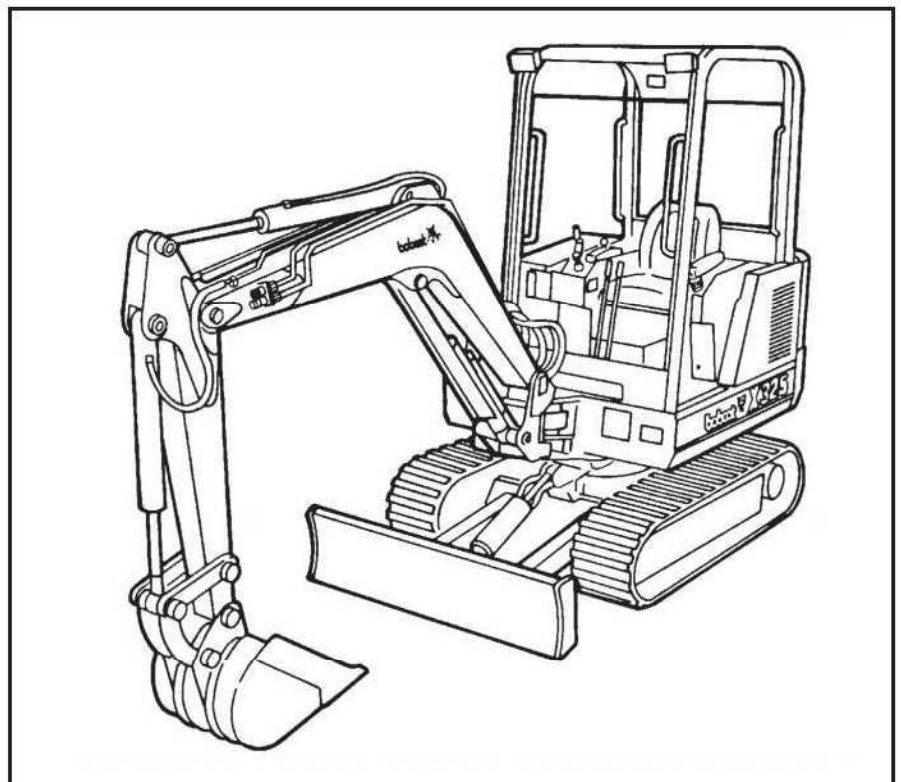


X 325

Excavator

Service Manual

(S/N 514011001 – 514012999)



**MELROE
INGERSOLL-RAND**

6724480 (11-95)

1 of 435

Printed in U.S.A.



© Melroe Company 1995

MAINTENANCE SAFETY



WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0903



Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

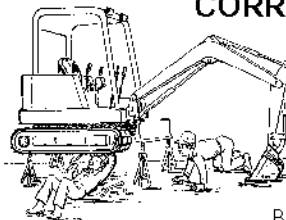
CORRECT



B-10731a

- ⚠ Never service the Hydraulic Excavator without instructions.

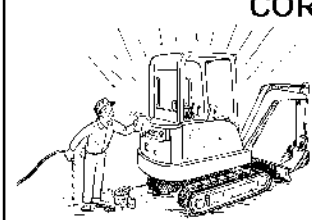
CORRECT



B-14148

- ⚠ Use the correct procedure to lift and support the excavator.
- ⚠ Always lift the blade fully before installing jackstands.

CORRECT



B-14142

- ⚠ Cleaning and maintenance are required daily.

WRONG



B-14147

- ⚠ Have good ventilation when welding or grinding painted parts.
- ⚠ Wear dust mask when grinding painted parts. Toxic dust and gas can be produced.

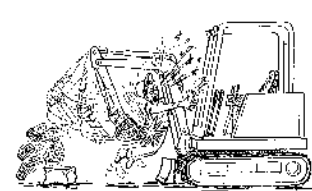
WRONG



B-14141

- ⚠ Vent exhaust to outside when engine must be run for service.
- ⚠ Exhaust system must be tightly sealed. Exhaust Fumes can kill without warning.

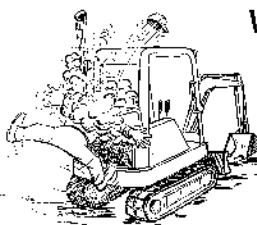
WRONG



B-14145

- ⚠ Always lower the bucket and blade to the ground before doing any maintenance.
- ⚠ Never modify equipment or add attachments not approved by Bobcat Company.

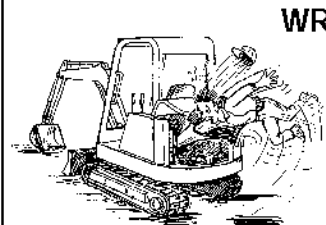
WRONG



B-14146

- ⚠ Stop, cool and clean engine of flammable materials before checking fluids.
- ⚠ Never service or adjust machine with the engine running unless instructed to do so in the manual.
- ⚠ Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate the skin or eyes.
- ⚠ Never fill fuel tank with engine running, while smoking or when near open flame.

WRONG



B-14143

- ⚠ Keep body, jewelry and clothing away from moving parts, electrical contact, hot parts and exhaust.
- ⚠ Wear eye protection to guard from battery acid, compressed springs, fluids under pressure and flying debris when engines are running or tools are used. Use eye protection approved for type of welding.
- ⚠ Keep rear door closed except for service. Close and latch door before operating the excavator.

WRONG



B-6589

- ⚠ Lead-acid batteries produce flammable and explosive gases.
- ⚠ Keep arcs, sparks, flames and lighted tobacco away from batteries.
- ⚠ Batteries contain acid which burns eyes or skin on contact. Wear protective clothing. If acid contacts body, flush well with water. For eye contact flush well and get immediate medical attention.

Maintenance procedures which are given in the Operation & Maintenance Manual can be performed by the owner/operator without any specific technical training. Maintenance procedures which are **not** in the Operation & Maintenance Manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL**. Always use genuine Bobcat replacement parts. The Service Safety Training Course is available from your Bobcat dealer.

MSW20-0805



Bobcat®

ALPHABETICAL INDEX

ACCUMULATOR (S/N 11001–12999)	2–1	HYDRAULIC CONTROL VALVE (6–Spool) (S/N 11001–12999)	2–1
ACCUMULATOR (S/N 13001 & Above)	2–1	HYDRAULIC CONTROL VALVE (5–Spool) (S/N 13001 & Above)	2–1
AIR CLEANER	7–1	HYDRAULIC CONTROL VALVE (5–Spool) (S/N 13001 & Above)	2–1
AIR CLEANER SERVICE	1–1	HYDRAULIC CYLINDERS	2–1
ALTERNATOR	6–1	HYDRAULIC EXCAVATOR SPECIFICATIONS (S/N 11001–12999)	8–1
ARM	4–1	HYDRAULIC EXCAVATOR SPECIFICATIONS (S/N 13001 & Above)	8–1
ARM CYLINDER	2–1	HYDRAULIC FILTER ASSEMBLY	2–1
AUXILIARY SELECTOR VALVE	2–1	HYDRAULIC PUMP	2–1
BATTERY	6–1	HYDRAULIC RESERVOIR	2–1
BLADE	5–1	HYDRAULIC SERVICE INFORMATION	2–1
BLADE CYLINDER	2–1	HYDRAULIC SYSTEM	1–1
BOOM	4–1	HYDRAULIC SYSTEM TROUBLESHOOTING	2–1
BOOM CYLINDER	2–1	IDLER GEAR AND CAMSHAFT	7–1
BOOM CYLINDER SHIELD	2–1	INSTRUMENT PANEL	6–1
BOOM SWING BRACKET	4–1	JOYSTICK (S/N 11001–12999)	3–1
BOOM SWING CYLINDER	2–1	JOYSTICK (S/N 13001 & Above)	3–1
BUCKET	4–1	JOYSTICK CONTROL CHANGE	2–1
BUCKET CYLINDER	2–1	LEFT CONSOLE (S/N 11001–12999)	3–1
BUCKET SPECIFICATIONS	8–1	LEFT CONSOLE (S/N 13001 & Above)	3–1
CAB	4–1	LEFT SIDE COVER	4–1
CAB/CANOPY REAR COVER	4–1	LIFTING AND BLOCKING THE EXCAVATOR	1–1
CAB ELECTRICAL (Cab Option)	6–1	LUBRICATION OF THE EXCAVATOR	1–1
CENTER FLOOR PANEL	4–1	MAIN RELIEF VALVES (Adjustable) (S/N 13001 & Above)	2–1
CENTER SWIVEL JOINT	4–1	MUFFLER	7–1
CONTROL LEVERS	3–1	OIL COOLER	2–1
COOLING SYSTEM	1–1	OIL PUMP	7–1
CORNER POST	4–1	PISTON AND CONNECTING ROD	7–1
COUNTERWEIGHTS	4–1	PORT BLOCK	2–1
CRANKSHAFT AND BEARINGS	7–1	PORT RELIEF VALVES AND MAIN RELIEF VALVES (S/N 13001 & Above)	2–1
CRANKSHAFT GEAR	7–1	RADIATOR	7–1
CROSS PORT RELIEF VALVE	4–1	REAR ENGINE COVER	4–1
CYLINDER BORE	7–1	REAR FLOOR PANEL	4–1
CYLINDER HEAD	7–1	RETURN LINE FILTER	2–1
DECIMAL AND MILLIMETER EQUIVALENTS	8–1	RIGHT CONSOLE	3–1
ELECTRICAL SYSTEM	6–1	ROCKER ARM AND SHAFT	7–1
ENGINE	7–1	ROPS CANOPY	4–1
ENGINE COMPRESSION	7–1	SEAT AND MOUNTING FRAME	4–1
ENGINE COVER	1–1	SERVICE SCHEDULE	1–1
ENGINE FLYWHEEL	7–1	SPARK ARRESTOR MUFFLER	1–1
ENGINE LUBRICATION SYSTEM	1–1	STARTER	6–1
ENGINE OIL SPECIFICATIONS	8–1	SWING BRACKET BUSHING	4–1
ENGINE SPECIFICATIONS	8–1	SWING MOTOR	4–1
FAN GUARD	7–1	SWING MOTOR COVER	4–6
FINAL DRIVE CASE	1–1	SWING MOTOR DRIVE CARRIER	4–1
FLYWHEEL RING GEAR	7–1	TIMING GEARS	7–1
FOOT PEDALS AND STEERING LEVERS	3–1	TIMING GEARCASE COVER	7–1
FRONT ENGINE COVER	4–1	TOOL BOX	4–1
FUEL CAMSHAFT	7–1	TRACK	5–1
FUEL, COOLANT AND LUBRICANTS	8–1	TRACK FRAME	5–1
FUEL INJECTOR NOZZLES	7–1	TRAVEL MOTOR	5–1
FUEL INJECTION PUMP	7–1	TRACK DAMAGE IDENTIFICATION	5–1
FUEL LEVEL SENDER	6–1		
FUEL SHUT-OFF SOLENOID	7–1		
FUEL SYSTEM	1–1		
FUEL TANK	4–1		
GAUGE LIGHTS	6–1		
GAUGES	6–1		
GLOW PLUGS	7–1		
HEATER AIR FILTER SERVICE	1–1		
HYDRAULIC CONTROL VALVE (3–Spool) (S/N 11001–12999)	2–1		

ALPHABETICAL INDEX (Cont'd)

TRANSPORTING THE HYDRAULIC EXCAVATOR	1-1
TROUBLESHOOTING	6-1
TROUBLESHOOTING	7-1
TWO SPEED VALVE (S/N 13001 & Above)	2-1
UPPER STRUCTURE AND SWING	
CIRCLE GEAR	4-1
USING A BOOSTER BATTERY	
(JUMP STARTING)	1-1
U.S. TO METRIC CONVERSION	8-1
VALVE CLEARANCE	7-1
VALVE, VALVE SEAT AND GUIDE	7-1
WATER PUMP	7-1

CONTENTS

SAFETY INSTRUCTIONS iv

SERIAL NUMBER LOCATIONS vi

DELIVERY REPORT vi

HYDRAULIC EXCAVATOR IDENTIFICATION vii

PREVENTIVE MAINTENANCE 1-1

HYDRAULIC SYSTEM 2-1

DRIVE SYSTEM 3-1

UPPER WORKS & SWING SECTION 4-1

MAIN FRAME & TRACKS 5-1

ELECTRICAL SYSTEM 6-1

ENGINE SERVICE 7-1

SPECIFICATIONS 8-1

PREVENTIVE
MAINTENANCE

HYDRAULIC
SYSTEM

DRIVE
SYSTEM

UPPER WORKS
& SWING
SECTION

MAIN FRAME
& TRACKS

ELECTRICAL
SYSTEM

ENGINE
SERVICE

SPECIFICATIONS

Please Click Here To Download The Complete Manual
Download Other Manuals
If Having Any Questions Feel Free To Contact us

admin@servicemanualbit.com