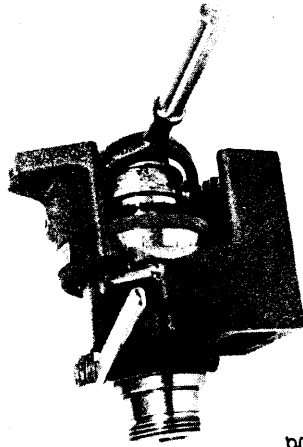


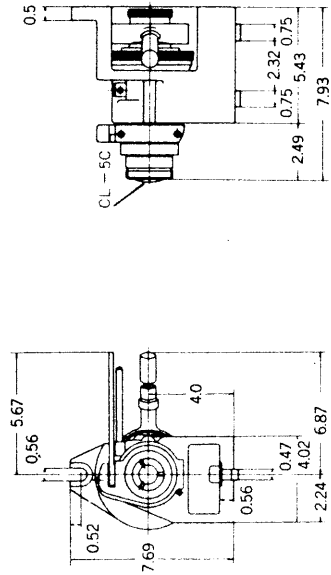
550-004 Horizontal Vertical Collet Index

Mounted on milling machines, grinding machines, drilling machines and other machine tools, this indexer facilitates quick loading and unloading of a workpiece by the use of a collet chuck, thus being most useful for enhancing work efficiency. It can be mounted on a grinding machine because of its small body and can also be used in a horizontal and vertical position.

This Collet Index is capable of dividing in numbers 2, 3, 4, 6, 8, 12 and 24.



Dimensional Drawing



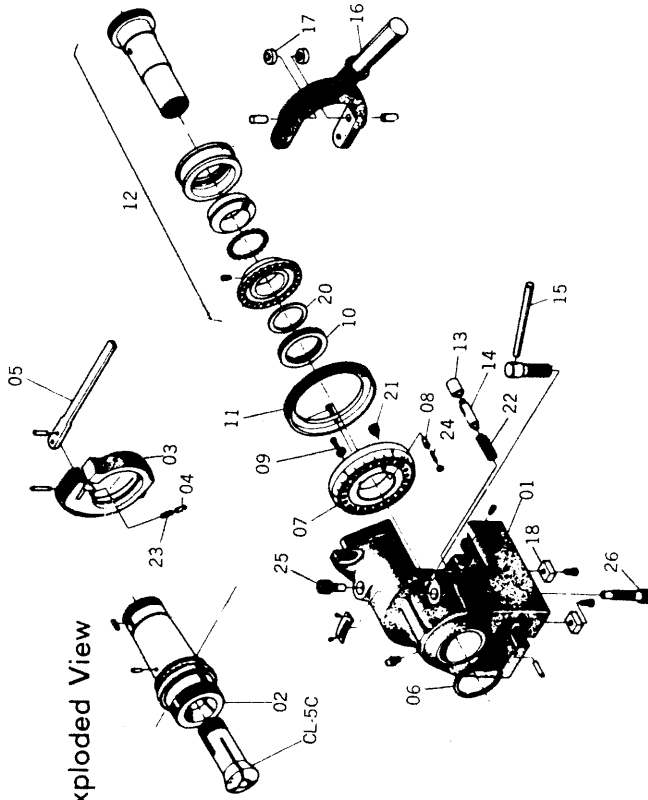
Stock No. & Dimensions

Stock No.	Min. inner diameter of spindle	Numbers of dividing	Spindle screw	Collet	Weight kg/Lb
550-004	31.75 1.25	2,3,4,6,8,12,24	2 1/4 x 8 Thread	CL-5C	11.5 25.3

Standard Accessories

Hexagonal Wrench Key (Size: G2.5, G3, G4, G8, and 3/16")
Upon unpacking, check if no one of the accessories is missing.

Exploded View



Parts No. and Parts Names

- COI-02 Spindle,
- COI-05 Turning Handle,
- COI-07 Master Indexing Plate,
- COI-08 Stopper Pin,
- COI-12 Draw-Bar,
- COI-14 Index Pin,
- COI-15 Pinion Handle,
- COI-16 Crank Handle,
- COI-21 Index Adjusting Bolt
- COI-24 Spring, (For Stopper Pin)
- CL-5C Collet

***Suggestions for Ordering Parts**

The parts names in this operation and service manual are abbreviated for description.

Therefore, when ordering parts for replacement, be sure to specify article marks and component Nos. as in the following:



Stock No. Component No. Operation & Service Manual No.

When ordering parts in accordance with the parts No. given in a catalog of all products other than this manual, be sure to write in addition its publishing year, page, etc.

Operating Instructions and Functions of Each Unit

Mounting of Collet

Select a 5C Collet having a radius suitable to the diameter of the workpiece.

Put it in the front of the Spindle and screw it to the Spindle by turning the Draw-Bar COI-12 in its rear side. (Fig. 1)

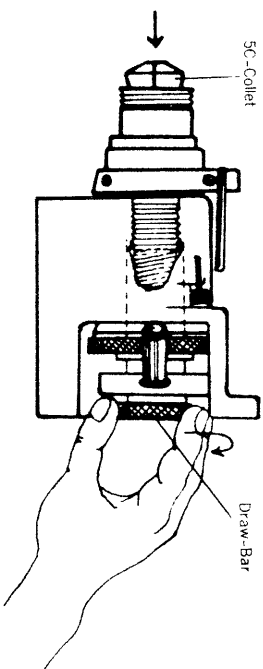


Fig. 1

Setting of Dividual Number

The Master Indexing Plate COI-07 has an Index Adjusting Bolt COI-21 in each of the 24 index holes arranged at equal intervals. (Example) To divide into four equal sections, select 4 holes from among the 24 holes at intervals of 6 holes and draw out their Index Adjusting Bolts by rotating counterclockwise with the key wrench. At this stage, 4 holes have been formed on the front side of Master Indexing Plate so that the Index Pin COI-14 can engage with them.

On the other hand, the Index Pin cannot engage with other blinded holes. (Fig. 2 and 3)

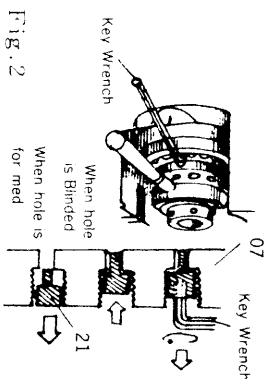


Fig. 2

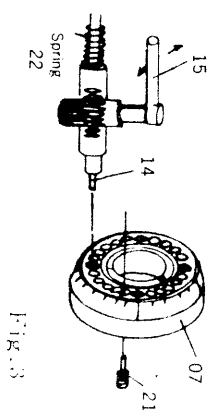


Fig. 3

Clamping of Workpiece

Insert a workpiece into the 5C Collet mounted and move the Crank Handle COI-16 backward; and the Collet is drawn into the body, thus clamping the workpiece by the function of its tapered shank. (Fig. 4)

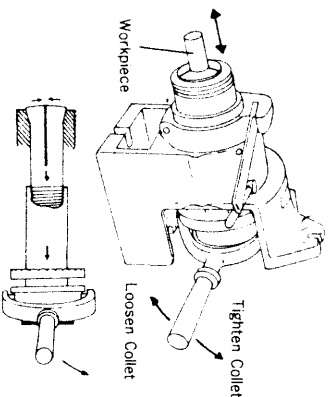


Fig. 4

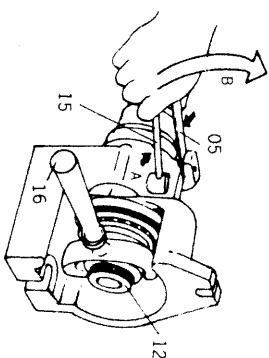


Fig. 5

Dividing Operation

This indexer features an easy dividing operation. A movement toward the direction of A for disengaging the Index Pin COI-14 from the hole of the Master Indexing Plate COI-07 by the Pinion Handle COI-15 and a movement toward the direction of B for rotating the

Spindle COI-02 by the Turning Handle COI-05 can be performed single-handedly and concurrently. (Fig. 5)

To perform the single-hand operation, grasp these two handles. Now, the Turning Handle is not in motion while the Pinion Handle is moved to the left, (near the Turning Handle). Operate the Turning Handle by lifting upwards while maintaining the above condition, and the Ratchet is caught in the ratchet groove, thus starting to rotate the Spindle. The Index Pin has been disengaged from its hole at this stage. Then loosen the hold of the Pinion Handle, and the Index Pin automatically falls into the next hole due to the return spring. Lower the Turning Handle to its former position. Because of its ratchet mechanism, the Spindle is held in position as it is, while the Turning Handle alone returns to its former horizontal position. (Fig. 6)

Unloading of Workpiece

Upon completion of work, move the Crank Handle COI-16 outwards to loosen the collet and unload the workpiece.

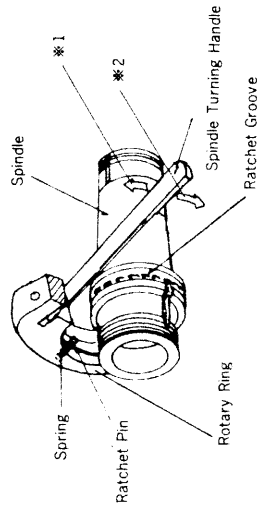


Fig. 6

*1 Ratchet is caught in Ratchet Groove so as to rotate spindle.

*2 Spindle is held in position as it is, while turning handle alone returns to its former position.

How to Adjust

Detail of Mounting Part of Collet and Adjustment of Clamping Allowance.

The draw-bar COI-12 is provided with a clutch plate, which is grooved into 24 equal parts. When the clutch plate is incorporated in the body, the Stopper Pin COI-08 falls into the groove. Turning the Draw-Bar COI-12 clockwise to join it with the male screw of the collet makes a click. An allowance for clamping the collet can be adjusted with the help of this click. The screw of a collet has a pitch of $\frac{1}{16}$, so that its mounting length is finely adjustable at intervals of $\frac{1}{480}$. Clamp a workpiece completely with the Crank Handle COI-16. When it is loose, minutely turn the Draw-Bar clockwise to pull the collet into the Spindle. On the other hand, when it is tight, minutely turn the Draw-Bar counterclockwise to push the collet out of the spindle.

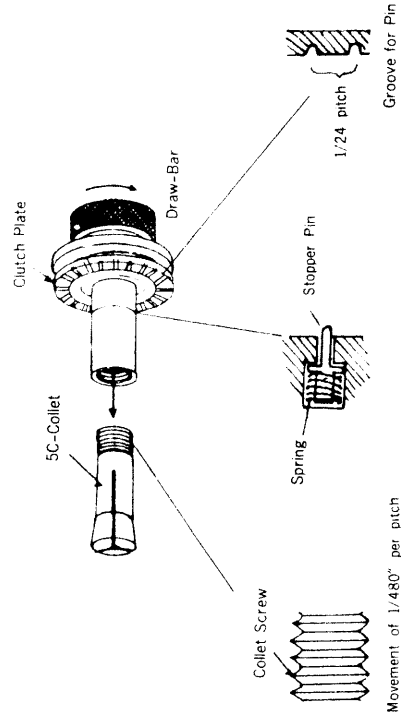


Fig. 7

● Detail of Ratchet Mechanism for Rotating Spindle

● Detail of Mounting parts of Collet and its surroundings and Clutch plate

Spindle Thrust Adjustment

Demount the crankhandle 16 by removing the two socket screws 25, 26 securing it, and then pull out the draw bar 12 from the spindle.

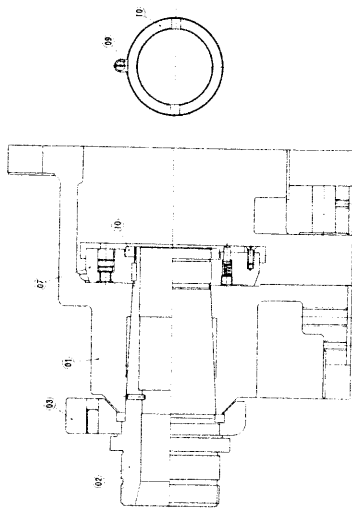
Remove the thrust nut pusher 09 of the Master Indexing plate, and adjust the rotating condition of the thrust by turning clockwise or counterclockwise the thrust nut 10 securing the Master Indexing plate.

After adjustment, set the thrust nut pusher so that the thrust nut may not be turned.

How to Demount Master Indexing Plate

To demount the dividing plate for replacement, first remove the crankhandle 16 and draw bar 12 in the same manner as the above-mentioned spindle thrust adjustment.

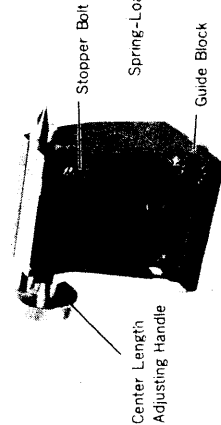
Secondly, take away the thrust nut pusher 09 and remove the thrust nut by turning counterclockwise, and the Master Indexing plate can be demounted.



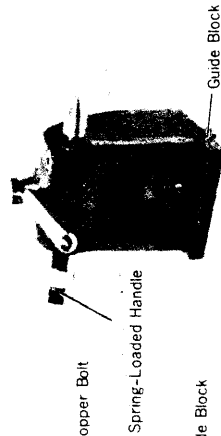
Special Accessories

- Tailstock

TST-1



TSL-1



The hardened and ground spindle is screw-fed and it can be locked in the desired position by the hexagon-headed clamping bolt.

A rack-and-pinion mechanism quickly positions the hardened and ground center spindle. Spring pressure holds the tip against the work.

- Center with carrier CWC-1



Fits into the nose spindle for better between-center work.

- 5C-Collet CL-5C

This attachment is precisely manufactured for use in our Collet Index.



Stock No. & Dimensions for 5C-Collet

Millimeter Sized Type		Inch Sized Type	
Stock No.	Inner Dia. of Bore (mm)	Stock No.	Inner Dia. of Bore (in)
505-200	3	500-100	1/8
505-201	4	500-110	3/16
505-202	5	500-101	1/4
505-203	6	500-111	5/16
505-204	8	500-102	3/8
505-205	10	500-112	7/16
505-206	12	500-103	1/2
505-207	14	500-113	9/16
505-208	15	500-104	5/8
505-209	16	500-114	11/16
505-210	18	500-105	3/4
505-211	20	500-115	13/16
505-212	22	500-106	7/8
505-213	25	500-116	15/16
		500-107	1

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