921C
Loader

Service Manual

7-12753

CASE CONSTRUCTION

MidWestTech | Case 921C Loader Service Manual | Publication 7-12753

Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

CAPACITIES AND LUBRICANTS 3
ENGINE LUBRICATION 4
Engine Oil Selection 4
Oil Viscosity/Temperature Ranges 4
DIESEL FUEL SYSTEM 5
FUEL STORAGE 5
SPECIFICATIONS FOR ACCEPTABLE NO. 2 DIESEL FUEL 5
921C MAINTENANCE SCHEDULE 6
921C MAINTENANCE SCHEDULE 7
NOTES 8

Bur 7-13521 9-00 Printed in U.S.A.

MidWestTech | Case 921C Loader Service Manual | Publication 7-12753 Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

SPECIFICATIONS 2

SPECIAL TOOLS 2

ENGINE 3
Removal 3
Installation 3

RADIATOR 5
Removal 5
Installation 5

SPECIFICATIONS

Special torques

Rear engine support bracket to rear chassis mounting bolts	386 to 434 Nm (285 to 320 pound-feet)
Transmission to flywheel housing bolts	45 to 50 Nm (396 to 444 pound-inches)
Flex plate to flywheel bolts	45 to 53 Nm (396 to 469 pound-inches)
Fan mounting bolts	45 to 50 Nm (396 to 444 pound-inches)

Air conditioning drive belt tension

New Belt	45 kg (100 pounds)
Used Belt	41 kg (90 pounds)

SPECIAL TOOLS



BD98J200

CAS-1690 Tool used to rotate the flywheel

MidWestTech | Case 921C Loader Service Manual | Publication 7-12753 Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

SPECIFICATIONS 2

GENERAL INFORMATION 3

PREPARING THE MACHINE FOR THE STALL TEST 3

PROCEDURE TO HEAT THE TRANSMISSION OIL 3

PROCEDURE TO HEAT THE HYDRAULIC OIL 4

TEST PROCEDURE 4

CHECK SHEET 5

SPECIFICATIONS

Low idle	850 to 900 r/min (rpm)
Full throttle (no load)	2200 to 2300 r/min (rpm)
Hydraulic stall speed	2100 to 2200 r/min (rpm)
Torque converter stall speed	1900 to 2100 r/min (rpm)
Combined stall speed	1400 to 1650 r/min (rpm)

Bur 7-13550 Issued 1-99 Printed in U.S.A.

MidWestTech | Case 921C Loader Service Manual | Publication 7-12753 Order the manual at mid-west-tech.com >

83 – Thermostat Switch

Check Points	Reading	Possible Cause of Bad Reading
NOTE: *Put the master disconnect switch and the ignition switch in the ON position. Put the blower switch (78) to HIGH.*		
Terminals for wire 61T to ground	24 volts	Check the blower switch (78), also check circuit 61T.
NOTE: *Turn the thermostat switch (83) all the way to COLD.*		
Terminals for wire 61A to ground	24 volts	Bad thermostat switch (83).
Terminals for wire 61M to ground	24 volts	Bad thermostat switch (83).

84 – Compressor Clutch Lockout Relay

Check Points	Reading	Possible Cause of Bad Reading
Terminals for wire 0 to ground	Continuity	Bad ground circuit.
NOTE: *Put the master disconnect switch and the ignition switch in the ON position. Put the blower switch (78) to HIGH and the thermostat switch (83) to COLD.*		
Terminals for wire 61A to ground	24 volts	Check thermostat switch (83), also check circuit 61A.
Terminals for wire 61R to ground	0 volts	Check low pressure switch (81) and high pressure switch (82).
Terminals for wire 61C to ground	24 volts	Bad compressor clutch lockout relay (84).

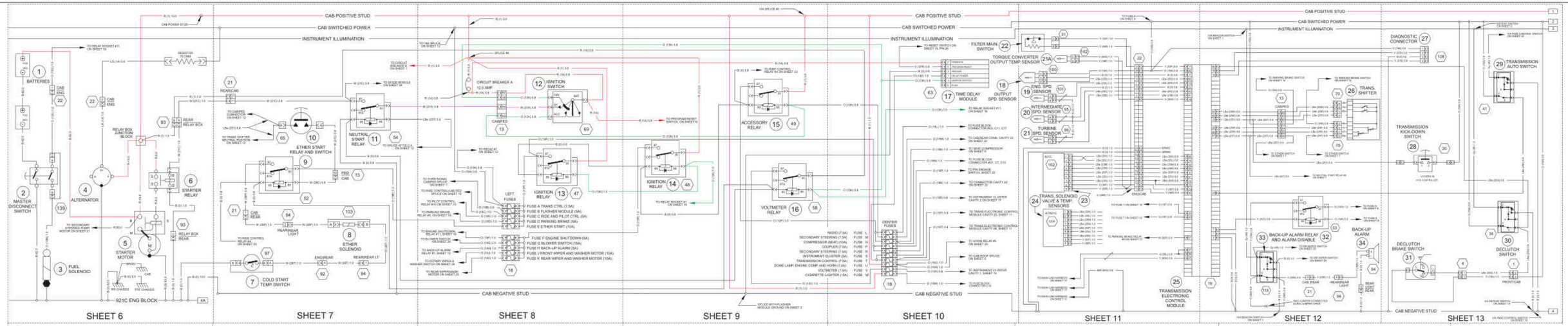
85 – Compressor Clutch

Check Points	Reading	Possible Cause of Bad Reading
NOTE: *Put the master disconnect switch and the ignition switch in the ON position. Put the blower switch (78) to HIGH and the thermostat switch (83) to COLD.*		
Terminals for wire 61C to ground	24 volts	Check the compressor clutch lockout relay (84), also check circuit 61C.

86 – Condenser Fan Relay

Check Points	Reading	Possible Cause of Bad Reading
NOTE: *Put the master disconnect switch and the ignition switch in the ON position.*		
Terminals for wire 0 to ground	Continuity	Bad ground circuit.
Terminals for wire 1 to ground	24 volts	Bad circuit 1.
NOTE: *Put the blower switch (78) to HIGH and the thermostat switch (83) to COLD.*		
Terminals for wire 61M to ground	24 volts	Check the thermostat switch (83), also check circuit 61M.
Terminals for wire 12 to ground	24 volts	Bad condenser fan relay (86).

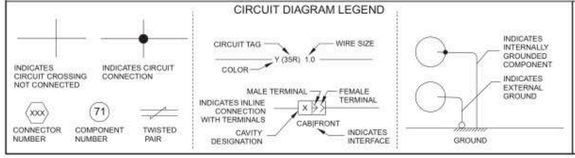
MidWestTech | Case 921C Loader Service Manual | Publication 7-12753 Order the manual at mid-west-tech.com >



COMPONENT DESCRIPTION	Sheet Number	Item Number
AIR FILTER RESTRICTION SWITCH	14	41
ALTERNATOR	6	4
BACKUP ALARM RELAY AND ALARM DISABLE	12	32, 33, & 34
BATTERIES	6	1
BEACON	1	96
BUCKET CONTROL VALVE DETENT ELECTROMAGNETS	19	54
BUCKET DUMP AND ROLLBACK PRESSURE SWITCHES	23	66 & 67
CIGAR LIGHTER	29	90
COMPRESSOR CLUTCH	27	85
COMPRESSOR CLUTCH LOCKOUT RELAY	28	84
CONDENSER FAN #1 AND #2 MOTORS	28	88 & 89
CONDENSER FAN #1 RELAY	28	86
CONVERTER OUTPUT TEMPERATURE SENSOR	11	21A
DIAGNOSTIC CONNECTOR	13	27
EXTERNAL LIGHTS	3	102 & 109
FLASHER MODULE	2	101
HEIGHT CONTROL	19	57
HORN	26	77
INFORMATION DIAGNOSTIC CENTER (IDC)	15	43A
MOTOR - BLOWER	27	80
MOTOR - STARTER	6	5
POWER CONVERTER	29	91
POWER OUTLET	29	92
RADIO - 12 VOLT	32	93A
RADIO - 24 VOLT	31	93
RADIO CONVERTER - 24 TO 12 VOLT	32	93B
RELAY - START	6	6
RELAY - ACCESSORY	9	15H
RELAY - HORN	26	77
RELAY - IGNITION	8	13
RELAY - IGNITION	9	14
RELAY - NEUTRAL START	7	11
RELAY - PARKING BRAKE	17	48
RELAY - PILOT CONTROL	17	47
RELAY - RIDE CONTROL	23	65
RELAY - VOLTMETER	9	16
RELAY AND SWITCH - ETHER START	7	9 & 10
RELAY SOCKET #11	18	52
RESISTOR BOARD	27	79
RETURN-TO-DIG	19	56
RETURN-TO-TRAVEL	19	58
RETURN-TO-TRAVEL/FLOAT SWITCH	19	55
SEAT COMPRESSOR	26	76
SECONDARY STEERING PUMP/MOTOR	21	62
SECONDARY STEERING RELAY WITH LOCKOUT	21	59 & 60
SECONDARY STEERING SWITCH	21	61
SENDER - COOLANT LEVEL	14	36
SENDER - ENGINE COOLANT TEMPERATURE	14	40
SENDER - ENGINE OIL PRESSURE	17	46
SENDER - FUEL LEVEL	14	37
SENDER - HYDRAULIC OIL TEMPERATURE	14	38
SOLENOID - ETHER	7	8
SOLENOID - FUEL	6	3
SOLENOID - PILOT PRESSURE	18	50
SOLENOID - RIDE ENGAGE	23	68
SOLENOIDS - REDUNDANT PARKING BRAKE	18	49

COMPONENT DESCRIPTION	Sheet Number	Item Number
SPEAKERS	30	94 & 95
SPEED SENSOR - ENGINE	11	19
SPEED SENSOR - INTERMEDIATE	11	20
SPEED SENSOR - OUTPUT	11	18
SPEED SENSOR - TURBINE	11	21
SWITCH - BLOWER	26	78
SWITCH - BRAKE WARNING PRESSURE	14	35
SWITCH - COLD START TEMPERATURE	7	7
SWITCH - DECLUTCH	13	30
SWITCH - DECLUTCH BRAKE	13	31
SWITCH - DETENT	19	53
SWITCH - FILTER MAINTENANCE	11	22
SWITCH - FRONT ROTARY WIPER AND WASHER	24	70
SWITCH - HAZZARD	1	99
SWITCH - HILOW BEAM	1	100
SWITCH - HIGH PRESSURE	27	82
SWITCH - HOIST UP PRESSURE	23	64
SWITCH - HYDRAULIC FILTER RESTRICTION	14	39
SWITCH - IGNITION	8	12
SWITCH - LIGHT, ROTARY	4	112
SWITCH - LOW PRESSURE	26	81
SWITCH - MASTER DISCONNECT	6	2
SWITCH - PARK BRAKE	15	43
SWITCH - PILOT CONTROL	16	44
SWITCH - PROGRAM RESET	15	42
SWITCH - RIDE CONTROL	22	63
SWITCH - STOP LAMP	1	98
SWITCH - THERMOSTAT	27	83
SWITCH - TRANSMISSION AUTO	13	29
SWITCH - TURN SIGNAL	1	100
SWITCH - UP/DOWN COUNT	16	45
SWITCH AND SOLENOID - PIN ENGAGEMENT	22	62A & 62B
SWITCHES - REDUNDANT BRAKE	18	51
TIME DELAY MODULE	10	17
TRANSMISSION ELECTRONIC CONTROL MODULE	11	25
TRANSMISSION KICKDOWN SWITCH	13	28
TRANSMISSION SHIFTER	12	26
TRANSMISSION SOLENOID VALVE AND TEMPERATURE SENSORS	11	23 & 24
WASHER PUMP MOTOR - FRONT	24	71
WASHER PUMP MOTOR - REAR	25	72
WIPER AND WASHER SWITCH - REAR	25	73
WIPER MOTOR - FRONT	24	69
WIPER MOTOR - REAR	25	74

CIRCUIT DIAGRAM LEGEND



COLOR ABBREVIATIONS

ABBREV	WIRE COLOR
B	BLACK
BR	BROWN
BR/W	BROWN/WHITE
BR/Y	BROWN/YELLOW
DBe	DARK BLUE
DBr	DARK BROWN
DBr/LG	DARK BROWN/LT GREEN
DBr/Y	DARK BROWN/YELLOW
DG	DARK GREEN
Gy	GRAY
LBe	LIGHT BLUE
LGe	LIGHT GREEN
O	ORANGE
O/Be	ORANGE/BLUE
O/G	ORANGE/GREEN
O/LB	ORANGE/LIGHT BLUE
O/R	ORANGE/RED
O/W	ORANGE/WHITE
P	PINK
R	RED
T	TAN
V	VIOLET (PURPLE)
W	WHITE
Y	YELLOW

ACTUATORS

LEVER RELEASED, LEVER ACTUATED, LIQUID LEVEL FLOAT, PRESSURE, HAND, DIODE, VARIABLE RESISTOR, RESISTOR, COIL, LIGHT EMITTING DIODE, TEMP, ▲ MOMENTARY, ● MAINTAINED CONTACTS

HOUSINGS

VACUUM SWITCH, PRESSURE SWITCH, TEMPERATURE SWITCH, MOTOR, LAMP

CONTACT CONFIGURATIONS

S.P.S.T., S.P.D.T., D.P.S.T., D.P.D.T.

MISCELLANEOUS SYMBOLS

FUSE, AUTO. RESET CIRCUIT BREAKER, MANUAL RESET CIRCUIT BREAKER

NOTES

1. DIAGRAM SHOWN WITH VEHICLE PARKED, POWER OFF AND CONTROLS IN OFF OR NEUTRAL POSITION.
2. SHEET NUMBERS REFER TO THE NUMBER AT THE BOTTOM CENTER OF EACH DASHED BLOCK.
3. SHEETS 1, 2, 3, 3A, 4, 5, 29, 30, 31, AND 32 (ITEMS 90, CIGAR LIGHTER THROUGH 132, ENGINE COMPARTMENT LAMP) ARE NOT SHOWN ON THIS SCHEMATIC POSTER, SEE SECTION 4002 FOR THESE SHEETS.
4. BUCKET CONTROL VALVES DETENT ELECTROMAGNETS RESISTANCE IS180 OHMS.
5. FUEL LEVEL SENDER (E-F) IS 0-90 OHMS.
6. COOLANT TEMPERATURE SENDER:
   - 68°C 430 OHMS
   - 82°C 206 OHMS
   - 100°C 164 OHMS
7. OIL TEMPERATURE SWITCH CLOSING SETPOINT IS 112°C (269°F).
8. HYDRAULIC FILTER RESTRICTION SWITCH CLOSES AT 310 KPA.
9. AIR FILTER RESTRICTION SWITCH CLOSES AT 6.4 KPA.
10. ENGINE OIL PRESSURE SWITCH OPENS AT 1 BAR.
11. LOW PRESSURE SWITCH OPENS AT 11 700 KPA.
12. A/C HIGH PRESSURE SWITCH CLOSES AT 26 BAR (INCREASING PRESSURE).
13. A/C LOW PRESSURE SWITCH CLOSES AT 0.3 BAR (DECREASING PRESSURE).
14. CONTACTS 2 TO 3 OF THERMOSTAT SWITCH CLOSE AT INITIAL TURN OF THE ROTARY SWITCH. CONTACTS 1 TO 2 CLOSE WITH THERMAL SETTING.
15. ENGINE OIL PRESSURE SENDER. REFERENCE RESISTANCE VS. PRESSURE IS:
    - 1 BAR 20 OHMS
    - 3 BAR 92 OHMS
    - 5.5 BAR 90 OHMS
16. FUEL SOLENOID RESISTANCE IS 30 OHMS

LEGEND

- INDICATES CONSTANT POWER
- INDICATES POWER WHEN KEY SWITCH IS IN ON POSITION

921C WHEEL LOADER ELECTRICAL SCHEMATIC

Additional copies of this Hydraulic and Electrical Schematic can be ordered through Technical Publications Distribution System. The Part Number is 7-13971

8C0500211

Order the manual at mid-west-tech.com >