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MANUAL PREVIEW

J.I. Case

Service Manual

4890

Volume 1 of 4

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CA-S-4890

HYDRAULIC COMPONENTS INDEX

REFERENCE DESCRIPTION SECTION

P1	Charge System Gear Pump (Part of Triple Hydraulic Pump)	See Section 8225
P2	Hydraulic System Piston Pump (Part of Triple Hydraulic Pump)	See Section 8225
P3	Front Steering System Gear Pump (Part of Triple Hydraulic Pump)	See Section 8225
RV1	Charge System Relief Valve	Part of the oil manifold assembly on bottom of transmission. Must be replaced as an assembly.
RV2	270 PSI (1 862 kPa)(18.6 bar) Relief Valve (Part of the CV2 Control Valve)	See Section 8255
RV3	RPS Lubrication System Relief Valve (Location is in the Transmission Top Cover)	See Section 6235
RV4	Front Steering System Relief Valve (Part of the FD2 Flow Divider)	See Section 5250
PR1	200 PSI (1 379 kPa)(13.79 bar) Pressure Regulator (Part of CV2 Control Valve)	See Section 8255
PR2	65 PSI (448 kPa)(4.48 bar) Pressure Regulator (Part of the CV9 Control Valve)	See Section 6235
CV1	Piston Pump Flow and Pressure Control Valve (Part of P2 Hydraulic Pump)	See Section 8225
CV2	Pressure Regulator, Flow Divider and PTO Control Valve	See Section 8255
CV3	PTO System Control Valve (Part of the CV2 Control Valve)	See Section 8255
CV4	Hitch System Control Valve	See Section 8280
CV5	Remote System Control Valve	See Section 8250
CV6	Remote System Flow Control Valve (Part of CV5 Control Valve)	See Section 8250
CV7	Remote Detent Release Control Valve (Part of CV5 Control Valve)	See Section 8250
CV8	Front Steering System Control Valve	See Section 5210
CV9	RPS System Control Valve	See Section 6235
CV13	Rear Steering System Control Valve	See Section 5240
CV14	Rear Steering Cylinder Check Valve Assembly	See Section 5265
CV15	Maximum Rear Steering Pressure Control Valve (Part of FD1 Flow Divider Valve)	See Section 5260
FD1	Rear Steering Priority Flow Divider	See Section 5260
FD2	Front Steering Priority Flow Divider	See Section 5250

HYDRAULIC COMPONENTS INDEX

DESCRIPTION	REFERENCE	SECTION
Hydraulic Triple Pump:		See Section 8225
Charge Pump	P1	
Piston Pump	P2	
Front Steering Gear Pump	P3	
Compensator Valve	CV1	
Pressure Regulator, Flow Divider and PTO Control Valve:	CV2	See Section 8255
PTO System Control Valve	CV3	
270 PSI (1 862 kPa)(18.6 bar) Relief Valve	RV2	
200 PSI (1 379 kPa)(13.79 bar) Pressure Regulator	PR1	
Rear Steering Priority Flow Divider:	FD1	See Section 5265
Maximum Rear Steering Pressure Control	CV15	
Front Steering Priority Flow Divider:	FD2	See Section 5250
Front Steering System Relief Valve	RV4	
RPS System Control Valve:	CV9	See Section 6235
65 PSI (448 kPa)(4.48 bar) Pressure Regulator	PR2	
RPS Lubrication System Relief Valve	RV3	
Rear Steering System Control Valve	CV13	See Section 5240
Front Steering System Control Valve	CV8	See Section 5210
Hitch System Control Valve	CV4	See Section 8280
Remote System Control Valve:	CV5	See Section 8250
Remote System Flow Control Valve	CV6	
Remote Detent Release Control Valve	CV7	
Rear Steering Cylinder Check Valve Assembly	CV14	See Section 5265

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GENERAL INFORMATION

A mechanic must correctly find the cause of the problem before making any repairs or adjustments on an engine.

A mechanic must find and remove the cause of the problem. Too many repairs are made without removing the causes that made the repair necessary.

Three conditions are needed for an engine to start and work correctly:

1. FUEL
2. COMPRESSION
3. IGNITION

An engine will not start or operate correctly, if any of these conditions are not present or have restrictions because of mechanical causes.

1. FUEL. Problems with the fuel system can be present in:
 - A. the fuel tank.
 - B. the fuel filters.
 - C. the injection pump.
 - D. the injectors.
 - E. the injection pump timing.

2. COMPRESSION. Compression in an engine is the result of increasing the air pressure. Correct engine compression will be changed by:

- A. the condition of the air cleaner.
- B. muffler restriction.
- C. valve condition and operation.
- D. valves not being correctly adjusted.
- E. a defect in the gasket of the cylinder head.
- F. the condition of sleeves, rings, pistons and camshaft.
- G. camshaft timing.

3. IGNITION. Ignition is the result of good compression. Compression causes heat. Heat causes the fuel in the cylinders to burn. The fuel injectors atomize the fuel that is being sent to the cylinders in a spray pattern. Timing the fuel injection pump to the engine to an exact degree is necessary for correct ignition.

The following pages will give the problems and the causes and the adjustments and repairs required to correct the problems. Find your problem in the engine troubleshooting chart and see the pages that are given for the causes and repairs.

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TABLE OF CONTENTS

SPECIAL TORQUES 2

SPECIAL TOOLS 3

SERVICING THE CRANKSHAFT AND MAIN BEARINGS

 Removal Of Crankshaft And Main Bearings 4-6

 Main Bearing Journals Inspection 7

 Connecting Rod Journals Inspection 7

 Replacing The Crankshaft Gear 8

 Crankshaft Installation 9

 Main Bearing Liners Inspection 10

 Thrust Bearings Inspection 11

 Thrust And Main Bearings Installation 11

 Checking Crankshaft End Travel 11-12

 Idleer Gear Installation 13

 Checking Idleer Gear To Crankshaft Gear Backlash 13

 Timing Gear Cover Installation 14

 Tachometer Drive Installation 14

 Front Oil Seal Installation 15

 Crankshaft Hub, Damper And Pulley Installation 15-16

SPECIAL TORQUES

	Metric Value	U.S. Value
MAIN BEARING CAP BOLTS	290 Nm	214 ft. lbs.
OIL PUMP MOUNTING BOLTS	39 Nm	29 ft. lbs.
IDLER GEAR RETAINER BOLTS	20 Nm	15 ft. lbs.
PULLEY RETAINER BOLTS	39 Nm	29 ft. lbs.
CRANKSHAFT HUB RETAINER BOLT	732 Nm	540 ft. lbs.
PULLEY RETAINER BOLTS	108 Nm	80 ft. lbs.

TABLE OF CONTENTS (Cont'd)

IV INSTRUMENT CLUSTER CHECKS	Pages 50 thru 74
Indicator Light Checks with the Key Switch "ON" and tractor not running	Page 50, STEP 1A
ENG OIL Light Does not illuminate	Page 53, STEP 2A
TRANS OIL Light Does not illuminate	Page 54, STEP 3A
TRANS FILTER Light Does not illuminate	Page 55, STEP 4A
Indicator Light Checks with the key switch in the "START" position	Page 57, STEP 5A
AIR FILTER Light does not illuminate	Page 58, STEP 6A
TRANS FILTER Light does not illuminate	Page 59, STEP 7A
WATER LEVEL Light does not illuminate	Page 60, STEP 8A
Indicator Light Checks with the key switch "ON" and the tractor engine running	Page 61, STEP 9A
ENG OIL Light keeps illuminating	Page 62, STEP 10A
TRANS OIL Light keeps illuminating	Page 63, STEP 11A
AIR FILTER Light keeps illuminating	Page 65, STEP 12A
TRANS FILTER Light keeps illuminating	Page 66, STEP 13A
WATER LEVEL Light keeps illuminating	Page 67, STEP 14A
Testing Gauge Functions	Page 69, STEP 15A
Fuel Gauge Does Not Operate Correctly	Page 69, STEP 16A
Water Temperature Gauge Does Not Operate Correctly	Page 72, STEP 17A
V CAB ELECTRICAL CHECKS	Pages 75 thru 108
Checking Cab Solenoid	Page 75, STEP 1A
Blower Motor Checks	Page 79, STEP 2A
Air Conditioning Compressor Clutch Check	Page 84, STEP 3A
Windshield Wiper Checks	Page 87, STEP 4A
Cigarette Lighter Checks	Page 92, STEP 5A
Dome Light Checks	Page 94, STEP 6A
Courtesy Light Checks	Page 100, STEP 7A
Radio Circuit Checks	Page 104, STEP 8A

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PICTORIAL INDEX

OIL DISTRIBUTOR CARRIER-PLANETARY OUTPUT SHAFT

Removal - Steps 1 through 43

Repair - Steps 44 through 74

Installation - Steps 75 through 79

C-3 CLUTCH

Removal - Steps 1 through 24

Repair - Steps 80 through 118

Installation - Steps 119 through 145

PLANETARY

Removal - Steps 1 through 22

Repair - Steps 146 through 158

Installation - Steps 145 through 171

C-2 CLUTCH

Removal - Steps 1 through 24

Repair - Steps 80 through 118

Installation - Steps 119 through 145

C-4 CLUTCH

Removal - Steps 1 through 15

Repair - Steps 172 through 202

Installation - Steps 203 through 236

C-1 CLUTCH

Removal - Steps 1 through 15

Repair - Steps 172 through 202

Installation - Steps 203 through 236

TABLE OF CONTENTS

PICTORIAL INDEX	3
SPECIFICATIONS	4
SPECIAL TORQUES	4
GENERAL INFORMATION	5
SPECIAL TOOLS	6
SPECIFICATIONS FOR TOOLS WHICH MUST BE MADE	7
FOUR SPEED TRANSMISSION	
Removing Shifter Forks and Shifter Rail	8
Installing Shifter Forks and Shifter Rail	13
Disassembling Shifter Housing	21
Assembling Shifter Housing	23
Installing Shifter Housing	26
Removing and Disassembling the Pump Drive	27
Assembling and Installing the Pump Drive	34
Removing Parts Necessary to Service the Intermediate shaft	42
Removal of the Intermediate Shaft and Gears	46
Removal of the Output Shaft and Gears	50
Installation of the Output Shaft and Gears	52
Installation of the Intermediate Shaft and Gears	58
Checking Intermediate Shaft End Travel	67
Installing the Brake Housing	69
Installing the Transmission Covers	73

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TABLE OF CONTENTS

SPECIAL TOOLS	3
SPECIFICATIONS	4
SPECIAL TORQUES	4
GENERAL INFORMATION	5
AXLE PLANETARIES	
Removal of Planetary Assembly, Wheel Spindle and Trunnion	6
Reconditioning and Installation of Axle Trunnion	16
Spindle Housing and King Pin Installation	20
Reconditioning and Installation of Wheel Spindle	25
Installing Steering Sensor	31
Reconditioning and Installation of Ring Gear and Planetary Housing	34
Reconditioning and Installation of Planetary Carrier	41
Adjusting Sun Gear Bolt	45

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TABLE OF CONTENTS

PHOTOGRAPHIC INDEX	3
SPECIFICATIONS	4
SPECIAL TORQUES	4
SPECIAL TOOLS	5
GENERAL INFORMATION	6
REMOVING FRONT DIFFERENTIAL	7-13
INSTALLING FRONT DIFFERENTIAL	43-48
REMOVING REAR DIFFERENTIAL	13-15
INSTALLING REAR DIFFERENTIAL	49-51
SERVICING THE DIFFERENTIAL CARRIER AND PINION SHAFT	
Removing the Differential Carrier	16-17
Removing and Disassembling the Pinion Shaft	17-19
Assembling and Installing the Pinion Shaft	20-26
Checking Preload in a Hydraulic Press	23
Checking Preload in a Vise	23-24
SERVICING THE DIFFERENTIAL RING GEAR ASSEMBLY	
Disassembly	27-29
Assembly	30-42
Checking the Side Gear Torque	35
Adjusting the Differential Bearing Preload	36-37
Checking and Adjusting Gear Backlash	38
Checking for Correct Pinion to Ring Gear Tooth Contact	39-40
DRIVE SHAFTS	52-53

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Servicing The Differential Ring Gear Assembly

DISASSEMBLING THE RING GEAR ASSEMBLY

STEP 96

STEP 99

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Remove the bearing cups for the differential bearings.

STEP 97

Remove the retaining bolts for the differential case.

STEP 100

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Use a hammer and a punch to put reference marks on each case half of the differential case so that the two parts can be assembled correctly later.

Put reference marks on each of the four side pinion gears and on the differential spider so that the parts can be assembled again in the same location.

STEP 98

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Remove the lock wires from the retaining bolts.

TABLE OF CONTENTS

SPECIAL TOOLS	3
BRAKE MASTER CYLINDER	4,5
BRAKE PEDAL SYSTEM	6-9
PARKING BRAKE CONTROL SYSTEM	8,9
Cable Adjustment	8
BRAKE ASSEMBLY	
Removal and Disassembly	12-18
Brake Cylinder Disassembly	19,20
Brake Cylinder Assembly	20-22
Assembly	23-28
Installation	28,29
Servicing Actuating Disc Assembly	30-32
Adjustments	33,34

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TABLE OF CONTENTS

EQUIPMENT NEEDED TO TEST THE SYSTEM	3
TESTING TRACTOR HYDRAULIC SYSTEM	
CONNECTING EQUIPMENT FOR PISTON PUMP (P2) AND CHARGE PUMP (P1) TESTING	4-7
Generating Hydraulic Oil Heat	8
Charge Pump (P1) Test	8
Piston Pump (P2) Test	
Checking and Adjusting Low Pressure Stand-by	9
Checking and Adjusting Maximum Pump Pressure	10
Checking Piston Pump Efficiency at Maximum Flow	11
Checking Pump Flow at 750 RPM and 190 PSI	11
Checking Pump Compensator (CV1) For Correct Operation	12
CONNECTING EQUIPMENT FOR TEST LEAKAGE IN THE RPS CLUTCHES OR VALVE (CV9), PTO CLUTCHES OR VALVE (CV3) AND REMOTE VALVE (CV5)	13-15
Checking the Pressure Regulator (PR1)	16
Power Shift Clutches and Valve Leakage Test	17
Finding Power Shift Problem	18
Pilot Supply Leakage Test For The Rear Steering Control Valve (CV13)	19
PTO Brake Leakage Test	20
PTO Control Valve Leakage Test	21
PTO Clutch Leakage Test	21-22
Checking And Adjusting PTO Clutch Release	22-23
CONNECTING EQUIPMENT FOR TESTING LEAKAGE IN THE REAR STEERING CONTROL VALVE (CV13) AND HITCH VALVE (CV4)	24-25
Rear Steering Control Valve (CV13) Leakage Test	25
Hitch Valve (CV4) Leakage Test	26
Remote Valve (CV5) Leakage Test	27
CONNECTING EQUIPMENT FOR TESTING THE PRIORITY FLOW DIVIDER FOR REAR STEERING (FD1)	28-29
Minimum Pressure Test	30
Maximum Pressure Test	31
Flow Divider Test (FD1)	32
CONNECTING EQUIPMENT FOR REMOTE VALVE (CV5) TESTING	33
Checking and Adjusting Remote Lever Forces	34
Checking and Adjusting Remote Release Pressure (CV7)	35-36
Checking Maximum Remote Flow (CV6)	36
Checking Remote Flow Controls (CV6)	37
Checking Remote Load Drop	37

TABLE OF CONTENTS

SAFETY PROCEDURES	3
SPECIAL TOOLS	4
TROUBLESHOOTING	5-7
External Compressor Check	8
Blower and Compressor Clutch Check	9-10
Cab Temperature Check	11
Visual Refrigerant Check	12-13
Cab Heater Check	14
Evaporator and Plenum Check	15
Adding Refrigerant	16-18
CIRCUIT TEST OF SAFETY SWITCHES	19-21

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CLICK ANYWHERE FOR MORE DETAILS

TABLE OF CONTENTS

I STARTING SYSTEM CHECKS	Pages 4 thru 21
Checking Starter Functions	Page 4, STEP 1A
Starter operates, but does not turn over engine	Page 5, STEP 2A
Starter operates, but turns over engine very slowly	Page 6, STEP 3A
Starter solenoid makes a buzzer sound	Page 9, STEP 4A
Starter solenoid does not engage when transmission is in "PARK"	Page 10, STEP 5A
Starter solenoid engages, but starter does not turn	Page 17, STEP 6A
Starter operates with transmission in gear	Page 18, STEP 7A
Starter keeps operating after the key switch is released	Page 19, STEP 8A
Checking Ether Starting Attachment	Page 20, STEP 9A
II CHARGING SYSTEM CHECKS	Pages 22 thru 30
Initial Charging System Checks	Page 22, STEP 1A
Electrical System Leakage Test	Page 22, STEP 2A
Checking Alternator Lamp Operation with Key Switch "OFF"	Page 23, STEP 3A
Checking Alternator Lamp Operation with Key Switch "ON" and engine not running	Page 24, STEP 4A
Checking Alternator Lamp Operation with Key Switch "ON" and engine running	Page 26, STEP 5A
Checking Alternator Output Terminal Wiring	Page 26, STEP 6A
Alternator Output Voltage Test	Page 27, STEP 7A
Alternator Output Amperage Test	Page 29, STEP 8A
III LIGHTING SYSTEM CHECKS	Pages 31 thru 49
Headlights, Floodlights, and Warning Lights Testing	Pages 31 thru 42
Checking Lamp Switch Functions	Page 31, STEP 1A
Lamp Switch Electrical Checks	Page 34, STEP 2A
Low Beam Headlights and Cluster Illumination Circuit	Page 37, STEP 3A
High Beam Headlights and Floodlights Circuit	Page 39, STEP 4A
Amber Warning Lights and Taillight Circuit	Page 41, STEP 5A
(Turn Signal Testing)	Pages 43 thru 49
Checking Turn Signal Switch Functions	Page 43, STEP 6A
Turn Signal Switch Electrical Checks	Page 46, STEP 7A
Turn Signal Electrical Wiring Checks	Page 48, STEP 8A

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TABLE OF CONTENTS (Cont'd)

IV INSTRUMENT CLUSTER CHECKS	Pages 50 thru 74
Indicator Light Checks with the Key Switch "ON" and tractor not running	Page 50, STEP 1A
ENG OIL Light Does not illuminate	Page 53, STEP 2A
TRANS OIL Light Does not illuminate	Page 54, STEP 3A
TRANS FILTER Light Does not illuminate	Page 55, STEP 4A
Indicator Light Checks with the key switch in the "START" position	Page 57, STEP 5A
AIR FILTER Light does not illuminate	Page 58, STEP 6A
TRANS FILTER Light does not illuminate	Page 59, STEP 7A
WATER LEVEL Light does not illuminate	Page 60, STEP 8A
Indicator Light Checks with the key switch "ON" and the tractor engine running	Page 61, STEP 9A
ENG OIL Light keeps illuminating	Page 62, STEP 10A
TRANS OIL Light keeps illuminating	Page 63, STEP 11A
AIR FILTER Light keeps illuminating	Page 65, STEP 12A
TRANS FILTER Light keeps illuminating	Page 66, STEP 13A
WATER LEVEL Light keeps illuminating	Page 67, STEP 14A
Testing Gauge Functions	Page 69, STEP 15A
Fuel Gauge Does Not Operate Correctly	Page 69, STEP 16A
Water Temperature Gauge Does Not Operate Correctly	Page 72, STEP 17A
V CAB ELECTRICAL CHECKS	Pages 75 thru 108
Checking Cab Solenoid	Page 75, STEP 1A
Blower Motor Checks	Page 79, STEP 2A
Air Conditioning Compressor Clutch Check	Page 84, STEP 3A
Windshield Wiper Checks	Page 87, STEP 4A
Cigarette Lighter Checks	Page 92, STEP 5A
Dome Light Checks	Page 94, STEP 6A
Courtesy Light Checks	Page 100, STEP 7A
Radio Circuit Checks	Page 104, STEP 8A

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TABLE OF CONTENTS

PHOTOGRAPHIC INDEX	3
SPECIFICATIONS	4
SPECIAL TORQUES	4
SPECIAL TOOLS	5
GENERAL INFORMATION	6
REMOVING FRONT DIFFERENTIAL	7-13
INSTALLING FRONT DIFFERENTIAL	43-48
REMOVING REAR DIFFERENTIAL	13-15
INSTALLING REAR DIFFERENTIAL	49-51
SERVICING THE DIFFERENTIAL CARRIER AND PINION SHAFT	
Removing the Differential Carrier	16-17
Removing and Disassembling the Pinion Shaft	17-19
Assembling and Installing the Pinion Shaft	20-26
Checking Preload in a Hydraulic Press	23
Checking Preload in a Vise	23-24
SERVICING THE DIFFERENTIAL RING GEAR ASSEMBLY	
Disassembly	27-29
Assembly	30-42
Checking the Side Gear Torque	35
Adjusting the Differential Bearing Preload	36-37
Checking and Adjusting Gear Backlash	38
Checking for Correct Pinion to Ring Gear Tooth Contact	39-40
DRIVE SHAFTS	52-53

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