

680, 690, 680 MultiCut and 690 MultiCut Large Square Balers

**John Deere Werke Zweibrücken
TM4581 (04DEC00)**

Printed in Germany
ENGLISCH

Introduction

FOREWORD

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.



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

Technical manuals are divided in two parts: repair and operation and tests. Repair sections tell how to repair the components. Operation and tests sections help you identify the majority of routine failures quickly.

Information is organized in groups for the various components requiring service instruction. At the beginning of each group are summary listings of all applicable essential tools, service equipment and tools, other materials needed to do the job, service parts kits, specifications, wear tolerances, and torque values.

Technical Manuals are concise guides for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.

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

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A John Deere ILLUSTRATION® Manual

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Section 05 Safety

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Group 05—Safety Information

LIVE WITH SAFETY

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.



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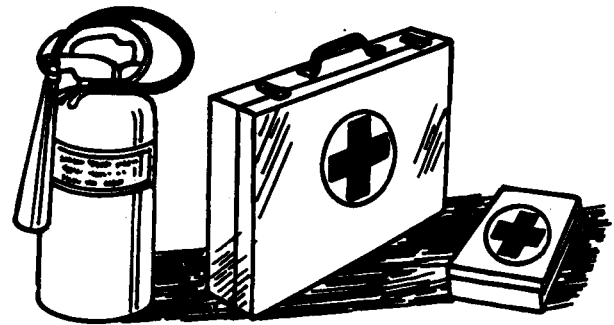
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PREPARE FOR EMERGENCIES

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.



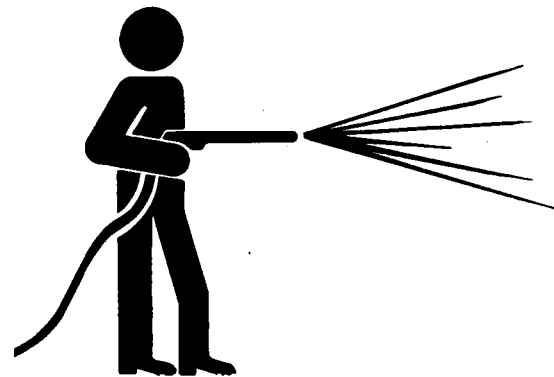
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TS291 -UN-23AUG88

WORK IN CLEAN AREA

Before starting a job:

- Clean work area and machine.
- Make sure you have all necessary tools to do your job.
- Have the right parts on hand.
- Read all instructions thoroughly; do not attempt shortcuts.



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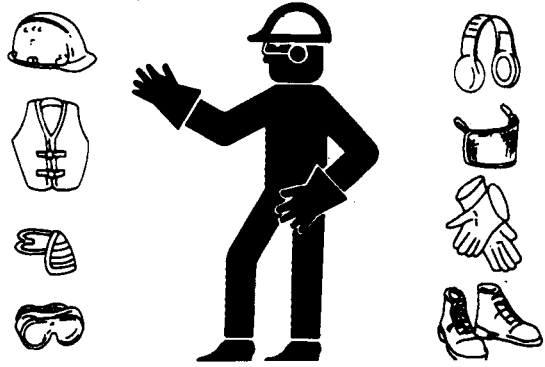
WEAR PROTECTIVE CLOTHING

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.



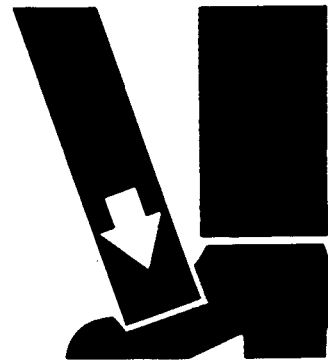
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TS206 -JUN-23AUG88

USE PROPER LIFTING EQUIPMENT

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



DX,LIFT -19-04JUN90

TS226 -JUN-23AUG88

REPLACE SAFETY SIGNS

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



DX,SIGNS1 -19-04JUN90

TS201 -JUN-23AUG88

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.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



DX,SERV -19-03MAR93

TS218 -JUN-23AUG88

USE PROPER TOOLS

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only service parts meeting John Deere specifications.



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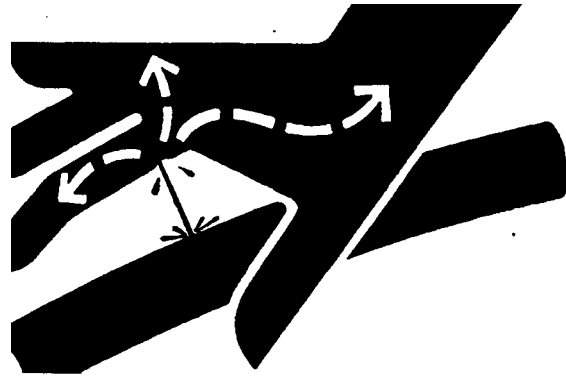
AVOID HIGH-PRESSURE FLUIDS

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

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

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

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



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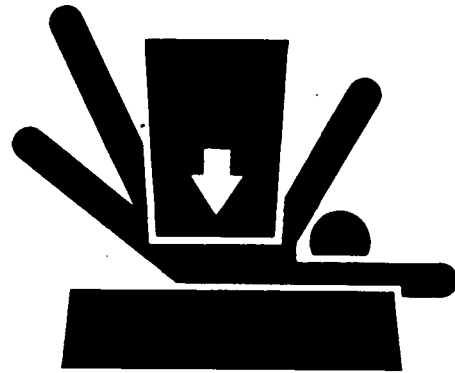
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DX,FLUID -19-03MAR93

SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

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.



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DX,LOWER -19-04JUN90

REMOVE PAINT BEFORE WELDING OR HEATING

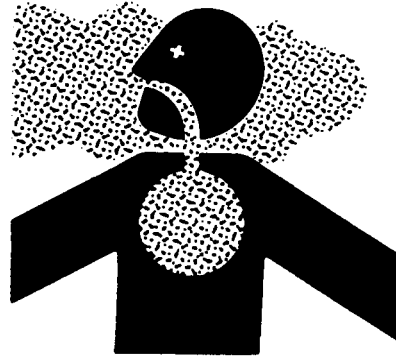
Avoid potentially toxic fumes and dust.

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

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- 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.



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DX,PAINT -19-03MAR93

AVOID HEATING NEAR PRESSURIZED FLUID LINES

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



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DX,TORCH -19-03MAR93

HANDLE FLUIDS SAFELY—AVOID FIRES

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.



TS227 -JUN-23AUG88

DX,FLAME -19-04JUN90

DISPOSE OF WASTE PROPERLY

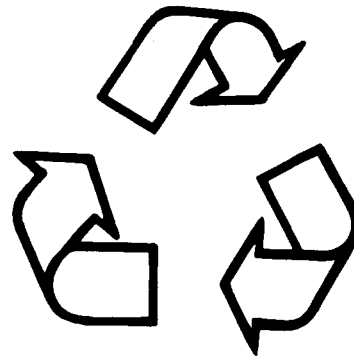
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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 a 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.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.



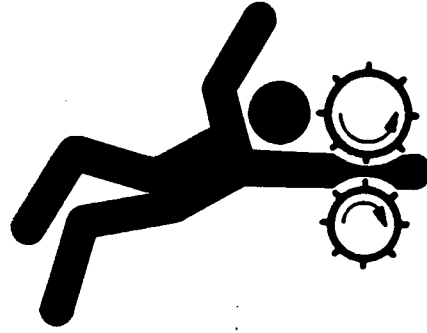
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DX,DRAIN -19-03MAR93

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.

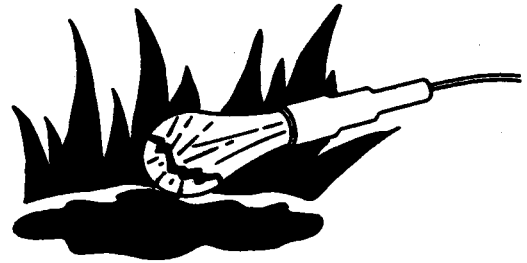


DX, LOOSE -19-04JUN90

TS228 -JUN-23AUG88

ILLUMINATE WORK AREA SAFELY

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



DX, LIGHT -19-04JUN90

TS223 -JUN-23AUG88

Section 10 General Information

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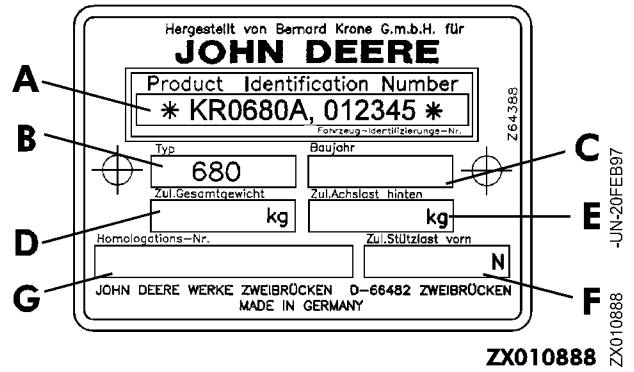
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SERIAL NUMBER PLATE

- A—Serial number
- B—Model
- C—Year of production
- D—Permissible total weight
- E—Permissible rear axle load
- F—Permissible front axle load
- G—Homologation number (in certain countries only)

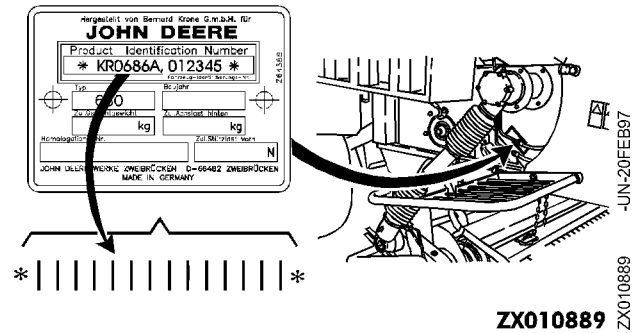


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SERIAL NUMBER

The serial number plate is located on the right-hand side of the baler.

When ordering spare parts, always quote the baler serial number. This will help your dealer in giving you prompt, efficient service.

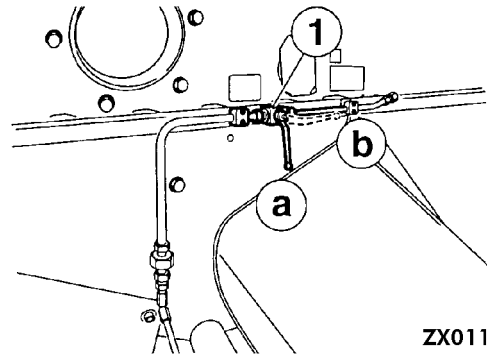


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ADJUSTING PICKUP WORKING HEIGHT

Raise pickup and lock it by means of the shut-off tap (1).

a = closed position
b = open position



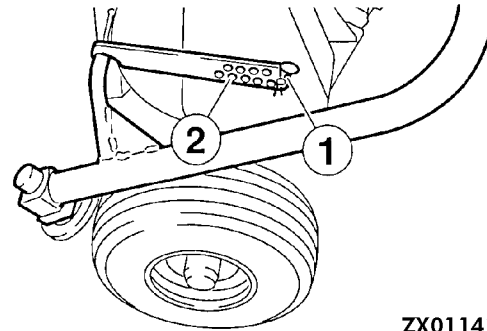
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- Remove spring pin (1).
- Move gauge wheels to desired position on bar (2) and secure with spring pin (1).

NOTE: Make sure that the gauge wheels on both sides of the pickup are in the same position on the bar with holes (2).



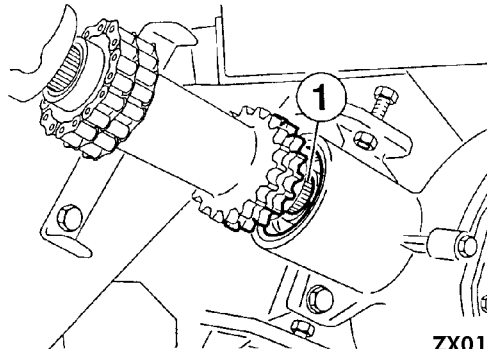
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SETTING THE RAKE RELATIVE TO THE PLUNGER

Turn drive shaft (1) of rake gearbox in working direction until guide roller is visible in window on the right-hand side of the machine.

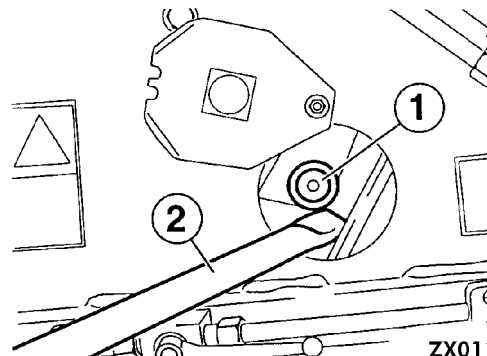


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Fasten guide roller (1) in this position with a mounting bar (2).



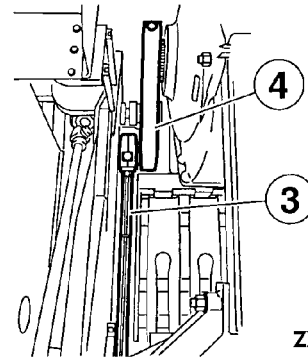
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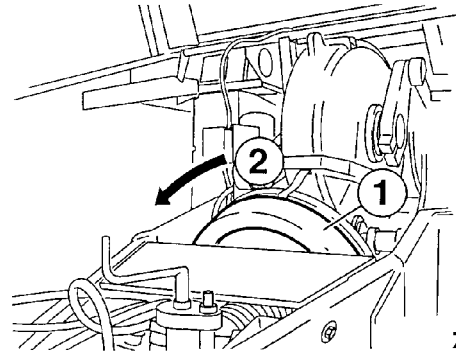
Move connecting rod (3) and main crank (4) to extended position (rear dead center of plunger) by turning flywheel (1) in working direction (2).

- 1—Flywheel
- 2—Working direction
- 3—Connecting rod
- 4—Main crank



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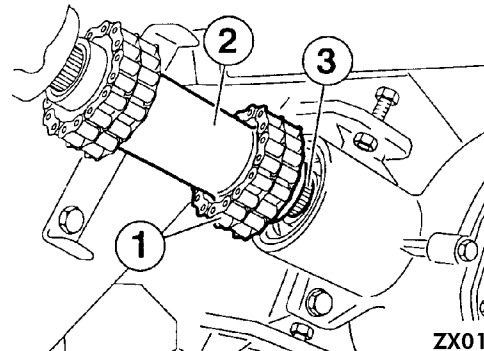
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Connect sleeve (2) and drive shaft (3) by means of roller chain (1).

NOTE: Turn the machine manually through one entire revolution. With connecting rod and main crank in extended position, the guide roller must be in the center of the window. Make sure that the rake clutch is engaged.



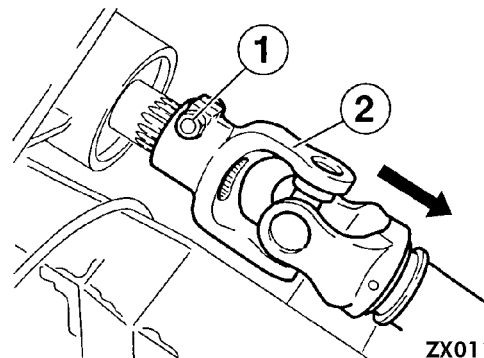
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SETTING NEEDLES RELATIVE TO THE PLUNGER

- Removing knotter drive shaft
 - Remove screw (1).
 - Pull off jointed shaft (2).



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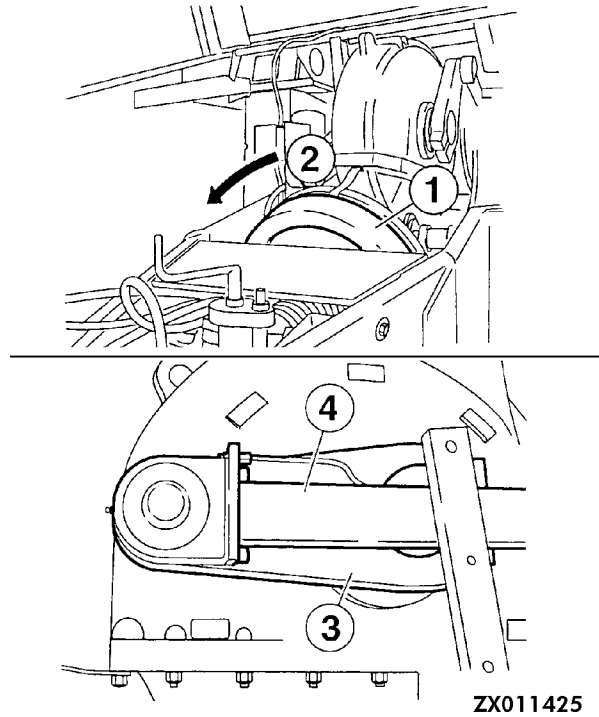
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Positioning Plunger

Turn flywheel (1) in working direction (2) until crank arm (3) and connecting rod (4) overlap (front dead center of plunger).

- 1—Flywheel
- 2—Working direction
- 3—Crank arm
- 4—Connecting rod

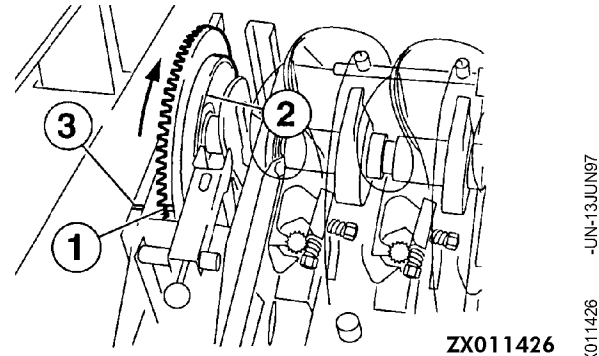


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Positioning Knotter Drive

- Align coloured mark (1) on crown wheel (2) with upper rear edge (3) of knotter gearbox.
- Install jointed shaft.

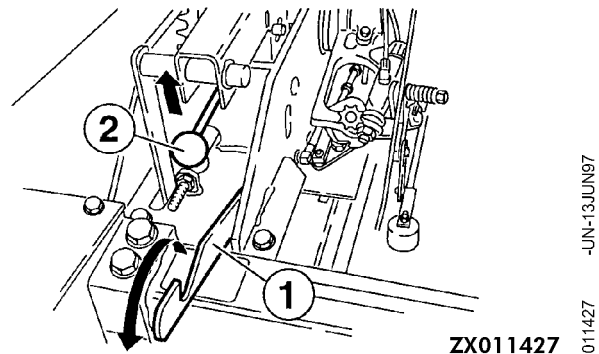
IMPORTANT: Check setting.



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CHECKING PLUNGER-TO-NEEDLE SETTING

- Trip the tying cycle by hand.
- Move locking lever (1) down.
- Move lever (2) up.

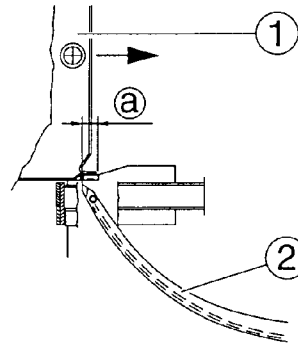


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Basic Settings

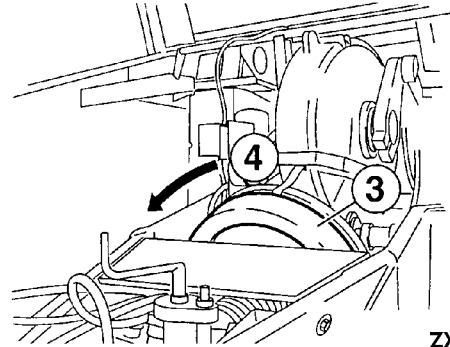
Move plunger (1) in working direction by turning flywheel until needle tip (2) is at the same height as the plunger blade.

IMPORTANT: In this position the needle tip must be covered by the plunger, with dimension $a = 40 - 70$ mm (1.57 - 2.76 in.).



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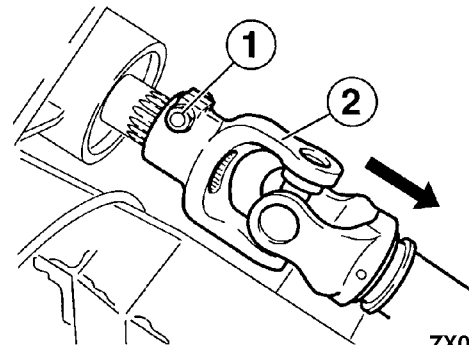
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To adjust dimension "a", alter position of the knotter drive jointed shaft.

- Remove screw (1).
- Pull off jointed shaft (2).
- Adjust dimension "a".
- Reinstall jointed shaft.



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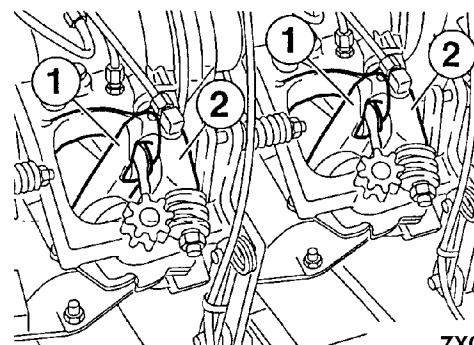
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LATERAL NEEDLE ADJUSTMENT

- Trip the tying cycle by hand.
- Move needles to upper position by turning flywheel in working direction.
- Needles (1) must just laterally touch the knotter frames (2).



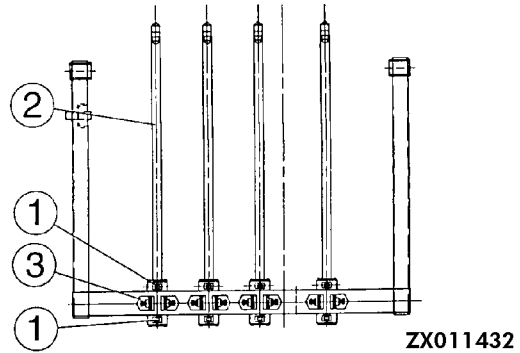
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Correcting Needle Position

- Loosen clamping screws (1).
- Move needles (2) to correct position by means of clamping screws (3).
- Tighten clamping screws (1).



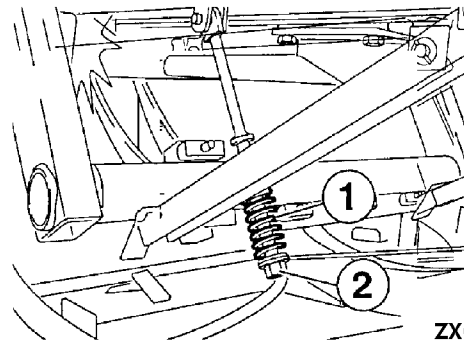
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ADJUSTING NEEDLE YOKE BRAKE

Adjust length of spring (1) to 110 mm (4.33 in.) by means of nut (2).

IMPORTANT: Adjust the spring on both sides by the same amount.



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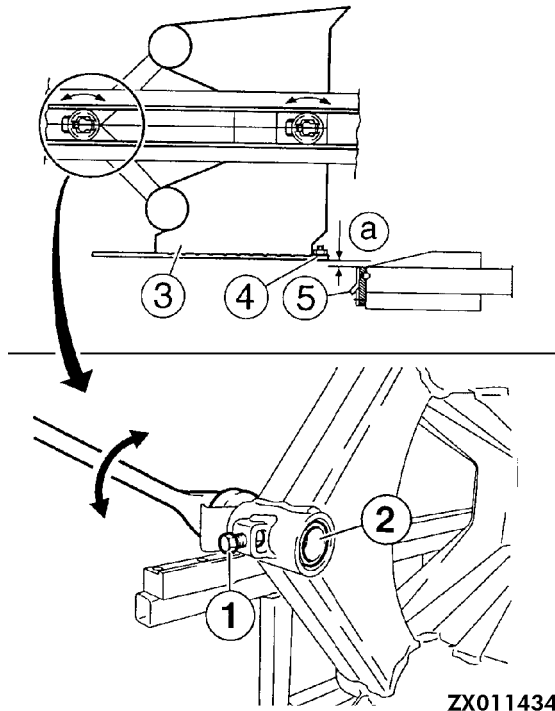
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ADJUSTING PLUNGER BLADES AND STATIONARY BLADES

- Loosen clamp bedding (1).
- Raise or lower plunger (3) by turning eccentric sleeves (2).
- Adjust dimension (a = 2 - 4 mm; 0.08 - 0.16 in.) between plunger blade (4) and stationary blade (5).
- Tighten clamp bedding (1).

IMPORTANT: The plunger guide rollers must carry uniformly.

- 1—Clamp bedding
- 2—Eccentric sleeves
- 3—Plunger
- 4—Plunger blade
- 5—Stationary blade

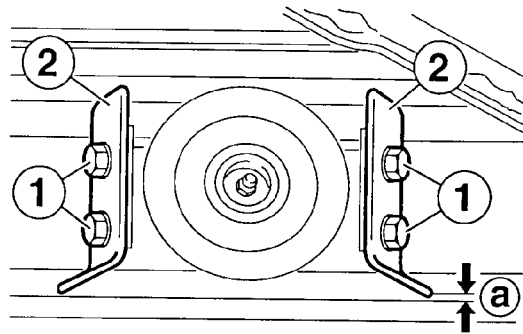


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ADJUSTING PLUNGER CLEANING RAILS

- Loosen screws (1).
- Adjust cleaning rails (2) ($a = 1 - 2 \text{ mm}$; $0.04 - 0.08 \text{ in.}$).
- Tighten screws (1).



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ADJUSTING CUTTING MECHANISM SENSOR

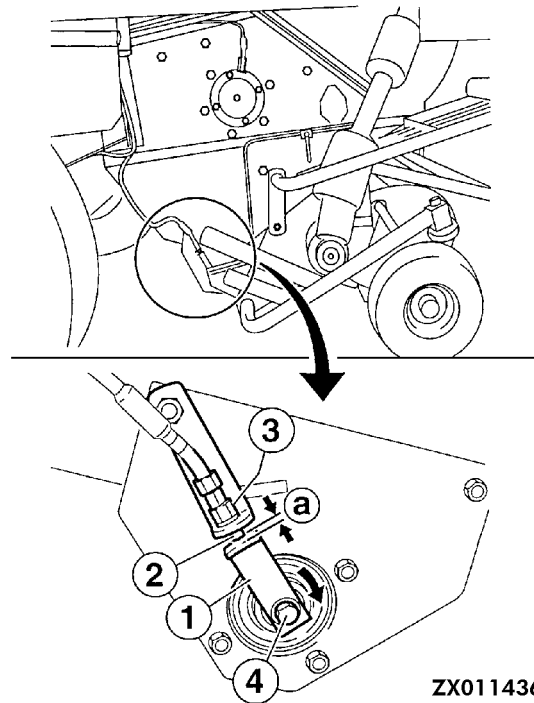
Engage cutting mechanism. Sending unit (1) must be aligned with sensor (2).

Adjust sending unit position as follows:

- Loosen screw (4).
- Move sending unit (1) to correct position.
- Tighten screw (4).

Adjust clearance ($a = 3 \text{ m}$; 0.12 in.) between sending unit (1) and sensor (2) by means of nuts (3).

- 1—Sending unit
- 2—Sensor
- 3—Nut
- 4—Screw



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ADJUSTING KNOTTER SENSOR

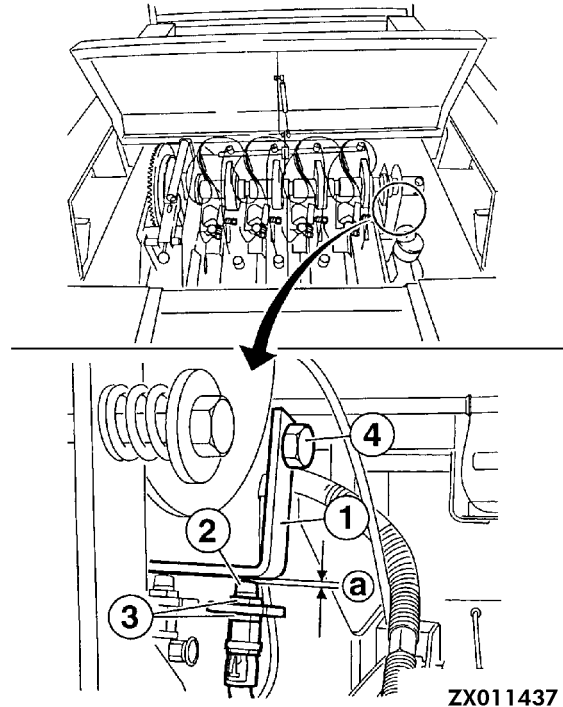
Sending unit (1) must be aligned with sensor (2) with knotter in "home" position.

Adjust sending unit position as follows:

- Loosen screw (4).
- Move sending unit (1) to correct position.
- Tighten screw (4).

Adjust clearance (a = 3 mm; 0.12 in.) between sending unit (1) and sensor (2) by means of nuts (3).

- 1—Sending unit
- 2—Sensor
- 3—Nut
- 4—Screw

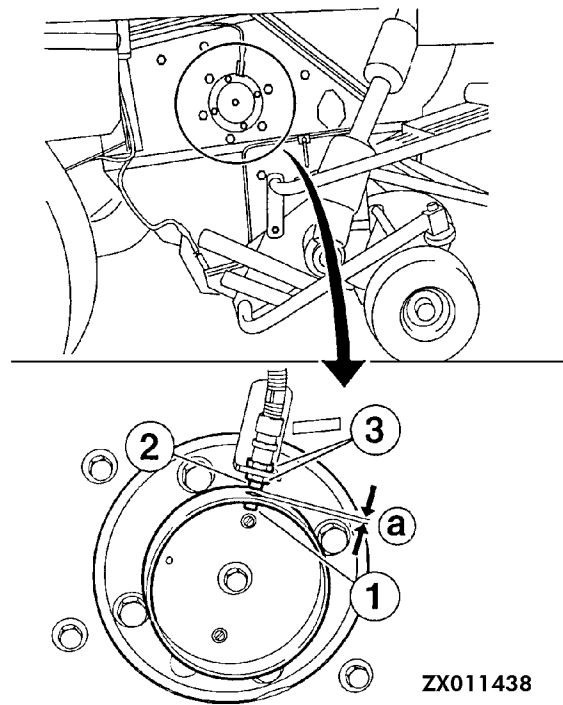


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ZX011437

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ADJUSTING RAKE DRUM SENSOR

Adjust clearance (a = 3 mm; 0.12 in.) between sending unit (1) and sensor (2) by means of nuts (3).



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Suggest:

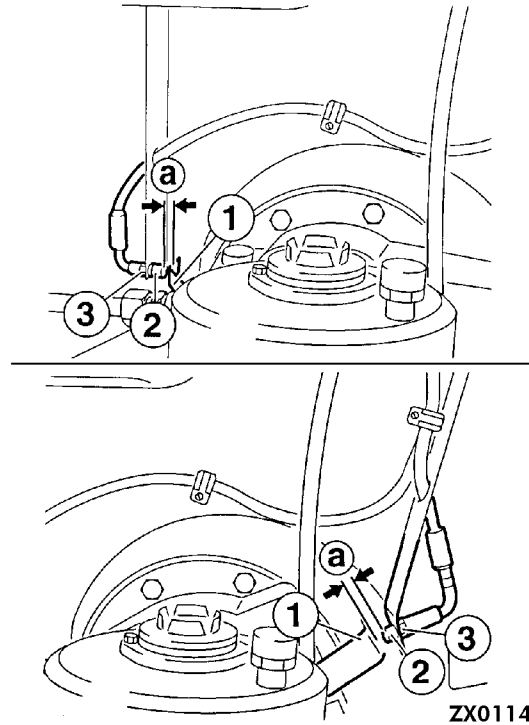
If the above button click is invalid.

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ADJUSTING PLUNGER POSITION SENSOR

Adjust clearance (a = 3 mm; 0.12 in.) between the two plunger position sensors (2) and sending unit (1) by means of nuts (3).



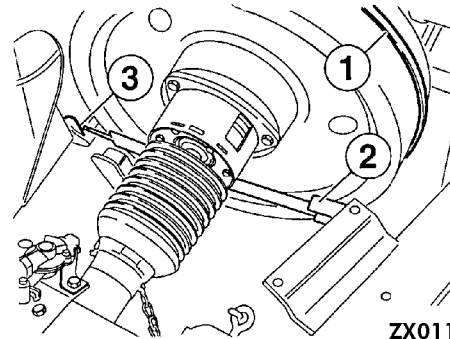
ZX011439

-JUN-13JUN97
ZX011439

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ADJUSTING BRAKE BAND ON FLYWHEEL

Brake band (1) is adjusted on front left (2) and right (3) side of flywheel with brake released.



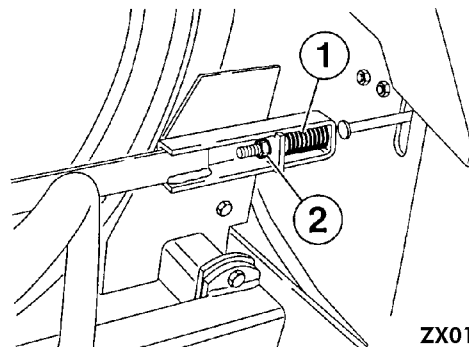
ZX011440

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Left-Hand Side

Tension spring (1) by means of the lock nut (2) until a spring length of 65 mm (2.56 in.) is obtained.



ZX011441

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ZX011441

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