

# John Deere CTS Combines (SN. 068887-070230) Diagnostic and Tests Service Manual (tm4521)

244J and 304J Compact  
Loaders Repair



**REPAIR TECHNICAL MANUAL**

**Loaders models 244J (SN. before 23289) and 304J (SN. before 23371)**

TM2207 04 MAR 16 (ENGLISH)

**For complete service information also see:**

244J and 304J Compact Loaders Diagnostic	TM2206
Alternators and Starting Motors	CTM77
Super Caddy Oil Cleanup Procedure	CTM310
POWERTECH 2.4 L & 3.0 L Diesel Engines	CTM301
PowerTech E 2.4L & 3.0L Diesel Engines	CTM101019

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John Deere Construction and Forestry  
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TM2207

Covers:

**Type:** Service Manual

**Language:** English

**Pages:** 1637

**Format:** PDF

**Features:** Bookmarked, searchable, printable

**Compatibility:** Windows/Mac/Tablet/Mobile

This service manual contains important information for the maintenance, troubleshooting and servicing of the **John Deere CTS Combines (SN. 068887-070230) Diagnostic and Tests Service Manual (tm4521)**

In this manual you will find detailed specifications, illustrations, schematics, diagrams and step-by-step procedures to properly service and diagnose the machine to the manufacturer's standards.

**Contents:**

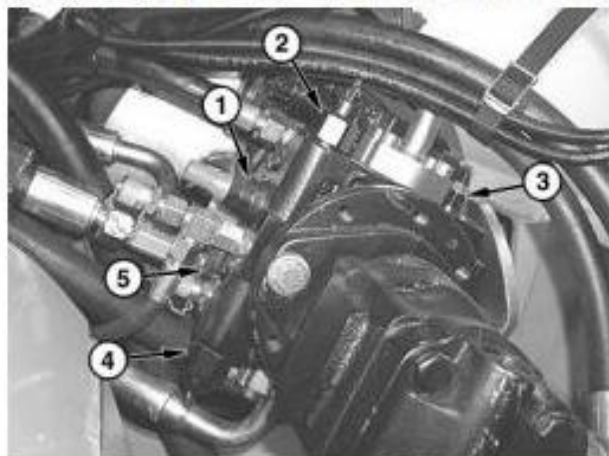
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Please note this manual is in **downloadable PDF format only**. If you have any questions about this product or would like to request sample pages, please contact us and reference the product name or SKU.

## Group 0300 - Hydrostatic Components Removal and Installation

### Hydrostatic Pump Valves Remove and Install

Hydrostatic pump valves (1–5) can be removed without removing pump from machine.



#### LEGEND:

- 1 Control Pressure Regulating Valve
- 2 High Pressure Relief Valve (reverse)
- 3 Pressure Override Valve
- 4 High Pressure Relief Valve (forward)
- 5 Neutral Charge Relief Valve

#### Hydrostatic Pump Valves

[1] - Park machine on a level surface and lower boom and bucket to the ground.

[2] - Induce a vacuum in the hydraulic reservoir to minimize oil leakage when valves are removed.

[3] -



#### CAUTION:

**Reduce compressed air to less than 210 kPa (2.1 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear appropriate safety equipment including eye protection.**

#### IMPORTANT:

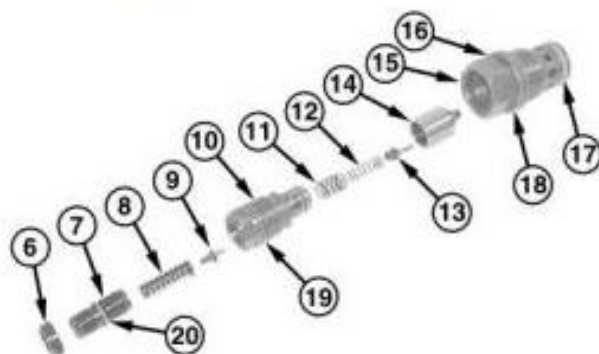
**Use only diesel fuel to clean pump parts. Solvents can damage internal components.**

**Dry parts using compressed air. Do not use shop towels or paper towels.**

**Apply clean hydraulic oil to parts during assembly.**

#### →NOTE:

**Only O-rings (16, 18–20) and back-up ring (17) are serviceable parts. Replace complete valve assembly if worn or damaged.**



#### High Pressure Relief Valve

#### LEGEND:

- 6 Lock Nut
- 7 Adjusting Screw
- 8 Spring
- 9 Pilot Poppet
- 10 Inner Valve Body
- 11 Spring
- 12 Spring
- 13 Orificed Piston
- 14 Main Relief Poppet
- 15 Outer Valve Body
- 16 O-Ring
- 17 Back-Up Ring
- 18 O-Ring
- 19 O-Ring
- 20 O-Ring

Remove high pressure relief valve (2 or 4) and disassemble as shown.

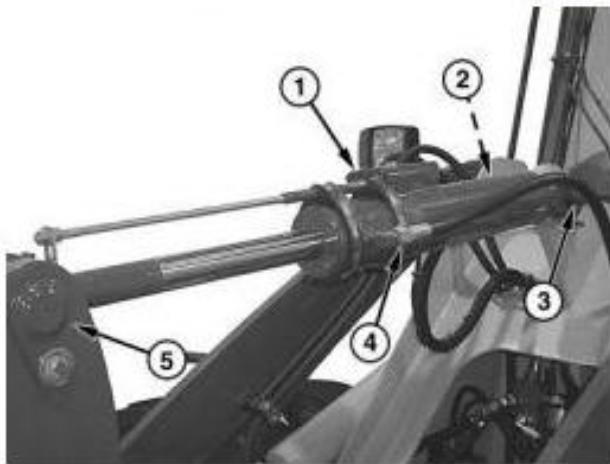
[4] - Inspect valve for wear, damage, or contamination. Replace if necessary.

## Bucket Cylinder Remove and Install

[1] -

→NOTE:

Bucket cylinder may be disassembled on the machine for seal and packing replacement.



### LEGEND:

1	Bucket Leveler
2	Hydraulic Line
3	Pin
4	Hydraulic Line
5	Pin

### Bucket Cylinder

Park machine on a level surface and lower boom and bucket to the ground.

[2] -



### CAUTION:

To avoid injury from escaping fluid under pressure, stop engine and relieve the pressure in the system before disconnecting or connecting hydraulic or other lines. Tighten all connections before applying pressure.

Stop engine. Push and hold pilot enable/boom down switch while moving loader control lever to all positions, several times, until all pressure is released from hydraulic system.

[3] -

→NOTE:

Measure length of exposed bucket leveler rod before removing bucket leveler. Record measurement and use for installation.

Remove bucket leveler (1).

[4] -



### CAUTION:

Prevent possible crushing injury from heavy component. Use appropriate lifting device.

Attach hoist to bucket cylinder, using lifting straps.

Item	Measurement	Specification
Bucket Cylinder 244]—Approximate	Weight	27 kg 60 lb
Bucket Cylinder 304]—Approximate	Weight	35 kg 77 lb

[5] - Mark and disconnect hydraulic lines (2 and 4).



Thank you very much  
for your reading.  
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to get more information.