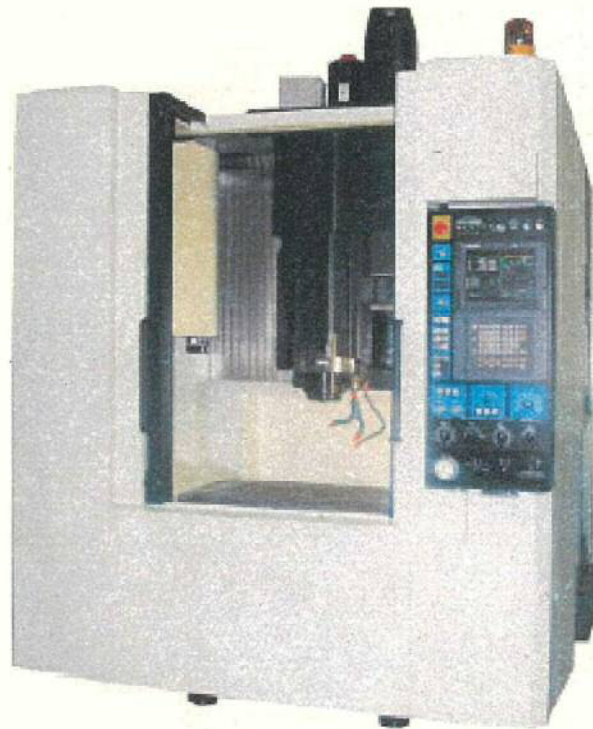


S33/S56 MACHINE

MAINTENANCE DRAWINGS

(V0718I-C1E-XG)



MAKINO

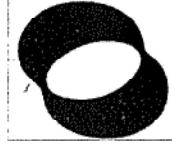
S33 CONTROLLER

PROF 3.

MAINTENANCE DRAWINGS

Document No: V0718I-C1E-X

Edition No.: G



MAKINO
MAKINO ASIA PTE LTD

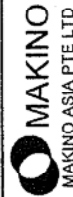
Drawing Number - V0718I-C1E-06

Revisions		Name		TITLE		MACHINE TYPE		DRAWING No.		GROUP	
APPROVED	Date	S. KAWANA	S33	CIRCUIT DRAWING	S33	FS18I-MB	DRAWING No.	V0718I-C1E-06	SHEET No.	..	7
CHECKED	23-DEC-2003	SHO MOHANNADI									
DRAWN	23-DEC-2003	XING JY									

Table of Contents

PAGE NO.	PAGE DESCRIPTION
C01	INPUT POWER SOURCE
C02	EXPORT TRANSFORMER (OPTION)
C03	POWER SOURCE
C04	POWER SOURCE
C05	CONTROL POWER SOURCE
C06	POWER SUPPLY MODULE
C07	SPINDLE AMPLIFIER MODULE
C07-1	20K SPINDLE (OPTION)
C08	SERVO AMPLIFIER CONNECTION
C09	X AND Y SERVO AMPLIFIER MODULE
C10	Z SERVO AMPLIFIER MODULE
C11	Z AXIS MOTOR BRAKE
C12	A AND B SERVO AMPLIFIER MODULE
C13	FEEDBACK SCALE (OPTION)
C14	CONTROLLER UNIT
C15	I/O LINK CONNECTION-APC M/C
C15-1	I/O LINK CONNECTION-STD M/C
C16	I/O MODULE CONNECTION-COMMON
C16-1	I/O MODULE CONNECTION-EXTEND-APC M/C
C16-2	I/O MODULE CONNECTION-STD M/C
C17	NOZZLE COOLANT
C18	COOLANT FLUSH (OPTION)
C19	THRU SP/TL CLNT 1Mpa/2.5Mpa-PWR(OPTION)
C19-1	THRU SP/TL CLNT 1Mpa/2.5Mpa-PWR(OPTION)
C20	THRU SP/TL CLNT 10 BAR-SIG(OPTION)
C20-1	THRU SP/TL CLNT 2.5Mpa-SIG(OPTION)
C20-2	THRU SP/TL AIR(OPTION)
C21	SHOWER COOLANT(OPTION)
C22	COOLANT LEVEL SENSOR(OPTION)
C23	LIFT UP CHIP CONVEYOR(OPTION)

CONTENTS



MAKINO
MAKINO ASIA PTE. LTD.

Date
06-JAN-2003
06-JAN-2003
06-JAN-2003

APPROVED
CHECKED
DRAWN

Revisions

GROUP
SHEET NO.
B02

DRAWING No.
V0718I-C1E-06

MACHINE TYPE
S33

NC TYPE
FS181MB

TITLE
CONTENTS

Table of Contents

PAGE NO.	PAGE DESCRIPTION
C24	LIFT UP CHIP CONVEYOR(OPTION)
C25	CONTROL VOLTAGE SOURCE
C26	NC POWER ON CONTROL
C27	CONTROL ON AND EMERGENCY CKT
C28	CB OVERLOAD CONTROL
C29	SPINDLE SWITCHING CONTROL
C30	SPINDLE TEMPERATURE CONTROLLER 12K
C30-1	SPINDLE TEMPERATURE CONTROLLER (20K SPDL OPTION)
C31	TOOL CLAMP/UNCLAMP -12K SPINDLE
C31-1	TOOL CLAMP/UNCLAMP (20K SPDL OPTION)
C31-2	POWER PACK CONTROL(20K SPINDLE OPTION)
C32	LS REFERENCE AND OVERTRAVEL
C33	ATC MAGAZINE DRIVE C-AXIS
C34	ATC ARM MOTOR
C35	ATC OPERATION CONTROLS
C36	ATC INDICATING LAMPS
C37	ATC CONTROL LIMIT SWITCHES (STD)
C37-1	ATC CONTROL LIMIT SWITCHES (M/C WITH 4&5 AXIS OPTION)
C38	AIR BLOWER, POT SOLENOID CONTROLS
C39	MACHINE LIGHT (FLUORESCENT,HAL LGT)
C40	ADDITIONAL A AXIS (TILT TYPE)
C40-1	ADDITIONAL B AXIS
C41	APC OPTION-HYDRAULIC MOTOR
C42	APC OPTION-PCB,24V SUPPLY
C43	APC OPTION-LS,SOL CONTROLS
C44	APC OPTION-LS CONTROLS
C45	APC OPTION-SOL CONTROLS
C46	APC OPTION-OPERATOR PB CONTROLS
C47	WORK WASH (OPTION)
C48	ATLM-MARPOSS CONTACT TYPE (OPTION)

CONTENTS

APPROVED	06-JAN-2003	Name	S. KAWANA	MACHINE TYPE	S33	DRAWING No.		GROUP	
CHECKED	06-JAN-2003		S.KC MORIYAMA	NC TYPE	FS181-MB	V07181-C1E-06		SHEET No.	B03
DRAWN	06-JAN-2003		XING JY						
REVISIONS			TITLE			DRAWING No.			GROUP
			CONTENTS			V07181-C1E-06			SHEET No.
									B03

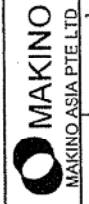


Table of Contents

PAGE NO.	PAGE DESCRIPTION
C49	AWM-MARPOSS (OPTION)
C49-1	ATLM-MARPOSS LASER TYPE (OPTION)
C49-2	MACRO I/O, ATLM LASER TYPE-MARPOSS(OPTION)
C50	ATLM/AWM-RENISHAW MEASUREMENT (OPTION)
C51	AWM-RENISHAW MP12 (OPTION)
C51-1	AWM-RENISHAW MP10 (OPTION)
C52	ATLM LASER TYPE-RENISHAW(OPTION)
C55	HYDRAULIC OPTION (AMF WITH PLC)
C56	HYDRAULIC OPTION PR SW,SOL(AMF WITH PLC)
C56-1	HYDRAULIC OPTION (PLC PMC I/F)
C56-2	HYDRAULIC OPTION PR SW,SOL(ADDL. LINES PLC)
C57	S/G DOOR INTERLOCK(OPTION)
C57-1	S/G DOOR INTERLOCK WITH LOCK(OPTION)
C58	S/G DOOR & ATC DOOR UNLOCK SOLENOID (OPTION)
C61	MAIN OPERATION PANEL(24V for I/O Mod)
C62	MODE SELECTION,FLEXIBLE SWITCHES
C63	ONE TOUCH FUNCTION CONTROL
C64	AXIS SELECT AND INDICATION LED
C65	PUSH BUTTON,INDICATING LAMPS
C66	JOG AND RAPID FEED CONTROL
C67	FEED AND SPINDLE OVERRIDE
C68	MANUAL PULSE GENERATOR
C69	SIGNAL LIGHT/PATROL LIGHT
C73-1	ATC SHUTTER
C73-2	LIGHT CURTAIN (OPTION FOR APC M/C)
C74	FIX. HYDRAULIC-LIGHTS & SWITCHES(PLC)
C75	ADDL. PUSH BUTTON (OPTION PLC)
C76	FIX. HYDRAULIC AIR SEAT / PNU. (PLC)
C77	AUTO DOOR -P.B AND LIGHTS(OPTION)
C78	AUTO DOOR-LIMIT SWITCH & SOLENOID(OPTION)

CONTENTS

APPROVED	05-JAN-2003	S. KAWANA	MACHINE TYPE	S33	DRAWING No.		GROUP	
CHECKED	05-JAN-2003	SIC MOHANAN	NC TYPE	FS18I-MB	V0718I-C1E-06		SHEET No.	
DRAWN	05-JAN-2003	XING JY					BOX	
			TITLE		CONTENTS			
			