

# X 231

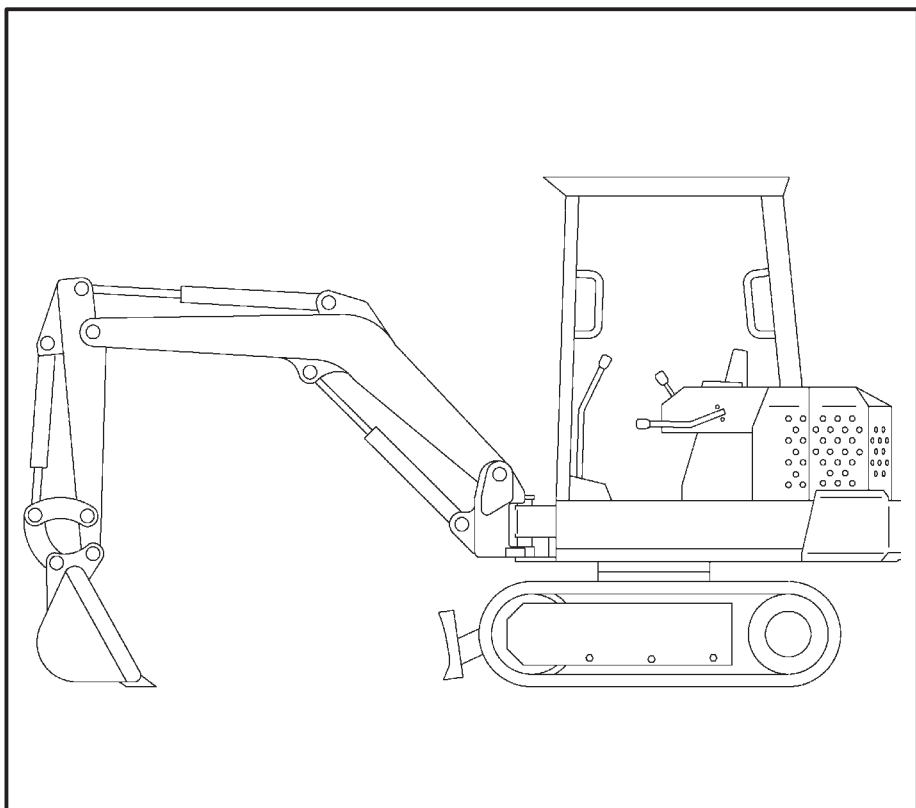
## Excavator

## Service Manual

(S/N 508912001 & Above)



Doosan purchased Bobcat Company from Ingersoll-Rand Company in 2007. Any reference to Ingersoll-Rand Company or use of trademarks, service marks, logos, or other proprietary identifying marks belonging to Ingersoll-Rand Company in this manual is historical or nominative in nature, and is not meant to suggest a current affiliation between Ingersoll-Rand Company and Bobcat Company or the products of either.



**MELROE**  
**INGERSOLL-RAND**

6722178 (6-12)

Printed in U.S.A.



© Melroe Company 1992



## CONTENTS

SAFETY .....	i
PREVENTIVE MAINTENANCE .....	1-1
HYDRAULIC SECTION .....	2-1
DRIVE SECTION .....	3-1
UPPER WORKS & SWING SECTION .....	4-1
MAIN FRAME & TRACKS .....	5-1
ELECTRICAL SYSTEM .....	6-1
ENGINE SERVICE .....	7-1
TECHNICAL DATA .....	8-1

### SAFETY

### PREVENTIVE MAINTENANCE

### HYDRAULIC SECTION

### DRIVE SECTION

### UPPER WORKS & SWING SECTION

### MAIN FRAME & TRACKS

### ELECTRICAL SYSTEM

### ENGINE SERVICE

### TECHNICAL DATA