

Precision Machine Tools

Cincom F12/F16

PRECISION MACHINERY DIVISION

OPERATOR'S MANUAL

OPERATION MANUAL FOR Cincom F12/F16

CONTENTS

I.	GENERAL	I-1
1.	GENERAL	I-2
2.	PRECAUTIONS IN READING OPERATOR'S MANUAL	I-2
II.	SAFETY	II-1
1.	GENERAL PRECAUTIONS	II-2
2.	PRECAUTIONS BEFORE STARTING MACHINE	II-2
3.	PRECAUTIONS DURING OPERATION	II-2
4.	PRECAUTIONS AFTER WORK	II-3
5.	PRECAUTIONS IN SETUP OR ADJUSTMENT	II-3
6.	PRECAUTIONS FOR ELECTRIC EQUIPMENT	II-3
III.	MACHINE SPECIFICATIONS	III-1
1.	DESIGNATIONS OF DIFFERENT SECTIONS OF MACHINE	III-2
2.	EXTERNAL DIMENSIONS AND ARRANGEMENT OF MACHINE	III-4
3.	STANDARD SPECIFICATIONS	III-5
4.	OPTIONAL SPECIFICATIONS	III-11
IV.	OPERATION	IV-1
1.	OPERATION PANEL	IV-2
2.	OPERATION	IV-15
3.	SET UP AND ADJUSTMENT	IV-52
V.	PROGRAMMING	V-1
1.	INTRODUCTION	V-3
2.	WHAT IS A "PROGRAM"?	V-4
3.	FUNDAMENTALS OF PROGRAMMING	V-5
4.	SETUP FUNCTIONS	V-8

5. M, S AND T FUNCTION	V-9
6. COORDINATES	V-12
7. TOOL MOTION AND COMMAND	V-18
8. WORK MACHINING PROCEDURE	V-22
9. VARIOUS MACHINING PROGRAMS	V-32
10. SUBPROGRAMS	V-49
11. CUTTING CONDITIONS	V-55
12. PROGRAM EXAMPLE	V-60
VI. TOOLING	VI-1
VII. ATTACHMENT	VII-1
WORK SUPPORT DEVICE (U10C)	VII-2
CENTER SUPPORT DEVICE (U20C)	VII-7
LONG MATERIAL CHUCKING DEVICE (U50Z)	VII-12
WORK SUPPORT/CENTER SUPPORT COMBINATION DEVICE (U11C)	VII-17