

SERVICE MANUAL

**B90B / B90BLR / B100B / B100BLR / B100BTC
B110B / B110BTC / B115B**
Backhoe Loaders

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B90B - B90BLR

B100B - B100BLR - B100BTC

B110B - B110BTC

B115B



SECTION 00 - SAFETY RULES

SAFETY INSTRUCTIONS

 **WARNING** 

This warning symbol points out important messages involving your safety.

Carefully read the safety rules contained herein and follow advised precautions to avoid potential hazards and to safeguard your safety and personal integrity.

In this manual you will find this symbol together with the following keywords:

 **WARNING** 

This symbol warns about the possibility of potential damages to the machine that can involve the operator's safety.

 **WARNING** 

With specific warnings about potential dangers for the operator's or other persons integrity directly or indirectly involved.

The non-compliance with the warnings preceded by the above-mentioned keywords (WARNING and DANGER) can cause serious accidents or even the death of the persons involved.

Moreover, in the present Manual, some instructions are given with text in italics, preceded by the words **NOTE** and **CAUTION**.

NOTA: *it emphasizes and underlines to the operator the correct technique or correct procedure to follow.*

 **WARNING** 

This symbol warns about the possibility of potential damages to the machine that can involve the operator's safety.

FOREWORD

Loader backhoes B90B - B90BLR - B100B - B100BLR - B100BTC - B110B - B110BTC - B115B have been designed to perform most earth-moving operations.

If you use this machine for duties involving the use of attachments, accessories, or special tools, consult your Dealer to make sure that the adaptations or modifications carried out are in conformity with the machine's technical specifications and with current regulations on safety.

Any modifications or adaptations which are not approved by the manufacturer may invalidate the machine's original conformity with safety requirements.

The machine must be used according to its intended use, respecting the safety and precautionary rules and strictly following the operating instructions.

Any functional disorders, especially those affecting the safety of the machine, should therefore be rectified immediately.

———— **⚠ DANGER ⚠** ————

A different use of the excavator or of its working equipment:

- for lifting or transporting persons;
- as working platform;
- for lifting loads without the attachment being approved for this purpose;
- for pulling loads;
- is considered unintended use.

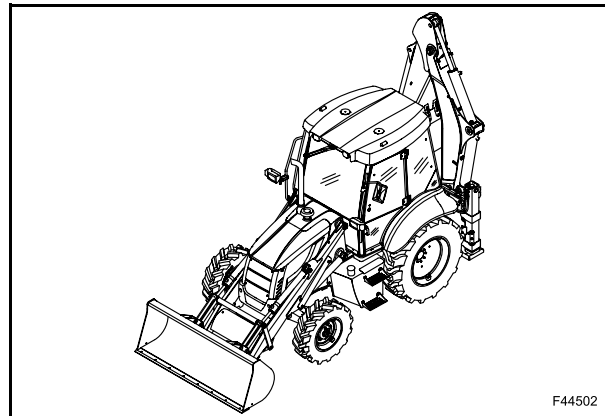
Unintended use may cause injury or life-threatening risks for the operator and for other persons.

The manufacturer/supplier cannot be held responsible for any damage resulting from unintended use. The risk involved in such misuse lies entirely with the user.

———— **⚠ DANGER ⚠** ————

It is absolutely forbidden to tamper with and/or change the setting of any of the hydraulic system valves to avoid damaging machine components, with a consequent risk for personal safety.

The current Operator's Manual is the user's guide for correct run-in, use and maintenance of the machine.



Carefully read this Operator's Manual and store it in the cab for quick location and reference.

Instructions concerning safety, operation and maintenance have been developed to permit safe service and repair of this machine without any risk.

In the event of queries or suggestions relevant to your machine do not hesitate to address to your Dealer.

Dealers have qualified and trained personnel at disposal as well as Original Spares, means and equipment suitable to carry out all necessary maintenance.

Any modifications or adaptations which are not approved by the manufacturer may invalidate the machine's original conformity with safety requirements.

IMPORTANTE: *the engine and fuel system on your machine are designed and built to government emissions standards. Tampering by dealers, customers, operators and users is strictly prohibited by law. Failure to comply with this prohibition could result in government fines, rework charges, invalid warranty, legal action and possible confiscation of the machine until rework to original condition is completed. Engine service and/or repairs must be carried out by a certified technician only.*

NOTA: *each machine is supplied complete with a copy of this Manual. Descriptions and illustrations provided herein are not binding. The Manufacturer, provided that the basic characteristics of machine types described and shown in this Manual remain the same, reserves the right to change components, parts and accessories supplied without any commitment to timely update this publication; and this any time it deems it convenient for improvement purposes or due to commercial or manufacturing requirements. For exact information, please consult your Dealer or contact the Manufacturer's Branch Offices, who remain at your disposal for further help.*

SPARE PARTS

The "non-genuine" spare parts have not been checked and authorized by the Manufacturer.

The assembly and/or use of such products may have negative effects on the machine design features and could impair its operation safety.

The Manufacturer is not liable for any damage caused by "non-genuine" spare parts or accessories.

WARRANTY

This machine is under warranty according to the regulations in force in Your Country and in compliance with the sales agreement drawn up with the Dealer.

The warranty, however, expires if the operation and maintenance instruction for this machine and contained in this manual, have not been followed.

SAFETY INSTRUCTIONS

Carefully read the safety rules contained herein and follow advised precautions to avoid potential hazards and to safeguard your safety and personal integrity.

Your safety and that of the people around you depends on you.

It is essential that you understand this manual for a correct inspection, lubrication and repair of this machine.

Read this manual carefully and check that:

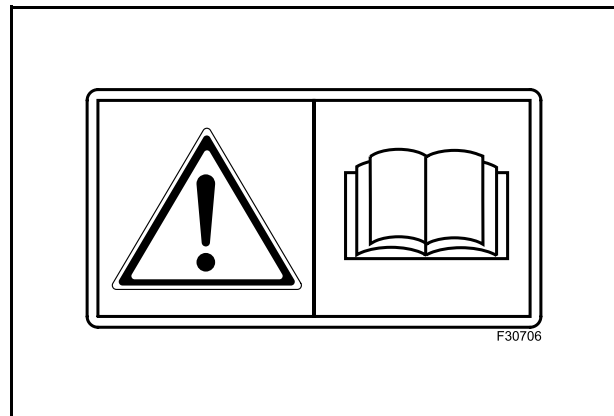
- you understand fully the symbols on the controls and the safety signs used in this manual and on the machine;
- you understand fully the speed, stability, braking and steering characteristics of the machine. If you are in any doubt, consult your Dealer.

The safety messages in this section concern situations which may arise during normal machine operation, servicing and repair. These safety messages also indicate the different ways of coping with these situations. Other safety messages are used throughout the manual to indicate specific dangers.

The information given in this chapter is a summary of the basic rules to respect at all times and does not exempt you from observing traffic regulations or the requirements of insurance companies.

The presence of grease, oil, mud or (in winter) ice on the steps and access handles can cause accidents. Make sure they are always clean.

When mounting or dismounting from the machine always face the machine and use the steps and access handles on the left-hand side of the machine.



B90B - B90BLR
B100B - B100BLR - B100BTC
B110B - B110BTC
B115B

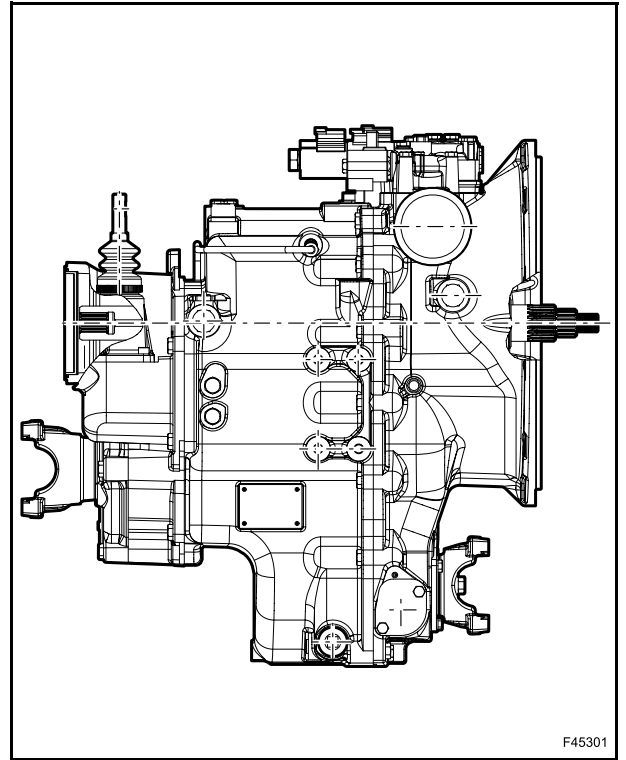


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POWERSHUTTLE TRANSMISSION

This transmission is used on powershuttle loader backhoe models B90B-B90BLR-B100B-B100BLR-B100BTC-B110B-B110BTC.



TECHNICAL SPECIFICATIONS

2WD/2WS TRANSMISSION - POWERSHUTTLE (B90B)

Model CARRARO TLB1 MPB 2WD

Type (4x4) 4 forward and 4 reverse travel gears

Torque converter ratio 2.38

Transmission ratios:

1st gear forward travel 5.603:1 reverse travel 4.643:1

2nd gear forward travel 3.481:1 reverse travel 2.884:1

3rd gear forward travel 1.585:1 reverse travel 1.313:1

4th gear forward travel 0.793:1 reverse travel 0.657:1

4WD/2WS TRANSMISSION - POWERSHUTTLE (B90B - B100B - B100BTC - B110B - B110BTC)

Model CARRARO TLB1 MPB 4WD

Type (4x4) 4 forward and 4 reverse travel gears

Torque converter ratio 2.38

Transmission ratios:

1st gear forward travel 5.603:1 reverse travel 4.643:1

2nd gear forward travel 3.481:1 reverse travel 2.884:1

3rd gear forward travel 1.585:1 reverse travel 1.313:1

4th gear forward travel 0.793:1 reverse travel 0.657:1



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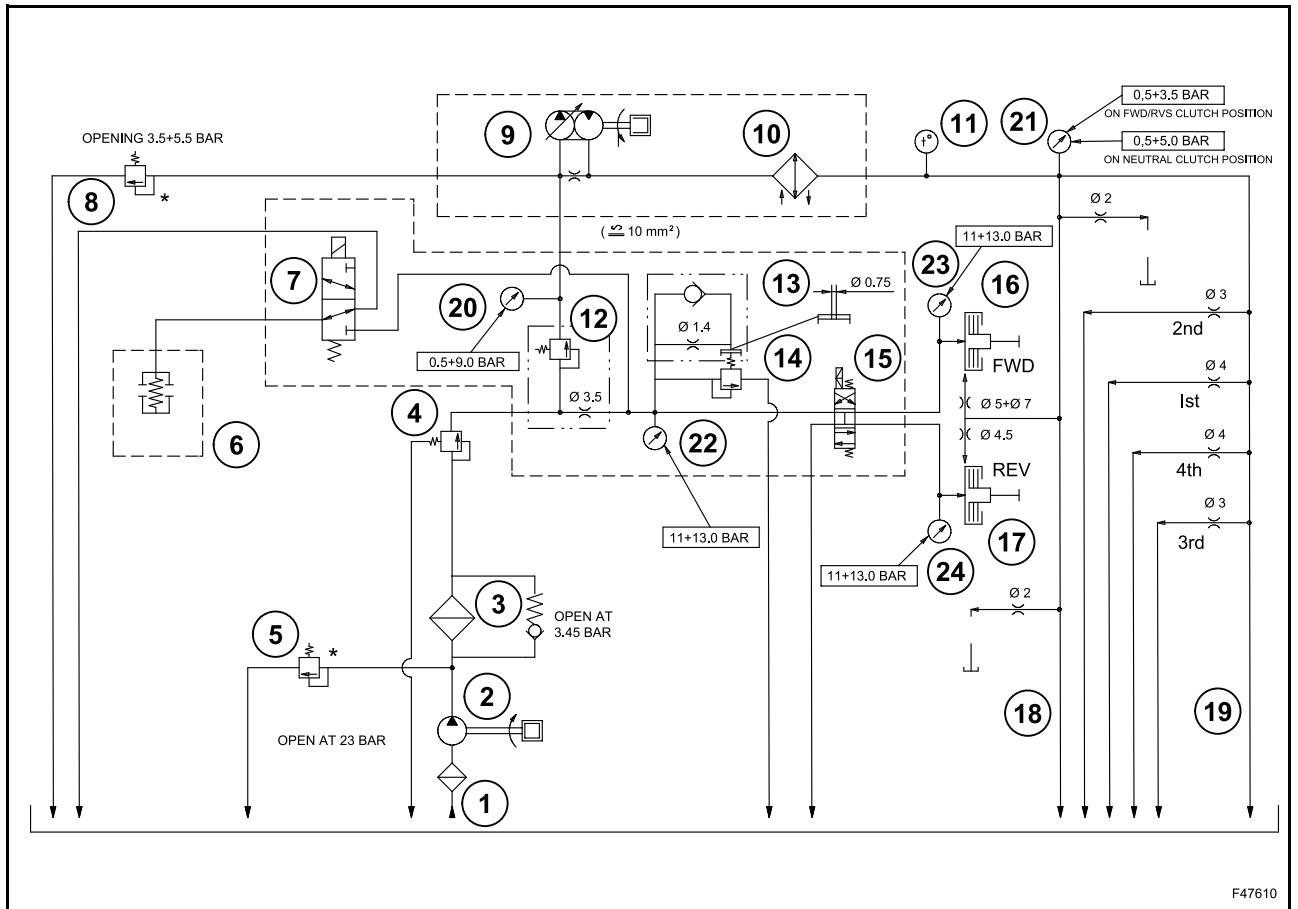
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HYDRAULIC DIAGRAM

2WD



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