

Manitowoc

SERVICE/MAINTENANCE MANUAL

This manual has been prepared for and is considered part of -

1000B-1

Model Number

1200Ref

Serial Number

This manual is divided into the following sections:

	SAFETY SECTION
SECTION 1	REFERENCE MATERIALS
SECTION 2	TEST PROCEDURES
SECTION 3	GENERAL
SECTION 4	POWER TRAIN
SECTION 5	HYDRAULIC SYSTEM
SECTION 6	HOIST SYSTEM
SECTION 7	BOOM HOIST SYSTEM
SECTION 8	SWING SYSTEM
SECTION 9	PROPEL SYSTEM
SECTION 10	ELECTRICAL SYSTEM
SECTION 11	AIR CONDITIONER
SECTION 12	TRANSLIFTER SYSTEM
SECTION 13	TROUBLESHOOTING

NOTICE

The serial number of the crane is the only method Manitowoc has of providing you with correct parts and service information.

Always furnish serial number of crane and its attachments when ordering parts or discussing service problems with your Manitowoc distributor or the factory.



WARNING

To prevent death or serious injury:

- Avoid unsafe operation and maintenance.
Crane and attachments must be operated and maintained by trained and experienced personnel. Manitowoc is not responsible for qualifying these personnel.
- Do not operate or work on crane or attachments without first reading and understanding instructions contained in Operator Information Manual and Service Manual supplied with crane and applicable attachments.
- Store Operator Information Manual and Service Manual in operator's cab.

If Operator Information Manual or Service Manual is missing from cab, contact your Manitowoc distributor for a new one.

THIS PAGE INTENTIONALLY LEFT BLANK

SAFETY

1. REFERENCE MATERIALS

1.1	10000B-1 SPECIFICATION	1-3
1.1.1	OUTER DIMENSION.....	1-3
1.1.2	CRANE SPECIFICATION, PERFORMANCE.....	1-6
1.1.3	CRANE WORKING RANGES	1-8
1.2	10000B-1 DIMENSION, WEIGHT OF EACH COMPONENT	1-11
1.2.1	MAIN MACHINERY	1-11
1.2.2	COUNTERWEIGHT.....	1-13
1.2.3	CRANE ATTACHMENT.....	1-15
1.2.4	LUFFING ATTACHMENT.....	1-18
1.3	10000B-1 SWING AND PROPEL STABILITY.....	1-21
1.4	10000B-1 PROPEL ALLOWABLE SLOPE ANGLE	1-23
1.4.1	CRANE ATTACHMENT INSTALLED : BOOM INSERT CONFIGURATION.....	1-23
1.4.2	LUFFING JIB ATTACHMENT.....	1-30
1.5	ENGINE MAIN SPECIFICATION	1-56

2. MAINTENANCE STANDARDS TEST PROCEDURES

2.1	MAINTENANCE STANDARD.....	2-3
2.1.1	PIN, BUSHING, SPRING, LINING AND SHEAVE	2-3
2.1.2	PROPEL DEVICE.....	2-10
2.2	PERFORMANCE STANDARD AND TEST PROCEDURE	2-17
2.2.1	OPERATING SPEED	2-18
2.2.2	POINT AND METHOD OF MEASURING PRESSURE	2-19
2.2.3	SLEWING RING	2-24

3. GENERAL WORK STANDARD

3.1	TIGHTENING TORQUE OF CAP SCREWS AND NUTS	3-3
3.1.1	STANDARD TIGHTENING TORQUE	3-3
3.1.2	TIGHTENING TORQUE OF HYDRAULIC FITTINGS	3-6
3.2	STANDARD PARTS.....	3-8
3.2.1	BOLT	3-8
3.2.2	O-RING.....	3-9
3.2.3	BACK-UP RING.....	3-10
3.2.4	BITE TYPE FITTING	3-11
3.3	CONVERSION TABLE	3-13
3.3.1	UNIT CONVERSION	3-13

TABLE OF CONTENTS

3.3.2	MILLIMETER : INCH CONVERSION TABLE.....	3-14
3.3.3	METER AND FOOT CONVERSION TABLE.....	3-16
3.3.4	GRADE CONVERSION TABLE.....	3-17
3.3.5	UNIT WEIGHT TABLE.....	3-17
3.3.6	SYSTEM INTERNATIONAL (SI) UNIT CONVERSION TABLE.....	3-18
4. POWER TRAIN		
4.1	INTRODUCTION.....	4-3
4.2	ENGINE.....	4-7
4.2.1	INTRODUCTION.....	4-7
4.2.2	REMOVAL.....	4-7
4.2.3	REPAIR AND MAINTENANCE.....	4-9
4.2.4	INSTALLATION.....	4-9
4.3	PUMP DRIVE ASSEMBLY.....	4-12
4.3.1	INTRODUCTION.....	4-12
4.3.2	REMOVAL.....	4-13
4.3.3	DISASSEMBLING THE POWER DIVIDER.....	4-16
4.3.4	CHECK AND REPAIR OF THE POWER DIVIDER.....	4-18
4.3.5	ASSEMBLING THE POWER DIVIDER.....	4-19
4.3.6	RE-INSTALLATION.....	4-20
5. HYDRAULIC SYSTEM		
5.1	LOCATION OF MAIN HYDRAULIC COMPONENTS.....	5-3
5.2	HYDRAULIC CIRCUITS AND COMPONENTS.....	5-9
5.2.1	COMPONENT SPECIFICATIONS.....	5-9
5.2.2	LAYOUT OF HYDRAULIC COMPONENTS.....	5-14
5.3	HYDRAULIC SYSTEM.....	5-27
5.3.1	PREFACE.....	5-27
5.3.2	OUTLINE.....	5-27
5.3.3	OIL FLOW FROM No.1-1, No.1-2.....	5-28
5.3.4	OIL FLOW FROM No.3-1, 3-2 PUMP.....	5-30
5.3.5	OIL FLOW FROM No.4-1 PUMP.....	5-32
5.3.6	OIL FLOW FROM No.4-2 PUMP.....	5-36
5.3.7	OIL FLOW FROM No.5-1, 5-2 PUMP (CONTROL/AUX.ACTUATOR).....	5-38
5.4	VALVE.....	5-40
6. HOIST SYSTEM		
6.1	APPARATUS AND LOCATION OF COMPONENTS.....	6-3
6.2	ADJUSTMENT OF DRUM LOCK.....	6-5

TABLE OF CONTENTS

6.3	WINCH	6-6
6.3.1	WINCH INSTALLATION	6-6
6.3.2	WINCH ASSEMBLY	6-8
6.3.3	REDUCTION UNIT ASSEMBLY	6-10
6.4	BRAKE PEDAL.....	6-12
6.4.1	ASSEMBLY DRAWING	6-12
6.4.2	ADJUSTING THE BRAKE PEDAL	6-14
6.5	BLEEDING AIR FROM BRAKE CIRCUIT	6-15
6.6	CONSTRUCTION AND FUNCTION	6-17
6.6.1	HYDRAULIC SCHEMATIC	6-17
6.6.2	LIFTING A LOAD	6-20
6.6.3	HOLDING A RAISED LOAD	6-24
6.6.4	LOWERING A LOAD (POWER LOWERING)	6-28
6.6.5	FREE FALL OPERATION	6-32
6.6.6	G WINCH MODE LIFTING	6-42
6.6.7	G WINCH MODE LOWERING	6-46
7. BOOM HOIST SYSTEM		
7.1	APPARATUS AND LOCATION OF COMPONENTS	7-3
7.2	BOOM HOIST WINCH INSTALLATION.....	7-5
7.3	BOOM DRUM LOCK.....	7-6
7.3.1	ASSEMBLY DRAWING	7-6
7.3.2	ADJUSTING THE BOOM DRUM LOCK.....	7-7
7.4	REDUCTION UNIT.....	7-8
7.5	CONSTRUCTION AND FUNCTION	7-11
7.5.1	HYDRAULIC SCHEMATIC.....	7-11
7.5.2	RAISING THE BOOM.....	7-12
7.5.3	NEUTRAL (HOLDING BOOM)	7-14
7.5.4	LOWERING BOOM	7-16
8. SWING SYSTEM		
8.1	APPARATUS AND LOCATION OF COMPONENTS	8-3
8.2	CONSTRUCTION AND FUNCTION	8-4
8.2.1	HYDRAULIC SCHEMATIC.....	8-4
8.2.2	SWING.....	8-6
8.2.3	STOPPING	8-9
8.3	SWING REDUCTION UNIT.....	8-12
8.4	SWING BEARING	8-15
8.5	SWING LOCK.....	8-17

TABLE OF CONTENTS

9. PROPEL SYSTEM

9.1 APPARATUS AND LOCATION OF COMPONENTS	9-3
9.2 PROPEL REDUCTION UNIT	9-4
9.2.1 REDUCTION UNIT	9-6
9.2.2 MOTOR	9-8
9.3 ADJUSTMENT	9-10
9.4 CONSTRUCTION AND FUNCTION	9-11
9.4.1 HYDRAULIC SCHEMATIC.....	9-11
9.4.2 PROPELLING (RIGHT SIDE FORWARD)	9-12
9.4.3 STOPPING	9-14

10. ELECTRIC SYSTEM

10.1 ELECTRICAL	10-3
10.1.1 ELECTRICAL WIRING SCHEMATIC	10-3
10.1.2 CONNECTOR LAYOUT	10-21
10.1.3 LOCATION AND USE OF FUSE.....	10-149
10.1.4 WIPER CONTROL RELAY (2479R1366)	10-155
10.1.5 PRESSURE SWITCH (FOR PROPEL MOTION DETECT)	10-156
10.1.6 PRESSURE SWITCH (FOOT BRAKE)	10-157
10.1.7 PRESSURE SENSOR.....	10-158
10.1.8 INCLINATION SENSOR.....	10-162
10.1.9 BUZZER UNIT	10-163
10.1.10 RELAY BOX (GG24E00038F1).....	10-165
10.1.11 RELAY BOX (GG24E00036F1).....	10-176
10.1.12 LOAD CELL (CRANE).....	10-180
10.1.13 ANGLE SENSOR	10-181
10.1.14 TROUBLESHOOTING OF EXHAUST GAS THIRD REGULATION ENGINE.	10-182
10.1.15 HOW TO CHECK THE FAILURE CONTENTS	10-183
10.1.16 CHECKING OF DIAGNOSIS LAMP FUNCTION	10-189
10.1.17 ENGINE ECU	10-190
10.2 LOAD SAFETY DEVICE	10-192
10.2.1 CONFIGURATION OF SCREENS	10-193
10.2.2 SYSTEM DAIGRAM	10-194
10.2.3 MONITOR INDICATION.....	10-195
10.2.4 DETAIL OF MOMENT LIMITER CONNECTOR.....	10-201
10.2.5 SHIFTING TO MAINTENANCE SCREEN.....	10-214
10.2.6 INPUT, OUTPUT SIGNAL	10-216
10.2.7 ML FUNCTION SETTING	10-225
10.2.8 DATA COPY, FORMAT	10-229

TABLE OF CONTENTS

10.2.9 LANGUAGE, UNIT SETTING	10-235
10.2.10ML ADJUSTMENT (NORMAL).....	10-236
10.2.11ML ADJUSTMENT (TEMPORARY)	10-264
10.2.12OPERATION PROGRESS	10-265
10.2.13VERSION INFORMATION	10-267
10.2.14FAILURE HISTORY.....	10-268
10.2.15ADJUSTMENT DATA	10-272
10.2.16DOWNLOAD ML PROGRAM.....	10-280
10.2.17DOWNLOAD OF MONITOR PROGRAM.....	10-282
10.3 MAIN CONTROLLER	10-288
10.3.1 ARRANGEMENT OF MAIN CONTROLLER	10-288
10.3.2 COMPOSITION OF SYSTEM	10-289
10.3.3 FUNCTION OF MAIN CONTROLLER.....	10-290
10.3.4 MAIN CONTROLLER 1, 2 (HARDWARE).....	10-332
10.3.5 SPECIFICATIONS OF MAIN CONTROLLER OUTPUT	10-333
10.3.6 ARRANGEMENT OF MAIN CONTROLLER CONNECTOR PIN	10-341
10.3.7 ADJUSTMENT OF MAIN CONTROLLER.....	10-357
10.3.8 CONTROLLER MALFUNCTION EMERGENCY MEASURES.....	10-361
11. AIR CONDITIONER	
11.1 AIR CONDITIONER	11-3
11.2 PARTS ILLUSTRATION.....	11-11
11.3 DISASSEMBLY AND ASSEMBLY OF THE UNIT.....	11-14
11.3.1 REMOVAL OF THE BLOWER UNIT	11-14
11.3.2 REPLACING THE BLOWER MOTOR.....	11-15
11.3.3 REPLACING THE BLOWER CONTROLLER.....	11-15
11.3.4 REMOVAL OF THE HEATER CORE	11-15
11.3.5 REMOVAL OF THE AIR-CON UNIT CASE-FRONT AND- REAR	11-16
11.3.6 REPLACING THE EVAPORATOR AND EXPANSION VALVE.....	11-17
11.3.7 INSTALLATION OF EVAPORATOR SENSOR	11-17
11.3.8 REPLACING THE MOTOR ACTUATOR.....	11-18
11.4 FAULT DETECTION FROM THE CONTROL PANEL INDICATION	11-19
11.4.1 GENERAL.....	11-19
11.4.2 FAULT IN THE INPUT AND OUTPUT CIRCUIT OF THE MOTOR ACTUATOR	11-19
11.4.3 FAULT IN THE THERMISTOR SENSOR CIRCUIT	11-19
11.5 BASIC SYSTEM OF HVAC	11-20
11.6 RECHARGING OF THE COOLANT.....	11-25
11.6.1 CAUTION AT WORK.....	11-25

TABLE OF CONTENTS

11.6.2 WORK PROCEDURE	11-27
11.6.3 RECHARGING PROCEDURE	11-29
11.7 ELECTRIC WIRING DIAGRAM	11-35
12. TRANSLIFTER SYSTEM	
12.1 APPARATUS AND LOCATION OF COMPONENTS	12-3
12.2 REMOTE CONTROL	12-5
12.3 CONSTRUCTION AND FUNCTION	12-8
12.3.1 OUTLINE	12-8
12.4 FUNCTION	12-10
12.4.1 RAISING THE TRANSLIFTER	12-10
12.4.2 LOWERING THE TRANSLIFTER	12-12
13. TROUBLESHOOTING	
13.1 TROUBLESHOOTING	13-3

SAFETY

Reference Only

Thanks for your reading.

Please click here to download complete manual instantly.

And can also choose other manuals.

Feel free --->write to me with any questions.

Our service email:

manuals007@hotmail.com