

# 1380 Mower-Conditioner



JOHN DEERE

## TECHNICAL MANUAL 1380 Mower-Conditioner

TM1204 (01SEP78) English

**TM1204 (01SEP78)**

LITHO IN U.S.A. (NEW)  
ENGLISH



# 1380 MOWER-CONDITIONER

## TECHNICAL MANUAL

### TM-1204 (SEP-78)

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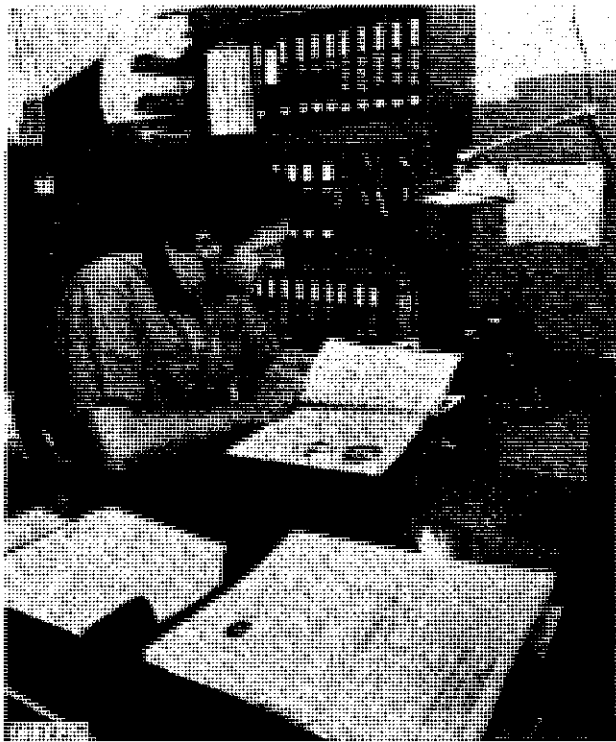
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Because John Deere sells its products world-wide, U.S. units of measure are shown with their respective Metric equivalents throughout this technical manual. These equivalents are the SI (International System) Units of Measure.

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## INTRODUCTION



Use FOS Manuals for Reference

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

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

### •FOS Manuals—for reference

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



When a service technician should refer to FOS Manual for more information, a FOS symbol like the one at the left is used in the TM to identify the reference.

### •Technical Manuals—for actual service

*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.



Use Technical Manuals for Actual Service

Some features of this technical manual:

- *Table of contents at front of manual*
- *Exploded views showing parts relationship*
- *Photos showing service techniques*
- *Specifications grouped for easy reference*

This technical manual was planned and written for you—a service 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.

### SI (INTERNATIONAL SYSTEM) UNITS OF MEASURE

Because John Deere sells its products world-wide, U.S. units of measure are shown with their respective metric equivalents throughout this technical manual. These equivalents are the SI (International System) Units of Measure.

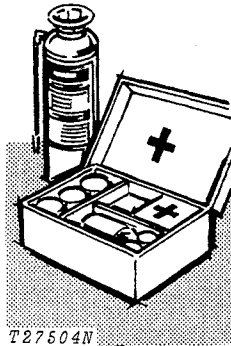
## SAFETY AND YOU



T27999N

### INTRODUCTION

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



T27504N

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

### SERVICE AREA

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

Make sure the service area is adequately vented.

Periodically check the stop 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.

### AVOID FIRE HAZARDS



E11866N

WRONG

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

Engine should be shut off when refueling.

Use care in refueling if the engine is hot.

Don't use open pans of gasoline or diesel fuel for cleaning parts. Good commercial, nonflammable solvents are preferred.

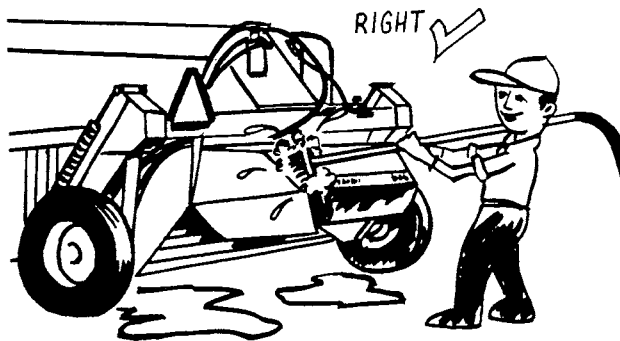
Don't allow sparks or open flame near batteries.

Don't smoke near a battery.

Never check fuel, battery electrolyte or coolant levels with an open flame.

Never use an open flame as a light anywhere on or around the equipment.

## CLEANING THE MOWER-CONDITIONER



E15641

Always stop the tractor engine before cleaning the mower-conditioner.

### FLUIDS UNDER PRESSURE

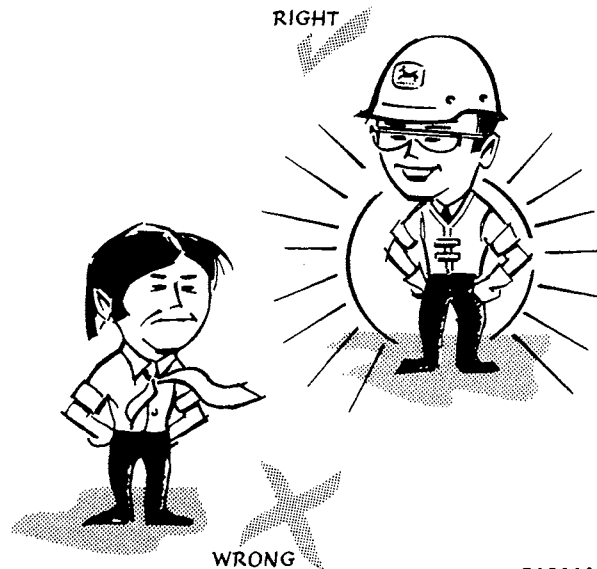
Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Don't forget the hydraulic system may be pressurized! To relieve pressure, follow the instructions in this technical manual.

When checking hydraulic pressure, be sure to use the correct test gauge for the pressure in the particular system.

## PERSONAL SAFETY



T27502N

Always avoid loose clothing or any accessory—**FLOPPING CUFFS, DANGLING NECKTIES AND SCARVES**—that can catch in moving parts and put you out of work. Always wear your safety glasses while on the job.

Before removing any shielding, stop tractor engine. Take all objects from your pockets which could fall. Don't let adjusting wrenches fall into opened areas.

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

Avoid working on equipment with the tractor engine running. If it is necessary to make checks with the engine running, **ALWAYS USE TWO PEOPLE**—one, the operator, at the controls, the other checking the machine, always in view of the operator. Also, place the transmission in neutral, set the brake, and apply any safety locks provided. **KEEP HANDS AWAY FROM MOVING PARTS.**

Use extreme caution when raising the platform or testing the mower-conditioner.

# Section 10 GENERAL

## CONTENTS OF THIS SECTION

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## Group 5 SPECIFICATIONS

**Conditioner Rolls:**

|                    |                      |
|--------------------|----------------------|
| Drive .....        | Timed Roller Chain   |
| Construction ..... | Formed steel, fluted |
| Diameter .....     | 7-3/4 in. (197 mm)   |
| Length .....       | 58 in. (1 473 mm)    |
| Speed .....        | 811 rpm              |

**Cutterbar:**

|                       |                                       |
|-----------------------|---------------------------------------|
| Guards .....          | Heavy-duty, double forged steel       |
| Guard angle .....     | 6, 9, or 12° downward                 |
| Knives (chrome) ..... | Overserrated, underserrated or smooth |
| Speed .....           | 1650 strokes per min.                 |
| Type drive .....      | Enclosed, running in oil              |

**Cutting Height** ..... -2 in. to 19 in. (-51 to 483 mm)

**Operating Speed** ..... Up to 6 mph (9.7 km/h)

**Power Take-off Speed** ..... 540 rpm

**Reel:**

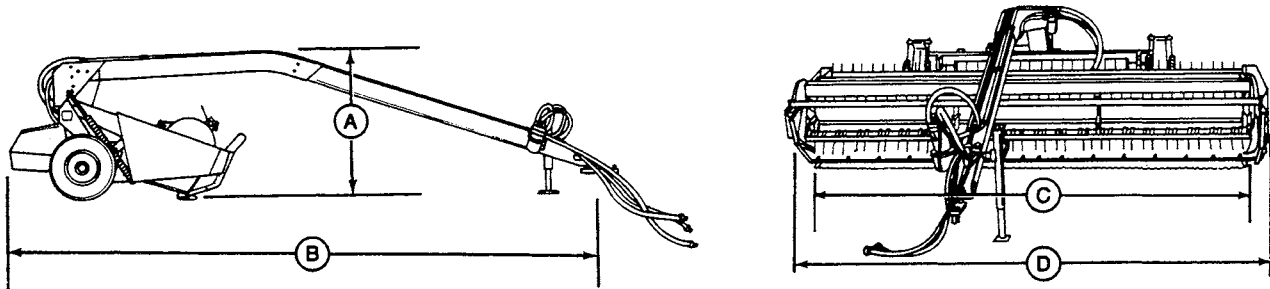
|                  |   |
|------------------|---|
| Diameter .....   | 42 in. (1 067 mm)                         |
| Drive .....      | V-belt                                    |
| Speed:           |   |
| Standard .....   | 50-80 rpm                                 |
| Tooth bars ..... | 4, 5, or 6 bat cam controlled tooth angle |

**Tractor Hydraulic Pressure to Lift Platform** ..... 1750 psi (121 bar) (123 kg/cm<sup>2</sup>)

**Wheels:**

|                               |  |
|-------------------------------|--|
| Tire size .....               | 11L x 4                                |
| Tire inflation pressure ..... | 32 psi (2 bar) (2 kg/cm <sup>2</sup> ) |
| Gauge wheels (optional) ..... | 28 psi (2 bar) (2 kg/cm <sup>2</sup> ) |

# SPECIFICATIONS—Continued



E15636

E15637

A—Height ..... 5 ft. 3 in. (1 600 mm)  
 B—Length ..... 21 ft. 9 in. (6 629 mm)

C—Operating Width:  
 12 ft. (3 658 mm) platform ..... 18 ft. 9 in. (5 715 mm)  
 14 ft. (4 267 mm) platform ..... 20 ft. 9 in. (6 235 mm)  
 D—Transporting Width:  
 12 ft. (3 658 mm) platform ..... 13 ft. (3 962 mm)  
 14 ft. (4 267 mm) platform ..... 15 ft. (4 572 mm)

Fig. 1—Dimensions of 1380 Mower-Conditioner

**Weight:**

With 12 ft. (3 658 mm) platform ..... 4397 lbs. (1979 kg)  
 With 14 ft. (4 267 mm) platform ..... 4487 lbs. (2019 kg)

**Speed (No load):**

Auger  
 13 Tooth ..... 173 rpm  
 15 Tooth ..... 200 rpm  
 Knife ..... 1650 cuts per minute

**Width of cut:**

12 ft. (3 658 mm) platform ..... 12 ft. 3 in. (3 734 mm)  
 14 ft. (4 267 mm) platform ..... 14 ft. 3 in. (4 343 mm)

**HYDRAULICS**

| Item                     | Measurement      | Specification                                |
|--------------------------|------------------|--|
| <b>Steering Cylinder</b> | Bore             | 3.00 in. (76 mm)                             |
|                          | Stroke           | 16.00 in. (406 mm)                           |
|                          | Maximum Pressure | 2500 psi (172 bar) (175 kg/cm <sup>2</sup> ) |
| <b>Master Cylinder</b>   | Bore             | 2.25 in. (57 mm)                             |
|                          | Stroke           | 12.50 in. (318 mm)                           |
|                          | Maximum Pressure | 2250 psi (155 bar) (158 kg/cm <sup>2</sup> ) |
| <b>Slave Cylinder</b>    | Bore             | 1.88 in. (48 mm)                             |
|                          | Stroke           | 12.50 in. (318 mm)                           |
|                          | Maximum Pressure | 2250 psi (155 bar) (158 kg/cm <sup>2</sup> ) |

| Item                | Measurement   | Specification                                   |
|---------------------|---|---|
| <b>Filter</b>       | 10 Micron, Full Flow with Bypass                            | 200 psi (14 bar) (14 kg/cm <sup>2</sup> ) Max.  |
| <b>Reservoir</b>    | Capacity  | 13 U.S. Gallons (49 L)                          |
|                     | Operating Fluid Temperature                                 | 160°F (71°C)                                    |
|                     | Maximum Fluid Temperature                                   | 200°F (93°C)                                    |
| <b>Relief Valve</b> | Relief Pressure   | 3500 psi (241 bar) (246 kg/cm <sup>2</sup> )    |
| <b>Pump Unit</b>    | Displacement  | 2.77 cu. in. (45.4 cm <sup>3</sup> )            |
|                     | Output Flow   | 23.4 gpm (88.6 L/pm) Min.                       |
|                     | Shaft Speed   | 2160 rpm  |
|                     | Gear Case Ratio   | 4:1 Step up                                     |
|                     | Case Drain Flow   | 4.2 gpm (15.9 L/pm) Max.                        |
|                     | Case Drain Pressure   | 30 psi (2 bar) (2 kg/cm <sup>2</sup> ) Maximum  |
| <b>Motor</b>        | Displacement  | 5.04 cu. in. (82.6 cm <sup>3</sup> )            |
|                     | No-Load Shaft Speed   | 1176 rpm  |
|                     | Case Drain Flow   | 1.8 gpm (6.8 Lpm) Maximum                       |
|                     | Case Drain Pressure (Must not exceed motor outlet pressure) | 100 psi (7 bar) (7 kg/cm <sup>2</sup> ) Maximum |

**TORQUE CHART AND VALUES**

| RECOMMENDED TORQUE IN FT-LBS (Nm)<br>COARSE AND FINE THREADS |            |              |             |
|--|------------|--------------|-------------|
| Bolt Diameter  | Plain Head | Three Dashes | Six Dashes  |
| 1/4  | Not used   | 10 (14)      | 14 (19)     |
| 5/16   | Not used   | 20 (27)      | 30 (41)     |
| 3/8  | Not used   | 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 (230)    | 240 (325)   |
| 3/4  | 185 (251)  | 300 (407)    | 425 (576)   |
| 7/8  | 160 (217)  | 445 (603)    | 585 (929)   |
| 1  | 250 (339)  | 670 (908)    | 1030 (1397) |
| 1-1/8  | 330 (447)  | 910 (1234)   | 1460 (1980) |
| 1-1/4  | 480 (651)  | 1250 (1695)  | 2060 (2793) |

The types of bolts and cap screws are identified by head markings as follows:

Plain Head: regular machine bolts and cap screws.

3-Dash Head: tempered steel high-strength bolts and cap screws.

6-Dash Head: tempered steel extra high-strength bolts and cap screws.

Machine bolts and cap screws 7/8-inch and larger are sometimes formed hot rather than cold, which accounts for the lower torque.



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