

460^{plus} Rotary Harvesting Unit



OPERATOR'S MANUAL 460plus Rotary Harvesting Unit OMKM123547 ISSUE J0 (ENGLISH)

Maschinenfabrik Kemper GmbH & Co. KG

European Edition
PRINTED IN U.S.A.



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.

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

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

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.

KM00321,00008F1 -19-13MAR19-1/1

Contents

	Page		Page
Pre-delivery Inspection			
Predelivery Checklist.....	CLIST-1	Rotating Drums.....	10-4
Delivery Checklist.....	CLIST-1	Foldable Frame	10-4
After-Sale Checklist.....	CLIST-2		
Identification View		Haulage	
Identification View.....	00-1	Loading with a Crane.....	15-1
		Secure the Rotary Harvesting Unit for Transport (Lashing Points).....	15-3
Safety		Preparing the rotary harvesting unit	
Recognize Safety Information	05-1	Unpacking.....	20-1
Follow Safety Instructions.....	05-1	Adapt the Scrapers to the Feed Passage.....	20-1
Understand Signal Words.....	05-1		
Observe Road Traffic Regulations.....	05-2	Attaching to a CLAAS Forage Harvester	
Operator Ability.....	05-2	Compatibility Chart	25-1
Use Safety Lights and Devices.....	05-2	Ballasting Harvester	25-1
Prepare for Emergencies.....	05-3	Adjust additional headlights on forage harvester	25-1
Wear Protective Clothing.....	05-3	Attaching to type 498, 499 and 502 forage harvesters with variable header drive	25-2
Check Machine Safety.....	05-3	Install additional wiring harness (only forage harvesters of types 498, 499 and 502).....	25-5
Guards and Shields.....	05-3	Attaching to CLAAS Forage Harvesters	25-7
Stay Clear of Harvesting Unit	05-4	Rotary Harvesting Units with Multi-Speed Gearbox and Quick Coupler	25-9
Keep Hands Away From Knives.....	05-4	Connect Hydraulic Hoses	25-10
Store Attachments Safely	05-4	Connect the Drive (Type 492).....	25-10
Practice Safe Maintenance.....	05-5	Connecting the Drive (Types 493, 494 and 497).....	25-11
Stay Clear of Rotating Drivelines.....	05-5	Connecting the Drive (Types 496, 500).....	25-14
Service Machines Safely	05-6	Replace CLAAS Tray with KEMPER Tray.....	25-18
Support Machine Properly	05-6		
Avoid High-Pressure Fluids	05-6	Attaching to a FENDT Forage Harvester	
Stay Clear of the Intake Area	05-7	Align the Oscillating Frame.....	28-1
Driving on Roads with Rotary Harvesting Unit Attached	05-7	Attach the Rotary Harvesting Unit to FENDT Forage Harvesters	28-1
Ballasting for Safe Ground Contact.....	05-7	Connect Hydraulic Hoses and Wiring Harness	28-3
Remove Paint Before Welding or Heating.....	05-8	U.j. Shaft	28-3
Avoid High-Pressure Jet on Safety Decals.....	05-8	Connect U.J. Shaft	28-3
Dispose of Waste Properly	05-8	Change the Hydraulic System	28-4
Decommissioning: Proper Recycling and Disposal of Fluids and Components	05-9	Unlock the Oscillating Frame.....	28-5
Protect Against Noise	05-9		
Safety Decals		Detaching the Rotary Harvesting Unit	
Pictorial Safety Signs.....	10-1	Detach the Rotary Harvesting Unit.....	30-1
Replace Safety Signs	10-1		
Operator's Manual	10-1		
Service and repair work.....	10-2		
Rotating Blades	10-2		
Folding Area of the Rotary Harvesting Unit.....	10-3		
Stay Clear of Rotary Harvesting Unit.....	10-3		

Continued on next page

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

COPYRIGHT © 2020
John Deere GmbH & Co. KG Mannheim Regional Center
Zentralfunktionen
All rights reserved.
A John Deere ILLUSTRATION™ Manual

Page	Page
Transport	Additional Equipment
Driving on Public Roads35-1	Special Kit for Row Guidance (Steering Assistance).....45-1
Folding the Rotary Harvesting Unit.....35-1	Automatic Height Control Kit45-1
Apply Decal (Rotary Harvesting Units with Support Wheel).....35-1	Troubleshooting
Close Safety Relief Valve (Rotary Harvesting Units for CLAAS Forage Harvesters Only)35-1	460 ^{plus} Rotary Harvesting Unit.....50-1
Driving on Public Roads (Rotary Harvesting Units with Comfort Support Wheel)35-2	Lubrication and Periodic Service
Driving on Public Roads (Rotary Harvesting Units without Comfort Support Wheel)35-3	Service Intervals55-1
Set AHC sensors in the transport position.....35-3	Grease55-1
Operating the Rotary Harvesting Unit	Fluid Grease for Drives.....55-1
Rotary Harvesting Unit Method of Operation.....40-1	Transmission Oil55-2
Operating the Rotary Harvesting Unit - General Use40-2	Coolant for Main Drive Friction Clutch55-2
Clear Blockages40-2	Alternative and Synthetic Lubricants55-3
Clear Blockages on CLAAS Forage Harvesters40-2	Mixing Lubricants.....55-3
Adjust Skid Shoes Parallel to the Ground40-3	Lubricant Storage55-3
Adjusting the Central Feed Bar40-4	At the Start of Every Harvesting Season55-3
Gathering Drum Operating Speeds.....40-5	Use Genuine KEMPER Parts55-4
Length-of-Cut Adjustment with CLAAS Forage Harvester40-5	At the Start of Every Harvesting Season - Spherical Collar Bolts55-4
Length of Cut and Drum Speeds with CLAAS Forage Harvester 830-900 (Types 492, 496, and 500)40-6	At the Start of Every Harvesting Season—Gearbox Mounting Flange Attaching Screws55-5
Cutterhead with 24 Knives (Types 492, 496, and 500).....40-6	At the beginning of each harvesting season — adjust latch of the chassis (optional)55-6
Cutterhead with 20 Knives (Types 492, 496, and 500).....40-6	General view of drives and oil levels in the rotary harvesting unit.....55-7
Length of Cut and Drum Speeds with CLAAS Forage Harvester 830-900 (Type 493).....40-7	Overview of oil levels in input transmission55-8
Cutterhead with 28 Knives (Type 493)40-7	Every 10 Hours of Operation—Cleaners and Blade Rotor Segments55-9
Cutterhead with 24 Knives (Type 493)40-9	Every 10 Operating Hours—Balance Weights ..55-10
Cutterhead with 20 Knives (Type 493)40-11	Every 10 Hours—U.J. Shaft55-10
Length of Cut and Drum Speeds with CLAAS Forage Harvester 930-980 (Types 494, 497, and 498)40-12	Every 50 Hours—Claw Clutch55-11
Cutterhead with 36 Knives (Types 494, 497, and 498).....40-13	Every 50 Hours—Lower Pin of Hydraulic Cylinder and Hinges of the Outer Units55-11
Cutterhead with 24 Knives (Types 494, 497, and 498).....40-14	Every 50 Hours—Upper Rolls of Oscillating Frame55-12
Adjusting Gear Selection with Multi-Speed Gearbox for CLAAS Forage Harvesters40-15	Every 3 Years—Change Coolant of Main Drive Friction Clutch55-12
Lengths of Cut and Gear Selection with Multi-Speed Gearbox for CLAAS Forage Harvesters40-16	After Each Harvesting Season55-13
Harvest40-17	Service
Hydraulic System.....40-17	Metric Bolt and Screw Torque Values.....60-1
	Relieve Pressure on the Main Drive Slip Clutches60-2
	Disassemble Slip Clutch.....60-3
	Installing New Rotating Blades.....60-4
	Adjusting the Dividers.....60-5
	Checking Scrapers Adjustment60-6
	Checking and Adjusting Cleaners60-6
	Cleaning Rotary Harvesting Unit60-7

Continued on next page

Page

Storage

Storage at End of Harvesting Season	65-1
Start of New Season.....	65-1

Specifications

Machine Design Life	70-1
Rotary Harvesting Unit 460 ^{plus}	70-1
Sound Level.....	70-1
EU Declaration of Conformity	70-2

Serial Numbers

Rotary Harvesting Unit Serial Number Plate	75-1
Serial Number.....	75-1

Pre-delivery Inspection

Predelivery Checklist

After the 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 screws 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 friction 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)

KM00321,00001F6 -19-13AUG09-1/1

Delivery Checklist

The following checklist is a reminder of very important information that should be conveyed directly to the customer upon delivery of the machine.

- ☐ Advise the customer that the life expectancy of this or any other machine depends on regular lubrication as described in this operator's manual.
- ☐ Discuss proper operation of the rotary harvesting unit as well as the procedures and methods required for the best harvest.
- ☐ Give the Operator's Manual to the customer and explain all operating adjustments.
- ☐ Advise the customer of the proper weights and fluids that must be used in the tires, depending upon the individual forage harvester.

- ☐ Rotary harvesting units for type 498 Claas forage harvesters only: Program module A130FAM for the variable header drive (optional equipment).
- ☐ Advise the customer of safety precautions that must be observed while using the rotary harvesting unit.
- ☐ Invite the customer to stop by and discuss any problems that may be encountered while operating the rotary harvester 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 this page and file it safely.

(Signature of Technician)

(Signature of Customer)

KM00321,00008BA -19-26FEB19-1/1

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.

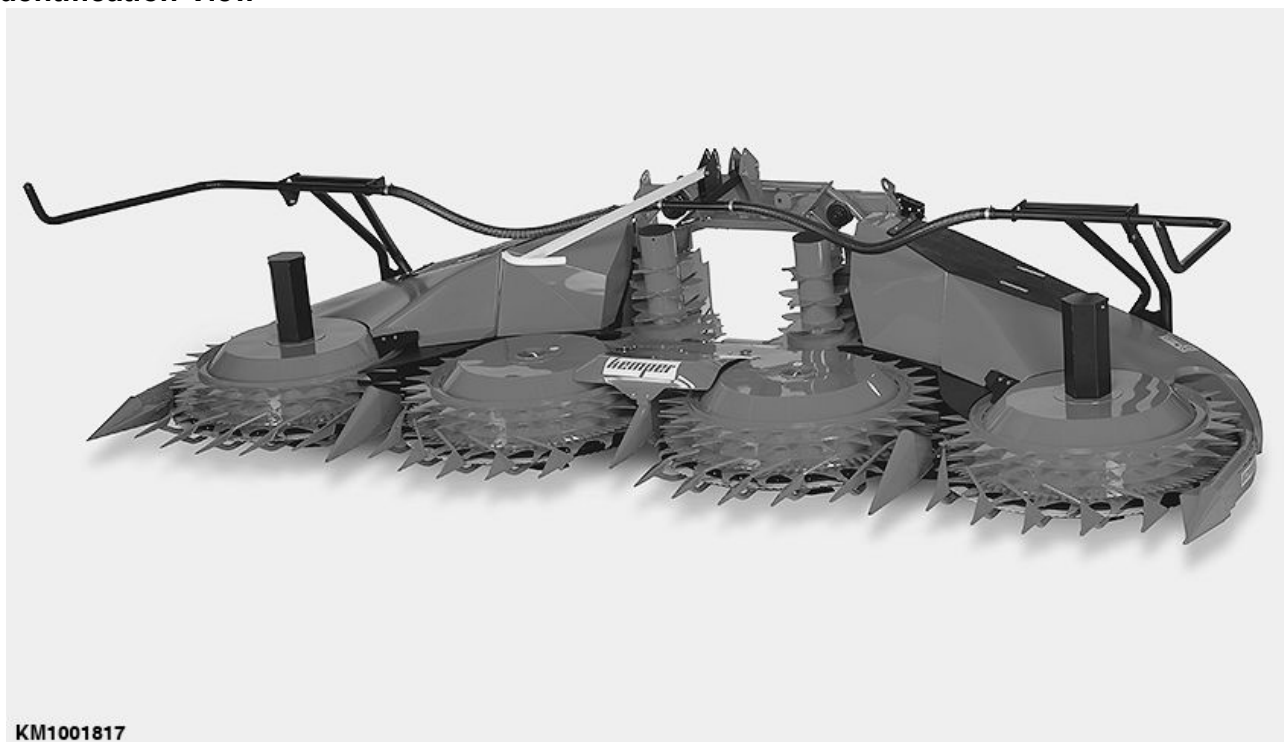
(Signature of Technician)

(Signature of Customer)

ZX,CHECK676,C -19-20JAN95-1/1

Identification View

Identification View



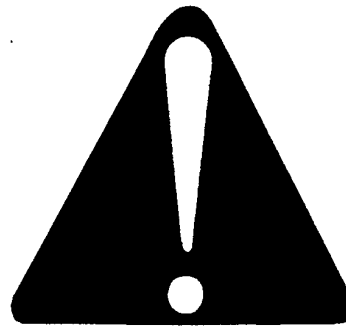
KM00321,00000C4 -19-14DEC11-1/1

Safety

Recognize Safety Information

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

Follow recommended precautions and safe operating practices.



T81389 —UN—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—30SEP98

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.

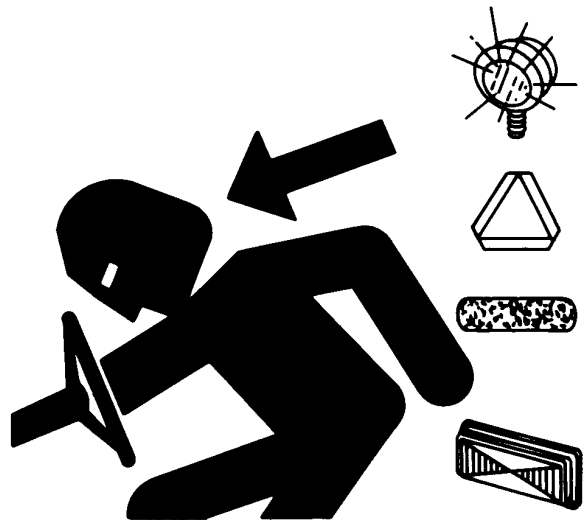
- Never allow a child or an untrained person to operate the machine. Instruct all operators not to give children a ride on the machine or an attachment.
- Never operate machine when distracted, fatigued, or impaired. Proper machine operation requires the operator's full attention and awareness.

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.



TS951 — UN—12APR90

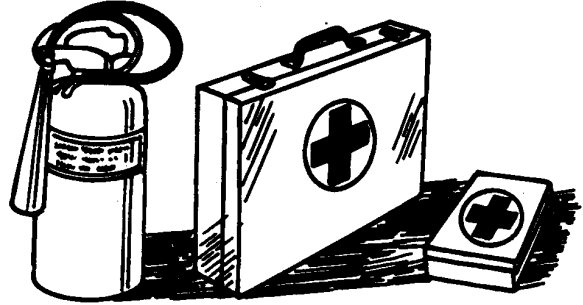
KM00321,000016C -19-14MAY09-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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



TS291 —UN—15APR13

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

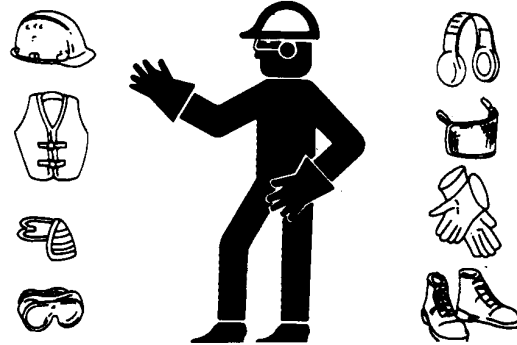
Wear Protective Clothing

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.



TS206 —UN—15APR13

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

Check Machine Safety

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

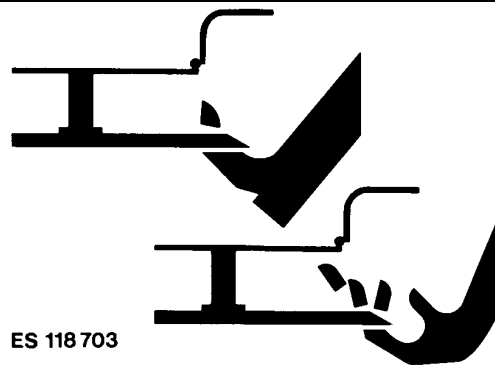
FX,READY -19-28FEB91-1/1

Guards and Shields

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

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

Keep hands, feet and clothing away from moving parts.



ES 118 703

ES118703 —UN—21MAR95

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

Stay Clear of Harvesting Unit

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



ES118704 —UN—21MAR95

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

Keep Hands Away From Knives

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

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



TS254 —UN—23AUG88

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

Store Attachments Safely

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

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



TS219 —UN—23AUG88

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

Practice Safe Maintenance

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

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

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

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

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

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



TS218 —UN—23AUG88

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

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

Keep 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.



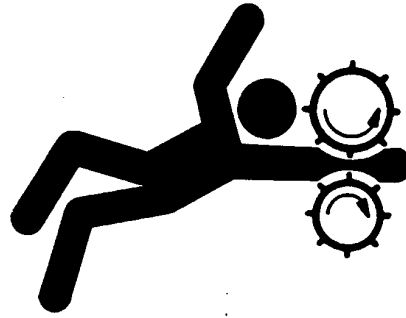
TS1644 —UN—22AUG95

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

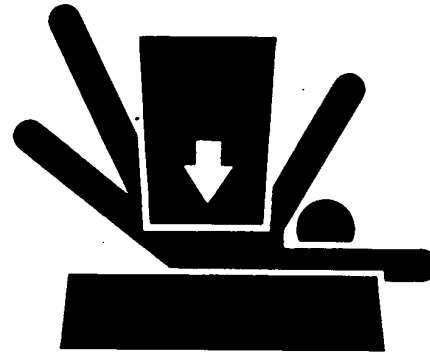
DX, LOOSE -19-04JUN90-1/1

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

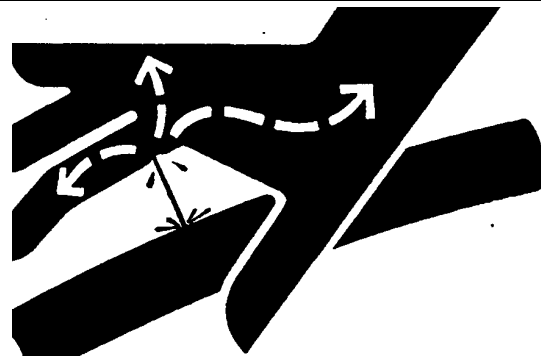
Avoid High-Pressure Fluids

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.

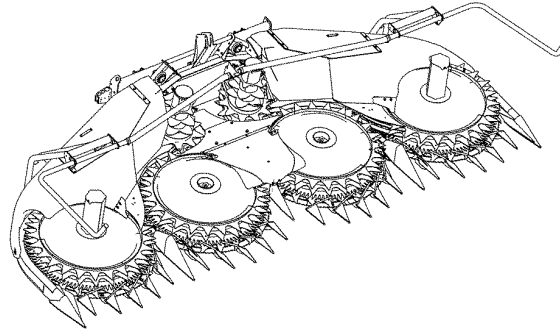


X9811 —UN—23AUG88

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

Stay Clear of the Intake Area

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



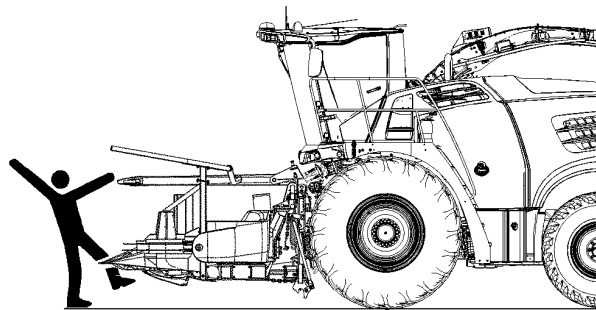
KM1001803

KM1001803 —UN—06DEC11

KM00321,00000E0 -19-03JAN12-1/1

Driving on Roads with Rotary Harvesting Unit Attached

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



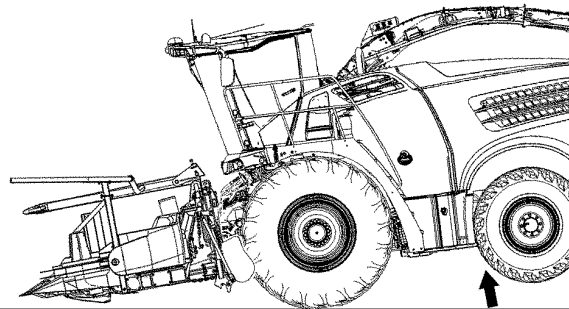
KM232861

KM232861 —UN—10FEB15

KM00321,00003CA -19-12MAR15-1/1

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.



KM232862

KM232862 —UN—10FEB15

KM00321,00003CB -19-12MAR15-1/1

Remove Paint Before Welding or Heating

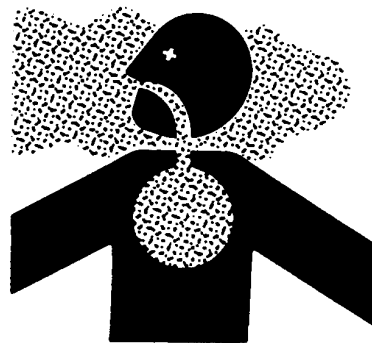
Avoid potentially toxic fumes and dust.

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.

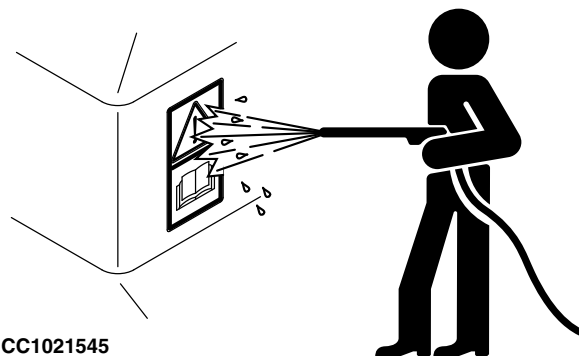
DX,PAINT -19-24JUL02-1/1

TS220—UN—15APR13

Avoid High-Pressure Jet on Safety Decals

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

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



CC1021545

KM00321,00002BB -19-31MAR10-1/1

CC1021545—UN—23APR02

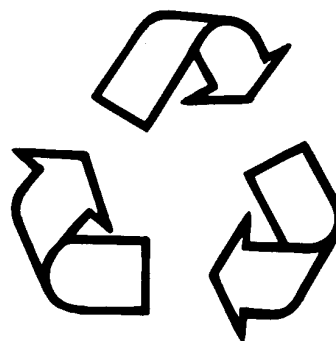
Dispose of Waste Properly

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

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

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

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



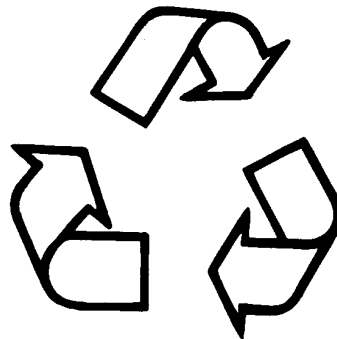
KM00321,000016E -19-14MAY09-1/1

TS1133—UN—15APR13

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.

- 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.

TS1133 —UN—15APR13

KM00321,00004C3 -19-27NOV15-1/1

Protect Against Noise

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.



TS207 —UN—23AUG88

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

Safety Decals

Pictorial Safety Signs

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



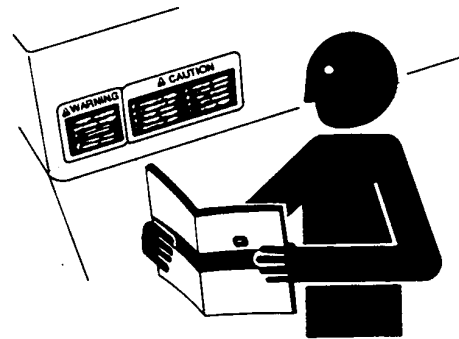
TS231 —19—07OCT88

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

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.

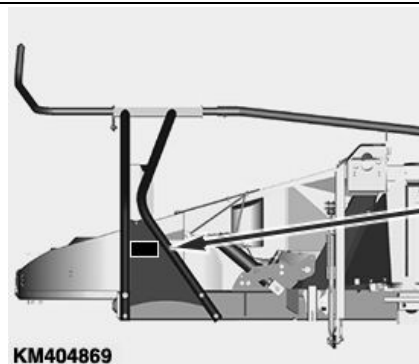


TS201 —UN—15APR13

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

Operator's Manual

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

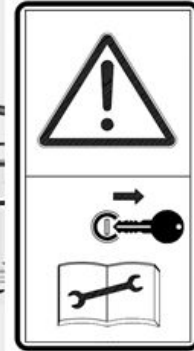
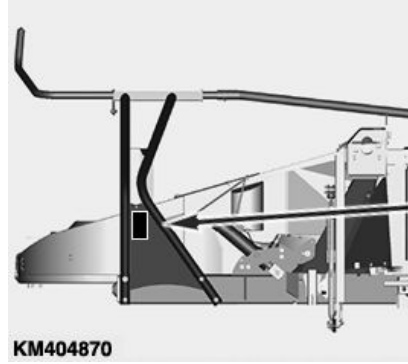


KM404869 —UN—04MAR20

KM00321,0000A2A -19-20MAR20-1/1

Service and repair work

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



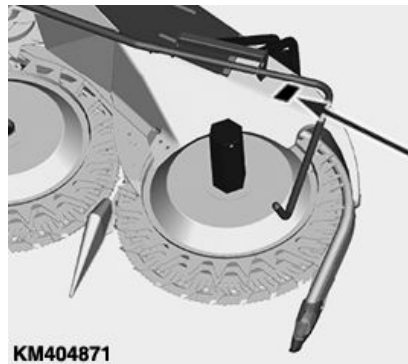
KM404870 —UN—04MAR20

KM00321,0000A2B -19-20MAR20-1/1

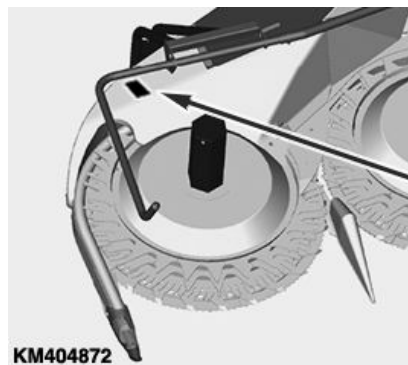
Rotating Blades

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

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



KM404871 —UN—04MAR20



KM404872 —UN—04MAR20

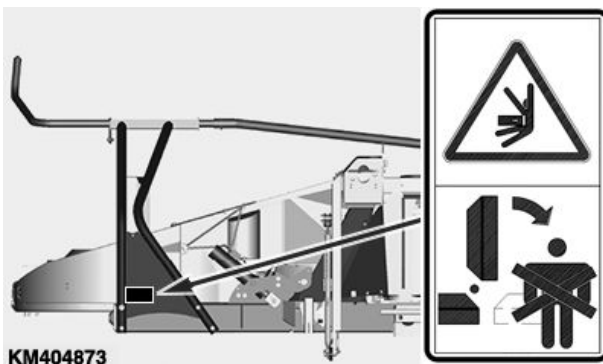
KM00321,0000A2C -19-20MAR20-1/1

Folding Area of the Rotary Harvesting Unit

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

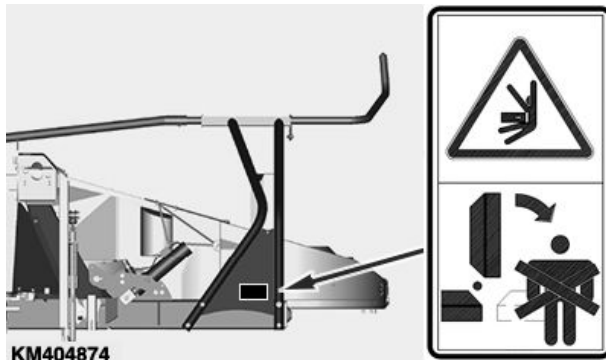
When folding or unfolding the rotary harvesting unit, ensure that no persons are present in the danger zone.

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



KM404873

KM404873 —UN—04MAR20



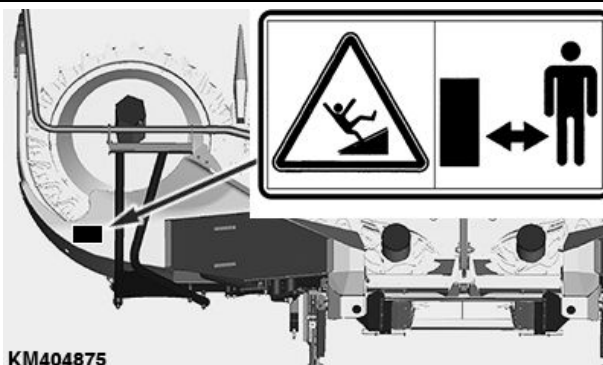
KM404874

KM404874 —UN—04MAR20

KM00321,0000A2D -19-20MAR20-1/1

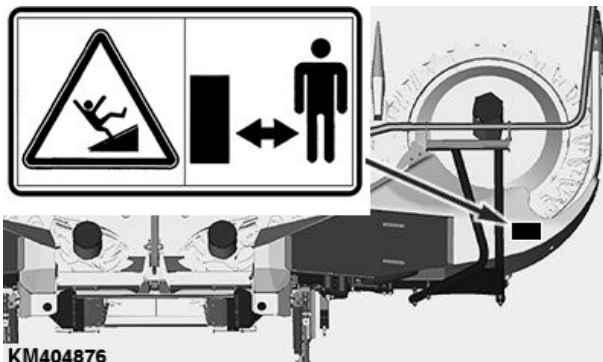
Stay Clear of Rotary Harvesting Unit

DANGER - stay clear of rotary harvesting unit. Disengage rotary harvesting unit drive, shut off engine and remove key before servicing or unclogging machine.



KM404875

KM404875 —UN—04MAR20



KM404876

KM404876 —UN—04MAR20

KM00321,0000A2E -19-20MAR20-1/1

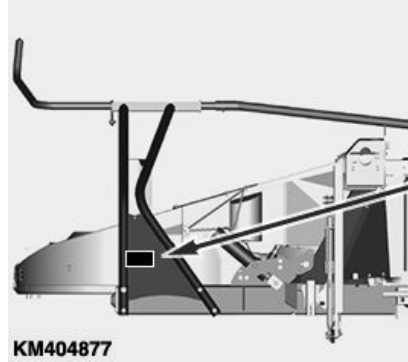
Rotating Drums

Stay clear of rotating drums. Risk of injury!

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

Always keep the required safety distance from the rotating drums.

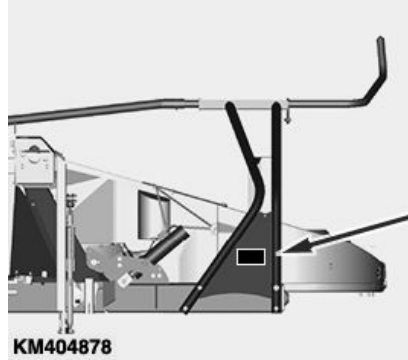
Wait until moving parts have stopped.



KM404877



KM404877 —UN—04MAR20



KM404878

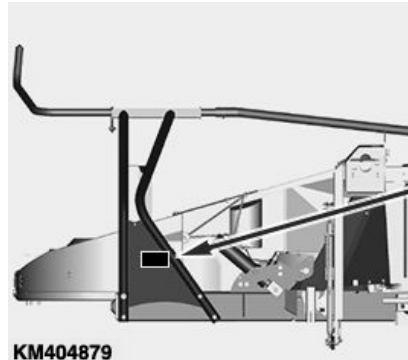


KM404878 —UN—04MAR20

KM00321,0000A2F -19-20MAR20-1/1

Foldable Frame

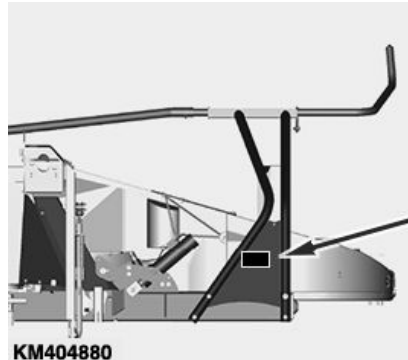
Never reach into the danger area while outer parts are still moving. Risk of crushing or serious injury if body parts enter the danger zone.



KM404879



KM404879 —UN—04MAR20



KM404880



KM404880 —UN—04MAR20

KM00321,0000A30 -19-20MAR20-1/1

Haulage

Loading with a Crane

Raise the rotary harvesting unit with a crossbar



KM380937

A—Chains

B—Chains

C—Crossbar

CAUTION: When loading the rotary harvesting unit with a crane, always use the suspension points. This prevents the machine from toppling over.

Make sure to use chains and hoisting devices that meet the weight requirements of the rotary harvesting unit (see "Specifications" section).

IMPORTANT: The lifting eye nuts in the gathering drums must be screwed in completely.

The chains (A) and (B) must be pulled upwards **vertically**. Therefore, use a traverse (C).

CAUTION: Lifting the rotary harvesting unit without a traverse will pull the chains at an angle and leads to an overload of the lifting eye nuts in the gathering drums.

Continued on next page

KM00321,0000A31 -19-20MAR20-1/2

KM380937 —UN—28JUN19

Lifting the Rotary Harvesting Unit With Optional Lifting Eye Nut Kit

CAUTION: When loading the rotary harvesting unit with a crane, always use the suspension points. This prevents the machine from toppling over.

Make sure to use chains and hoisting devices that meet the weight requirements of the rotary harvesting unit (see "Specifications" section).

A special kit is required when raising the rotary harvesting unit without a crossbar. This parts kit is mandatory and consists of two heavy-duty lifting eye nuts (A).

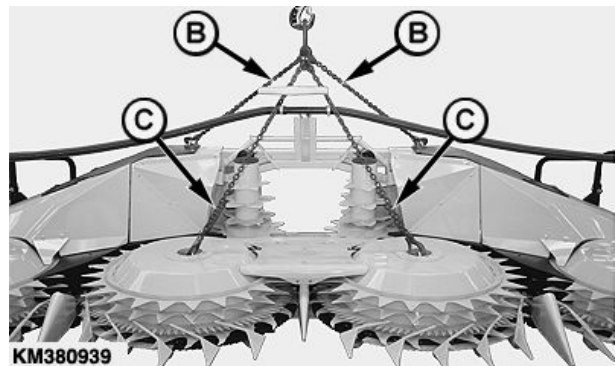
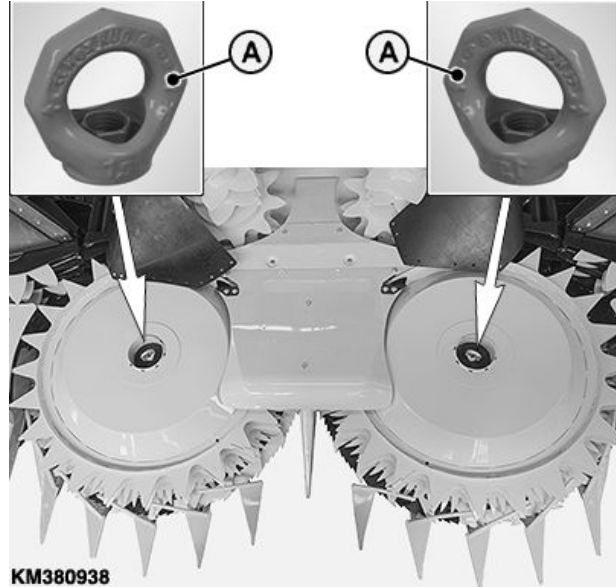
NOTE: The parts kit is available through spare parts channel. Contact Your Dealer.

1. Remove the existing lifting eye nuts in the two center gathering drums and install the heavy-duty lifting eye nuts (A).

IMPORTANT: The lifting eye nuts (A) must be screwed in completely. Only tighten the lifting eye nuts (A) by hand.

2. Lift the rotary harvesting unit by using chains (B) and (C) with the relevant length as shown on illustration.

A—Heavy-Duty Lifting Eye Nuts C—Chain, 1600 mm (5 ft 2.99 in)
B—Chain, 1540 mm (5 ft 0.62 in)

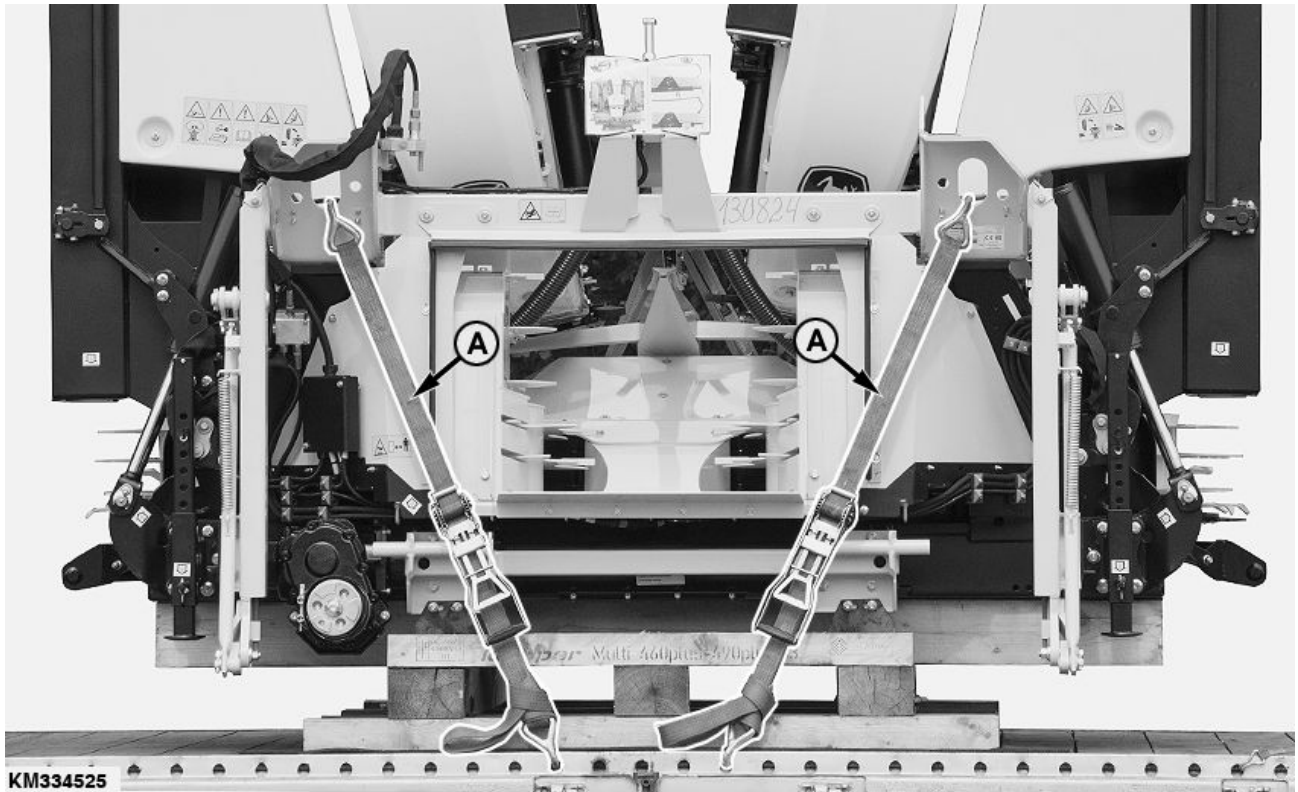


KM380938 —UN—28JUN19

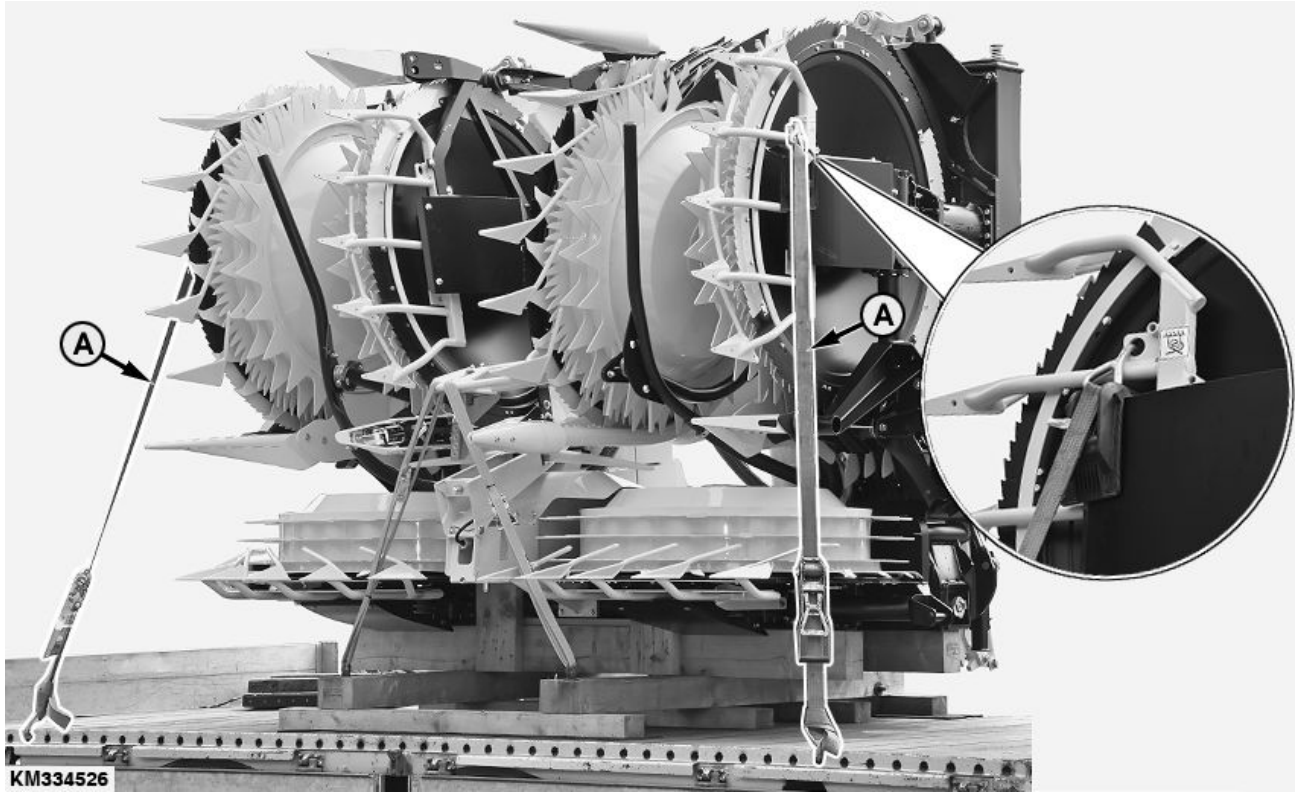
KM380939 —UN—28JUN19

KM00321,0000A31 -19-20MAR20-2/2

Secure the Rotary Harvesting Unit for Transport (Lashing Points)



Lashing points



Lashing Points

A—Bungee cords

Continued on next page

KM00321.000071E -19-10JAN18-1/2

Haulage

Secure the rotary harvesting unit with bungee cords (A) on both sides as shown. Secure accessories with an additional bungee cord (optional).

KM00321,000071E -19-10JAN18-2/2

Preparing the rotary harvesting unit

Unpacking

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

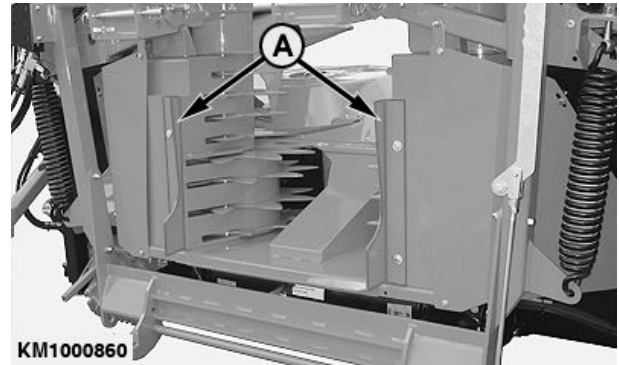
OUKM001,0000027 -19-01MAR05-1/1

Adapt the Scrapers to the Feed Passage

Before attaching the rotary harvesting unit to the forage harvester, ensure that the scrapers (A) match with the channel width of the forage harvester.

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

A—Scraper



KM1000860 —UN—20MAY09

KM00321,0000174 -19-20MAY09-1/1

Attaching to a CLAAS 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 CLAAS forage harvester types:

Rotary harvesting unit/CLAAS forage harvester compatibility chart

460 ^{plus}	840 Type 492/496/500
	850 Type 492/493/496/500
	860 Type 496/500
	870 Type 492/493/496/500
	890 Type 492/493
	900 Type 492/493
	930 Type 494/497/498/502
	940 Type 494/497/498/502
	950 Type 494/497/498/502
	960 Type 494/497/498/499/502
	970 Type 494/497/498/502
	980 Type 494/497/498/502
	990 Type 494/497/498/499/502

KM00321,0000B21 -19-29OCT20-1/1

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.**

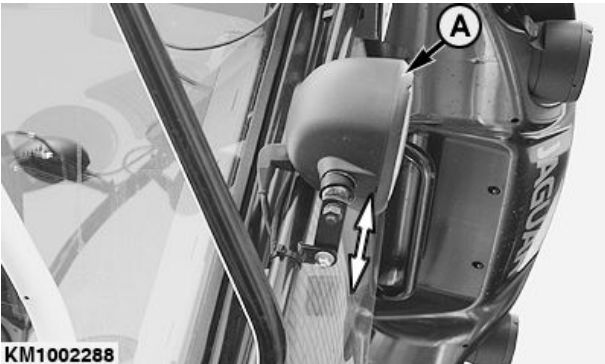
KM00321,0000204 -19-18AUG09-1/1

Adjust additional headlights on forage harvester

IMPORTANT: When folding the rotary harvesting unit, there is a risk of collision with the forage harvester's auxiliary headlights (A).

To avoid a collision when folding the mower attachment, adjust the forage harvester's auxiliary headlights (A) as far outward as possible.

A—Auxiliary headlights



KM1002288 —UN—07MAY12

KM00321,00008B5 -19-25FEB19-1/1

Attaching to type 498, 499 and 502 forage harvesters with variable header drive

Rotary harvesting units for the Claas type 498, 499 and 502 forage harvesters are technically prepared for the variable header drive.

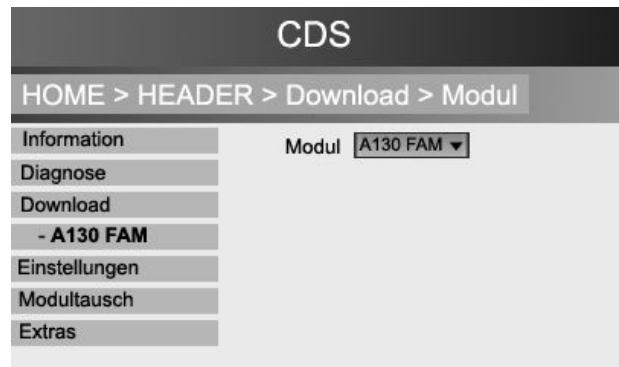
In addition, programming steps are required in the forage harvester software, which must be matched with Claas. Contact the Claas dealer concerning this.

IMPORTANT: To use the variable header drive, module **A130FAM** must be programmed for the header drive. Otherwise, the rotary harvesting unit can only be used with constant speed and the adjustment of the header speed is carried out via the Kemper multi-speed gearbox.

NOTE: For rotary harvesting units that are equipped for mounting a support wheel, first it is necessary to delete the existing software on the rotary harvesting unit module. Then the module name A130FAM is visible.

Programming of the A130FAM module takes place via the forage Harvester. To do so, proceed as follows:

1. Attach the rotary harvesting unit to the forage harvester.
2. Connect the forage harvester to a computer and start the Claas Diagnostics System (CDS).
3. Select the A130FAM module for programming the rotary harvesting unit.



KM359969 —UN—22FEB19

KM00321,0000B1D -19-27OCT20-1/5

4. When entering a serial number, enter **released by Claas**.

IMPORTANT: Enter a serial number of a rotary harvesting unit that corresponds to the working width of the Kemper rotary harvesting unit.



KM359968 —UN—22FEB19

Continued on next page

KM00321,0000B1D -19-27OCT20-2/5

IMPORTANT: The following entries must be released by Claas.

5. Use the old Orbis types when selecting the type of machine.

NOTE: For example, in the case of an Orbis 900, select type 992 and not type I53 (see illustration).

6. Depending on the model of the mower attachment, select following settings:

CDS

HOME > HEADER > Download > Modul

Information	Maschinentyp 992 ▼	
Diagnose	657 / I49	ORBIS 450
Download	658 / I50	ORBIS 600
- Modul	I51	ORBIS 606
Einstellungen	I41 / I54	ORBIS 635
Modultauch	659 / I52	ORBIS 750
Extras	992 / I53	ORBIS 900

KM359967 —UN—22FEB19

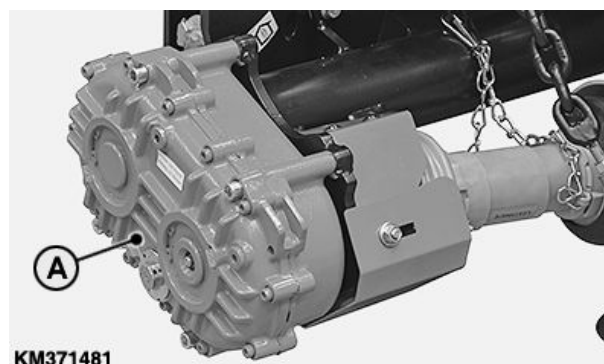
Rotary harvesting unit model	Machine type	Transmission	Transport system
345plus	Orbis 450	3 speed transmission	No transport system
360plus/460plus without chassis	Orbis 600	3 speed transmission	No transport system
360plus/460plus with chassis	Orbis 750	3 speed transmission	Transport wagon
375plus/475plus without chassis	Orbis 750	3 speed transmission	No transport system
375plus/475plus with chassis	Orbis 750	3 speed transmission	Transport wagon
390plus/490plus without chassis	Orbis 900	3 speed transmission	No transport system
390plus/490plus with chassis	Orbis 900	3 speed transmission	Transport wagon

IMPORTANT: Additionally, select the setting "variable drive" for each type.

KM00321,0000B1D -19-27OCT20-3/5

7. Shift the multi speed gearbox (A) on the cutting attachment in the 3. gear (see **Adjusting Gear Selection with Multi Speed Gearbox for CLAAS Forage Harvesters** in the section Operating the Rotary Harvesting Unit).

A—Multi-Speed Transmission

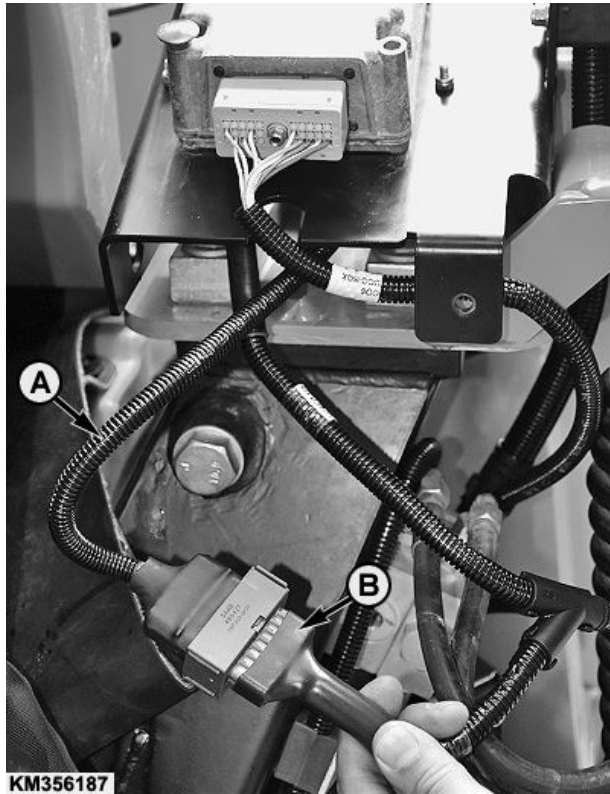


KM371481

KM371481 —UN—14MAR19

Continued on next page

KM00321,0000B1D -19-27OCT20-4/5

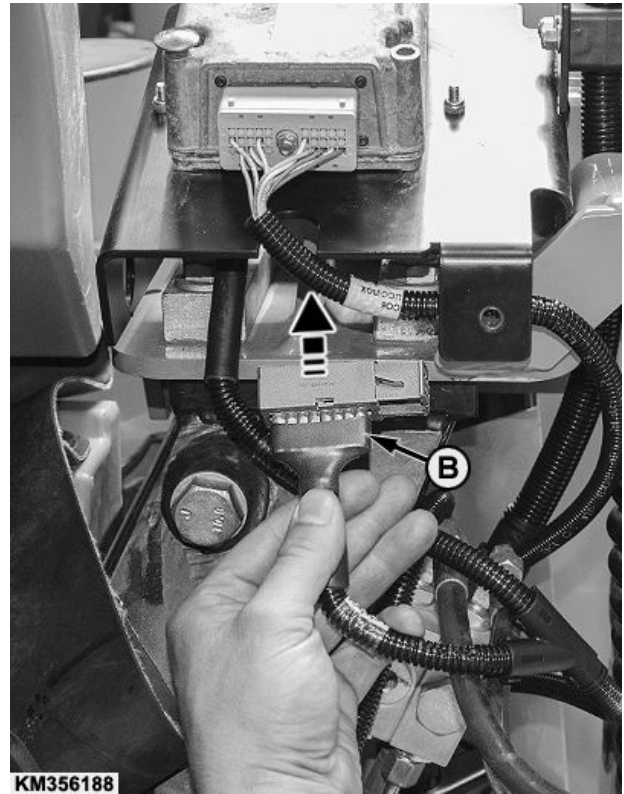


A—Adapter cable

B—Main wiring harness connector

IMPORTANT: Perform this step only for rotary harvesting units that have been equipped for attachment of a support wheel at the factory.

NOTE: Rotary harvesting units that have not been equipped for attachment of a support wheel at the factory have no adapter cable (A).

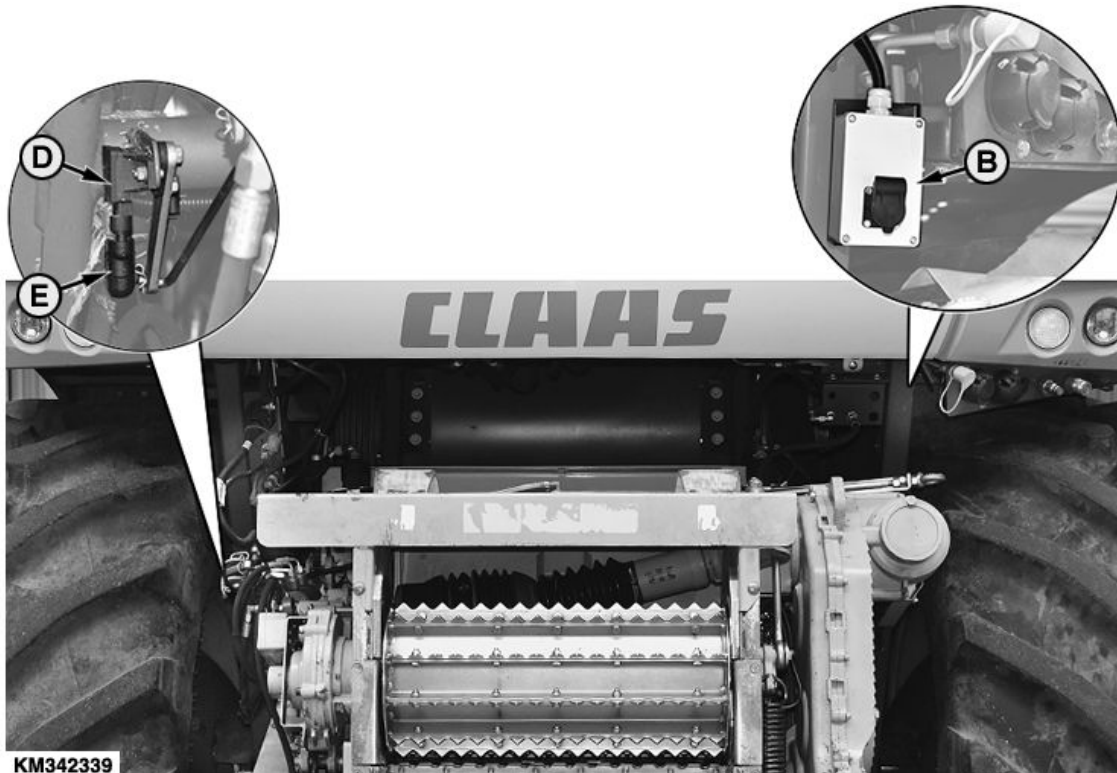


8. The adapter cable (A) must be removed from the Claas control unit (C) when the programming is complete. To do so, proceed as follows:

- Remove adapter cable (A).
- Insert connector (B) of the main wiring harness directly to the Claas control unit.

KM00321.0000B1D -19-27OCT20-5/5

Install additional wiring harness (only forage harvesters of types 498, 499 and 502)



KM342339 —UN—03JUL18

IMPORTANT: The additional wiring harness is supplied with the following rotary harvesting units and must be mounted on the forage harvester:

- All rotary harvesting units that are equipped for the attachment of the additional chassis
- All 10-row and 12-row rotary harvesting units

NOTE: The additional wiring harness is required so that the rotary harvesting unit can be folded in the raised condition.

The supplied wiring harness must be installed on the Claas forage harvester before attaching the rotary harvesting unit for the first time.

To do so, proceed as follows:

1. Pull out the connector (E) from the angle sensor (D) of the forage harvester.
2. Connect the plug connections (A) of the supplied wiring harness between the angle sensor (D) and connector (E) on the forage harvester.



KM342337 —UN—02JUL18

A—Connectors
B—Socket outlet
C—Connecting cable

D—Angle sensor
E—Connector

Continued on next page

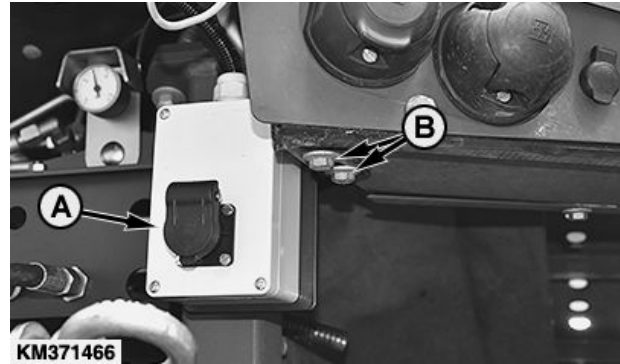
KM00321,0000B22 -19-29OCT20-1/3

3. Install the socket outlet (A) on the Claas forage harvester with screws (B).

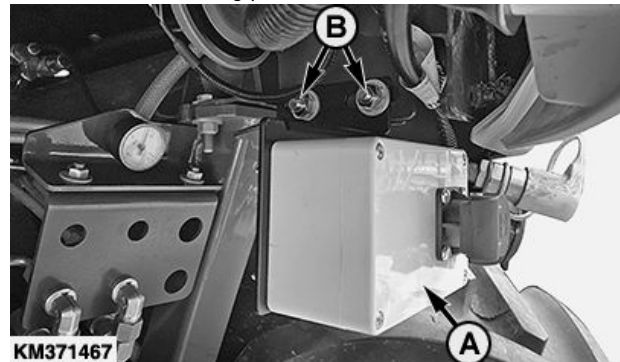
NOTE: The mounting position of the socket outlet varies and depends on the manufacture year of the forage harvester.

A—Socket outlet

B—Bolts



Mounting position of the socket outlet



Mounting position of the socket outlet

KM00321,0000B22 -19-29OCT20-2/3

4. Fix the remaining cables with cable binders (A) behind the front cover.

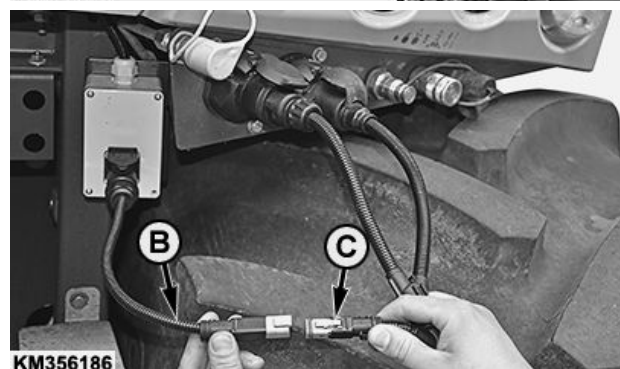
5. Plug the connection cable (B) into the socket outlet and connect it to the main wiring harness (C).

NOTE: The socket outlet may be mounted on the forage harvester after the corn harvest. The socket outlet does not function as long as no plug is inserted.

A—Cable binder

B—Connecting cable

C—Main wiring harness



KM00321,0000B22 -19-29OCT20-3/3

Attaching to CLAAS Forage Harvesters

Rotary Harvesting Units with Standard Tilt Frame

1. Drive the forage harvester close to the rotary harvesting unit's frame until latching hooks (A) protrude into brackets (D) of the attaching frame.

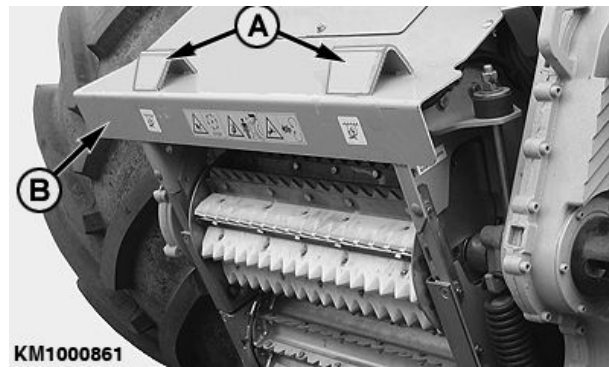
NOTE: Brackets (D) may be installed in two different positions. Thus the rotary harvesting unit tilt in relation to the ground may be varied.

2. Remove pins (C) on both sides.
3. Lift front shield (B) up until latching hooks (A) of the rotary harvesting unit lie in brackets (D).
4. Lock the rotary harvesting unit:
Secure upper bearing point by installing pin (C).
Lock lower bearing point by engaging lever (E).

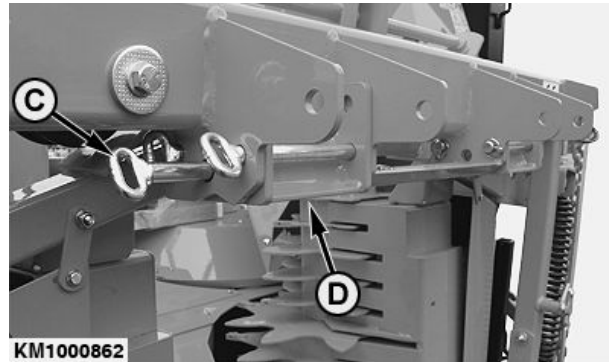
IMPORTANT: Retain pin (C) and lever (E) with spring locking pin.

A—Latching Hooks
B—Front Shield
C—Pin

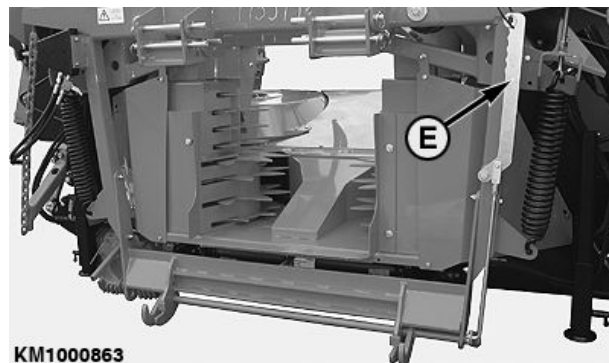
D—Bracket
E—Lever



KM1000861 —UN—25MAY09



KM1000862 —UN—25MAY09



KM1000863 —UN—25MAY09

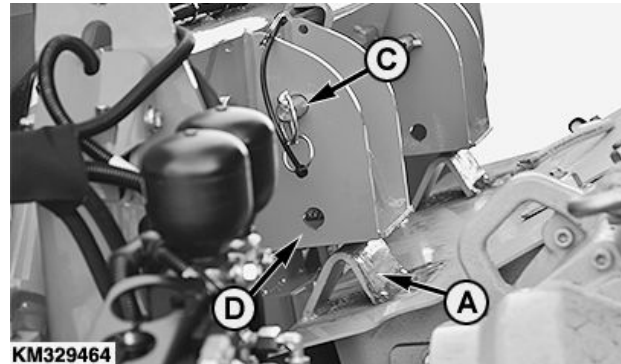
Continued on next page

KM00321,00006CB -19-09OCT17-1/2

Rotary Harvesting Units with Attaching Frame for Support Wheel



KM1000861 —UN—25MAY09



KM329464 —UN—29SEP17

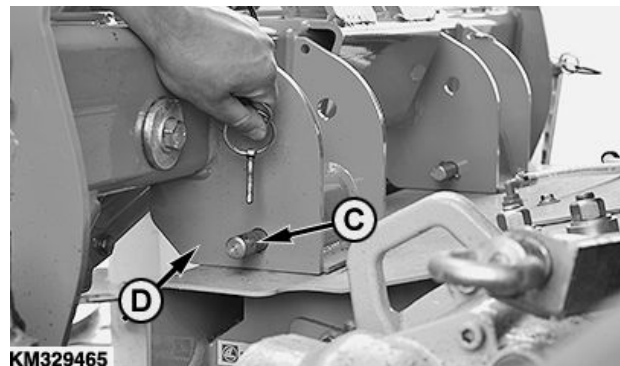
1. Drive the forage harvester close to the rotary harvesting unit's frame until latching hooks (A) protrude into brackets (D) of the attaching frame.
2. Remove pins (C) on both sides.
3. Lift front shield (B) up until latching hooks (A) of the rotary harvesting unit lie in brackets (D).
4. Secure upper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

IMPORTANT: Retain pin (C) and lever (E) with spring locking pin.

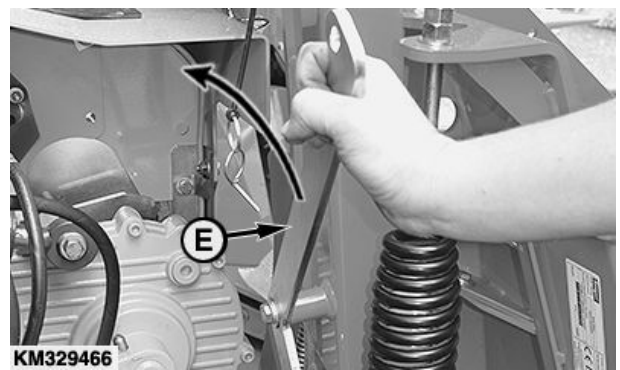
5. Lock jackstands (F) on the right and left side in the highest position. To do this, pull out spring-loaded pin (G) and let it re-engage when the jackstand is in its final position.

A—Latching Hooks
B—Front Shield
C—Pin
D—Bracket

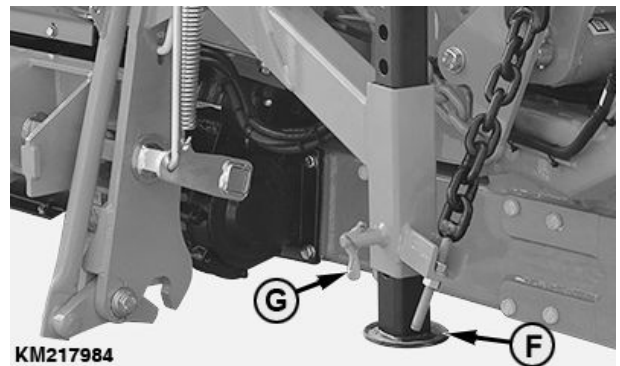
E—Lever
F—Jackstand
G—Pin



KM329465 —UN—09OCT17



KM329466 —UN—29SEP17



KM217984 —UN—15SEP14

KM00321,00006CB -19-09OCT17-2/2

Rotary Harvesting Units with Multi-Speed Gearbox and Quick Coupler

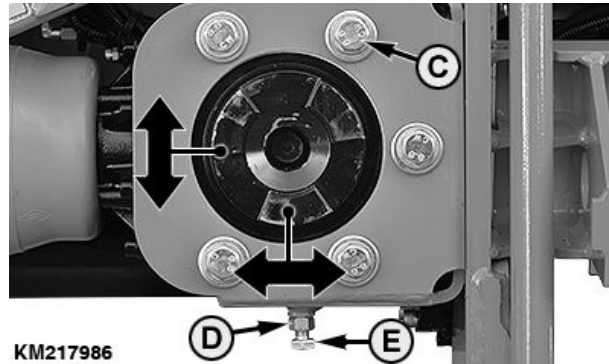
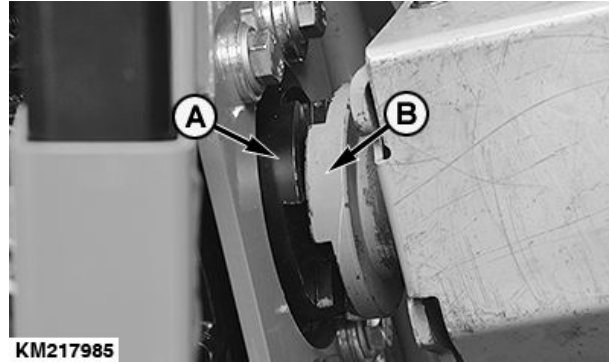
Adjust the quick coupler (only for initial use)

1. Make sure that attaching claw (A) on the rotary harvesting unit and attaching claw (B) on the forage harvester are in alignment.
2. If necessary, adjust the attaching claw (A) on the rotary harvesting unit.
 - Loosen screws (C).
 - Loosen lock nut (D) and adjust attaching claw (A) with set screw (E).
 - Tighten lock nut (D).
 - Tighten screws (C) to specified torque.

Specification

Screws (C) on Quick Coupler—Torque..... 240 N·m (177 lb.-ft.)

- A—Attaching Claw on Rotary Harvesting Unit
 B—Attaching Claw on Forage Harvester
 C—Screw
 D—Lock Nut
 E—Set Screw



KM217985—UN—15SEP14

KM217986—UN—15SEP14

KM00321,00006CD -19-05OCT17-1/2

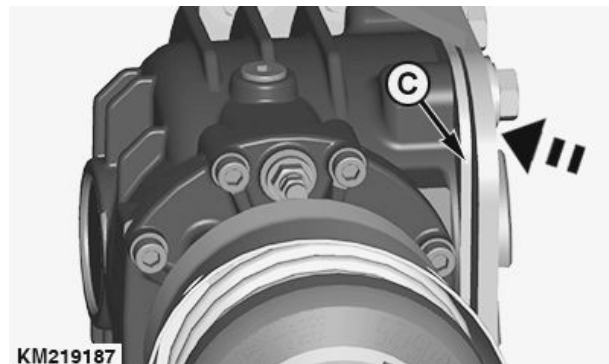
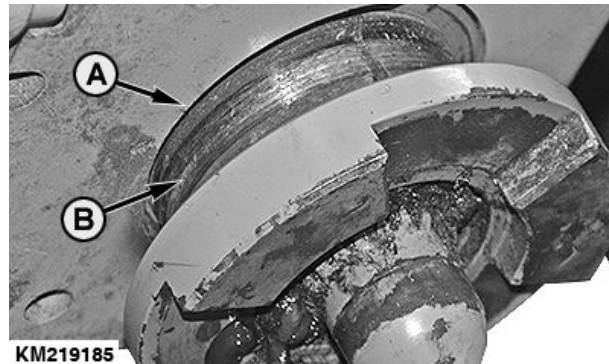
Adjust quick coupler in axial direction

IMPORTANT: Make sure that groove (B) on attaching claw of the forage harvester turns freely and does not touch housing (A).

CAUTION: Risk of fire - Incorrect setting may result in airborne sparks!

If necessary, install spacer plate (C) **before** installing the bracket (see arrow).

- A—Housing
 B—Groove
 C—Spacer Plate



KM219185—UN—15SEP14

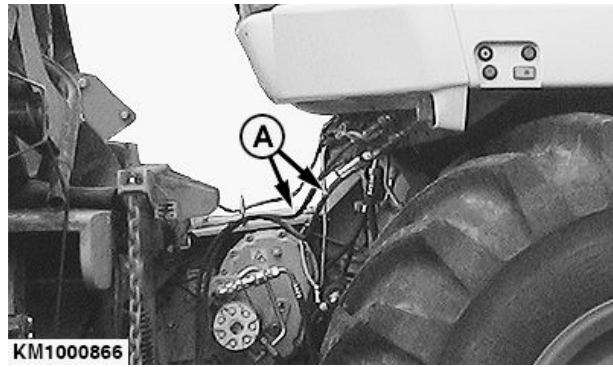
KM219187—UN—15SEP14

KM00321,00006CD -19-05OCT17-2/2

Connect Hydraulic Hoses

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

A—Hydraulic hoses



KM1000866

KM1000866 —UN—26MAY09

KM00321,0000179 -19-27MAY09-1/1

Connect the Drive (Type 492)

NOTE: A step guard (A) for the u.j. shaft is installed on the input transmission.

After the rotary harvesting unit has been attached to the forage harvester, the universal-jointed shaft for the drive must be installed.

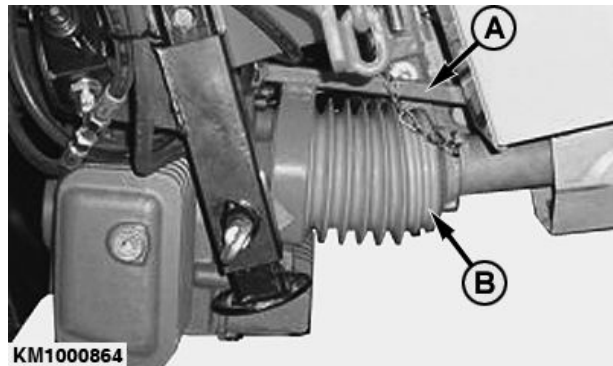
1. Install u.j. shaft (B) as shown.

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

2. Secure guard for u.j. shaft with safety chain (C) to prevent it from turning.

A—Step guard
B—U.j. shaft

C—Safety chain



KM1000864

KM1000864 —UN—26MAY09



KM1000865

KM1000865 —UN—26MAY09

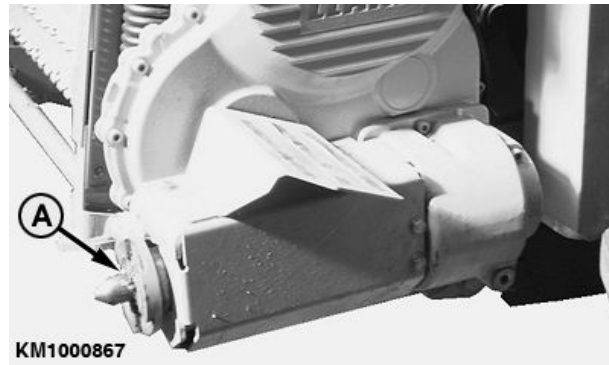
KM00321,0000177 -19-08JUN09-1/1

Connecting the Drive (Types 493, 494 and 497)

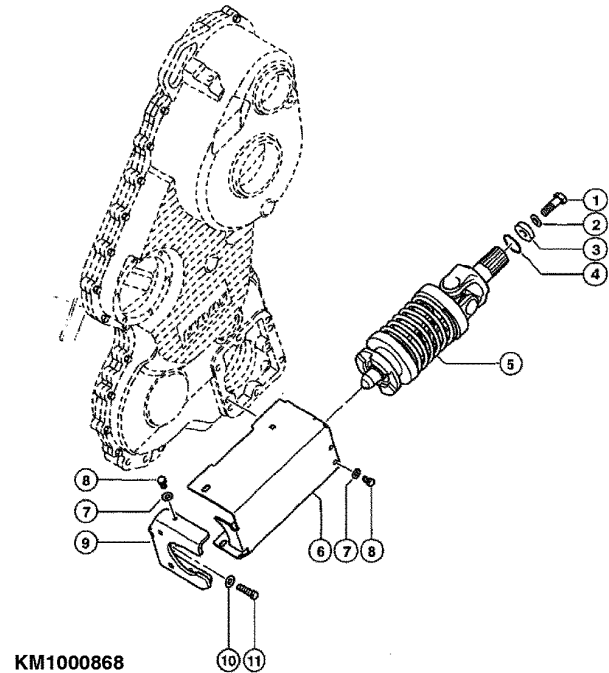
1. Completely remove claw clutch (A) from rotary harvesting unit drive.

To do this, disassemble items 1 to 11.

A—Claw clutch



KM1000867 —UN—26MAY09



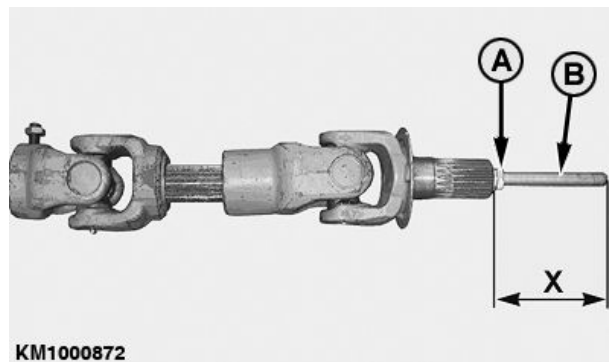
KM1000868 —UN—26MAY09

KM00321,00008F4 -19-13MAR19-1/7

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

A—Hex Nut
B—Threaded Rod

X—167 mm



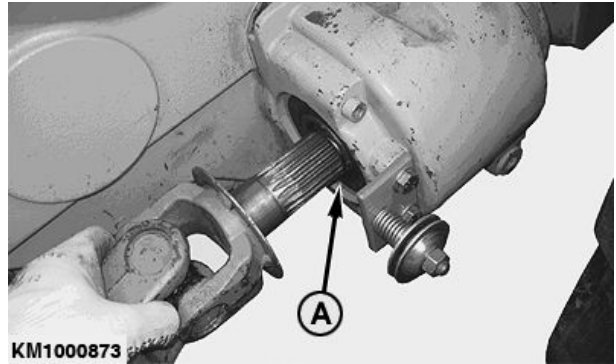
KM1000872 —UN—26MAY09

Continued on next page

KM00321,00008F4 -19-13MAR19-2/7

- First insert universal-jointed shaft into splined bushing (A) of rotary harvesting unit drive on the forage harvester.

A—Splined Bushing



KM1000873

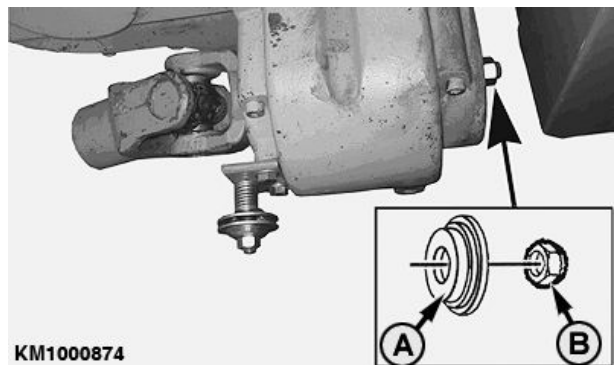
KM1000873 —UN—28MAY09

KM00321,00008F4 -19-13MAR19-3/7

- Secure universal-jointed shaft with bushing (A) and retaining nut (B).

A—Bushings

B—Retaining Nut



KM1000874

KM1000874 —UN—28MAY09

KM00321,00008F4 -19-13MAR19-4/7

- Put the other end of the universal-jointed shaft on the rotary harvesting unit gearbox (A).

A—Transmission



KM1000875

KM1000875 —UN—26MAY09

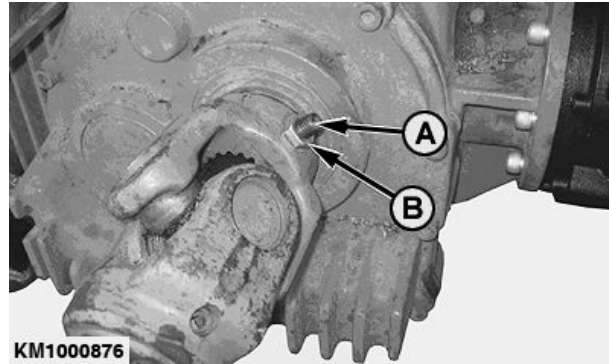
Continued on next page

KM00321,00008F4 -19-13MAR19-5/7

6. Engage locking screw (A) into groove of splined shaft.
Make sure that u.j. shaft can no longer move.
Tighten lock nut (B).

A—Locking Screw

B—Lock Nut



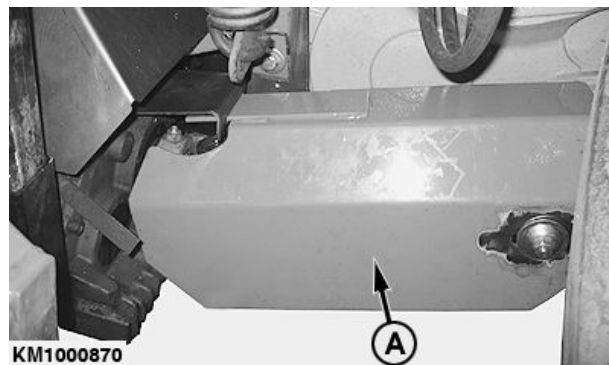
KM1000876 —UN—26MAY09

KM00321,00008F4 -19-13MAR19-6/7

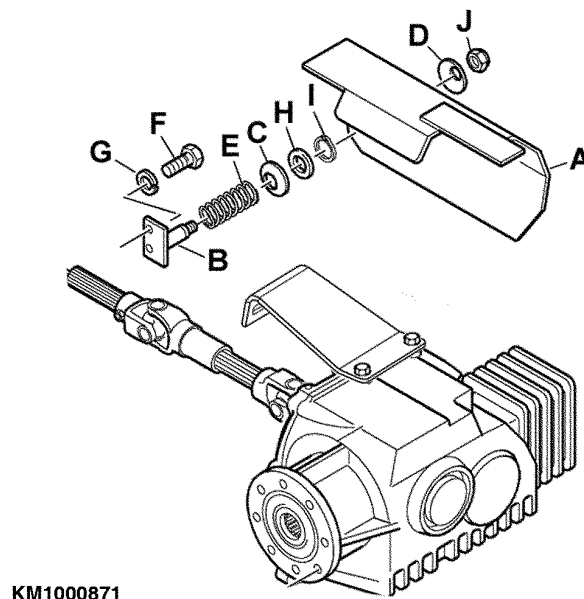
7. Install universal-jointed shaft shaft shield (A) as shown.

A—Universal-Jointed shaft
shield
B—Bracket
C—Cover (56x17x2.5 mm)
D—Cover (56x13x2.5 mm)
E—Compression spring

F—Bolt
G—Spring Washer
H—Back-Up Ring
I—Snap Ring
J—Retaining Nut



KM1000870 —UN—26MAY09



KM1000871 —UN—26MAY09

KM00321,00008F4 -19-13MAR19-7/7

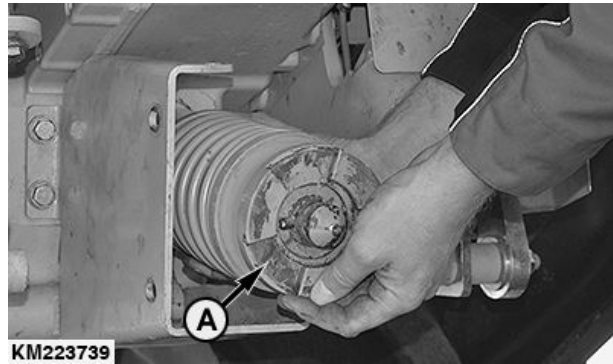
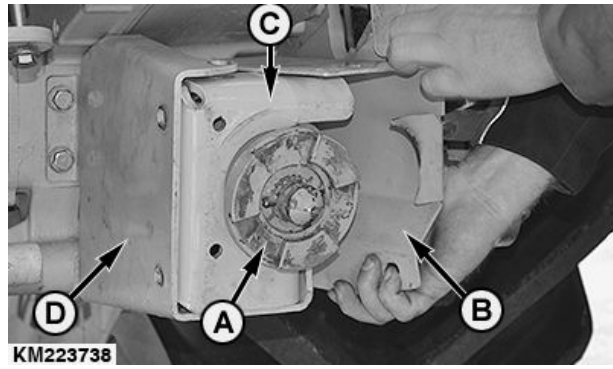
Connecting the Drive (Types 496, 500)

1. Completely remove claw clutch (A) from forage harvester header drive.

To do this, remove plates (B), (C) and (D), and take off claw clutch (A).

A—Claw clutch
B—Metal Sheet

C—Metal Sheet
D—Metal Sheet



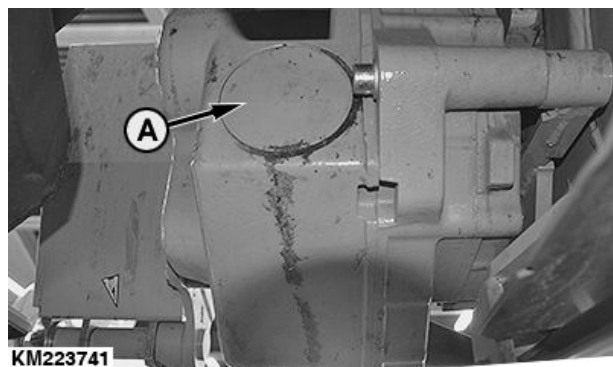
KM223738 — UN — 22OCT14

KM223739 — UN — 22OCT14

KM00321,0000B1F -19-27OCT20-1/8

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

A—Cap



KM223740 — UN — 22OCT14

KM223741 — UN — 22OCT14

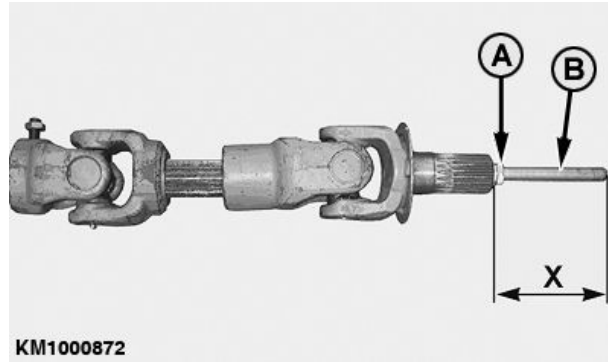
Continued on next page

KM00321,0000B1F -19-27OCT20-2/8

- Screw threaded rod (B) into u.j. shaft, adjust to 225 mm (8.86 in.) (X) and counterlock with hex. nut (A).

A—Hex Nut
B—Threaded Rod

X—225 mm (8.86 in.)



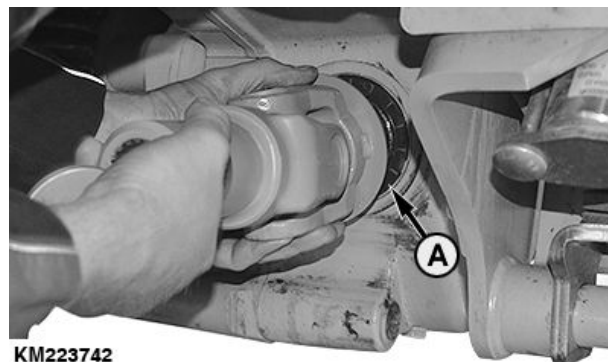
KM1000872 —UN—26MAY09

KM00321,0000B1F -19-27OCT20-3/8

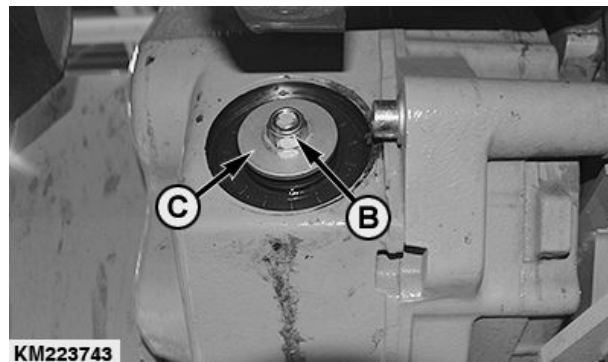
- Insert the universal-jointed shaft into header drive (A) on the forage harvester.
- Secure the universal-jointed shaft to the rear of the header drive using washer (C) and retaining nut (B).
- Put the other end of the Universal-jointed Shaft Shield on the rotary harvesting unit transmission (D).

A—Header Drive
B—Retaining Nut

C—Washer
D—Transmission



KM223742 —UN—22OCT14



KM223743 —UN—22OCT14



KM223744 —UN—22OCT14

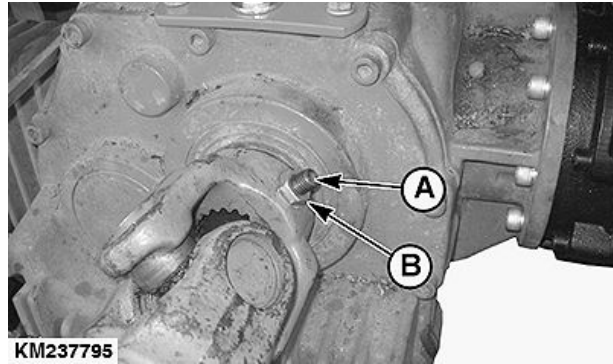
Continued on next page

KM00321,0000B1F -19-27OCT20-4/8

7. Engage locking screw (A) into groove of splined shaft.
Make sure that u.j. shaft can no longer move.
Tighten lock nut (B).

A—Locking Screw

B—Lock Nut



KM237795—UN—13MAR15

KM00321,0000B1F -19-27OCT20-5/8

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

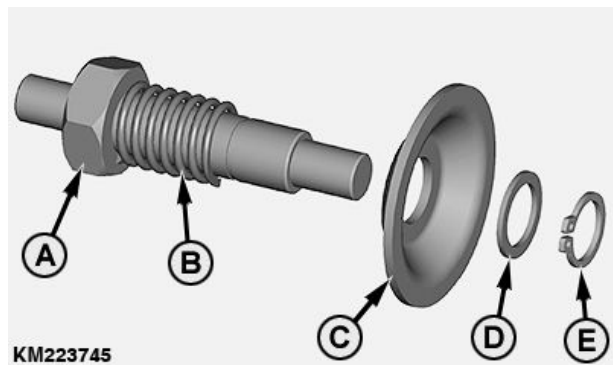
A—Shaft

B—Spring

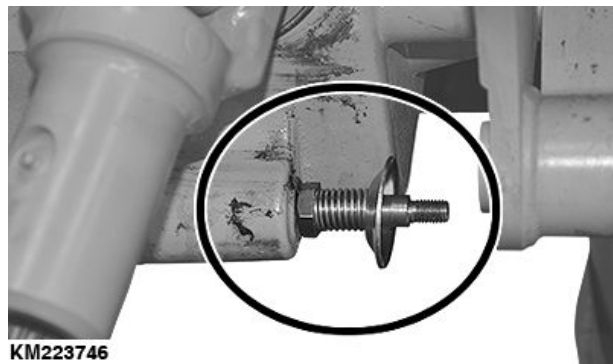
C—Curved Spring Washer

D—Washer

E—Snap Ring



KM223745—UN—22OCT14



KM223746—UN—22OCT14

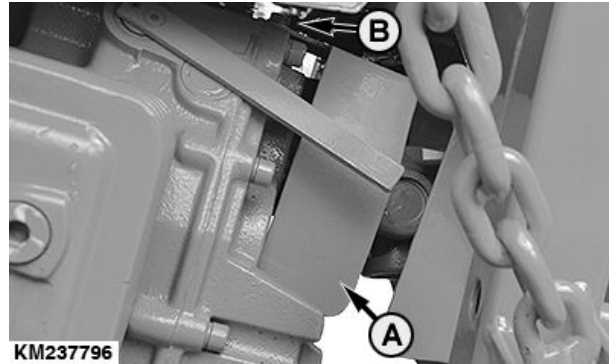
Continued on next page

KM00321,0000B1F -19-27OCT20-6/8

NOTE: The u.j. shaft shield consists of 2 parts.

9. Install the universal-jointed shaft shield (A) on input transmission of the header drive and secure with screw (B).

A—Universal-Jointed Shaft Shield B—Screw

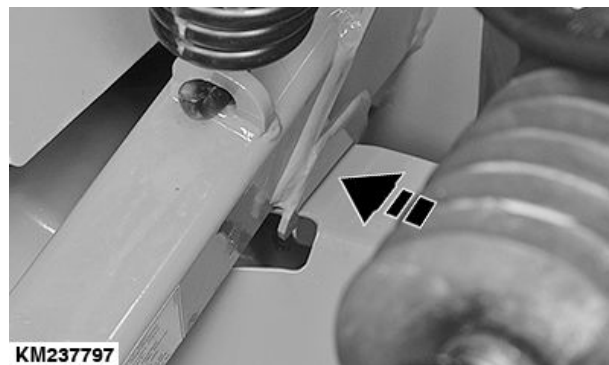


KM237796 —UN—13MAR15

KM00321,0000B1F -19-27OCT20-7/8

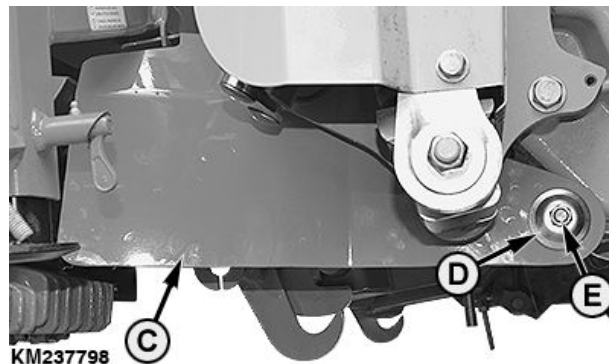
10. Insert the top of universal-jointed shaft shield (C) into the attaching frame (see arrow).
11. Install universal-jointed shaft shield (C) and secure with washer (D) and retaining nut (E).

C—Universal-Jointed Shaft Shield E—Retaining Nut
D—Washer



KM237797

KM237797 —UN—13MAR15



KM237798

KM237798 —UN—13MAR15

KM00321,0000B1F -19-27OCT20-8/8

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).

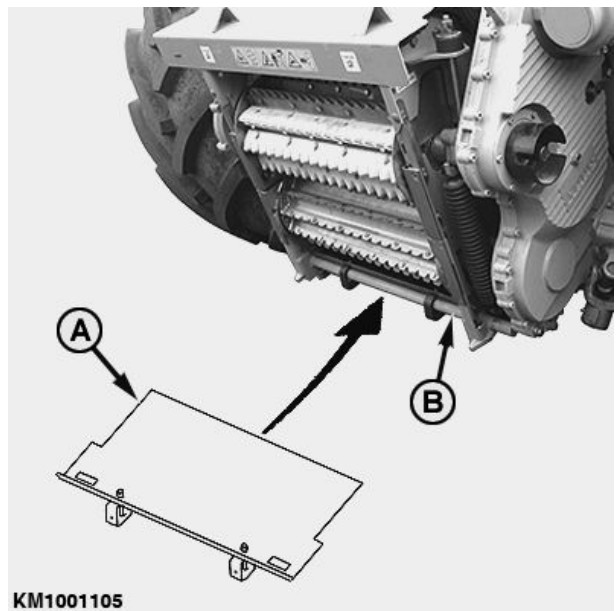
Installation:

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 FENDT Forage Harvester

Align the Oscillating Frame

Align oscillating frame (A) with linear module (B).

A—Oscillating Frame

B—Linear Module



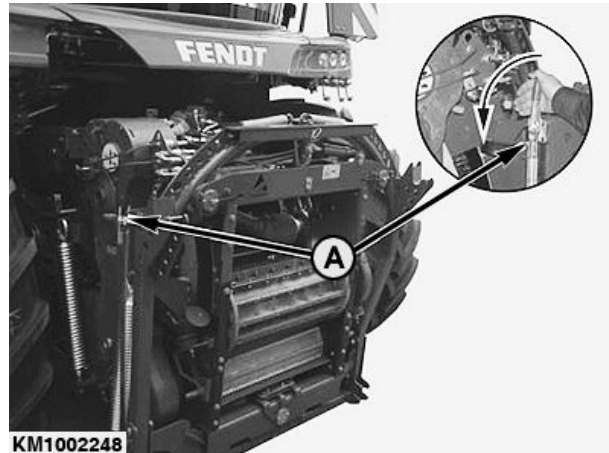
KM1002247 —UN—23MAR12

KM00321,0000126 -19-23MAR12-1/1

Attach the Rotary Harvesting Unit to FENDT Forage Harvesters

1. Use tensioning lever (A) to open the lock.

A—Tensioning Lever



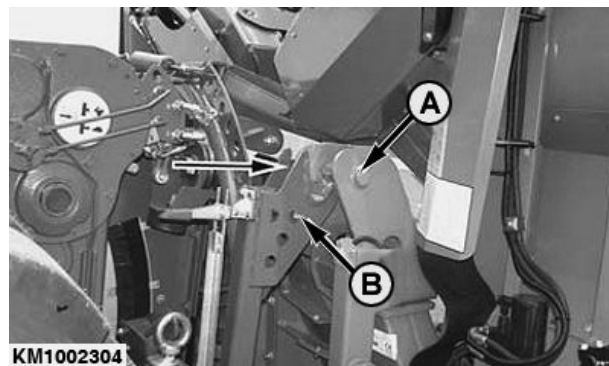
KM1002248 —UN—23MAR12

KM00321,0000184 -19-12JUN12-1/5

2. Drive the forage harvester slowly to the rotary harvesting unit until pins (A) on the right and left sides of the rotary harvesting unit are above the upper receiver jaws (B) on the tilt frame.

A—Pin

B—Receiver Jaws



KM1002304 —UN—11JUN12

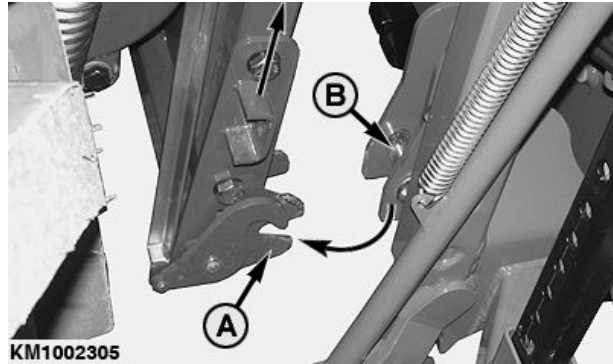
Continued on next page

KM00321,0000184 -19-12JUN12-2/5

3. Raise the lifting gear until pins (B) engage in the lower latches (A) at left and right.
4. Stop the engine.
5. Apply the park brake.

A—Latches

B—Pin

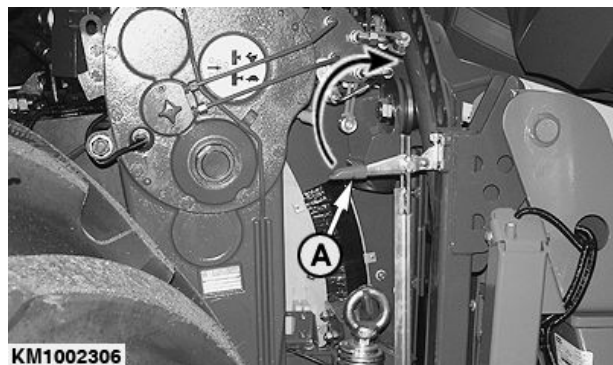


KM1002305 —UN—12JUN12

KM00321,0000184 -19-12JUN12-3/5

6. Use tensioning lever (A) to close the lock.

A—Tensioning Lever

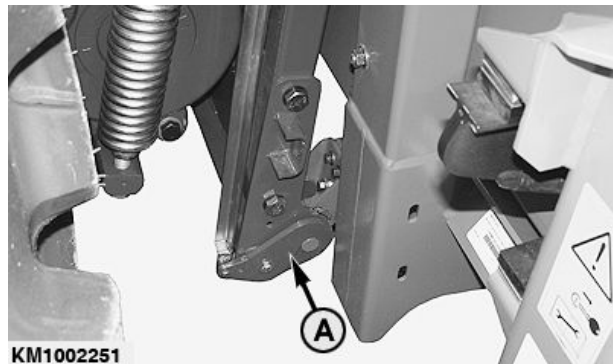


KM1002306 —UN—12JUN12

KM00321,0000184 -19-12JUN12-4/5

7. Check that locking hooks (A) are seated correctly.

A—Locking Hook



KM1002251 —UN—23MAR12

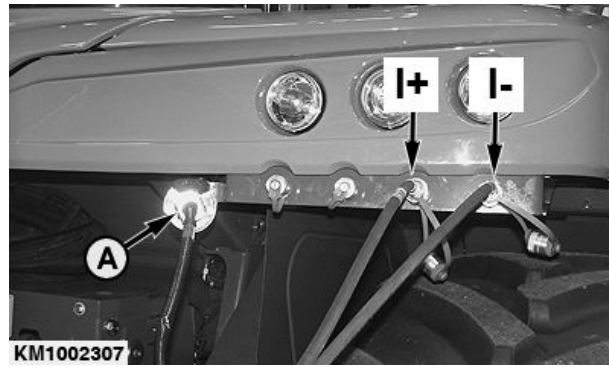
KM00321,0000184 -19-12JUN12-5/5

Connect Hydraulic Hoses and Wiring Harness

The hydraulic outlets on the forage harvester are numbered. Connect the numbered hydraulic hoses of the rotary harvesting unit to the relevant hydraulic outlets of the forage harvester.

Connect wiring harness (A) to the electrical socket on the forage harvester.

A—Wiring Harness



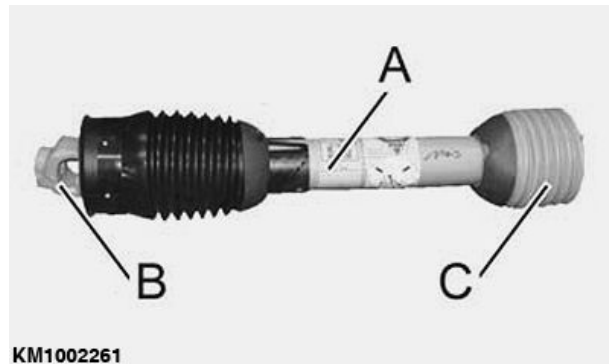
KM1002307 —UN—13JUN12

KM00321,0000185 -19-13JUN12-1/1

U.j. Shaft

A—U.j. Shaft
B—Header End

C—Forage Harvester Feeder End



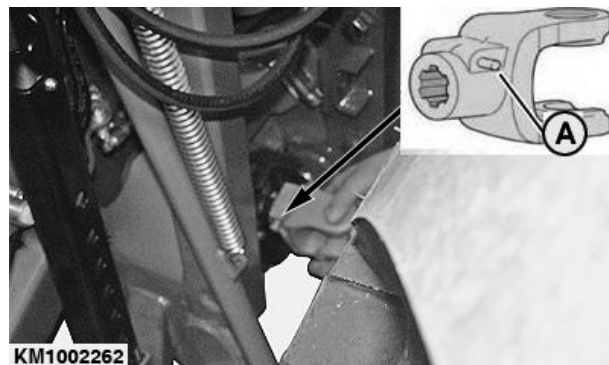
KM1002261 —UN—29MAR12

KM00321,000012C -19-29MAR12-1/1

Connect U.J. Shaft

1. Press sliding pin (A) and slide the joint onto the splined shaft on the rotary harvesting unit until sliding pin (A) engages in the ring-shaped groove.

A—Sliding Pin

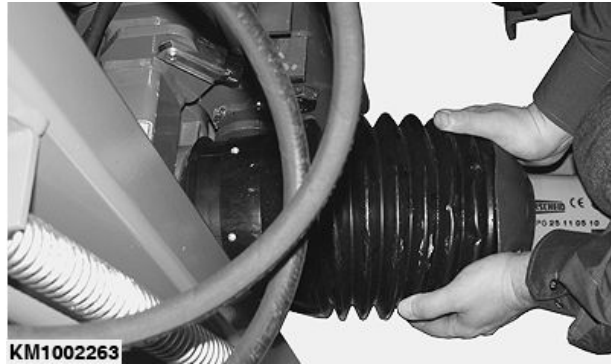


KM1002262 —UN—29MAR12

Continued on next page

KM00321,00001DE -19-07MAY13-1/3

- Slide the guard over the joint until it engages.

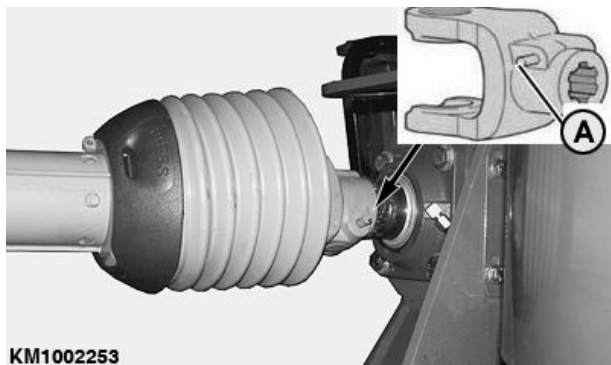


KM1002263 —UN—29MAR12

KM00321,00001DE -19-07MAY13-2/3

- Press sliding pin (A) and slide the joint onto the splined shaft on the forage harvester until sliding pin (A) engages in the ring-shaped groove.

A—Sliding Pin



KM1002253 —UN—29MAR12

KM00321,00001DE -19-07MAY13-3/3

Change the Hydraulic System

Move ball cock (A) to position for the relevant header.



KM1002264 —UN—29MAR12

Continued on next page

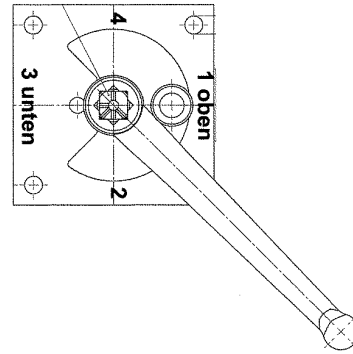
KM00321,000012D -19-29MAR12-1/2

Ball cock positions

1— Position for Maize

2— Position for Grass

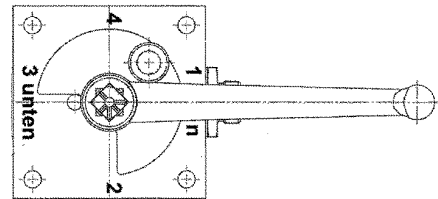
1



KM1002265

KM1002265 —UN—29MAR12

2



KM1002266

KM1002266 —UN—29MAR12

KM00321,000012D -19-29MAR12-2/2

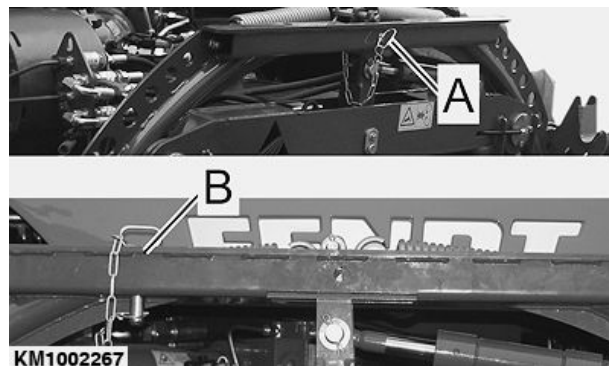
Unlock the Oscillating Frame

Remove locking pin (A) and insert it in hole (B) in the oscillating frame.

NOTE: The oscillating frame is now unlocked.

A—Locking Pin

B—Hole



KM1002267

KM1002267 —UN—29MAR12

KM00321,000012F -19-29MAR12-1/1

Detaching the Rotary Harvesting Unit

Detach the Rotary Harvesting Unit

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

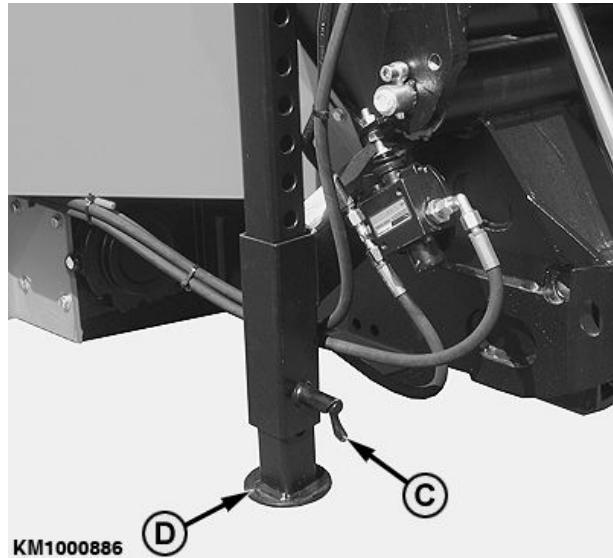
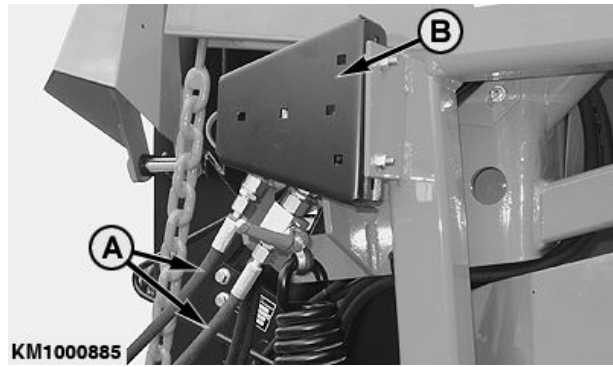
1. Lower the rotary harvesting unit to the ground.
2. Shut off the forage harvester's engine, remove the key from the ignition and apply the parking brake.
3. Disconnect hydraulic hoses (A) from the forage harvester and store them in the bracket provided (B).
4. Pull off the drive shaft.

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

5. Start the forage harvester and lower the rotary harvesting unit until the dividers touch the ground.
6. At left and right, lower jackstands (D) and lock them at a suitable height. To do this, pull out spring-loaded pin (C) and let it re-engage when the jackstand is at the correct height.
7. Open the retainer hooks on the attaching frame.
8. Lower the front shield further and drive out of the rotary harvesting unit's attaching frame.

A—Hydraulic hoses
B—Bracket

C—Pin
D—Jackstand



KM1000885 —UN—27MAY09

KM1000886 —UN—27MAY09

KM00321,0000182 -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

Folding the Rotary Harvesting Unit

CAUTION: Risk of serious injury! When unfolding or folding the rotary harvesting unit, make sure that everyone is clear of the machine.

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

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

KM00321.00000CD -19-20DEC11-1/1

Apply Decal (Rotary Harvesting Units with Support Wheel)

On rotary harvesting units with a support wheel, a decal bearing the specifications is supplied (see illustration).

The decal must be applied to the forage harvester close to its type-plate.

[illegible]

KM225012

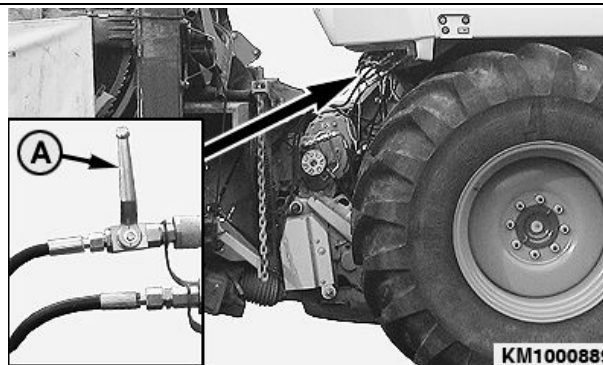
KM225012 —UN—02DEC14

KM00321 000035A -19-05.JAN15-1/1

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

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

A—Safety relief valve



KM1000889 — UN—28MAY09

KM00321.0000188 -19-28MAY09-1/1

Driving on Public Roads (Rotary Harvesting Units with Comfort Support Wheel)



A—Protective curtains

B—Position Lamps/Turning Lights

C—Support wheel

IMPORTANT: Rotary harvesting units equipped for installation of the comfort support wheel (C) may be driven on public roads only if the comfort support wheel is actually attached. See also supplementary Operator's Manual for comfort support wheel 400F.

When driving on public roads with the comfort support wheel attached, the entire area around the dividers is covered with protective cloths (A).

Position Lamps and Turning Lights:

As the position lamps and turning lights on the forage harvester are covered by the gathering drums in raised position, the comfort support wheel features two duplicated position lamps/turning lights (B).

KM00321,0000A32 -19-20MAR20-1/1

KM409023 —UN—20MAR20

Driving on Public Roads (Rotary Harvesting Units without Comfort Support Wheel)

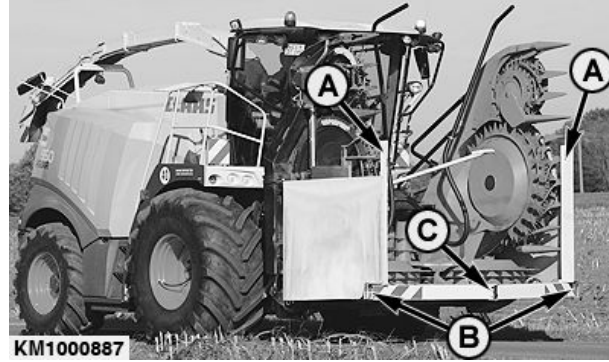
When driving on public roads, the entire area around the crop separators must be covered with a protective guard (A).

Protective guard (A) assembly sequence:

1. Wait until rotating blades have come to a complete stop. Then fold up the side cutting units.
2. Place and unfold accident prevention device (C) on the central divider point.
3. Install protective guards (A) on left and right side, and fasten them with the rope provided with accident prevention device.
4. The skid shoes, blades and other edges are covered with protective cloths.

Side lamps and indicators:

As the side lamps and indicators on the forage harvester are usually covered by the intake drums in raised position, the accident protection device features two duplicated position lamps/indicators (B). For the 12 V power supply, use the 7-pole plug located on the right-hand side of the harvester.



A—Shield
B—Position Lamps/Turning Lights

C—Accident Prevention Device

KM1000887 —UN—27MAY09

Ground clearance:

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

KM00321,0000A33 -19-20MAR20-1/1

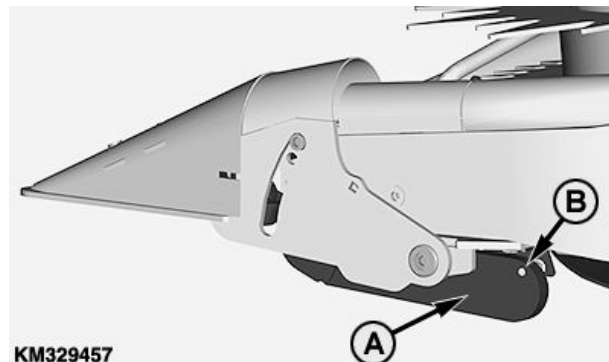
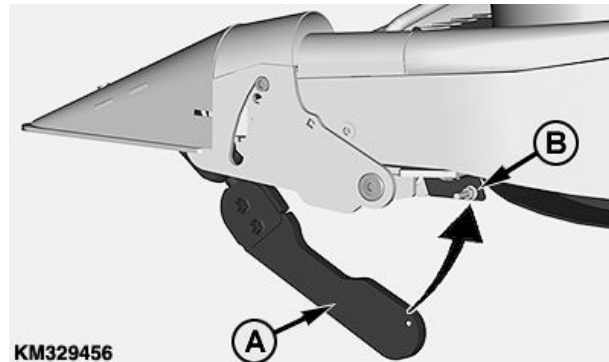
Set AHC sensors in the transport position

The AHC sensors (a) must be placed in the transport position to maintain the maximum permissible transport width:

- Swing AHC-Sensor (A) in direction of arrow.
- Install AHC sensor (a) on bolt (b).
- Repeat procedure on the other side.

A—AHC-Sensor

B—Screw



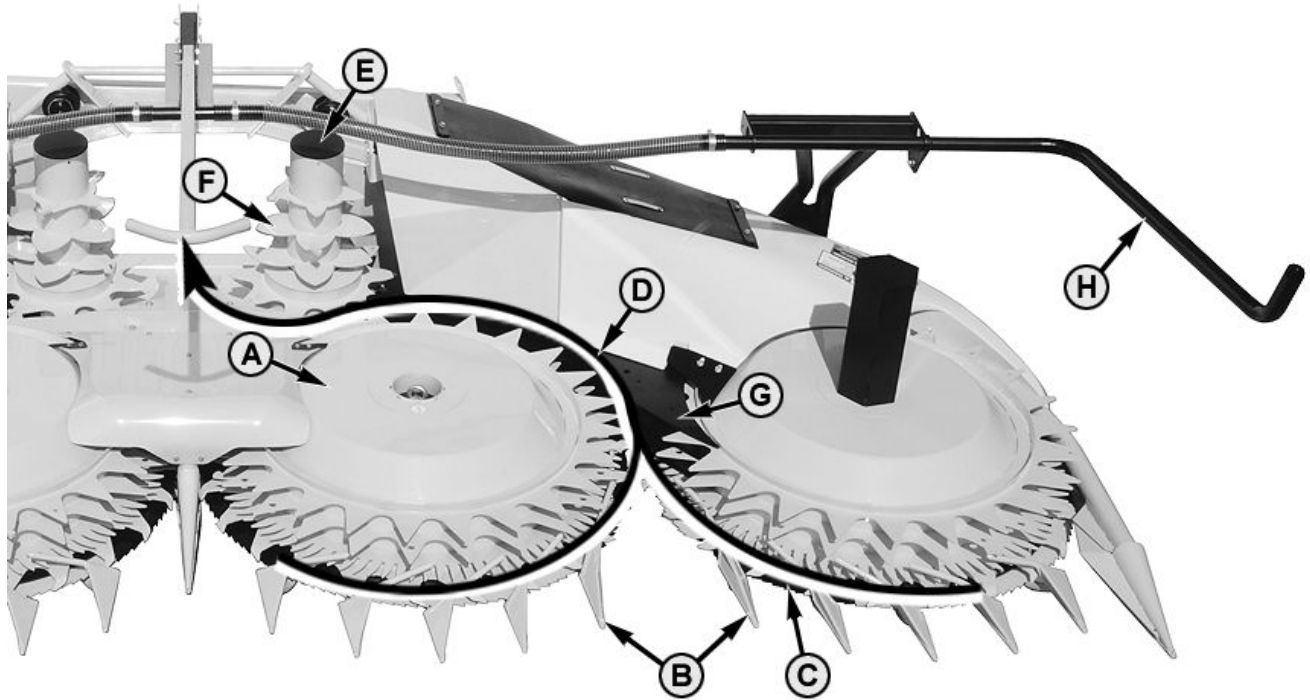
KM329456 —UN—28AUG17

KM329457 —UN—28AUG17

KM00321,0000A35 -19-20MAR20-1/1

Operating the Rotary Harvesting Unit

Rotary Harvesting Unit Method of Operation



KM1001796

A—Gathering Drum
B—Dividers
C—Rotating Blade

D—Lengthwise Direction of Crop
E—Feed Drum

F—Feed Teeth
G—Guides and Scrapers

H—Feed Bar

The rotary harvesting unit can approach the crop in different ways - it can operate along the rows, across the rows or at an angle to them (row-independent). Thus, the crop can be approached in the most suitable way. There are no gaps through which the stalks can escape. Although no counterknife is used, the fast rotating blades (C) cut all the stalks within the unit's operating width. The slowly rotating gathering drums (A) pass the stalks along the dividers (B). The stalk is seized by the row of feed teeth (F) as if by a gripper. The forward motion of the gathering drums (A) forces the crop against the feed teeth

(F) and so the stalks are conveyed along the guides and scrapers (G) to the feed drums (E). Here, the cut crop lies against the feed teeth (F) of feed drums (E), which bundle the stalks neatly in the lengthwise direction (D) before conveying them to the feed rolls of the forage harvester.

IMPORTANT: Carefully follow all information given in the forage harvester's Operator's Manual for ballasting, choice of drive speed for the rotary harvesting unit, float adjustment and installing attaching frame on harvester.

KM00321.00000CE -19-20DEC11-1/1

KM1001796—UN—10NOV11

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.

KM00321,0000192 -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.

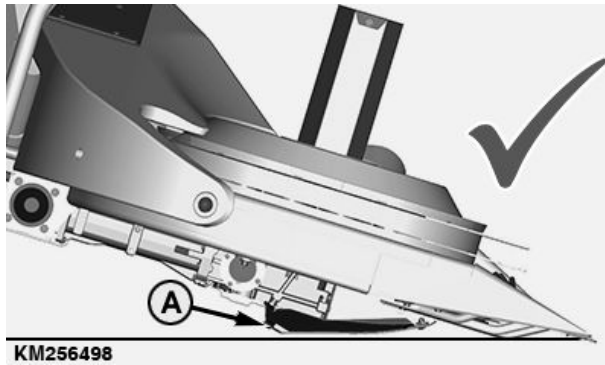
CAUTION: Risk of serious injury! Never attempt to clear blockages in the rotary harvesting unit by hand while the unit is running. First shut off the forage harvester's engine, and wait until all moving parts have come to a stop.

A—Button

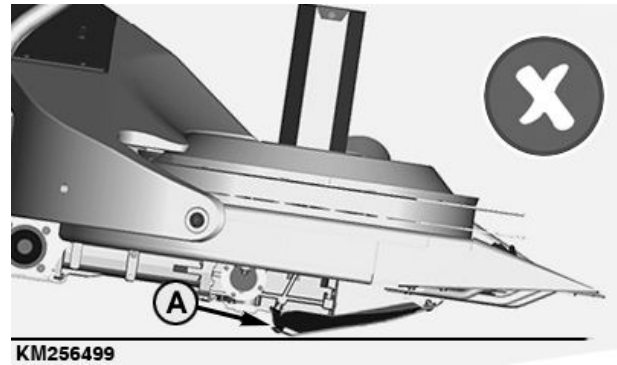


KM00321,0000198 -19-29JUN12-1/1

Adjust Skid Shoes Parallel to the Ground



KM256498 —UN—25NOV15



KM256499 —UN—25NOV15

As soon as rotary harvesting unit has reached its operating position:

Make sure that skid shoes (A) are parallel to the ground.

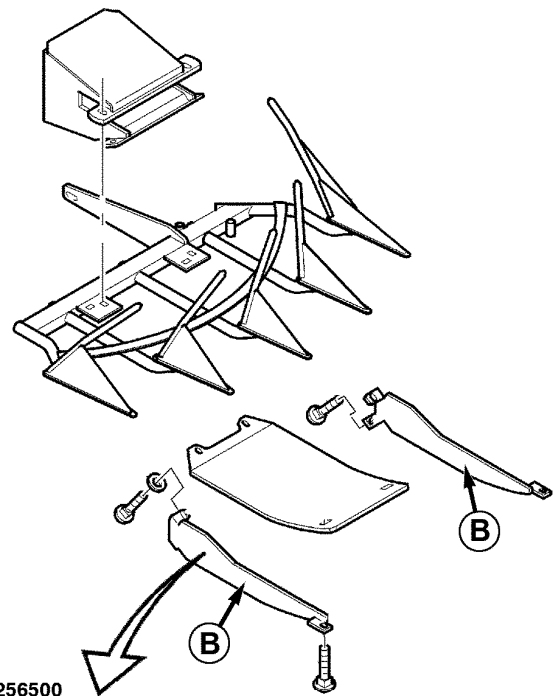
Depending on the angle of the rotary harvesting unit to the ground, it may be necessary to remove spacers (B).

IMPORTANT: Incorrect adjustment may result in the skid shoes wearing out prematurely.

NOTE: Mower attachments starting from model year 2019 have more no spacers (B). Order spacers (B) through the spare parts distribution, if necessary.

A—Skid Shoes

B—Spacer



KM256500

KM256500 —UN—25NOV15

KM00321.00008F5 -19-15MAR19-1/1

Adjusting the Central Feed Bar

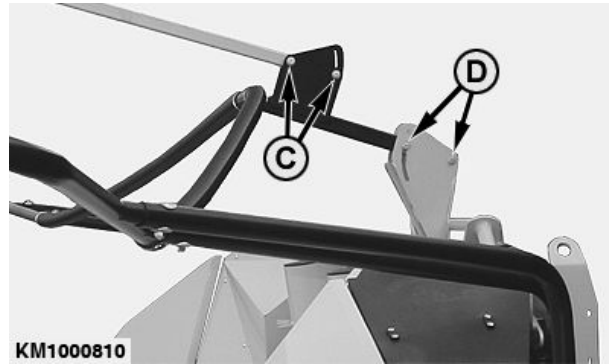
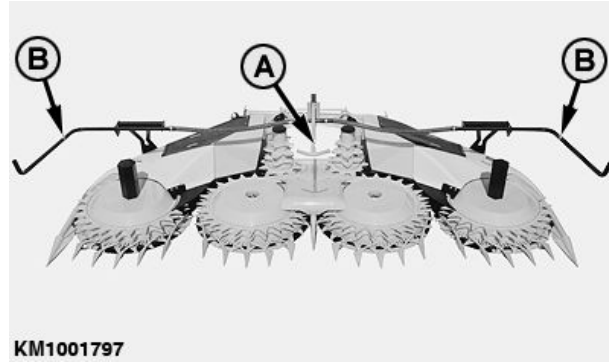
NOTE: If the crop is short, set the central feed bar (A) low.

Feed bars (A) and (B) guide the cut crop inwards and ensure better feeding. The height of the central feed bar (C) can be altered in the field to suit the current crop conditions.

- Loosen screws (C) and (D) to adjust the height of the central feed bar. Then re-tighten the screws.

A—Central Feed Bar
B—Feed Bar

C—Screw
D—Screw



KM1001797 —UN—11NOV11

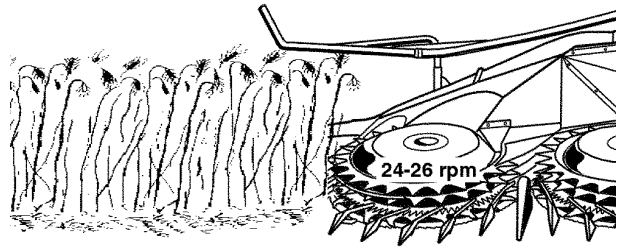
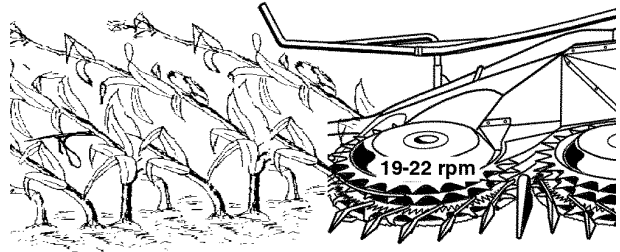
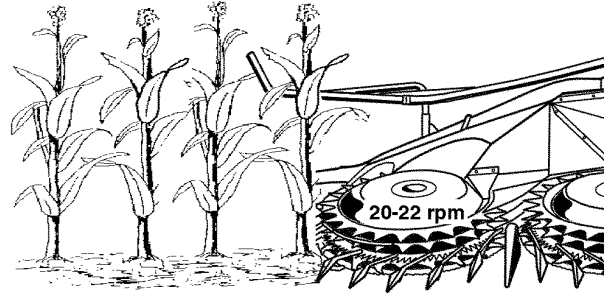
KM1000810 —UN—18MAR09

KM00321,00000CF -19-21DEC11-1/1

Gathering Drum Operating Speeds

NOTE: The speed at which the gathering drums operate depends on crop density, crop type and forage harvester version.

NOTE: The speed at which the gathering drums operate can be adjusted. The rotating blades operate at a fixed speed which cannot be altered.



KM1001798

KM1001798 —UN—11NOV11

KM00321,00000D0 -19-21DEC11-1/1

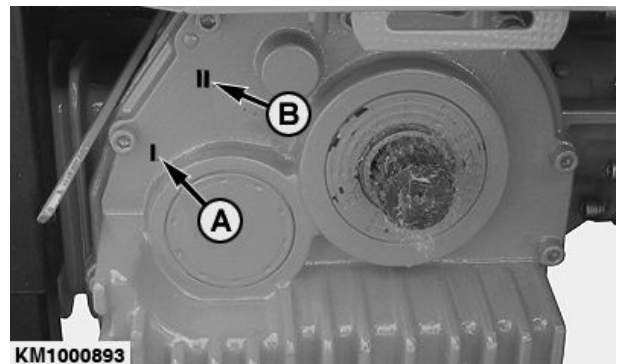
Length-of-Cut Adjustment with CLAAS Forage Harvester

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

The CLAAS forage harvester and the KEMPER rotary harvesting unit each have 2 speeds.

See forage harvester Operator's Manual for adjustments to the forage harvester.

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



KM1000893

KM1000893 —UN—08JUN09

A—1. Gear

B—2. Gear

KM00321,000018B -19-08JUN09-1/1

Length of Cut and Drum Speeds with CLAAS Forage Harvester 830-900 (Types 492, 496, and 500)

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

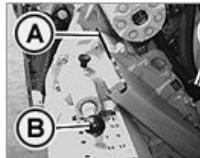
KM00321,0000B23 -19-29OCT20-1/1

Cutterhead with 24 Knives (Types 492, 496, and 500)

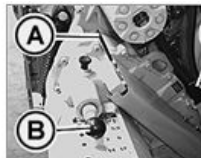


I

KM1001819



II



III



IV



V



VI

KM1001819 —UN—21DEC11

I—Length of cut, cutterhead with 2x12 knives	II—Lever (B) position	III—Lever (A) position	IV—Lever (C) position	V—Rotary harvesting unit, gear	V—Feeder house drum speed
4 mm (0.16 in.)	1	Slow	Slow	1	22
5,5 mm (0.22 in.)	1	Fast	Fast	1	26
7 mm (0.28 in.)	2	Slow	Slow	2	27
9 mm (0.35 in.)	2	Fast	Fast	1	26
14 mm (0.55 in.)	3	Slow	Slow	2	27
17 mm (0.67 in.)	3	Fast	Fast	2	33

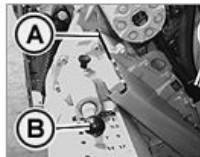
KM00321,0000B24 -19-29OCT20-1/1

Cutterhead with 20 Knives (Types 492, 496, and 500)

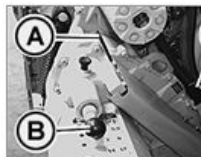


I

KM1001819



II



III



IV



V



VI

KM1001819 —UN—21DEC11

I—Length of cut, cutterhead with 2x10 knives	II—Lever (B) position	III—Lever (A) position	IV—Lever (C) position	V—Rotary harvesting unit, gear	V—Feeder house drum speed
5 mm (0.20 in.)	1	Slow	Slow	1	22
6,5 mm (0.26 in.)	1	Fast	Fast	1	26
8,5 mm (0.33 in.)	2	Slow	Slow	2	27
11 mm (0.43 in.)	2	Fast	Fast	1	26
17 mm (0.67 in.)	3	Slow	Slow	2	27
21 mm (0.83 in.)	3	Fast	Fast	2	33

KM00321,0000B25 -19-29OCT20-1/1

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

2-Speed Gear Box

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

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

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



KM1001823 —UN—23JAN12

KM00321,00000D3 -19-04JAN12-1/1

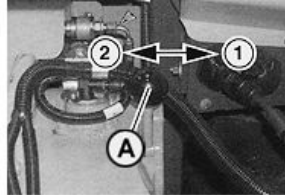
Cutterhead with 28 Knives (Type 493)

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



KM1001820

I



II



III



IV

KM1001820 —UN—21DEC11

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x14 knives	2x7 knives	Gear	Gear	rpm
5.1 mm (0.20 in.)	10.2 mm (0.40 in.)	1	1	26
6.0 mm (0.24 in.)	12.0 mm (0.47 in.)		1	26
6.9 mm (0.27 in.)	13.8 mm (0.54 in.)		1	26
7.7 mm (0.30 in.)	15.4 mm (0.60 in.)		1	26
8.6 mm (0.34 in.)	17.2 mm (0.68 in.)		2	33
6.9 mm (0.27 in.)	13.8 mm (0.54 in.)	2	1	26
7.7 mm (0.30 in.)	15.4 mm (0.60 in.)		1	26
8.6 mm (0.34 in.)	17.2 mm (0.68 in.)		2	33
9.4 mm (0.37 in.)	18.8 mm (0.74 in.)		2	33
10.3 mm (0.20 in.)	20.6 mm (0.81 in.)		2	33
11.1 mm (0.44 in.)	22.2 mm (0.87 in.)		2	33
12.0 mm (0.47 in.)	24.0 mm (0.94 in.)		2	33

Continued on next page

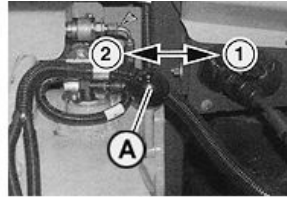
KM00321,00000E3 -19-04JAN12-1/2

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



KM1001820

I



II



III



IV

KM1001820—UN—21DEC11

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x14 knives	2x7 knives	Gear	Gear	rpm
3.4 mm (0.13 in.)	6.8 mm (0.27 in.)	1	2	20
4.3 mm (0.17 in.)	8.6 mm (0.34 in.)		2	20
5.1 mm (0.20 in.)	10.2 mm (0.40 in.)		2	20
6.0 mm (0.24 in.)	12.0 mm (0.47 in.)		2	20
6.9 mm (0.27 in.)	13.8 mm (0.54 in.)		1	26
7.7 mm (0.30 in.)	15.4 mm (0.61 in.)		1	26
8.6 mm (0.34 in.)	17.2 mm (0.68 in.)		1	26
6.9 mm (0.27 in.)	13.8 mm (0.54 in.)	2	1	26
7.7 mm (0.30 in.)	15.4 mm (0.61 in.)		1	26
8.6 mm (0.34 in.)	17.2 mm (0.68 in.)		1	26
9.4 mm (0.37 in.)	18.8 mm (0.74 in.)		1	26

KM00321,00000E3 -19-04JAN12-2/2

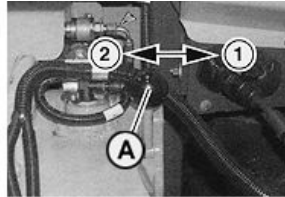
Cutterhead with 24 Knives (Type 493)

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



I

KM1001820



II



III



IV

KM1001820 —UN—21DEC11

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x12 knives	2x6 knives	Gear	Gear	rpm
6 mm (0.24 in.)	12 mm (0.47 in.)	1	1	26
7 mm (0.28 in.)	14 mm (0.55 in.)		1	26
8 mm (0.31 in.)	16 mm (0.63 in.)		1	26
9 mm (0.35 in.)	18 mm (0.71 in.)		1	26
10 mm (0.39 in.)	20 mm (0.79 in.)		2	33
8 mm (0.31 in.)	16 mm (0.63 in.)	2	1	26
9 mm (0.35 in.)	18 mm (0.71 in.)		1	26
10 mm (0.39 in.)	20 mm (0.79 in.)		2	33
11 mm (0.43 in.)	22 mm (0.87 in.)		2	33
12 mm (0.47 in.)	24 mm (0.94 in.)		2	33
13 mm (0.26 in.)	26 mm (1.02 in.)		2	33
14 mm (0.55 in.)	28 mm (1.10 in.)		2	33

Continued on next page

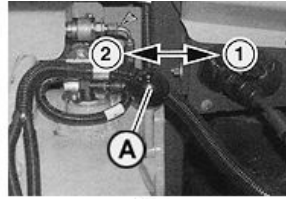
KM00321,00000E4 -19-04,JAN12-1/2

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



KM1001820

I



II



III



IV

KM1001820 —UN—21DEC11

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x12 knives	2x6 knives	Gear	Gear	rpm
4 mm (0.16 in.)	8 mm (0.31 in.)	1	2	20
5 mm (0.20 in.)	10 mm (0.39 in.)		2	20
6 mm (0.24 in.)	12 mm (0.47 in.)		2	20
7 mm (0.28 in.)	14 mm (0.55 in.)		2	20
8 mm (0.31 in.)	16 mm (0.63 in.)		1	26
9 mm (0.35 in.)	18 mm (0.71 in.)		1	26
10 mm (0.39 in.)	20 mm (0.79 in.)		1	26
8 mm (0.31 in.)	16 mm (0.63 in.)	2	1	26
9 mm (0.35 in.)	18 mm (0.71 in.)		1	26
10 mm (0.39 in.)	20 mm (0.79 in.)		1	26
11 mm (0.43 in.)	22 mm (0.87 in.)		1	26

KM00321,00000E4 -19-04JAN12-2/2

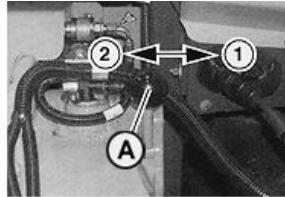
Cutterhead with 20 Knives (Type 493)

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



I

KM1001820



II



III



IV

KM1001820 —UN—21DEC11

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x10 knives	2x5 knives	Gear	Gear	rpm
7.3 mm (0.29 in.)	14.7 mm (0.58 in.)	1	1	26
8.5 mm (0.33 in.)	17.0 mm (0.67 in.)		1	26
9.7 mm (0.38 in.)	19.3 mm (0.76 in.)		1	26
10.8 mm (0.43 in.)	21.7 mm (0.85 in.)		1	26
12 mm (0.47 in.)	24 mm (0.94 in.)		2	33
10 mm (0.39 in.)	20 mm (0.79 in.)	2	1	26
11.2 mm (0.44 in.)	22.4 mm (0.88 in.)		1	26
12.4 mm (0.49 in.)	24.8 mm (0.98 in.)		2	33
13.6 mm (0.54 in.)	27.2 mm (1.07 in.)		2	33
14.8 mm (0.58 in.)	29.6 mm (1.17 in.)		2	33
16 mm (0.63 in.)	32 mm (1.26 in.)		2	33
17.2 mm (0.68 in.)	34.4 mm (1.35 in.)		2	33

Continued on next page

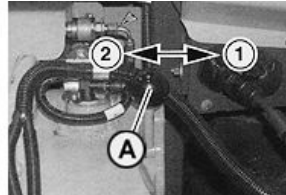
KM00321,00000E5 -19-04,JAN12-1/2

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



KM1001820

I



II



III



IV

KM1001820 —UN—21DEC11

I—Length of cut, number of knives		II—Length-of-cut transmission, forage harvester	III—Rotary harvesting unit drive	IV—Gathering drum speed
2x10 knives	2x5 knives	Gear	Gear	rpm
5.0 mm (0.20 in.)	10.0 mm (0.39 in.)	1	2	20
6.2 mm (0.24 in.)	12.3 mm (0.48 in.)		2	20
7.3 mm (0.29 in.)	14.7 mm (0.58 in.)		2	20
8.5 mm (0.33 in.)	17.0 mm (0.67 in.)		2	20
9.7 mm (0.38 in.)	19.3 mm (0.76 in.)		1	26
10.8 mm (0.43 in.)	21.7 mm (0.85 in.)		1	26
12.0 mm (0.47 in.)	24.0 mm (0.94 in.)		1	26
10.0 mm (0.39 in.)	20.0 mm (0.79 in.)	2	1	26
11.2 mm (0.44 in.)	22.4 mm (0.88 in.)		1	26
12.4 mm (0.49 in.)	24.8 mm (0.98 in.)		1	26
13.6 mm (0.53 in.)	27.2 mm (1.07 in.)		1	26

KM00321,00000E5 -19-04JAN12-2/2

Length of Cut and Drum Speeds with CLAAS Forage Harvester 930-980 (Types 494, 497, and 498)

Preselection of length of cut on forage harvesters with standard header drive

The coarse setting for length of cut is preselected using switch (A) on the forage harvester. (See forage harvester Operator's Manual.)

2-speed gear box

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

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

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



A—Switches

KM1002334 —UN—29JUN12

KM00321,00006CF -19-05OCT17-1/1

Cutterhead with 36 Knives (Types 494, 497, and 498)

Two-speed gearbox (II) for normal to long length of cut (standard)



I

KM237799



II



III

KM237799 — UN — 13MAR15

I—Length of cut, number of knives		II—Rotary harvesting unit drive	III—Gathering drum speed
2x18 knives	2x9 knives	Speed	rpm
4 mm (0.16 in.)	8 mm (0.31 in.)	1	26
4,7 mm (0.18 in.)	9,4 mm (0.37 in.)	1	26
5,3 mm (0.21 in.)	10,6 mm (0.42 in.)	1	26
6,0 mm (0.24 in.)	12,0 mm (0.47 in.)	1	26
6,7 mm (0.26 in.)	13,4 mm (0.52 in.)	2	33
7,3 mm (0.29 in.)	14,6 mm (0.57 in.)	2	33
8 mm (0.31 in.)	16 mm (0.63 in.)	2	33
8,7 mm (0.34 in.)	17,4 mm (0.68 in.)	2	33
9,3 mm (0.37 in.)	18,6 mm (0.73 in.)	2	33

KM00321,00006D0 -19-05OCT17-1/2

Two-speed gearbox (II) for short length of cut (option)



I

KM237799



II



III

KM237799 — UN — 13MAR15

I—Length of cut, number of knives		II—Rotary harvesting unit drive	III—Gathering drum speed
2x18 knives	2x9 knives	Speed	rpm
2,7 mm (0.11 in.)	5,4 mm (0.21 in.)	2	20
3,3 mm (0.13 in.)	6,6 mm (0.26 in.)	2	20
4,0 mm (0.16 in.)	8,0 mm (0.31 in.)	2	20
4,7 mm (0.18 in.)	9,4 mm (0.37 in.)	2	20
5,3 mm (0.21 in.)	10,6 mm (0.42 in.)	1	26
6,0 mm (0.24 in.)	12,0 mm (0.47 in.)	1	26
6,7 mm (0.26 in.)	13,4 mm (0.52 in.)	1	26
7,3 mm (0.29 in.)	14,6 mm (0.57 in.)	1	26

KM00321,00006D0 -19-05OCT17-2/2

Cutterhead with 24 Knives (Types 494, 497, and 498)

Two-speed gearbox (II) for normal to long length of cut (standard)



KM237799

I



II



III

KM237799 —UN—13MAR15

I—Length of cut, number of knives		II—Rotary harvesting unit drive	III—Gathering drum speed
2x12 knives	2x6 knives	Speed	rpm
6 mm (0.24 in.)	12 mm (0.47 in.)	1	26
7 mm (0.28 in.)	14 mm (0.55 in.)	1	26
8 mm (0.31 in.)	16 mm (0.63 in.)	1	26
9 mm (0.35 in.)	18 mm (0.71 in.)	1	26
10 mm (0.39 in.)	20 mm (0.79 in.)	2	33
11 mm (0.43 in.)	22 mm (0.87 in.)	2	33
12 mm (0.47 in.)	24 mm (0.94 in.)	2	33
13 mm (0.26 in.)	26 mm (1.02 in.)	2	33
14 mm (0.55 in.)	28 mm (1.10 in.)	2	33

KM00321,00006D1 -19-05OCT17-1/2

Two-speed gearbox (II) for short length of cut (option)



KM237799

I



II



III

KM237799 —UN—13MAR15

I—Length of cut, number of knives		II—Rotary harvesting unit drive	III—Gathering drum speed
2x12 knives	2x6 knives	Speed	rpm
4 mm (0.16 in.)	8 mm (0.31 in.)	2	20
5 mm (0.20 in.)	10 mm (0.39 in.)	2	20
6 mm (0.24 in.)	12 mm (0.47 in.)	2	20
7 mm (0.28 in.)	14 mm (0.55 in.)	2	20
8 mm (0.31 in.)	16 mm (0.62 in.)	1	26
9 mm (0.35 in.)	18 mm (0.71 in.)	1	26
10 mm (0.39 in.)	20 mm (0.79 in.)	1	26
11 mm (0.43 in.)	22 mm (0.87 in.)	1	26

KM00321,00006D1 -19-05OCT17-2/2

Adjusting Gear Selection with Multi-Speed Gearbox for CLAAS Forage Harvesters

The multi-speed drive for CLAAS forage harvesters has 4 speeds.

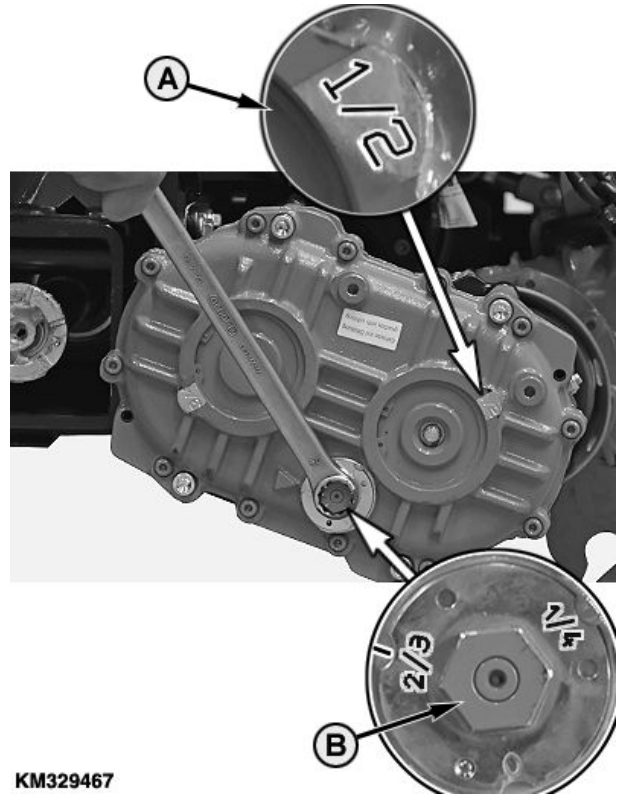
The first 2 speeds are selected by turning nut (B) on the outside of the drive.

The entire multi-speed drive can be rotated so that 2 more speeds (A) can be selected.

With the drive in the position shown, the first and second speeds can be selected.

A—First and Second Speed Positions

B—Nut (Second Speed Engaged)



KM329467

KM00321,00006D2 -19-05OCT17-1/3

Rotate the multi-speed gearbox

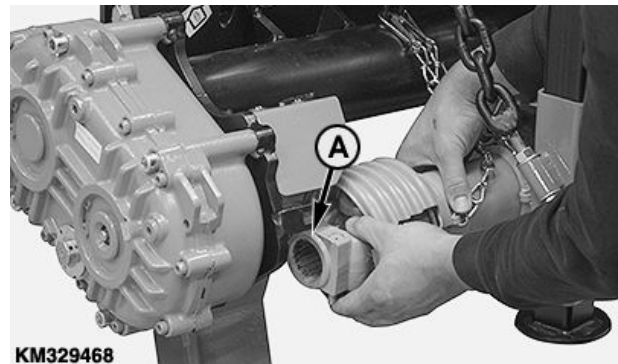
To select the third and fourth speeds, the drive must be rotated around its central axis.

To do so, proceed as follows:

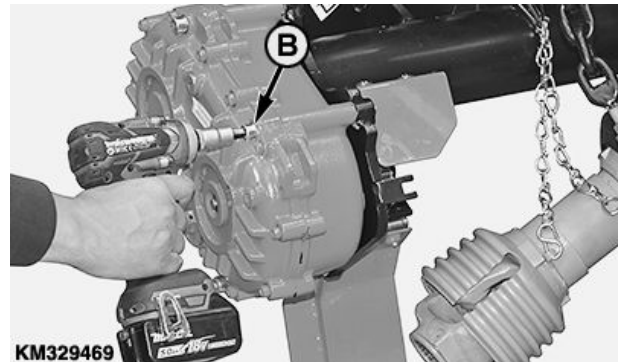
1. Remove universal-jointed shaft (A) from gearbox.
2. Unfasten hex socket screws (B).

A—Universal-Jointed Shaft

B—Hex Socket Screws



KM329468



KM329469

Continued on next page

KM00321,00006D2 -19-05OCT17-2/3

3. Rotate drive (C) through 180°.

NOTE: The gearbox can be rotated without taking it off.

4. Tighten hex socket screws (D) to specification.

Specification

Gearbox, Hex Socket

Screws—Torque..... 95 N·m (70 lb.-ft.)

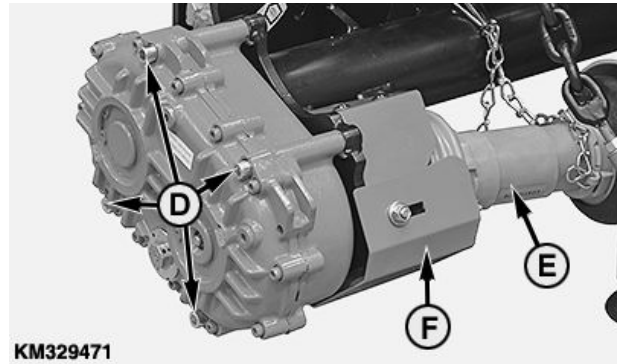
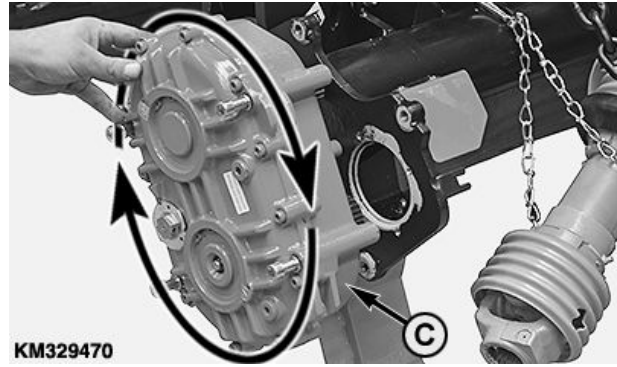
5. Re-install universal-jointed shaft (E) and shield (F).

C—Gearbox

E—Universal-Jointed Shaft

D—Hex Socket Screws

F—Shield



KM329470 —UN—05OCT17

KM329471 —UN—05OCT17

KM00321,00006D2 -19-05OCT17-3/3

Lengths of Cut and Gear Selection with Multi-Speed Gearbox for CLAAS Forage Harvesters

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 (4 gears)															
20-knife cutterhead	-	-	1	1	1	2	2	3	3	3	4	4	4	4	4
24-knife cutterhead	-	1	1	1	2	2	3	3	4	4	4	4	4	4	4
28-knife cutterhead	1	1	1	2	2	3	3	4	4	4	4	4	4	-	-
36-knife cutterhead	1	2	2	3	3	4	4	4	4	4	-	-	-	-	-

IMPORTANT: Class Forage Harvesters of types 498, 499 and 502 equipped with a variable attachment drive can change speed within the cutting length settings. In order to prevent very excessive drum speed, you cannot use the 4th gear of the multi-speed transmission here.

NOTE: When the 3rd gear is operated with maximum variable speed, this corresponds with the 4th gear.

KM00321,0000B19 -19-27OCT20-1/1

Harvest

Before the harvest, do the following:

- Unfold the rotary harvesting unit
- Adjust the feed bars
- Adjust the speed at which the gathering drums operate

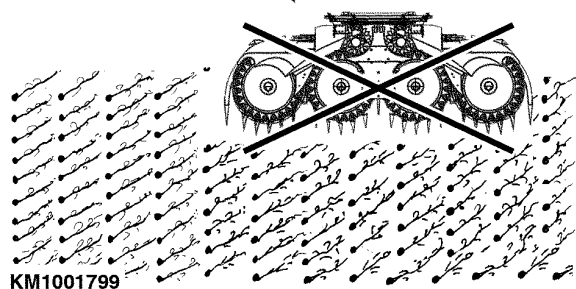
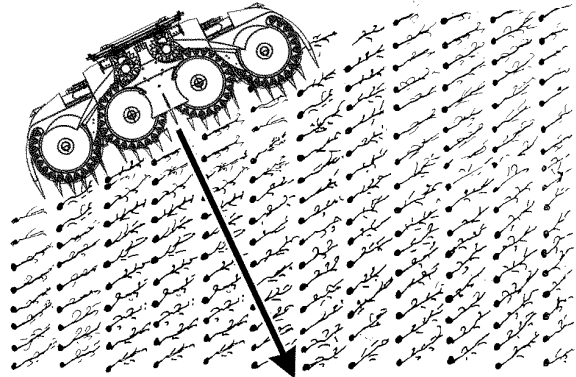
IMPORTANT: Avoid unnecessary wear at the clutches.
From the idle setting, always select forward gear.

1. Run the engine of the forage harvester at idle speed.
2. Switch on the rotary harvesting unit.
3. Wait until the gathering drums and rotating blades have reached their operating speed.

IMPORTANT: In most cases, it is best to approach the crop at right angles to the direction it is lying in. This usually results in the most even flow of crop.

IMPORTANT: Observe the flow of crop at all times.

4. Drive into the crop at a relatively high speed in order to achieve a quick flow of crop.



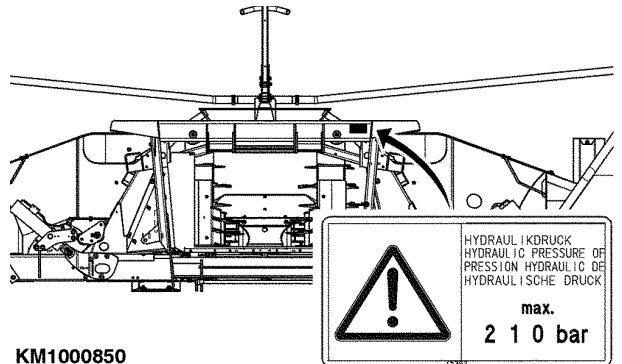
KM1001799

KM1001799 — UN — 11NOV11

KM00321.00000D5 -19-22DEC11-1/1

Hydraulic System

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



KM1000850

KM1000850 — UN — 03APR09

KM00321.0000156 -19-03APR09-1/1

Additional Equipment

Special Kit for Row Guidance (Steering Assistance)

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

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

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

KM00321,0000272 -19-16FEB10-1/1

Automatic Height Control Kit

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

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

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

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

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

Troubleshooting

460^{plus} Rotary Harvesting Unit

⚠ CAUTION: Before carrying out adjustment or service work, **ALWAYS:**

- shut off engine
- remove ignition key
- wait until all moving parts have come to a stop.

Symptom	Problem	Solution
High power requirement despite poor cut	Rotating blades are dull.	Replace the rotating blades.
	Defective cleaners	Install new cleaners.
Grinding noise at the blades	Rotor is dirty.	Clean the rotor. If possible, the cutting area should be cleaned out before the unit is used.
	Defective cleaners	Install new cleaners.
Rotary harvesting unit is vibrating.	Dirty rotating blades cause imbalance.	Clean the rotating blades.
	Asymmetrically rotating blades cause imbalance.	Always replace rotating blades in pairs.
	One of the cleaners has broken.	Replace both cleaners.
	Imbalance at rotating blade caused by excessive vertical play.	Straighten the blade or install new blades.
The stalks are pushed forward before they are cut (long, uneven stubble).	Leaves accumulated at the dividers	Clean the dividers.
	One of the cleaners has broken.	Replace both cleaners.
Gathering drums stopped rotating.	Blockage in the feeding area	Reverse the gathering drums briefly. Reverse them repeatedly if necessary.
	Worn skid shoes	Replace.
	Transmission defective	Contact your KEMPER dealer.
Transmission overheating	Transmission oil level too high or too low.	Check transmission oil level, and add or drain if necessary.
Gathering drums and rotating blades do not start.	Claw clutch defective	Contact your KEMPER dealer.
The entire left or right side of the unit stopped rotating.	Left or right friction clutch defective	Contact your KEMPER dealer.
The unit cannot be folded or unfolded.	A foreign body (e.g. grain of sand) is obstructing the restrictor.	Contact your KEMPER dealer.
Poor cut when the rows are far apart.	The machine is tackling 5 rows of plants. The middle row is hindering the cut.	Tackle only 4 rows of plants. Contact your KEMPER dealer if necessary.

KM00321.00000D6 -19-22DEC11-1/1

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

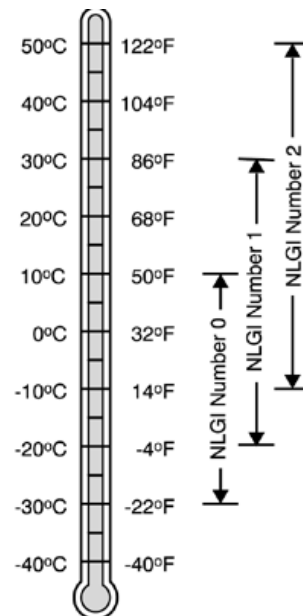
Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

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—06JUN09

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:

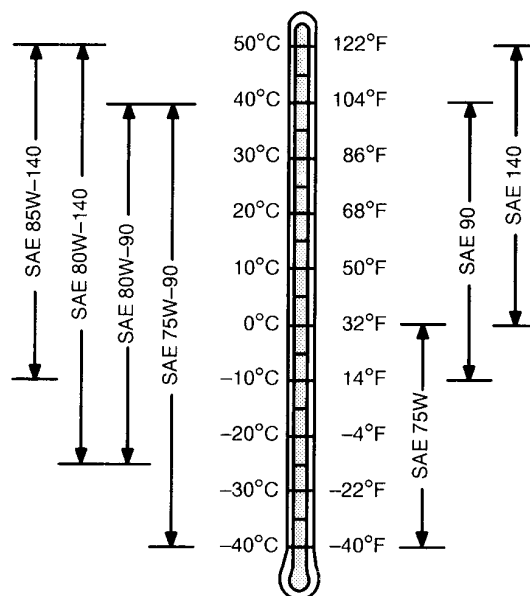
NLGI Service Classification NLGI 00

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 Main Drive Friction Clutch

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

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

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

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

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

Coolant Change Intervals

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

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

Alternative and Synthetic Lubricants

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

Some lubricants may not be available in your location.

Consult your KEMPER dealer to obtain information and recommendations.

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

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic lubricants.

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

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

Mixing Lubricants

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

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your KEMPER dealer to obtain information and recommendations.

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

Lubricant Storage

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

Use clean containers to handle all lubricants.

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.

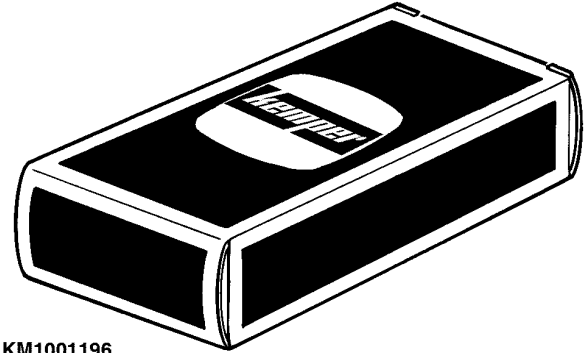
OUKM001,0000014 -19-15FEB05-1/1

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

At the Start of Every Harvesting Season - Spherical Collar Bolts

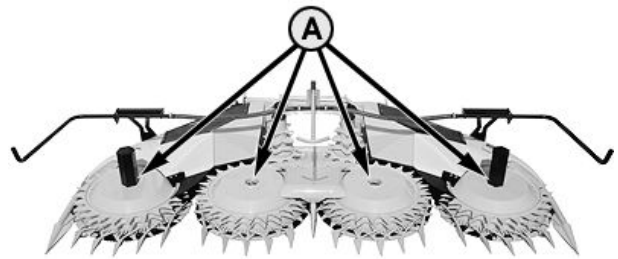
The torques of the spherical collar bolts (A) must be checked prior to each harvesting season and adjusted where necessary.

Torque setting is:

Specification

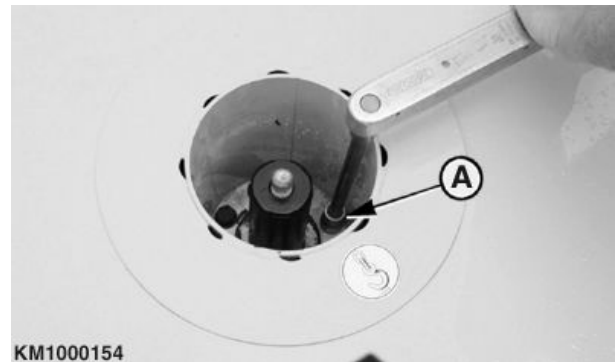
Spherical Collar
Bolts—Torque..... 200 Nm (148 lb-ft)

A—Bolts



KM1001800

KM1001800 —UN—02DEC11



KM1000154

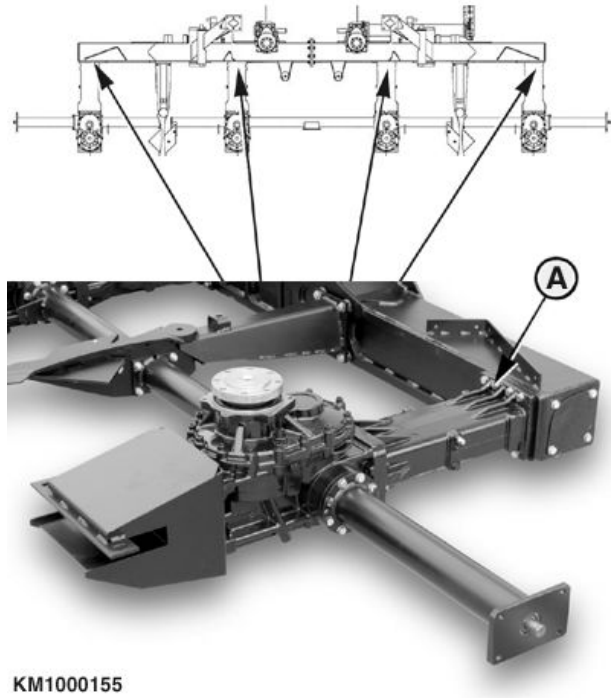
KM1000154 —UN—16OCT07

KM00321,00000D7 -19-05JAN12-1/1

At the Start of Every Harvesting Season—Gearbox Mounting Flange Attaching Screws

The torques of the flange screws (A) at gearbox mounting flanges of gathering drums must be retighten prior to each harvesting season and then retighten after 50 hours in service.

The torque setting is:

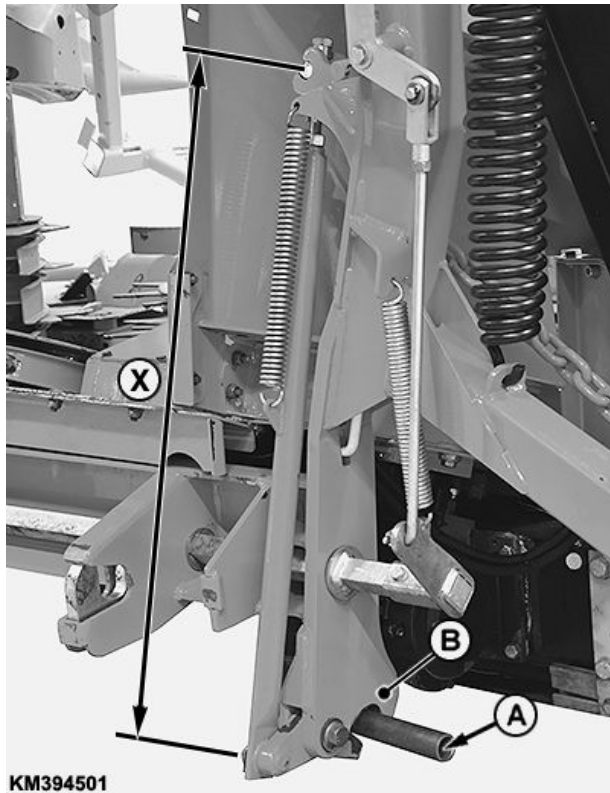


A—Screw

Item	Measurement	Specification
Gearbox Mounting Flange Attaching Screws	Torque	95 N·m (70 lb-ft)

OUC002,0002829 -19-15OCT07-1/1

At the beginning of each harvesting season — adjust latch of the chassis (optional)



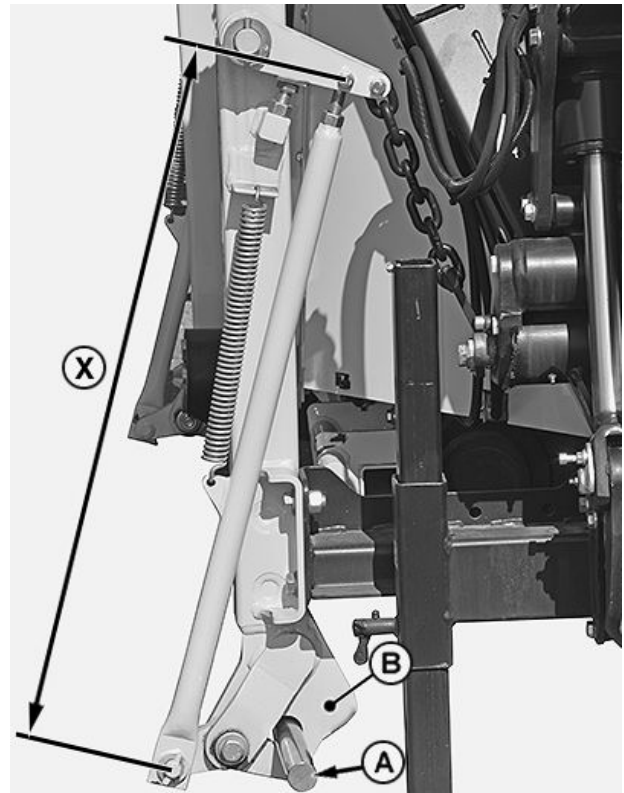
Rotary harvesting units for Claas forage harvesters

A—Shaft
B—Dog

X—Setting Dimension

Insert a 35 mm (1.38 in.) diameter shaft (A) into jaw (B).
Close Jaw (B) by folding the rotary harvesting unit up.

IMPORTANT: To avoid damaging jaws and braces,
slowly raise the rotary harvesting unit.

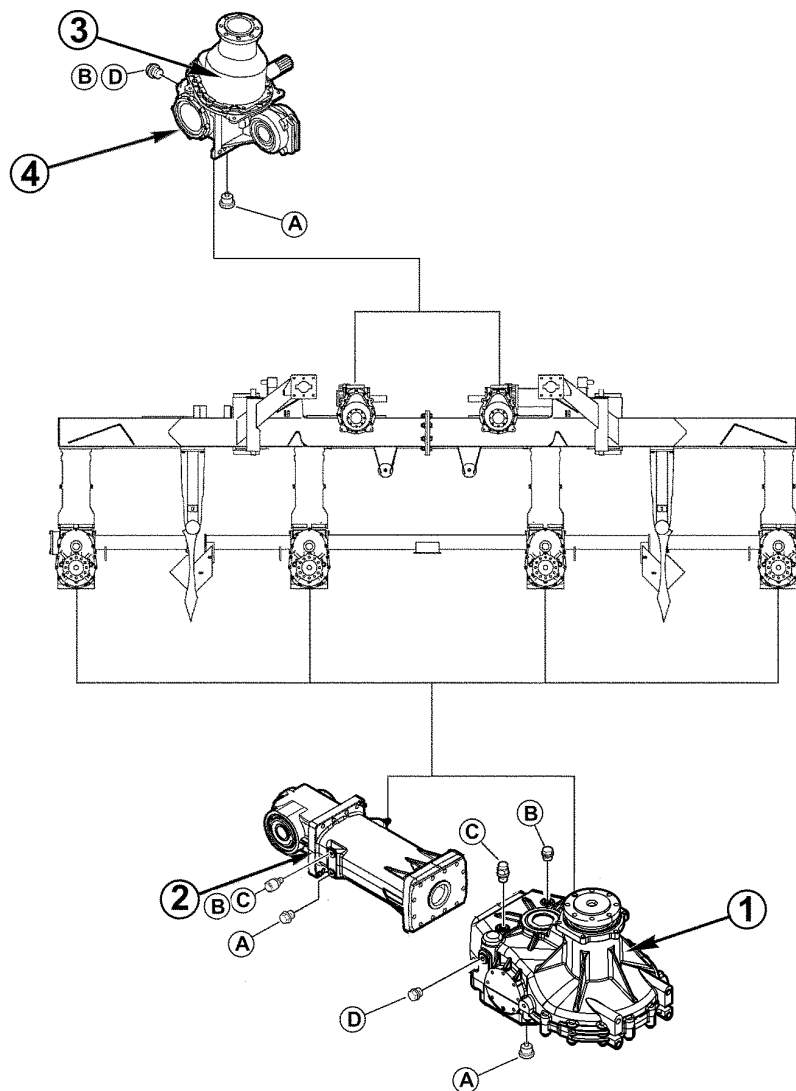


Rotary harvesting units for Fendt forage harvesters

Adjust dimension (X) of brace so that shaft (A) fits in dog (B) without play.

KM00321,0000B26 -19-29OCT20-1/1

General view of drives and oil levels in the rotary harvesting unit



KM417111

A—Oil drain screw
B—Oil filler plug
C—Vent
D—Oil level plug
1—Spur-gear angle drives of the gathering drums - 8,5 L (2.25 US. gal.)

2—Bevel gear drive - 1.5 L (0.4 US. gal.)
3—Feed drum spur-gear angle drive (with a lifetime filling of 1.1 kg (2.42 lb.) low viscosity grease for gears)

4—Spur-gear angle drive - 1.1 L (0.29 US. gal.)

IMPORTANT: Oil in the gearboxes must be changed after the first 100 operating hours and then every 500 operating hours.

1. Raise the rotary harvesting unit until it is in horizontal position.

2. Unfold the rotary harvesting unit.

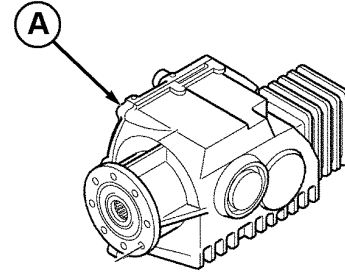
KM417111 —UN—29OCT20

KM00321,0000B27 -19-29OCT20-1/1

Overview of oil levels in input transmission

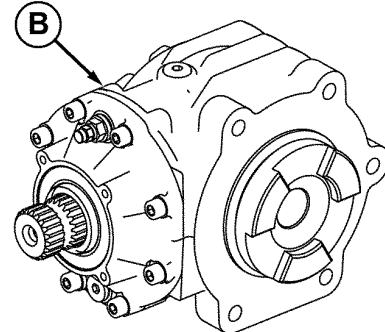
Rotary harvesting units for CLAAS forage harvesters

- A—Gear box - 4.3 L (1.14 U.S. gal.)
 B—Bevel gear drive for quick-coupler (option) - 1.2 L (0.32 U.S. gal.)
 C—4-Speed Multi-Speed Drive (Option) - 1.25 L (0.33 U.S. gal.)



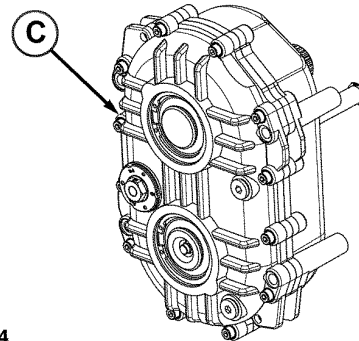
KM1002338

Manual Shift Transmission



KM219184

Bevel Gear Drive for Quick Coupler (Option)



KM225014

4-Speed Multi-Speed Gearbox (Option)

KM00321.0000B28 -19-29OCT20-1/3

KM1002338 —UN—05JUL12

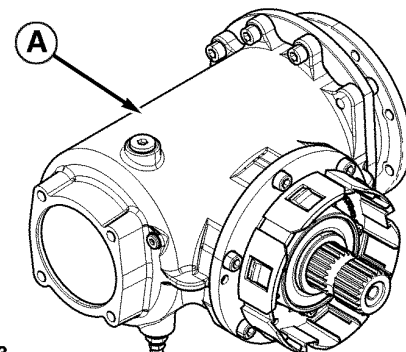
KM219184 —UN—15SEP14

KM225014 —UN—08DEC14

Rotary harvesting units for FENDT forage harvesters (types T650, T652 and T653)

NOTE: See the forage harvester type plate for the exact type designation.

- A—Bevel gear drive - 0.8 L (0.21 U.S. gal.)



KM329473

Continued on next page

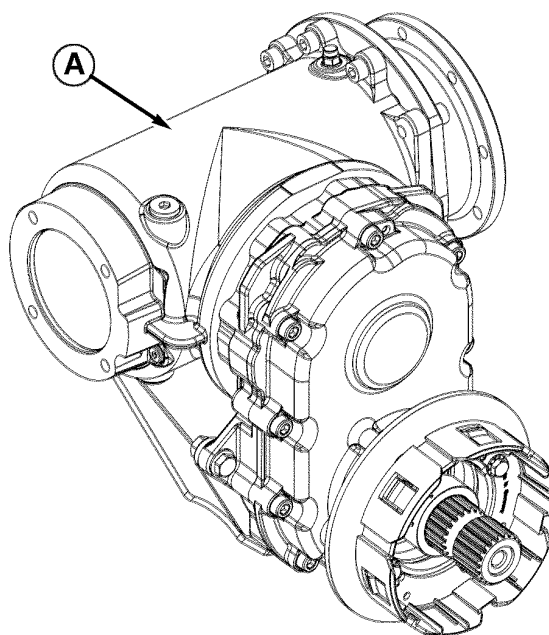
KM00321.0000B28 -19-29OCT20-2/3

KM329473 —UN—06OCT17

Rotary harvesting units for FENDT forage harvesters (types T658 and T659)

NOTE: See the forage harvester type plate for the exact type designation.

**A—Bevel gear drive - 2,0 L
(0.53 U.S. gal.)**



KM417112

KM417112 —UN—29OCT20

KM00321,0000B28 -19-29OCT20-3/3

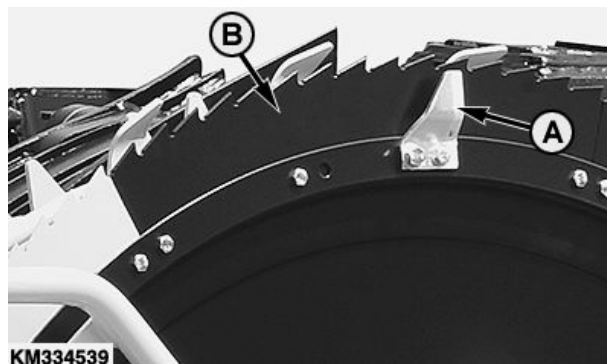
Every 10 Hours of Operation—Cleaners and Blade Rotor Segments

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

Replace worn parts (see "Maintenance" section).

A—Cleaner

B—Blade rotor segment



KM334539

KM334539 —UN—02NOV17

KM00321,0000732 -19-22JAN18-1/1

Every 10 Operating Hours—Balance Weights

Check balance weights (A) beneath the outer blade rotors for wear.

Replace any damaged or worn balance weights and screws.

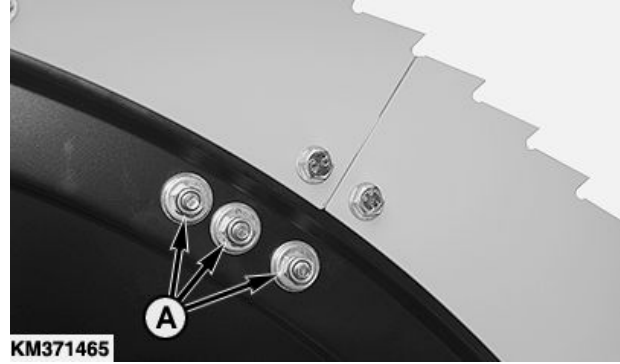
Install screws with Loctite® 270 and tighten to the specified torque.

Specification

Balance weight mounting
screws—Torque..... 25 N·m (18.5 lb-ft)

A—Balance weights

Loctite is a trademark of Henkel Corporation



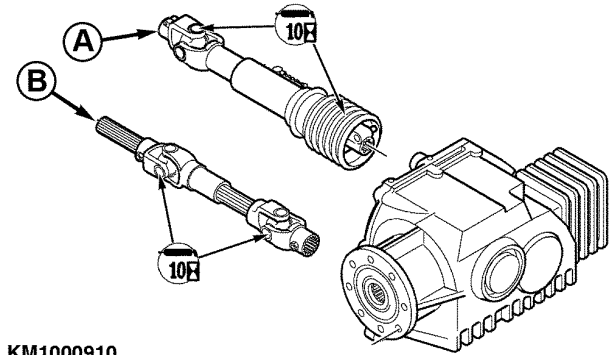
KM371465 —UN—05MAR19

KM00321,00008C0 -19-05MAR19-1/1

Every 10 Hours—U.J. Shaft

Lubricate with grease.

A—CLAAS U.J. Shaft, Type 492 B—FENDT U.J. Shaft
B—CLAAS U.J. Shaft, Types
493 and 494



KM1000910

KM1000910 —UN—17JUN09

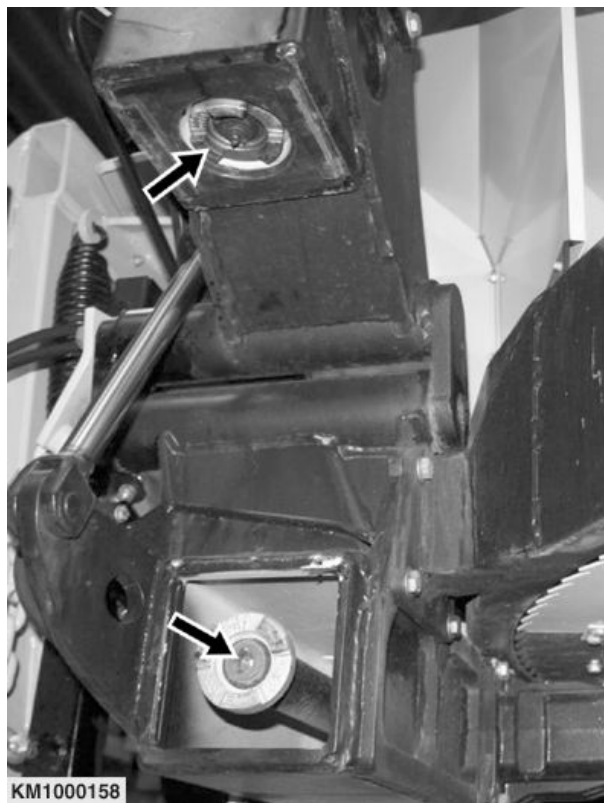
KM00321,00001E4 -19-16MAY13-1/1

Every 50 Hours—Claw Clutch

Clean all the claw clutches (see arrows).

Lubricate with grease.

Apply also a layer of grease to the grooved surface of the clutch claws using a brush.

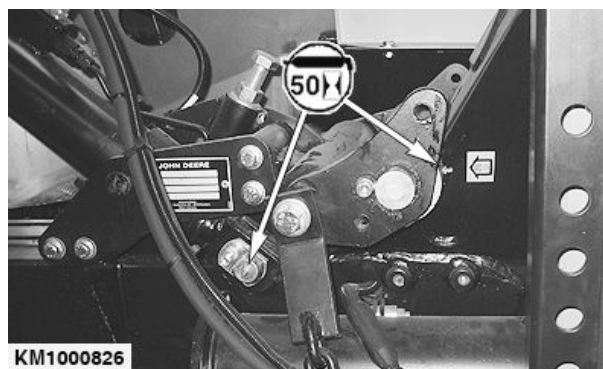


KM1000158 —UN—16OCT07

KM00321,00001B8 -19-17JUN09-1/1

Every 50 Hours—Lower Pin of Hydraulic Cylinder and Hinges of the Outer Units

Lubricate with grease.

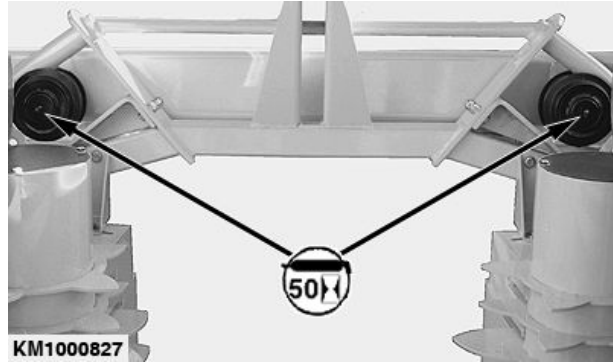


KM1000826 —UN—25MAR09

KM00321,00001B9 -19-17JUN09-1/1

Every 50 Hours—Upper Rolls of Oscillating Frame

Lubricate with grease.



KM1000827 —UN—25MAR09

KM00321,00001BA -19-17JUN09-1/1

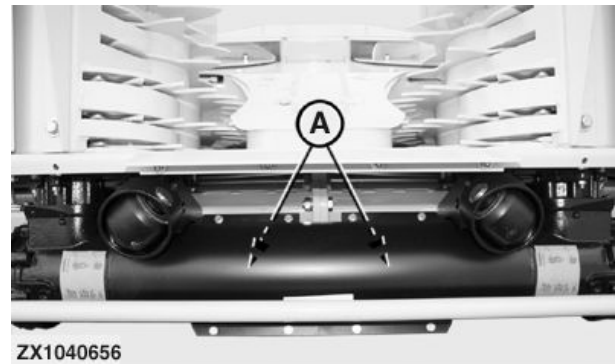
Every 3 Years—Change Coolant of Main Drive Friction Clutch

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.

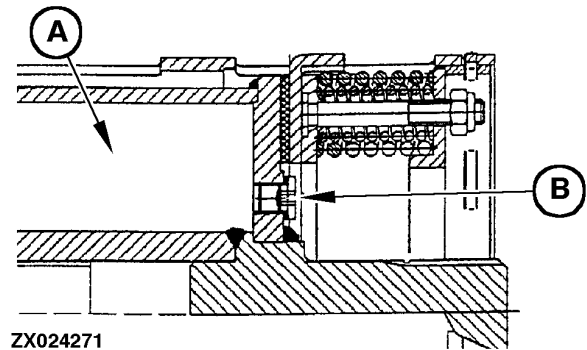
The cavity of the friction clutch (A) can be drained and refilled. This service work requires the friction clutch to be removed from the machine. Therefore it is advised to contact your KEMPER dealer to drain/refill the friction clutch.

Specification

Main drive friction clutch
cavity—Capacity..... 1.3 L (0.26 US gal.)



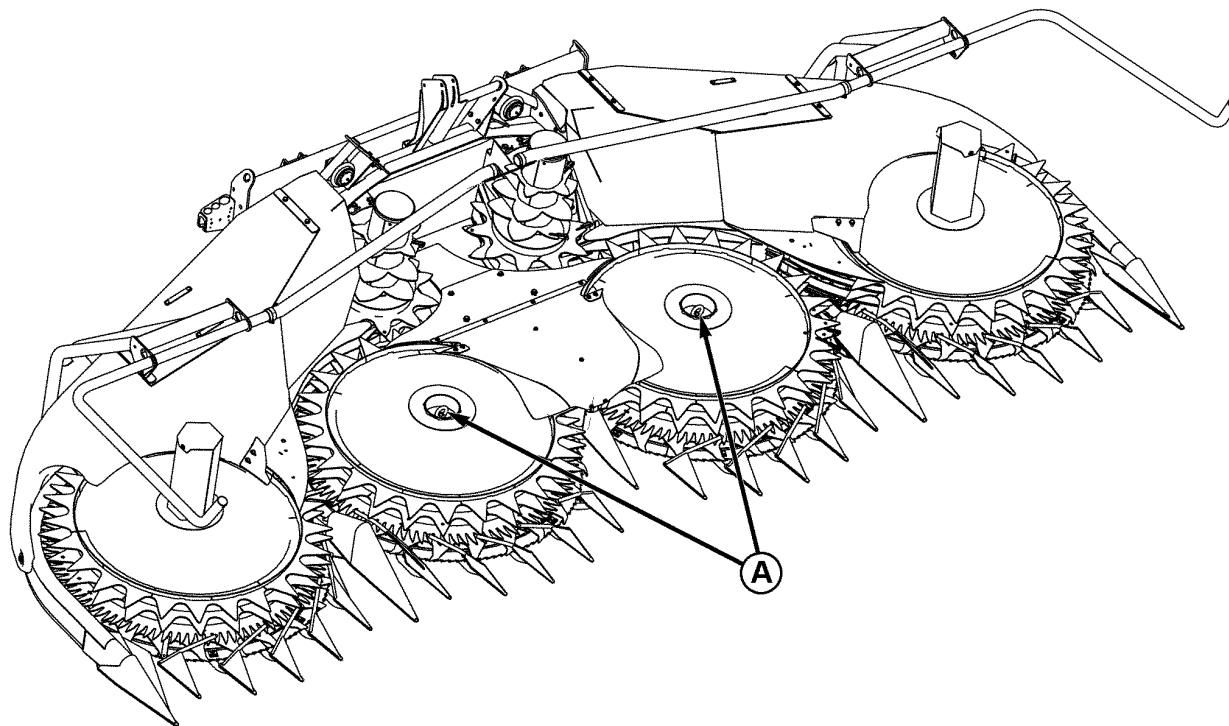
ZX1040656 —UN—12APR07



ZX024271 —UN—07MAR01

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

After Each Harvesting Season



KM1001802 —UN—05DEC11

KM1001802

- Clean the entire rotary harvesting unit - pay particular attention to the depressions (A) in the gathering drums.
- Change the oil in all drives. See General View of Drives and Oil Levels in the Rotary Harvesting Unit.
- Lubricate all grease fittings.
- Check the entire rotary harvesting unit for defective or worn components. Order the relevant parts immediately

from your KEMPER dealer, so that they can be installed in time for the next harvesting season.

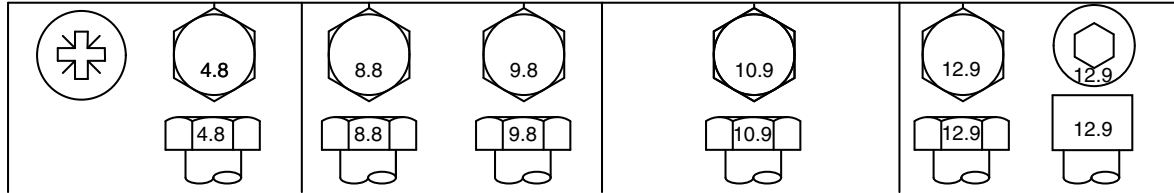
IMPORTANT: Optimum performance can only be achieved with properly serviced implements.

KM00321,00000D9 -19-22DEC11-1/1

Service

Metric Bolt and Screw Torque Values

TS1670 —UN—01MAY03



Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b	
	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									Nm	lb.-ft.	Nm	lb.-ft.	Nm	lb.-ft.	Nm	lb.-ft.
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			Nm	lb.-ft.	Nm	lb.-ft.	Nm	lb.-ft.								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	Nm	lb.-ft.														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

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

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

^a"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

^b"Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ2 -19-12JAN11-1/1

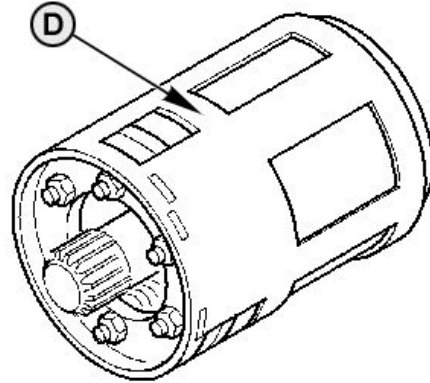
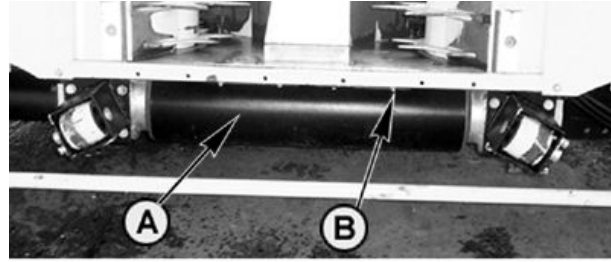
Relieve Pressure on the Main Drive Slip Clutches

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

The two slip clutches (D) on the main drive protect the rotary harvesting unit from unnecessary loads. It is therefore important to keep these clutches properly serviced. The torque setting is 900 Nm (663.8 lb-ft).

IMPORTANT: The following steps must be carried out before operating the rotary harvesting unit for the first time and prior to every season.

1. Take off cover (A). Remove screws (B) first.



KM1000040 —UN—04APR05

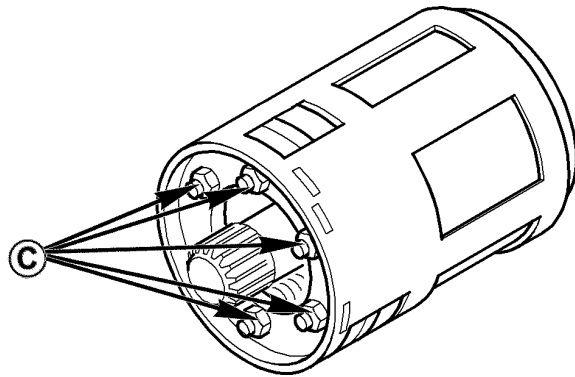
KM00321,000019C -19-12JUN09-1/2

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

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

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

IMPORTANT: It is recommended to have the slip clutches checked once a year by the KEMPER dealer.



KM1000041 —UN—04APR05

KM00321,000019C -19-12JUN09-2/2

Disassemble Slip Clutch

If it is not possible to turn slip clutch by hand as explained under "Relieving Pressure at the Slip Clutches on the Main Drive", it has to be disassembled and cleaned for proper function. Proceed as follows:

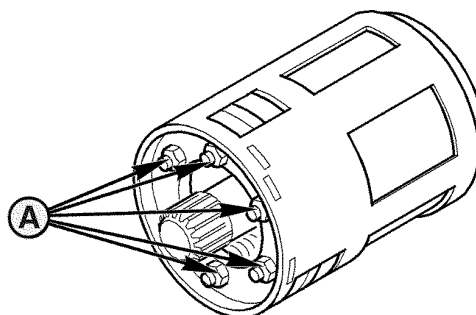
1. Remove clutches from harvesting unit.
2. Tighten the nuts (A). This relieves pressure on the friction plates.
3. First remove bushing (I) from housing (B).
4. Then remove all parts of friction clutch from housing (B).
5. Clean all parts, especially the friction disks (C, E). Replace worn parts.
6. Reassemble all parts.
7. Install bushing (I) as shown in "Torque Settings" below.
8. Slacken off nuts (A) to the end of its thread.
9. Reinstall clutches to harvesting unit.

Torque Setting:

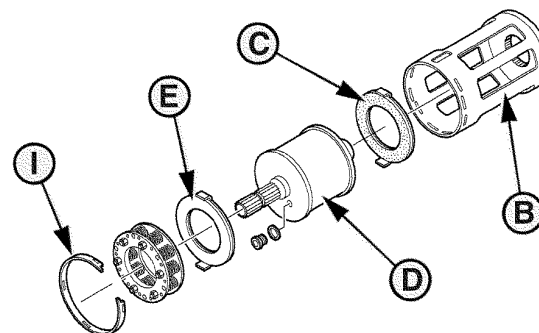
IMPORTANT: The specified torque of 900 N·m should not be exceeded.

This torque is set by positioning the profile (F) towards the inside and engaged with inner recess (H) of housing (B).

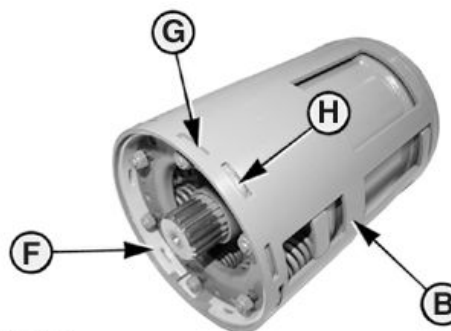
- | | |
|--|-----------------|
| A—Nut | E—Friction disk |
| B—Housing | F—Profile |
| C—Friction disk | G—Outer recess |
| D—Coolant fluid reservoir - 1.3 L (0.34 US. gal) | H—Inner recess |
| — 0.65 L (0.17 US gal.) Water | I—Bushing |
| — 0.65 L (0.17 US gal.) Anti-freezing compound | |



KM1000160



KM1000161



KM1000162

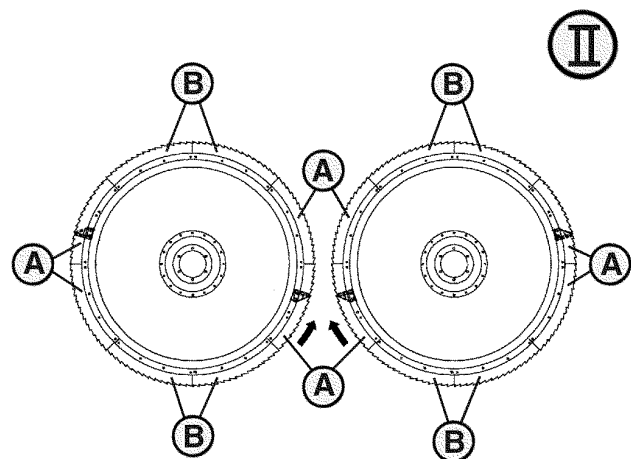
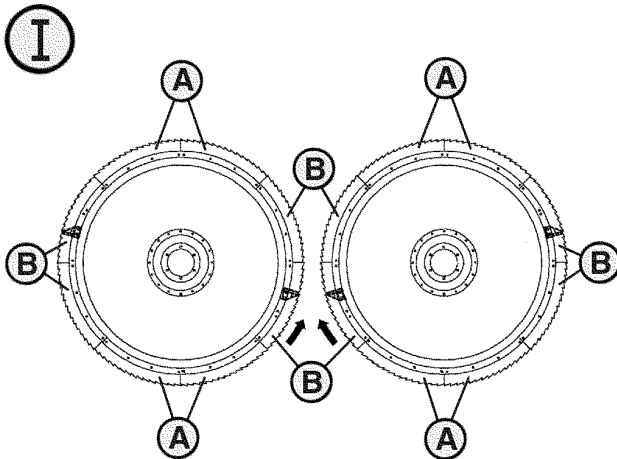
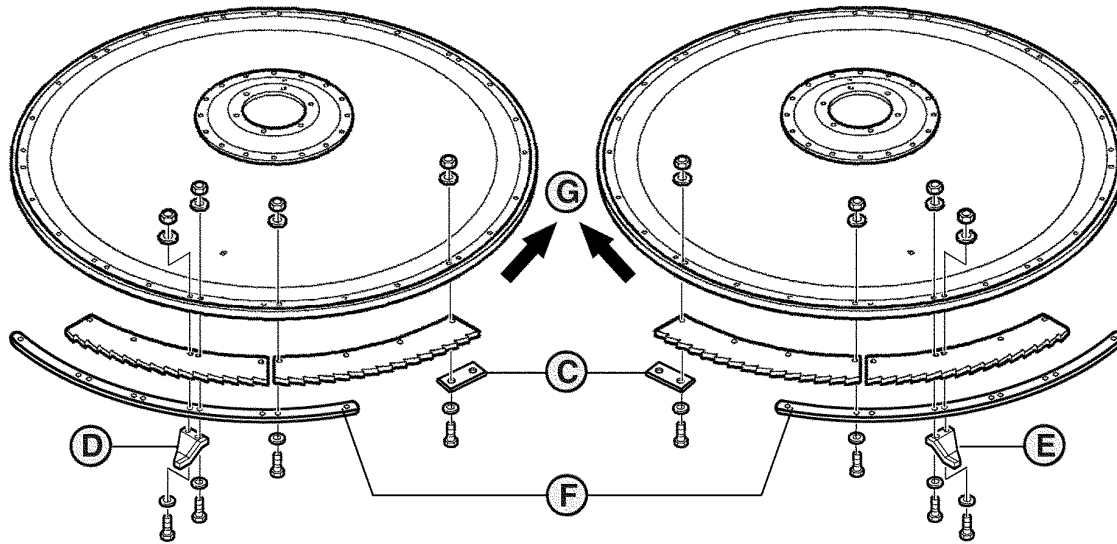
OUC002,000282F -19-15OCT07-1/1

KM1000160 —UN—16OCT07

KM1000161 —UN—16OCT07

KM1000162 —UN—16OCT07

Installing New Rotating Blades



KM1000821

A—Yellow Blade
B—Black Blade

C—Strap
D—Cleaner (Counterclockwise)

E—Cleaner (Clockwise)
F—Reinforcement Strap

CAUTION: Before carrying out adjustment or service work, ALWAYS:

- shut off engine
- remove ignition key
- wait until all moving parts have come to a stop.

IMPORTANT: The rotating blades must be installed with their tips pointing in the direction of cut (G).

1. There are different blades.
A total of 8 blades is installed on each rotating blade.
 - 4 yellow blades (A), and
 - 4 black blades (B)

2. The blades are installed in the following order: 2 yellow (A), then 2 black (B). Remember to tighten the straps (C).

IMPORTANT: Install blades with the coated side uppermost.

3. Remember to install cleaners (D) or (E) and reinforcement straps (F) on the black or yellow blades, depending on the type of the blade (coated (I) or uncoated (II)), as shown in the relevant installation scheme (I) or (II). Cleaner (D) is for counterclockwise rotation, cleaner (E) is for clockwise rotation.

Continued on next page

KM00321,00000DA -19-22DEC11-1/3

KM1000821 —UN—24MAR09

NOTE: Install cleaners (D) and (E) with their cutting edges pointing in the direction of cut.

KM00321,00000DA -19-22DEC11-2/3

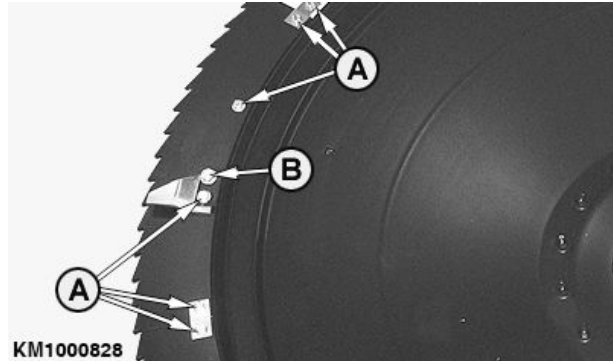
Tighten all attaching screws of blade segments and cleaners with the specified torque.

Specification

Screws (M8)—Torque.....	28 Nm
	20.65 lb-ft
Screws (M10)—Torque.....	51 Nm
	37.62 lb-ft

A—Screws (M8)

B—Screws (M10)



KM1000828 —UN—26MAR09

KM00321,00000DA -19-22DEC11-3/3

Adjusting the Dividers

In order to prevent plugging and crop losses, the dividers (A) have to be properly adjusted.

Always keep distance (X) between 3 and 7 mm (0.12 and 0.27 in.).

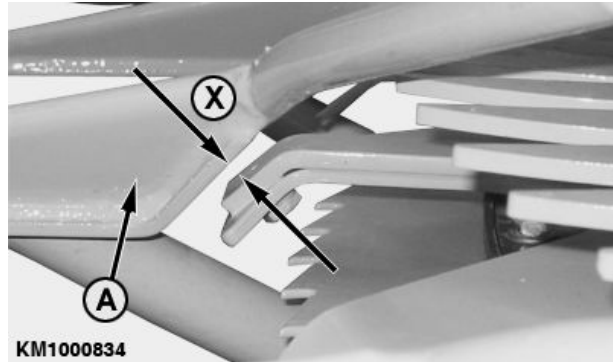
The specified distance (X) can be adjusted by means of two slot holes (see arrows).

Specification

Dividers and Large Drums—Distance from Each Other.....	3 to 7 mm
	0.12 to 0.27 in.

A—Divider

X—3 to 7 mm (0.12 to 0.27 in.)



KM1000834 —UN—27MAR09



KM1000165 —UN—16OCT07

KM00321,00000DB -19-22DEC11-1/1

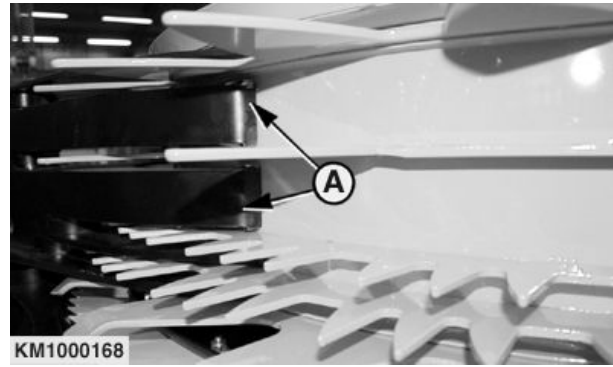
Checking Scrapers Adjustment

In order to prevent plugging in the feeding channel, the scrapers (A) have to be set as close as possible to the gathering drums. The scrapers might touch the drums slightly.

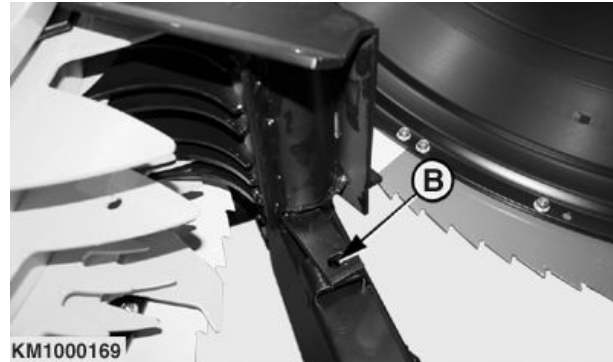
The scraper (A) can be adjusted thanks to slot holes (B).

A—Scraper

B—Slot hole



KM1000168 —UN—16OCT07



KM1000169 —UN—16OCT07

OUCC002,0002834 -19-15OCT07-1/1

Checking and Adjusting Cleaners

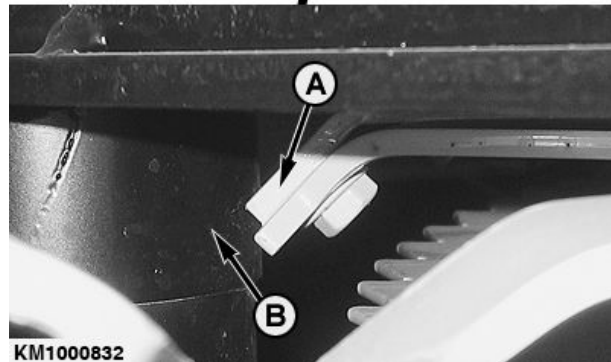
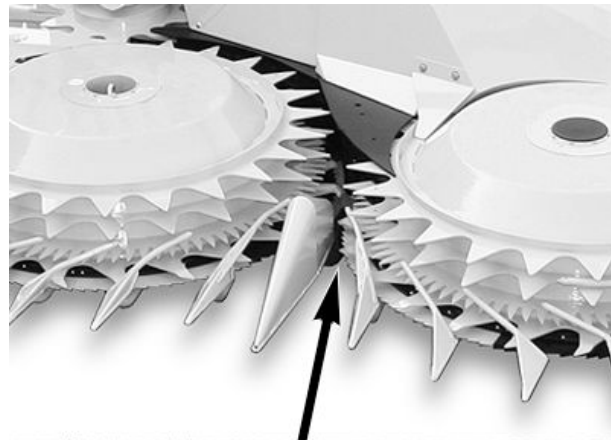
Check adjustment and condition of the cleaners (A) frequently, replace if necessary.

Damaged or wrongly adjusted cleaners unnecessarily burden the drive and may cause malfunction of the rotary harvesting unit.

Set cleaner (A) as close as possible to the scraper (B) by bending up cleaner (A).

A—Cleaner

B—Scraper



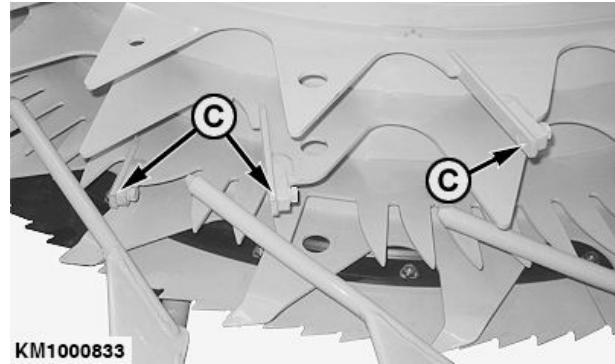
KM1000832 —UN—27MAR09

Continued on next page

KM00321,0000150 -19-27MAR09-1/2

Check condition of the cleaners (C) frequently. Replace worn parts.

C—Cleaners



KM1000833 —UN—27MAR09

KM00321,0000150 -19-27MAR09-2/2

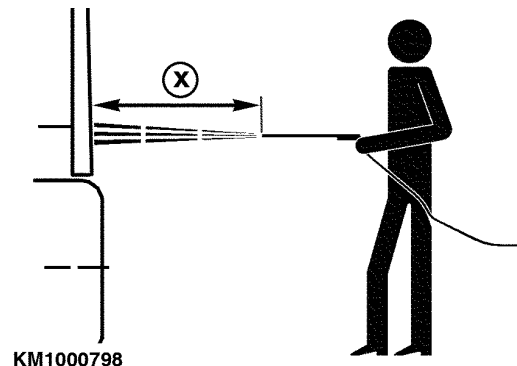
Cleaning Rotary Harvesting Unit

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.)

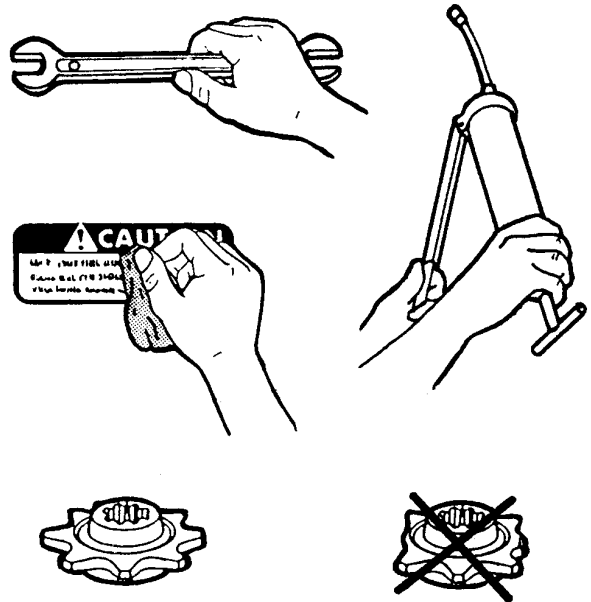
KM1000798 —UN—09MAR09

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.



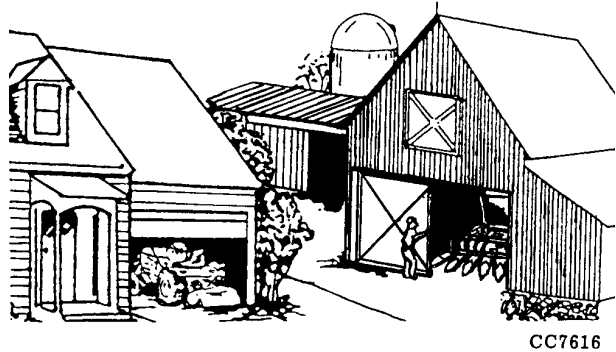
KM1000902

KM1000902 —UN—12JUN09

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

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

CC7616 —UN—21MAR95

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

Specifications

Machine Design Life

This machine is designed and manufactured to provide a long life of productive operation. However, actual attainable life depends on a number of factors including the severity of working conditions and completion of recommended maintenance. (See the Service section of this manual.)

Periodically inspect and review the machine in conjunction with your KEMPER dealer. The review may result

in recommendations for service, component repair, remanufacture or replacement, or, if at the end of life, that the machine be removed from operation. (See separate decommissioning section of this manual for information on disposal and recycling of machine components.)

No machine should be operated if safety-related components are missing or in need of service. All missing or damaged safety-related components, including safety signs, should be repaired or replaced before operating.

KM00321,00004C9 -19-30NOV15-1/1

Rotary Harvesting Unit 460^{plus}

Drive system oil-bath gear box with safety clutch

Harvesting system 4 fast rotating blades

Crop conveyor four slowly rotating gathering drums, two oblique feed drums

Weight 2750 kg (6062.7 lb.)

Width

Transport width 3,00 m (9 ft. 10.1 in.)^a

Working width 6,00 m (19 ft. 8.2 in.)^a

Overall width 6,00 m (19 ft. 8.2 in.)^a

Height

Working Height 1.81 m (5 ft. 11.3 in.)^a

Transport Height 2.90 m (9 ft. 6.2 in.)^a

Length 2,60 m (8 ft. 6.4 in.)^a

Maximum operating speed 15 km/h (9.32 mph)

^aAll dimensions are nominal dimensions. Actual dimensions may be subject to fluctuations and may vary from case to case.

KM00321,00008F6 -19-14MAR19-1/1

Sound Level

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

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

460^{plus} 76.1 dB(A)

KM00321,00000DE -19-22DEC11-1/1

EU Declaration of Conformity

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

The person named below declares that
the product

Machine type: Rotary harvesting unit

Model: 460^{plus}

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 Stadthlohn,
Germany

Name: Richard Wübbels

Date of Declaration: 01. March 2020

Title: Manager Product Engineering

Manufacturing unit: Kemper Stadthlohn

DXCE01 —UN—28APR09



KM00321,0000A34 -19-20MAR20-1/1

Serial Numbers

Rotary Harvesting Unit Serial Number Plate

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

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

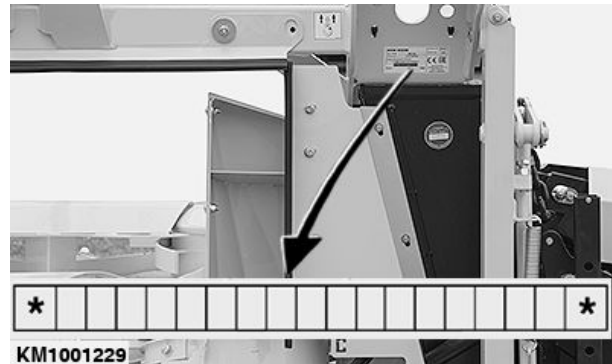
The diagram shows a serial number plate for Maschinfabrik KEMPER. It includes fields for Type (A), Model Designation (B), Product Identification Number (C), Weight (D), Year of Construction (E), and Model Year (F). The plate also features a CE mark and the manufacturer's name and address: Maschinfabrik Kemper GmbH & Co KG, 48703 Stadthorn.

KM1001134

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 located on the right side of the frame. Record serial number in the space provided opposite.



KM00321,0000362 -19-19JUL10-1/1

Index

	Page		Page
A		E	
Adjust scrapers	20-1	End of season	
Alternative lubricants	55-3	Storage	65-1
Attach		F	
Attaching to CLAAS forage harvesters		Feed Bar	
Connecting the Drive (Types 493, 494		Adjustment	40-4
and 497)	25-11	Feed passage	
Attaching		Adjust scrapers	20-1
Attaching to CLAAS Forage Harvesters	25-7	Fluid Grease for Drives	55-1
Rotary Harvesting Units with		G	
Multi-Speed Gearbox and Quick Coupler	25-9	Grease	
Attaching to Fendt forage harvesters		Extreme Pressure and Multi-Purpose	55-1
Ball cock	28-4	H	
Oscillating frame, aligning	28-1	Hardware torque values	
U.j. shaft	28-3	Metric	60-1
Attaching to FENDT Forage Harvesters		Harvest	
Connect U.J. Shaft	28-3	Before Start of Season	55-4
Hydraulic Hoses and Wiring Harness, Connect	28-3	Crop Flow	40-17
Rotary Harvesting Unit, Attach	28-1	End of Season	55-13
Attachment		Rotary Harvesting Unit, Inspection	40-17
Attaching to the CLAAS Forage Harvester		Harvesting	
Connecting the Drive (Types 496, 500)	25-14	Before the start of the harvesting	
Attachments		season	55-3, 55-5
Row guidance kit	45-1	Clear blockages	40-2
Steering assistance kit	45-1	Clear Blockages	40-2
Auxiliary headlights		Reversing	40-2
Claas forage harvesters	25-1	Haulage	
B		Lashing points	15-3
Balance weights	55-10	Suspension points	15-1
Ballasting	25-1	Hydraulic pressure	40-17
Before installing the rotary harvesting unit		I	
Ballasting	25-1	Identification View	00-1
Bolt and screw torque values		Install wiring harness on CLAAS forage harvester	25-5
Metric	60-1	Installation	
C		Installation on the CLAAS forage harvester	
CLAAS tray	25-18	Connect the drive (type 492)	25-10
Cleaners	60-6	L	
Cleaning Rotary Harvesting Unit	60-7	Lashing Points	15-3
Compatibility Chart		Length of cut and drum speeds	
CLAAS forage harvesters	25-1	CLAAS forage harvesters	
Coolant		Types 492, 496, and 500	40-6
Main drive friction clutch	55-2, 55-12	Types 494, 497, and 498	40-12
D			
Damage incurred during transport	20-1		
Detaching			
Detach the Rotary Harvesting Unit	30-1		
Dividers	60-5		
Driving on public roads	35-2		
Driving on roads	35-1		
Driving with rotary harvesting unit attached	40-2		

Continued on next page

R

Reversing 40-2

T	
Torque charts	
Metric	60-1
Traffic regulations	35-1
Transmission oil	55-2
Transmission overview	55-7
Transport	
Close safety relief valve (rotary harvesting units for CLAAS forage harvesters only)	35-1
Driving on public roads	35-2
Folding the Rotary Harvesting Unit	35-1
Troubleshooting	50-1

V

Variable header drive..... 25-2

