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

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.

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INTRODUCTION

This technical manual is part of a twin concept of service:

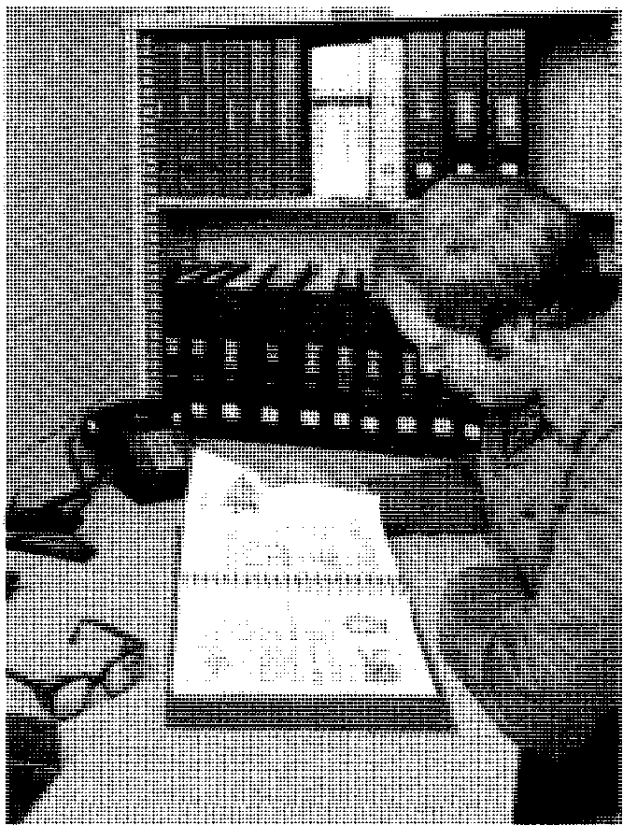
FOS Manuals — for reference

Technical Manuals — for actual service

The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

Fundamentals of Service (FOS) Manuals cover basic theory of operation, *fundamentals* of trouble shooting, *general* maintenance, and *basic* types of failures and their causes. FOS Manuals are for training new people and for reference by experienced technicians.

Technical Manuals are concise service guides for a *specific* machine. Technical Manuals are on-the-job guides containing only the vital information needed by an experienced technician.



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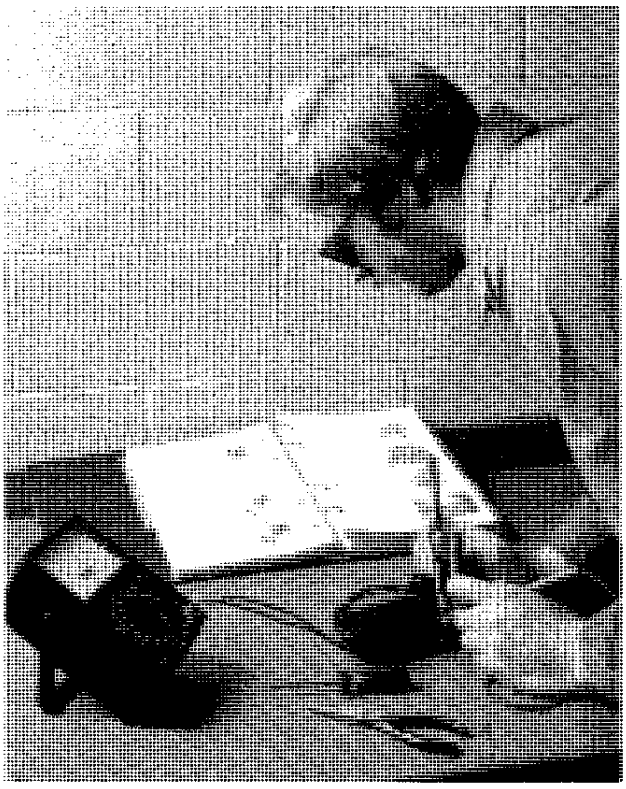
FEATURES OF THIS TECHNICAL MANUAL

- John Deere ILLUSTRATION format emphasizing more detailed pictures and fewer words.
- Instructions and illustrations grouped together in easy-to-use modules.
- Removal and installation groups preceding some repair groups. These groups show how to remove and install components from the machine rather than from major components. They also show how to acquire access to major components of a machine.
- *Exploded views showing parts relationship.*

This technical manual was planned and written for you—an experienced technician. Keep it in a permanent binder in the shop where it is handy. Refer to it whenever in doubt about correct service procedures or specifications.

Using the technical manual as a guide will reduce error and costly delay. It will also assure you the best in finished service work.



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Section 10
GENERAL

CONTENTS

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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.

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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.

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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 pertinant to, but not directly related to the previous statement.

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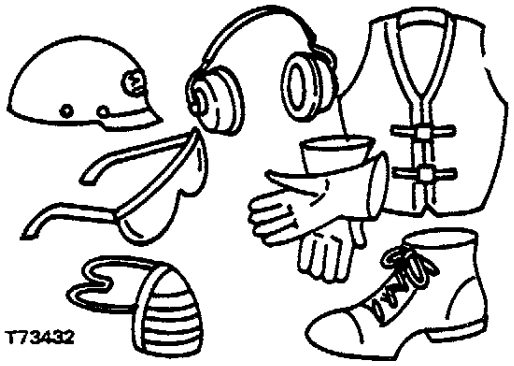
FOLLOW SAFE PRACTICES



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.

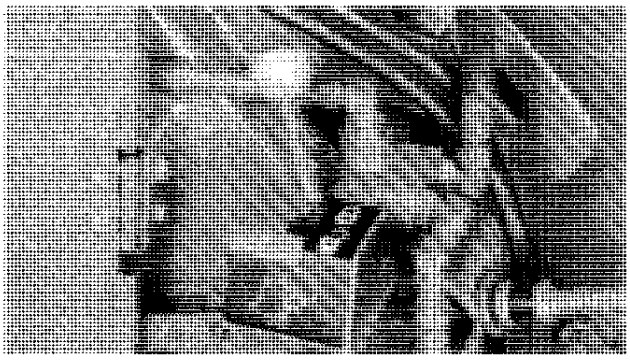
Use lifting equipment and safety stands which have adequate strength for the job being performed.

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.



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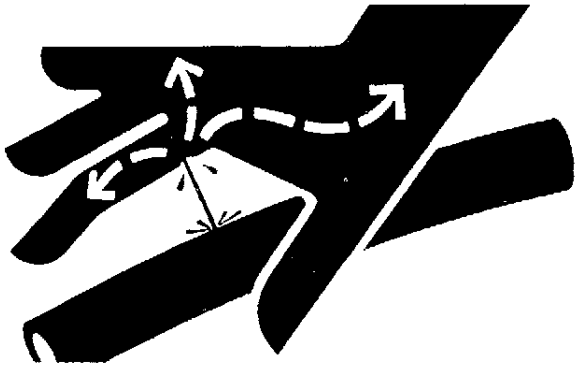
AVOID HIGH PRESSURE-FLUIDS

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.



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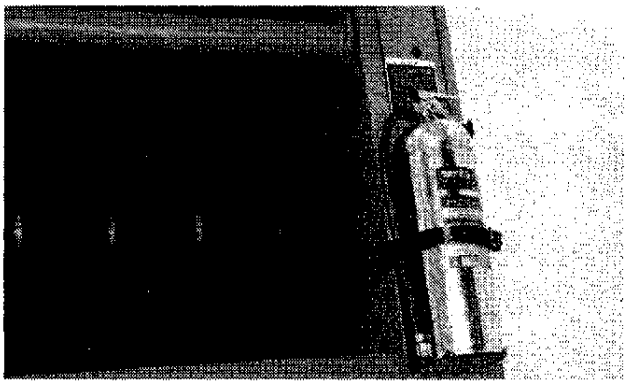
AVOID FIRE HAZARDS

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.



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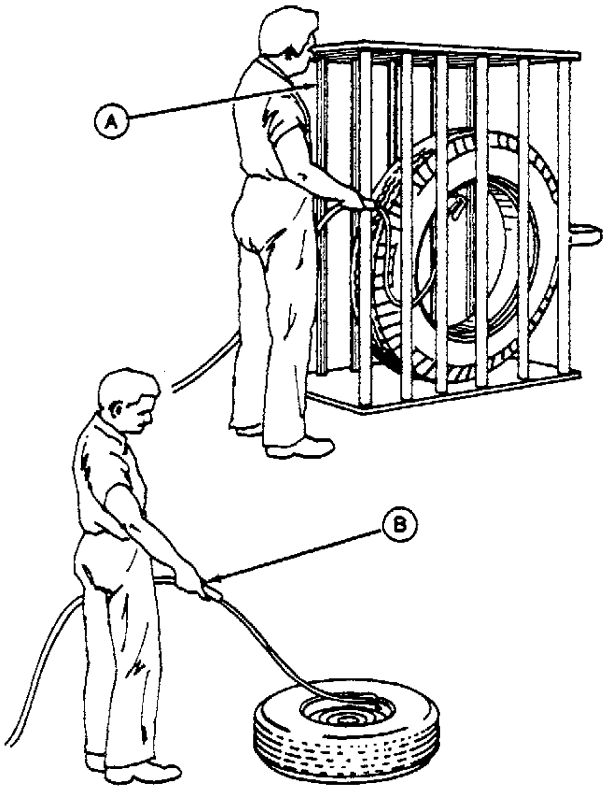
SERVICE TIRES SAFELY

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.

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DO NOT MODIFY MACHINE

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

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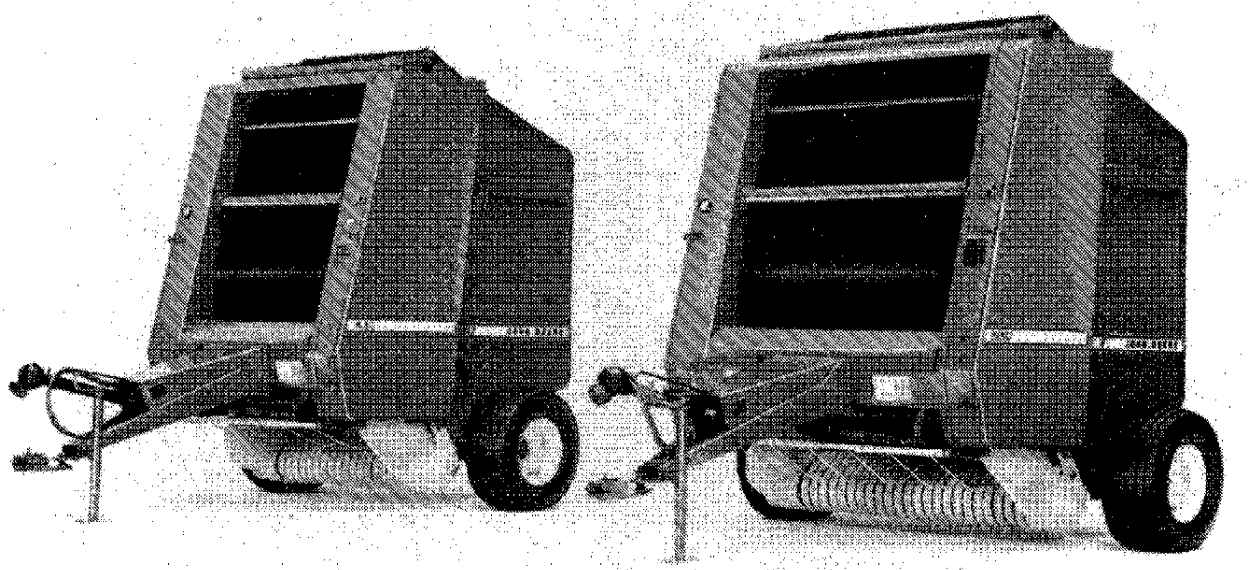
SPECIFICATIONS



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.)

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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.)

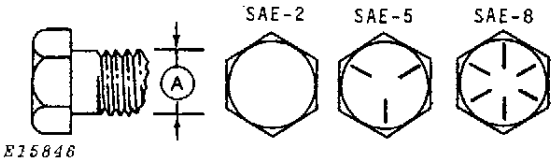
3FA; E01;1010 J 120384

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

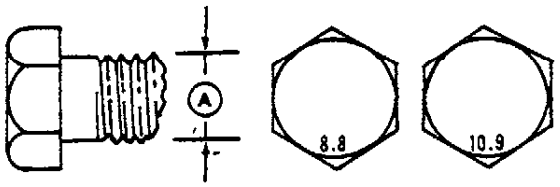
Bolt Diameter "A"	Bolt Torque in Lbs-Ft (N·m) SAE 2		SAE 5		SAE 8	
1/4"	Not	Used	14	(10)	19	(14)
5/16"	Not	Used	27	(20)	41	(30)
3/8"	23	(31)	35	(47)	50	(68)
7/16"	35	(47)	55	(75)	80	(108)
1/2"	55	(75)	85	(115)	120	(163)
9/16"	75	(102)	130	(176)	175	(237)
5/8"	105	(142)	170	(231)	240	(325)
3/4"	185	(251)	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	
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.

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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.

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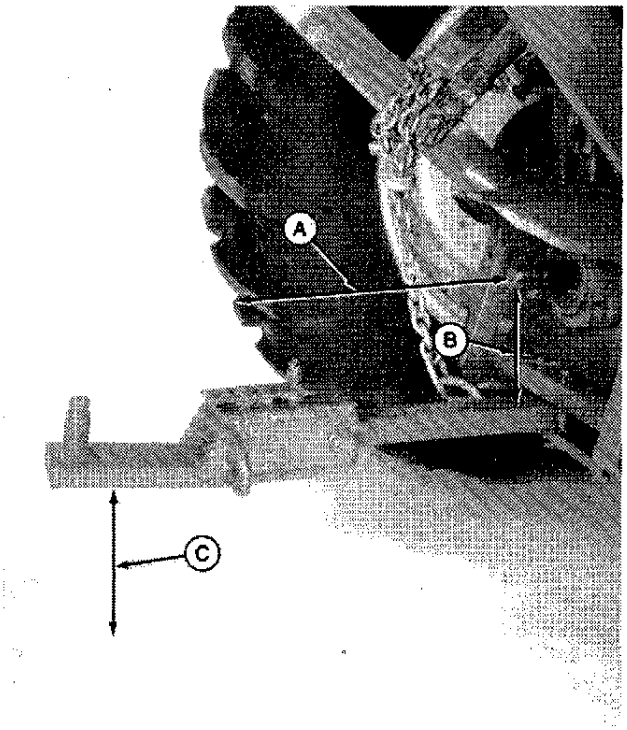
TRACTOR HOOKUP

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.)



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