Operating & Maintenance Manual

Wheel Loader

WL440-A

This manual contains important safety information.
Do not destroy this manual.
This manual must be available to the personnel who operate and maintain this machine.

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Mocksville, N.C. 27028

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TABLE OF CONTENTS
Operating & Maintenance Manual

TITLE PAGE

INTRODUCTION 5

1 Introduction 6
1.1 General 6
1.2 Warranty 7
1.3 Notes on Using the Instruction Book 9
1.4 Environmental Requirements 9
1.5 Pictograms 10

SAFETY & PREVENTION OF ACCIDENTS 15

2 Safety & Prevention of Accidents 16
2.1 Introductory Remarks 16
2.2 Proper Use 16
2.3 General Safety Notes 17
2.4 Operation 17
2.5 Danger Zone 18
2.6 Transport of Persons 18
2.7 Stability 18
2.8 Travel Operation 19
2.9 Operation 19
2.10 Guides 20
2.11 Danger of Falling Objects 20
2.12 Working in the Vicinity of Underground Power Lines 20
2.13 Working in the Vicinity of Overhead Power Lines 21
2.14 Operation in Closed Rooms 21
2.15 Work Stoppages 22
2.16 Change of Work Attachments, Maintenance, Repair 22
2.17 Tie Down, Loading & Transportation 24
2.18 Monitoring & Inspections 24
2.19 Fire Protection 25
2.20 Emergency Exit 25
2.21 Other Dangers 25

TECHNICAL DATA 27

3 Technical Data 28
3.1 Diesel Engine 28
3.2 Electrical System 28
3.3 Travel Drive 29
3.5 Hydraulic System 30
3.6 Axles 31
3.7 Tires 31
3.8 Fuels, Lubricants & Coolants 32
3.8.1 Filling Quantities: 32

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TABLE OF CONTENTS
Operating & Maintenance Manual

TITLE PAGE

3.8.2 Fuel, Lubricant & Coolant Specifications . . . 33
3.9 Permissible Loads . . . 34
3.10 Sound Level Values & Vibration . . . 35
3.11 Dimensions & Weights . . . 35
3.12 Front Loader Installation . . . 36
3.13 Loader Buckets . . . 37
3.14 Fork Lift Attachment . . . 37
3.15 Optional Accessories . . . 39

OPERATION . . . 41

4 Operation . . . 42
4.1 First Commissioning . . . 42
4.2 Operator Controls & Display Elements . . . 43
4.3 Engine . . . 48
4.3.1 Starting the Engine . . . 48
4.3.2 Monitoring during Operation . . . 50
4.3.3 Switching off the Engine . . . 50
4.4 Driver's Seat/Steering Wheel Tilt Adjustment . . . 51
4.5 Heating/Ventilation . . . 53
4.6 Light Switch . . . 54
4.7 Hydroinflation of Tires . . . 55
4.8 Driving, Steering & Braking . . . 56
4.8.1 Driving . . . 56
4.8.2 Steering . . . 59
4.8.3 Braking . . . 60
4.8.4 Road Travel . . . 61
4.8.5 Parking the Machine . . . 63

LOADING OPERATION . . . 65

5. Loading Operation . . . 66
5.1 General . . . 66
5.2 Loader Operation . . . 66
5.3 Changing Work Attachments . . . 69
5.3.1 General . . . 69
5.3.2 Assembly of Work Attachments . . . 70
5.4 Notes on How to Work with the Machine . . . 73
5.4.1 Loading . . . 73
5.4.2 Scraping, Grading . . . 73
5.4.3 Excavation Work . . . 73

TOWING & TRANSPORT . . . 75

6 Towing & Transport of the Machine . . . 76
6.1 Towing of the Machine . . . 76
6.2 Loading the Machine Using a Crane . . . 78
6.3 Transporting the Machine . . . 79

MidWestTech | Bobcat WL440-A Wheel Loader Operating & Maintenance Manual | Publica... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS
Operating & Maintenance Manual

TITLE PAGE

CARE & MAINTENANCE 81

7 Care & Maintenance 82
7.1 General Notes 82
7.2 Intervals 82
7.3 Regular Oil Analysis 83
7.4 Warranty 83
7.5 Inspection Parts & Aids 85
7.6 Care & Cleaning 86
7.7 Notes for Winter Operation 87
7.8 Checking, Maintenance & Inspection Plans 88
7.8.1 Initial Inspection (Delivery/Handing-Over Inspection) 88
7.8.2 Daily and Weekly Tasks 90
7.8.3 Overview of Lubricating Points 93
7.8.4 Inspection Plan 95
7.9 Inspection & Maintenance Work 98
7.9.1 Engine Oil 98
7.9.2 Engine Oil Filter 100
7.9.3 Cooling System 101
7.9.4 Fuel System 102
7.9.5 Air Filter & Air Intake 106
7.9.5.1 Dust Extraction Valve 106
7.9.5.2 Air Intake 106
7.9.5.3 Cartridge Maintenance Interval 107
7.9.5.4 Replacing Cartridges 108
. 110
7.9.5.5 Cleaning the Main Cartridge 110
7.9.6 V-Belts 110
7.9.7 Brakes 112
7.9.8 Hydraulic Oil 114
7.9.9 Hydraulic Oil Cooler 116
7.9.10 Hydraulic Oil Filter 117
7.9.11 Breather 119
7.9.12 Axles 120
7.9.13.1 Front Axle Differential 121
7.9.13.2 Differential of Rear Axle with Transmission 122
7.9.13.3 Wheel Hub 123
7.9.14 Wheels 124
7.9.15 Electrical Equipment 125
7.9.16 Cab Ventilation Dust Filter 127
7.9.17 Windshield Washer System 128
7.10 Shutdown 129
7.10.1 Preservation (Temporary Shutdown) 129
7.10.2 During Shutdown 129
7.10.3 After Shutdown 130

TROUBLE-SHOOTING 131

8 Trouble-Shooting 132
8.1 General 132
8.2 Engine 132

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3.8.2 Fuel, Lubricant & Coolant Specifications

Application	Code designation according to BI[1)]	Prescribed fuels, lubricants & coolants for Central Europe		Remarks
		Designation	Specification, Standards, Quality	
Engine		Diesel fuel	DIN 51601 ASTM D975 1-D / 2-D	**NOTICE** **Before using RME-fuels (rape oil methyl ester), it is essential to consult your responsible *INGERSOLL-RAND* dealer for further details.**
Engine	EO 1540 A	Engine oil	SAE 15W-40 API CF4 ACEA E3 or E2	See also engine manufacturer's instructions
Engine		Coolant	Antifreeze based on Ethylene Glycol	Also, see engine mfg. instructions
Hydraulic system	HYD 1040	Hydraulic oil or multi-grade engine oil	HVLP D 68 or SAE 10W-40	**The following viscosity limit values must be kept (according to ASTM 445)** at 100°C min. 10 mm²/s (cSt) at -10°C approx. 1,500 mm²/s (cSt)
	BIO-E-HYD-HEES	Biodegradable hydraulic oil on synthetic ester base	Filling according to customer specifications. Brand label on machine. r mineral hydraulic oils. **NOTICE** **When changing from mineral to Do not mix biodegradable oils of different suppliers.**	The same viscosity specifications apply as for mineral hydraulic oils. **NOTICE** **When changing from mineral to biodegradable hydraulic oils, the tank and hydraulic system must be completely drained, cleaned and flushed.** **For further details before changing oils, please consult your responsible *INGERSOLL-RAND* dealer.**
Axles	GO 90 LS	Transmission oil	SAE 85W-90LS API-GL 5	Alternative recommendations SAE 90LS SAE 80W-90LS
Lubricating points	MPG-A	Multi-purpose, lithium-soap based grease	K2K-30 DIN 51825	
Brake	ATF	Brake oil	ATF Type A Suffix A Dexron-IID	

[1)] In conformity with the regulation lubricants of the Main Association of the German Building Industry e.V.

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Continuous Operation - Additional Control Circuit

- Press switch twice to the left to activate continuous operation of additional control circuit (22.47).
- Press right-side/left-side push button switch (22/5) to control direction of hydraulic oil flow.
- Deactivate additional control circuit by pushing switch once to the right or by shutting off machine.

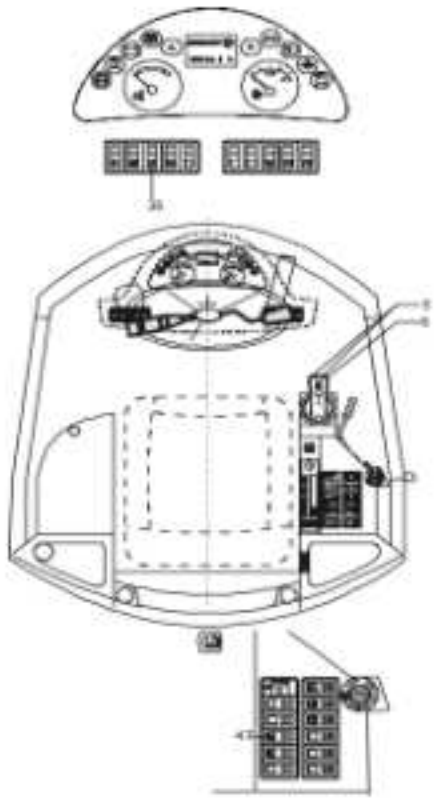


Fig. 22 - Operation

NOTICE

Observe the function of the attachment (e.g. rotating direction of attachment).

NOTICE

The additional control circuit must always be switched off unless additional equipment is actuated.

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7.9.5.3 Cartridge Maintenance Interval

Air Filter-Main Cartridge

- The air filter main cartridge must be replaced as soon as the filter maintenance indicator lamp (44/32) on the instrument panel lights up during operation.
- Brief delay in maintenance does not result in lower filter efficiency.

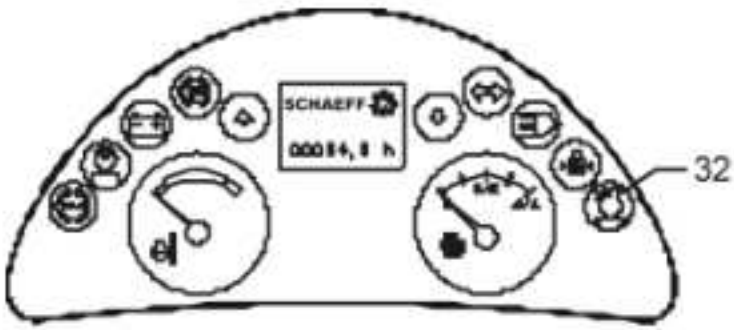


Fig. 44 - Operation

Air Filter-Safety Cartridge

The air filter safety cartridge must be replaced in the following cases:

- After the fifth maintenance of the main cartridge
- After 2 years of operation at the latest
- If the service indicator switches on after the main cartridge has just been serviced
- If the main cartridge is damaged
- If the safety cartridge is damaged

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1.3 Notes on Using the Instruction Book

References to pictures and items

The references to pictures and items contained in the text, such as *"Figure 12/4"* or *"12/4"* mean Figure 12, Item 4.

Look for these signs on the machine.

⚠ DANGER (Red Background) — Indicates the presence of a hazard which WILL cause serious injury, death or property damage, if ignored.

⚠ WARNING (Orange Background) — Indicates the presence of a hazard which CAN cause serious injury, death or property damage, if ignored.

⚠ CAUTION (Yellow Background) — Indicates the presence of a hazard which WILL or can cause injury or property damage, if ignored.

NOTICE (Blue Background) — Indicates important set-up, operating or maintenance information.

1.4 Environmental Requirements

Applicable environmental requirements must be observed for all tasks performed on and with the machine.

During installation, repair and maintenance tasks, particular care must be taken that substances that would damage the environment such as

- Lubricating grease and oil
- Hydraulic oil
- Fuel
- Coolants
- Cleaning fluids containing solvents

are not allowed to come in contact with the soil or the water system.

These substances must be stored in suitable containers and must be properly transported, collected and disposed of.

If the substances listed above do reach the soil, the leak or outlet must be stopped immediately and the fluid must be cleaned up with a suitable absorbent material. If necessary, the soil involved must be removed. Absorbent materials and removed soil must be disposed of

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7.9.5.5 Cleaning the Main Cartridge

NOTICE

Never wash or brush out the main cartridge.

7.9.6 V-Belts

Checking the Condition of V-Belts

⚠ WARNING

Only check and tension V-belts with the engine off!

Danger of injury!

- Visual check of complete V-belts.

NOTICE

Replace worn or damaged V-belts immediately.

Checking the V-Belt Tension

NOTICE

To check the V-belt tension, a tension gauge is recommended. Check the tension according to the manufacturer's operating instructions.

Checking the V-Belt Tension without a Belt Tension Gauge

- To check the tension, press the V-belt with your thumb in the middle of the greatest free length, and measure the sag.
- Using medium thumb pressure of approx. 45 N, the V-belt sag (A) should equal 10 - 15 mm.

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