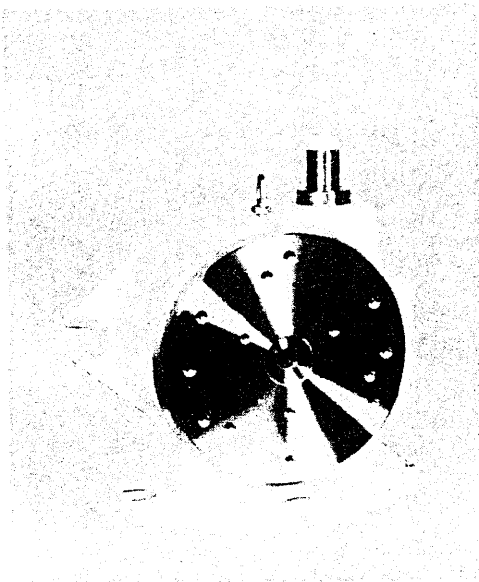


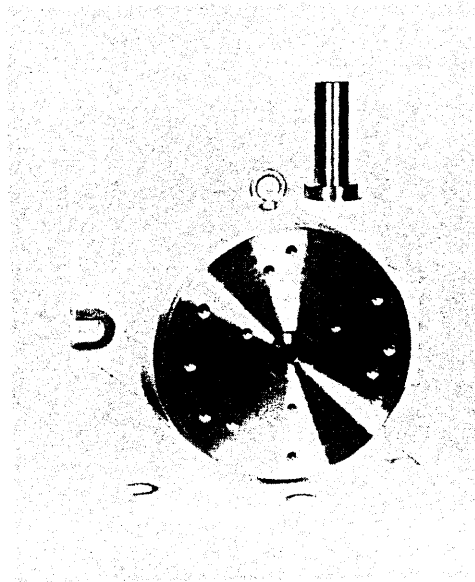
SUPER-RAPIDEX[®]

STOCK # 710-002 & 710-004

INSTRUCTION MANUAL



710-002



710-004



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SUPER-RAPIDEX INSTRUCTION MANUAL

INTRODUCTION

Thank you very much for choosing our SUPER-RAPIDEX[®] indexer. This indexer has been newly designed and manufactured precision indexer not only time and cost saving purpose but also being designed considering maintenance, safety and durability.

SPECIAL CAUTIONS

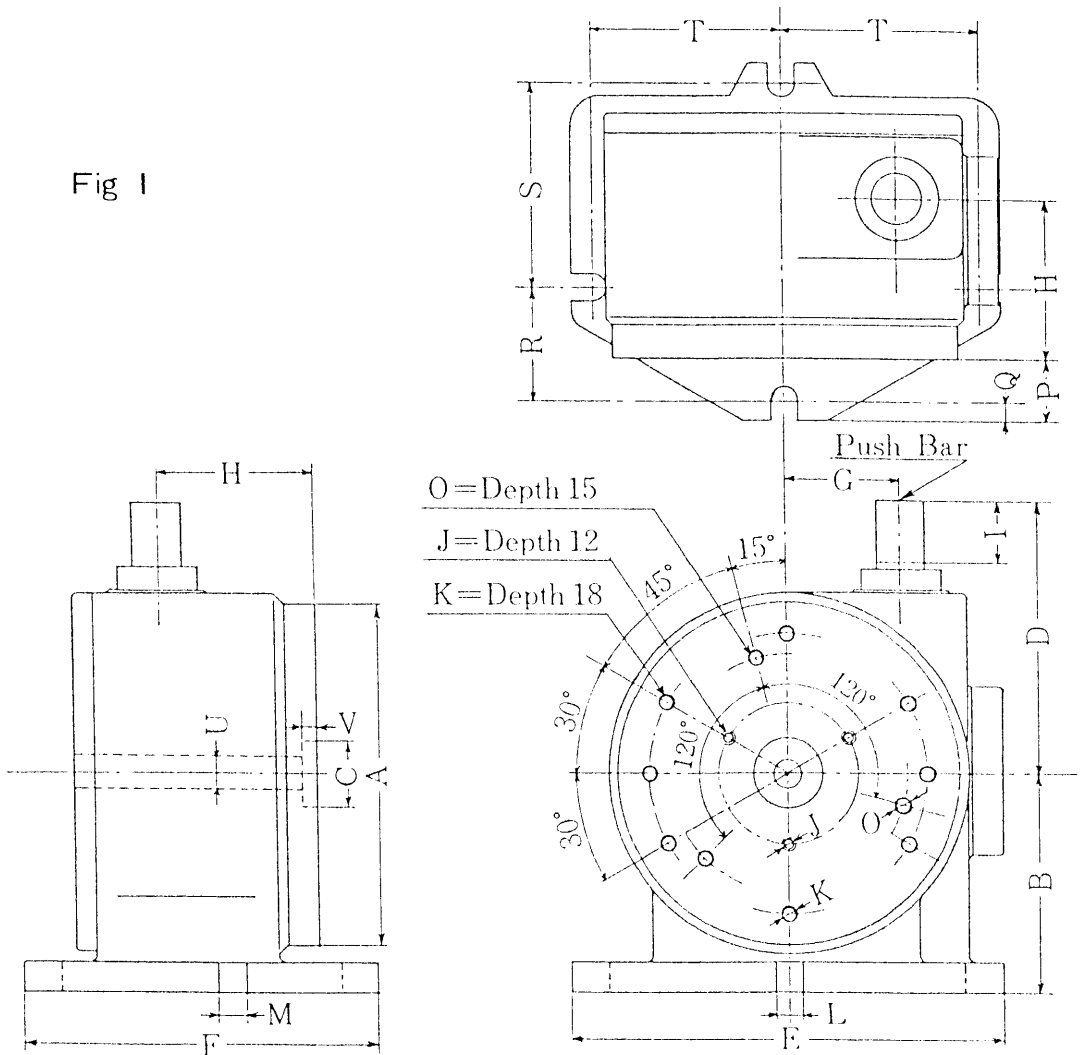
1. The coolant oil should be given directly to cutting spot, not to the indexer. If the coolant oil penetrates accidentally, it may deteriorate the performance of SUPER-RAPIDEX[®], though the indexer is basically free from maintenance and wholly sealed to prevent the coolant oil penetration into the body.
2. The thickness of the indexer turret is about 20mm.
Do not make deeper holes when you mount fixtures etc.
3. Read the manual carefully and prevent machine crush and jig interference, which cause the index pin damage and accuracy problem.

NEGLECTING ABOVE CAUTIONS WILL VOID OUR WARRANTY POLICY

I. DIMENSION & ACCURACY

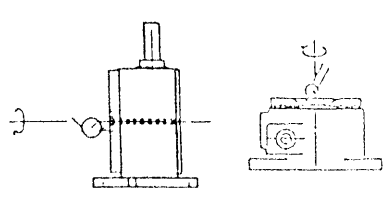
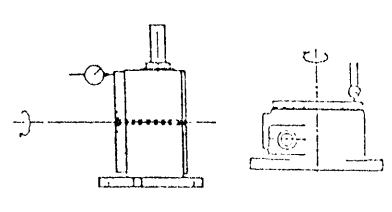
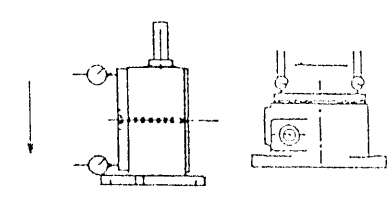
A	210 ϕ mm	8.27"	I *	35 78	1.38 3.07	P	38	1.46
B	135	5.31	J	PCD88 ϕ 3-M8	3.46	Q	12	0.47
C	40 ϕ H6	1.575				R	69	2.72
D *	165	6.5	K	PCD172 ϕ 8-M8	6.77	S	122	4.8
	208	8.2				T	118	4.65
E	260	10.24	L	16.5	0.65	U	16.5 ϕ	0.64
F	215	8.46	M	16.5	0.65	V	6	0.24
G	70	2.76	O	PCD147 ϕ 3-M10	5.79	D & I : 710-002 UPPER 710-004 LOWER		
H	95	3.74						

Fig 1



- (Note 1) The center lines of J, K and O do not make parallel with that of the table. So, take account of it when using jigs.
- (Note 2) The head adaptor's dimension is not contained in D.

Fig 2

Description		Tolerance
Table center hole runout		0.01mm 0.0004"
Table surface runout		0.01mm 0.0004"
Table surface squareness		0.03mm 0.0012"
Indexing accuracy	cumulative error	± 30 sec.

2. OPERATION with CNC machines

Using any tool from the machine, a programmed Z axis motion provides indexing motion of the SUPER-RAPIDEX®

710-002

Depending on length of stroke programmed, the unit will index 5°, 10° or 15° per stroke. Any multiple of strokes can be used to increase amount of desired index motion.

710-004

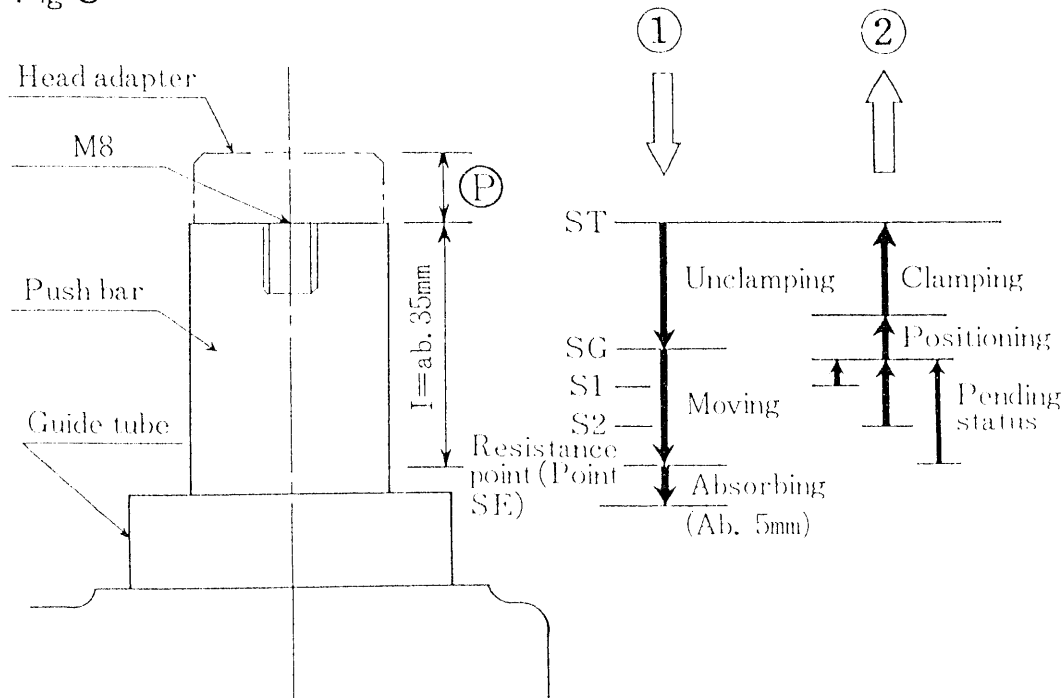
5°, 10°, 15° 90° per stroke.

①↓ in FIG. 3 shows table rotation and ②↑ positioning and clamping.

WARNING:

- The head adapter, ① is 10mm (0.4") thick, is fixed with M8 screw. In case of damage of the head adapter, replace it by any similar material. Be careful not to interfere the guide tube when depressed.
- SUPER-RAPIDEX® has a mechanical absorber (5mm allowance), which absorbs an excessive moving of the push bar. In case of overstroke, the absorber will be broken.

Fig 3



Weight imbalance of the workpiece should be kept less than 4kg within the table surface distance.

2-1) FULL STROKE

710-002: The full stroke (35mm) of the push bar of SUPER-RAPIDEX[®] achieves 15° movement of the indexer.

710-004: The full stroke (78mm) achieves 90° movement of the indexer.

The push bar will be depressed by any toucher tool (e.g. End Mills).

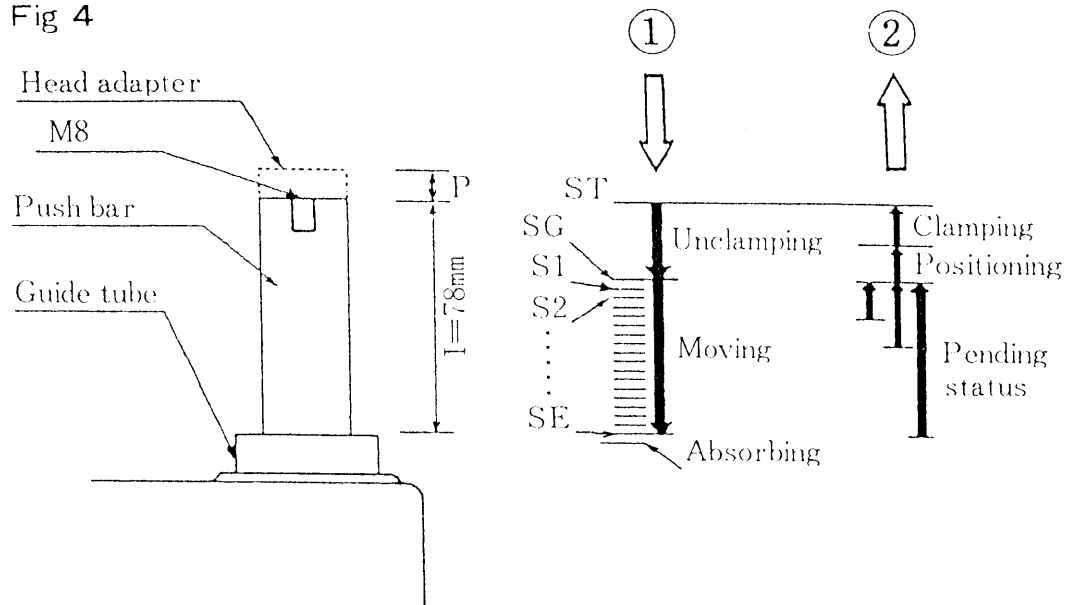
Procedure

- ① Stop the toucher tool once at 2mm away from the push bar.
(Violent push will give damage to SUPER-RAPIDEX[®])
- ② Depress, by approx. 35mm, the push bar at 1.2 to 1.5m/minute speed.
(Adjust the depressing speed according to the application or the weight of workpiece, heavy workpiece will cause an overrun.)
- ③ Retrace the toucher to the initial stop position.

WARNING:

- The push bar should be depressed exactly in the direction of its center line.
- The toucher tool (e.g. End Mills) should not rotate while depressing.
- 15° (or 90°) movement will be given by 35mm (or 78mm) stroke of the push bar, however, the exact amount must be determined by depressing the push bar gradually until the table stops rotating.
- The retracing speed is as same as the depressing one.
- If you do not push a push bar to a set point properly when the push bar goes back to the original position, A table automatically move a little bit to stabilize the position it's self. You need to adjust until this table's movement disappear.

Fig 4



2-2) 5°, 10° or 15° division

710-002

- 5° : Depress the push bar at 1/3 of its stroke. (Point S1)
- 10° : Depress the push bar at 2/3 of its stroke. (Point S2)
- 15° : Depress the push bar by 35mm of its stroke. (Point SE)

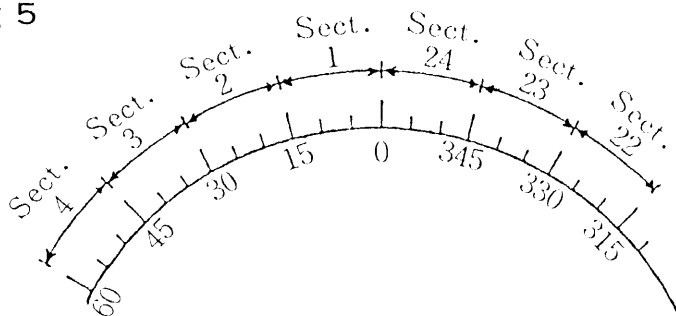
- 15° = 35mm stroke is essentially 1 section.
The table can not turn over 1 section/stroke.
- If you turn 5° (Point ST ⇒ S1) or 10° (Point ST ⇒ S2), the next push should be an additional 5° (⇒ S2) or 10° (⇒ SE) to complete the full stroke (⇒ SE).
- In case of 5° or 10° increment, because of the work weight or fixtures, you may lose the position (overrun).
Reduce the speed of depressing the bar from 1.2-1.5m/min. to 0.8m/min.

710-004

- 5° : Depress the push bar at 1/18 (5°/90°) of its stroke. (Point S1)
- 10° : Depress the push bar at 2/18 of its stroke. (Point S2)
- 15° : Depress the push bar at 3/18 of its stroke. (Point S3)
- ⋮
- ⋮
- 90° : Depress the push bar by 78mm of its stroke. (Point SE)

- 90° = 78mm stroke is essentially 1 section.
The table can not turn over 1 section/stroke.
- When you rotate 10° (2/18 stroke), the additional 10° will be accomplished at the position of 20° (4/18 stroke) (⇒ S4).
- In case of incremental movement, because of the work weight or fixtures, you may lose the position (overrun).
Reduce the speed of depressing the bar from 1.2-1.5m/min. to 0.8m/min.

Fig 5



2-3) Position Checking

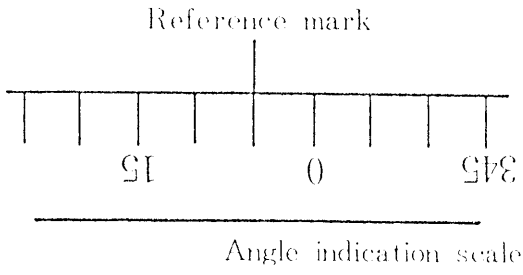
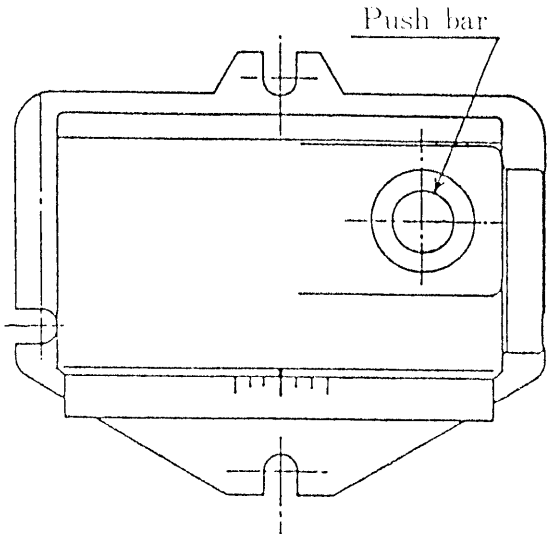
The angle indication scale on the indexer turret shows 5° reference points and 15° increment marks.

The position of Point S1 is where the reference mark comes to meet the first 5° reference point, Point S2 is on the 10° (2nd reference point) position and Point SE is on 15° (or 90°) mark position.

Before starting actual production, please carefully check the table rotation.

CAUTION:
While test running, carefully operate your machine. Your machine hits you when you are checking the indexer rotation.

Fig 6

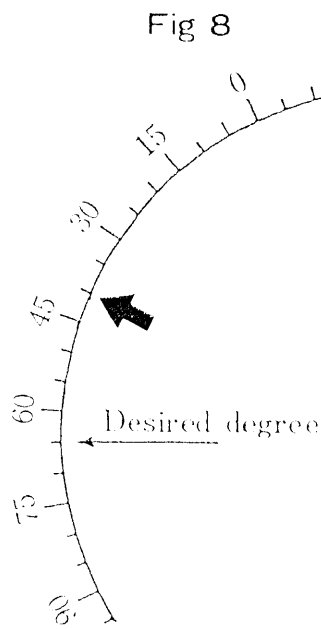
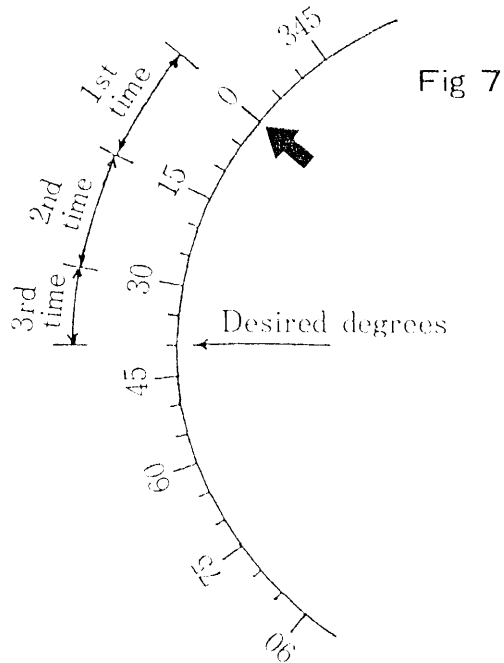


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Sample Operation

1. Turn from 0° to 40°

Depress the push bar 2 times fully to get 30° , and then depress it again to S2 Position to get 10° .



2. Turn from 40° to 65°

- Depress the push bar to get 45° position (S2 \leftrightarrow SE).

$15^\circ = 35\text{mm}$ stroke is essentially 1 section.
The table can not turn over 1 section/stroke.

- Depress the push bar fully once to get 60° and then get 5° (\leftrightarrow S1) to reach 65° position.

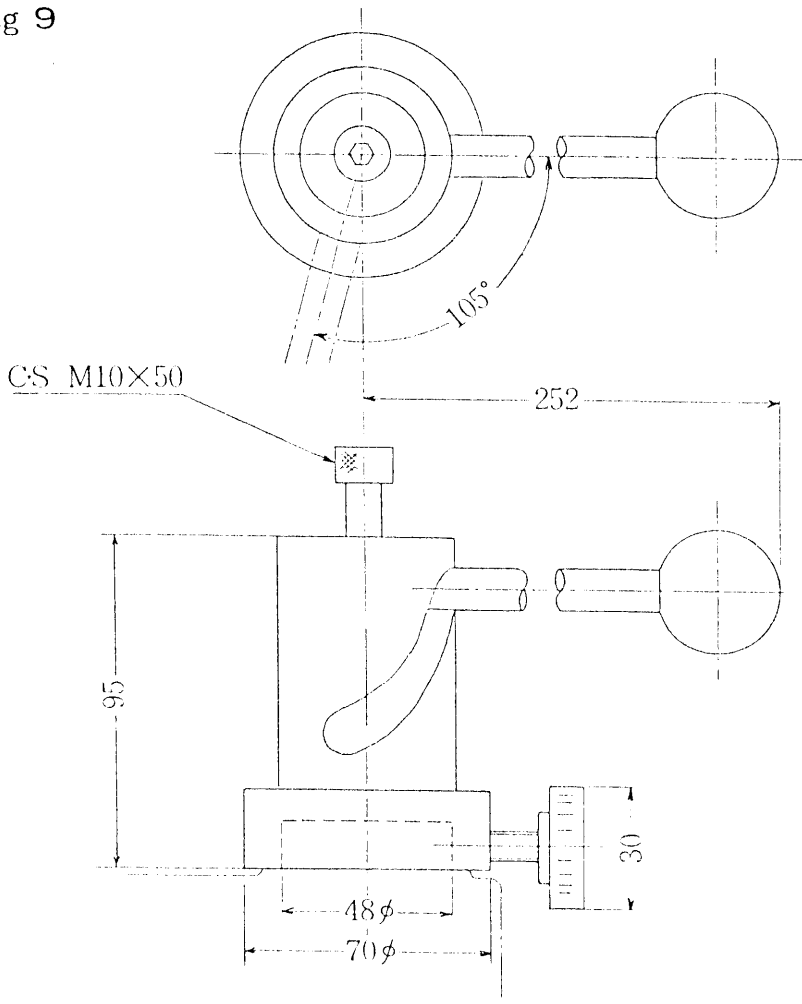
3. OPERATION WITH MANUAL HANDLE

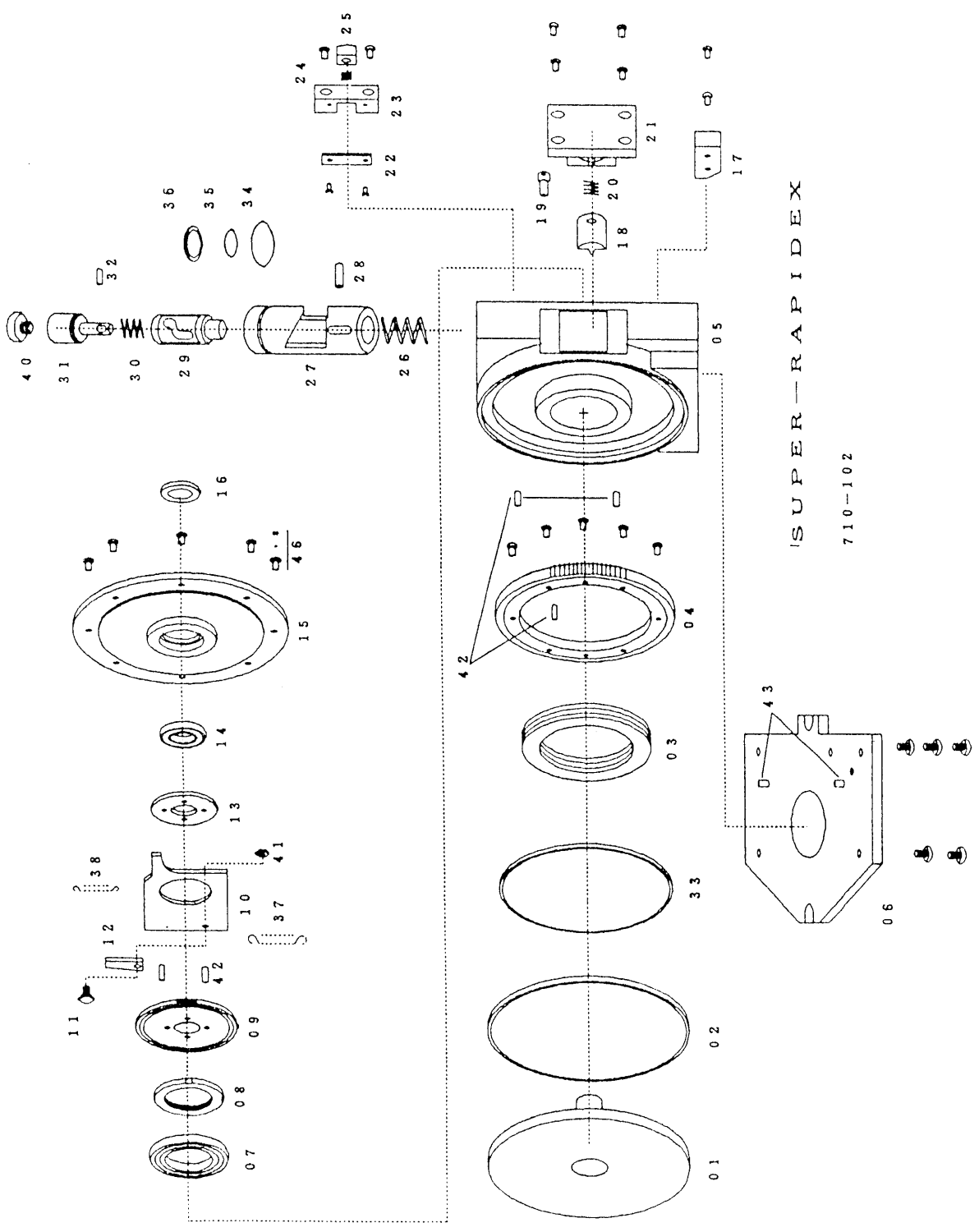
You can use the SUPER-RAPIDEX[®] as a manual indexer.
You can use the handle for workpiece setting before operation.

SETUP

- ① Mount the handle on to the push bar and tighten the fixing knob into the pit by the side of the guide tube.
- ② Tighten the top bolt.
when the bolt touches the push bar, retrace it by 2mm.
- ③ Turn the handle and check if the table actually rotate.

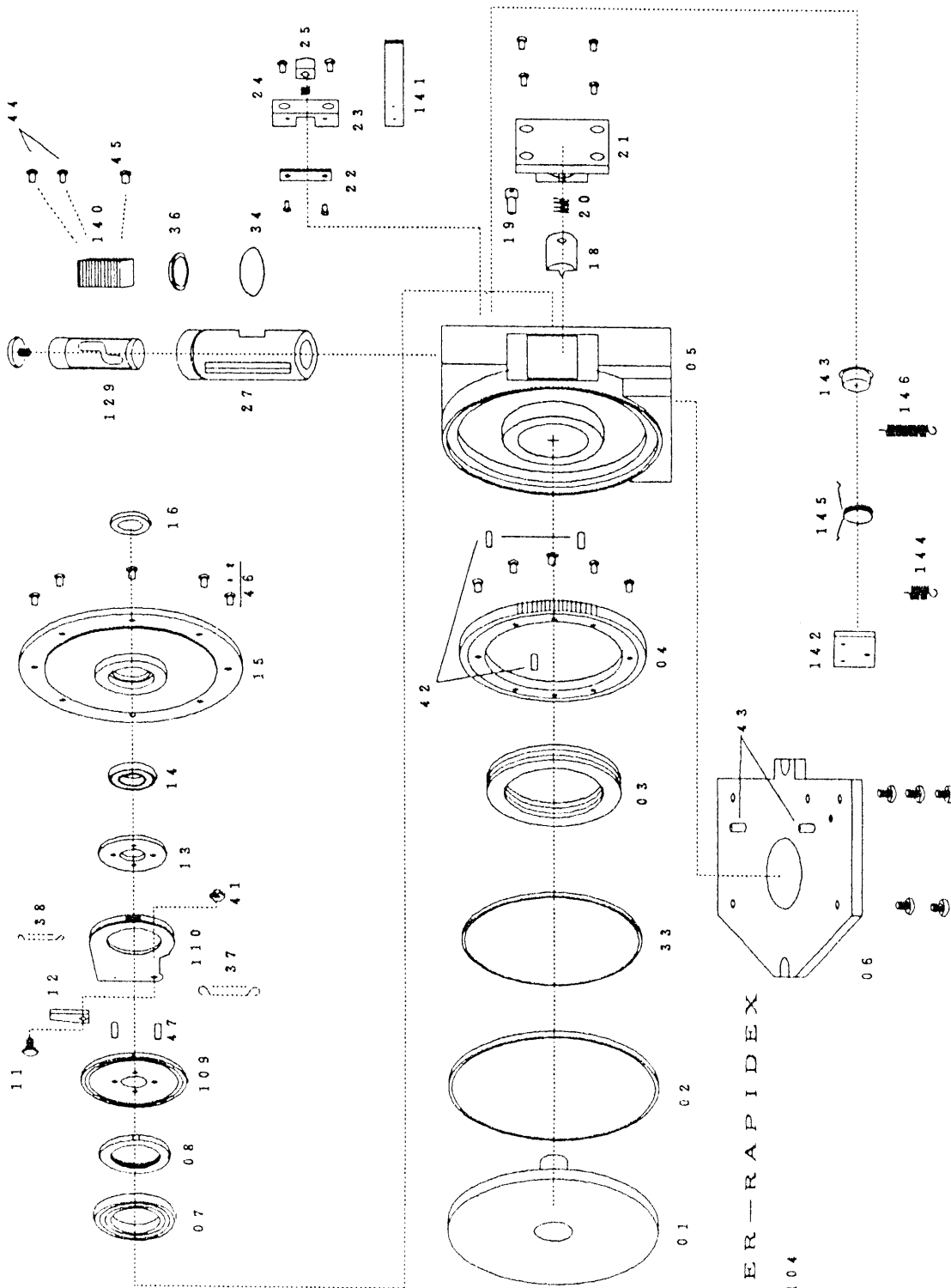
Fig 9





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