


KM1000208

The friction clutches should be cleaned before every harvest season.

Proceed as follows:

1. Disassemble the clutches of the rotary harvesting unit.
2. Tighten the nuts (A). As a result, the driving disks will be relieved.
3. Bend the relieved gutters (D) with a suitable tool.
4. Remove all parts of the friction clutch from the housing (C).
5. Clean all parts, especially the friction disks (B). Replace worn parts.
6. Reassemble all parts.
7. Bend the gutters (D) the outer recess (E) with a suitable tool back inwards.
8. Loosen nuts (A) to the end of thread.



- |                 |                |
|-----------------|----------------|
| A—Nuts          | D—Gutter       |
| B—Friction disk | E—Outer recess |
| C—Housing       | F—Inner recess |

9. Reinstall clutches on the rotary harvesting unit.

KM00321,00008AC -19-28JAN19-3/3

KM1000208 —UN—07NOV07

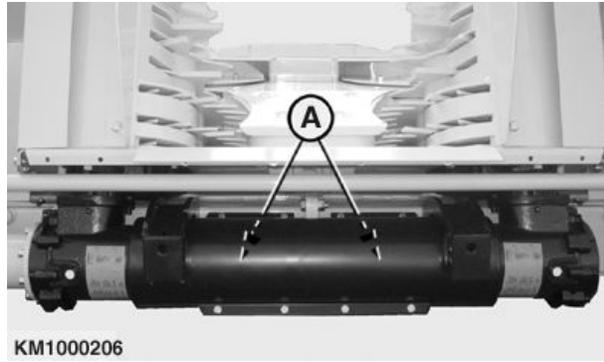
KM1000209 —UN—07NOV07

## Friction Clutches in the Main Drive—Water-cooled (Optional)

### General Information

The two friction clutches (A) in the main drive protect the entire rotary harvesting unit from unnecessary loads. Hence, these clutches must be maintained absolutely correctly. The torque setting is 680 Nm (501 lb-ft).

A—Friction clutch

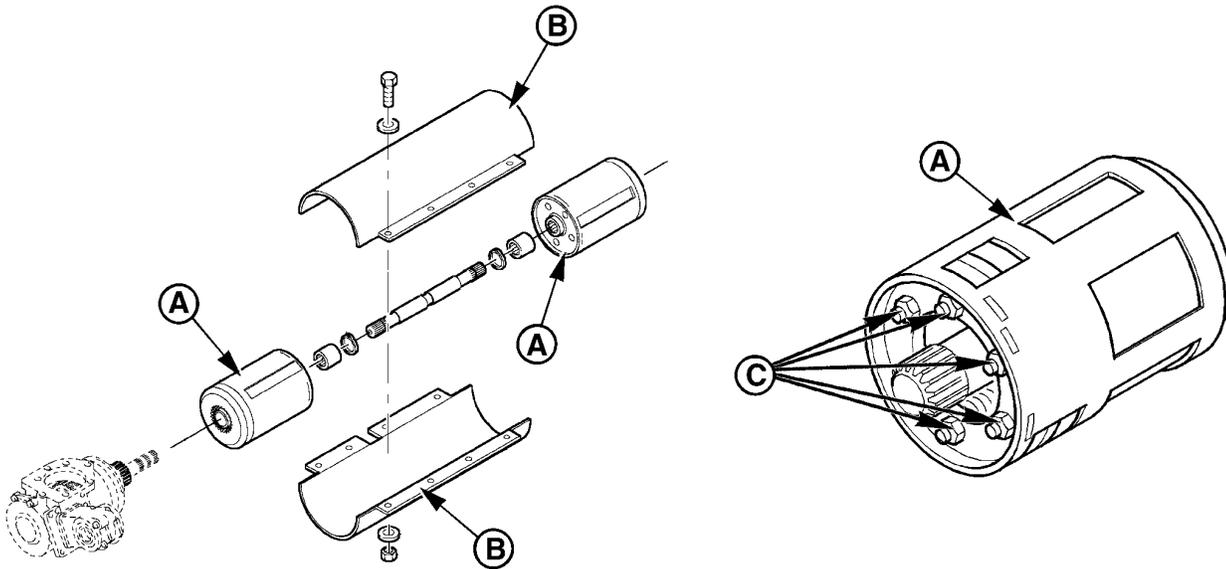


KM1000206

KM1000206—UN—07NOV07

KM00321,00008AD -19-28JAN19-1/4

### Check Friction Clutches



KM1000210

A—Water-cooled friction clutch B—Protective tubing

C—Nut

**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.

Unscrew the protective tubes (B).

Tighten nut (C). As a result, the driving disks will be relieved. Turn clutch (A).

Loosen nut (C) to the end of thread.

Install protection tubes (B).

*NOTE: Have general maintenance of the friction clutches done once a year by your KEMPER dealer personnel.*

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KM00321,00008AD -19-28JAN19-2/4

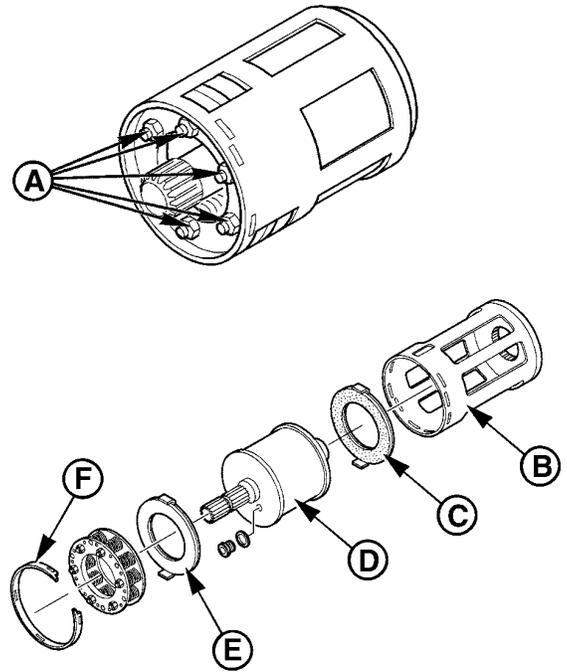
KM1000210—UN—07NOV07

### Annual Maintenance of Friction Clutches

The friction clutches should be cleaned before every harvest season.

Proceed as follows:

1. Disassemble the clutches of the rotary harvesting unit.
2. Tighten the nuts (A). As a result, the driving disks will be relieved.
3. First remove locking collar (F) from the housing (B).
4. Then remove all parts of the friction clutch from housing (B).
5. Clean all parts, especially the friction disks (C) and (E). Replace worn parts.
6. Reassemble all parts.
7. Install the locking collar (F) as described below under "Torque settings".
8. Loosen nuts (A) to the end of thread.
9. Reinstall clutches on the rotary harvesting unit.



- |  |                                    |
|--|------------------------------------|
| A—Nut                                      | — Water: 0.65 L (0.17 US gal)      |
| B—Housing                                  | — Antifreeze: 0.65 L (0.17 US gal) |
| C—Friction disk                            |                                    |
| D—Coolant Reservoir - 1.3 l (0.34 US. gal) | E—Friction disk                    |
|  | F—Locking collar                   |

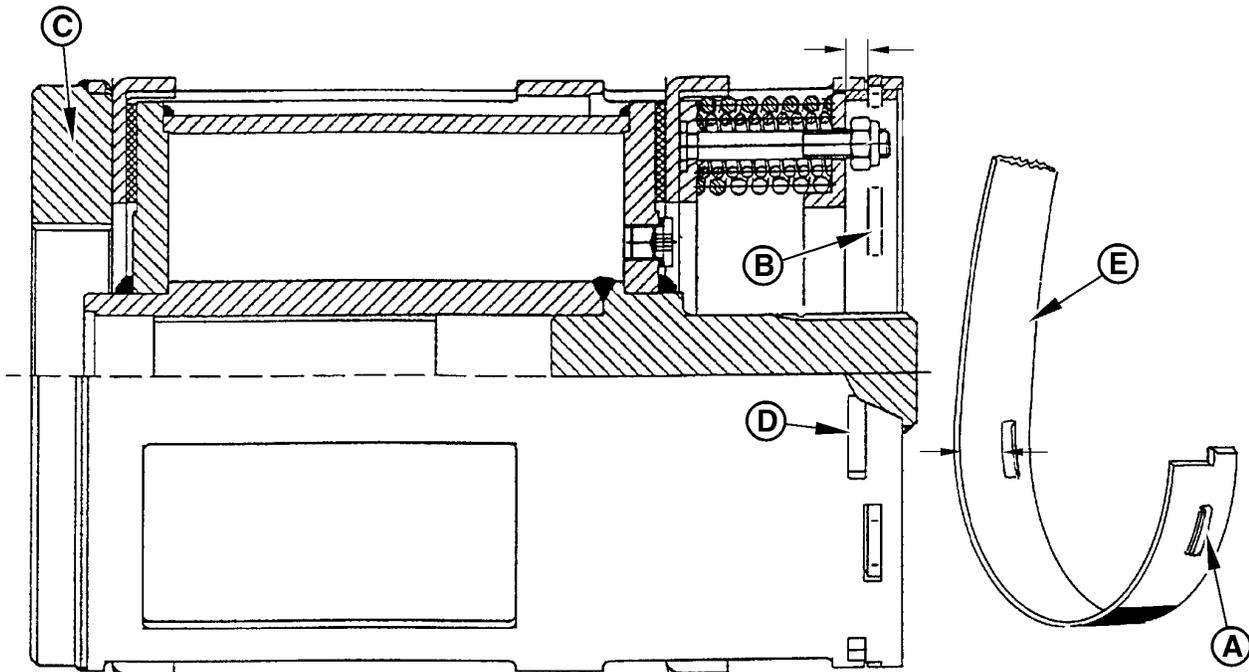
KM1000211

KM1000211 —UN—07NOV07

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KM00321.00008AD -19-28JAN19-3/4

**Torque Settings**



KM1000212

A—Notch  
B—Outer recess

C—Housing  
D—Inner recess

E—Locking collar

**IMPORTANT: Do not exceed the prescribed torque of 680 n·m (501 lb-ft)..**

The torque is adjusted as follows: Align notch (A) to the outside and engage it in the outer recess (B) of the housing (C).

KM00321.00008AD -19-28JAN19-4/4

KM1000212—UN—07NOV07

**Friction Clutches in the Feeder House and Feed Drums**

**General Information**

The feeder house and feed drums are equipped with friction clutches in order to protect drive elements from overload.



Continued on next page

KM00321.00008AE -19-28JAN19-1/2

ZX007032—UN—21MAR95

**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.

Remove plastic covers (A).

Tighten all nuts (B). As a result, the driving disks will be relieved.

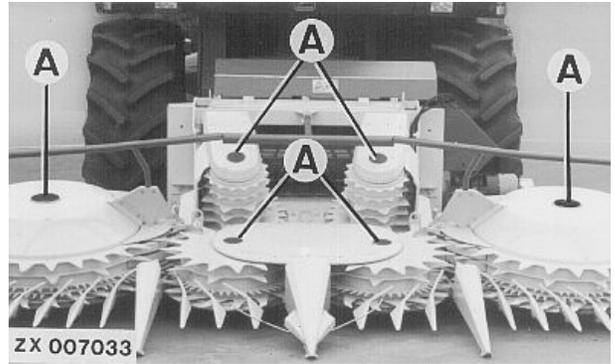
Turn the relevant drum so that the friction disks become loose.

Loosen all nuts (B) again until they reach the lock at the end of the thread.

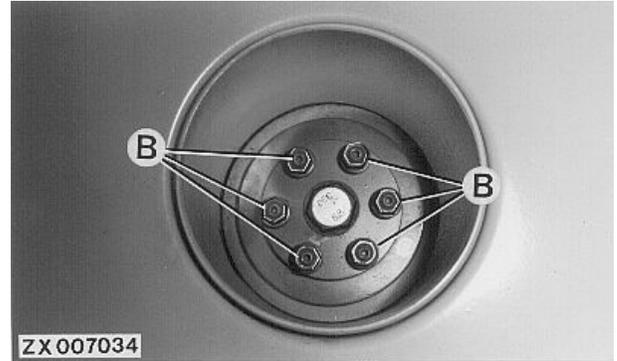
*NOTE: Have general maintenance of the friction clutches done once a year by your KEMPER dealer personnel.*

**A—Plastic Covers**

**B—Nuts**



ZX 007033



ZX 007034

ZX007033 —UN—21MAR95

ZX007034 —UN—21MAR95

KM00321,00008AE -19-28JAN19-2/2

## Feeding and Cutting Area

### Small Divider Points

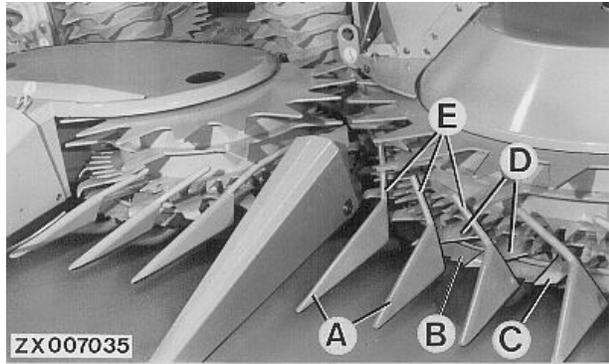
**⚠ CAUTION:** Before maintenance or adjustment work turn off the engine and wait until all moving parts have come to standstill.

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.

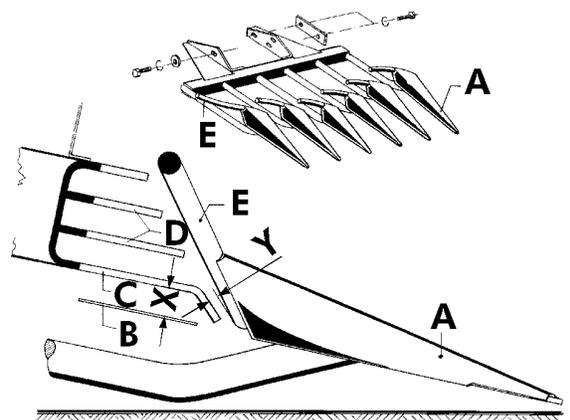
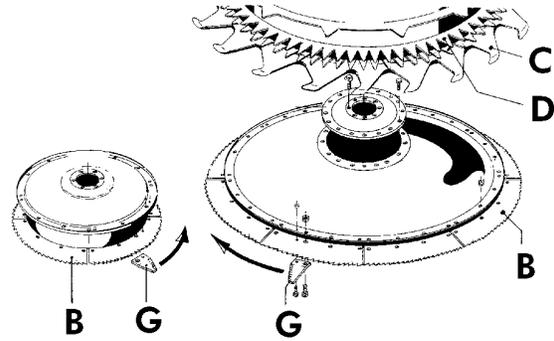
Feed teeth (C) move at a distance of (X = 25 mm; 0.98 in.) above the rotating blade (B). The distance (Y) between the rear end of the small divider point (A) and the feed teeth (C) must be between 4 and 6 mm (0.16 and 0.24 in.). The closer the distance, the easier will the crop lying be harvested.

The divider point guides (E) must guide the crop in the closely adjacent rows of teeth (D). Have the KEMPER dealer replace any worn parts.

- |                        |                          |
|------------------------|--------------------------|
| A—Small divider points | E—Divider tips guide     |
| B—Blade rotor segment  | G—Cleaner                |
| C—Feed teeth           | X—25 mm (0.98 in.)       |
| D—Row of teeth         | Y—4-6 mm (0.16-0.24 in.) |

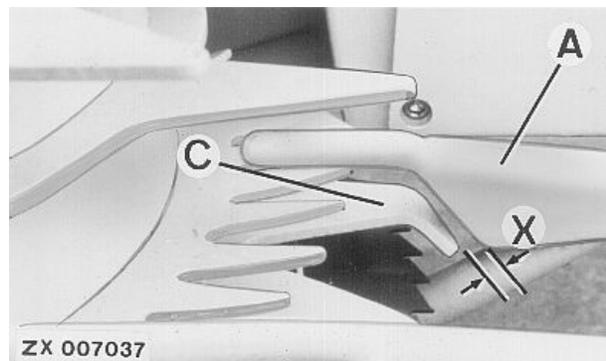


ZX007035—UN—21MAR95



ZX007036

ZX007036—UN—21MAR95



ZX007037—UN—21MAR95

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KM00321,00008AF -19-28JAN19-1/4

### Rotating Blades

**⚠ CAUTION:** After switching off the rotary harvesting unit, the rotating blades continue to turn. This is identifiable by the color of the blade segments, audible by the clicking sound, caused by the freewheeling.

The blade tips and blade segments are installed in the direction of cut. The standard blade segments (A) are 2.5 mm (0.1 in.) thick and are secured with four screws.

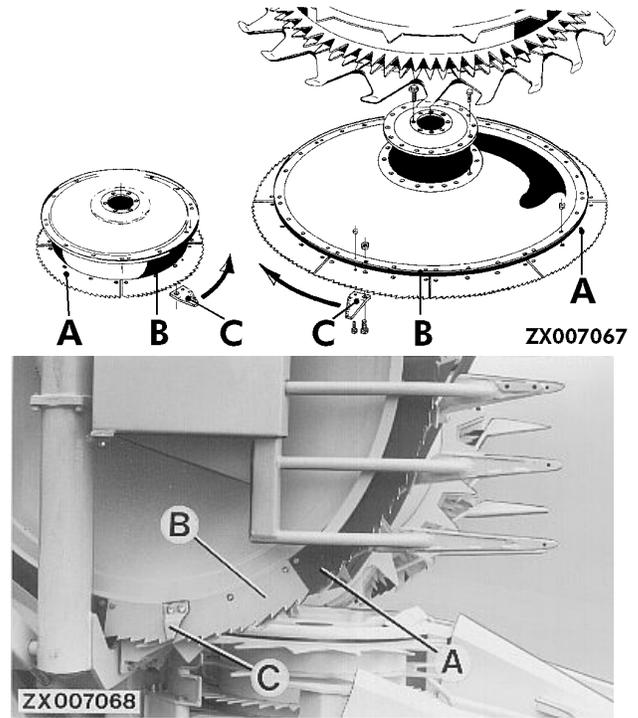
The blade segments (B) are used in the vicinity of the cleaner and are 3.5 mm (0.14 in) thick. They are secured with five screws.

The cleaners (C) are fixed with a screw M10x25 and a shear bolt M8x25 on the rotor. The two screws are special screws.

Check cleaners (C) daily for wear or damage.

A—Blade segments  
B—Blade segments

C—Cleaner



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KM00321.00008AF -19-28JAN19-2/4

ZX007067 —UN—21MAR95

ZX007068 —UN—21MAR95

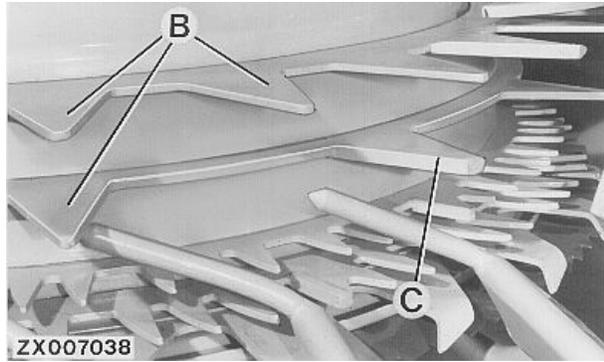
### Teeth on the Feeder House Drums

The teeth (B) of the feeder house drum (A) must move through the guide slot in the scraper at a constant height.

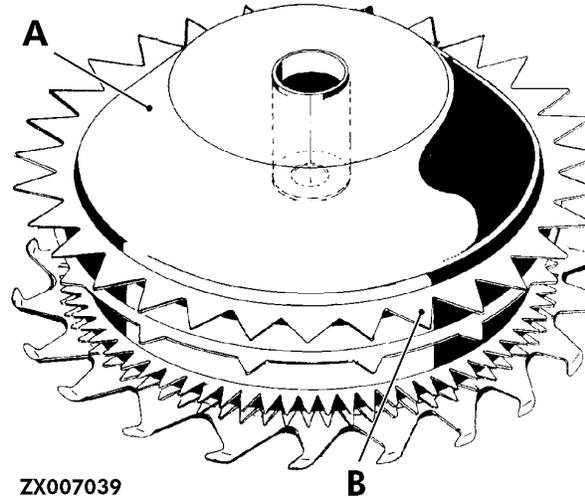
Each row of teeth has a welded cleaner (C). He cleans the intake side of the scraper. The gap between the tip of the cleaner (C) and the edge of the scraper should not be greater than 2 mm (0.08 in.).

Accumulation of husks in the scrapers indicate poor adjustment or wear of cleaner tips. The cleaners are made of special steel, which is characterized by high strength. The cleaners can be restored to their original condition by build-up welding with steel electrodes.

- A—Feeder house drum
- B—Teeth
- C—Cleaner



ZX007038 —UN—21MAR95



ZX007039 —UN—23MAR95

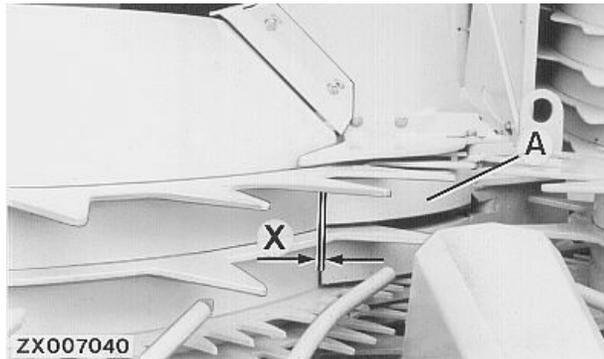
KM00321,00008AF -19-28JAN19-3/4

### Scrapers of the Feeder House Drums

This area must be kept clean to avoid obstructions in the flow area.

The distance between the ends of the scraper (A) and drum wall must be as low as possible. A maximum distance of (X = 5 mm; 0.2 in.) should not be exceeded.

- A—Scraper
- X—5 mm (0.2 in.)



ZX007040 —UN—21MAR95

KM00321,00008AF -19-28JAN19-4/4

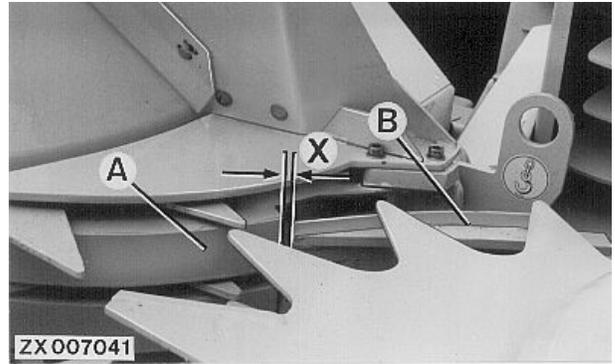
### Feed Area of the Harvested Crop

#### Point of Contact between Scraper and Guide

Adjust the scraper (A) and guide (B) such that the distance (X) to one another is maximum 3 mm (0.12 in.). To ensure a constant flow of crop, the guide (B) must be located approximately 2 mm (0.08 in.) behind the scraper (A). The teeth need to go through the area between the scraper and the guide with distance from the edges kept constant.

A—Scraper  
B—Guide

X—3 mm (0.12 in.)



ZX007041—UN—21MAR95

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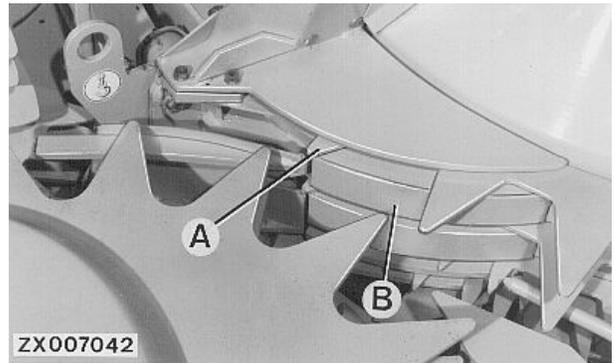
#### Scraper on the Large Feeder House Drum

The teeth (A) must run in the middle through the slots in the scraper (B).

Keep scraper (B) as close as possible to the feeder house drum.

A—Teeth

B—Scraper



ZX007042—UN—21MAR95

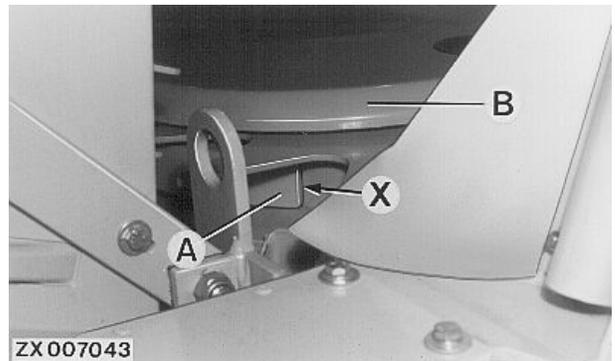
KM00321.00008B0 -19-28JAN19-2/5

#### Scraper on the Small Feeder House Drum

Adjust scraper (A) as close as possible to the wall of the feeder house drum (B). The gap should not be larger than 5 mm (0.2 in.).

A—Scraper  
B—Feeder house drum

X—5 mm (0.2 in.)



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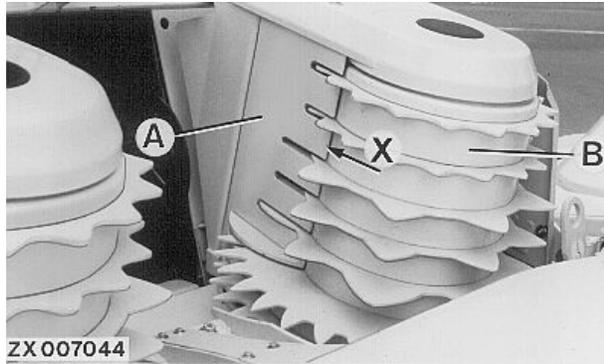
### Scrapers on the Feed Drums

The scraper with the guide plate (A) can be turned in such a way that it can be adjusted to the width of the feed roll of the forage harvester. The rows of teeth on the drums must run in the center of the scraper slot.

The distance (X) between the scraper and feed drum (B) should not exceed 5 mm (0.2 in.).

A—Guide plate  
B—Feed drum

X—5 mm (0.2 in.)



ZX007044—UN—21MAR95

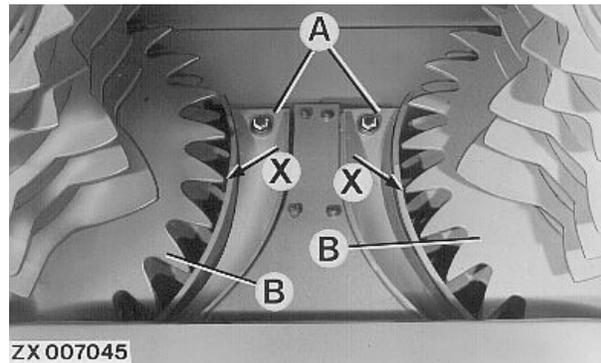
KM00321,00008B0 -19-28JAN19-4/5

### The Bottom Feed Teeth on the Feed Drums

The maximum set distance of the deflector (A) to the top of the feed teeth (B) is (X) 4 mm (0.16 in.).

A—Deflector  
B—Feed teeth

X—4 mm (0.16 in.)



ZX007045—UN—21MAR95

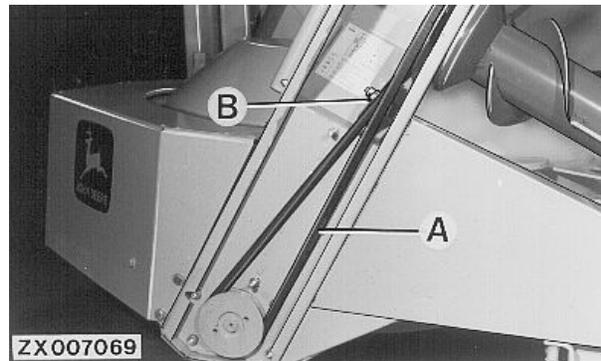
KM00321,00008B0 -19-28JAN19-5/5

### Drive for the Down-cup Auger

The drive belt for the down-crop auger is located at the outer end of the retractable mowing units. The guide of the crosswise-mounted V-belt (A) is carried out by an adjustable guide roller (B). The belt tension is adjusted by pulling the rear, upper lift bearing upwards. The adjustment procedure is explained on a sticker close to the drive belt.

A—V-belts

B—Guide roll



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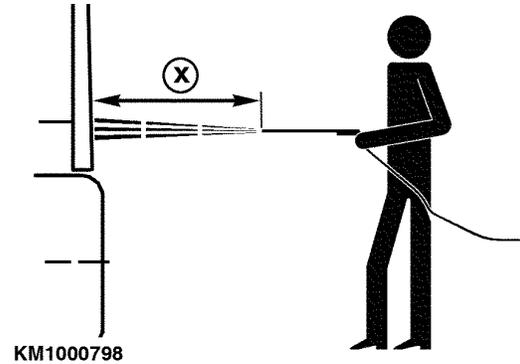
### Cleaning Rotary Harvesting Unit

Remove loose crop by means of compressed air and/or a hand brush.

When using high pressure/steam cleaners, keep a minimum distance (X) of 250 mm (9.84 in.). Refer to specifications for the maximum temperature and maximum pressure.

#### Specification

High pressure/steam cleaner—Max. temperature..... 50 °C (122 °F)  
High pressure/steam cleaner—Max. pressure..... 8000 kPa (80 bar; 1160 psi)



KM1000798

X—250 mm (9.84 in.)

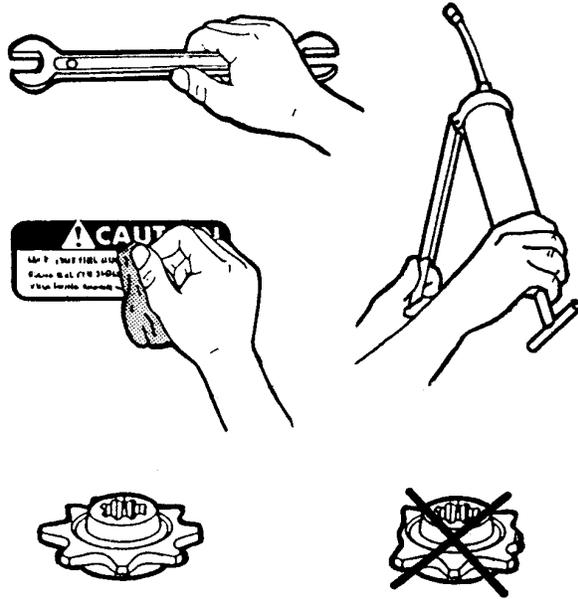
KM1000798 —UN—09MAR09

KM00321,000014A -19-26MAR09-1/1

# 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.



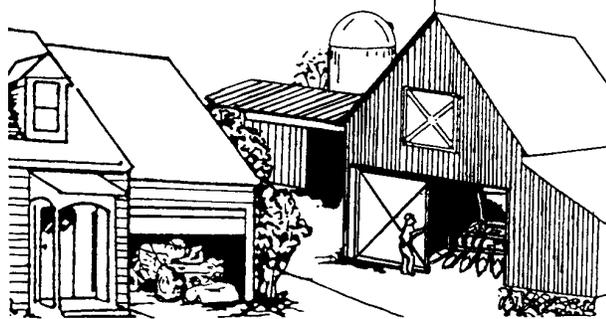
KM1000902

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

KM1000902 —UN—12JUN09

## Start of New Season

- If necessary, thoroughly clean the rotary harvesting unit.
- Lubricate the rotary harvesting unit and perform any service work that is due before the start of the harvesting season. See "Lubrication and Periodic Service".
- Check tightness of all hardware.
- Check that the outer units of the rotary harvesting unit can be unfolded and folded correctly.
- Review your operator's manual.



CC7616

OUKM001,0000016 -19-15FEB05-1/1

CC7616 —UN—21MAR95

# Specifications

## 445 Rotary Harvesting Unit

Drive system.....	Oil bath lubricated transmission with safety clutch
Cutting system .....	Cutting system with high-speed rotors for 4 wide or 6 narrow rows
Crop conveyor.....	four low-speed feeder house and two inclined feed drums
Weight with basic equipment.....	approx. 1795 kg (4068 lb)
Width	
Transport width.....	2,47 m (8 ft 1.2 in.)
Working width .....	4.55 m (14 ft 11.12 in.)
Overall width.....	4,60 m (15 ft 1.09 in.)
Height .....	1.15 m (3 ft 9.24 in.)
Length.....	2.20 m (7 ft 2.60 in.)
Max ground speed.....	20 km/h (12.43 mph)

KM00321,00008B2 -19-28JAN19-1/1

## Sound Level

5131 with rotary harvesting unit attached to the forage harvester and cab closed (average value):

Max. sound level at operator's ear in accordance with DIN ISO 11204. Measurement method in accordance with ISO

Rotary Harvesting Unit 445..... 76.1 dB(A)

KM00321,0000385 -19-27JAN15-1/1

## EU Declaration of Conformity

**Kemper GmbH & Co.KG**  
**Am Breul**  
**D-48703 Stadthohn, Germany**

The person named below declares that  
the product  
Machine type: Rotary harvesting unit  
Model: 445

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

DIRECTIVE	NUMBER	CERTIFICATION METHOD
Machinery directive	2006/42/EC	Self-certification, per Article 5 of the Directive
Agricultural Machinery Safety—Part 1	DIN EN ISO 4254-1	Self-certification
Agricultural Machinery Safety—Part 7	DIN EN ISO 4254-7	Self certification
Safety of machinery	DIN EN ISO 12100	Self-certification
Universal-jointed shafts and their protection devices	DIN EN 12965	Self certification

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

Brigitte Birk  
Mannheim, Germany D-68008

Place of Declaration: 48703 Stadthohn,  
Germany

Name: Hannes Fischer

Date of declaration: May 02, 2017

Title: Manager Product Engineering

Manufacturing unit: Kemper Stadthohn

DXCE01 —UN—28APR09



KM00321,00008B3 -19-28JAN19-1/1

# Serial Number

## Rotary Harvesting Unit Serial Number Plate

A—Type  
 B—Model Designation  
 C—Product Identification  
 Number

D—Weight  
 E—Year of Construction  
 F—Model Year

KM1001134

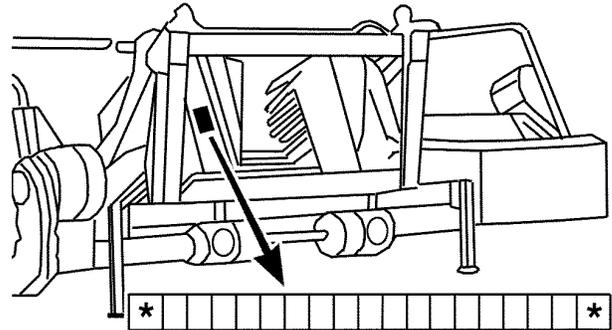
KM1001134 —UN—24FEB10

KM00321.00000DF -19-22DEC11-1/1

## Serial Number

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

Date of purchase \_\_\_\_\_ (to be filled in by purchaser)



KM232849 —UN—23JAN15

KM00321.000037E -19-16JAN15-1/1

*Serial Number*

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