“L” Series 2 Loader Backoe

Service Manual

7-10402

CASE

MidWestTech | Case 570LXT, 580 Super L, 580L, 590 Super L, 590L, 580SL, 590SL Series 2 Loader Backhoe Service Manual | Publication 7-10402

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

"L" Series 2 Loader Backhoe Family
Service Manual
7-10402

Table of Contents

Description	Section No.	Form No.
General	**Tab 1**	
Section Index - General		7-11981
Standard Torque Specifications	1001	8-71601
Fluids and Lubricants	1002	7-54921
Loctite Product Chart		8-98900
Engines	**Tab 2**	
Section Index - Engine		7-11991
Engine and Radiator Removal and Installation	2000	7-49651
Stall Tests	2002	7-54931
For Engine Repair, See the Engine Service Manual		
Fuel System	**Tab 3**	
For Fuel System Repair, See the Engine Service Manual		
Electrical	**Tab 4**	
Section Index - Electrical		7-12011
Removal and Installation of Electrical Components	4000	7-14490
Electrical Specifications and Troubleshooting - Machines with Standard (Carraro) Transmission	4001	7-54940
Electrical Specifications and Troubleshooting - Machines with Powershift (Clark) Transmission	4001	7-15450
Batteries	4003	7-49440
Starter Motor - Denso	4004	7-11450
Instrument Cluster	4005	7-49560
Alternator	4007	7-49250
Steering	**Tab 5**	
Section Index - Steering		7-12021
Removal and Installation of Steering Components	5000	7-14500
580L - Steering Specifications, Pressure Checks and Troubleshooting	5001	7-54950
580 Super L and 590 Super L - Steering Specifications, Pressure Checks and Troubleshooting	5001	7-54960
Steering Control Valve	5002	7-11920

CASE CORPORATION
700 State Street
Racine, WI 53404 U.S.A.

CASE CANADA CORPORATION
3350 SOUTH SERVICE ROAD
BURLINGTON, ON L7N 3M6 CANADA

Bur 7-11972

© 2000 Case Corporation
Printed in U.S.A.

Issued March, 1999 (Revised March, 2000)

MidWestTech | Case 570LXT, 580 Super L, 580L, 590 Super L, 590L, 580SL, 590SL Series... Order the manual at mid-west-tech.com >

"L" Series 2 Loader Backhoe Family
Service Manual
7-10402

Table of Contents

Description	Section No.	Form No.
Steering Cylinders	5003	7-11930
Front Axle - Two Wheel Drive	5005	7-10470
Front Axle - Four Wheel Drive - 580L and 580 Super L	5006	7-10481
Front Axle - Four Wheel Drive - 590 Super L	5006	7-11191
Power Train	**Tab 6**	
Section Index - Power Train		7-12030
Removal and Installation of Power Train Components and Standard (Carraro) Transmission	6000	7-14510
Removal and Installation of Powershift (Clark) Transmission	6000	7-14770
Transmission Specifications, Pressure Checks and Troubleshooting	6002	7-54970
Standard (Carraro) Transmission Specifications, Pressure Checks and Troubleshooting	6002	7-54971
Powershift (Clark) Transmission Specifications, Pressure Checks and Troubleshooting	6002	7-10010
Wheels and Tires	6003	7-14520
Rear Axle and Planetaries - 580L	6004	7-10451
Rear Axle and Planetaries - 580 Super L	6004	7-14191
Rear Axle and Planetaries - 590 Super L	6004	7-10461
Standard (Carraro) Transmission	6007	7-10431
Powershift (Clark) Transmission	6007	7-10440
Brakes	**Tab 7**	
Section Index - Brakes		7-12041
Removal and Installation of Brake Components	7000	7-14530
Master Cylinder	7003	7-49490
NOTE: *For parking brake and brake pedal adjustments, see Section 9001.*		
Hydraulics	**Tab 8**	
Section Index - Hydraulics		7-12051
Removal and Installation of Hydraulic Components	8001	7-14540
580L - Hydraulic Specifications, Troubleshooting, and Pressure Checks	8002	7-54981
580 Super L and 590 Super L Hydraulic Specifications, Troubleshooting, and Pressure Checks	8002	7-54991
Cleaning the Hydraulic System	8003	7-49640
Hydraulic Pump - 580L	8004	7-49170
Hydraulic Pump - 580 Super L and 590 Super L	8004	7-49180

Bur 7-11972 Revised 3-00 Printed in U.S.A.

MidWestTech | Case 570LXT, 580 Super L, 580L, 590 Super L, 590L, 580SL, 590SL Series... Order the manual at mid-west-tech.com >

"L" Series 2 Loader Backhoe Family
Service Manual
7-10402

Table of Contents

Description	Section No.	Form No.
Loader Control Valve	8005	7-11220
Cylinders	8006	7-49200
Backhoe Control Valve	8007	7-11410
Auxiliary Control Valve	8008	7-14550
Accumulator for Machines with Optional Ride Control	8009	7-52450
Solenoid Valve for Machines with Optional Ride Control	8010	7-14560
Boom Lock Solenoid Valve	8011	7-14570
Mounted Equipment	**Tab 9**	
Section Index - Mounted Equipment		7-12061
Pedals and Levers	9001	7-10001
Air Conditioning Troubleshooting For Systems With R-134a Refrigerant	9002	7-50091
Air Conditioning System Gauges and Testing For Systems With R-134a Refrigerant	9003	7-50901
Air Conditioning System Service For Systems With R-134a Refrigerant	9004	7-51030
Air Conditioning Components Service For Systems With R-134a Refrigerant	9005	7-51050
Loader	9006	7-49510
ROPS Cab and Canopy	9007	7-14580
Backhoe	9008	7-49530
Seat Belts	9009	7-14590
Air Suspension Seat (Sears)	9010	7-10380
Suspension Seat (Milsco)	9011	7-10390

Electric Schematic and Hydraulic Schematic Foldout (580L)	**In Rear Pocket**	**7-10021**
Electric Schematic for Machines with Standard (Carraro) Transmission and Hydraulic Schematic Foldout (580 Super L and 590 Super L)	**In Rear Pocket**	**7-10031**
Electric Schematic for Machines with Powershift (Clark) Transmission and Hydraulic Schematic Foldout (580 Super L and 590 Super L)	**In Rear Pocket**	**7-14600**

NOTE: Case Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

Bur 7-11972 Revised 3-00 Printed in U.S.A.

MidWestTech | Case 570LXT, 580 Super L, 580L, 590 Super L, 590L, 580SL, 590SL Series... Order the manual at mid-west-tech.com >

SPECIFICATIONS

Electrical system, standard	One 12 volt battery, negative ground
Electrical system, optional	Two 12 volt batteries connected in parallel, negative ground
System voltage	Approximately 12 volts
Batteries	
Standard	D132475
Option	D128393 or BMF28SW
Replacement	D127414 or BMF28S
Alternator	12 volt, 65 ampere
Starter	2.5 Kw, 12 volt
Component Specifications	Reading
Fuel level sending unit	Full - 90 ohms Empty - 0 ohms
Return-To-Dig solenoid	18 ohms to 22 ohms
Blower switch resistance	HIGH - 0 ohms MED - 0.4 ohms LOW - 0.8 ohms
Cold start solenoid	1 to 2 ohms
Injection pump solenoid	Pull coil resistance at 12 volts, at 20°C (68°F) 22 ohms Hold coil resistance at 12 volts, at 20°C (68°F) 11.1 ohms
Mini relay coil	67 to 81 ohms
Temperature gauge sender	93.3°C (200°F) - 193 to 236 ohms 15.5°C (60°F) - 3825 to 4675 ohms
Air conditioning pressure switches	
Low pressure switch	Close 137.9 kPa, 1.4 bar (20 psi), Reset 27.6 kPa, 0.28 bar (4 psi)
High pressure switch	Close 2758 ± 69 kPa, 27.5 ± .6 bar (400 ± 10 psi) Reset 2068 ± 69 kPa, 20.6 ± .6 bar (300 ± 10 psi)
Air conditioning thermostat set point	Cold cut in 1.7°C (35°F), Cut out 18.9°C (66°F)
Cold start thermostat	Open 12.8°C (55°F), Close 1.7°C (35°F)
Hydraulic filter switch	Close 310 kPa, 3.1 bar (45 psi), Reset 241 kPa, 2.4 bar (35 psi)
Electronic controller modulation valve coil resistance	3.55 ± 0.25 ohms at 20°C (68°F)
Range modulation solenoid (high/low, 2nd/1st)	28 ± 2 ohms at 20°C (68°F)
Engine coolant thermostat	To close at 110 ± 5°C (230 ± 5°F) on increasing temperature
Engine oil pressure switch	Switch to open at 55 ± 17.2 kPa, 0.55 ± 0.17 bar (8 ± 2.5 psi)

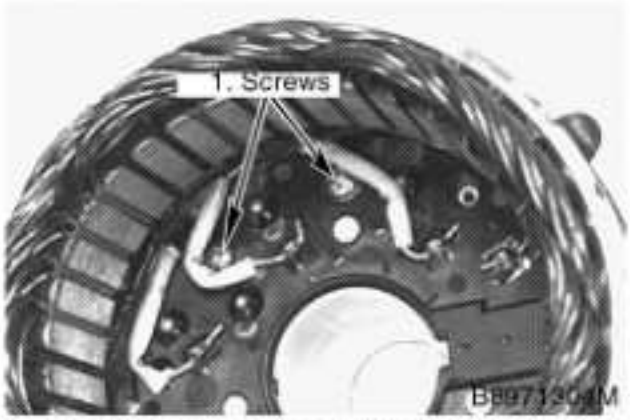
MidWestTech | Case 570LXT, 580 Super L, 580L, 590 Super L, 590L, 580SL, 590SL Series... Order the manual at mid-west-tech.com >

STEP 41



Install the housing on the rectifier bridge.

STEP 42



Install and tighten the screws that fasten the rectifier bridge to the housing.

STEP 43



Install the fiber washers, flat washer, and nut on the B+ terminal.

STEP 44



Check for a short circuit between the terminal and the housing. If there is continuity, the insulator is bad.

STEP 45



Install the fiber washers, flat washer, and nut on the D+ terminal.

STEP 46



Check for a short circuit between the terminal and the housing. If there is continuity, the insulator is bad.

MidWestTech | Case 570LXT, 580 Super L, 580L, 590 Super L, 590L, 580SL, 590SL Series... Order the manual at mid-west-tech.com >

TROUBLESHOOTING PROCEDURES

Visually check the machine for oil leakage and damaged or missing parts. Repair or replace any damaged or missing parts.

Check the oil level in the hydraulic reservoir. Is the oil level correct?

NO → Fill the hydraulic reservoir with the oil specified in Section 1002.

YES ↓

See Section 9001 and check the control linkages.

Check the operation of the machine again. Does the machine operate correctly?

NO → Heat the oil in the hydraulic system to operating temperature. Operate the machine to find which circuits have problems.

YES ↓

Troubleshooting complete.

Problem in All Circuits (Machines With Hand-Held Auxiliary Hydraulics)

Clean the hydraulic reservoir breather on the inside of the RH frame upright. Replace the hydraulic filter.

See Section 8003 and check for contaminated oil. Is the oil contaminated?

NO → Do the stall test according to the instructions in Section 2002. Is there still a problem?

YES ↓

Clean or replace the oil. See Section 8002.

NO ↓

Troubleshooting complete.

YES ↓

See page 11. Do the pump output test. Is the pump good?

NO ↓

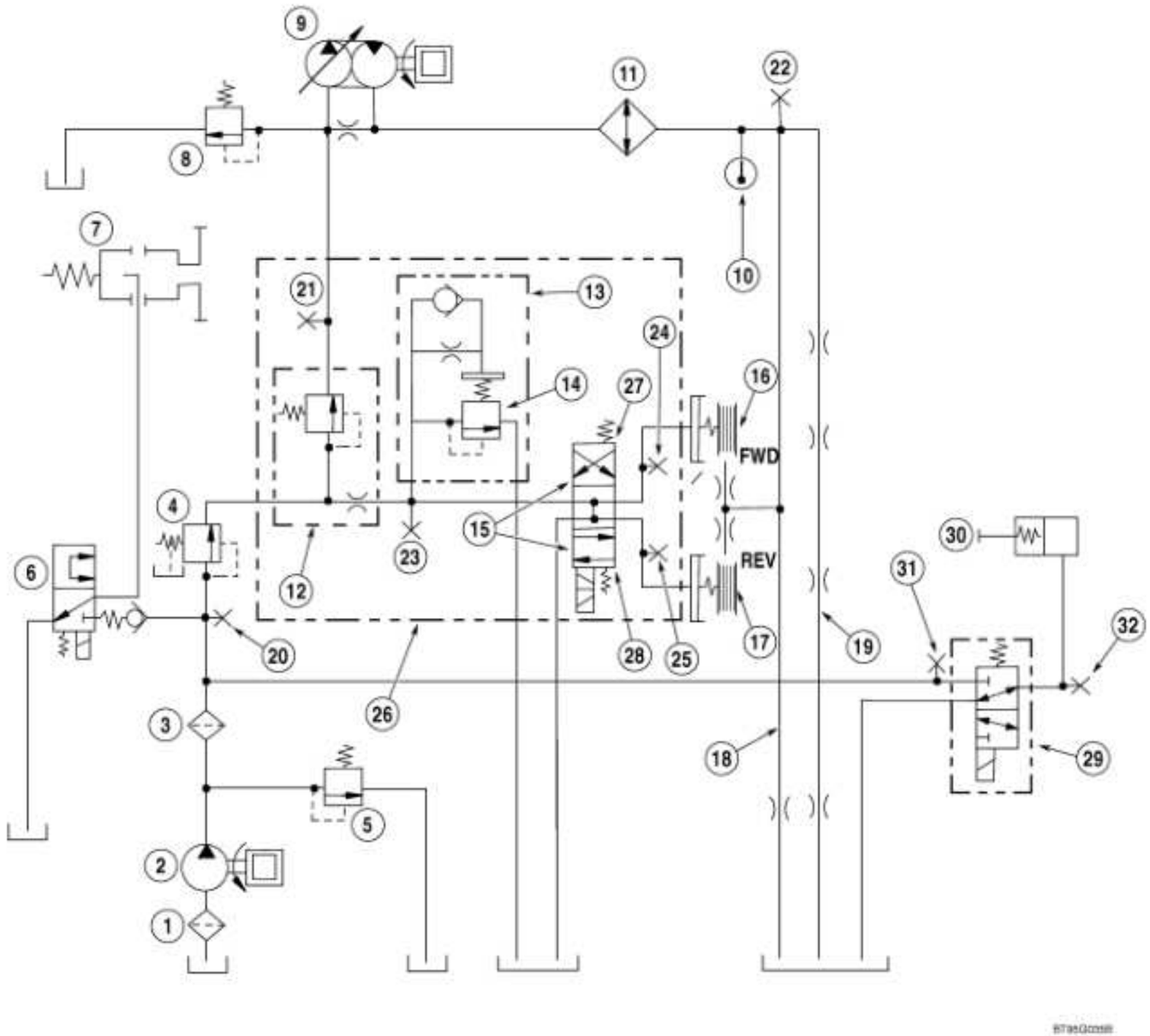
Repair or replace the hydraulic pump.

YES ↓

See the following topics for other circuits.

MidWestTech | Case 570LXT, 580 Super L, 580L, 590 Super L, 590L, 580SL, 590SL Series... Order the manual at mid-west-tech.com >

STANDARD TRANSMISSION (4WD) SCHEMATIC



1. Strainer (250 Micron)
2. Supply Pump - 8.5 To 18 Gpm (32 To 68 L/min)
3. Filter (Full Flow/with By-pass, 15 Micron)
4. Pressure Regulator/relief Valve - Relief Setting 181 To 225 psi (12.5 To 15.5 bar)
5. Cold Oil By-pass - 325 To 387 psi (22.4 To 26.7 bar)
6. Four Wheel Drive (4WD) Selector Valve - 6.8 ± 10% OHM At 68°F (20°C)
7. Four Wheel Drive (4WD) Clutch (Spring Applied, Hydraulic Release)
8. Torque Converter Relief Valve - 77 To 91 psi (5.3 To 6.27 bars)
9. Torque Converter
10. Oil Temperature Sender (Cooler Out)
11. Oil Cooler
12. Flow Divider
13. Modulator Circuit (Pressure Modulation For Forward/Reverse)
14. Modulation Spool And Piston (Regulates Clutch Pressure)
15. Forward/reverse Shuttle Spool (Directs Flow To Forward/Reverse Clutches)
16. Forward Clutch
17. Reverse Clutch
18. Lubrication To Bearings And Clutch Packs
19. Lubrication To Synchronizers And Gears
20. Supply Pump Pressure To Four Wheel Drive (4WD) -181 To 225 psi (12.5 To 15.5 bars)
21. Torque Converter Pressure
    4WD ..... 22 psi At 900 rpm, 100 psi at 2200 rpm
    (1.5 bar at 900 r/min, 6.9 bar at 2200 r/min)
22. Lubrication Pressure - 5.8 To 44 psi (0.4 to 3.0 bars)
23. Regulated Clutch Pressure - 160 To 189 psi (11 to 13 bar)
24. Forward Clutch Pressure - 160 To 189 psi (11 to 13 bar)
25. Reverse Clutch Pressure - 160 To 189 psi (11 to 13 bar)
26. Control Valve Assembly
27. Forward Clutch Solenoid - 4.7 ± 10% OHM At 68°F (20°C)
28. Reverse Clutch Solenoid - 4.7 ± 10% OHM At 68°F (20°C)
29. Differential Lock Solenoid
30. To Differential Lock
31. Differential Lock Solenoid Pressure - 181 To 225 psi (12.5 To 15.5 bars)
32. Differential Lock Solenoid Pressure
    Without Differential Lock Solenoid Energized.....0 psi (0 bars)
    With Differential Lock Solenoid Energized (4WD)..... 181 To 225 psi (12.5 To 15.5 bars)

MidWestTech | Case 570LXT, 580 Super L, 580L, 590 Super L, 590L, 580SL, 590SL Series 2 Loader Backhoe Service Manual | Publication 7-10402
Order the manual at mid-west-tech.com >