## **SERVICE MANUAL**

# B90B - B90BLR - B100B - B100BLR - B110B - B115B LOADER BACKHOES

Print No. 87643846B



#### **SECTION 00 - SAFETY PRECAUTIONS**

#### **SECTION 01 - MAINTENANCE**

### **SECTION 02 - TECHNICAL SPECIFICATIONS**

1. MODELS	3
2. IDENTIFICATION OF MAIN COMPONENTS	4
3. SPECIFICATIONS	ε
3.1 DIESEL ENGINE	
3.2 TRANSMISSION	
3.3 AXLES	ç
3.4 BRAKES	g
3.5 STEERING	
3.6 HYDRAULIC SYSTEM	
3.7 FRONT COUNTERWEIGHT	
3.8 NOISE AND VIBRATION LEVELS	
3.9 BUCKETS	
3.11 TYRES	
4. DIMENSIONS AND PERFORMANCE	
4.1 DIMENSIONS - 2WS SIDESHIFT	
4.2 DIMENSIONS - 2WS CENTER PIVOT	
4.4 DIMENSIONS - 4WS SIDESTIFT	
4.5 LOADER ATTACHMENT PERFORMANCE	
4.6 PERFORMANCE OF LOADER ATTACHMENT WITH FORKS	
4.7 BACKHOE ATTACHMENT PERFORMANCE	
5. BACKHOE ATTACHMENT LIFTING CAPACITY	49
6. MAXIMUM LIFTING LOADS	55
6.1 LOADER ATTACHMENT MAXIMUM LIFTING LOAD TABLE	
6.2 BACKHOE ATTACHMENT MAXIMUM LIFTING LOAD TABLE	
7. SUPPLY SUMMARY TABLE	
7. SOLLET SOMMAKT TABLE	01
SECTION 17 - TORQUE CONVERTERS	
1. POWERSHUTTLE TORQUE CONVERTER	3
1.1 DESCRIPTION AND OPERATION	3
1.2 SPECIFICATIONS	5
1.3 OVERHAUL	5
1.4 INSPECTION	
1.5 DISASSEMBLY AND ASSEMBLY	
1.6 STALL TEST	
1.7 FAULT FINDING	
2. POWERSHIFT TORQUE CONVERTER	
2.1 DESCRIPTION AND OPERATION	
2.2 SPECIFICATIONS	
2.3 OVERHAUL	
2.4 INSPECTION	
2.6 STALL TEST	
2.7 FAULT FINDING.	

#### **SECTION 21 - TRANSMISSION**

1. POWERSHUTTLE TRANSMISSION "TURNER MODEL COM-T4-2025"	3
1.1 SPECIFICATIONS	
1.2 MOUNTING SCREW TORQUE	
1.3 TRANSMISSION CONTROLS	
1.4 LUBRICATION	
1.5 TRANSMISSION OIL FLOW AND SUPPLY	
1.6 TRANSMISSION HYDRAULIC VALVES AND PRESSURE TEST POINTS  1.7 TRANSMISSION POWER FLOW	
1.7 TRANSMISSION POWER FLOW	
1.9 TRANSMISSION 4WD COMPONENTS	
1.10 TRANSMISSION REMOVAL	
1.11 DISASSEMBLY AND ASSEMBLY	
1.12 FAULT FINDING	
1.13 SPECIAL TOOLS	
2. POWERSHIFT TRANSMISSION "DANA T16000"	
2.1 SPECIFICATIONS	
2.2 TRANSMISSION CONTROLS	
2.3 LUBRICATION	
2.4 PRESSURE SPECIFICATIONS AND CHECK POINTS	
2.5 TRANSMISSION COOLER	
2.6 HYDRAULIC DIAGRAM	
2.7 OPERATION	110
2.8 POWER FLOWS	
2.9 GEAR AND CLUTCH LAY OUT	
2.10 TRANSMISSION REMOVAL AND INSTALLATION	
2.11 TRANSMISSION COMPONENTS	
2.12 DISASSEMBLY AND ASSEMBLY	
2.13 SPECIAL TOOLS	
2.14 FAULT FINDING	
2.15 FAULT FINDING	270
SECTION 25 - FRONT AXLES	
1. FRONT AXLE 2WD "CARRARO"	-
1.1 SPECIFICATIONS	
1.2 DISASSEMBLY AND ASSEMBLY	
1.3 FAULT FINDING	
2. FRONT AXLE 4WD "CARRARO"	26
2.1 SPECIFICATIONS	
2.2 DISASSEMBLY AND ASSEMBLY	
2.3 FAULT FINDING	77
3. FRONT AXLE 4WS "CARRARO"	
3.1 SPECIFICATIONS	
3.2 DISASSEMBLY AND ASSEMBLY	
3.3 FAULT FINDING	137
1. SPECIAL TOOLS	140

#### **SECTION 27 - REAR AXLE**

1. REAR AXLE 2WS	
1.1 DESCRIPTION AND OPERATION	
1.2 SPECIFICATIONS	
1.3 DISASSEMBLY AND ASSEMBLY	
1.4 FAULT FINDING	
2. REAR AXLE 4WS "CARRARO"	
2.1 SPECIFICATIONS	
2.2 DISASSEMBLY AND ASSEMBLY	
2.3 FAULT FINDING	
3. SPECIAL TOOLS	84
SECTION 33 - BRAKES SYSTEM	
1. SPECIFICATIONS	3
2. PARKING BRAKE	6
2.1 PARKING BRAKE ADJUSTMENT	7
3. BRAKE CYLINDERS	8
4. OIL BRAKE TANK	13
5. BLEEDING PROCEDURE	13
SECTION 35 - HYDRAULIC SYSTEM	
1. HYDRAULIC DIAGRAMS	3
1.1 HYDRAULIC DIAGRAM - 2WS SIDESHIFT MECHANICAL MODELS	
1.2 HYDRAULIC DIAGRAM - 2WS SIDESHIFT PILOT MODELS	
1.3 HYDRAULIC DIAGRAM - 2WS CENTER PIVOT PILOT MODELS	
1.4 HYDRAULIC DIAGRAM - 4WS SIDESHIFT MECHANICAL MODELS	
1.5 HYDRAULIC DIAGRAM - 4WS SIDESHIFT PILOT MODELS	
1.6 HYDRAULIC DIAGRAM - 4WS CENTER PIVOT PILOT MODELS	
2. HYDRAULIC PUMP	
2.1 DESCRIPTION AND OPERATION	
2.2 SPECIFICATIONS	
2.4 REMOVAL	
2.5 COMPONENTS	
2.6 DISASSEMBLY AND ASSEMBLY	
3. CONTROL VALVES	
3.1 CONTROL VALVES "REXROTH" (MECHANICAL MODELS)	
3.2 CONTROL VALVES "REXROTH" (PILOT MODELS)	
3.3 SOLENOID VALVE FOR PILOTING THE BACKHOE CONTROL VALVE	
(WITH HYDRAULIC CONTROL)	51
3.4 RELIEF VALVES	
3.5 ACCUMULATOR "GLIDE RIDE" PARKER	62
4. HYDRAULIC SWING SYSTEM	65
4.1 DESCRIPTION AND OPERATION	65
4.2 HYDRAULIC OIL FLOW	66

5. HYDRAULIC CYLINDERS	68
5.1 LOADER ATTACHMENT BOOM CYLINDER	69
5.2 LOADER BUCKET CYLINDER	
5.3 4X1 LOADER BUCKET CYLINDER	
5.4 BACKHOE BOOM CYLINDER	
5.5 BACKHOE ATTACHMENT DIPPER CYLINDER	
5.6 BACKHOE BUCKET CYLINDER	
5.7 TELESCOPIC CYLINDER	
5.8 STABILIZER CYLINDER - CENTER PIVOT	
5.9 STABILIZER CYLINDER - SIDESHIFT	
5.10 SWING CYLINDER5.11 BACKHOE ATTACHMENT MOVEMENT LOCK CYLINDER (SIDESHIFT)	
5.11 BACKHOE ATTACHMENT MOVEMENT LOCK CYLINDER (SIDESHIFT)	
6. HYDRAULIC CONTROL LEVERS	
6.1 SPECIFICATIONS	
6.2 DESCRIPTION AND OPERATION	
6.3 DISASSEMBLY AND ASSEMBLY	
6.4 CONTROL LEVER VALVE	
7. FAULT FINDING	
7.1 PRELIMINARY CHECKS	
7.2 FAULT FINDING (WITH "REXROTH" CONTROL VALVES)	125
SECTION 39 - CHASSIS	
1. DESCRIPTION AND OPERATION	3
2. REMOVAL AND INSTALLATION COMPONENTS	6
2.1 COMPONENTS WITHIN THE CHASSIS	
2.2 COMPONENTS BELOW THE CHASSIS	7
2.3 COMPONENTS ATTACHED OUTSIDE THE CHASSIS	9
2.4 COMPONENTS ATTACHED ON THE CHASSIS	10
2.5 MOUNTING SCREW TORQUE	12
SECTION 41 - STEERING SYSTEM	
1. STEERING SYSTEM 2WS	4
2. STEERING SYSTEM 4WS	7
3. POWER STEERING	12
3.1 SPECIFICATIONS	
3.2 COMPONENTS	15
3.3 DISASSEMBLY AND ASSEMBLY	16
3.4 SPECIAL TOOLS	33
3.5 FAULT FINDING	
SECTION 50 - CAB HEATING AND AIR CONDITIONING	
1. SPECIFICATIONS	3
2. CAB HEATING	
2.1 DESCRIPTION AND OPERATION	

3. AIR CONDITIONING	
3.1 PRINCIPALS OF AIR CONDITIONING	
3.2 SAFETY PRECAUTIONS	
3.3 DESCRIPTION AND OPERATION	18
3.4 FAULT FINDING AND TESTING	27
3.5 FLUSHING THE SYSTEM	45
3.6 EVACUATING THE SYSTEM	47
3.7 CHARGING THE SYSTEM	48
3.8 COMPONENTS OVERHAUL	
3.9 COMPRESSOR	
3.10 SPECIAL TOOLS	68
SECTION 55 - ELECTRICAL SYSTEM	
1. GENERALITIES	3
1.1 TEMPORARY WIRING HARNESS REPAIR	3
1.2 FAULT FINDING	
2. ELECTRICAL DIAGRAMS	
2.1 ELECTRICAL DIAGRAMS - POWERSHUTTLE ROPS (B90B	
2.1 ELECTRICAL DIAGRAMS - POWERSHUTTLE ROPS (B90B).	
2.3 ELECTRICAL DIAGRAMS - POWERSHUTTLE CAB (B90B).	
2.4 ELECTRICAL DIAGRAMS - POWERSHIFT CAB (B100B)	
2.5 ELECTRICAL DIAGRAMS - 4WS CAB	
3. CONTROLS AND INSTRUMENTS	
3.1 FRONT INSTRUMENT CLUSTER PANEL	
3.2 CALIBRATION OF SPEEDOMETER	
3.3 SIDE INSTRUMENT CLUSTER PANEL (B90B)	
3.4 SIDE INSTRUMENT CLUSTER PANEL (B90B)	
3.5 SIDE INSTRUMENT CLUSTER (B90B)	,
3.6 SIDE INSTRUMENT CLUSTER (B100B - B110B - B115B)	
3.7 ANTI-START SYSTEM	
4. DIAGNOSTIC DISPLAY (B100B-B110B-B115B)	
4.1 SYMBOLS	
4.2 SETUP MENU4.3 PROCEDURE ABOUT SELF TEST	
4.4 ON BOARD ERROR CODE RETRIEVAL	
4.5 BACKLIGHTING AND DIMMING	
4.6 WORK HOURS	
4.7 FUNCTIONAL DESCRIPTION	
4.8 MAINTENANCE	
4.9 WARNING MESSAGES	
5. STARTING SYSTEM	
5.1 DESCRIPTION AND OPERATION	
5.1 DESCRIPTION AND OPERATION	
5.3 STARTER MOTOR	
6. ALTERNATOR	
6.1 SPECIFICATIONS	
6.2 DESCRIPTION AND OPERATION	
6.3 COMPONENTS	
6.4 REMOVAL	
6.5 PRELIMINARY CHECK AND TESTS	
6.6 FAULT FINDING	149

7. BATTERY	150
7.1 SPECIFICATIONS	150
7.2 DESCRIPTION AND OPERATION	150
7.3 BATTERY REPLACEMENT	151
7.4 MAINTENANCE	153
7.5 TESTS	
7.6 CONNECTING A BOOSTER BATTERY	157
7.7 BATTERY MASTER SWITCH	157
8. COMPONENT TESTING	158
8.1 GENERAL INTRODUCTION	
8.2 COMPONENT TESTING	
8.3 GROUND POINTS	
8.4 STARTER SWITCH KEY AND STOP SWITCH	
8.5 ALTERNATOR	
8.6 TRANSMISSIONS	
8.7 PARKING BRAKE SWITCH	
8.8 CAB	
8.9 4WD SWITCH	
8.10 BRAKE PEDAL SWITCHES	172
8.11 BRAKE OIL LEVEL WARNING LAMP	
8.12 FRONT WORK LAMP SWITCH (1) - REAR WORK LAMP SWITCH (2) MAIN LIGHT SWITCH	173
8.13 HAZARD SWITCH	174
8.14 HAZARD WARNING LIGHT RELAY	174
8.15 MULTI FUNCTION SWITCH	175
8.16 FRONT WINDSHIELD WIPER MOTOR (1) - REAR WINDSHIELD WIPER MOTOR (2)	
8.17 4WS - STEERING SELECTOR SWITCH	176
8.18 STEERING CONTROL UNIT	177
8.19 4WS REAR AXLE STEERING SENSOR	
8.20 4WS FRONT AXLE STEERING SENSOR	
8.21 STEERING SOLENOID VALVE	180
8.22 DIFFERENTIAL LOCK SWITCH (1)	
8.23 LOADER	
8.24 BACKHOE	
8.25 REVERSING BUZZER	
8.26 FUEL LEVEL GAUGE	189
SECTION 82 - LOADER	
1. LOADER ATTACHMENT CONTROLS	4
2. LOADER BUCKET SELF LEVELING	7
3. LOADER ATTACHMENT SAFETY STRUT	
3.1 LOADER ATTACHMENT SAFETY STRUT (B90B - B100B - B110B)	
3.2 LOADER ATTACHMENT SAFETY STRUT (B115B)	
4. LOADER BUCKET REMOVAL	
4.1 LOADER BUCKET (B90B - B100B - B110B)	
4.2 LOADER BUCKET (B115)	
4.3 LOADER BUCKET WITH FORKS (OPTIONAL)	
4.4 REPLACING LOADER BUCKET TEETH	16

5. LOADER REMOVAL	17
5.1 LOADER ATTACHMENT (B90B - B100B - B110B)	17
5.2 LOADER ATTACHMENT (B115B)	19
SECTION 84 - BACKHOE	
1. DESCRIPTION AND OPERATION	3
2. BACKHOE ATTACHMENT MECHANICAL CONTROLS VERSION	6
3. BACKHOE ATTACHMENT HYDRAULIC CONTROLS VERSION	15
4. REMOVAL AND INSTALLATION	17
4.1 CENTER PIVOT BACKHOE ATTACHMENT DISASSEMBLY	17
4.2 SIDESHIFT BACKHOE ATTACHMENT DISASSEMBLY	
4.3 BACKHOE BUCKET REMOVAL	22
4.4 BACKHOE BUCKET TEETH REPLACEMENT	23
4.5 DIPPER REMOVE	24
5. TELESCOPIC DIPPER REVISION	27
6. TELESCOPIC DIPPER REVISION	27
7. REVISIONE DEL BRACCIO TELESCOPICO	27

Thank you so much for reading. Please click the "Buy Now!" button below to download the complete manual.



After you pay.

You can download the most perfect and complete manual in the world immediately.

Our support email: ebooklibonline@outlook.com