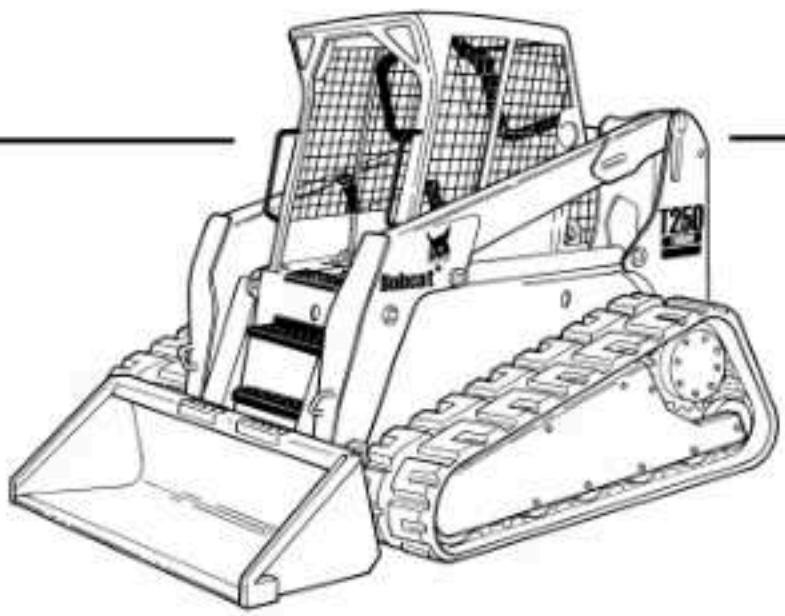
T250
TURBO

T250
TURBO
HIGH FLOW

Bobcat®

Service Manual

S/N 523111001 & Above
S/N 523011001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

6902451 (3-06)

Ingersoll Rand
Printed in U.S.A.

© Bobcat Company 2006

MidWestTech | Bobcat T250 Turbo, T250 Turbo High Flow Track Skid Loader Service Manu... Order the manual at mid-west-tech.com >

ALPHABETICAL INDEX

ADVANCED CONTROL SYSTEM (ACS) 60-01
AIR CLEANER 70-01
AIR CLEANER SERVICE 10-01
AIR CONDITIONING SERVICE 80-01
AIR CONDITIONING SYSTEM FLOW 80-01
ALTERNATOR 60-01

BASIC TROUBLESHOOTING 80-01
BATTERY 60-01
BICS™ SYSTEM 60-01
BLOWER FAN 80-01
BOBCAT CONTROLLERS 60-01
BOB-TACH 10-01, 50-01
BRAKE 40-01
BUCKET POSITION VALVE 20-01

CHARGE PRESSURE SENDER 30-01
COMPONENTS 80-01
COMPRESSOR 80-01
CONDENSER 80-01
CONTROL HANDLE 50-01
CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL ... 50-01
CONTROL PANEL 50-01
CONTROL PEDALS 50-01
CONTROL PEDALS (ACS) 50-01
CONVERSIONS SPEC-01
COOLING FAN 70-01
CYLINDER (LIFT) 20-01
CYLINDER (POWER BOB-TACH) 20-01
CYLINDER (TILT) 20-01

DIAGNOSTICS SERVICE CODE 60-01
DRIVE BELT 30-01
DRIVE COMPONENTS 40-01

ELECTRICAL/HYDRAULIC CONTROLS REFERENCE 60-01
ELECTRICAL SYSTEM INFORMATION 60-01
ENGINE 70-01
ENGINE COOLING SYSTEM 10-01
ENGINE LUBRICATION SYSTEM 10-01
ENGINE SPECIFICATIONS SPEC-01
ENGINE SPEED CONTROL 70-01
EVAPORATOR 80-01
EVAPORATOR/HEATER UNIT 80-01
EXPANSION VALVE 80-01

FAN GEARBOX 10-01
FLYWHEEL AND HOUSING 70-01
FLYWHEEL RPM SENSOR 60-01
FRONT AUXILIARY HYD. COUPLER BLOCK 20-01
FUEL SYSTEM 10-01
FUEL TANK 50-01

GENRAL AIR CONDITIONING SERVICE GUIDELINES 80-01

HEATER COIL 80-01
HEATER VALVE 80-01
HYDRAULIC CONNECTION SPECS SPEC-01
HYDRAULIC CONTROL VALVE (ADVANCED CONTROL SYSTEM) (ACS) 20-01
HYDRAULIC CONTROL VALVE (FOOT CONTROL) 20-01
HYDRAULIC FLUID RESERVOIR 20-01
HYDRAULIC/HYDROSTATIC FLUID SPECIFICATIONS SPEC-01
HYDRAULIC/HYDROSTATIC FILTER 20-01
HYDRAULIC/HYDROSTATIC SYSTEM 10-01
HYDRAULIC PUMP 20-01
HYDRAULIC PUMP (CHARGE) 20-01
HYDRAULIC PUMP (HI FLOW) 20-01
HYDRAULIC SYSTEM INFORMATION 20-01
HYDROSTATIC MOTOR 30-01
HYDROSTATIC PUMP 30-01
HYDROSTATIC SYSTEM INFORMATION 30-01

INSIDE ACCESS PANEL 50-01
INSTRUMENT PANEL 60-01

LIFT ARMS 50-01
LIFT ARM BY-PASS CONTROL VALVE 20-01
LIFT ARM SUPPORT DEVICE 10-01
LIFTING AND BLOCKING THE LOADER 10-01
LIGHTS 60-01
LOADER SPECIFICATIONS (S250) SPEC-01
LOADER SPECIFICATIONS (S300) SPEC-01
LUBRICATING THE LOADER 10-01

MAIN RELIEF VALVE (ACS) 20-01
MAIN RELIEF VALVE (FOOT CONTROL) 20-01
MUFFLER 70-01

OIL COOLER (SEAL TO CONNECT) (STC) 30-01
OPERATOR CAB 10-01, 50-01
OPERATOR SEAT 50-01
OPERATOR SEAT (SUSPENSION) 50-01

POWER BOB-TACH 10-01, 50-01
POWER BOB-TACH BLOCK 20-01
POWER BOB-TACH BLOCK (EARLY MODELS) ... 20-01
PRESSURE RELIEF VALVE 80-01
PRESSURE SWITCH 80-01

MidWestTech | Bobcat T250 Turbo, T250 Turbo High Flow Track Skid Loader Service Manu... Order the manual at mid-west-tech.com >

RADIATOR 70-01
REAR AUXILIARY DIVERTER 20-01
REAR DOOR 50-01
REAR GRILL 50-01
RECEIVER/DRIER 80-01
RECONDITIONING THE ENGINE 70-01
REGULAR MAINTENANCE 80-01
REMOTE START 10-01

SAFETY 80-01
SEAT BAR 50-01
SEAT BAR SENSOR 60-01
SERVICE SCHEDULE 10-01
STARTER 60-01
SYSTEM CHARGING AND RECLAMATION 80-01
SYSTEM TROUBLESHOOTING CHART 80-01

TEMPERATURE/PRESSURE 80-01
THERMOSTAT 80-01
TORQUE SPECIFICATIONS FOR BOLTS ... SPEC-01
TOWING THE LOADER 10-01
TRACTION LOCK 60-01
TRANSPORTING THE BOBCAT LOADER 10-01
TROUBLESHOOTING 70-01

MidWestTech | Bobcat T250 Turbo, T250 Turbo High Flow Track Skid Loader Service Manu... Order the manual at mid-west-tech.com >

CONTENTS

FOREWORD II

SAFETY INSTRUCTIONS V

SERIAL NUMBER LOCATION IX

DELIVERY REPORT X

BOBCAT LOADER IDENTIFICATION XI

SAFETY AND MAINTENANCE 10-01

HYDRAULIC SYSTEM 20-01

HYDROSTATIC SYSTEM 30-01

DRIVE SYSTEM 40-01

MAIN FRAME 50-01

ELECTRICAL SYSTEM & ANALYSIS 60-01

ENGINE SERVICE 70-01

HEATING, VENTILATION, AIR CONDITIONING 80-01

SPECIFICATIONS SPEC-01

MidWestTech | Bobcat T250 Turbo, T250 Turbo High Flow Track Skid Loader Service Manu... Order the manual at mid-west-tech.com >

Checking The Main Relief Valve At Front Aux. Hyd. (Cont'd)

Record the GPM and refer to the hydraulic schematic for the correct GPM for the model and serial number of your loader. Turn the restrictor control, on the tester, until the main relief valve opens. The correct pressure for the main relief is **3300 PSI (22753 kPa).**

If the relief pressure is not correct, stop the engine. Adjust or replace the main relief valve. (See Adjustment on Page 20-31-3.)

Removal And Installation

Figure 20-31-4

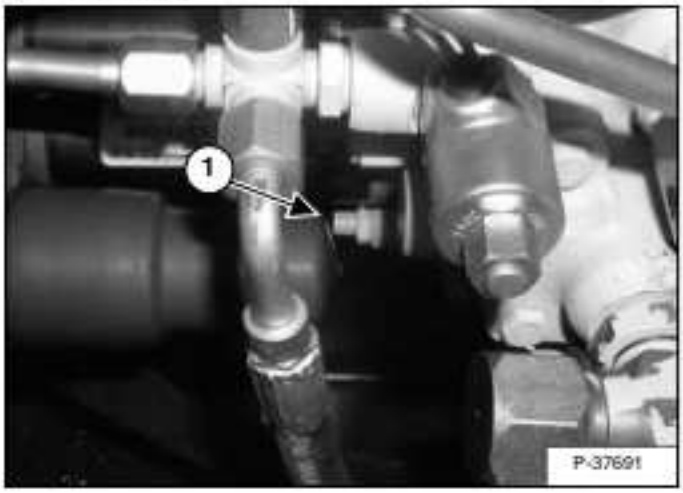


Raise the operator cab. (See Raising The Operator Cab on Page 10-30-1.)

The main relief valve (Item 1) **[Figure 20-31-4]** is located at the lower front of the control valve.

Clean the area around the control valve.

Figure 20-31-5



Loosen and remove the main relief valve (Item 1) **[Figure 20-31-5]**.

Installation: Tighten the main relief valve to 35-40 ft.-lb. (47-54 N•m) torque.

Figure 20-31-6



Remove the O-rings and back-up washers from the main relief valve **[Figure 20-31-6]**.

Clean the main relief valve in clean solvent. Use air pressure to dry the valve.

Install new O-rings and back-up washers. Install the main relief valve and tighten **[Figure 20-31-4]**. Check the pressure again. (See Checking The Main Relief Valve At Front Aux. Hyd. on Page 20-31-1.)

MidWestTech | Bobcat T250 Turbo, T250 Turbo High Flow Track Skid Loader Service Manu... Order the manual at mid-west-tech.com >

SYSTEM TROUBLESHOOTING CHART

Blower motor does not operate

Possible Cause	Inspection	Solution
1. Blown fuse.	Inspect the fuse/wiring.	Replace fuse/repair wiring.
2. Broken wiring or bad connection.	Check the fan motor ground and connectors.	Repair the wiring or connector.
3. Fan motor malfunction.	Check the lead wires form the motor with a circuit tester.	Replace Motor.
4. Resistor malfunction.	Check resistor using a circuit tester.	Replace Resistor.
5. Fan motor switch malfunction.	Check power into and out of the fan switch.	Replace Fan Switch.

Blower motor operates normally, but air flow is insufficient

Possible Cause	Inspection	Solution
1. Evaporator inlet obstruction.	Check evaporator for plugging.	Remove obstruction and clean evaporator fins with air or water.
2. Air leak.	Check to make sure air hoses are properly hooked to Louvers, and air ducts.	Repair of adjust.
3. Defective thermo. switch (frozen evaporator).	Check thermostat using a circuit tester.	Replace thermostat.
4. Plugged cab filters	Check cab filter condition.	Clean or replace filters.

Insufficient cooling although air flow and compressor operation are normal

Possible Cause	Inspection	Solution
1. System low on refrigerant.	The high side pressure will be low and bubbles may be present in sight glass on receive drier.	Repair any leaks and recharge the refrigerant to the correct level.
2. Excessive refrigerant.	The high pressure side pressure will be high.	Use refrigerant recovery equipment to capture excess refrigerant. Charge to the correct refrigerant level.

The compressor does not operate at all, or operates improperly

Possible Cause	Inspection	Solution
1. Loose drive belt.	The belt is vibrating or oscillating.	Adjust tension.
2. Internal compressor malfunction.	The compressor is locked up and the belt slips.	Replace compressor.
	Magnetic clutch related	
3. Low battery voltage.	Clutch slips.	Recharge the battery.
4. Faulty coil.	Clutch slips.	Replace the magnetic clutch.
5. Oil on the clutch surface.	Clutch slips.	Replace or clean the clutch surface.
6. Open oil.	Clutch does not engage and there is no reading when a circuit tester is connected between the coil and terminals.	Replace clutch.
7. Broken wiring or poor ground.	Clutch will not engage. Inspect the ground and connections.	Repair.
8. Wiring harness components.	Test the conductance of the pressure switch, thermostat, Relay, etc.	Check operation.

MidWestTech | Bobcat T250 Turbo, T250 Turbo High Flow Track Skid Loader Service Manu... Order the manual at mid-west-tech.com >

Performance

Rated Operating Capacity (SAE J732)	2500 lb. (1134 kg)
Tipping Load (SAE)	7143 lb. (3240 kg)
Operating Weight	9121 lb. (4137 kg)
Travel Speed	6.6mph (10,6 km/hr)
SAE Breakout Force - Lift	5500 lbf. (24465 N)
SAE Breakout Force - Tilt	5530 lbf. (24599 N)
Push Force	6100 lbf. (27134 N)

Controls

Vehicle Steering	Direction and speed controlled by two hand levers
Loader Hydraulics - Lift and Tilt - Front Auxiliary (Std.) - Rear Auxiliary (Option)	 Controlled by separate foot pedals or optional Advanced Control System (ACS) Controlled by electrical switch on Right Hand steering lever Controlled by electrical switch on Left Hand steering lever
Auxiliary Pressure Release	Pressure relieved through quick couplers. Push couplers in, hold for 5 seconds.
Engine	Hand lever throttle; key-type starter switch and shutdown
Starting Aid	Intake Air Heater - automatically activated by Standard or Deluxe Instrument Panel
Service Brake	Two independent hydrostatic systems controlled by two hand operated steering levers
Secondary Brake	One of the hydrostatic transmissions
Parking Brake	Finger-operated rocker switch on center control panel with spring applied, pressure release multi-disk brake

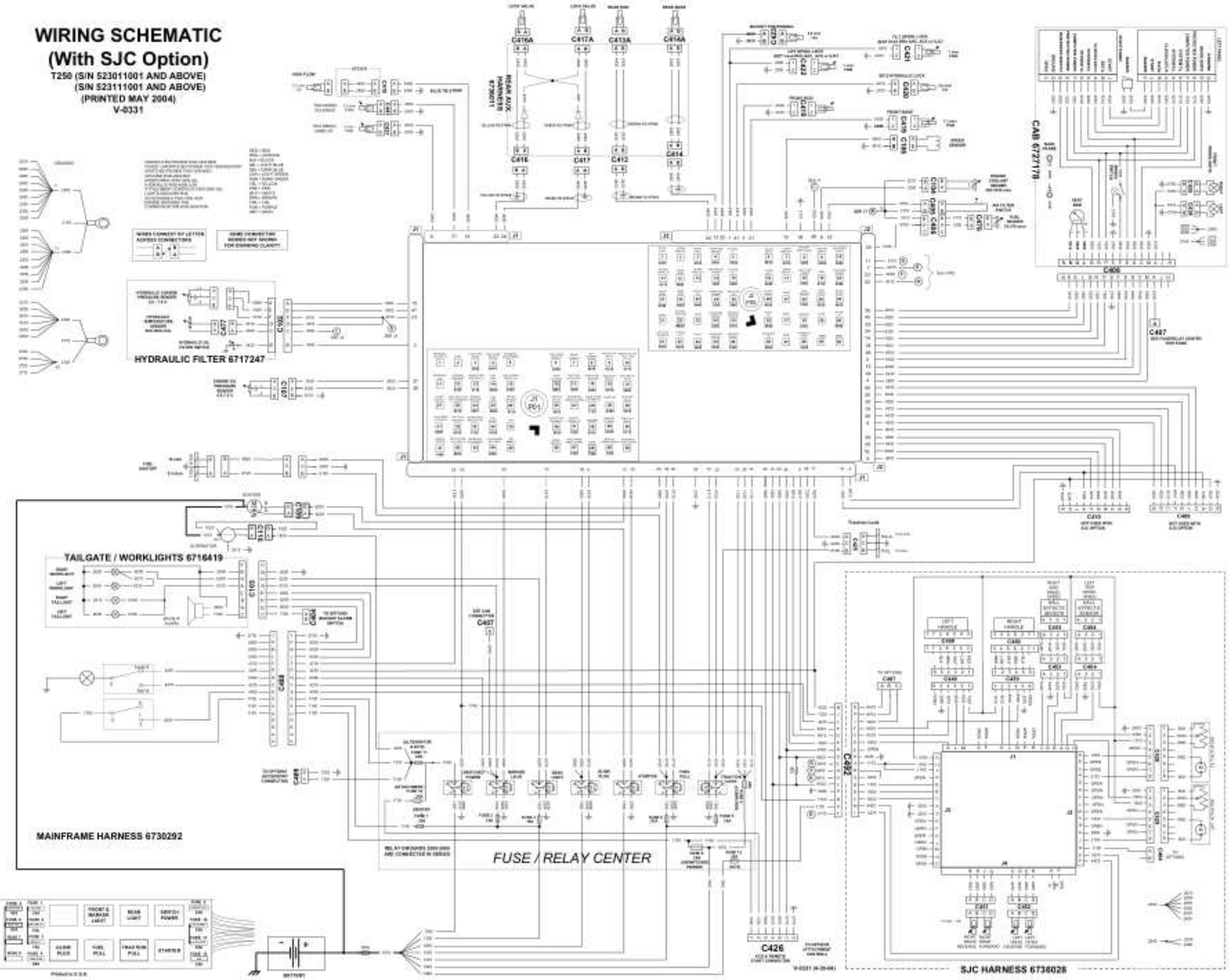
Engine

Make/Model	Kubota V3300-DI Turbo-Charged
Fuel/Cooling	Diesel/Liquid
Horsepower, Maximum	81.0 HP (60,4 kW) @ 2400 RPM
Maximum Governed RPM	2600 RPM
Low Idle	1125-1175 RPM
High Idle	2525-2575 RPM
Torque, Maximum	217.6 lbf.-ft. (295 N•m) @ 1400 RPM
Number of Cylinders	4
Displacement	202.53 cu. in. (3,318 L)
Bore/Stroke	3.86/4.33 (98/110)
Lubrication	Pressure System with Filter
Crankcase Ventilation	Open Breathing
Air Cleaner	Dry replaceable paper cartridge with safety element
Ignition	Diesel-Compression
Engine Coolant	Propylene Glycol / Water Mixture
Starting Aid	Intake Air Heater

MidWestTech | Bobcat T250 Turbo, T250 Turbo High Flow Track Skid Loader Service Manu... Order the manual at mid-west-tech.com >

WIRING SCHEMATIC
(With SJC Option)

T250 (S/N 523011001 AND ABOVE)
(S/N 523111001 AND ABOVE)
(PRINTED MAY 2004)
V-0331



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