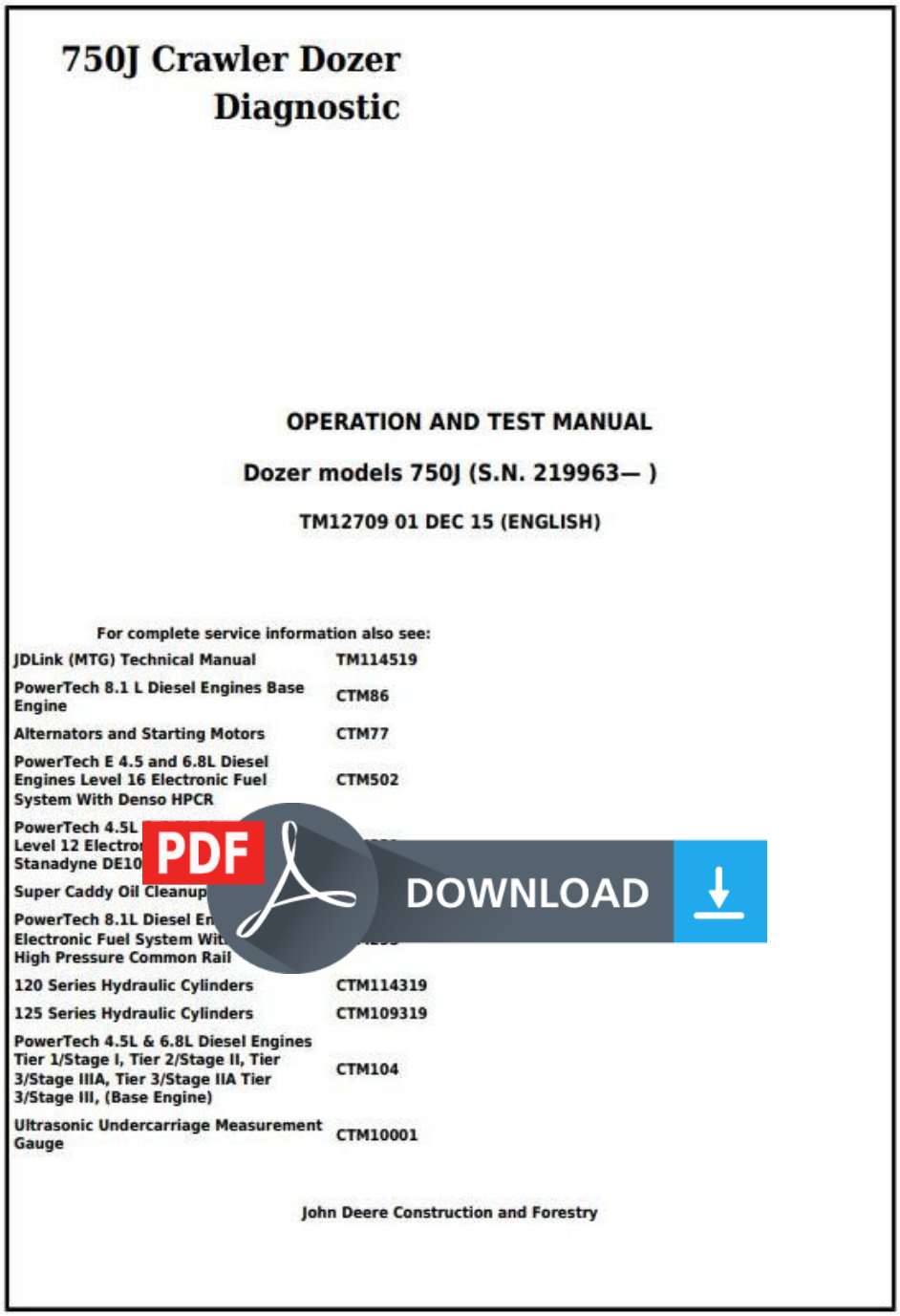
John Deere 750J Crawler Dozer Diagnostic, Operation and Test Service Manual (TM12709)



750J Crawler Dozer
Diagnostic

OPERATION AND TEST MANUAL

Dozer models 750J (S.N. 219963—)

TM12709 01 DEC 15 (ENGLISH)

For complete service information also see:

JDLink (MTG) Technical Manual	TM114519
PowerTech 8.1 L Diesel Engines Base Engine	CTM86
Alternators and Starting Motors	CTM77
PowerTech E 4.5 and 6.8L Diesel Engines Level 16 Electronic Fuel System With Denso HPCR	CTM502
PowerTech 4.5L Level 12 Electro Stanadyne DE10	
Super Caddy Oil Cleanup	
PowerTech 8.1L Diesel En Electronic Fuel System Wit High Pressure Common Rail	
120 Series Hydraulic Cylinders	CTM114319
125 Series Hydraulic Cylinders	CTM109319
PowerTech 4.5L & 6.8L Diesel Engines Tier 1/Stage I, Tier 2/Stage II, Tier 3/Stage IIIA, Tier 3/Stage IIA Tier 3/Stage III, (Base Engine)	CTM104
Ultrasonic Undercarriage Measurement Gauge	CTM10001

John Deere Construction and Forestry

Covers: 750J

Type: Service Manual
Language: English
Pages: 755
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 750J Crawler Dozer Diagnostic, Operation and Test Service Manual (TM12709)**

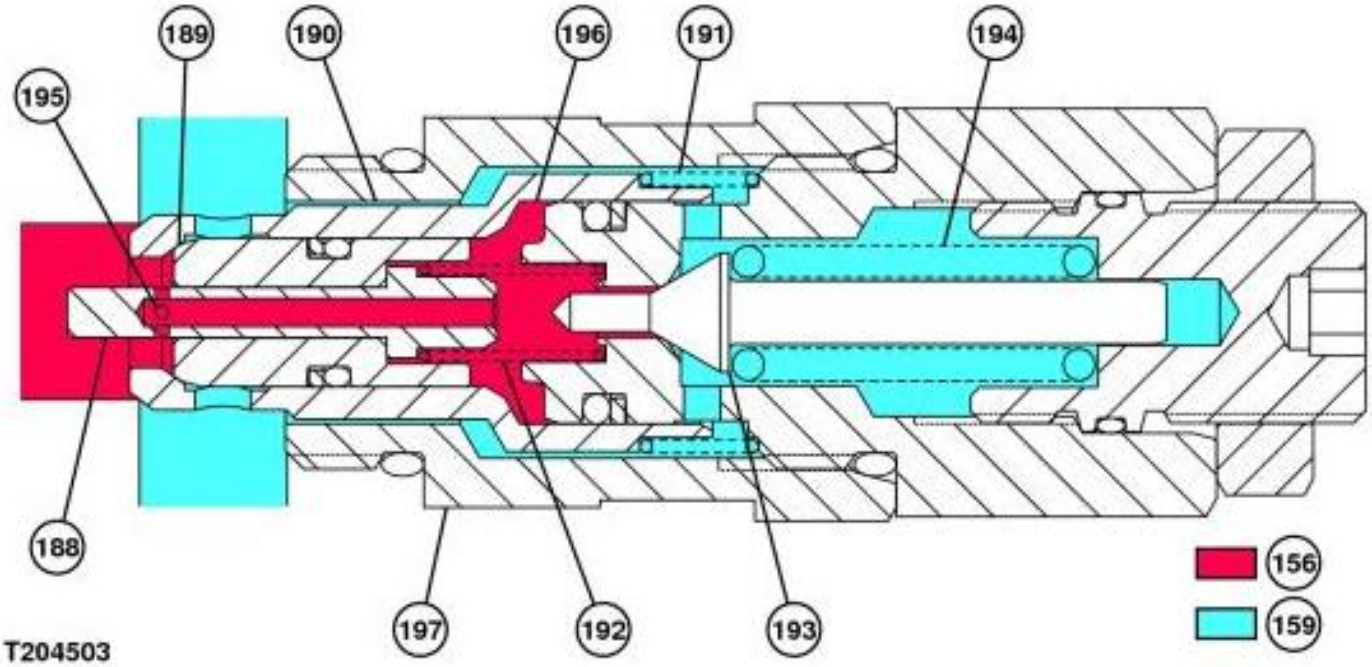
In this manual you will find detailed specifications, illustrations, schematics, diagrams and step-by-step procedures to properly service and diagnose the machine to the manufacturer's standards.

Contents:

- General Information
- Specifications
- Serial Number Location
- Engine Specifications
- Engine Diagnostics
- Engine Tests and Adjustments
- Engine Repair
- Power Train
- Transmission
- Axles
- Differential
- PTO
- Hydraulic System
- Electrical System
- Electrical Tests and Diagnostics
- Wiring Diagram / Schematic
- Ignition and Charging
- Steering
- Brakes
- Wheels
- Operator's Platform
- Body Panels
- Disassembly and Assembly
- Diagnostics, Tests and Adjustments
- Troubleshooting
- and much more...

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.

Circuit Relief Valve with Anticavitation Operation



Circuit Relief with Anitcavitation

LEGEND:	
156	Pressure Oil
159	Return Oil
188	Piston
189	Main Poppet
190	Anticavitation Poppet
191	Anticavitation Spring
192	Main Spring
193	Pilot Poppet
194	Pilot Spring
195	Orifice
196	Cavity
197	Relief Body

The relief valve is used in the blade angle, lift, and ripper lift circuits. The relief is a pilot operated, screw adjustable, with anticavitation operation.

The relief valve setting is controlled by the pilot spring (194) holding the pilot poppet (193) on its seat. The setting is adjustable. Loosening lock nut and screwing adjustment cap in will increase pressure setting.

In normal operation, pressure oil less than relief valve setting flows though orifice (195) in piston (188) into cavity (196) behind the anticavitation poppet (190) and main relief valve poppet (189). This oil pressure and the springs hold the main poppet (189) and anticavitation poppet (190) closed because the effective areas of the poppets on the cavity side is greater than the work port side.

In relief operation, pressure oil overcomes the pilot poppet (193) and oil flows from the pressurized port through orifice (195) into cavity (196) past pilot poppet (193) to tank through a path between relief body (197) and anticavitation poppet (190). The pressure drop through orifice (195) causes a pressure difference across piston (188) and it moves against main spring (192) until it rests on pilot poppet (193). This movement shuts off orifice (195) and further reduces the pressure in cavity (196). When the pressure difference is large enough to overcome the differential area effect holding the main poppet (189) on its seat and oil is allowed to flow from the work port to the return port.

During anticavitation operation, the pressure in the work port and cavity (196) is less than the pressure in the return port. This pressure difference overcomes the differential area effect holding the anticavitation poppet (190) on it's seat and oil is allowed to flow from return port to work port to prevent cavitation.