

**TSUNG FU**  
琮富

萬能工具磨床

**CHI TSENG**

UNIVERSAL TOOL & CUTTER GRINDER



錡增機械工業股份有限公司  
CHI TSENG MACHINERY IND. CO., LTD.



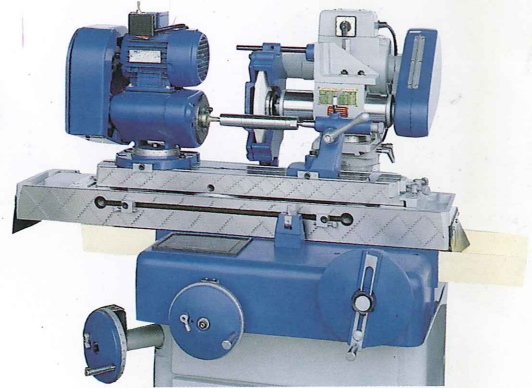
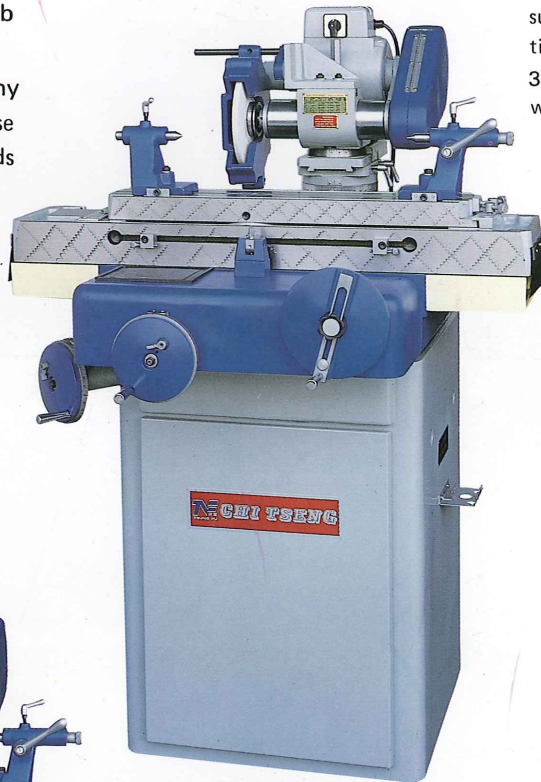
# THE CHI TSENG TOOL & CUTTER GRINDERS ARE THE MOST UNIVERSAL LINE YOU'VE EVER HAD!

Only with the versatility and prices of CHI TSENG Grinders can meet the needs for both big factories and job shops.

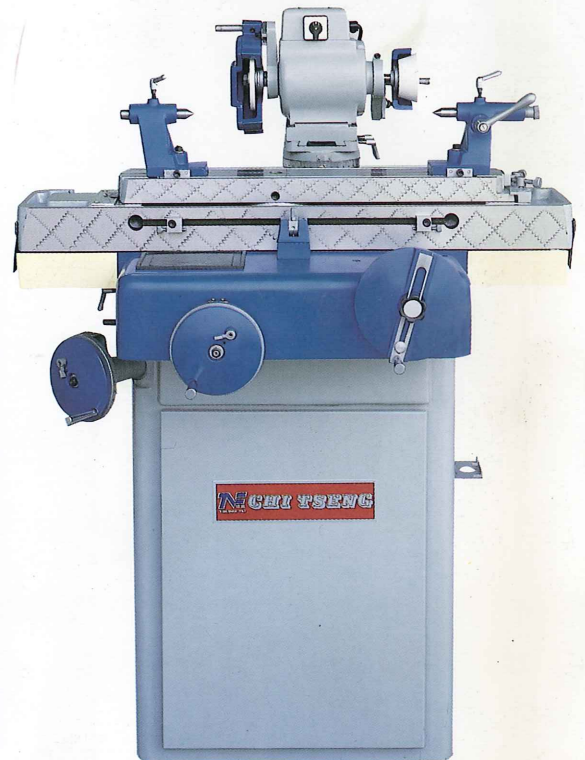
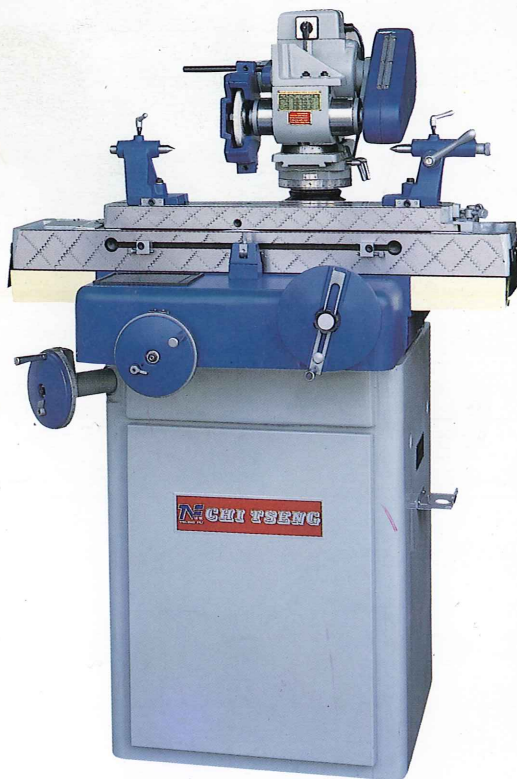
Compare CHI TSENG grinders with any other-qualitywise and pricewise according to your individual needs then you will see the reality!

## CT-357L

This machine with C21S2 heavy duty spindle fixture is suitable for heavy duty cutter sharpening and continuous cylindrical grinding. Picture above shows the 357L with special accessory C2DH-1 motor driven workhead, making it more universal for O.D. grinding.



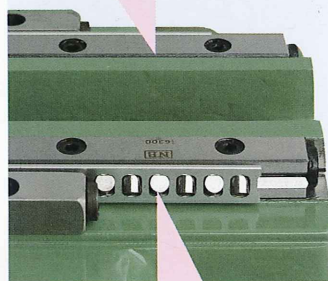
外徑研磨



工具磨

CT-357 之工作台採用線性軌道設計利用：

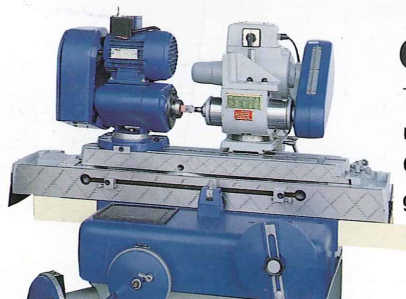
1. 90°的V形溝槽軌道，使他能夠承受來自各方向的力。
2. 軌道經過特殊的熱處理，它是相當耐磨的。



3. 採用圓筒形之支撐體，其間隙設計非常精密，因此允許的負重便更大。
4. 因 Cage 和圓筒支撐體的摩擦係數很小，所以可以很平滑的移動。

## CT-357M

With the universal grinding spindle fixture C21S1 and 18400/16465 spindle speeds, this model in CHI TSENG series can maintain standard cutting tools as well as I.D. grinding.



內徑研磨

## CT-357S

This standard utility type machine can be tooled to meet all your immediate needs. Equip with C21S1 or C21S2 whenever you need to make it into a universal grinder.



# UNIVERSAL TOOL AND CUTTER GRINDERS

## CT-357M (GHM)

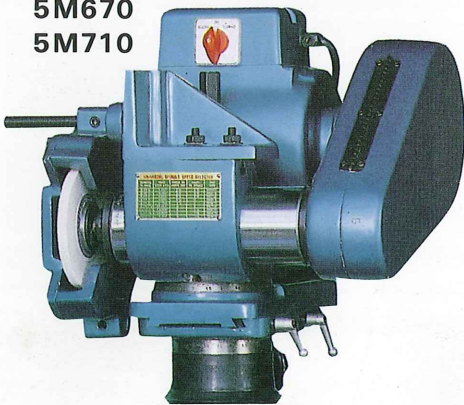
### High Speed C21S1

½ H.P. Motor and handy adaptors are for standard cutters and milling machine cutters.

Grinding Head Speeds

**Belt Code:**

5M560  
5M615  
5M670  
5M710



**60Hz**

DIAMETER OF WHEEL	WHEEL SPEED R.P.M.	PULLEY ON MOTOR 3450	PULLEY ON SPINDLE	BELT USED
6 TO 5	3,450	2¾	2¾	5M560
6 TO 5	3,450	3¾	3¾	5M615
5 TO 4	4,600	4½	3¾	5M710
4 TO 3	5,820	3¾	2	5M615
3 TO 2	7,760	4½	2	5M670
2 TO 1½	10,350	6	2	5M710
1½ TO 1	13,800	6	1½	5M670
1 TO ¾	16,560	6	1¼	5M670
¾ TO 1/2	18,400	6	1½	5M670

**50Hz**

DIAMETER OF WHEEL	WHEEL SPEED R.P.M.	PULLEY ON MOTOR 3450	PULLEY ON SPINDLE	BELT USED
6 TO 5	3,380	2 3/8	2	5M560
6 TO 5	3,345	3 3/8	2¾	5M615
5 TO 4	4,460	4½	2¾	5M670
4 TO 3	5,400	4½	2¾	5M670
3 TO 2	7,690	3¾	1¼	5M560
2 TO 1½	11,400	6	1½	5M710
1½ TO 1	13,680	6	1¼	5M710
1 TO ¾	15,200	6	1½	5M710
¾ TO 1/2	16,465	6½	1½	5M710

## CT-357L (GHL)

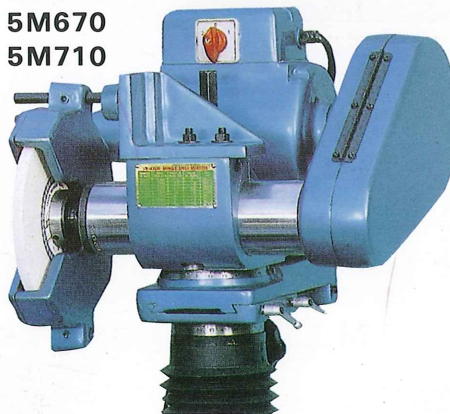
### Heavy duty C21S2

½ H.P. Motor handy adaptors with the heavy duty spindle fixture are special for heavy duty cutter sharpening.

Grinding Head Speeds

**Belt Code:**

5M560  
5M615  
5M670  
5M710



**60Hz**

DIAMETER OF WHEEL	WHEEL SPEED R.P.M.	PULLEY ON MOTOR 3450	PULLEY ON SPINDLE	BELT USED
	1,150	2	6	5M710
8 TO 7	2,580	3¾	4½	5M710
7 TO 5½	3,450	2¾	2¾	5M560
7 TO 5½	3,450	3¾	3¾	5M615
5 1/2 TO 4	4,600	4½	3¾	5M670
3 TO 3	6,210	4½	2½	5M670
3 TO 2½	7,760	4½	2	5M615

**50Hz**

DIAMETER OF WHEEL	WHEEL SPEED R.P.M.	PULLEY ON MOTOR 3450	PULLEY ON SPINDLE	BELT USED
	1,185	2½	6	5M710
8 TO 7	2,425	2¾	3¾	5M615
7 TO 5½	3,380	2¾	2	5M560
7 TO 5½	3,345	3¾	2¾	5M615
5½ TO 4	4,460	4½	2¾	5M670
4 TO 3	5,945	6	2¾	5M710
3 TO 2½	7,695	3¾	1¼	5M560

## CT-357S (GHS)

### Utility C21M1

½ H.P. Motor. The standard grinding assembly for utility type.

Utility



**60Hz**

H. P.	R.P.M.
½	3,450

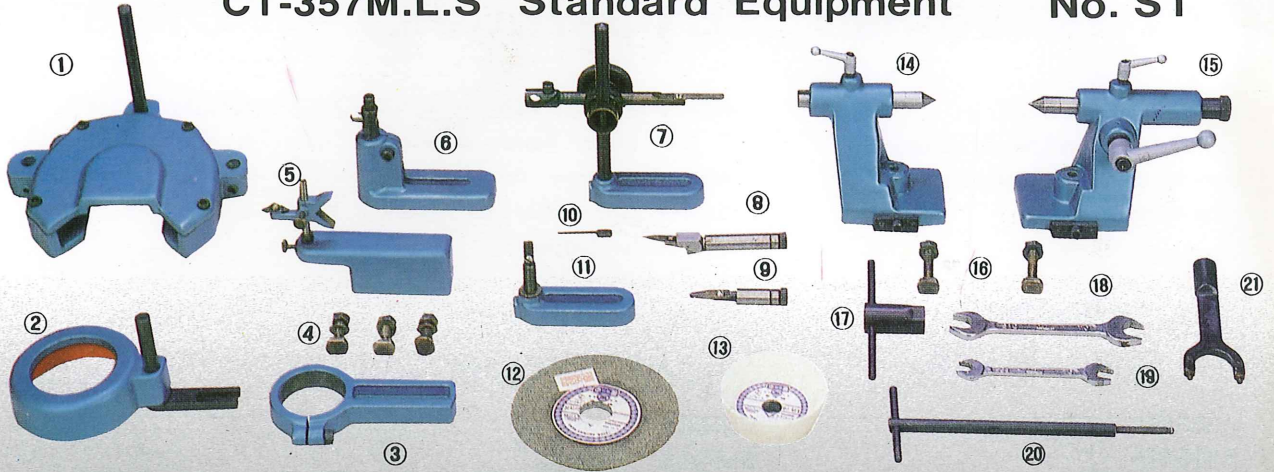
**50Hz**

H. P.	R.P.M.
½	2,850



## CT-357M.L.S Standard Equipment

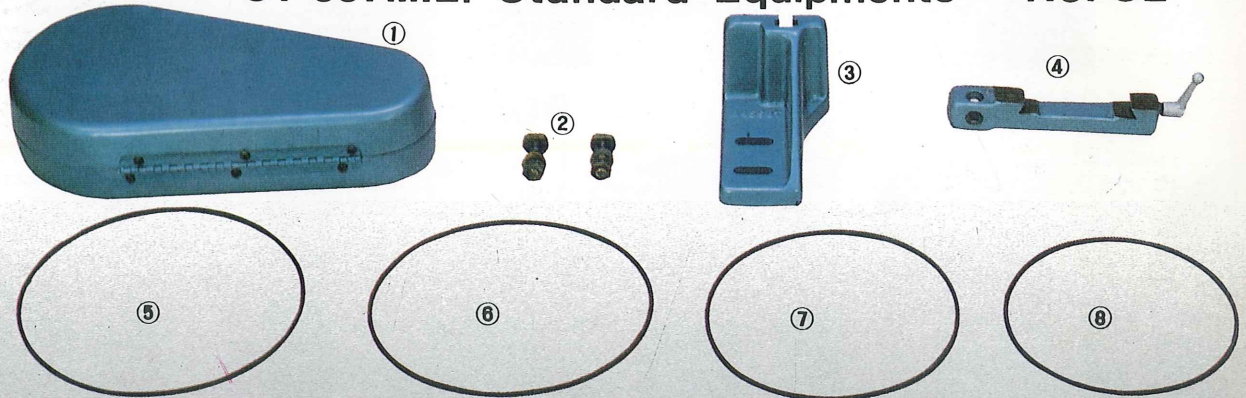
No. S1



Index No.	Part No.	Description	Index No.	Part No.	Description
1	C22W1	6" Wheel Guard	12	AW10	Saucer Wheel (6")
2	C22W2	4" Wheel Guard	13	AW09	Cup Wheel (4")
3	C2M06A	T-Slot Arm	14	C2T2	Tailstock
4	C2207A	T-Slot Bolt	15	C2T1	Tailstock
5	C2G1	Center Gauge	16	C2T11A	T-Slot Bolt
6	C2D1	Diamond Dress	17	AG01	Wrench (Hex. 23mm)
7	C2R1	Universal Tooth Rest	18	AG02	Wrench (17-19mm)
8	C2R1-1a or b	Micrometer Tooth Rest	19	AG03	Wrench (14-12mm)
9	C2R1-2a or b	(a=Metric, b=Inch)	20	AG04	Hex. Wrench (6mm)
10	C2R1-3	Tooth Rest	21	AG05	Wrench (Used to Motor Shaft)
11	C2R2	Plain Tooth Rest			

## CT-357M.L. Standard Equipments

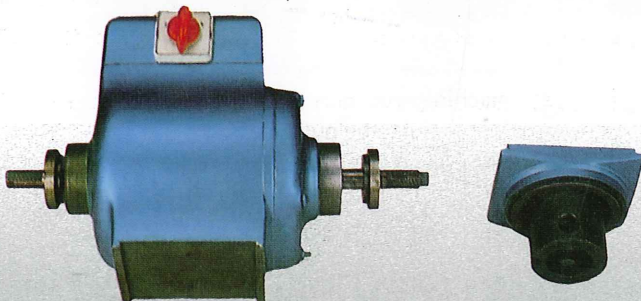
No. S2



Index No.	Part No.	Description	Index No.	Part No.	Description
1	C2214	Belt Guard	5	5M710	V-Belt 28"
2	C2207A	T-Slot Bolt	6	5M670	V-Belt 26"
3	C2206	Bracket for Wheel Guard or Tooth Rest	7	5M615	V-Belt 24"
4	C2203A	Dovetail Clamp Assembly	8	5M560	V-Belt 22"

## CT-357S Standard Equipment

No. S3

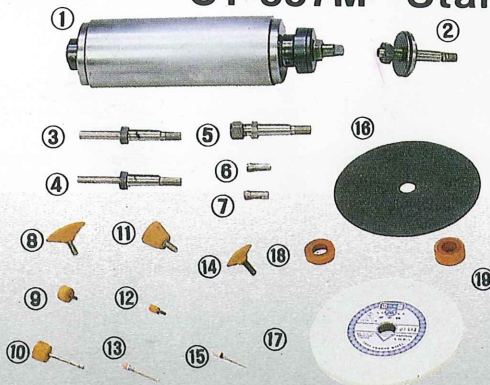


Index No.	Part No.	Description
1.	C2M1	Motor Assembly
2.	C24S2	Motor Saddle Assembly

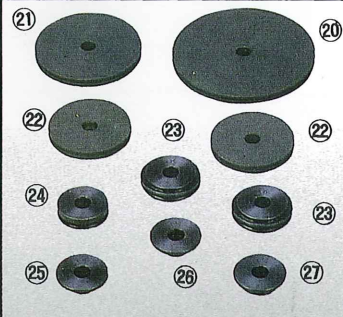


## CT-357M Standard Equipments

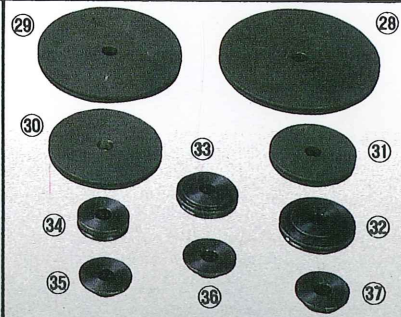
No. S4



### Motor 60Hz



### Motor 50Hz



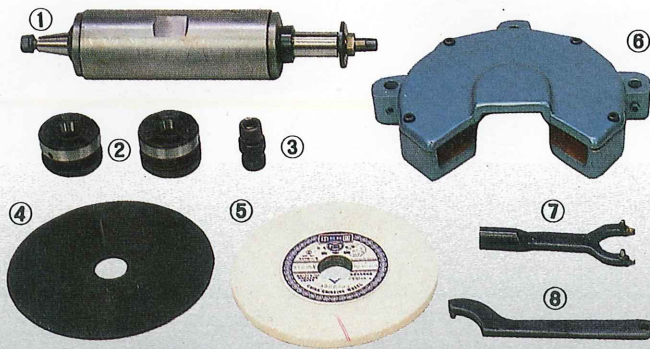
Index No.	Part No.	Description	Index No.	Part No.	Description
1	C21S1	High Speed Universal Quill Assembly	10	AW03a or b	Mounted Wheel (a: 3mm) (b: 1/8")
2	C2116	Wheel Arbor Assembly	11	AW06a or b	Mounted Wheel (a: M6x1P, b: 1/4"-28NF)
3	C2118a or b	Wheel Arbor (a: M6x1P) (b: 1/4"-28NF)	12	AW04a or b	Mounted Wheel (a: M3x0.5P, b: 1/8"-40NC)
4	C2117a or b	Wheel Arbor (a: M3x0.5P) (b: 1/8"-40NC)	13	AW01a or b	Mounted Wheel (a: 3mm, b: 1/8")
5	C2119	Collet Chuck Assembly	14	AW07a or b	Mounted Wheel: (a: M6x1P, b: 1/4"-28NF)
6	C21C3 or 1/8"	Collet (3 & 1/8" are I.D.)	15	AW02a or b	Mounted Wheel (a: 3mm, b: 1/8")
7	C21C6 or 1/4"	Collet (6 & 1/4" are I.D.)	16	AW12	Cut off Wheel (6")
8	AW08a or b	Mounted Wheel (a: M6x1p) (b: 1/4"-28NF)	17	AW11	Straight Wheel (5")
9	AW05a or b	Mounted Wheel (a: M3x0.5P) (b: 1/8"-40NC)	18	AW10-1	Bush Put in AW10
			19	AW09-1	Bush Put in AW09

Motor 60Hz		
Index No.	Part No.	Description
20	C2129	Pulley (6")
21	C2128	Pulley (4 1/2")
22	C2127	Pulley (3 3/8")
23	C2124	Pulley (2 3/8")
24	C2123	Pulley (2")
25	C2122	Pulley (1 1/2")
26	C2121	Pulley (1 1/4")
27	C2120	Pulley (1 1/8")

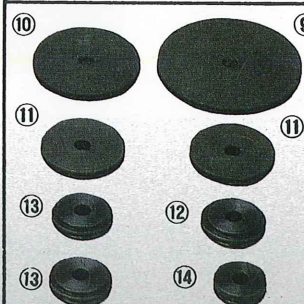
Motor 50Hz		
Index No.	Part No.	Description
28	C2130	Pulley (6 1/2")
29	C2129	Pulley (6")
30	C2128	Pulley (4 1/2")
31	C2127	Pulley (3 3/8")
32	C2126	Pulley (2 3/8")
33	C2124	Pulley (2 3/8")
34	C2123	Pulley (2")
35	C2122	Pulley (1 1/2")
36	C2121	Pulley (1 1/4")
37	C2120	Pulley (1 1/8")

## CT-357L Standard Equipments

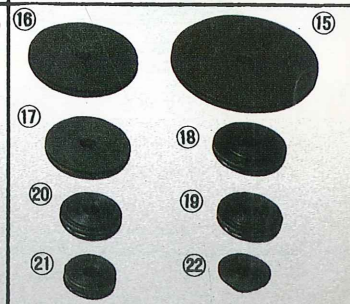
No. S5



### Motor 60Hz



### Motor 50Hz



Index No.	Part No.	Description	Motor 60Hz			Motor 50Hz		
			Index No.	Part No.	Description	Index No.	Part No.	Description
1	C21S2	Heavy Duty Universal Quill Assembly	9	C2129	Pulley (6")	15	C2129	Pulley (6")
2	1001A	Adjustable Wheel Flange and Weights	10	C2128	Pulley (4 1/2")	16	C2128	Pulley (4 1/2")
3	1001B	Extracting Wheel Screw	11	C2127	Pulley (3 3/8")	17	C2127	Pulley (3 3/8")
4	AW13	Cut Off Wheel (8")	12	C2125	Pulley (2 1/2")	18	C2126	Pulley (2 3/8")
5	AW14	Straight Wheel (8")	13	C2124	Pulley (2 3/8")	19	C2125	Pulley (2 1/2")
6	C22W3	Wheel Guard (8")	14	C2123	Pulley (2")	20	C2124	Pulley (2 3/8")
7	10-01-04A	Wrench				21	C2123	Pulley (2")
8	10-01-04B	Wrench				22	C2121	Pulley (1 1/4")

It's not necessary to order another complete machine, when you want to extend your originally owned CT-357 family machine to other model.

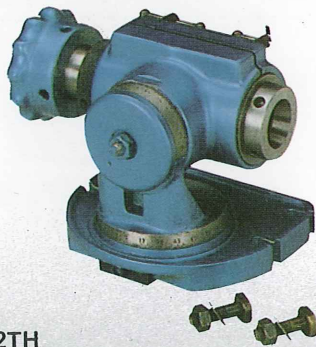
- When you want to extend CT-357L machine to CT-357M machine, you only have to order the parts listed in table No. S4. Please also refer to table No. S5 for pulleys. You may delete the same pulleys.
- When you want to extend CT-357M machine to CT-357L machine, you only have to order the parts listed in table No. S5. Please also refer to table No. S4 for pulleys. You may delete the same pulleys.
- When you want to extend CT-357L to CT-357M or CT-357L, please tell us the model you need.
- When you want to extend CT-357M or CT-357L to CT-357S, you only have to order C24S2 parts assembly as shown in table No. S3.



# CHI TSENG-ENGINEERS MAKE AVAILABLE MORE TIME-TESTED



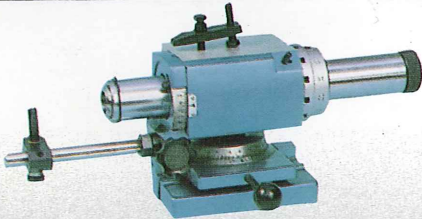
**C2DH-1**  
**MOTOR DRIVEN WORK HEAD**  
 B&S TAPER NO. 11  
 (Max. O.D. grinding capacity 6"  
 (150mm) long)  
 (Work With 357M For I.D. grinding)  
 (Work With 357L For O.D. grinding)



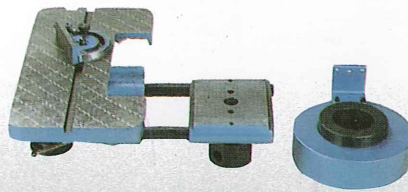
**C2TH**  
**TAP GRINDING FIXTURE**  
 B&S TAPER NO. 11



**C2SF**  
**SENSITIVE WORK HEAD**  
 NT = 50 TAPER  
 (with AK-24 index disc)



**C2AH**  
**AIR BEARING FIXTURE**  
 5C COLLET TAPER



**C2LT**  
**TILTING TABLE ATTACHMENT**

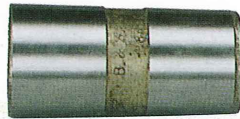


**1008A**  
**FLOOD COOLANT SYSTEM**  
 with splash guard



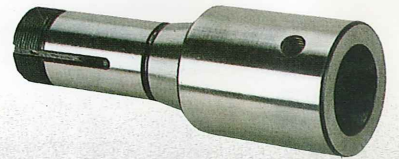
**Taper Sleeves**  
 5C Collet Taper O.D. set-up on AC01 Collet Sleeve and C2AH Air Bearing Fixture Spindle.

AC07 No.3 MT Taper I.D.  
 AC08 No.2 MT Taper I.D.  
 AC09 No.1 MT Taper I.D.

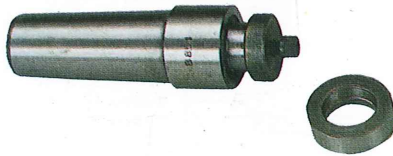


**TAPER SLEEVES**  
 No. 11 B&S Taper O.D.  
 These sleeves can be used on all types of Cutters with Taper Shanks.

AC20 4MT I.D.  
 AC21 3MT I.D.  
 AC22 2MT I.D.  
 AC23 1MT I.D.



**Straight Sleeves**  
 5C Collet Taper O.D. set-up on AC01 Collet Sleeve and C2AH Air Bearing Fixture Spindle.  
 AC25 1 1/2" Straight hole dia.  
 AC26 32mm Straight hole dia.



**Arbors**  
 Shell End Mill and Cutter Arbor No. 11 B&S Taper O.D. Specially designed to sharpen O.D. And Face of Shell Type Milling Cutters.

Part No.	Dia. (inch)	Part No.	Dia. (mm)
AA01	1/2 Arbor	AA10	13 Arbor
AA02	5/8 Arbor	AA11	16 Arbor
AA03	3/4 Arbor	AA12	22 Arbor
AA04	7/8 Arbor	AA13	27 Arbor
AA05	1 Arbor	AA14	32 Arbor
AA06	1 1/4 Arbor	AA15	40 Arbor
AA07	1 1/2 Arbor		

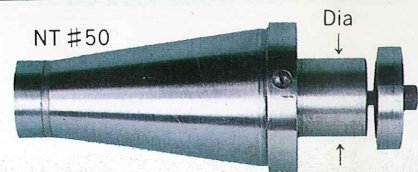
Special Sizes Available on Request



**Cutter and Hob Grinding, Arbor**  
**ARBORS AVAILABLE**  
 AB01 1/2" Arbor with Taper Collet for Index Disc.  
 AB02 1" Arbor with Taper Collet for Index Disc.  
 AB03 13mm Arbor with Taper Collet for Index Disc.  
 AB04 27mm Arbor with Taper Collet for Index Disc.  
 AB05 3/4" Sleeve must be put in AB01  
 AB06 7/8" Sleeve must be put in AB01  
 AB07 1 1/2" Sleeve must be put in AB02  
 AB08 1 1/2" Sleeve must be put in AB02  
 AB09 2" Sleeve must be put in AB02  
 AB10 16mm Sleeve must be put in AB03  
 AB11 22mm Sleeve must be put in AB03  
 AB12 32mm Sleeve must be put in AB04  
 AB13 40mm Sleeve must be put in AB04



**CISG CIRCULAR SAW BLADE GRINDING ATTACHMENT**  
 (up to 20" dia.)

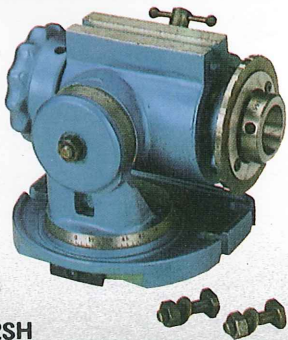


**Arbor**  
 Sharpening Face Milling Cutters Arbors NT # 50 Taper O.D. (see picture above) Dia. to fit Cutter Hole (see picture above)

Part No.	Dia. (inch)	Part No.	Dia. (mm)
AA20	1 1/2	AA25	40
AA21	2	AA26	60



# FIXTURES THAN ANY OTHER GRINDER MANUFACTURER



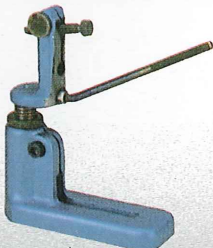
**C2SH**  
SENSITIVE WORK HEAD  
B&S TAPER NO. 11  
(with AK-24 index disc)



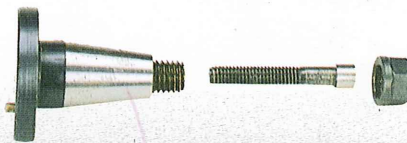
**C2RG**  
RADIAL GRINDING FIXTURE  
B&S TAPER NO. 11  
(with AK-24 index disc)



**C2LH**  
WORK HOLDING FIXTURE



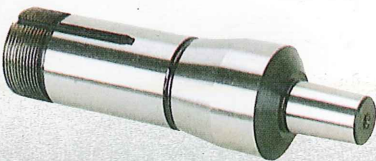
**Diamond Dresser**  
C2D2 Radial Diamond Dress Fixture  
for wheel dressing with C2D04  
Diamond. Maximum radius 5/8"



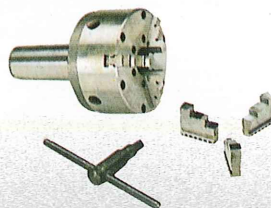
**Arbor**  
C2131 Arbor to fit all Motor shafts,  
adapts 1001A 1 1/4" Adjustable Wheel  
Flange and Weights to motor shaft



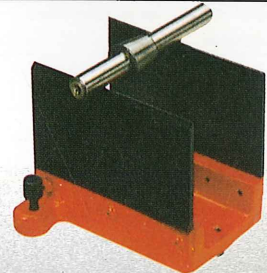
**1001A (left) & 1001B (right)**  
1001A Adjustable Wheel Flange and  
Weights 1001B Extracting Screws



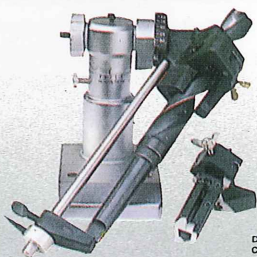
**Taper Arbor**  
5C Collet Taper O.D. set-up on AC01 Collet Sleeve and C2AH Air Bearing  
Fixture Spindle.  
AC27 16 Taper O.D.



**AF01B**  
4 inch. Adjustable 3-Jaw Chuck. Chuck is mounted on No. 11 B&S taper  
arbor. Will fit all fixtures with No. 11 B&S spindle.



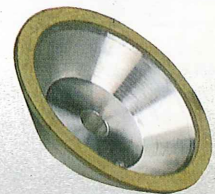
**Wheel Balancing Stand**  
1001C wheel Balancing Stand-available for all standard 7" to 8.. Dia. Wheels,  
Which including Test Bar. Seat Frame, 2.5mm Wrench For 1 1/4" wheel.  
Must be mounted on 1001A Adjustable wheel flange and weights.



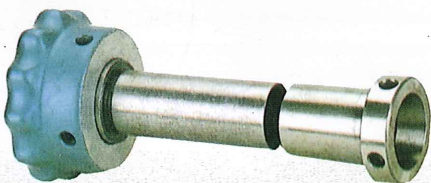
**DRILL GRINDING ATTACHMENT**  
CIDG (A) (From 3mm to 32mm dia.)  
CIDG (B) (From 32mm to 60mm dia.)



**5C Collet**  
5C Collets to fit AC01A,B,C Collet fixture and C2AH Air Bearing Fixture.  
Available size: 5C1: 3/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1" (7pcs.) or 5C2:  
6, 8, 10, 12, 16, 20, 25 mm (7pcs.)



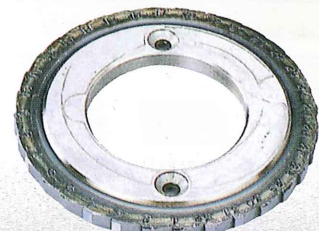
**Diamond Cup Wheel (I. D. 5/8")**  
AW101 6" to fit FCG-714S to Grind all Carbide Tip.  
AW102 4" to fit FCG-714M to Grind all Carbide Tip.



**AC01A Collet Fixture for Changing C2SH, C2RG from B&S NO.11 Taper to  
accept 5C Collet**  
AC01B Collet Fixture for Changing C2DH-1 from B&S NO.11 Taper to  
accept 5C Collet  
AC01C Collet Fixture for Changing C2TH from B&S NO.11 Taper to  
accept 5C Collet



**AF02-04B**  
Independent 4-Jaw Chuck with reversible jaws. Chuck is mounted on No. 11  
B&S taper arbor and adapter plate for use on all fixtures with No. 11 B&S  
spindle.  
AF02B 4" Chuck and No. 11 B&S Taper O.D. Arbor.  
AF03B 5" Chuck and No. 11 B&S Taper O.D. Arbor.  
AF04B 6" Chuck and No. 11 B&S Taper O.D. Arbor.



**Index Discs**  
AK24...60 Index Discs to fit C2SH&C2SF Sensitive Work Head, C2RG Radial  
Grinding Fixture and AB01-04 cutter & hob grinding arbors.  
Available for 24, 30, 32, 34, 36, 40, 42, 44, 46, 48, and 60 divisions.  
Special Index Discs with any number divisions will be furnished on request.

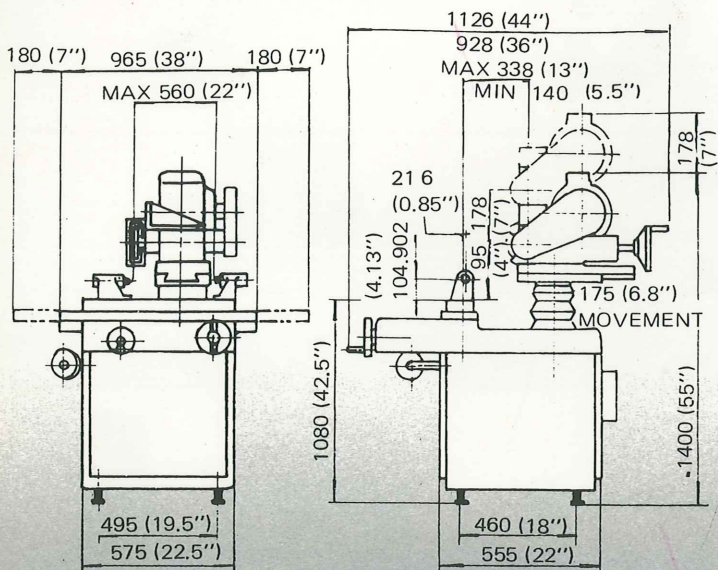


萬能工具磨床

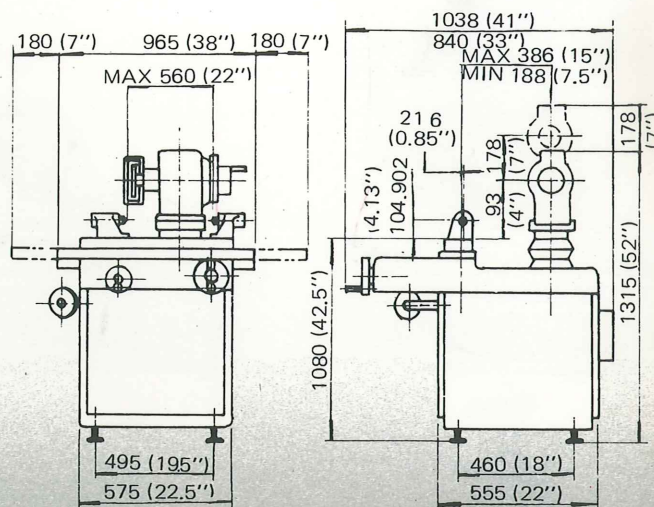
# CHI TSENG

UNIVERSAL TOOL & CUTTER GRINDER

CT-357M&L DIMENSIONAL DRAWING



CT-357S DIMENSIONAL DRAWING



## GENERAL SPECIFICATIONS:

Distance between Tailstocks	560mm	22"
Distance between Centers in Workhead and Tailstock	380mm	15"
Distance between Collet in Workhead and Tailstock	394mm	15½"
Distance between Chuck Face and Tailstock (1" hole through chuck)	356mm	14"
Table Working Surface	133x692mm	5¼"x27¼"
Sub Table	203x965mm	8"x38"
Total Crossfeed Movement	198mm	7¾"
Feed per Revolution of Handwheel	3mm	0.100"
Feed per graduation of Handwheel	0.01mm	0.0005"
Table Traverse	360mm	14"
Fast Feed per Revolution of Handwheel	80mm	3⅜"
Slow Feed per Revolution of Handwheel	16mm	5/8"
Ratio—Fast: Slow	5:1	5:1

Vertical Movement of Column	178mm	7"
Feed per Revolution of Handwheel	1.5mm	0.05"
Feed per graduation of Handwheel	0.01mm	0.0005"
Column Diameter	101.6mm	4"
Minimum Distance Centerline of Wheel Shaft to Top of Table	95mm	3¾"
Maximum Distance Centerline of Wheel Shaft to Top of Table	273mm	10¾"
Centerline Height of Fixtures to Top of Table	104.902mm	4.130"
Table T-Slot	7/16"	7/16"
Table Swivels (Calibration: 3" per ft., 15° either side of center)	240°	240°
Wheel Head Swivel	360°	360°
Motor Speed RPM	60Hz: 3450	50Hz: 2850
Spindle Speed Range (High Speed Grinders)	60Hz: 3450-18400	50Hz: 3380-16465
Spindle Speed Range (Heavy Duty Grinders)	60Hz: 1150-7760	50Hz: 1185-7695

MODEL	CT-357M	CT-357L	CT-357S
Maximum Distance from Column to Outside of Straight Wheel; Dovetail Slide not Extended, Spindle 90° to Table.	4⅝" (117mm)	4⅝" (117mm)	4⅞" (122mm) no Dovetail
Maximum Distance from Column to Outside of Straight Wheel; Dovetail Slide Extended, Spindle 90° to Table	11⅞" (294mm)	11⅞" (294mm)	—
Maximum I.D. Depth. Hole Size 9/32" (7mm) to 2" (50mm) capacity with Standard Arbors	1¼" (32mm)	—	—

MODEL	CT-357M	CT-357L	CT-357S
Grinding wheel hole size	⅝"	1¼"	⅝"
Net Weight	518kg (1140 lb)	518kg (1140 lb)	490kg (1080 lb)
Gross weight	636kg (1400 lb)	636kg (1400 lb)	609kg (1340 lb)
Packing dimension	43"x43"x63" (1092x1092x1600mm)		

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms...etc to improve the performances of this machine without notice.



錡增機械工業股份有限公司

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