





No.	Level	Warning information
14	 WARNING 	Keep off machine when in automatic mode. Can cause severe injury. Set control in manual mode before standing on machine. Turn off and lock out power at electrical panel before servicing.
15	 WARNING 	Keep off. Keep hands and feet clear during pallet change. Can cause severe injury. SAFETY INSTRUCTION 1. Be alert for pallet movement when loading parts. 2. Make sure workpiece is clamped securely. 3. Do not lay tools on pallet or workpiece. 4. Turn off and lock out power at electrical panel before servicing.

Note:

Safety nameplates No. 14 and 15 are attached only to machines with a 2-pallet changer.

3. MACHINE BODY SPECIFICATIONS

3-1 Specifications

Item		V-655/60 [V-655/80]	Unit
Principal dimensions	Table lateral traveling stroke, X-axis	1500 (59.01)	mm (inch)
	Column horizontal traveling stroke, Y-axis	650 (25.59)	mm (inch)
	Spindle head vertical traveling stroke, Z-axis	650 (25.59)	mm (inch)
	Distance from the center of spindle to the front of the column	720 (28.35)	mm (inch)
	Distance from the end of spindle to the top surface of the table	200-850 (7.87-33.46)	mm (inch)
	Height from the machine bottom to the top surface of the table	830 (32.68)	mm (inch)
	Overall machine height from the bottom of the machine	3115 (122.64) (3215 (126.58) with through coolant)	mm (inch)
Spindle	Shape of spindle tapered hole	7/24 tapered, No. 50	-
	Motor	AC Motor 18.5 (24.7) (30-minutes operation)/ 15 (20) (continuous operation)	kW (HP)
	Speed	25-6000	rpm
Table	Dimensions	650 × 1740 (25.59 × 68.50) [650 × 2240 (25.59 × 88.19)]	mm (inch)
	Maximum mass to be loaded on the table	2000 (4400) [2500 (5500)]	kg (lbs)
ATC	Maximum tool diameter replaceable * (with adjacent pockets empty)	φ125 (4.92) * φ260 (10.24)	mm (inch)
	Max. tool weight (including tool holder and pull stud)	20 (44)	kg (lbs) mm (inch)
	Max. tool length (from taper datum plane)	400 (15.75)	kN (kgf (lbs))
	Tool clamp force	24.99 (2550 (5623))	-
	Number of tools accommodated	30 (MAZATROL) 60 (FA equipment)	-
	Tool selection system	MAZATROL random memory system	-
Noise during cutting Measured in front of the operator door (1 m (3.28 ft) distant from the machine front cover, 1.5 m (4.92 ft) in height) - Cutting condition: - Spindle speed: 501 rpm - Axis feed: 752 mm/min (29.61 in./min) - Cutting depth: 7 mm (0.28 in.) - Workpiece material: Carbon steel		80	dB

Machine weight

The following table shows the approximate component weights of a standard machine.

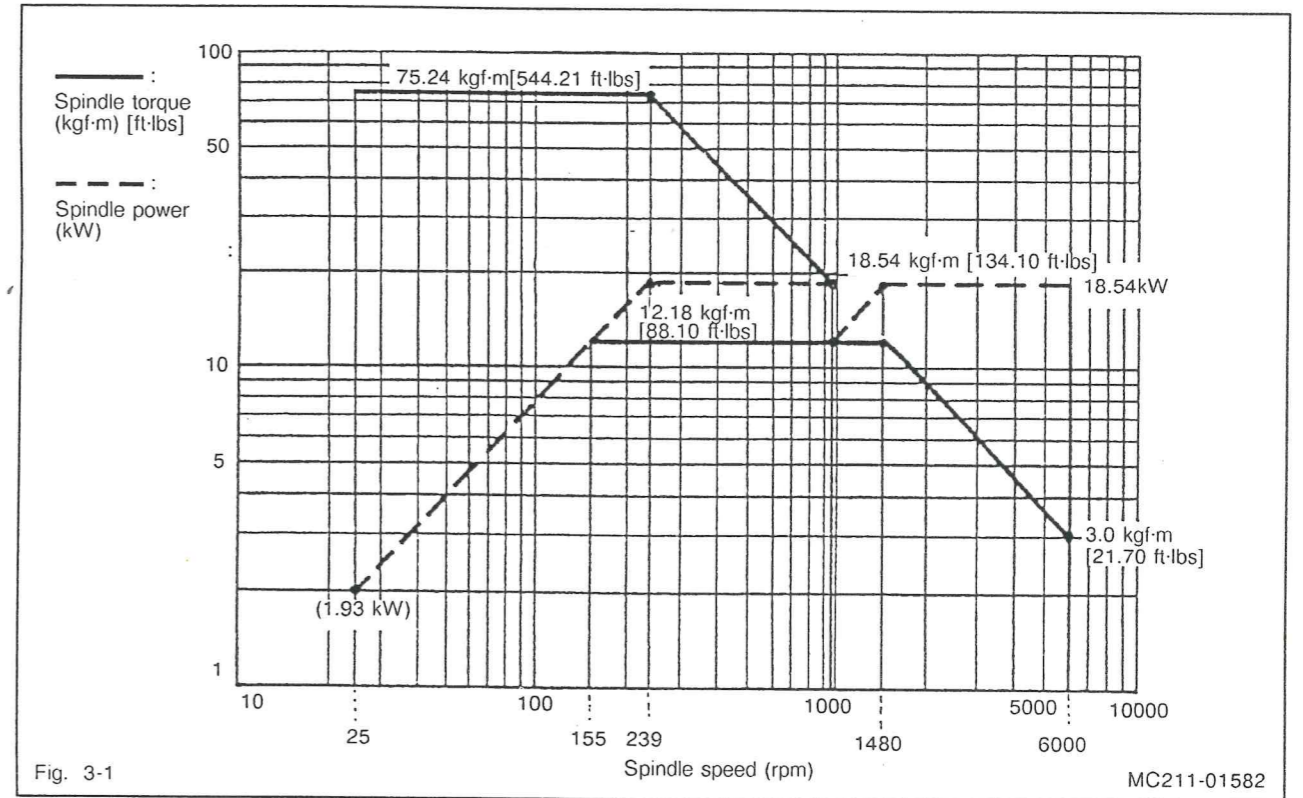
Unit: kg (lbs)

Item	V-655/60	V-655/80
Base	4300 (9480)	5200 (11464)
Table	800 (1764)	1000 (2205)
Column	1600 (3528)	1600 (3528)
Spindle head	950 (2094)	950 (2094)
Tool magazine	600 (1322)	600 (1322)
Others (including hydraulic unit)	2900 (6393)	3100 (6834)
Power control panel	350 (772)	350 (772)
Total	11500 (25353)	12800 (28219)

3-2 Power Torque Diagram

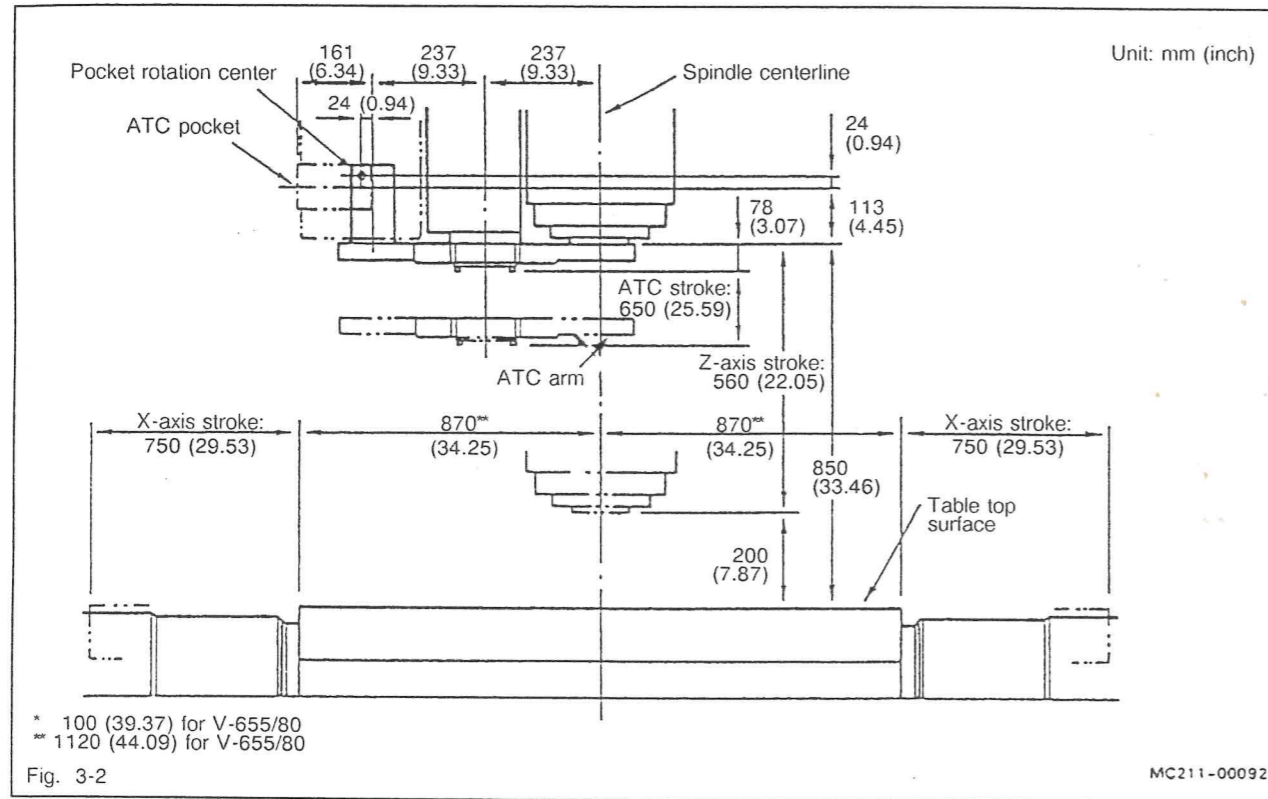
Spindle motor: AC inverter motor 18.5 kW (24.7 HP)/30 min. rating

Spindle speed: 25 – 6000 rpm



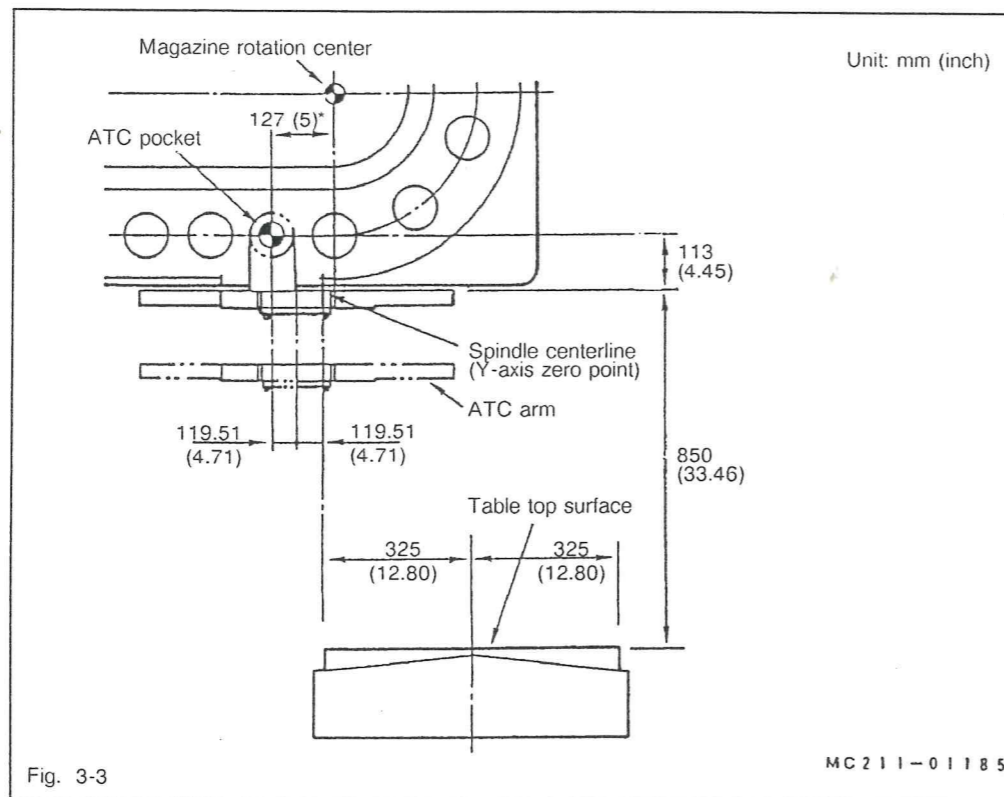
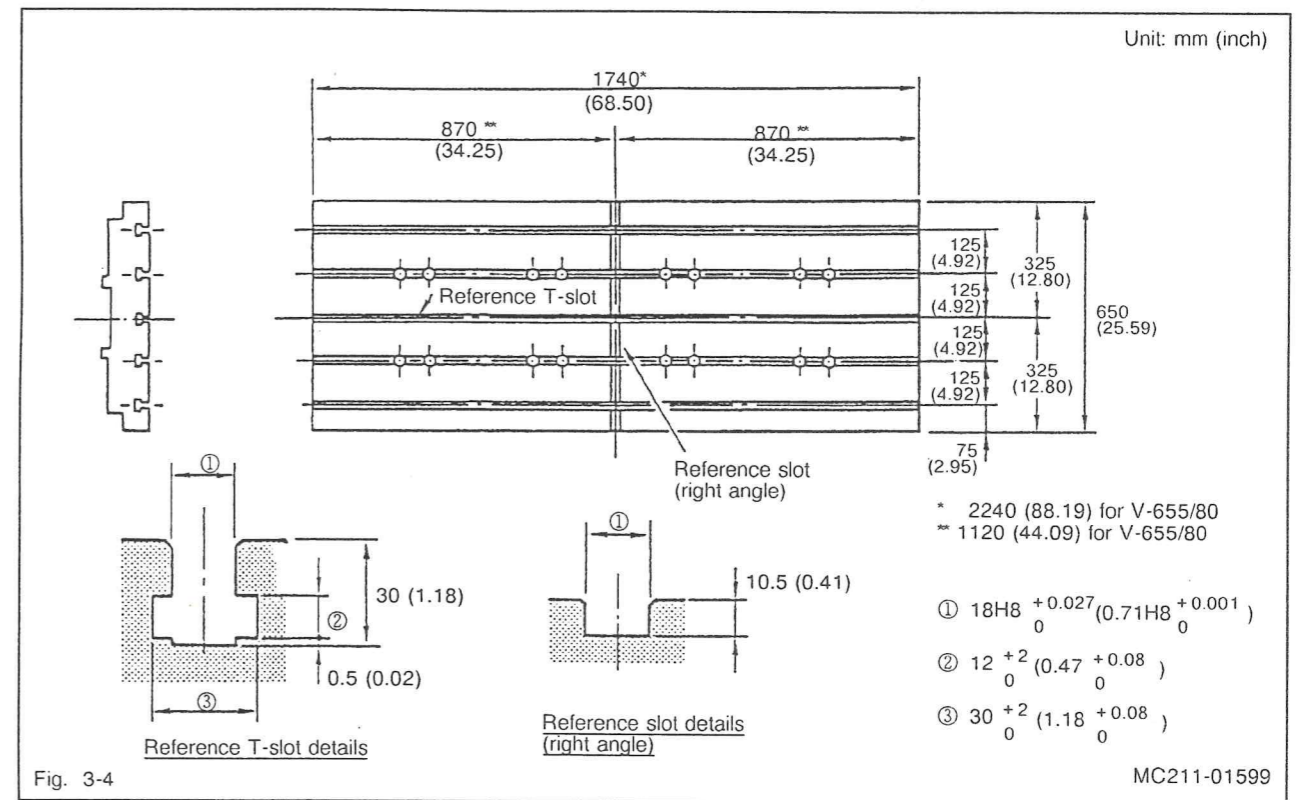
3-3 Stroke Diagram

30/60-tool magazine



3-4 Table Dimensions

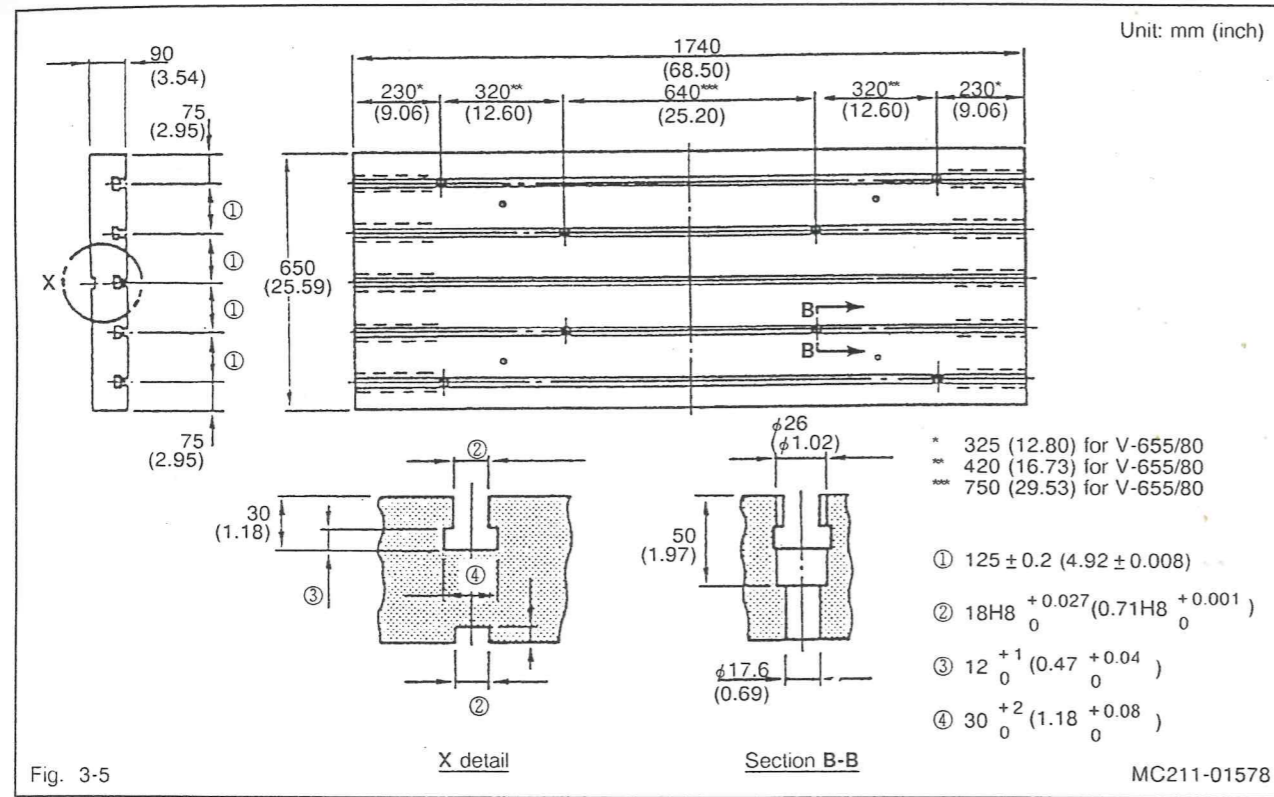
1. For standard table



* 635 (25.0) for 60-tool magazine (option)

Width of slots excepting the reference slot to be $18 (0.71) \begin{matrix} +0.18 \\ 0 \end{matrix} (0.007)$

2. For sub-table



3. T-slot nuts

The tapping holes in the T-slot nuts attached to the machine have one or two incomplete threads at its end so that the mounting bolts may not get out of the tapping hole.

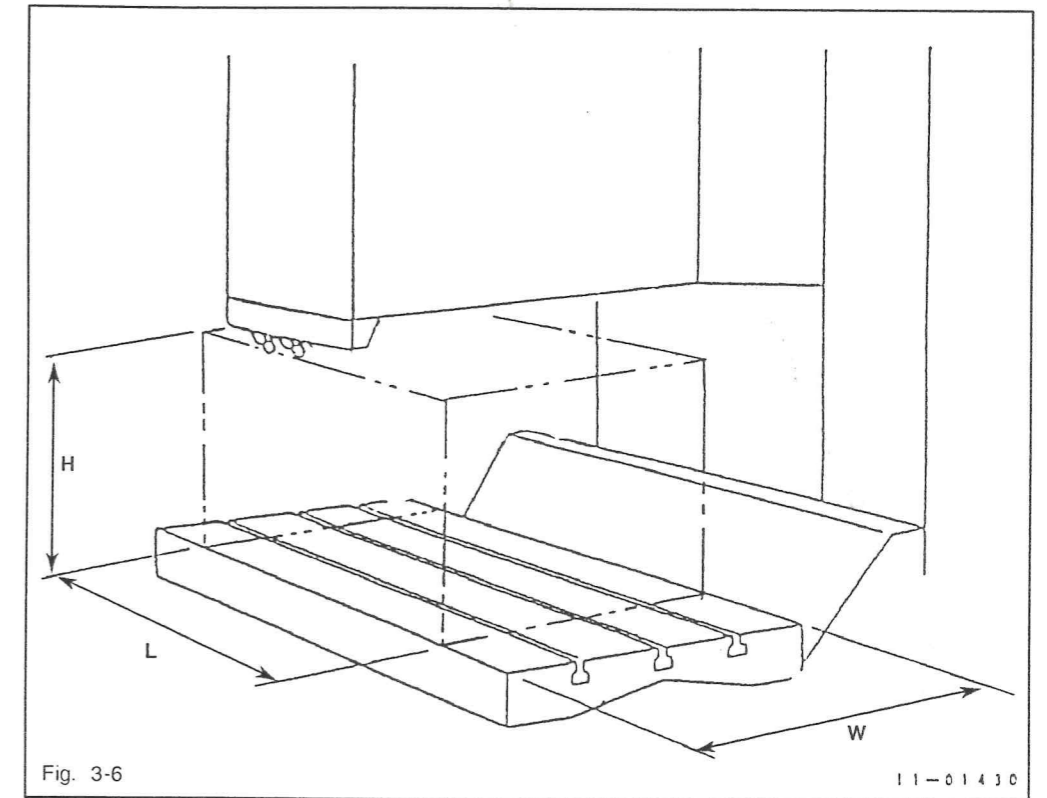
This prevents the excessively tightened bolts from causing damage to the table or any other part.

If the lengths of each mounting bolts are improper, jigs and the workpiece may not be installed properly.

For your reference, the following table gives the suitable length of each type of bolt:

Width of T-slots	Suitable bolt length (approximate)
16 mm (0.63 in.)	Thickness of jigs and workpiece + 25 mm (0.98 in.)
18 mm (0.71 in.)	Thickness of jigs and workpiece + 25 mm (0.98 in.)
22 mm (0.87 in.)	Thickness of jigs and workpiece + 30 mm (1.18 in.)

3-5 Maximum Workpiece Specifications



	L (mm [in.])	W (mm [in.])	H (mm [in.])	Max. weight (kg [lbs])
V-655/60	1740 [68.50]	650 [25.59]	740 [29.13]	2000 [4410]
V-655/60 with 2PC	1740 [68.50]	650 [25.59]	690 [27.17]	2000 [4410]
V-655/80	2240 [88.19]	650 [25.59]	740 [29.13]	2500 [5512.5]
V-655/80 with 2PC	2240 [88.19]	650 [25.59]	690 [27.17]	2500 [5512.5]

The maximum dimensions and weight of the workpiece which can be mounted are listed above. If a workpiece exceeding the specifications is mounted, an interference with the machine may occur and the workpiece and/or the machine may be damaged.

In addition to the specifications listed above, a workpiece restriction concerning the tool length measurement unit is also present.