

CNC LATHE
LB 15

with OSP5000L-G CNC SYSTEM

OPERATION & MAINTENANCE MANUAL
(7th Edition)

TABLE OF CONTENTS

	<u>PAGE</u>
SECTION 1	INTRODUCING YOUR NC LATHE 1
SECTION 2	MACHINE SPECIFICATIONS 2
2-1.	SPECIFICATIONS TABLE 2
2-2.	SPECIFICATION DIAGRAM 4
SECTION 3	MACHINE OPERATION 5
3-1.	BEFORE STARTING OPERATIONS 5
3-1-1.	NC Operation 6
3-2.	MACHINE OPERATION 7
3-2-1.	Hydraulic Power Unit 7
3-2-2.	Selection of Spindle Drive Gear Range 11
3-2-3.	Hydraulic Power Chuck 14
3-2-4.	Cutting Soft Top Blanks of Power Chuck 20
3-2-5.	Tool Setting 22
3-2-6.	Hydraulic Tailstock Operation 26
3-2-7.	After Completion of A Day's Operation 35
3-2-8.	Manually Operated Chuck (Four Jaw Independent Chuck) 35
SECTION 4	MAINTAINING YOUR NC LATHE IN THE BEST CONDITION - REGULAR INSPECTION AND MAINTENANCE OF MACHINE 43
4-1.	LUBRICATION 44
4-1-1.	Headstock Lubrication System 49
4-1-2.	Guideway Lubrication System 50
4-2.	CLEANING THE FILTER 51
4-3.	ADJUSTING CENTRALIZED LUBRICATION UNIT 52
4-4.	CLEANING COOLANT TANK 53
4-5.	TENSIONING BELTS 54
4-5-1.	V-belt Drive from Main Drive Motor to Headstock 54
4-5-2.	Timing Belt for Pulse Generator 55
4-5-3.	Timing Belt for Z-axis Drive Servomotor 56
4-5-4.	Timing Belt for X-axis Servomotor 57
4-6.	OTHER MAINTENANCE ITEMS 58
4-6-1.	Adjusting Turret Indexing Speed 58
4-6-2.	Check The Bed Level 60
4-6-3.	Alignment of Headstock 61
4-6-4.	Adjustment of Tapered Gibs 62

	<u>PAGE</u>
4-7. TROUBLESHOOTING FOR SIMPLE MECHANICAL TROUBLE	63
4-7-1. Trouble with Headstock	63
4-7-2. Trouble with Turret	64
4-7-3. Replacing Shear Pin	64
4-7-4. Others	77
 SECTION 5 HANDLING AND INSTALLATION OF MACHINE	 78
5-1. CARE IN HANDLING A PRECISION MACHINE	78
5-2. FOUNDATION REQUIREMENTS	81
5-3. GENERAL PROCEDURE FOR INSTALLATION	82
5-4. LEVELLING THE MACHINE	83
5-5. FOUNDATION PLAN	84
5-6. POWER REQUIREMENTS	85
 SECTION 6 SPARE PARTS LIST	 86
6-1. HYDRAULICS	86
6-2. ELECTRICALS (ON MACHINE)	87
6-3. CONSUMABLE ITEMS (O-ring: those used on sliding parts)	88
 SECTION 7 TECHNICAL DATA	 89
7-1. TOOLING SYSTEM	90
7-2. DIMENSIONS OF V12 TURRET	91
7-3. TOOLHOLDERS	92
7-4. INTERFERENCE CHART	94
7-5. WORKING RANGE OF MODEL (1S)	95
7-6. WORKING RANGE OF MODEL (1S with tailstock)	96
7-7. DIMENSION OF SPINDLE NOSE (ASA-A2-6)	98
7-8. HYDRAULIC CHUCK AND CYLINDER	99
7-9. HOLLOW TYPE	100
7-10. HYDRAULIC CIRCUIT DIAGRAM	101
7-11. DIMENSIONS OF TAILSTOCK (1S with tailstock)	102
7-12. CHIP CONVEYOR (optional)	103
7-13. CHIP BUCKET - L-type (optional)	104

Note: To avoid any confusion over the use of the letter "O (oh)" and figure "0 (zero)" in this manual, the numerical value "0 (zero)" is expressed as "Ø" if there is any possibility of misunderstanding.

"T" (without tailstock) or "C" (with tailstock) may appear in LB series model designation, for example: "LB15T" or "LB15C."