

430 and 530 Round Balers



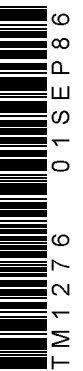
JOHN DEERE

TECHNICAL MANUAL 430 and 530 Round Balers

TM1276 (01SEP86) English

John Deere Ottumwa Works
TM1276 (01SEP86)

LITHO IN U.S.A.
ENGLISH



430 and 530 ROUND BALERS Technical Manual TM-1276 (Sep-86)

SECTION AND GROUP CONTENTS

SECTION 10—GENERAL

- Group 05—Safety
- Group 10—Specifications
- Group 15—General Information
- Group 20—Lubrication

SECTION 20—DRIVE TRAIN

- Group 05—General Information
- Group 10—PTO Hookup
- Group 15—Gear Case and Input Shaft
- Group 20—Roll Drives

SECTION 30—HYDRAULICS

- Group 00—Special Equipment
- Group 05—General Information, Diagnosis,
and Tests
- Group 10—Hydraulic System
- Group 15—Cylinders
- Group 20—Single Spool Valve

SECTION 40—TWINE MECHANISM

- Group 05—Automatic Twine Wrap System
- Group 10—Replace and Adjust Components

SECTION 50—ELECTRICAL

- Group 00—Special Tools
- Group 05—General
- Group 10—Diagnosing Electrical Malfunctions
- Group 15—Electrical Adjustments
- Group 20—Check Electrical Functions

SECTION 60—PICKUP

- Group 05—Diagnosing Pickup Malfunctions
- Group 10—Repair and Replace Components
- Group 15—Remove Pickup
- Group 20—Disassemble Pickup
- Group 25—Pickup Adjustments

SECTION 70—MISCELLANEOUS

- Group 05—Wheel Hub
- Group 10—Converging Wheel
- Group 15—Tension Arm
- Group 20—Remove Gate
- Group 25—Remove and Install Tongue

All information, illustrations and specifications contained in this technical 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® 1986
DEERE & COMPANY
Moline, Illinois
All rights reserved
A JOHN DEERE ILLUSTRATION


E01;0000 0 280886

Section 10 GENERAL

CONTENTS

	Page
Group 05 - SAFETY	10-05-01
Group 10 - SPECIFICATIONS	10-10-01
Torque Chart	10-10-03
Group 15 - GENERAL	
Description	10-15-01
Tractor Requirements	10-15-01
GROUP 20 - LUBRICATION	
Grease	10-20-01
Gear Case Oil	10-20-01
Hydraulic Oil	10-20-02
Alternative Lubricants	10-20-02

OBSERVE SAFETY RULES

 **CAUTION:** This safety alert symbol identifies important safety messages in this manual and on the machine. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Avoid loose clothing that can catch in moving parts and put you out of work.

Wear your safety glasses while on the job.

Avoid working on equipment with the engine running. If it is necessary to make checks with the engine running, ALWAYS USE TWO PEOPLE—with the operator, at the controls, able to see the person doing the checking. Also, put the transmission in neutral, set the brake, and apply safety locks provided. KEEP HANDS AWAY FROM MOVING PARTS.

Don't attempt to check belt tension while the engine is running.



T27999

3FA;T27999 E01;1005 D 221182

OBSERVE "IMPORTANT" MESSAGES

Messages labeled "Important" will appear in this manual and/or on the machine to provide specific instructions for performing adjustments, services, etc. If these instructions are not followed, it could result in damage to the machine.

3FA; E01;1005 E 221182

NOTES

The word *NOTE* is followed by a statement that identifies a qualification or exception to a previous statement. A "NOTE" may also identify nice-to-know information pertinent to, but not directly related to the previous statement.

0A9; E05;1005 ZG 140682

FOLLOW SAFE PRACTICES

Wear safety equipment.

Wear fairly tight clothing.

Keep the service area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment.

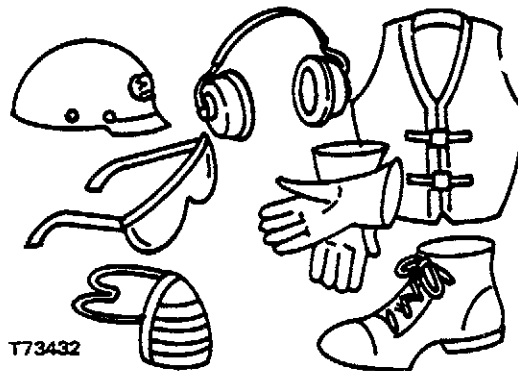
Make sure the service area is adequately vented.

Periodically check the shop exhaust system for leakage. Engine exhaust gas is dangerous.

Be sure all electrical outlets and tools are properly grounded.

Use adequate light for the job at hand.

Use lifting equipment and safety stands which have adequate strength for the job being performed.

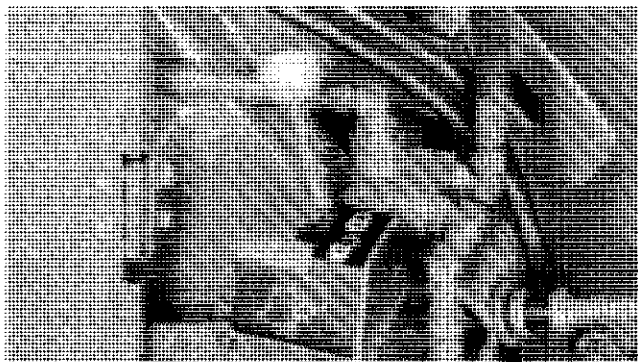


3FA;T73432 E01;1005 F 221182

Position gate lock valve to locked position before working on or around baler with gate in raised position.

To avoid injury stay clear of gate while it is being raised and lowered.

Be sure bystanders are clear before operating gate.

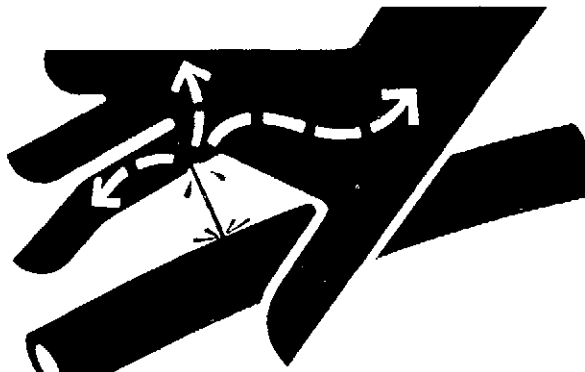


3FA;E21639 E01;1005 G 221182

AVOID HIGH PRESSURE-FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks. Do not use your hand.

If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene may result.



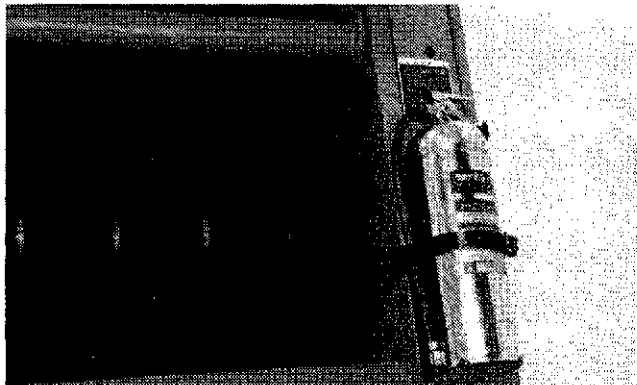
3FA;X9811 E01;1005 A 221182

AVOID FIRE HAZARDS

Be prepared if an accident or fire should occur. Know where the first aid kit and the fire extinguishers are located and know how to use them.

Don't smoke while refueling or handling highly flammable material.

Don't use open pans of gasoline or diesel fuel for cleaning parts. Use good commercial, nonflammable solvents.



3FA/E21601 E01:1005 H 310183

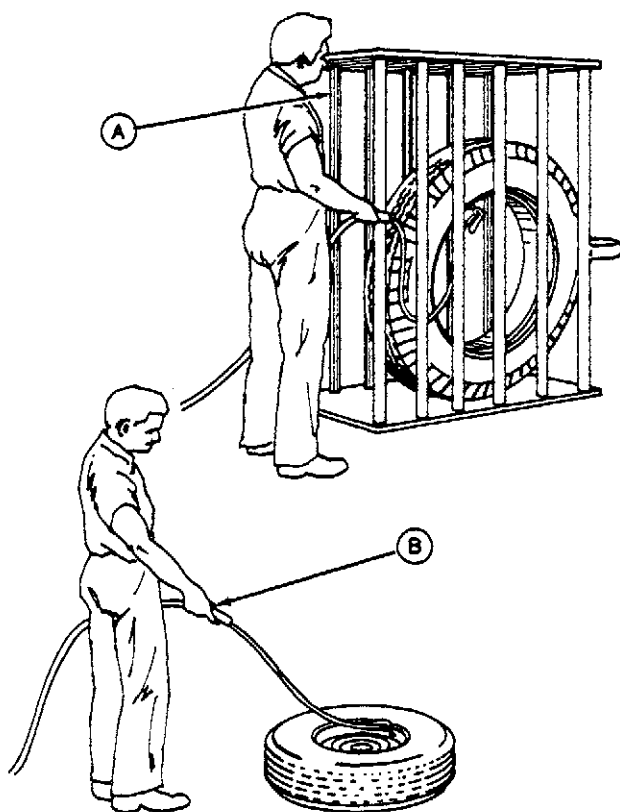
SERVICE TIRES SAFELY

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death. Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified tire repair service.

When sealing tire beads on rims, never exceed 35 psi (241 kPa) (2.4 bar) or maximum inflation pressures specified by tire manufacturers for mounting tires. Inflation beyond this maximum pressure may break the bead, or even the rim, with dangerous explosive force. If both beads are not seated when the maximum recommended pressure is reached, deflate, reposition tire, relubricate bead and reinflate.

Detailed tire mounting instructions, including necessary safety precautions, are contained in John Deere Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your John Deere dealer. Such information is also available from the Rubber Manufacturers Association and from tire manufacturers.

- A—Use a Safety Cage if Available.
- B—Do Not Stand Over Tire. Use a Clip-on Chuck and Extension Hose.



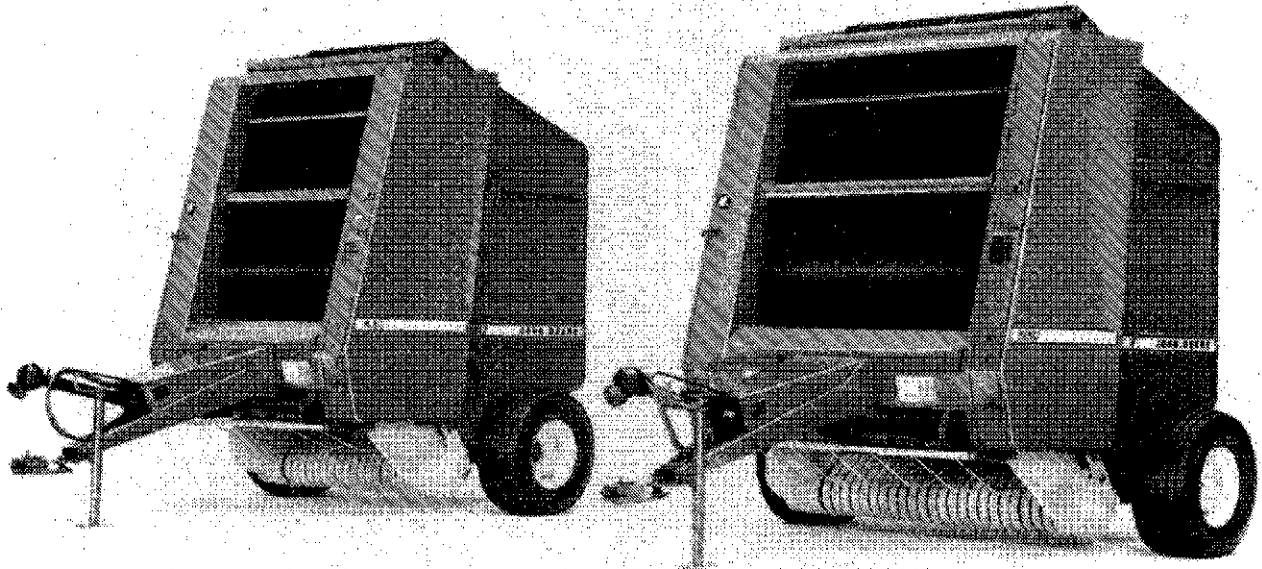
A86:TS0123 053;TSAFT A 091283

DO NOT MODIFY MACHINE

Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

3FA: E01:1005 J 221182

SPECIFICATIONS



BALE:

Diameter	1000 mm up to 1829 mm (39 in. up to 72 in.)
Width	
430	1170 mm (46 in.)
530	1565 mm (61.6 in.)
Weight	
430	630 kg (1400 lbs)
	(Depending on crop and moisture content)
530	833 kg (1850 lbs)
	(Depending on crop and moisture content)

BALER:

Weight	
430	1773 kg (3940 lbs)
530	1958 kg (4350 lbs)
Length, gate closed	3710 mm (146 in.)
Length, gate open	4750 mm (187 in.)
Height, gate closed	2810 mm (110 in.)
Height, gate open	3640 mm (143 in.)
Width	
430	2450 mm (96 in.)
530	2840 mm (112 in.)

Specifications

PICKUP:

Width (inside)	
430	1170 mm (46 in.)
530	1565 mm (61.6 in.)
Width (on flare)	
430	1410 mm (55.5 in.)
530	1810 mm (71 in.)
Width (between outer teeth)	
430	1120 mm (44 in.)
530	1520 mm (60 in.)
Bars	4
Number of teeth	
430	72
530	96
Tooth spacing	66 mm (2.6 in.)
Stripper diameter	255 mm (10 in.)

FORMING BELTS:

Number	
430	6
530	8
Type	3-ply fabric, diamond tread
Length	
430	2 - 13 330 mm (525 in.)
	4 - 13 490 mm (531 in.)
530	4 - 13 330 mm (525 in.)
	4 - 13 490 mm (531 in.)

TWINE WRAP:

Control	Self-activating, automatic to preset bale size
Type	Hydraulic, self-contained
Spacing	Adjustable, infinitely variable

OPERATOR'S CONSOLE:

Bale forming monitors	Dial indicators
Near-full bale indicator	Flashing yellow light
Auto-wrap indicator	Solid yellow light
Oversize bale protection	Red light with audible warning
Gate closed	Green light
Tire size	11L x 14, 6-ply rating 31.5 x 13.5 option
PTO shaft speed	540 or with 1000 rpm conversion
Drive protection	Slip clutch
Tractor recommended	430 - 50 hp (37.5 kW) minimum
	530 - 70 hp (52.5 kW) minimum

(Specifications and design are subject to change without notice.)

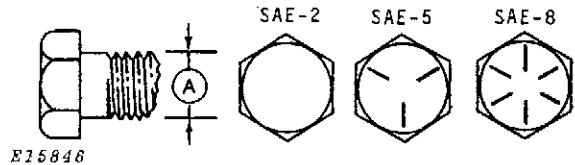
3FA; E01;1010 J 120384

BOLT TORQUE CHARTS

The tables shown below give correct torque values for various bolts and cap screws. Check bolts periodically, using bolt torque chart as a guide.

U.S. MEASUREMENT

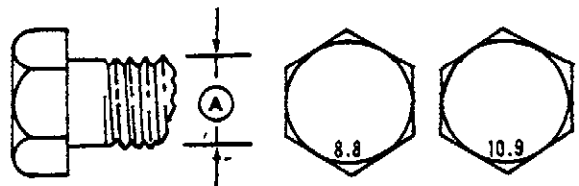
Bolt Diameter "A"	Bolt Torque in Lbs-Ft (N·m)					
	SAE 2	Used	SAE 5	(N·m)	SAE 8	(N·m)
1/4"	Not Used	14	(10)	19	(14)	
5/16"	Not Used	27	(20)	41	(30)	
3/8"	23	(31)	35	(47)	50	(68)
7/16"	35	(47)	55	(75)	80	(108)
1/2"	55	(75)	85	(115)	120	(163)
9/16"	75	(102)	130	(176)	175	(237)
5/8"	105	(142)	170	(231)	240	(325)
3/4"	185	(251)	300	(407)	425	(576)
7/8"	160	(217)	445	(603)	685	(929)
1"	250	(339)	670	(910)	1030	(1396)
1-1/4"	330	(450)	910	(1235)	1460	(1979)



Replace hardware with the same strength bolt.

METRIC MEASUREMENT

Bolt Diameter "A"	Bolt Torque in Lbs-Ft (N·m)			
	8.8	10.9	10.9	10.9
5 mm	5	(6)	7	(9)
6 mm	9	(11)	13	(17)
8 mm	20	(28)	30	(40)
10 mm	40	(55)	59	(80)
12 mm	70	(95)	103	(140)
16 mm	173	(235)	258	(350)
20 mm	350	(475)	498	(675)
24 mm	608	(825)	863	(1170)
30 mm	1201	(1630)	1712	(2320)



NOTE: Bolts having lock nuts should be torqued to approximately 65% of amounts shown in above chart.

DESCRIPTION

The 430 and 530 Round Balers consist of a main frame and wheels, pickup, belts, gate and bale wrapping system.

Power is provided from a 540 rpm tractor PTO. Both balers can be converted from 540 to 1000 rpm.

The tractor PTO drives a hydraulic pump on the baler which provides the hydraulic pressure to operate the twine cylinder.

Two sets of hydraulic cylinders operate from the tractor hydraulic system. One set raises and lowers the gate. The other set raises and lowers the center arm and works in conjunction with springs to provide bale tension.

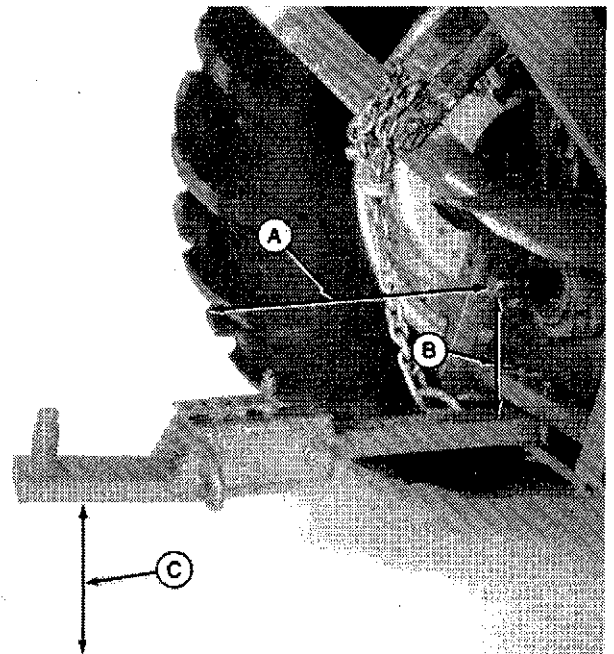
3FA; E01;1015 E 221182

TRACTOR HOOKUP

IMPORTANT: Unequal angles occur during a turn if the tractor drawbar is not set to the correct length. Turning with unequal angles while operating the machine will cause noise and vibration and premature failure of powerline components.

Correct tractor drawbar hookup dimensions are:

(540 rpm)	(1000 rpm)
A—356 mm (14 in.)	406 mm (16 in.)
B—152-305 mm (6-12 in.)	152-305 mm (6-12 in.)
C—330-432 mm (13-17 in.)	330-432 mm (13-17 in.)



3FA;E22116 E01;1015 F 221182

General Information