



LB90.B
LB95.B
LB110.B
LB115.B

Workshop
Manual



TO READER

This manual has been printed for a skilful engineer to supply necessary technical information to carry out service operations on this machine.

Read carefully this manual to collect correct information relevant to repair procedures.

For any question or remark, or in case of any error relevant the contents of this manual, please contact:

NEW HOLLAND KOBELCO CONSTRUCTION MACHINERY S.p.A.

Strada di Settimo, 323 - 10099
S. Mauro Torinese (TO) - Italia

REFERENCE

Beyond this Service Manual, also refer to documents hereunder listed:

- Operator's Manual
- Parts Catalogue

COMPLETE HANDBOOK FOR INSTRUCTIONS AND REPAIRS

The complete Service Manual consists of two volumes:

- LB90.B - LB95.B - LB110.B - LB115.B Service Manual "LOADER BACKHOE"
- LB90.B - LB95.B - LB110.B - LB115.B Service Manual "Engine"

The Service Manuals for "Loader backhoe" and "Engine" contain the necessary technical information to carry out service and repair on machine and on engine, necessary tools to carry out those operations and information on service standard, on procedures for connection, disconnection, disassembly and assembly of parts.

The complete Service Manual which covers the loader backhoe models LB90.B - LB95.B - LB110.B - LB115.B consists of the following volumes, which can be identified through their print number as stated below:

VOLUME	MACHINE TYPE	PRINT NUMBER
Service Manual - "Loader backhoe"	LB90.B - LB95.B - LB110.B - LB115.B	604.13.547
Service Manual - "Engine"	LB90.B - LB95.B - LB110.B - LB115.B	604.13.612

AVOID ACCIDENTS

The majority of accidents and injuries which occur in industry, on the farm, at home or on the road, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason **MOST ACCIDENTS CAN BE PREVENTED** by recognizing the real cause and taking the necessary precautions, before the accident occurs.

Regardless of the care used in design and construction of any type of equipment, there may be conditions that cannot be completely safeguarded against, without interfering with reasonable accessibility and efficient operation.

A careful operator and / or technician is the best insurance against accidents. The complete observance of one simple rule would prevent many thousands of serious injuries each year.

This rule is: Never attempt to clean, lubricate or adjust a machine while it is in motion.

WARNING

Before carrying out any maintenance operation, adjustment and or repair on machines equipped with attachments, controlled hydraulically or mechanically, make sure that the attachment is lowered and safely set on the ground. If it is necessary to have the equipment partially or fully raised to gain access to certain items, be sure the equipment is suitably supported by means other than the hydraulic lift cylinders, cable and /or mechanical device used for controlling the equipment.

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Strada di Settimo, 323 - 10099
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LOADER BACKHOE MODELS

The complete range of Loader Backhoe models described in this manual are identified below:

	LB90.B	LB95.B	LB110.B	LB115.B
Powershift	/	/	•	•
Powershuttle	•	•	•	/
Stabilizer sideshift	•	•	•	•
Stabilizer centre pivot	/	/	•	•
Cab	•	•	•	•
Rops	•	/	/	/
2WD	•	/	/	/
4WD	•	•	•	•
4WS	/	/	/	•
Pilot control	•	•	•	•
Mechanical control	•	•	•	•
Engine Iveco 71 kW - 95 HP model F4GE0454C*D660	•	•	/	/
Engine Iveco 82 kW - 110 HP model F4GE0484C*D660	/	/	•	/
Engine Iveco 82 kW - 110 HP (4WS) model F4GE0484C*D655	/	/	/	•
Short dipper	•	/	/	/
Long dipper	/	•	•	•

INDEX

SECTION 00 - SAFETY PRECAUTIONS

SECTION 01 - MAINTENANCE

SECTION 02 - TECHNICAL SPECIFICATIONS

1. MODELS.....	3
2. IDENTIFICATION OF MAIN COMPONENTS.....	4
3. TECHNICAL SPECIFICATIONS.....	5
4. LOADER ATTACHMENT DIMENSIONS AND PERFORMANCE	9
5. BACKHOE ATTACHMENT DIMENSIONS AND PERFORMANCE	13
6. LIFTING CAPACITIES.....	18
7. LOADER BUCKET WITH FORKS DIMENSIONS AND PERFORMANCE.....	23
8. FLUID AND LUBRICANT CAPACITIES AND SPECIFICATIONS.....	24

SECTION 17 - TORQUE CONVERTERS

1. POWERSHUTTLE TORQUE CONVERTER.....	3
1.1 DESCRIPTION AND OPERATION.....	3
1.2 TECHNICAL SPECIFICATIONS.....	4
1.3 OVERHAUL	4
1.4 INSPECTION.....	4
1.5 DISASSEMBLY AND ASSEMBLY.....	5
1.6 STALL TEST.....	5
1.7 FAULT FINDING.....	6
2. POWERSHIFT TORQUE CONVERTER.....	7
2.1 DESCRIPTION AND OPERATION.....	7
2.2 TECHNICAL SPECIFICATIONS.....	8
2.3 OVERHAUL	8
2.4 INSPECTION.....	9
2.5 DISASSEMBLY AND ASSEMBLY.....	9
2.6 STALL TEST.....	11
2.7 FAULT FINDING.....	12

SECTION 21 - TRANSMISSION

1. POWERSHUTTLE TRANSMISSION "TURNER MODEL COM-T4-2025"	3
1.1 TECHNICAL SPECIFICATIONS.....	3
1.2 TIGHTENING TORQUES	5
1.3 TRANSMISSION CONTROLS.....	6
1.4 LUBRICATION.....	11
1.5 TRANSMISSION OIL FLOW AND SUPPLY.....	12
1.6 TRANSMISSION HYDRAULIC VALVES AND PRESSURE TEST POINTS	18
1.7 TRANSMISSION POWER FLOW.....	19
1.8 TRANSMISSION 2WD COMPONENTS.....	23
1.9 TRANSMISSION 4WD COMPONENTS.....	26
1.10 TRANSMISSION REMOVAL	31
1.11 DISASSEMBLY AND ASSEMBLY.....	32

1.12 FAULT FINDING	90
1.13 SPECIAL TOOLS	93
2. POWERSHIFT TRANSMISSION "DANA T16000"	94
2.1 TECHNICAL SPECIFICATIONS	94
2.2 TRANSMISSION CONTROLS	95
2.3 LUBRICATION	105
2.4 PRESSURE SPECIFICATIONS AND CHECK POINTS	106
2.5 TRANSMISSION COOLER	108
2.6 TRANSMISSION HYDRAULIC DIAGRAM	109
2.7 OPERATION	110
2.8 POWER FLOWS	117
2.9 GEAR AND CLUTCH LAY OUT	132
2.10 TRANSMISSION REMOVAL AND INSTALLATION	133
2.11 TRANSMISSION COMPONENTS	137
2.12 DISASSEMBLY AND ASSEMBLY	155
2.13 SPECIAL TOOLS	264
2.14 FAULT FINDING	265
2.15 FAULT FINDING	267

SECTION 25 - FRONT AXLES

1. FRONT AXLE 2WD "CARRARO"	3
1.1 TECHNICAL SPECIFICATIONS	3
1.2 DISASSEMBLY AND ASSEMBLY	5
1.3 FAULT FINDING	23
2. FRONT AXLE 4WD "CARRARO"	25
2.1 TECHNICAL SPECIFICATIONS	25
2.2 DISASSEMBLY AND ASSEMBLY	31
2.3 FAULT FINDING	77
3. FRONT AXLE 4WS "CARRARO"	80
3.1 TECHNICAL SPECIFICATIONS	80
3.2 DISASSEMBLY AND ASSEMBLY	84
3.3 FAULT FINDING	137
4. SPECIAL TOOLS	140

SECTION 27 - REAR AXLE

1. REAR AXLE 2WS	3
1.1 DESCRIPTION AND OPERATION	3
1.2 TECHNICAL SPECIFICATIONS	6
1.3 DISASSEMBLY AND ASSEMBLY	8
1.4 FAULT FINDING	27
2. REAR AXLE 4WS "CARRARO"	28
2.1 TECHNICAL SPECIFICATIONS	28
2.2 DISASSEMBLY AND ASSEMBLY	32
2.3 FAULT FINDING	81
3. SPECIAL TOOLS	84

SECTION 33 - BRAKES SYSTEM

1. TECHNICAL SPECIFICATIONS	3
2. HAND BRAKE	6

2.1 HAND 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 CENTRE PIVOT MECHANICAL MODELS	3
1.2 HYDRAULIC DIAGRAM - 2WS SIDESHIFT MECHANICAL MODELS	5
1.3 HYDRAULIC DIAGRAM - 2WS CENTRE PIVOT PILOT MODELS	7
1.4 HYDRAULIC DIAGRAM - 2WS SIDESHIFT PILOT MODELS	10
1.5 HYDRAULIC DIAGRAM - 4WS CENTRE PIVOT MECHANICAL MODELS	13
1.6 HYDRAULIC DIAGRAM - 4WS SIDESHIFT MECHANICAL MODELS	15
1.7 HYDRAULIC DIAGRAM - 4WS CENTRE PIVOT PILOT MODELS	17
1.8 HYDRAULIC DIAGRAM - 4WS SIDESHIFT PILOT MODEL	20
2. HYDRAULIC PUMP.....	23
2.1 DESCRIPTION AND OPERATION.....	23
2.2 TECHNICAL SPECIFICATIONS.....	24
2.3 LOAD SENSING VALVE	26
2.4 REMOVAL	28
2.5 COMPONENTS	29
2.6 DISASSEMBLY AND ASSEMBLY.....	30
3. CONTROL VALVES	34
3.1 CONTROL VALVES "HUSCO" (LB110.B CENTRE PIVOT MECHANICAL MODELS)	34
3.2 CONTROL VALVES "REXROTH" (MECHANICAL MODELS)	71
3.3 CONTROL VALVES "REXROTH" (PILOT MODELS)	87
4. HYDRAULIC SWING SYSTEM	111
4.1 DESCRIPTION AND OPERATION.....	111
4.2 HYDRAULIC OIL FLOW	112
4.3 PRECISION SWING CONTROL	114
5. HYDRAULIC CYLINDERS.....	117
5.1 LOADER CYLINDER.....	118
5.2 LOADER BUCKET CYLINDER	124
5.3 4X1 BUCKET CYLINDER.....	130
5.4 BACKHOE BOOM CYLINDER	133
5.5 BACKHOE DIPPER CYLINDER.....	137
5.6 BACKHOE BUCKET CYLINDER.....	141
5.7 SHORT AND LONG TELESCOPIC CYLINDER.....	145
5.8 STABILIZER CYLINDER (CENTRE PIVOT MODELS).....	149
5.9 STABILIZER CYLINDER (SIDESHIFT MODELS).....	153
5.10 SWING CYLINDER.....	157
5.11 BACKHOE SIDESHIFT LOCKING CYLINDER (SIDESHIFT)	161
5.12 SPECIAL TOOLS.....	163
6. CONTROL LEVERS	164
6.1 TECHNICAL SPECIFICATIONS.....	164
6.2 DESCRIPTION AND OPERATION.....	165
6.3 DISASSEMBLY AND ASSEMBLY.....	168
6.4 CONTROL LEVER VALVE	171
7. FAULT FINDING AND FLOW TESTING	174
7.1 PRELIMINARY CHECKS.....	174

7.2 FAULT FINDING (WITH "HUSCO" CONTROL VALVES) - LB110.B CENTRE PIVOT	175
7.3 PRESSURE TESTING (WITH "HUSCO" CONTROL VALVES) - LB110.B CENTRE PIVOT	180
7.4 FAULT FINDING (WITH "REXROTH" CONTROL VALVES)	188
7.5 PRESSURE TESTING (WITH "REXROTH" CONTROL VALVES)	192

SECTION 39 - CHASSIS

1. DESCRIPTION AND OPERATION	3
2. REMOVAL AND INSTALLATION COMPONENTS	6
2.1 COMPONENTS WITHIN THE CHASSIS	6
2.2 COMPONENTS BELOW THE CHASSIS	7
2.3 COMPONENTS ATTACHED OUTSIDE THE CHASSIS	9
2.4 COMPONENTS ATTACHED ABOVE THE CHASSIS	10
2.5 TIGHTENING TORQUES	12

SECTION 41 - STEERING SYSTEM

1. STEERING SYSTEM 2WS	4
2. STEERING SYSTEM 4WS	7
3. POWER STEERING	12
3.1 TECHNICAL SPECIFICATIONS	13
3.2 COMPONENTS	15
3.3 DISASSEMBLY AND ASSEMBLY	16
3.4 SPECIAL TOOLS	33
3.5 FAULT FINDING	33

SECTION 50 - CAB HEATING AND AIR CONDITIONING

1. TECHNICAL SPECIFICATIONS	3
2. CAB HEATING	5
2.1 DESCRIPTION AND OPERATION	5
3. AIR CONDITIONING	12
3.1 PRINCIPALS OF AIR CONDITIONING	12
3.2 SAFETY PRECAUTIONS	16
3.3 DESCRIPTION AND OPERATION	17
3.4 FAULT FINDING AND TESTING	25
3.5 FLUSHING THE SYSTEM	43
3.6 EVACUATING THE SYSTEM	45
3.7 CHARGING THE SYSTEM	46
3.8 COMPONENTS OVERHAUL	47
3.9 COMPRESSOR	51
3.10 SPECIAL TOOLS	65

SECTION 55 - ELECTRICAL SYSTEM

1. GENERALITIES	3
1.1 TEMPORARY WIRING HARNESS REPAIR	3
1.2 FAULT FINDING	4
2. ELECTRICAL DIAGRAMS	5
2.1 ELECTRICAL DIAGRAMS - POWERSHUTTLE CAB	5
2.2 ELECTRICAL DIAGRAMS - POWERSHIFT CAB	24
2.3 ELECTRICAL DIAGRAMS - 4WS	43
2.4 ELECTRICAL DIAGRAMS - ROPS	62

3. CONTROLS AND INSTRUMENTS	77
3.1 FRONT INSTRUMENT PANEL	77
3.2 SIDE INSTRUMENT PANEL	79
3.3 DIAGNOSTIC SIGNALING	81
3.4 CALIBRATION OF SPEEDOMETER	83
3.5 IMMOBILISER CIRCUIT	84
4. STARTING SYSTEM	85
4.1 DESCRIPTION AND OPERATION	85
4.2 FAULT FINDING	86
4.3 STARTER MOTOR	89
5. ALTERNATOR	95
5.1 TECHNICAL SPECIFICATIONS	95
5.2 DESCRIPTION AND OPERATION	95
5.3 COMPONENTS	97
5.4 REMOVAL	98
5.5 PRELIMINARY CHECK AND TESTS	99
5.6 FAULT FINDING	108
6. BATTERY	109
6.1 TECHNICAL SPECIFICATIONS	109
6.2 DESCRIPTION AND OPERATION	109
6.3 BATTERY REPLACEMENT	110
6.4 MAINTENANCE	112
6.5 TESTS	114
6.6 CONNECTING A BOOSTER BATTERY	116
6.7 BATTERY MASTER SWITCH (optional LB90.B - LB95.B)	116
7. COMPONENT TESTING	117
7.1 GENERAL INTRODUCTION	117
7.2 COMPONENT TESTING	118
7.3 GROUND POINTS	118

SECTION 82 - LOADER

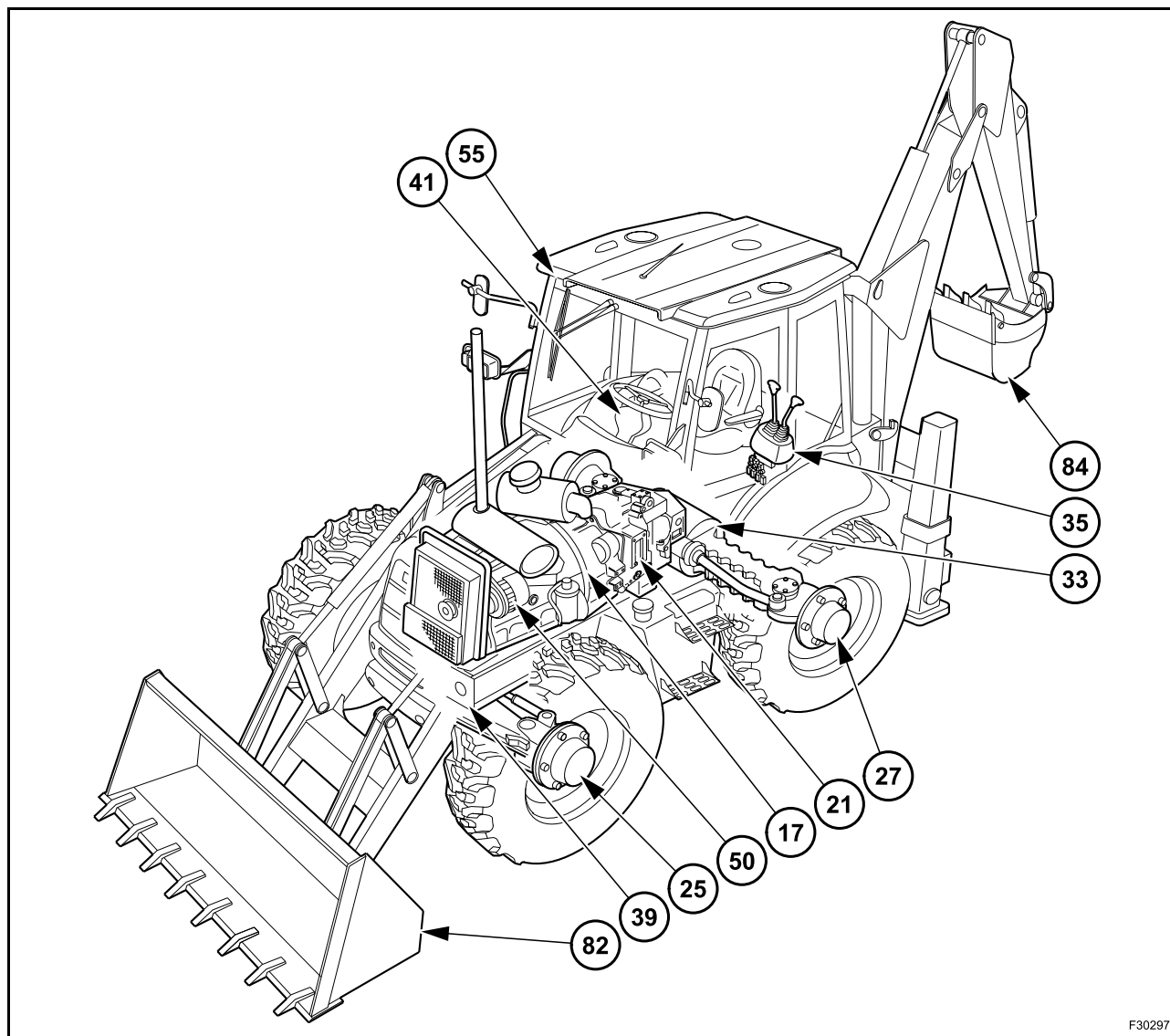
1. LOADER ATTACHMENT CONTROLS	4
2. LOADER BUCKET SELF LEVELING	7
3. LOADER ATTACHMENT SAFETY STRUT	10
4. LOADER BUCKET REMOVAL	12
5. LOADER REMOVAL (2WS)	15
6. LOADER REMOVAL (4WS)	17

SECTION 84 - BACKHOE

1. DESCRIPTION AND OPERATION	3
2. BACKHOE ATTACHMENT MECHANICAL CONTROL VERSION	6
3. BACKHOE ATTACHMENT PILOT CONTROL VERSION	12
4. REMOVAL AND INSTALLATION	14
5. TELESCOPIC DIPPER REVISION	24

SECTIONS INDEX

Where disassembly of a specific component is required refer to the relevant repair manual section.



SECTION 17: TORQUE CONVERTER

SECTION 21: TRANSMISSION

SECTION 25: FRONT AXLE

SECTION 27: REAR AXLE

SECTION 33: BRAKES SYSTEM

SECTION 35: HYDRAULIC SYSTEM

SECTION 39: CHASSIS

SECTION 41: STEERING SYSTEM

SECTION 50: CAB HEATING AND AIR CONDITIONING

SECTION 55: ELECTRICAL SYSTEM

SECTION 82: LOADER

SECTION 84: BACKHOE

LB90.B

LB95.B

LB110.B

LB115.B



SECTION 00 - SAFETY PRECAUTIONS

This warning symbol points out important messages involving personal safety.

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

In this manual you will find this symbol together with the following key-words:

WARNING - it gives warning about improper repair operations and deriving potential consequences affecting the service technician's personal safety.

DANGER - it gives specific warning about potential dangers for personal safety of the operator or other persons directly or indirectly involved.



TO PREVENT ACCIDENTS

Most accidents and personal injuries that occur in the work site or on the road, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions.

For this reason, **MOST ACCIDENTS CAN BE PREVENTED** by recognizing the real cause and taking the necessary precautions, before the accident occurs.

Regardless of the care used in design and construction of any type of equipment, there may be conditions that cannot be completely safeguarded against, without interfering with reasonable accessibility and efficient operation.

A careful operator or technician is the best precaution against accidents. The complete observance of one simple rule would prevent many thousands of serious injuries each year.

This rule is: Never attempt to clean, lubricate or adjust a machine while it is in motion.

SAFETY RULES

- Carefully follow specified repair and maintenance procedures.
 - Do not wear rings, wristwatches, jewels, unbuttoned or flapping clothing such as ties, torn clothes, scarves, open jackets or shirts with open zips which could get hold into moving parts.
We advise to use approved safety clothing such as anti-slipping footwear, gloves, safety goggles, helmets, etc.
 - Never carry out any repair on the machine if someone is sitting on the operator's seat, except if they are certified operators to assist in the operation to be carried out.
 - Never operate the machine or use attachments from a place other than sitting at the operator's seat.
 - Never carry out any operation on the machine when the engine is running, except when specifically indicated.
 - Stop the engine and ensure that all pressure is relieved from hydraulic circuits before removing caps, covers, valves, etc.
 - All repair and maintenance operations should be carried out with the greatest care and attention.
 - Service stairs and platforms used in a workshop or in the field should be built in compliance with the safety rules in force.
 - Disconnect the batteries and label all controls to warn that the Machine is being serviced. Block the machine and all equipment which should be raised.
 - Never check or fill fuel tanks and accumulator batteries, nor use starting liquid if you are smoking or near open flames as such fluids are flammable.
 - Brakes are inoperative when they are manually released for maintenance purposes. In such cases, the machine should be kept constantly under control using blocks or similar devices.
 - The fuel filling gun should remain always in contact with the filler neck.
Maintain this contact until the fuel stops flowing into the tank to avoid possible sparks due to static electricity buildup.
 - Use exclusively specified towing points for towing the machine. Connect parts carefully.
Ensure that foreseen pins and/or locks are steadily fixed before applying traction.
Do not stop near towing bars, cables or chains working under load.
 - To transfer a failed machine, use a trailer or a low loading platform trolley if available.
 - To load and unload the machine from the transportation mean, select a flat area providing a firm support to the trailer or truck wheels. Firmly tie the machine to the truck or trailer platform and block wheels as required by the forwarder.
 - For electrical heaters, battery-chargers and similar equipment use exclusive auxiliary power supplies with a efficient ground to avoid electrical shock hazard.
 - Always use lifting equipment and similar of appropriate capacity to lift or move heavy components.
 - Pay special attention to bystanders.
 - Never pour gasoline or diesel oil into open, wide and low containers.
 - Never use gasoline, diesel oil or other flammable liquids as cleaning agents. Use non-flammable non-toxic proprietary solvents.
 - Wear protection goggles with side guards when cleaning parts using compressed air.
 - Do not exceed a pressure of 2.1 bar, in accordance with local regulations.
 - Do not run the engine in a closed building without proper ventilation.
 - Do not smoke, use open flames, cause sparks in the nearby area when filling fuel or handling highly flammable liquids.
 - Do not use flames as light sources when working on a machine or checking for leaks.
 - Move with caution when working under a Machine, and also on or near a Machine. Wear proper safety accessories:
helmets, goggles and special footwear.
 - During checks which should be carried out with the engine running, ask an assistant to sit at the operator's seat and keep the service technician under visual control at any moment.
In case of operations outside the workshop, drive the machine to a flat area and block it. If working on an incline cannot be avoided, first block the Machine carefully. Move it to a flat area as soon as possible with a certain extent of safety.
 - Ruined or plied cables and chains are unreliable. Do not use them for lifting or trailing. Always handle them wearing gloves of proper thickness.
 - Chains should always be safely fastened. Ensure that fastening device is strong enough to hold the load foreseen. No persons should stop near the fastening point, trailing chains or cables.
 - The working area should be always kept CLEAN and DRY. Immediately clean any spillage of water or oil.
 - Do not pile up grease or oil soaked rags, as they constitute a great fire hazard. Always place them into a metal container. Before starting the Machine or its attachments, check, adjust and block the operator's seat. Also ensure that there are no persons within the Machine or attachment operating range.
 - Do not keep in your pockets any object which might fall unobserved into the Machine's inner compartments.
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- Whenever there is the possibility of being reached by ejected metal parts or similar, use protection eye mask or goggles with side guards, helmets, special footwear and heavy gloves. Wear suitable protection such as tinted eye protection, helmets, special clothing, gloves and footwear whenever it is necessary to carry out welding procedures. All persons standing in the vicinity of the welding process should wear tinted eye protection. **NEVER LOOK AT THE WELDING ARC IF YOUR EYES ARE NOT SUITABLY PROTECTED.**
- Metal cables with the use get frayed. Always wear adequate protections (heavy gloves, eye protection, etc.).
- Handle all parts with the greatest caution. Keep your hands and fingers far from gaps, moving gears and similar. Always use approved protective equipment, such as eye protection, heavy gloves and protective footwear.

START UP

- Never run the engine in confined spaces which are not equipped with adequate ventilation for exhaust gas extraction.
- Never bring your head, body, arms, legs, feet, hands, fingers near fans or rotating belts.

ENGINE

- Always loosen the radiator cap very slowly before removing it to allow pressure in the system to dissipate. Coolant should be topped up only when the engine is stopped or idle if hot.
- Do not fill up fuel tank when the engine is running, mainly if it is hot, to avoid ignition of fires in case of fuel spilling.
- Never check or adjust the fan belt tension when the engine is running. Never adjust the fuel injection pump when the machine is moving.
- Never lubricate the machine when the engine is running.

ELECTRICAL SYSTEMS

- If it is necessary to use auxiliary batteries, cables must be connected at both sides as follows: (+) to (+) and (-) to (-). Avoid short-circuiting the terminals. **GAS RELEASED FROM BATTERIES IS HIGHLY FLAMMABLE.** During charging, leave the battery compartment uncovered to improve ventilation. Avoid checking the battery charge by means of "jumpers" made by placing metallic objects across the terminals. Avoid sparks or flames near the battery area. Do not smoke to prevent explosion hazards.
- Prior to any service, check for fuel or coolant leaks. Remove these leaks before going on with the work. Do not charge batteries in confined spaces. Ensure that ventilation is appropriate to prevent acci-

dental explosion hazard due to build-up of gasses relieved during charging.

- Always disconnect the batteries before performing any type of service on the electrical system.

HYDRAULIC SYSTEMS

- Some fluid slowly coming out from a very small port can be almost invisible and be strong enough to penetrate the skin. For this reason, **NEVER USE YOUR HANDS TO CHECK FOR LEAKS**, but use a piece of cardboard or a piece of wood for this purpose. If any fluid is injected into the skin, seek medical aid immediately. Lack of immediate medical attention, serious infections or dermatitis may result.
- Always take system pressure readings using the appropriate gauges.

WHEELS AND TYRES

- Check that the tyres are correctly inflated at the pressure specified by the manufacturer. Periodically check possible damages to the rims and tyres.
- Keep off and stay at the tyre side when correcting the inflation pressure.
- Check the pressure only when the machine is unloaded and tyres are cold to avoid wrong readings due to over-pressure. Do not reuse parts of recovered wheels as improper welding, brazing or heating may weaken the wheel and make it fail.
- Never cut, nor weld a rim with the inflated tyre assembled.
- To remove the wheels, block both front and rear Machine wheels. Raise the Machine and install safe and stable supports under the Machine in accordance with regulations in force.
- Deflate the tyre before removing any object caught into the tyre tread.
- Never inflate tyres using flammable gases as they may originate explosions and cause injuries to bystanders.

REMOVAL AND INSTALLATION

- Lift and handle all heavy components using lifting equipment of adequate capacity. Ensure that parts are supported by appropriate slings and hooks. Use lifting eyes provided to this purpose. Take care of the persons near the loads to be lifted.
- Handle all parts with great care. Do not place your hands or fingers between two parts. Wear approved protective clothing such as safety goggles, gloves and footwear.
- Do not twist chains or metal cables. Always wear protection gloves to handle cables or chains.

IMPORTANT ECOLOGICAL CONSIDERATIONS

The following are recommendations which may be of assistance:

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use and dispose of these substances.

Helpful hints

- Avoid filling tanks using jerry cans or inappropriate pressurized fuel delivery systems which may cause considerable spillage.
 - In general, avoid skin contact with all fuels, oils, acids, solvents, etc.
Most of them contain substances which can be harmful to your health.
 - Modern oils contain additives. Do not burn contaminated fuels and/or waste oils in ordinary heating systems.
 - Avoid spillage when draining off used engine coolant mixtures, engine, transmission and hydraulic oils, brake fluids, etc.
Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
 - Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil but should be collected and disposed of safely.
 - Do not open the Air-Conditioning system yourself. It may contain gases which should not be released into the atmosphere. Your air conditioning specialist has special equipment for discharging and charging the system.
 - Repair any leaks or defects in the engine cooling or hydraulic system immediately.
 - Do not increase the pressure in a pressurized circuit as this may lead to a catastrophic failure of the system components.
 - Protect hoses during welding as penetrating weld chips may burn a hole or weaken them, causing the loss of oils, coolant, etc.
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SECTION 01 - MAINTENANCE

All maintenance and repair operations described in this manual should be carried out exclusively by authorized workshops. All instructions detailed should be carefully observed and special equipment indicated should be used if necessary.

Everyone who carries out service operations described without carefully observing these prescriptions will be directly responsible of deriving damages.

GENERAL

Clean the exterior of all components before carrying out any form of repair. Dirt and dust can reduce the efficient working life of a component and lead to costly replacement.

Time spent on the preparation and cleanliness of working surfaces will pay dividends in making the job easier and safer and will result in overhauled components being more reliable and efficient in operation. Use cleaning fluids which are known to be safe. Certain types of fluid can cause damage to O-rings and cause skin irritation. Solvents should be checked that they are suitable for the cleaning of components and also that they do not risk the personal safety of the user.

Replace O-rings, seals or gaskets whenever they are disturbed. Never mix new and old seals or O-rings, regardless of condition. Always lubricate new seals and O-rings with hydraulic oil before installation.

When replacing component parts, use the correct tool for the job.

HOSES AND TUBES

Always replace hoses and tubes if the cone end or the end connections on the hose are damaged.

When installing a new hose, loosely connect each end and make sure the hose takes up the designed position before tightening the connection. Clamps should be tightened sufficiently to hold the hose without crushing and to prevent chafing.

After hose replacement to a moving component, check that the hose does not foul by moving the component through the complete range of travel.

Be sure any hose which has been installed is not kinked or twisted.

Hose connections which are damaged, dented, crushed or leaking, restrict oil flow and the productivity of the components being served. Connectors which show signs of movement from the original swagged position have failed and will ultimately separate completely.

A hose with a chafed outer cover will allow water entry. Concealed corrosion of the wire reinforcement will subsequently occur along the hose length with resultant hose failure.

Ballooning of the hose indicates an internal leakage due to structural failure. This condition rapidly deteriorates and total hose failure soon occurs.

Kinked, crushed, stretched or deformed hoses generally suffer internal structural damage which can result in oil restriction, a reduction in the speed of operation and ultimate hose failure.

Free-moving, unsupported hoses must never be allowed to touch each other or related working surfaces. This causes chafing which reduces hose life.

O-RING FLAT FACE SEAL FITTINGS

When repairing O-ring face seal connectors, the following procedures should be observed.

WARNING

Never disconnect or tighten a hose or tube that is under pressure, if in doubt, actuate the operating levers several times with the engine switched off prior to disconnecting a hose or tube.

Release the fittings and separate the hose or tube assembly, then remove and discard the O-ring seal from the fitting.

Dip a new O-ring seal into clean hydraulic oil prior to installation. Install a new O-ring into the fitting and, if necessary, retain in position using petroleum jelly. Assemble the new hose or tube assembly and tighten the fitting finger tight, while holding the tube or hose assembly to prevent it from turning.

Use two suitable wrenches and tighten the fitting to the specified torque according to the size of the fitting.

NOTE: to ensure a leak-free joint is obtained, it is important that the fittings are not over or under torqued.

SHIMMING

At each adjustment, select adjusting shims, measure them individually using a micrometre and then sum up recorded values.

Do not rely on measuring the whole shimming set, which may be incorrect, or on rated value indicated for each shim.

ROTATING SHAFT SEALS

To correctly install rotating shaft seals, observe the following instructions:

- let the seal soak into the same oil as it will seal for at least half an hour before mounting;
- thoroughly clean the shaft and ensure that the shaft working surface is not damaged;

- place the sealing lip towards the fluid. In case of a hydrodynamic lip, consider the shaft rotation direction and orient grooves in order that they deviate the fluid towards the inner side of the seal;
- coat the sealing lip with a thin layer of lubricant (oil rather than grease) and fill with grease the gap between the sealing lip and the dust lip of double lip seals;
- insert the seal into its seat and press it down using a flat punch. Do not tap the seal with a hammer or a drift;
- take care to insert the seal perpendicularly to its seat while you are pressing it. Once the seal is settled, ensure that it contacts the thrust element if required;
- to prevent damaging the sealing lip against the shaft, place a suitable protection during installation.

O-RINGS

Lubricate the O-rings before inserting them into their seats. This will prevent the O-rings from rolling over and twisting during mounting which will jeopardize sealing.

BEARINGS

It is advisable to heat the bearings to 80 to 90 °C before mounting them on their shafts and cool them down before inserting them into their seats with external tapping.

SPRING PINS

When mounting split socket spring pins, ensure that the pin notch is oriented in the direction of the effort to stress the pin.

Spiral spring pins should not be oriented during installation.

HARDWARE TORQUE VALUES

Check the tightness of hardware periodically. Use the following charts to determine the correct torque when checking, adjusting or replacing hardware on the Backhoe loader.

IMPORTANT: Torque values listed are for general use only. Make sure fastener threads are clean and not damaged.

NOTE: a torque wrench is necessary to properly torque hardware.

NOTES FOR SPARE PARTS

Only genuine parts guarantee same quality, life, safety as original components as they are the same as mounted in production. Only the genuine spare parts can offer this guarantee.

All spare parts orders should be complete with the following data:

- machine model (commercial name) and chassis number;
- engine type and number;
- part number of the ordered part, which can be found on the "Spare Parts Catalogue", which is the base for order processing.

NOTES FOR EQUIPMENT

Equipment which proposes and shows in this manual are as follows:

- studied and designed expressly for use on company machines;
- necessary to make a reliable repair;
- accurately built and strictly tested to offer efficient and long-lasting working means.

We also remind the repair personnel that having these equipment means:

- work in optimal technical conditions;
- obtain best results;
- save time and effort;
- work more safely.

NOTICES

Wear limits indicated for some details should be intended as advised, but not binding values. The words "front", "rear", "right hand", and "left hand" referred to the different parts should be intended as seen from the operator's seat oriented to the normal sense of movement of the machine.

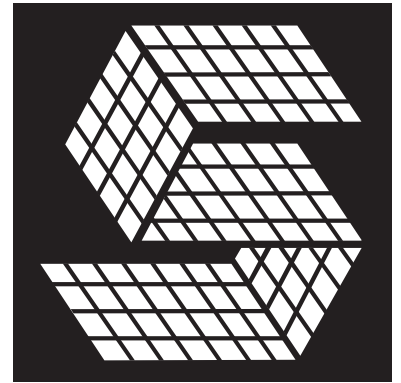
HOW TO MOVE THE MACHINE WITH THE BATTERY REMOVED

Cables from the external power supply should be connected exclusively to the respective terminals of the Machine positive and negative cables using pliers in good condition which allow proper and steady contact.

Disconnect all services (lights, wind-shield wipers, etc.) before starting the Machine.

If it is necessary to check the machine electrical system, check it only with the power supply connected. At check end, disconnect all services and switch the power supply off before disconnecting the cables.

LB90.B
LB95.B
LB110.B
LB115.B



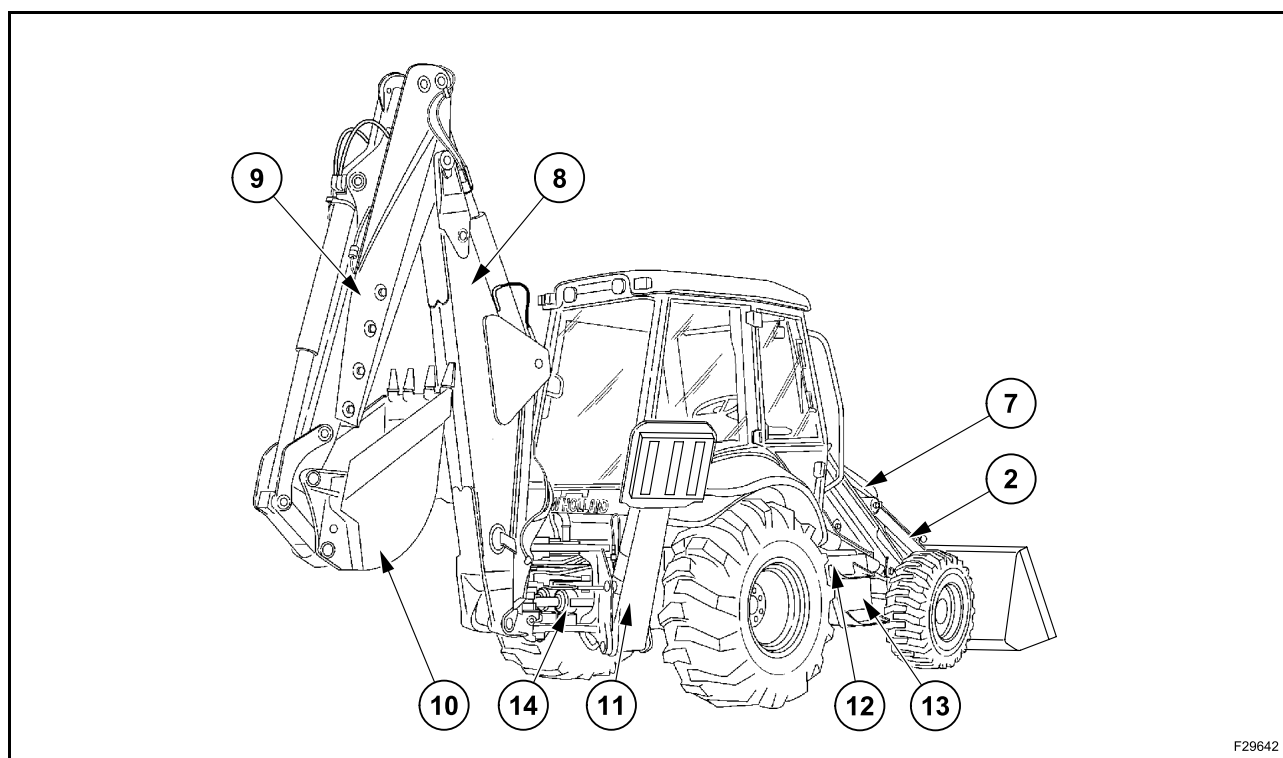
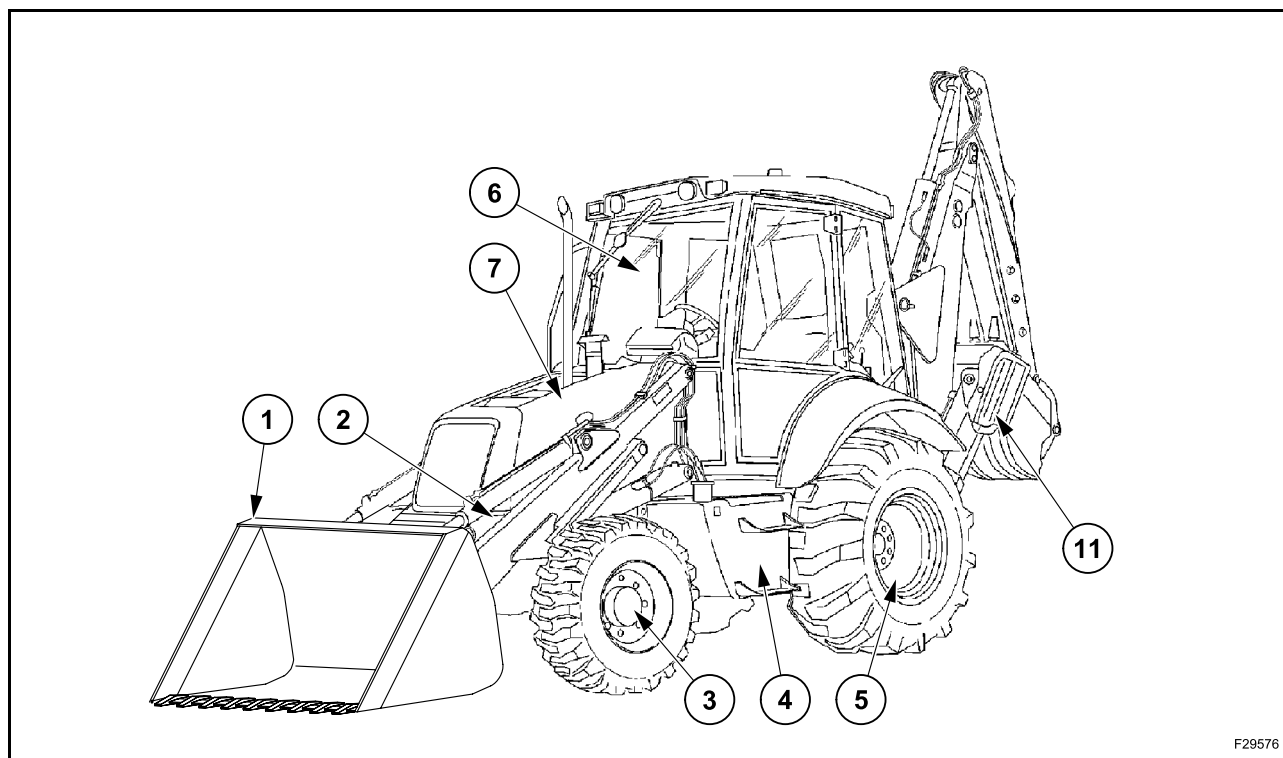
SECTION 02 - TECHNICAL SPECIFICATIONS

1. MODELS	3
2. IDENTIFICATION OF MAIN COMPONENTS	4
3. TECHNICAL SPECIFICATIONS	5
4. LOADER ATTACHMENT DIMENSIONS AND PERFORMANCE	9
5. BACKHOE ATTACHMENT DIMENSIONS AND PERFORMANCE	13
6. LIFTING CAPACITIES	18
7. LOADER BUCKET WITH FORKS DIMENSIONS AND PERFORMANCE	23
8. FLUID AND LUBRICANT CAPACITIES AND SPECIFICATIONS	24

1. MODELS

	LB90.B	LB95.B	LB110.B	LB115.B
Powershift	/	/	•	•
Powershuttle	•	•	•	/
Stabilizer sideshift	•	•	•	•
Stabilizer centre pivot	/	/	•	•
Cab	•	•	•	•
Rops	•	/	/	/
2WD	•	/	/	/
4WD	•	•	•	•
4WS	/	/	/	•
Pilot control	•	•	•	•
Mechanical control	•	•	•	•
Engine Iveco 71 kW - 95 HP model F4GE0454C*D660	•	•	/	/
Engine Iveco 82 kW - 110 HP model F4GE0484C*D660	/	/	•	/
Engine Iveco 82 kW - 110 HP (4WS) model F4GE0484C*D655	/	/	/	•
Short dipper	•	/	/	/
Long dipper	/	•	•	•

2. IDENTIFICATION OF MAIN COMPONENTS



- | | |
|---------------------------------|--|
| 1. Loader bucket | 8. Backhoe boom |
| 2. Loader arm | 9. Backhoe dipper or telescopic dipper |
| 3. Front axle (2WD or 4WD) | 10. Backhoe bucket |
| 4. Fuel tank | 11. Stabilizers |
| 5. Rear axle | 12. Battery box |
| 6. Operator's compartment - cab | 13. Hydraulic tank |
| 7. Engine side panels | 14. Swing cylinders |

3. TECHNICAL SPECIFICATIONS

ENGINE - IVECO 95 HP - 71 KW MODEL F4GE0454C*D660 (LB90.B - LB95.B)

Power	95 hp/ 71 kW, turbocharged
Type	Diesel
No. of cylinders	4
Bore	104 mm
Stroke	132 mm
Displacement	4500 cm ³
Compression Ratio	17.5:1
Firing Order	1.3.4.2
Idle Speed	850-950 rev/mn
Maximum "No-Load" Speed	2380-2480 rev/mn
Maximum "Full Load" Speed	2225-2275 rev/mn
Maximum Torque (CEE)	398 Nm

ENGINE - IVECO 110 HP - 82 KW MODEL F4GE0484C*D660 (LB110.B) D655 (LB115.B)

Power	110 hp/ 82 kW, turbocharged - Charge Air Cooled
Type	Diesel
No. of cylinders	4
Bore	104 mm
Stroke	132 mm
Displacement	4500 cm ³
Compression Ratio	17.5:1
Firing Order	1.3.4.2
Idle Speed	850-950 rev/mn
Maximum "No-Load" Speed	2380-2480 rev/mn
Maximum "Full Load" Speed	2225-2275 rev/mn
Maximum Torque (CEE)	480 Nm

COOLING SYSTEM

Type	Pressurized Full Flow
Fan Belt Type	8 Groove Serpentine
Fan Belt Tension	Automatic tensioner
Air Conditioning Compressor Belt	Single V
Air Conditioning Belt Tension	Manual
Thermostat:	
Starts to Open at	81 °C
Fully Open at	96 °C
Radiator Cap	0.90 bar

FUEL SYSTEM

Injection Pump Manufacture and Type	Bosch Rotary VE 4/12 F1100L
Cold Start Device	Optional Grid Heater
Excess Fuel Device	Automatic
Fuel Shut Off	Solenoid
Lift Pump	Mechanical
Fuel lift pump supply pressure to injection pump	245 bar
Timing	1 mm lift @ TDC

TRANSMISSION (LB90.B - LB95.B - LB110.B)

Transmission TURNER Model COM-T4-2025 POWERSHUTTLE 4x4 = 4 Forward and 4 Reverse Gears

Torque Convertor Ratio..... 2.38:1

Transmission DANA T16000 POWERSHIFT 4x2 = 4 Forward and 2 Reverse Gears

Torque Convertor Ratio..... 2.54:1

TRANSMISSION (LB115.B)

Transmission DANA T16000 POWERSHIFT 4x2 = 4 Forward and 2 Reverse Gears

Torque Convertor Ratio..... 2.54:1

ELECTRICAL SYSTEM

Alternator Type..... BOSCH NCBI 28 90 amp

Battery Type..... 95 amp hr (12V/900 CCA) SAE - Single

..... 60 amp hr (12V/600 CCA) SAE - Double

Battery Disconnect via the Isolator Switch on Negative/chassis cable

Regulator..... Transistorized

Ground (Earth)..... Negative

Starting Motor..... Positive Engagement, Solenoid Operated (2.7 kW)

BRAKES

Type Wet Multi-Discs x8 per Axle (x4 per half Axle)

Disc Diameter..... 203.2 mm

Parking Type Single disc on driveline

STEERING

Power Steering Type..... Hydrostatic

Power Steering Displacement 2WS 125 cc/rev

Power Steering Displacement 4WS 160 cc/rev

Turns Lock to Lock 2WD + 4WD Left 3.25; Right 3.25

System Pressure 177 ± 3 bar

FRONT AXLE

Type (2WD)..... CARRARO mod. 26.00 steering

Type (4WD)..... CARRARO mod. 26.16 steering, single reduction

Type (4WS)..... CARRARO mod. 26.28 steering, single reduction

REAR AXLE

Type (2WS)..... Double Reduction, Inboard Planetary

Type (4WS)..... CARRARO mod. 26.32 steering, double reduction

Differential Lock (Powershuttle Transmission)..... Mechanical

Differential Lock (Powershift Transmission)..... Electrically Operated

HYDRAULIC SYSTEM

Hydraulic pump:

- Manufacturer..... CASAPPA

- Type..... Twin Gear Pump; Hydraulic System and Priority Steering System

- 95HP Model KP30.34-0556-LMF

- 110HP Model KP30.38-0556-LMF

Pump Displacement:

- 95 HP 35.427 + 35.427 cm³/rev (34 + 34 cc)- 110 HP 40.258 + 35.427 cm³/rev (38 + 34 cc)

Hydraulic System Pressure:

Main Relief Valve Pressure..... 206 - 210 bar

Stabilizer Relief Valve Pressure..... 196 - 202 bar

FRONT COUNTERWEIGHT

Weight.....	225.4 kg
Weight (extra counterweight).....	26.2 kg + 31.5 kg
Weight (LB115.B).....	170 kg

RADIATOR COOLANTS

Anti-freeze should be changed every 2000 hours or 24 months.

In order to reduce deposits and corrosion, water in the cooling system should not exceed the following limits:

Total hardness	300 parts per million
Chloride.....	100 parts per million
Sulphates	100 parts per million

NOISE LEVEL

Certified by the manufacturer.

In accordance with European directive 2000/14/EC - Stage II.

Internal noise level (LpA)	77 decibels
External noise level (LwA) (LB90.B - LB95.B)	102 decibels
External noise level (LwA) (LB110.B - LB115.B)	103 decibels

VIBRATION LEVEL INSIDE THE CAB

Upper members level lower than 2.5 m/s²

Abdomen..... level lower than 0.5 m/s²

LOADER BUCKETS

2WS	Type	Standard	4 x 1	6 x 1 (with forks)
	Heaped capacity	1.0 m ³	1.0 m ³	1.0 m ³
	Width	2250 mm	2250 mm	2250 mm
	Weight	400 kg	600 kg	745 kg
4WS	Heaped capacity	1.2 m ³	1.2 m ³	1.2 m ³
	Width	2350 mm	2350 mm	2350 mm
	Weight	460 kg	695 kg	840 kg

BACKHOE BUCKETS

Struck capacity SAE J 296	Width	Weight
76 L	305 mm	108 kg
109 L	457 mm	130 kg
153 L	610 mm	160 kg
196 L	762 mm	180 kg
238 L	914 mm	208 kg

TYRES - 2WS

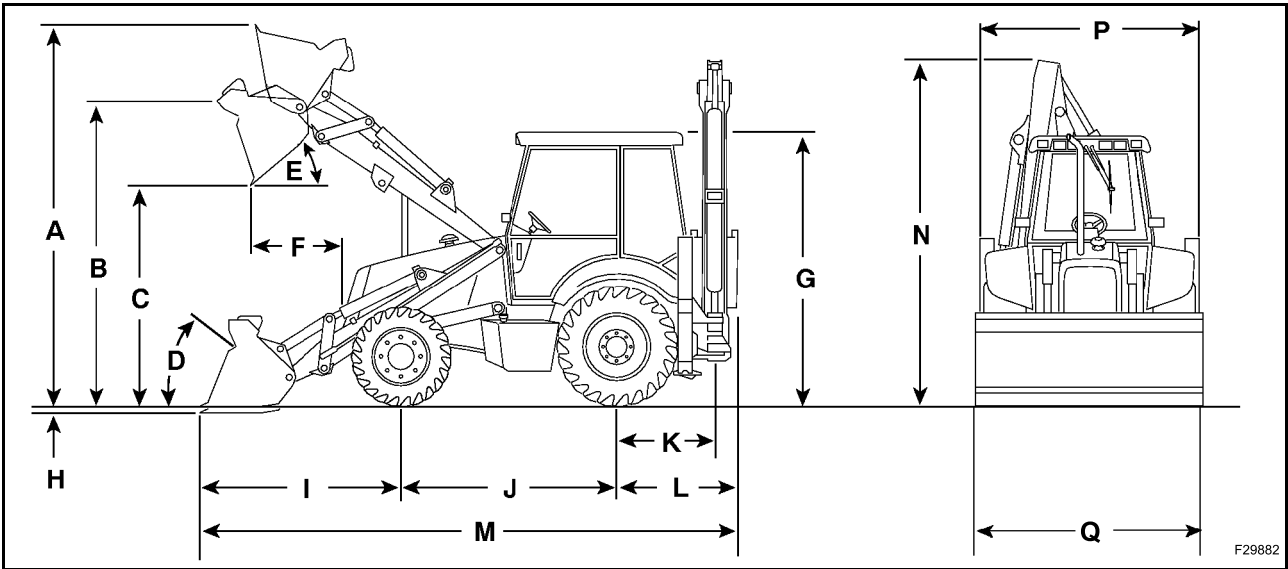
	Front tyre	Rear tyre
2WD	11L - 16 F3 12PR	18.4 - 26 R4 10PR
	11L - 16 F3 12PR	16.9 - 28 R4 10PR
4WD	12.5/80 - 18 I3	18.4 - 26 R4 10PR
	10.5/80 - 18 I3	16.9 - 28 R4 10PR
	320/80 R18 IT 520	480/80 R26

TYRES - 4WS

Front and Rear tyre
16.9/24 R4 12PR
16.9/28 R4 12PR
440/80 R28 IT520
440/80 R28 IT530

4. LOADER ATTACHMENT DIMENSIONS AND PERFORMANCE

LB90.B - LB95.B - LB110.B (SIDESHIFT VERSION)



TYRES	FRONT	REAR
2WD	11L-16F	18.4-26
4WD	12.5/80-18	18.4-26

Dimensions	2WD	4WD
A	4240 mm	4359 mm
B	3411 mm	3530 mm
C	2649 mm	2785 mm
D	40°	40°
E	45°	45°
F	830 mm	786 mm
G	2950 mm	2950 mm
H	181 mm	55 mm
I	2030 mm	1942 mm
J	2175 mm	2175 mm
K	1325 mm	1325 mm
L	1630 mm	1630 mm
M	5849 mm	5747 mm
N	4000 mm	4000 mm
P	2430 mm	2430 mm
Q	2250 mm	2250 mm
Performance	2WD	4WD
Lift capacity at maximum height	3425 kg	3553 kg
Breakout force	6194 daN	6176 daN