tk Commander

PRODUCTION TOOLS

THE L. A. BENSON CO., INC.
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tk COMMANDER JOHANSSON

MACHINE TOOL DIVISION

TEMPLETON, KENLY & CO.

tk Commander

Quality Crafted . . . Precision Engineered

PRODUCTION TOOLS

POINTS TO BE CONSIDERED IN SELECTING A BASIC HEAD

DIAMETER OF HOLES . . .
Each Multi-Drill has a maximum drilling capacity which is shown in the selection chart below as "drill capacity," and is the largest drill that a spindle used with the unit can handle in mild steel.

MATERIAL
Material being drilled—such as mild steel, aluminum, cast iron or other—should be considered when selecting a Multi-Drill.

NUMBER OF HOLES . . .
Each unit is rated in the selection chart below as to the maximum number of spindles which can be utilized.

HOLE PATTERN AREA . . .
Each Multi-Drill has a maximum area which it can cover in drilling a hole pattern. Maximum drilling or tapping areas of each unit are shown in the selection chart below and in the case of universal joint drive heads the area is given for both standard spindles and extension spindles.

MINIMUM CENTER DISTANCE . . .
The center distance is the measurement from the center of one hole to the center of another. Minimum spindle center distance obtainable with each unit is shown in the selection chart below.

OTHER APPLICATIONS . . .
After considering the above points, several types and models of heads might be found suitable for your application. In this event, the range of other current and future work which might be done with the head should be considered, and the flexibility of the suitable units should be weighed in relation to other applications.

MULTI-DRILL® SELECTION CHART

MODEL DRILL HEAD	DRILL CAPACITY IN MILD STEEL	MAX. NO. OF SPINDLES	MAXIMUM DRILLING AREA (APPROX.)	MAX. DRILLING AREA WITH EXTENSION SPINDLES	MINIMUM SPINDLE CENTER DISTANCE	MAXIMUM H.P. TO BE TRANSMITTED	MAXIMUM DRILLING MACHINE SPEED (rpm)	SPEED RATIO—DRIVER TO DRIVEN	TYPE OF DRILL HEAD
200	1/8"	2	2" Dia.	—	3/8"	1/4	2000	1:2.2 or 1:2.0	GDAA
300	JR .130 1/8" JR .093 3/32"	6	3" Dia.	—	JR .130 3/8" JR .093 1/4"	3/4	2500	1:2	U-J
3-22	3/8"	15	3" x 22"	16 1/2" x 35 1/2"	7/16"	3	3000	1:1	U-J
400	1/4"	4	4" Dia.	—	7/8"	1	—	1:2.2	GDAA
4-15	3/8"	17	4" x 15"	17 1/2" x 28 1/2"	7/16"	3	3000	1:1	U-J
430	1/4"	3	4 3/8" Dia.	—	11/16"	1	3000	1:1	GDAA
500	3/8"	6	5" Dia.	18 1/2" Dia.	7/16"	2	3000	1:1	U-J
600	5/8"	4	6" Dia.	—	2 Spindle—1 1/4" 4 Spindle—1 1/2"	5	3000	1:1	GDAA
700	3/8"	10 6	7" Dia.	20 1/2" Dia.	7/16"	2	3000	1:1	U-J
8-12	1/2" (3/4" UJ) 3/8" (5/8" UJ)	15	8" x 12"	21 1/2" x 25 1/2"	7/16"	5	1750	1:1 and 1:2	U-J
850	1/2"	10	8 1/2" Dia.	22" Dia.	7/16"	5	3000	1:1	U-J
875	3/8"	10 6	9"	22 1/2" Dia.	7/16"	3	3000	1:1	U-J
900	3/8"	8 4	9" Dia.	22 1/2" Dia.	7/16"	3	1750	1:2	U-J
1200	1/2" (3/4" UJ) 3/8" (5/8" UJ)	19	12" Dia.	25 1/2" Dia.	7/16"	5	3000	1:1	U-J

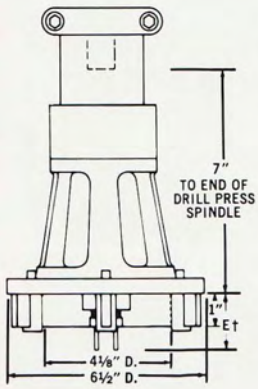
GDAA—Gear-Driven, Adjustable Arm U-J—Universal Joint Type, Adjustable Arm

tk Commander

universal joint
circular pattern

MULTI-DRILLS®

- Extremely versatile . . . maximum flexibility of application
- Operate in any position—upright, inverted, or horizontal
- Adapt to any drilling machine . . . standard adapter caps available to fit most popular drilling machines.
- These Multi-Drills can be used for multiple tapping by use of a motor reversing unit or in some cases, an Adapta-Tapper.
- Close center capability
- Heavy-duty universals require minimum maintenance
- Select spindle assemblies from pages 4, 26, and 27.



model 300 ITEM NO. 70000

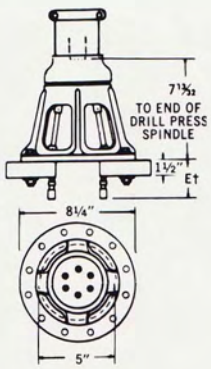
Specifically designed for close center work. Where close centers are not important, we recommend the Model 500.

- ¼" minimum centers
- Drill up to 6 holes in 3" diameter circle
- Precision-built gear drive provides drill speed double the input—1 to 2 driver to driven speed ratio

universal joint spindle assembly

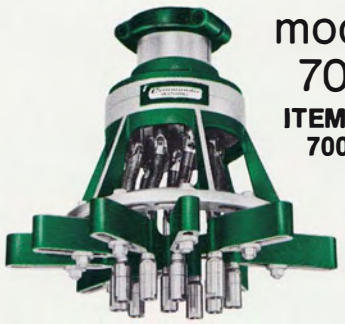
- Spindle Thrust bearing adjustable to zero end play—prevents breakage of small drills
- Unique spindle design utilizes a 15/32" universal joint for ¼" minimum centers. Large universal joint prolongs spindle life without sacrificing ¼" close center capacity

model 500 ITEM NO. 70020

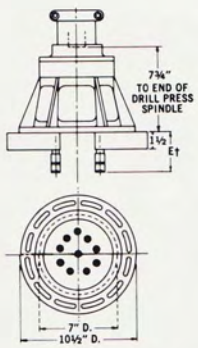


- Low profile—compact, close couple design. Minimum amount of open height taken up. Allows a more comfortable working position for the operator.
- Drills up to 6 holes in a 5" diameter circle, or 18½" diameter circle with extension spindle.
- 6 hex drives included.

† E dimension varies with spindle assembly selected.



model 700 ITEM NO. 70035



- Low profile—compact, close coupled design. Minimum amount of open height taken up. Allows a more comfortable working position for the operator.
- Heavy-duty gear case allows drilling up to 10 holes in a full 7" diameter circle, or 20½" diameter circle with extension spindles.
- 10 hex drives included.

MULTI-DRILLS SPECIFICATIONS:

MODEL NO.:	300	500	700
ITEM NO.:	70000	70020	70035
Maximum Drilling Area (approx.)	3" dia. circle	5"dia. circle	7" dia. circle
Maximum Drilling Area with Extension Spindles	—	*18½" dia. circle	*20½" dia. circle
Minimum Spindle Center Distance	JR .130 3/8" JR .093 1/4"	**7/16"	**7/16"
Drill Capacity—In Mild Steel	1/8" 3/32"	†3/8"	†3/8"
Maximum Number of Spindles	6	6	10
Maximum Horsepower to be Transmitted	¾	2	2
Speed Ratio	1:2	1:1	1:1
Maximum Drilling Machine Speed (rpm)	2500	3000	3000
Weight of Typical Units (lbs.)	5½	11	12½

*This drilling area is obtained by use of extension spindles. It is advisable to contact your distributor or the factory for definite recommendations.

**This dimension varies with the type of spindle assembly selected.

†Requires 5/8" dia. universal joint.

spindle assemblies FOR UNIVERSAL JOINT DRILL HEADS

(Adjustable depth and pitch compensating spindle assemblies, pages 26 and 27.)

TYPE OF SPINDLE ASSEMBLY	UNIV. JOINT DIA.	MINIMUM CENTER DISTANCES		LENGTH "E" DIM. (See Drawing Page 3)	ITEM NOS. FOR USE ON MODELS		
		PLAIN	BOOTED•		300	500, 700, 50, 70	
					+	+	+ +
093 Collet type 1/32" to 3/32"*	15/32	1/4	—	2 3/8	74030	—	—
125 Collet type 1/32" to 1/8"*	15/32	1/2	—	3 5/16	—	74467	74401
125 Collet type 1/32" to 1/8"*	3/8	7/16	—	3 5/16	—	74481	—
125 Bored type (1/4" tap) Bored .255	15/32	1/2	—	3 1/8	—	74468	74402
125 Bored type (0-6 tap) Bored .141	15/32	1/2	—	3 1/8	—	74469	74403
125 Bored type (8 tap) Bored .168	15/32	1/2	—	3 1/8	—	74470	74404
125 Bored type (10 tap) Bored .194	15/32	1/2	—	3 1/8	—	74471	74405
125 Bored type—other—specify exact size, max. .1875	15/32	1/2	—	3 1/8	—	74472	74406
125 Bored type—other—specify exact size, max. .1875	3/8	7/16	—	3 1/8	—	74482	—
130 Collet type 1/32" to 1/8"*	15/32	3/8	—	2 3/8	74031	—	—
265 Collet type 1/32" to 17/64"*	5/8	11/16	—	3 9/16	—	74473	—
265 Collet type 1/32" to 17/64"*	5/8	5/8	—	3 9/16	—	74483	—
265 Bored type—specify exact size, max. .4375	5/8	11/16	—	3 1/8	—	74474	—
265 Bored type—specify exact size, max. .4375	5/8	5/8	—	3 1/8	—	74484	—
375 Collet type 1/32" to 3/8"*	5/8	7/8	1 1/4	3 5/8	—	74475•	74407•
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/16	1 1/4	3 9/16	—	74465•	74410•
375 Bored type Bored .500	5/8	7/8	1 1/4	3 3/8	—	74476•	74408•
375 Bored type—other—specify exact size, max. .500	5/8	7/8	1 1/4	3 3/8	—	74477•	74409•
375 Bored type—ball bearing Bored .500	5/8	1 3/16	1 1/4	3 5/16	—	74463•	74411•
375 Bored type—ball bearing, specify exact size, max. .500	5/8	1 3/16	1 1/4	3 5/16	—	74464•	74412•
1MT Morse Taper type	5/8	11/16	1 1/4	5	—	74466•	74485•
1MT Morse Taper type—ball bearing	5/8	1 3/16	1 1/4	4 15/16	—	74462•	74413•
6 3/4" EXTENSION: Chain driven, operates outside base housing							
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/8	1 3/8	3 5/8	—	74458•	—
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	3 3/8	—	74456•	—
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	3 3/8	—	74457•	—
1MT Morse Taper type—ball bearing	5/8	1 3/8	1 3/8	5	—	74455•	—
3" EXTENSION: Chain Driven—Operates beneath and outside base housing							
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/8	1 3/8	3 5/8	—	74450•	—
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	3 3/8	—	74448•	—
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	3 3/8	—	74449•	—
1MT Morse Taper type—ball bearing	5/8	1 3/8	1 3/8	4 7/16	—	74447•	—

Item numbers printed in black are standard items normally available from stock.
Items numbers printed in green are manufactured or assembled to customer's order.

ACCESSORIES:

	ITEM NUMBER		
	MODEL 300	MODEL 500	MODEL 700
Guide Rods (Pair)	71210	71211	71211
Bushed Arms for Guide Rods (Pair)	71210	71212	71212
Fixed Position Plate, Unbored	—	71042	71135
Holes, specify quantity	—	71043	71135
Motor Reversing Unit	70480	70480	70480
Adapta-Tapper	—	70345	70350
Pressure Pad	—	71003	71005

* Collets available in fractional, number, letter and millimeter sizes within this range. Select collects from page 28, 29, and 30.

• BOOTED UNIVERSAL JOINT
Available with booted universal joints. To order, change first two digits of item number from 74 to 75.

\+ ADJUSTABLE ARM SPINDLE ASSEMBLIES

\+ + LOCK-IN-POSITION SPINDLE ASSEMBLIES
Normally furnished with universal joint assembly. To order lock-in-position spindle cartridges *without* universal joint assembly, change the first two digits of the item number from 74 to 77.

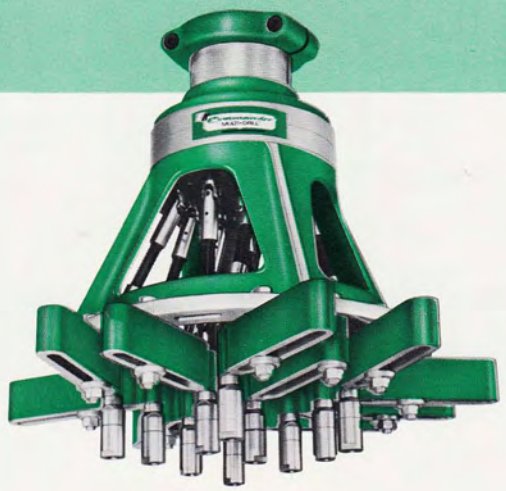
DRILL PRESS ADAPTATIONS & COLUMN GUIDE BAR ASSEMBLY

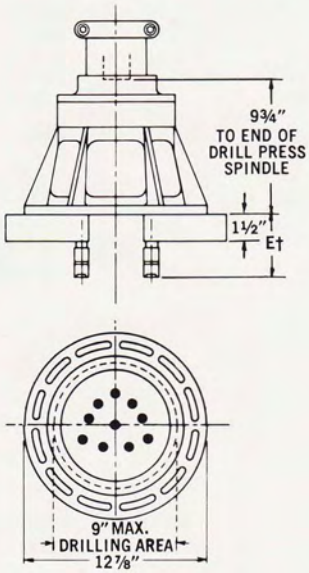
DRILL PRESS		ITEM NUMBERS							
		ADAPTER CAP		SLEEVE	DRIVER		COLUMN GUIDE BAR ASSEMBLY		
MAKE, SIZE, QUILL DIA.	TAPER	MODEL 300	MODELS 500 & 700	ALL MODELS	MODELS 300 & 500	MODEL 700	MODEL 300	MODEL 500	MODEL 700
Atlas 15″ 1.812 Dia.	33 JAC 1 MT 2 MT	72701 72703 72703	72851 72853 72853	73007 73007 73007	72971 72901 72911	72972 72902 72912	71467 71467 71467	71430 71430 71430	71438 71438 71438
Buffalo 15″ 1.750 Dia.	2 JAC 33 JAC 1 MT 2 MT	72701 72701 72702 72703	72851 72851 72852 72853	73005 73005 73005 73005	72951 72971 72901 72911	72952 72972 72902 72912	71467 71467 71467 71467	71430 71430 71430 71430	71438 71438 71438 71438
Buffalo 16″ 2.375 Dia.	2 MT 3 MT	72703 72704	72853 72854	— —	72911 72921	72912 72922	— —	— —	— —
Buffalo 18″ 2.375 Dia.	2 MT 3 MT	72703 72704	72853 72854	— —	72911 72921	72912 72922	71470 71470	71433 71433	71441 71441
Clausing 15″ 1.988 Dia.	33 JAC 2 MT	72701 72703	72851 72853	73002 73002	72971 72911	72972 72912	71474 71474	71437 71437	71445 71445
Clausing 20″ 2.488 Dia.	3 MT	72706	72856	73013	72921	72922	71472	71435	71443
Commander/Johansson Standard Duty	3 MT 4 MT	— —	72862 72862	— —	72921 72931	72922 72932	— —	— —	— —
Dumore 24, 26 & 28 1.750 Dia.	2 JAC	72701	72851	73005	72951	72952	—	—	—
Hypneumat 200 Series 1.625 Dia.	2 JAC	72872	72861	73006	72951	72952	—	—	—
Hypneumat 300 Series 1.750 Dia.	2 JAC	72872	72861	73005	72951	72952	—	—	—
Leland Gifford Model 2LMS 2.875 Dia.	2 MT 3 MT	— —	72857 72858	73016 73016	72911 72921	72912 72922	— —	— —	— —
Powermatic 15″ 2.000 Dia.	33 JAC 2 MT	72701 72702	72851 72852	73011 73011	72971 72911	72972 72912	71468 71468	71431 71431	71439 71439
Powermatic 15″ 2.188 Dia.	33 JAC 2 MT	72701 72702	72851 72852	73012 73012	72971 72911	72972 72912	71468 71468	71431 71431	71439 71439
Powermatic 20″ 2.750 Dia.	2 MT 3 MT	72706 72706	72856 72856	— —	72911 72921	72912 72922	71472 71472	71435 71435	71443 71443
Rockwell/Delta 14″ 1.750 Dia.	2 JAC 6 JAC 33 JAC 1 MT 2 MT	72701 72701 72701 72702 72702	72851 72851 72851 72852 72852	73005 73005 73005 73005 73005	72951 72961 72971 72901 72911	72952 72962 72972 72902 72912	71467 71467 71467 71467 71467	71430 71430 71430 71430 71430	71438 71438 71438 71438 71438
Rockwell/Delta 15″ 2.000 Dia.	33 JAC 2 MT	72701 72704	72851 72854	73011 73011	72971 72911	72972 72912	71467 71467	71430 71430	71438 71438
Rockwell/Delta 17″ 2.250 Dia.	33 JAC 2 MT 3 MT	72701 72702 72705	72851 72852 72855	73003 73003 73003	72971 72911 72921	72972 72912 72922	71469 71469 71469	71432 71432 71432	71440 71440 71440
Rockwell/Delta 20″ 2.375 Dia.	2 MT 3 MT	72704 72705	72854 72855	— —	72911 72921	72912 72922	71473 71473	71436 71436	71444 71444
Walker Turner 15″ 1.812 Dia.	6 JAC 33 JAC 1 MT 2 MT	72701 72701 72702 72704	72851 72851 72852 72854	73007 73007 73007 73007	72961 72971 72901 71911	72962 72972 72902 72912	71467 71467 71467 71467	71430 71430 71430 71430	71438 71438 71438 71438
Walker Turner 17″ 2.250 Dia.	2 MT 3 MT	72702 72705	72852 72855	73003 73003	72911 72921	72912 72922	71469 71469	71432 71432	71440 71440
Walker Turner 20″ 2.375 Dia.	2 MT 3 MT	72704 72705	72854 72855	— —	72911 72921	72912 72922	71473 71473	71436 71436	71444 71444
Wilton (Boice Crane) 1650 or 2700—1.850 Dia.	33 JAC 2 MT	72701 72702	72851 72852	73004 73004	72971 72911	72972 72912	71467 71467	71430 71430	71438 71438
Wilton (Boice Crane) 2600, 2800 or 4800—2.045 Dia.	33 JAC 2 MT	72701 72702	72851 72852	73001 73001	72971 72911	72972 72912	71467 71467	71430 71430	71438 71438
Wilton (Boice Crane) 18400, 20600, 24100, 24200 or 25200—2.375 Dia.	3 MT	—	72859	73017	72921	72922	71467	71430	—

MULTI-DRILLS®

universal joint-circular pattern

- Extremely versatile . . . maximum flexibility of application.
- Operate in any position—upright, inverted, or horizontal.
- Adapt to any drilling machine . . . standard adapter caps available to fit most popular drilling machines. Select adaptations from page 8.
- These Multi-Drills can be used for multiple tapping by use of a motor reversing unit or an Adapta-Tapper.
- Select spindle assemblies from pages 7, 26, and 27.



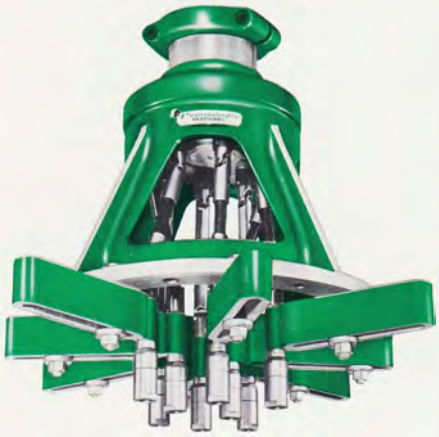


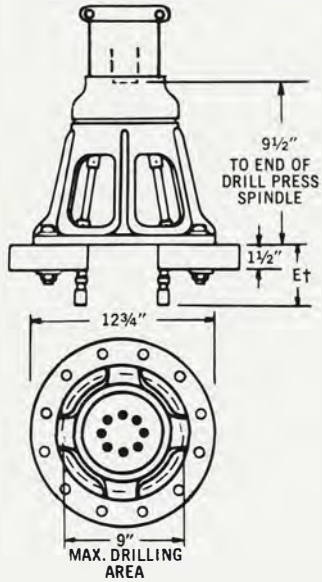
model 875 ITEM NO. 70055

- Heavy-duty gear case.
- Drill up to 10 holes in 9" diameter circle, or up to 22½" diameter circle with extension spindles.
- 1:1 speed ratio—allows use with lead screw tapping machines without changing lead screw.
- 10 hex drives included.

model 900 ITEM NO. 70075

- 25 year leader in multiple drill head field.
- Drill up to 8 holes in 9" diameter circle, or up to 22½" diameter circle with extension spindles.
- Precision-built gear drive provides drill speed double the input—1 to 2 driver to driven speed ratio.
- 8 hex drives included.





MULTI-DRILLS SPECIFICATIONS:

MODEL NO.:	875	900
ITEM NO.:	70055	70075
Maximum Drilling Area (approx.)	9" dia. circle	9" dia. circle
Maximum Drilling Area with Extension Spindles	*22½" dia. circle	*22½" dia. circle
Minimum Spindle Center Distance	**7/16"	**7/16"
Drill Capacity—In Mild Steel	†⅜"	†⅜"
Maximum Number of Spindles	10	8
Maximum Horsepower to be Transmitted	3	3
Speed Ratio	1:1	1:2
Maximum Drilling Machine Speed (rpm)	3000	1750
Weight of Typical Unit (lbs.)	15	20

† E dimension varies with spindle assembly selected.

* This drilling area is obtained by use of extension spindles. It is advisable to contact your distributor or the factory for definite recommendations.

** This dimension varies with the type of spindle assembly selected.

† Requires ⅝" dia. universal joint.

spindle assemblies FOR UNIVERSAL JOINT DRILL HEADS

(Adjustable depth and pitch compensating spindle assemblies pages 26 and 27.)

TYPE OF SPINDLE ASSEMBLY	UNIV. JOINT DIA.	MINIMUM CENTER DISTANCES		LENGTH "E" DIM. (See Drawing Page 6)	ITEM NOS. FOR USE ON MODELS 875, 900, 87, 90	
		PLAIN	BOOTED•		+	+ +
125 Collet type 1/32" to 1/8"*	15/32	1/2	—	3 5/16	74601	74651
125 Collet type 1/32" to 1/8"*	3/8	7/16	—	3 5/16	74680	—
125 Bored type (1/4" tap) Bored .255	15/32	1/2	—	3 1/8	74602	74652
125 Bored type (0-6 tap) Bored .141	15/32	1/2	—	3 1/8	74603	74653
125 Bored type (8 tap) Bored .168	15/32	1/2	—	3 1/8	74604	74654
125 Bored type (10 tap) Bored .194	15/32	1/2	—	3 1/8	74605	74655
125 Bored type—other—specify exact size, max. .1875	15/32	1/2	—	3 1/8	74606	74656
125 Bored type—other—specify exact size, max. .1875	3/8	7/16	—	3 1/8	74682	—
265 Collet type 1/32" to 17/64"*	5/8	11/16	—	3 9/16	74607	—
265 Collet type 1/32" to 17/64"*	5/8	5/8	—	3 9/16	74681	—
265 Bored type—specify exact size, max. .4375	5/8	11/16	—	3 1/8	74608	—
265 Bored type—specify exact size, max. .4375	5/8	5/8	—	3 1/8	74683	—
375 Collet type 1/32" to 3/8"*	5/8	7/8	1 1/4	3 5/8	74609•	74657•
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/16	1 1/4	3 9/16	74613•	74660•
375 Bored type Bored .500	5/8	7/8	1 1/4	3 3/8	74610•	74658•
375 Bored type—other—specify exact size, max. .500	5/8	7/8	1 1/4	3 3/8	74611•	74659•
375 Bored type—ball bearing Bored .500	5/8	1 3/16	1 1/4	3 5/16	74614•	74661•
375 Bored type—ball bearing, specify exact size, max. .500	5/8	1 3/16	1 1/4	3 5/16	74615•	74662•
1MT Morse Taper type	5/8	11/16	1 1/4	5	74612•	—
1MT Morse Taper type—ball bearing	5/8	1 3/16	1 1/4	4 15/16	74616•	74663•
6¾" EXTENSION: Chain driven, operates outside base housing						
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/8	1 3/8	3 5/8	74620•	—
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	3 3/8	74621•	
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	3 3/8	74622•	—
1MT Morse Taper type—ball bearing	5/8	1 3/8	1 3/8	5	74623•	—
3" EXTENSION: Chain driven, operates beneath and outside base housing						
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/8	1 3/8	3 5/8	74628•	—
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	3 3/8	74629•	—
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	3 3/8	74630•	—
1MT Morse Taper type—ball bearing	5/8	1 3/8	1 3/8	4 7/16	74631•	—

Item numbers printed in black are standard Items normally available from stock.
Item numbers printed in green are manufactured or assembled to customer's order.

ACCESSORIES

	ITEM NO. MODEL 875	ITEM NO. MODEL 900
Guide Rods (Pair)	71211	71211
Bushed Arms For Guide Rods (Pair)	71212	71212
Fixed Position Plate, Unbored	71045	71045
Holes, Specify Quantity	71135	71135
Motor Reversing Unit	70480	70480
Adapta-Tapper	70355	70360
Pressure Pad	71010	71015

* Collets available in fractional, number, letter and millimeter sizes within this range. Select collets from pages 28, 29, and 30.

• BOOTED UNIVERSAL JOINT
Available with booted universal joints. To order, change first two digits of item number from 74 to 75.
Item numbers printed in black are standard items normally available from stock.
Item numbers printed in green are manufactured or assembled to customer's order.

\+ ADJUSTABLE ARM SPINDLE ASSEMBLIES

\+ + LOCK-IN-POSITION SPINDLE ASSEMBLIES
Normally furnished with universal joint assembly. To order lock-in-position spindle cartridges *without* universal joint assembly, change the first two digits of the item number from 74 to 77.

DRILL PRESS ADAPTATIONS & COLUMN GUIDE BAR ASSEMBLY

DRILL PRESS		ITEM NUMBERS					
		ADAPTER CAP	SLEEVE	DRIVER		COLUMN GUIDE BAR ASSY.	
MAKE, SIZE, QUILL DIA.	TAPER	MODELS 875 & 900	MODELS 875 & 900	MODEL 875	MODEL 900	MODEL 875	MODEL 900
Atlas 15″ 1.812 Dia.	33 JAC 1 MT 2 MT	72851 72853 72853	73007 73007 73007	72972 72902 72912	72971 72901 72911	71446 71446 71446	71446 71446 71446
Buffalo 15″ 1.750 Dia.	2 JAC 33 JAC 1 MT 2 MT	72851 72851 72852 72853	73005 73005 73005 73005	72952 72972 72902 72912	72951 72971 72901 72911	71446 71446 71446 71446	71446 71446 71446 71446
Buffalo 16″ 2.375 Dia.	2 MT 3 MT	72853 72854	— —	72912 72922	72911 72921	— —	— —
Buffalo 18″ 2.375 Dia.	2 MT 3 MT	72853 72854	— —	72912 72922	72911 72921	71449 71449	71449 71449
Clausing 15″ 1.988 Dia.	33 JAC 2 MT	72851 72853	73002 73002	72972 72912	72971 72911	71453 71453	71453 71453
Clausing 20″ 2.488 Dia.	3 MT	72856	73013	72922	72921	71451	71451
Commander/Johansson Standard Duty	3 MT 4 MT	72862 72862	— —	72922 72932	72921 72931	— —	— —
Dumore 24, 26, & 28 1.750 Dia.	2 JAC	72851	73005	72952	72951	—	—
Hypneumat 200 Series 1.625 Dia.	2 JAC	72861	73006	72952	72951	—	—
Hypneumat 300 Series 1.750 Dia.	2 JAC	72861	73005	72952	72951	—	—
Leland Gifford Model 2LMS 2.875 Dia.	2 MT 3 MT	72857 72858	73016 73016	72912 72922	72911 72921	— —	— —
Powermatic 15″ 2.000 Dia.	33 JAC 2 MT	72851 72852	73011 73011	72972 72912	72971 72911	71447 71447	71447 71447
Powermatic 15″ 2.188 Dia.	33 JAC 2 MT	72851 72852	73012 73012	72972 72912	72971 72911	71447 71447	71447 71447
Powermatic 20″ 2.750 Dia.	2 MT 3 MT	72856 72856	— —	72912 72922	72911 72921	71451 71451	71451 71451
Rockwell/Delta 14″ 1.750 Dia.	2 JAC 6 JAC 33 JAC 1 MT 2 MT	72851 72851 72851 72852 72852	73005 73005 73005 73005 73005	72952 72962 72972 72902 72912	72951 72961 72971 72901 72911	71446 71446 71446 71446 71446	71446 71446 71446 71446 71446
Rockwell/Delta 15″ 2.000 Dia.	33 JAC 2 MT	72851 72854	73011 73011	72972 72912	72971 72911	71446 71446	71446 71446
Rockwell/Delta 17″ 2.250 Dia.	33 JAC 2 MT 3 MT	72851 72852 72855	73003 73003 73003	72972 72912 72922	72971 72911 72921	71448 71448 71448	71448 71448 71448
Rockwell/Delta 20″ 2.375 Dia.	2 MT 3 MT	72854 72855	— —	72912 72922	72911 72921	71452 71452	71452 71452
Walker Turner 15″ 1.812 Dia.	6 JAC 33 JAC 1 MT 2 MT	72851 72851 72852 72854	73007 73007 73007 73007	72962 72972 72902 72912	72961 72971 72901 72911	71446 71446 71446 71446	71446 71446 71446 71446
Walker Turner 17″ 2.250 Dia.	2 MT 3 MT	72852 72855	73003 73003	72912 72922	72911 72921	71448 71448	71448 71448
Walker Turner 20″ 2.375 Dia.	2 MT 3 MT	72854 72855	— —	72912 72922	72911 72921	71452 71452	71452 71452
Wilton (Boice Crane) 1650 or 2700—1.850 Dia.	33 JAC 2 MT	72851 72852	73004 73004	72972 72912	72971 72911	71446 71446	71446 71446
Wilton (Boice Crane) 2600 or 2800 or 4800 2.045 Dia.	33 JAC 2 MT	72851 72852	73001 73001	72972 72912	72971 72911	71446 71446	71446 71446
Wilton (Boice Crane) 18400, 20600, 24100, 24200 or 25200 2.375 Dia.	3 MT	72859	73017	72922	72921	—	—

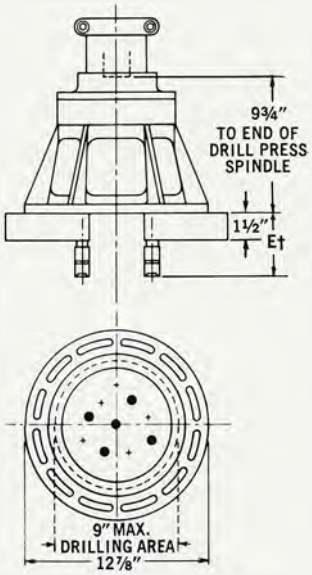
TK Commander

MULTI-DRILLS®

universal joint/heavy duty circular pattern

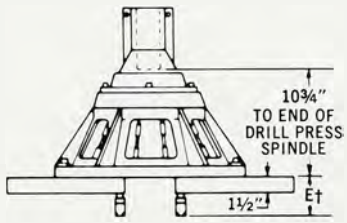
Ruggedly constructed throughout, heavy-duty Multi-Drills have precision built anti-friction gear case drive with ball and roller bearings and extra-strength gear train, and are capable of withstanding high torque and thrust in keeping with rated capacity.

- Operate in any position—upright, inverted, or horizontal
- Adapt to any drilling machine . . . standard adapter caps available to fit most popular drilling machines. Select adaptations from page 11.
- Close center capability
- These Multi-Drills can be used for multiple tapping by use of a motor reversing unit
- Select spindle assemblies from pages 10, 26, and 27.



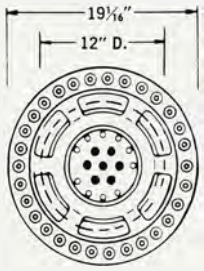
model 850 ITEM NO. 70060

- Spindle capacity ½" in mild steel.
- Drill up to 10 holes in an 8½" diameter circle, or up to 22" diameter circle with extension spindles.
- 1 center drive and 4 driven shaft assemblies included. For additional driven shaft assemblies—Item no. 71235.



model 1200 ITEM NO. 70135

- Drill up to 19 holes in 12" diameter circle, or up to 25½" diameter circle with extension spindles.
- Can be used on 17" drill press—contoured to fit.
- Spindle capacity ½" in mild steel.
- 1 center drive and 6 driven shaft assemblies included. For additional driven shaft assemblies—Item no. 71230.



†E dimension varies with spindle assembly selected.

MULTI-DRILLS SPECIFICATIONS:

MODEL NO.:	850	1200
ITEM NO.:	70060	70135
Maximum Drilling Area (approx.)	8½" dia. circle	12" dia. circle
Maximum Drilling Area with Extension Spindles	*22" dia. circle	*25½" dia. circle
Minimum Spindle Center Distance	**7/16"	**7/16"
Drill Capacity—In Mild Steel (¾" Universal Joint)	½"	½"
Spindle Capacity—In Mild Steel (⅝" Universal Joint)	⅜"	⅜"
Maximum Number of Spindles	10	19
Maximum Horsepower to be Transmitted	5	5
Speed Ratio—Driver to Driven	1:1	1:1
Maximum Drilling Machine Speed (rpm)	3000	3000
Weight of Typical Unit (lbs.)	15	48

*This drilling area is obtained by use of extension spindles. It is advisable to contact your distributor or the factory for definite recommendations.

**This dimension varies with the type spindle selected. See spindle assembly tables.

spindle assemblies FOR UNIVERSAL JOINT DRILL HEADS

(Adjustable depth and pitch compensating spindle assemblies pages 26 and 27.)

TYPE OF SPINDLE ASSEMBLY	UNIV. JOINT DIA.	MINIMUM CENTER DISTANCES		LENGTH "E" DIM. (See drawing page 9)	ITEM NOS. FOR USE ON MODELS		
		PLAIN	BOOTED•		850 +	1200 +	850, 1200 + +
125 Collet type 1/32" to 1/8"*	15/32	1/2	—	3 5/16	74490	74820	74549
125 Collet type 1/32" to 1/8"*	3/8	7/16	—	3 5/16	74579	74909	—
125 Bored type (1/4" tap) Bored .255	15/32	1/2	—	3 1/8	74491	74821	74550
125 Bored type (0-6 tap) Bored .141	15/32	1/2	—	3 1/8	74492	74822	74551
125 Bored type (8 tap) Bored .168	15/32	1/2	—	3 1/8	74493	74823	74552
125 Bored type (10 tap) Bored .194	15/32	1/2	—	3 1/8	74494	74824	74553
125 Bored type—other—specify exact size, max. .1875	15/32	1/2	—	3 1/8	74495	74825	74554
125 Bored type—other—specify exact size, max. .1875	3/8	7/16	—	3 1/8	74580	74910	—
265 Collet type 1/32" to 17/64"*	5/8	1 1/16	—	3 9/16	74496	74826	—
265 Collet type 1/32" to 17/64"*	5/8	5/8	—	3 9/16	74581	74911	—
265 Bored type—specify exact size, max. .4375	5/8	1 1/16	—	3 1/8	74497	74827	—
265 Bored type—specify exact size, max. .4375	5/8	5/8	—	3 1/8	74582	74912	—
375 Collet type 1/32" to 3/8"*	5/8	7/8	1 1/4	3 5/8	74498•	74828•	74555•
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/16	1 1/4	3 9/16	74502•	74832•	74558•
375 Bored type Bored .500	5/8	7/8	1 1/4	3 3/8	74499•	74829•	74556•
375 Bored type—other—specify exact size, max. .500	5/8	7/8	1 1/4	3 3/8	74500•	74830•	74557•
375 Bored type—ball bearing Bored .500	5/8	1 3/16	1 1/4	3 5/16	74503•	74833•	74559•
375 Bored type—ball bearing, specify exact size, max. .500	5/8	1 3/16	1 1/4	3 5/16	74504•	74834•	74560•
500 Collet type—ball bearing—heavy duty 3/16" to 1/2"*	3/4	—	1 3/8	4 1/2	74539	74869	74577
500 Bored type—ball bearing—heavy duty, specify exact size, max. .625	3/4	—	1 3/8	3 11/16	74540	74870	74578
1MT Morse Taper type	5/8	1 1/16	1 1/4	5	74501•	74831•	74598•
1MT Morse Taper type—ball bearing	5/8	1 3/16	1 1/4	4 15/16	74505•	74835•	74561•
1MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	4 5/8	74537	74867	74575
2MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	5 5/16	74538	74868	74576
ASA Standard type—ball bearing—heavy duty (5/8) bore	3/4	—	1 3/8	—	74591	74913	74593
ASA Standard type—ball bearing—heavy duty (3/4) bore	3/4	—	1 3/8	—	74592	74914	74594
6 3/4" EXTENSION: Chain driven, operates outside base housing							
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/8	1 3/8	3 5/8	74506•	74836•	—
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	3 3/8	74507•	74837•	—
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	3 3/8	74508•	74838•	—
500 Collet type—ball bearing—heavy duty 3/16" to 1/2"*	3/4	—	1 3/8	4 9/16	74543	74873	—
500 Bored type—ball bearing—heavy duty—specify exact size, max. .625	3/4	—	1 3/8	3 13/16	74544	74874	—
1MT Morse Taper type—ball bearing	5/8	1 3/8	1 3/8	5	74509•	74839•	—
1MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	4 11/16	74541	74871	—
2MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	5 7/16	74542	74872	—
3" EXTENSION: Chain driven, operates beneath and outside base housing.							
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/8	1 3/8	3 5/8	74514•	74844•	—
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	3 3/8	74515•	74845•	—
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	3 3/8	74516•	74846•	—
500 Collet type—ball bearing—heavy duty 3/16" to 1/2"*	3/4	—	1 3/8	4 9/16	74547	74877	—
500 Bored type—ball bearing—heavy duty, specify exact size, max. .625	3/4	—	1 3/8	3 13/16	74548	74878	—
1MT Morse Taper type—ball bearing	5/8	1 3/8	1 3/8	4 7/16	74517•	74847•	—
1MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	4 11/16	74545	74875	—
2MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	5 7/16	74546	74876	—

Item numbers printed in black are standard items normally available from stock.
Item numbers printed in green are manufactured or assembled to customer's order.

*Collets available in fractional, number, letter and millimeter sizes within this range. Select collets from pages 28, 29, and 30.

• **BOOTED UNIVERSAL JOINT**
Available with booted universal joints. To order, change first two digits of item number from 74 to 75.

\+ ADJUSTABLE ARM SPINDLE ASSEMBLIES.

\+ + LOCK-IN-POSITION SPINDLE ASSEMBLIES.
Normally furnished with universal joint assembly. To order lock-in-position spindle cartridges *without* universal joint assembly, change the first two digits of the item number from 74 to 77.

ACCESSORIES

	ITEM NO.	
	MODEL 850	MODEL 1200
Guide Rods (Pair)	71211	71211
Bushed Arms for Guide Rods (Pair)	71212	71212
Fixed Position Plate, Unbored	71045	71046
Holes specify quantity	71135	71135

	ITEM NO.	
	MODEL 850	MODEL 1200
Motor Reversing Unit	70480	70480
Adapta-Tapper	70355	—
Pressure Pad	71010	—

DRILL PRESS ADAPTATIONS & COLUMN GUIDE BAR ASSEMBLY

DRILL PRESS		ITEM NUMBERS				
		ADAPTER CAP		SLEEVE	DRIVER	COL. GUIDE BAR ASSEMBLY
MAKE, SIZE, QUILL DIA.	TAPER	MODEL 850	MODEL 1200	ALL MODELS	MODELS 850 & 1200	MODEL 850
Atlas 15″ 1.812 Dia.	33 JAC 1 MT 2 MT	72851 72853 72853	— 72783 72783	73007 73007 73007	72972 72902 72912	71446 71446 71446
Buffalo 15″ 1.750 Dia.	2 JAC 33 JAC 1 MT 2 MT	72851 72851 72852 72853	— — 72782 72783	73005 73005 73005 73005	72952 72972 72902 72912	71446 71446 71446 71446
Buffalo 16″ 2.375 Dia.	2 MT 3 MT	72853 72854	72783 72784	— —	72912 72922	— —
Buffalo 18″ 2.375 Dia.	2 MT 3 MT	72853 72854	72783 72784	— —	72912 72922	71449 71449
Clausing 15″ 1.988 Dia.	33 JAC 2 MT	72851 72853	— 72783	73002 73002	72972 72912	71453 71453
Clausing 20″—2.488 Dia.	3 MT	72856	72786	73013	72922	71451
Commander/Johansson Standard Duty	3 MT 4 MT	72862 72862	72798 72798	— —	72922 72932	— —
Commander/Johansson Heavy Duty	4 MT 5 MT	— —	72799 72799	— —	72932 72942	— —
Dumore 24, 26, & 28 1.750 Dia.	2 JAC	72851	—	73005	72952	—
Hypneumat 200 Series 1.625 Dia.	2 JAC	72861	—	73006	72952	—
Hypneumat 300 Series 1.750 Dia.	2 JAC	72861	—	73005	72952	—
Leland Gifford Model 2LMS—2.875 Dia.	2 MT 3 MT	72857 72858	— —	73016 73016	72912 72922	— —
Powermatic 15″ 2.000 Dia.	33 JAC 2 MT	72851 72852	— 72782	73011 73011	72972 72912	71447 71447
Powermatic 15″ 2.188 Dia.	33 JAC 2 MT	72851 72852	— 72782	73012 73012	72972 72912	71447 71447
Powermatic 20″ 2.750 Dia.	2 MT 3 MT	72856 72856	72786 72786	— —	72912 72922	71451 71451
Rockwell/Delta 14″ 1.750 Dia.	2 JAC 6 JAC 33 JAC 1 MT 2 MT	72851 72851 72851 72852 72852	— — — 72782 72782	73005 73005 73005 73005 73005	72952 72962 72972 72902 72912	71446 71446 71446 71446 71446
Rockwell/Delta 15″ 2.000 Dia.	33 JAC 2 MT	72851 72854	— 72784	73011 73011	72972 72912	71446 71446
Rockwell/Delta 17″ 2.250 Dia.	33 JAC 2 MT 3 MT	72851 72852 72855	— 72782 72785	73003 73003 73003	72972 72912 72922	71448 71448 71448
Rockwell/Delta 20″ 2.375 Dia.	2 MT 3 MT	72854 72855	72784 72785	— —	72912 72922	71452 71452
Walker Turner 15″ 1.812 Dia.	6 JAC 33 JAC 1 MT 2 MT	72851 72851 72852 72854	— — 72782 72784	73007 73007 73007 73007	72962 72972 72902 72912	71446 71446 71446 71446
Walker Turner 17″ 2.250 Dia.	2 MT 3 MT	72852 72855	72782 72785	73003 73003	72912 72922	71448 71448
Walker Turner 20″ 2.375 Dia.	2 MT 3 MT	72854 72855	72784 72785	— —	72912 72922	71452 71452
Wilton (Boice Crane) 1650 or 2700 1.850 Dia.	33 JAC 2 MT	72851 72852	— 72782	73004 73004	72972 72912	71446 71446
Wilton (Boice Crane) 2600 or 2800 or 4800 2.045 Dia.	33 JAC 2 MT	72851 72852	— 72782	73001 73001	72972 72912	71446 71446
Wilton (Boice Crane) 18400, 20600, 24100, 24200 or 25200—2.375 Dia.	3 MT	72859	—	73017	72922	—

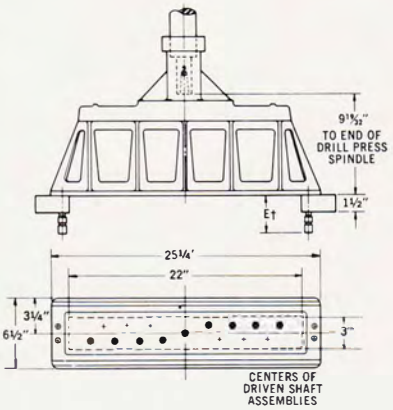
tk Commander

universal joint
rectangular pattern

MULTI-DRILLS®

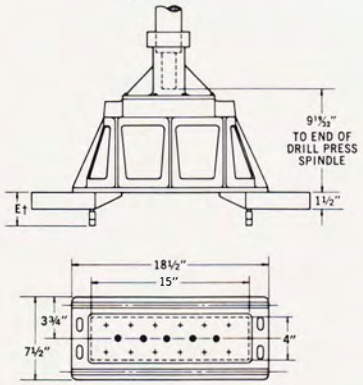
- Extremely versatile . . . maximum flexibility of application
- Operate in any position—upright, inverted, or horizontal
- Rectangular pattern permits adaptation of these high capacity heads to short throat machines
- Adapt to any drilling machine . . . standard adapter caps available to fit most popular drilling machines
- These Multi-Drills can be used for multiple tapping by use of a motor reversing unit.
- Select adaptations from page 14
- Select spindle assemblies from pages 13, 26, and 27.

model 3-22
ITEM NO. 70090



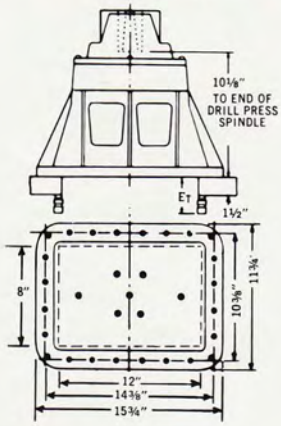
- Drill up to 15 holes in 3" x 22" area or an area of 16½" x 35½" with extension spindles.
- 35½" of in-line drilling.
- 7/16" minimum centers.
- 1 center drive and 8 driven shaft assemblies included. For additional driven shaft assemblies —Item No. 71230.

model 4-15
ITEM NO. 70105



- Drill up to 17 holes in 4" x 15" area, or up to 17½" x 28½" area with extension spindles.
- Drill 15 holes on 7/16" centers in line.
- 1 center drive and 4 driven shaft assemblies included. For additional driven shaft assemblies —Item No. 71230.

model 8-12
ITEM NO. 70120



exclusive feature:

Available in two speeds, enabling the use of both low and high speeds in one hole pattern—an excellent feature when drilling a range of hole diameters. With the exception of the center driven shaft (low speed only), the additional 14 spindles can be selected in either high or low speed.

- Drill up to 15 holes on 7/16" centers in 8" x 12" area, or up to 21½" x 25½" area with extension spindles.
- Quickly change from one speed to another by changing drive shaft assemblies.
- 1 low speed center drive and 6 driven shaft assemblies included. For additional driven shaft assemblies, Item No.— low speed 71231, high speed 71232.

† E dimension varies with spindle assembly selected.

MULTI-DRILLS SPECIFICATIONS:

MODEL NO.:	3-22	4-15	8-12
ITEM NO.:	70090	70105	70120
Maximum Drilling Area	3" x 22"	4" x 15"	8" x 12"
Maximum Drilling Area with Extension Spindles	16½"x35½"	*17½" x 28½"	*21½" x 25½"
Minimum Spindle Center Distance	**7/16	**7/16	**7/16
Drill Capacity — In Mild Steel (¾" Universal Joint)	—	—	½"
Drill Capacity—In Mild Steel (⅝" Universal Joint)	⅜"	⅜"	⅜"
Maximum Number of Spindles	15	17	15
Maximum Horsepower to be Transmitted	3	3	5
Speed Ratio—Driver to Driven	1:1	1:1	1:1 and 1:2
Maximum Drilling Machine Speed (rpm)	3000	300	1750
Weight of Typical Unit (lbs.)	31	29	34

* This drilling area is obtained by use of extension spindles. It is advisable to contact your distributor or the factory for definite recommendations.

** This dimension varies with the type of spindle assembly selected. See spindle assembly table.

spindle assemblies FOR UNIVERSAL JOINT DRILL HEADS

(Adjustable depth and pitch compensating spindle assemblies, pages 26 and 27.)

TYPE OF SPINDLE ASSEMBLY	UNIV. JOINT DIA.	MINIMUM CENTER DISTANCES		LENGTH "E" Dim. (See drawing page 12)	ITEM NOS. FOR USE ON MODELS		
		PLAIN	BOOTED •		3-22, 4-15	8-12	8-12, 3-22, 4-15
					+	+	+ +
125 Collet type 1/32" to 1/8" *	15/32	1/2	—	3 5/16	74040	74490	74549
125 Collet type 1/32" to 1/8" *	3/8	7/16	—	3 5/16	74119	74579	—
125 Bored type (1/4" tap) Bored .255	15/32	1/2	—	3 1/8	74041	74491	74550
125 Bored type (0-6 tap) Bored .141	15/32	1/2	—	3 1/8	74042	74492	74551
125 Bored type (8 tap) Bored .168	15/32	1/2	—	3 1/8	74043	74493	74552
125 Bored type (10 tap) Bored .194	15/32	1/2	—	3 1/8	74044	74494	74553
125 Bored type—other—specify exact size, max. .1875	15/32	1/2	—	3 1/8	74045	74495	74554
125 Bored type—other—specify exact size, max. .1875	3/8	7/16	—	3 1/8	74120	74580	—
265 Collet type 1/32" to 17/64" *	5/8	11/16	—	3 9/16	74046	74496	—
265 Collet type 1/32" to 17/64" *	5/8	5/8	—	3 9/16	74121	74581	—
265 Bored type—specify exact size, max. .4375	5/8	11/16	—	3 1/8	74047	74497	—
265 Bored type—specify exact size, max. .4375	5/8	5/8	—	3 1/8	74122	74582	—
375 Collet type 1/32" to 3/8" *	5/8	7/8	1 1/4	3 5/8	74048 •	74498 •	74555 •
375 Collet type—ball bearing 1/32" to 3/8" *	5/8	1 3/16	1 1/4	3 9/16	74052 •	74502 •	74558 •
375 Bored type Bored .500	5/8	7/8	1 1/4	3 3/8	74049 •	74499 •	74556 •
375 Bored type—other—specify exact size, max. .500	5/8	7/8	1 1/4	3 3/8	74050 •	74500 •	74557 •
375 Bored type—ball bearing Bored .500	5/8	1 3/16	1 1/4	3 5/16	74053 •	74503 •	74559 •
375 Bored type—ball bearing, specify exact size, max. .500	5/8	1 3/16	1 1/4	3 5/16	74054 •	74504 •	74560 •
500 Collet type—ball bearing—heavy duty 3/16" to 1/2" *	3/4	—	1 3/8	4 1/2	—	74539	74577
500 Bored type—ball bearing—heavy duty, specify exact size, max. .625	3/4	—	1 3/8	3 11/16	—	74540	74578
1MT Morse Taper type	5/8	11/16	1 1/4	5	74051 •	74501 •	74598 •
1MT Morse Taper type—ball bearing	5/8	1 3/16	1 1/4	4 15/16	74055 •	74505 •	74561 •
1MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	4 5/8	—	74537	74575
2MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	5 5/16	—	74538	74576
ASA Standard type—ball bearing—heavy duty (5/8) bore	3/4	—	1 3/8	—	—	74591	74593
ASA Standard type—ball bearing—heavy duty (3/4) bore	3/4	—	1 3/8	—	—	74592	74594
6 3/4" EXTENSION: Chain driven; operates outside base housing.							
375 Collet type—ball bearing 1/32" to 3/8" *	5/8	1 3/8	1 3/8	3 5/8	74059 •	74506 •	—
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	3 3/8	74060 •	74507 •	—
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	3 3/8	74061 •	74508 •	—
500 Collet type—ball bearing—heavy duty 3/16" to 1/2" *	3/4	—	1 3/8	4 9/16	—	74543	—
500 Bored type—ball bearing—heavy duty—specify exact size, max. .625	3/4	—	1 3/8	3 13/16	—	74544	—
1MT Morse Taper type—ball bearing	5/8	1 3/8	1 3/8	5	74062 •	74509 •	—
1MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	4 11/16	—	74541	—
2MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	5 7/16	—	74542	—
3" EXTENSION: Chain driven; operates beneath and outside base housing.							
375 Collet type—ball bearing 1/32" to 3/8" *	5/8	1 3/8	1 3/8	3 5/8	74067 •	74514 •	—
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	3 3/8	74068 •	74515 •	—
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	3 3/8	74069 •	74516 •	—
500 Collet type—ball bearing—heavy duty 3/16" to 1/2" *	3/4	—	1 3/8	4 9/16	—	74547	—
500 Bored type—ball bearing—heavy duty, specify exact size, max. .625	3/4	—	1 3/8	3 13/16	—	74548	—
1MT Morse Taper type—ball bearing	5/8	1 3/8	1 3/8	4 7/16	74070 •	74517 •	—
1MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	4 11/16	—	74545	—
2MT Morse Taper type—ball bearing—heavy duty	3/4	—	1 3/8	5 7/16	—	74546	—

Item numbers printed in black are standard items normally available from stock.
Item numbers printed in green are manufactured or assembled to customer's order.

* Collets available in fractional, number, letter and millimeter sizes within this range. Select collets from pages 28, 29, and 30.

• **BOOTED UNIVERSAL JOINT**
Available with booted universal joints. To order, change first two digits of item number from 74 to 75.

\+ ADJUSTABLE ARM SPINDLE ASSEMBLIES.

\+ + LOCK-IN-POSITION SPINDLE ASSEMBLIES.
Normally furnished with universal joint assembly. To order lock-in-position spindle cartridges *without* universal joint assembly, change the first two digits of the item number from 74 to 77.

ACCESSORIES

	ITEM NUMBER		
	MODEL 3-22	MODEL 4-15	MODEL 8-12
Guide Rods (Pair)	71211	71211	71211
Bushed Arms for Guide Rods (Pair)	71212	71212	71212
Fixed Position Plate, Unbored	71040	71041	71044
Holes, Specify Quantity	71135	71135	71135
Motor Reversing Unit	70480	70480	70480

DRILL PRESS ADAPTATIONS & COLUMN GUIDE BAR ASSEMBLY

DRILL PRESS		ITEM NUMBERS				
		ADAPTER CAP		SLEEVE	DRIVER	COL. GUIDE BAR ASSEMBLY
MAKE, SIZE, QUILL DIA.	TAPER	FOR MODELS 3-22 & 4-15	FOR MODEL 8-12	ALL MODELS	ALL MODELS	MODEL 8-12
Atlas 15" 1.812 Dia.	33 JAC 1 MT 2 MT	72711 72713 72713	72761 72763 72763	73007 73007 73007	72972 72902 72912	71457 71457 71457
Buffalo 15" 1.750 Dia.	2 JAC 33 JAC 1 MT 2 MT	72711 72711 72712 72713	72761 72761 72762 72763	73005 73005 73005 73005	72952 72972 72902 72912	71457 71457 71457 71457
Buffalo 16" 2.375 Dia.	2 MT 3 MT	72713 72714	72763 72764	— —	72912 72922	— —
Buffalo 18" 2.375 Dia.	2 MT 3 MT	72713 72714	72763 72764	— —	72912 72922	71449 71449
Clausing 15" 1.988 Dia.	33 JAC 2 MT	72711 72713	72761 72763	73002 73002	72972 72912	71453 71453
Clausing 20" 2.488 Dia.	3 MT	72716	72766	73013	72922	71454
Commander/Johansson Standard Duty	3 MT 4 MT	72883 72883	72885 72885	— —	72922 72932	— —
Commander/Johansson Heavy Duty	4 MT 5 MT	72884 72884	72886 72886	— —	72932 72942	— —
Dumore 24, 26 & 28" 1.750 Dia.	2 JAC	72711	72761	73005	72952	—
Powermatic 15" 2.000 Dia.	33 JAC 2 MT	72711 72712	72761 72762	73011 73011	72972 72912	71453 71453
Powermatic 15" 2.188 Dia.	33 JAC 2 MT	72711 72712	72761 72762	73012 73012	72972 72912	71453 71453
Powermatic 20" 2.750 Dia.	2 MT 3 MT	72716 72716	72766 72766	— —	72912 72922	71454 71454
Rockwell/Delta 14" 1.750 Dia.	2 JAC 6 JAC 33 JAC 1 MT 2 MT	72711 72711 72711 72712 72712	72761 72761 72761 72762 72762	73005 73005 73005 73005 73005	72952 72962 72972 72902 72912	71446 71446 71446 71446 71446
Rockwell/Delta 15" 2.000 Dia.	33 JAC 2 MT	72711 72714	72761 72764	73011 73011	72972 72912	71457 71457
Rockwell/ Delta 17" 2.250 Dia.	33 JAC 2 MT 3 MT	72711 72712 72715	72761 72762 72765	73003 73003 73003	72972 72912 72922	71456 71456 71456
Rockwell/ Delta 20" 2.375 Dia.	2 MT 3 MT	72714 72715	72764 72765	— —	72912 72922	71455 71455
Walker Turner 15" 1.812 Dia.	6 JAC 33 JAC 1 MT 2 MT	72711 72711 72712 72714	72761 72761 72762 72764	73007 73007 73007 73007	72962 72972 72902 72912	71457 71457 71457 71457
Walker Turner 17" 2.250 Dia.	2 MT 3 MT	72712 72715	72762 72765	73003 73003	72912 72922	71456 71456
Walker Turner 20" 2.375 Dia.	2 MT 3 MT	72714 72715	72764 72765	— —	72912 72922	71455 71455
Wilton (Boice Crane) 1650 or 2700 1.850 Dia.	33 JAC 2 MT	72711 72712	72761 72762	73004 73004	72972 72912	71457 71457
Wilton (Boice Crane) 2600, 2800 or 4800 2.045 Dia.	33 JAC 2 MT	72711 72712	72761 72762	73001 73001	72972 72912	71457 71457

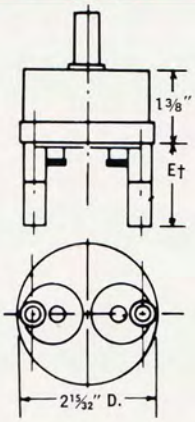
tk Commander

LOW COST . . . extremely efficient and versatile drill heads, EXCELLENT FOR SHORT-RUN MULTIPLE HOLE DRILLING . . . as well as long runs.

MULTI-DRILLS®

gear driven/adjustable arms

- Drill 2 or 4 holes with less time and effort than normally required to drill a single hole—considering loading and positioning time.
- Adapt to all drilling machines . . . standard adapter caps available from stock to fit most popular drilling machines. Select adaptations from page 17.
- Adapters available for use with drilling units of the type manufactured by Dumore, Aro, Hypneumat, Rockwell, Gardner-Denver, Burgmaster Drill Unit, etc. *Consult your local distributor*
- Select spindle assemblies from page 16.



model 200

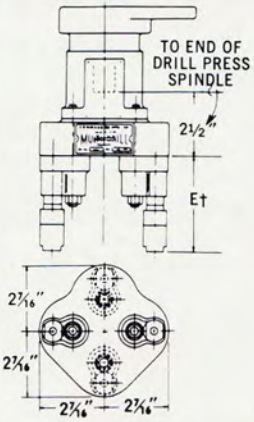
Specifically designed for close center work. *Where close centers are not a factor, we recommend a unit in the 400 series.*

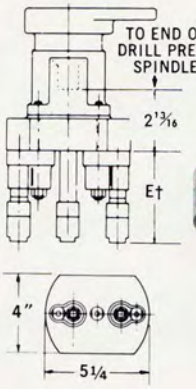
- Mounts on any drilling machine, or can be coupled to the Commander Lead-Matic, or Standard Tapper and friction drive tappers for multiple tapping.

Available in 2 spindle model only.

model 400

- Available in 2 or 4 spindle models.
- On 4 spindle models, holes to be drilled must be equally spaced on a common bolt circle.



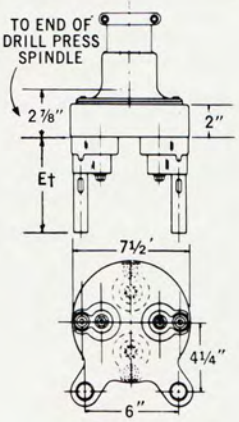


model 430

- 3 spindle drill head.
- 2 completely adjustable outboard spindles.
- 1:1 ratio—allows use with lead screw tapping machines without changing lead screws.
- Ball bearing center spindle.
- Excellent for drilling hinge lead holes.
- Easily attached to drilling and tapping machines with rotary quill.

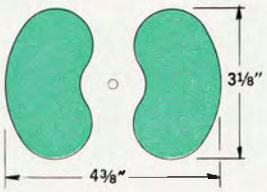
model 600

- 2 or 4 spindle models —on 4 spindle models, holes to be drilled must be equally spaced on a common bolt circle.
- 100% ball bearing construction.
- Heavy-duty gear case.
- Easily handles 5/8" drill in mild steel.



Available without adapter cap for easy mobility—couples directly to drilling machine. Guide rods included.

Straight line, triangular, and close coupled hole patterns of virtually unlimited variety



WORK AREA: Locate one hole under center spindle; center lines of other holes can be located in either of the two shaded areas.

MULTI-DRILLS SPECIFICATIONS:

MODEL NO.:	200	400	430	600
ITEM NUMBER	70150 (3/8" min. center)	70190 (2 spindle)	70210	70230 (2 spindle)
	70155 (1/2" min. center)	70200 (4 spindle)	70217 (with adaptation to 2MT)	70240 (4 spindle)
Maximum Drilling Area (approx.)	2" dia. circle	*4" dia. circle	4 3/8" dia. circle	*6 1/4" dia. circle
Minimum Spindle Center Distance	**3/8"	**7/8"	**1 1/16"	2 spindle model—1 1/4"
				4 spindle model—1 1/2"
Drill Capacity—In Mild Steel	1/8"	1/4"	1/4"	5/8"
Number of Spindles	2	2 or 4	3	2 or 4
Maximum Horsepower to be Transmitted	1/4	1	1	5
Speed Ratio—Driver to Driven	—	—	1:1	1:1
1/2" Min. Center Model	1:2.0	—	—	—
3/8" Min. Center Model	1:2.2	—	—	—
375 Type Spindle	—	1:2.2	1:1	—
265 Type Spindle	—	—	1:1	—
Maximum Drilling Machine Speed (rpm)	2000	—	3000	3000
375 Type Spindle	—	1750	3000	3000
265 Type Spindle	—	—	3000	3000
Weight of Typical Unit (lbs.)	2	5 1/2	5	18

† E dimension varies with spindle assembly selected.

* On 4 spindle models, holes to be drilled must be equally spaced on a common bolt circle.

** These dimensions vary with type of spindle assembly selected. See spindle assembly tables.

TK Commander spindle assemblies FOR GEAR DRIVEN HEADS

TYPE OF SPINDLE ASSEMBLIES	MINIMUM CENTER DISTANCE 2 & 3 SPINDLE	MINIMUM CENTER DISTANCE 4 SPINDLE	LENGTH DIM. "E" (See Drawing page 15)	ITEM NUMBERS	
FOR MODEL 200: ITEM NO. 70150—3/8" MIN. CENTER; ITEM NO. 70155—1/2" MIN. CENTER					
125 Collet type 1/32" to 1/8"*	1/2	—	2 7/16	74001	
125 Bored type (0-6 tap) Bored .141	1/2	—	2 9/16	74003	
125 Bored type (8 tap) Bored .168	1/2	—	2 9/16	74004	
125 Bored type—other—specify exact size, max. .1875	1/2	—	2 9/16	74006	
130 Collet type 1/32" to 1/8"*	3/8	—	2 7/16	74020	
157 Bored type—specify exact size, max. .1562	3/8	—	1 5/8	74007	
ADJUSTABLE DEPTH: Permits holding of fine adjustment in drill or tap depths. Adjustable through a range of 5/16" in steps of .001. Calibrated for easy setting.					
125 Collet type 1/32" to 1/8"*	1/2	—	3 1/4	74008	
125 Bored type (0-6 tap) Bored .141	1/2	—	3 1/4	74010	
125 Bored type (8 tap) Bored .168	1/2	—	3 1/4	74011	
125 Bored type—other—specify exact size, max. .1875	1/2	—	3 1/4	74013	
PITCH COMPENSATING—Permits simultaneous tapping with taps of different pitch. Use with coarse pitch taps. 5/16" compensation.					
125 Bored type (0-6 tap) Bored .141	1/2	—	3 9/16	74014	
125 Bored type (8 tap) Bored .168	1/2	—	3 9/16	74015	
FOR MODEL 400: ITEM NO. 70190—2 SPINDLE; ITEM NO. 70200—4 SPINDLE **MODEL 40:** ITEM NO. 70310—2 SPINDLE; ITEM NO. 70320—4 SPINDLE				2 SPINDLE	4 SPINDLE
375 Collet type 1/32" to 3/8"*	7/8	1	3 9/16	74140	74156
375 Collet type—ball bearing 1/32" to 3/8"*	1 3/16	1 3/16	3 9/16	74147	74163
375 Bored type Bored .500	7/8	1	3 3/8	74142	74158
375 Bored type—other—specify exact size, max. .500	7/8	1	3 3/8	74143	74159
375 Bored type—ball bearing Bored .500	1 3/16	1 3/16	3 1/16	74148	74164
375 Bored type—ball bearing, specify exact size, max. .500	1 3/16	1 3/16	3 1/16	74149	74165
1MT Morse Taper type	7/8	1 1/16	4 15/16	74141	74157
ADJUSTABLE DEPTH: Permits holding of fine adjustment in drill or tap depths. Adjustable through a range of 5/16" in steps of .001. Calibrated for easy setting.					
375 Collet type 1/32" to 3/8"*	7/8	1	3 5/8	74152	74166
375 Collet type—ball bearing 1/32" to 3/8"*	1 3/16	1 3/16	3 9/16	74179	74180
PITCH COMPENSATING—Permits simultaneous tapping with taps of different pitch. Use with coarse pitch taps. 5/16" compensation.					
375 Collet type 1/32" to 3/8"*	7/8	1	4 5/16	74154	74167
375 Collet type—ball bearing 1/32" to 3/8"*	1 3/16	1 3/16	4 1/8	74181	74182
FOR MODEL 430: ITEM NO. 70210; ITEM NO. 70217—WITH ADAPTATION TO 2MT **MODEL 43:** ITEM NO. 70330				CENTER SPINDLE	OUTBOARD SPINDLE
265 Collet type 1/32" to 17/64"*	1 1/16	—	3 5/8	74195	74190
265 Bored type—specify exact size, max. .4375	1 1/16	—	3 1/16	74196	74191
375 Collet type—ball bearing 1/32" to 3/8"*	1 3/16	—	3 9/16	—	74163
375 Bored type Bored .500	7/8	—	3 3/8	—	74158
375 Bored type—other—specify exact size, max. .500	7/8	—	3 3/8	—	74164
1MT Morse Taper type	7/8	—	4 15/16	74197	74192
ADJUSTABLE DEPTH: Permits holding of fine adjustment in drill or tap depths. Adjustable through a range of 5/16" in steps of .001. Calibrated for easy setting.					
265 Collet type 1/32" to 17/64"*	—	1 1/16	4 1/8	74198	74193
375 Collet type—ball bearing 1/32" to 3/8"*	1 3/16	1 3/16	3 9/16	—	74201
PITCH COMPENSATING—Permits simultaneous tapping with taps of different pitch. Use with coarse pitch taps. 5/16" compensation.					
265 Collet type 1/32" to 17/64"*	—	1 1/16	4 1/8	74199	74194
375 Collet type—ball bearing 1/32" to 3/8"*	—	1 3/16	4 1/8	—	74202
FOR MODEL 600: ITEM NO. 70230—2 SPINDLE; ITEM NO. 70240—4 SPINDLE				2 SPINDLE	4 SPINDLE
500 Collet type—ball bearing—heavy duty 3/16" to 1/2"*	1 1/4	1 1/2	5 3/32	74934	74935
500 Bored type—ball bearing—heavy duty, specify exact size, max. .625	1 1/4	1 1/2	4 9/32	74936	74937
1MT Morse Taper type—ball bearing—heavy duty	1 1/4	1 1/2	5 7/32	74930	74931
2MT Morse Taper type—ball bearing—heavy duty	1 1/4	1 1/2	5 29/32	74932	74933
ASA Standard type—ball bearing—heavy duty (5/8)	1 1/4	1 1/2	—	74938	74939
ASA Standard type—ball bearing—heavy duty (3/4)	1 1/4	1 1/2	—	74940	74941

ACCESSORIES

	ITEM NUMBERS MODEL 200	MODEL 400	MODEL 430	MODEL 600
Guide Rods (Pair)	—	—	71211	71211
Bushed Arms for Guide Rods (Pair)	—	—	71213 (Clamp)	Included on basic unit
Motor Reversing Unit	70480	70480	70480	70480
Adapta-Tapper	—	70340	70341	—

*Collets available in fractional, number, letter and millimeter sizes within this range. Select Collets from pages 28, 29, and 30.

Item numbers printed in black are standard items normally available from stock.

Item numbers printed in green are manufactured or assembled to customer's order.

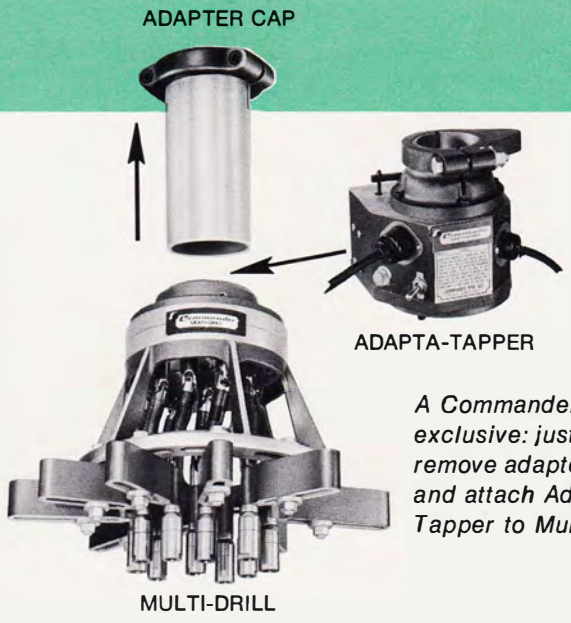
DRILL PRESS ADAPTATIONS & COLUMN GUIDE BAR ASSEMBLY

DRILL PRESS		ITEM NUMBERS							
		ADAPTER CAP				SLEEVE	DRIVER		COL. GUIDE BAR ASSY.
MAKE, SIZE, QUILL DIA.	TAPER	MODEL 200	MODEL 400	MODEL 430	MODEL 600	ALL MODELS	MODELS 200, 400, 430	MODEL 600	MODEL 200
Atlas 15" 1.812 Dia.	33 JAC 1 MT 2 MT	72701 72703 72703	72840 72842 72842	72721 72723 72723	72851 72853 72853	73007 73007 73007	72971 72901 72911	72972 72902 72912	71459 71459 71459
Buffalo 15" 1.750 Dia.	2 JAC 33 JAC 1 MT 2 MT	72701 72701 72702 72703	72840 72840 72841 72842	72721 72721 72722 72723	72851 72851 72852 72853	73005 73005 73005 73005	72951 72971 72901 72911	72952 72972 72902 72912	71459 71459 71459 71459
Buffalo 16" 2.375 Dia.	2 MT 3 MT	72703 72704	72842 72843	72723 72724	72853 72854	— —	72911 72921	72912 72922	— —
Buffalo 18" 2.375 Dia.	2 MT 3 MT	72703 72704	72842 72843	72723 72724	72853 72854	— —	72911 72921	72912 72922	71462 71462
Clausing 15" 1.988 Dia.	33 JAC 2 MT	72701 72703	72840 72842	72721 72723	72851 72853	73002 73002	72971 72911	72972 72912	71466 71466
Clausing 20", 2.488 Dia.	3 MT	72706	72845	72726	72856	73013	72921	72922	71464
Commander/Johansson Standard Duty	3 MT 4 MT	— —	— —	— —	72861 72861	— —	— —	72922 72932	— —
Dumore 24, 26, & 28, 1.750 Dia.	2 JAC	72701	72840	72721	72851	73005	72951	72952	—
Hypneumat 200 Series, 1.625 Dia.	2 JAC	72872	72849	72849	72861	73006	72951	72952	—
Hypneumat 300 Series 1.750 Dia.	2 JAC	72872	72849	72849	72861	73005	72951	72952	—
Leland Gifford Model 2LMS 2.875 Dia.	2 MT 3 MT	— —	— —	— —	72857 72858	73016 73016	72911 72921	72912 72922	— —
Powermatic 15" 2.000 Dia.	33 JAC 2 MT	72701 72702	72840 72841	72721 72722	72851 72852	73011 73011	72971 72911	72972 72912	71460 71460
Powermatic 15" 2.188 Dia.	33 JAC 2 MT	72701 72702	72840 72841	72721 72722	72851 72852	73012 73012	72971 72911	72972 72912	71460 71460
Powermatic 20" 2.750 Dia.	2 MT 3 MT	72706 72706	72845 72845	72726 72726	72856 72856	— —	72911 72921	72912 72922	71464 71464
Rockwell/Delta 14" 1.750 Dia.	2 JAC 6 JAC 33 JAC 1 MT 2 MT	72701 72701 72701 72702 72702	72840 72840 72840 72841 72841	72721 72721 72721 72722 72722	72851 72851 72851 72852 72852	73005 73005 73005 73005 73005	72951 72961 72971 72901 72911	72952 72962 72972 72902 72912	71459 71459 71459 71459 71459
Rockwell/Delta 15" 2.000 Dia.	33 JAC 2 MT	72701 72704	72840 72843	72721 72724	72851 72854	73011 73011	72971 72911	72972 72912	71459 71459
Rockwell/Delta 17" 2.250 Dia.	33 JAC 2 MT 3 MT	72701 72702 72705	72840 72841 72844	72721 72722 72725	72851 72852 72855	73003 73003 73003	72971 72911 72921	72972 72912 72922	71461 71461 71461
Rockwell/Delta 20" 2.375 Dia.	2 MT 3 MT	72704 72705	72843 72844	72724 72725	72854 72855	— —	72911 72921	72912 72922	71465 71465
Rockwell Air Drill, 21L Series	—	72707	—	—	—	—	*72980	—	—
Rockwell Air Drill, 31L Series	—	72708	72848	72848	—	—	72983	—	—
Walker Turner 15" 1.812 Dia.	6 JC 33 JAC 1 MT 2 MT	72701 72701 72702 72704	72840 72840 72841 72843	72721 72721 72722 72724	72851 72851 72852 72854	73007 73007 73007 73007	72961 72971 72901 72911	72962 72972 72902 72912	71459 71459 71459 71459
Walker Turner 17" 2.250 Dia.	2 MT 3 MT	72702 72705	72841 72844	72722 72725	72852 72855	73003 73003	72911 72921	72912 72922	71461 71461
Walker Turner 20" 2.375 Dia.	2 MT 3 MT	72704 72705	72843 72844	72724 72725	72854 72855	— —	72911 72921	72912 72922	71465 71465
Wilton (Boice Crane) 1650 or 2700, 1.850 Dia.	33 JAC 2 MT	72701 72702	72840 72841	72721 72722	72851 72852	73004 73004	72971 72911	72972 72912	71459 71459
Wilton (Boice Crane) 2600, 2800 or 4800, 2.045 Dia.	33 JAC 2 MT	72701 72702	72840 72841	72721 72722	72851 72852	73001 73001	72971 72911	72972 72912	71459 71459
Wilton (Boice Crane) 18400, 20600, 24100, 24200 or 25200, 2.375 Dia.	3 MT	—	—	—	72859	73017	72921	72922	—

*FOR 200 MULTI-DRILL ONLY

MULTI-TAPPERS

All of the Multi-Tappers shown in the table below can be ordered complete as illustrated. However, these units consist of a basic Multi-Drill and an Adapta-Tapper (left), and the Adapta-Tapper alone may be ordered to convert your present Model 400, 430, 500, 700, 875, or 900 Multi-Drill to a Multi-Tapper.



A Commander exclusive: just remove adapter cap and attach Adapta-Tapper to Multi-Drill

Typical Geared Head Multi-Tapper

Typical Universal Joint Multi-Tapper

- Easy conversion . . . simply secure Adapta-Tapper to multiple drill head after removing adaptation
- All Multi-Tappers can be used for multi-drilling without the Adapta-Tapper
- Built-in reversing mechanism eliminates need for separate motor reversing unit, provides faster cycling
- Positive and instantaneous spindle reversal to insure accurate depth control
- Maximum capacity 600 inch pounds of torque
- Patented spring clutch drive
- Adapt to any drilling machine . . . standard adapter caps available from stock to fit most popular drilling machines. Select from page 21
- Tap multiple holes at a time even if pitches are varied, for example, two holes, 6-32 and four holes 10-24 can be tapped on the same stroke
- Select spindle assemblies from appropriate tables

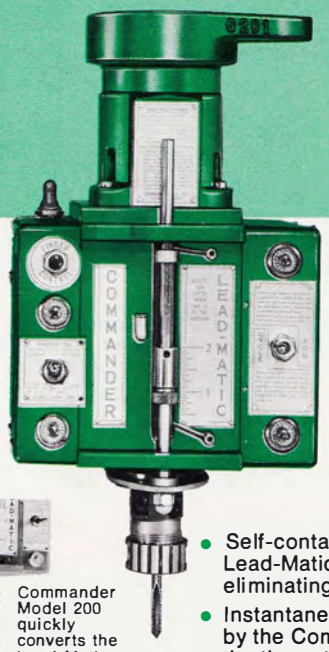
MULTI-TAPPERS SPECIFICATIONS:

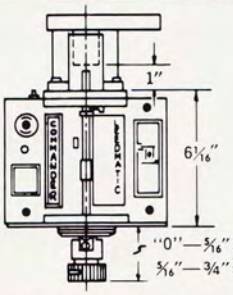
MODEL NO.:	40	43	50	70	87	90
ITEM NUMBER	70310 (2 spindle model) 70320 (4 spindle model)	70330	70255	70265	70275	70290
Maximum Tapping Area (approx.)	4″ dia. circle	4 3/8″	5″ dia. circle	7″ dia. circle	9″ dia. circle	9″ dia. circle
Maximum Tapping Area with Extension Spindles	—	—	*18 1/2″ dia. circle	*20 1/2″ dia. circle	*22 1/2″ dia. circle	*22 1/2″ dia. circle
Minimum Spindle Center Distance	**7/8″	11/16″	**7/16″	**7/16″	**7/16″	**7/16″
Maximum Tapping Capacity in Mild Steel	4—1/4 taps	3—1/4 taps	6—1/4 taps	6—1/4 taps	6—1/4 taps	4—1/4 taps
	Smaller taps, depending on size and torque permit use of additional spindles					
Speed Ratio—Driver to Driven	1:2.2	1:1	1:1	1:1	1:1	1:2
Maximum Drilling Machine Speed (rpm)	850	850	850	850	850	850
Electrical Requirements	115V AC	115V AC	115V AC	115V AC	115V AC	115V AC
Weight of Typical Unit	16	15.5	20	23	23	28

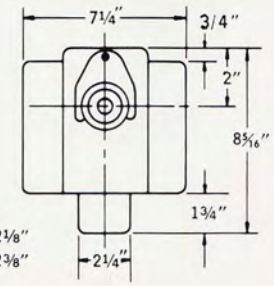
*This drilling area is obtained by use of extension spindles. It is advisable to contact your distrbutor or the factory for definite recommendations.
**This dimension varies with the type of spindle assembly selected. See spindle assembly tables.

LEAD-MATIC TAPPER

With the Commander Lead-Matic Tapper, precision tapping is a product of the tapper—not the operator. In this automated process a precision ground lead screw pilots the tap into the work to produce perfect thread lead, concentricity and the finest most accurate threads at a rate that cannot be surpassed—regardless of how inexperienced the operator might be. Adapts to any power unit, and will operate in any position. Lead-Matic provides its own spindle travel.







SPECIFICATIONS:

Tap Range . . 0-80 to 3/4"-16 in Mild Steel
Stroke Length . . . . . 2 1/4"
Tap Holder . . . . . Rubber Flex—Square Drive Type
Speed Ratio . . . . . 1 to 1
Maximum Drill Press Speed . . 800 R.P.M.
Electrical Requirements . . 115 Volts A.C.
Power Consumption . . . . . 400 Watts
Weight of Unit . . . . . 18.5 lbs.

Commander Model 200 quickly converts the Lead-Matic into a 2 spindle lead screw tapper.

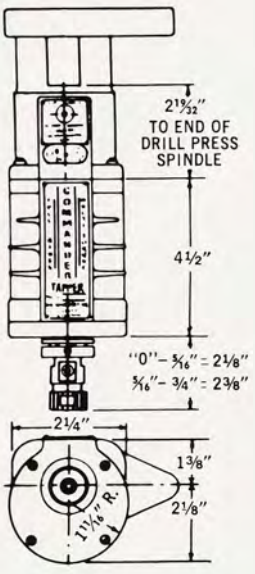
- Self-contained automatic reversing unit enables the Lead-Matic to go through the tapping cycle faster by eliminating time-consuming machine motor reversal.
- Instantaneous and automatic tap reversal is assured by the Commander Spring Clutch Drive for positive depth control and longer tap life.
- Cycle or jog tapping action may be selected by moving a selector switch for set-up.
- One button control—touch of button initiates a complete cycle.
- Lead-Matic needs only a power source—not a moving quill. Simply clamp Lead-Matic Tapper to power unit and plug cord into electrical outlet.
- Easy, inexpensive fixturing.
- Select adaptations for mounting to drilling machines from page 21.

ORDERING INFORMATION:

ITEM NO.	
70370	Lead-Matic Tapper W/O Cap & Driver Select cap, sleeve, and driver from drill press adaptation chart page 21.
70157	MODEL 200 (1/2" Min. centers) with adaptation to Lead-Matic.
71251	Foot control switch and cord
71074	Tapholder—O-5/16" capacity—6228-A
71075	Tapholder—5/16"-5/8" capacity—6229-A
71076	Collet and nut 3/4"—1001 (Used only with 71075 above.)

ITEM NO.		ITEM NO.		ITEM NO.	
Lead Screw & Nut (Right hand pitch)		71156	18 Pitch	71163	40 Pitch
		71157	20 Pitch	71164	44 Pitch
71151	11 Pitch	71158	24 Pitch	71165	48 Pitch
71152	12 Pitch	71159	27 Pitch	71166	56 Pitch
71153	13 Pitch	71160	28 Pitch	71167	64 Pitch
71154	14 Pitch	71161	32 Pitch	71168	72 Pitch
71155	16 Pitch	71162	36 Pitch	71169	80 Pitch
71170	Lead screw & nut for other right hand pitches—specify pitch				
71171	Lead screw & nut for left hand pitches—specify pitch				

standard single spindle tappers



A ruggedly built tapping head that brings a wide range of adaptability and sensitivity to production tapping, never before available in production heads. Adapts to any drilling machine, select adaptations from page 21.

Adjustable torque control provides many important advantages.

- Handles taps from #00 to 3/4"-16—a range often requiring four tappers of other design.
- May be pre-set to protect any tap within its range, and permits the tap to move in and out of the work with automatic sensitivity.
- Eliminates tap breakage caused by dull taps, bottoming, hard inclusions.

Perfect for inexperienced operators. Attaches easily to Model 200 for 2 spindle tapping. Jacobs Rubber-Flex Tap Holders provide positive holding of a wide range of taps.

SPECIFICATIONS:

Tap Range	0-80 to 3/4-16
Torque Control Range	3-600 inch pounds
Tap Holder	Rubber Flex Collet Type
Speed Ratio	1 to 1
Maximum Drilling Machine Speed	800 RPM
Weight of Unit	8.1 lbs.

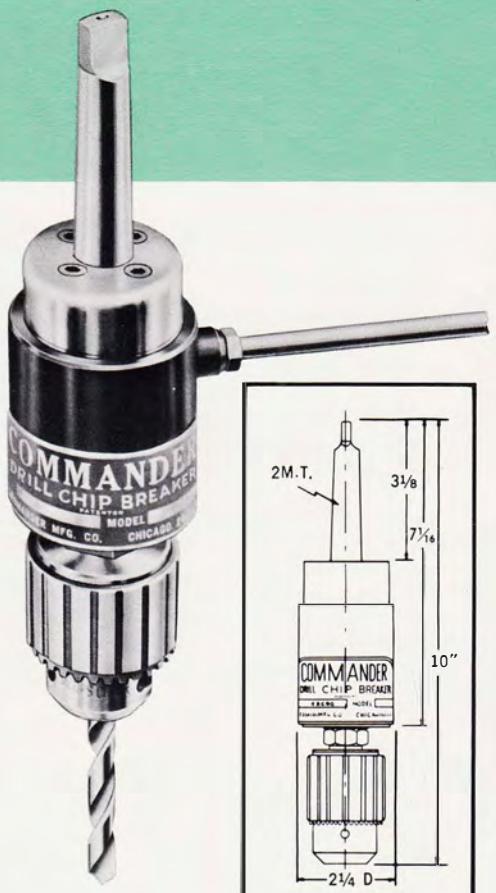
ORDERING INFORMATION:

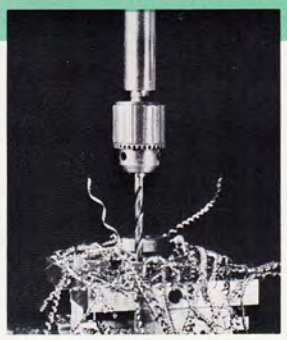
ITEM NO.	
70390	STANDARD TAPPER—RIGHT HAND—W/O CAP & DRIVER Select cap, sleeve, and driver from drill press adaption chart page 21.
70395	STANDARD TAPPER—LEFT HAND—W/O CAP & DRIVER Select cap, sleeve, and driver from drill press adaption chart page 21.
71070	Tap holder—0-5/16" capacity—1083
71071	Tap holder—5/16"-5/8" capacity—1084
71076	Collet and nut—3/4" capacity—1001 (used only with 71071 above)

tk Commander

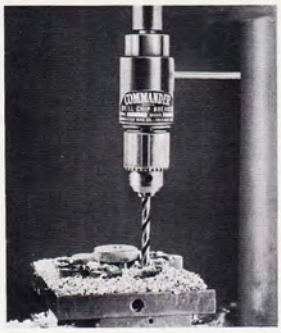
DRILL CHIP BREAKER

The Commander Drill Chip Breaker is a production drilling attachment adaptable to No. 2 Morse Taper and larger spindles. Cool cutting action permits higher spindle speeds, and faster drilling. Retracting action of the Drill Chip Breaker causes chips to break each ¾ of a revolution, permitting these small chips to travel up the drill flutes without scoring hole, and allowing coolant to flow down to the cutting edge of the drill, resulting in longer drill life, more holes per sharpening, more holes per hour.





Chips like these cost you money



Commander Drill Chip Breaker saves time, labor and costs.

- Cool cutting action permits high spindle speeds, and faster drilling
- Makes deep hole drilling as simple as shallow hole drilling—no long chips to clog and roughen holes, stop the flow of coolant, or break drills
- Depths of 10 drill diameters or more may be drilled without clearing the drill
- Adapts to most automatic screw machines equipped with powered slide
- Excellent for use on tape control drilling machine

SPECIFICATIONS	
Drill Capacity (in Mild Steel)	½
Maximum R.P.M.	4000
Drive End	2MT
Driven End	33 Taper
Weight (without chuck)	4 lbs.

ITEM NO.	
70420	Drill Chip Breaker w/o Chuck
71077	Chuck—0-½" Capacity (#33 Jacobs)

ADAPTA-TAPPER

The Adapta-Tapper quickly converts the Models 400, 430, 500, 700, 875 and 900 Multi-Drills into multiple tapping units. Contact your distributor.

- Positive and instantaneous spindle reversal to insure accurate depth control.
- Maximum capacity, 600 inch pounds of torque.
- Adapta-Tapper complete with column mounted switch and adjustable depth control arm.

Maximum torque capacity limited to equivalent of 6—¼" taps in mild steel, except Model 900 limited to 4 due to 1:2 speed ratio.

Select adaptations for mounting to drilling machines from page 21.

For Model No.	Adapta-Tapper Item No.
400	70340
430	70341
500	70345

For Model No.	Adapta-Tapper Item No.
700	70350
875	70355
900	70360

MOTOR REVERSING UNIT

The Commander motor reversing unit provides automatic spindle reversing and depth control to any standard drilling machine (3 phase powered).

- Permits single or multiple tapping automatically of holes as large as the drill press will allow.
- All switches operate on 110 volts.

MOTOR REVERSING UNIT complete with reverse relays mounted in control box, column mounted switch, adjustable depth control arm assembly. line cord for separate 110 volt A.C. control circuit. For use on 220/440 and 550 volt 3 phase motors up to 7½ H.P.

ITEM NO.	
70480	Motor Reversing Unit

DRILL PRESS ADAPTATIONS for Standard Tapper, Lead-Matic Tapper, Multi-Tapper and Adapta-Tapper

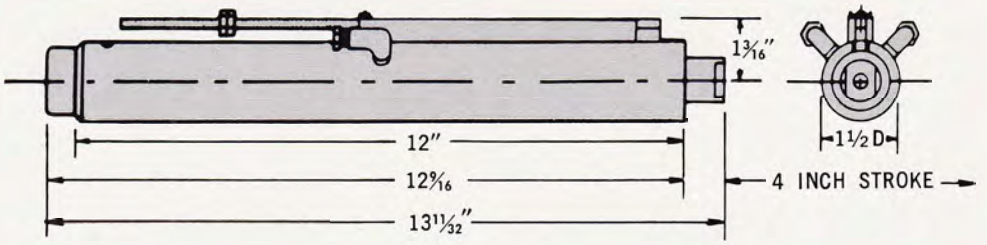
DRILL PRESS		ITEM NUMBERS								
		STANDARD TAPPER			LEAD-MATIC TAPPER			MULTI-TAPPER AND ADAPTA-TAPPER		
MAKE, SIZE, QUILL DIA.	TAPER	ADAPTER CAP	SLEEVE	DRIVER	ADAPTER CAP	SLEEVE	DRIVER	ADAPTER CAP	SLEEVE	DRIVER
Atlas 15″ 1.812 Dia.	33 JAC 1 MT 2 MT	72801 72803 72803	73007 73007 73007	72973 72903 72914	72811 72813 72813	73007 73007 73007	72971 72901 72911	72791 72793 72793	73007 73007 73007	72971 72901 72911
Buffalo 15″ 1.750 Dia.	2 JAC 33 JAC 1 MT 2 MT	72801 72801 72802 72803	73005 73005 73005 73005	72953 72973 72903 72914	72811 72811 72812 72813	73005 73005 73005 73005	72951 72971 72901 72911	72791 72791 72792 72793	73005 73005 73005 73005	72951 72971 72901 72911
Buffalo 16″ 2.375 Dia.	2 MT 3 MT	72803 72804	— —	72914 72924	72813 72814	— —	72911 72921	72793 72794	— —	72911 72921
Buffalo 18″ 2.375 Dia.	2 MT 3 MT	72803 72804	— —	72914 72924	72813 72814	– —	72911 72921	72793 72794	— —	72911 72921
Clausing 15″ 1.988 Dia.	33 JAC 2 MT	72801 72803	73002 73002	72973 72914	72811 72813	73002 73002	72971 72911	72791 72793	73002 73002	72971 72911
Clausing 20″ 2.488 Dia.	3 MT	72806	73013	72924	72816	73013	72921	72796	73013	72921
Dumore 24, 26, & 28 1.750 Dia.	2 JAC	72801	73005	72953	72811	73005	72951	72791	73005	72951
Powermatic 15″ 2.000 Dia.	33 JAC 2 MT	72801 72802	73011 73011	72973 72914	72811 72812	73011 73011	72971 72911	72791 72792	73011 73011	72971 72911
Powermatic 15″ 2.188 Dia.	33 JAC 2 MT	72801 72802	73012 73012	72973 72914	72811 72812	73012 73012	72971 72911	72791 72792	73012 73012	72971 72911
Powermatic 20″ 2.750 Dia.	2 MT 3 MT	72806 72806	— —	72914 72924	72816 72816	— —	72911 72921	72796 72796	— —	72911 72921
Rockwell/Delta 14″ 1.750 Dia.	2 JAC 6 JAC 33 JAC 1 MT 2 MT	72801 72801 72801 72802 72802	73005 73005 73005 73005 73005	72953 72963 72973 72903 72914	72811 72811 72811 72812 72812	73005 73005 73005 73005 73005	72951 72961 72971 72901 72911	72791 72791 72791 72792 72792	73005 73005 73005 73005 73005	72951 72961 72971 72901 72911
Rockwell/Delta 15″ 2.000 Dia.	33 JAC 2 MT	72801 72804	73011 73011	72973 72914	72811 72814	73011 73011	72971 72911	72791 72794	73011 73011	72971 72911
Rockwell/Delta 17″ 2.250 Dia.	33 JAC 2 MT 3 MT	72801 72802 72805	73003 73003 73003	72973 72914 72924	72811 72812 72815	73003 73003 73003	72971 72911 72921	72791 72792 72795	73003 73003 73003	72971 72911 72921
Rockwell/Delta 20″ 2.375 Dia.	2 MT 3 MT	72804 72805	— —	72914 72924	72814 72815	— —	72911 72921	72794 72795	— —	72911 72921
Walker Turner 15″ 1.812 Dia.	6 JAC 33 JAC 1 MT 2 MT	72801 72801 72802 72804	73007 73007 73007 73007	72963 72973 72903 72914	72811 72811 72812 72814	73007 73007 73007 73007	72961 72971 72901 72911	72791 72791 72792 72794	73007 73007 73007 73007	72961 72971 72901 72911
Walker Turner 17″ 2.250 Dia.	2 MT 3 MT	72802 72805	73003 73003	72914 72924	72812 72815	73003 73003	72911 72921	72792 72795	73003 73003	72911 72921
Walker Turner 20″ 2.375 Dia.	2 MT 3 MT	72804 72805	— —	72914 72924	72814 72815	— —	72911 72921	72794 72795	– —	72911 72921
Wilton (Boice Crane) 1650 or 2700 1.850 Dia.	33 JAC 2 MT	72801 72802	73004 73004	72973 72914	72811 72812	73004 73004	72971 72911	72791 72792	73004 73004	72971 72911
Wilton (Boice Crane) 2600, 2800 or 4800 2.045 Dia.	33 JAC 2 MT	72801 72802	73001 73001	72973 72914	72811 72812	73001 73001	72971 72911	72791 72792	73001 73001	72971 72911

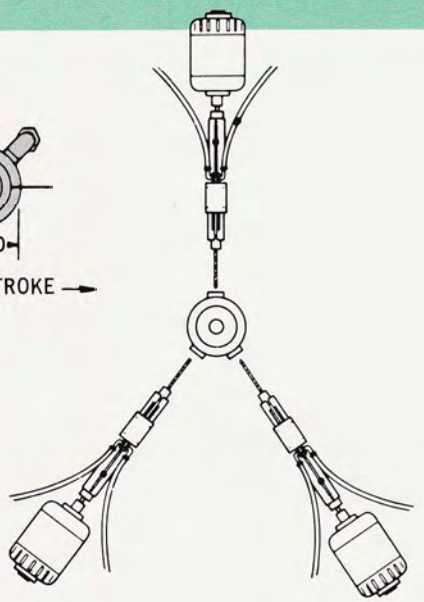
tk Commander

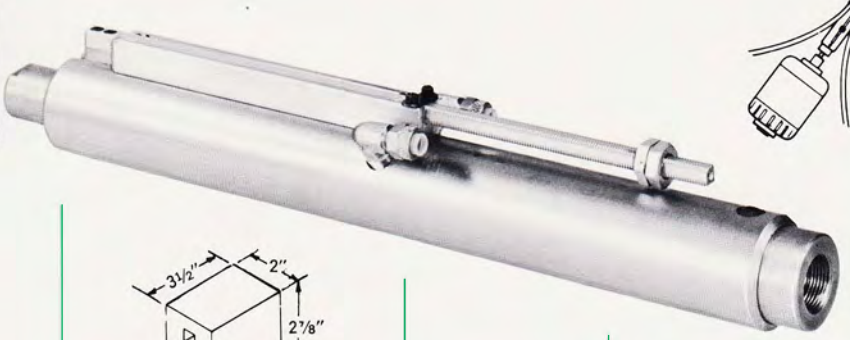
The Type "A" Multi-Angle, a self-actuating drill unit, is available separately for adapting to a variety of power sources.

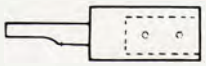
TYPE "A" MULTI-ANGLE DRILL UNIT

- 2-way air cylinder provides both feed and return of the spindle
- Spindle return can be controlled by use of a 4-way air valve, or by use of an air pressure regulator set at a low pressure to create an "air spring" return, requiring a 3-way control valve in the controlling air circuit
- Any length stroke up to 4"
- Small size of unit (1½" diameter) and long stroke make it ideal for a wide range of production drilling set-ups.
- Capacity—¼" drill in mild steel
- Pulley adapters shown, also available with adapters for direct mounting of electric motors

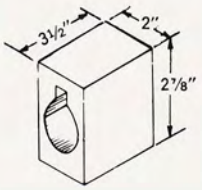




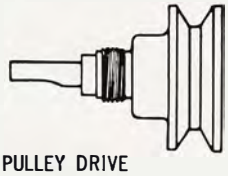




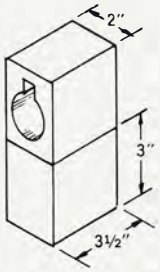
ELECTRIC MOTOR ADAPTER



PARALLEL BLOCK



PULLEY DRIVE
2" diameter A section V Belt



ANGLE BLOCK

SPECIFICATIONS

Drill Capacity	¼" in Mild Steel
Stroke	4"
Method of Feed	Built-in 2-Way Air Cylinder
Return Stroke	"Air Spring" or 4-Way Valve
Air Pressure Required	25-125 P.S.I.
Air Consumption per Stroke	8 Cubic Inches
Method of Rotation	Electric Motor Drive Flexible Shaft Pulley
Maximum Allowable Speed	3000 RPM
Weight of Unit	4.7 lbs.

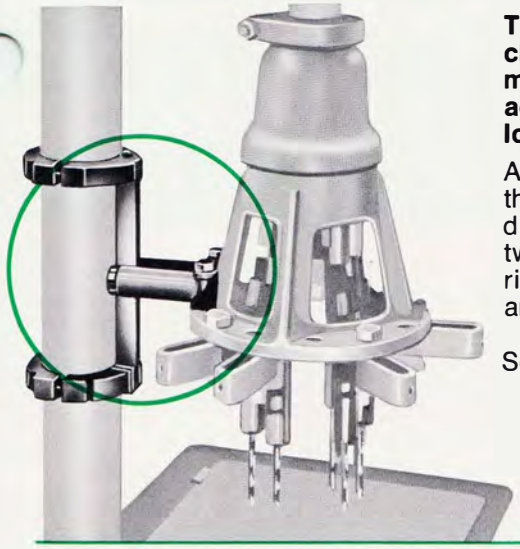
ORDERING INFORMATION:

ITEM NO.	
70450	Basic Model "A" Multi-Angle Drill Unit complete with 375 Collet type spindle assembly, without collet, available in individual drill sizes 1/32" to 3/8". With tubing connectors on unit but LESS tubing, valves, other air fittings and mounting bracket.
71113	Direct drive adapters for 3/8" shaft motors
71115	Direct drive adapters for ½" shaft motors
71116	Direct drive adapters for 5/8" shaft motors

ITEM NO.	
71259	Parallel mounting block
71260	Angle block machineable to 45° angle, for use with 71259
71265	Pulley drive
71266	Valve: 3 way hand operated
71268	Valve: 3 way solenoid operated 110 volt
71269	Valve: 4 way hand operated
71271	Valve: 4 way solenoid operated 110 volt
71272	Manifold

ITEM NO.	
71273	Air regulator (bleed off type) and gauge
71274	Straight fitting — ¼" tubing to ⅛" NPT
71275	"T" fitting — ¼" tubing — ¼" x ¼" x ¼"
71276	Poly flo ¼" diameter Tubing 125 PSI working pressure. (Specify length — priced by foot.)
C	Collets — refer to chart — pages 28-31.

COLUMN GUIDE BAR ASSEMBLY



The column guide bar assembly clamps to round column drilling machine, and stabilizes the unit against possible machine quill looseness.

A connecting arm attached to the drill head, riding up and down on the guide bar through two ball bearing rollers, provides rigidity for precision drilling and tapping.

Select from appropriate tables.

UNIVERSAL ADAPTATION

Universal adapter cap fits 500, 600, 700, 850, 875, and 900 Multi-Drill models with slight machining. Cut tube to length required. Bore blank sleeve to quill diameter and split.

UNIVERSAL ADAPTATION ITEM NO. 72860 includes Cap #72856 and Sleeve #73018.

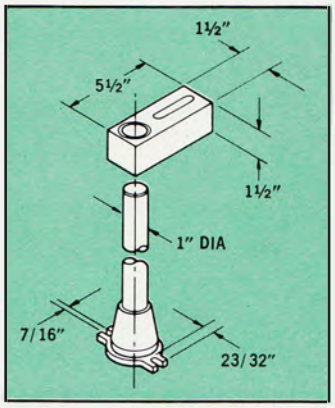
GUIDE RODS AND BUSHED ARMS

Guide rods and bushed arms are available for all Universal joint models of Commander Multi-Drills and Multi-Tappers (except the 300, which has specially designed guide rods and bushed arms), increasing stability and rigidity beyond that obtainable in the drilling machine being used. Rods mount on the drill press table and extend through the adjustable arm bushing.

Ordering Information:

Guide rods (pair) . . . . . Item #71211

Bushed arms (pair) for all universal joint heads . . . . . Item #71212



FIXED POSITION PLATE

Fixed position plates and lock-in-position spindle cartridges provide the user with the advantages of a fixed center drill-head, without any of the disadvantages. The fixed position plate is bored to the hole pattern to be drilled, then the lock-in-position spindle cartridges are inserted. Fixed position plates provide fast and accurate set-up for re-runs. When ordering fixed position plate bored include diagram of desired hole pattern, and specify spindle being used.

BORED PLATE

For use with circular Multi-Drills

UNBORED PLATE

For use with rectangular Multi-Drills

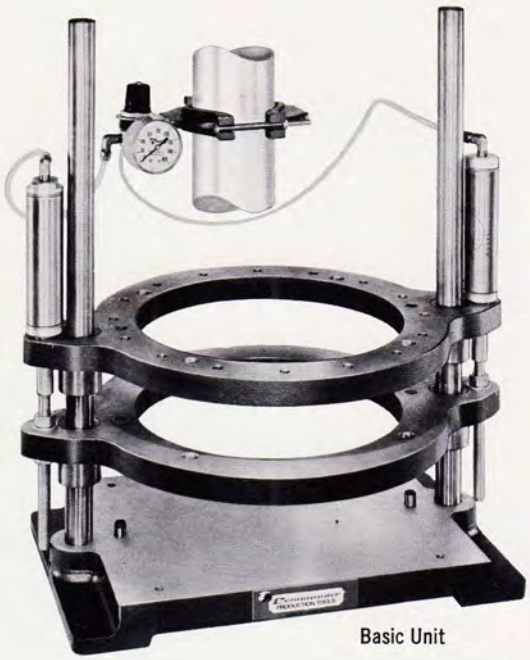
Fixed position plate for use with Commander pressure pad fixture (page 24) . . . Item #71022

FIXED POSITION PLATES		BORED HOLE DIMENSIONS REQUIRED FOR FIXED POSITION PLATES					ORDERING INFORMATION UNBORED PLATES	
	MULTI-DRILL	SPINDLE ASSYS.	'B' STANDARD S/A	'B' BALL BRG. S/A	'B' HEAVY-DUTY S/A	'C' BORE	MULTI-DRILL	ITEM NUMBER
500, 700, 850, 875, 900	500 700 850 875 900	125	.4370/.4375			—	500	71042
		375	.6870/.6875	1.062/1.0615		—	700	71043
							850	71045
		HEAVY-DUTY	1.062/1.0615	1.062/1.0615	1.062/1.0615	—	875	71045
							900	71045
3-22, 4-15, 8-12, 1200	3-22 4-15 8-12 1200	125	.4370/.4375			½x½ Deep	3-22	71040
		375	.6870/.6875	1.062/1.0615		⅞x½ Deep	4-15	71041
							8-12	71044
		HEAVY-DUTY	1.062/1.0615	1.062/1.0615	1.062/1.0615	—	1200	71046

Holes (Specify Quantity) Item #71135

AIR CLAMPING FIXTURE
designed specifically for Commander Multi-Drills

Fits all 5 models . . . 500, 700, 850, 875, 900



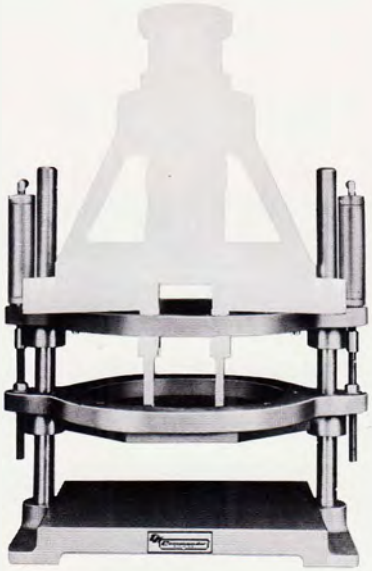
Basic Unit

- Piece part is held securely during drilling cycle
- 2 air cylinders provide immediate and selected force at time of contact—and remains constant throughout the entire drilling stroke
- Clamping force can be selected and varied
- One basic fixture with available inserts for both fixed position plate, drill bushing plate and fixture mounting base insert (order plates separately)
- Includes column mounted air regulator and complete fittings
- Dowel pin set in all plates for layout reference
- Use with adjustable arms or fixed position plate
- Only air pressure pad available for use with adjustable arm heads

Fixed Position Plate

ORDERING INFORMATION

Air Clamping Fixture (Basic unit including air regulator and fittings.)	
ITEM NUMBERS	**MODEL NUMBERS**
71003	500
71005	700
71010	850 and 875
71015	900



Adjustable Arms

ACCESSORIES:

Insert for Drill Bushing Plate—unbored	Item No. 71022
Fixture Mounting Base Insert for accepting piece part nest	Item No. 71020
Fixed Position Plate—unbored (not required with adjustable arms)	Item No. 71022

Fixed position plate requires standard lock-in-position spindle cartridges.

Bored Holes for Fixed Position Plate. When ordering fixed position plate bored include diagram* of desired hole pattern and specify spindle being used. — Item No. 71135

*Send for pressure pad fixed position plate layout.

DRILL HORSEPOWER and THRUST CHART

	DRILL SIZE	1/16	3/32	1/8	3/16	1/4	5/16	3/8	7/16	1/2
BRASS	R.P.M.	4000	4000	4000	3000	2200	1800	1500	1300	1100
	FEED "/REV.	.0004	.0005	.0008	.0012	.0017	.0021	.0025	.003	.0035
	H.P.	.010	.012	.022	.047	0.10	0.15	0.20	0.25	0.30
	THRUST (LBS)	3	6	10	20	35	50	70	90	10
ALUMINUM	R.P.M.	4000	4000	4000	4000	3000	2500	2000	1700	1500
	FEED "/REV.	.0005	.0007	.001	.0015	.0020	.0025	.0030	.0035	.0040
	H.P.	.010	.020	.040	.080	.140	.220	.300	.375	.450
	THRUST (LBS)	2	3	6	12	20	40	60	80	100
CAST IRON	R.P.M.	4000	2850	2100	1400	1000	850	700	600	525
	FEED "/REV.	.0005	.0007	.0010	.0015	.002	.0022	.0027	.0030	.0035
	H.P.	.01	.02	.035	.060	.100	.125	.175	.210	.250
	THRUST (LBS)	6	12	30	45	90	100	140	180	225
B1112 MILD STEEL	R.P.M.	3600	2400	1800	1200	900	750	600	525	450
	FEED "/REV.	.0005	.0007	.001	.0015	.0022	.0027	.0032	.0037	.0045
	H.P.	.015	.025	.040	.075	.125	.175	.250	.300	.365
	THRUST (LBS)	8	12	25	50	85	130	175	250	310
1045 STEEL	R.P.M.	3600	2400	1800	1200	900	750	600	525	450
	FEED "/REV.	.0005	.0007	.0010	.0015	.0022	.0027	.0032	.0037	.0045
	H.P.	.03	.05	.09	.15	.22	.25	.40	.60	.65
	THRUST (LBS)	12	20	25	75	140	200	280	350	450

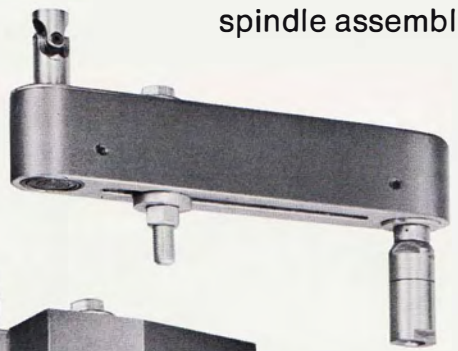
SPINDLE ASSEMBLIES

widest variety of spindle assemblies of any multiple drill head on the market

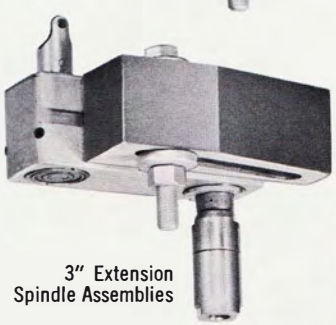
The value and versatility of your Commander equipment is increased by the wide variety of spindle assemblies available for Commander Multi-Drills, including extension, ball bearing, adjustable depth, and pitch compensating.

Consult your distributor for information regarding application of these spindles.

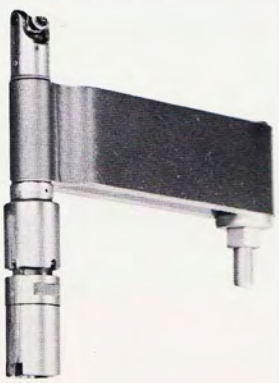
spindle assemblies for special applications



6¾" Extension Spindle Assemblies

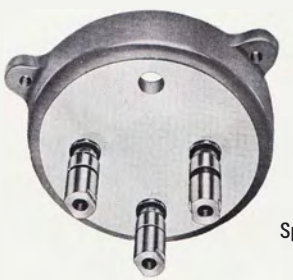


3" Extension Spindle Assemblies



Pitch Compensating Spindle Assemblies

Adjustable Depth Spindle Assemblies



Lock-In Position Spindle Assemblies

See following pages for adjustable depth and pitch compensating spindle assemblies.

Adjustable Depth and Pitch Compensating SPINDLE ASSEMBLIES for Universal Joint Drill Heads

TYPE OF SPINDLE ASSEMBLY	UNIV. JOINT DIA.	MINIMUM CENTER DISTANCES		LENGTH "E" (Spindle Length From Base Housing)	
		PLAIN	BOOTED•		
ADJUSTABLE DEPTH: Permits holding of fine adjustment in drill or tap depths. Adjustable through a range of 5/16" in steps of .001. Calibrated for easy setting.					
125 Collet type 1/32" to 1/8"*	15/32	1/2	—	3 13/16	
125 Bored type (0-6 tap) Bored .141	15/32	1/2	—	3 13/16	
125 Bored type (8 tap) Bored .168	15/32	1/2	—	3 13/16	
125 Bored type (10 tap) Bored .194	15/32	1/2	—	3 13/16	
125 Bored type—other—specify exact size, max. .1875	15/32	1/2	—	3 13/16	
265 Collet type 1/32" to 17/64"*	5/8	1 1/16	—	4 3/16	
375 Collet type 1/32" to 3/8"*	5/8	7/8	1 1/4	4 3/8	
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/16	1 1/4	4 3/8	
375 Bored type Bored .500	5/8	7/8	1 1/4	4 1/8	
375 Bored type—other—specify exact size, max. .500	5/8	7/8	1 1/4	4 1/8	
375 Bored type—ball bearing Bored .500	5/8	1 3/16	1 1/4	4 1/8	
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/16	1 1/4	4 1/8	
PITCH COMPENSATING—Permits simultaneous tapping with taps of different pitch. Use with coarse pitch taps. 5/16" compensation					
125 Bored type (0-6 tap) Bored .141	15/32	1/2	—	4 1/8	
125 Bored type (8 tap) Bored .168	15/32	1/2	—	4 1/8	
125 Bored type (10 tap) Bored .194	15/32	1/2	—	4 1/8	
265 Collet type (0—1/4" tap)	5/8	1 1/16	—	4 3/16	
375 Collet type (0-5/16" tap)	5/8	7/8	1 1/4	4 1/8	
375 Collet type—ball bearing (0-5/16" tap)	5/8	1 3/16	1 1/4	4 1/8	
6 3/4" EXTENSION: Chain driven, operates outside base housing.					
ADJUSTABLE DEPTH:					
375 Collet type—ball bearing 1/32" to 3/8"*	5/8	1 3/8	1 3/8	4 7/16	
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	4 3/16	
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	4 3/16	
PITCH COMPENSATING: 5/16" compensation.					
375 Collet type, tap size 0 to 5/16"	5/8	1 3/8	1 3/8	4 7/16	
3" EXTENSION: Chain Driven—Operates beneath and outside base housing.					
ADJUSTABLE DEPTH:					
375 Collet type 1/32" to 3/8"*—ball bearing	5/8	1 3/8	1 3/8	4 7/16	
375 Bored type—ball bearing Bored .500	5/8	1 3/8	1 3/8	4 3/16	
375 Bored type—ball bearing—other—specify exact size, max. .500	5/8	1 3/8	1 3/8	4 3/16	
PITCH COMPENSATING: 5/16" compensation.					
375 Collet type, tap size 0 to 5/16"	5/8	1 3/8	1 3/8	4 7/16	

*Collets available in fractional, number, letter and millimeter sizes within this range.

• **BOOTED UNIVERSAL JOINT** Available with booted universal joints. To order, change first two digits of item number from 74 to 75.

ADJUSTABLE ARM SPINDLE ASSEMBLIES

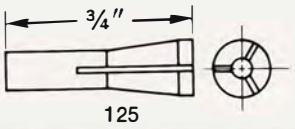
LOCK-IN-POSITION SPINDLE ASSEMBLIES

Normally furnished with universal joint assembly. To order lock-in-position spindle cartridges *without* universal joint assembly, change the first two digits of the item number from 74 to 77.

ITEM NUMBERS FOR USE ON MODELS						ITEM NUMBERS FOR USE ON MODELS		
300	3-22, 4-15	500, 700, 50, 70	875, 900, 87, 90	850, 8-12	1200	500, 700, 50, 70	875, 900, 87, 90	850, 8-12, 1200, 3-22, 4-15
—	74075	74442	74636	74522	74852	74417	74667	74562
—	74033	74948	74689	74584	74813	74952	74685	74588
—	74034	74949	74690	74585	74814	74953	74686	74589
—	74032	74947	74688	74583	74812	74951	74684	74587
—	74035	74950	74691	74586	74815	74954	74687	74590
—	74076	74441	74637	74523	74853	—	—	—
—	74077•	74440•	74638•	74524•	74854•	74419•	74668•	74563•
—	74078•	74437•	74639•	74525•	74855•	74418•	74669•	74566•
—	74079•	74438•	74640•	74526•	74856•	74479•	74670•	74564•
—	74080•	74439•	74641•	74527•	74857•	74480•	74671•	74565•
—	74081•	74435•	74642•	74528•	74858•	74420•	74672•	74567•
—	74082•	74436•	74643•	74529•	74859•	74421•	74673•	74568•
—	74083	74431	74644	74530	74860	74422	74674	74569
—	74114	74432	74645	74531	74861	74423	74675	74570
—	74115	74433	74646	74532	74862	74424	74676	74571
—	74084	74430	74648	74534	74864	—	—	—
—	74085•	74429•	74649•	74535•	74865•	74426•	74678•	74573•
—	74086•	74428•	74650•	74536•	74866•	74478•	74679•	74574•
—	74063•	74454•	74624•	74510•	74840•	—	—	—
—	74064•	74452•	74625•	74511•	74841•	—	—	—
—	74065•	74453•	74626•	74512•	74842•	—	—	—
—	74066•	74451•	74627•	74513•	74843•	—	—	—
—	74071•	74446•	74632•	74518•	74850•	—	—	—
—	74072•	74444•	74633•	74519•	74848•	—	—	—
—	74073•	74445•	74634•	74520•	74849•	—	—	—
—	74074•	74443•	74635•	74521•	74851•	—	—	—

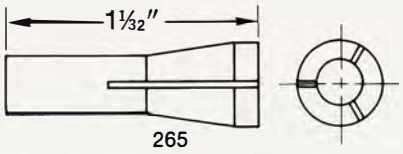
Item numbers printed in black are standard items normally available from stock.
Item numbers printed in green are manufactured or assembled to customer's order.

DRILL COLLETS

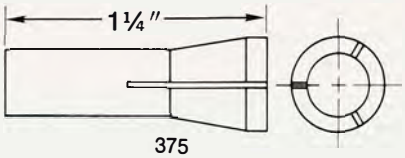


125

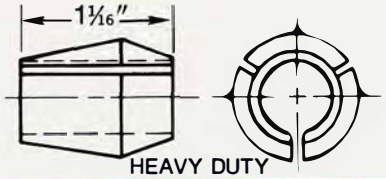
MILLI-METER	SIZE WHOLE NO.	SIZE FRACTION	LETTER	DEC. EQUIV.	125	265	375	HEAVY DUTY	JR. .093	JR. .130
					ITEM NUMBERS					
—	—	1/32	—	.0312	72001	72057	72164	—	72442	72442
.8	—	—	—	.0315	75101	75119	75167	—	75344	75344
—	65	—	—	.0350	72002	72058	72165	—	72443	72443
.9	—	—	—	.0354	75102	75120	75168	—	75345	75345
—	64	—	—	.0360	72003	72059	72166	—	72444	72444
—	63	—	—	.0370	72004	72060	72167	—	72445	72445
—	62	—	—	.0380	72005	72061	72168	—	72446	72446
—	61	—	—	.0390	72006	72062	72169	—	72447	72447
1.0	—	—	—	.0394	75103	75121	75169	—	75346	75346
—	60	—	—	.0400	72007	72063	72170	—	72448	72448
—	59	—	—	.0410	72008	72064	72171	—	72449	72449
—	58	—	—	.0420	72009	72065	72172	—	72450	72450
—	57	—	—	.0430	72010	72066	72173	—	72451	72451
1.1	—	—	—	.0433	75104	75122	75170	—	75347	75347
1.15	—	—	—	.0453	72011	72067	72174	—	72452	72452
—	56	—	—	.0465	72012	72068	72175	—	72453	72453
—	—	3/64	—	.0469	72013	72069	72176	—	72454	72454
1.2	—	—	—	.0472	75105	75123	75171	—	75348	75348
1.25	—	—	—	.0492	72014	72070	72177	—	72455	72455
1.3	—	—	—	.0512	72015	72071	72178	—	72456	72456
—	55	—	—	.0520	72016	72072	72179	—	72457	72457
1.35	—	—	—	.0531	72017	72073	72180	—	72458	72458
—	54	—	—	.0550	72018	72074	72181	—	72459	72459
1.4	—	—	—	.0551	75106	75124	75172	—	75349	75349
1.45	—	—	—	.0571	72019	72075	72182	—	72460	72460
1.5	—	—	—	.0591	72020	72076	72183	—	72461	72461
—	53	—	—	.0595	72021	72077	72184	—	72462	72462
1.55	—	—	—	.0610	72022	72078	72185	—	72463	72463
—	—	1/16	—	.0625	72023	72079	72186	—	72464	72464
1.6	—	—	—	.0630	72024	72080	72187	—	72465	72465
—	52	—	—	.0635	72025	72081	72188	—	72466	72466
1.65	—	—	—	.0650	72026	72082	72189	—	72467	72467
1.7	—	—	—	.0669	75107	75125	75173	—	75350	75350
—	51	—	—	.0670	72027	72083	72190	—	72468	72468
—	50	—	—	.0700	72028	72084	72191	—	72469	72469
1.8	—	—	—	.0709	75108	75126	75174	—	75351	75351
—	49	—	—	.0730	72029	72085	72192	—	72470	72470
1.9	—	—	—	.0748	75109	75127	75175	—	75352	75352
—	48	—	—	.0760	72030	72086	72193	—	72471	72471
—	—	5/64	—	.0781	72031	72087	72194	—	72472	72472
—	47	—	—	.0785	72032	72088	72195	—	72473	72473
2.0	—	—	—	.0787	75110	75128	75176	—	75353	75353
—	46	—	—	.0810	72033	72089	72196	—	72474	72474
—	45	—	—	.0820	72034	72090	72197	—	72475	72475
2.1	—	—	—	.0827	72035	72091	72198	—	72476	72476
—	44	—	—	.0860	72036	72092	72199	—	72477	72477
2.2	—	—	—	.0866	75111	75129	75177	—	75354	75354
—	43	—	—	.0890	72037	72093	72200	—	72478	72478
2.3	—	—	—	.0906	72038	72094	72201	—	72479	72479
—	42	—	—	.0935	72039	72095	72202	—	72480	72480
—	—	3/32	—	.0937	72040	72096	72203	—	72481	72481
2.4	—	—	—	.0945	75112	75130	75178	—	—	75355
—	41	—	—	.0960	72041	72097	72204	—	—	72482
—	40	—	—	.0980	72042	72098	72205	—	—	72483
2.5	—	—	—	.0984	75113	75131	75179	—	—	75356
—	39	—	—	.0995	72043	72099	72206	—	—	72484
—	38	—	—	.1015	72044	72100	72207	—	—	72485
2.6	—	—	—	.1024	72045	72101	72208	—	—	72486
—	37	—	—	.1040	72046	72102	72209	—	—	72487
2.7	—	—	—	.1063	75114	75132	75180	—	—	75357
—	36	—	—	.1065	72047	72103	72210	—	—	72488
—	—	7/64	—	.1094	72048	72104	72211	—	—	72489
—	35	—	—	.1100	72049	72105	72212	—	—	72490
2.8	—	—	—	.1102	75115	75133	75181	—	—	75358
—	34	—	—	.1110	72050	72106	72213	—	—	72491
—	33	—	—	.1130	72051	72107	72214	—	—	72492
2.9	—	—	—	.1142	75116	75134	75182	—	—	75359
—	32	—	—	.1160	72052	72108	72215	—	—	72493
3.0	—	—	—	.1181	75117	75135	75183	—	—	75360
—	31	—	—	.1200	72053	72109	72216	—	—	72494
3.1	—	—	—	.1220	72054	72110	72217	—	—	72495
—	—	1/8	—	.1250	72055	72111	72218	72351	—	72496
3.2	—	—	—	.1260	75118	75136	75184	75256	—	—
—	30	—	—	.1285	72056	72112	72219	72352	—	—
3.3	—	—	—	.1299	—	72113	72220	72353	—	—
3.4	—	—	—	.1339	—	72114	72221	72354	—	—



265



375



HEAVY DUTY

SIZE				DEC. EQUIV.	125	265	375	HEAVY DUTY	JR. .093	JR. .130
MILLI-METER	WHOLE NO.	FRACTION	LETTER		ITEM NUMBERS					
—	29	—	—	.1360	—	72115	72222	72355	—	—
3.5	—	—	—	.1378	—	72116	72223	72356	—	—
—	28	—	—	.1405	—	72117	72224	72357	—	—
—	—	9/64	—	.1406	—	72118	72225	72358	—	—
3.6	—	—	—	.1417	—	75138	75186	75258	—	—
—	27	—	—	.1440	—	72119	72226	72359	—	—
3.7	—	—	—	.1457	—	75139	75187	75259	—	—
—	26	—	—	.1470	—	72120	72227	72360	—	—
—	25	—	—	.1495	—	72121	72228	72361	—	—
3.8	—	—	—	.1496	—	75140	75188	75260	—	—
—	24	—	—	.1520	—	72122	72229	72362	—	—
3.9	—	—	—	.1535	—	75141	75189	75261	—	—
—	23	—	—	.1540	—	72123	72230	72363	—	—
—	—	5/32	—	.1562	—	72124	72231	72364	—	—
—	22	—	—	.1570	—	72125	72232	72365	—	—
4.0	—	—	—	.1575	—	75142	75190	75262	—	—
—	21	—	—	.1590	—	72126	72233	72366	—	—
—	20	—	—	.1610	—	72127	72234	72367	—	—
4.1	—	—	—	.1614	—	75143	75191	75263	—	—
4.2	—	—	—	.1654	—	75144	75192	75264	—	—
—	19	—	—	.1660	—	72128	72235	72368	—	—
4.3	—	—	—	.1693	—	75145	75193	75265	—	—
—	18	—	—	.1695	—	72129	72236	72369	—	—
—	—	11/64	—	.1719	—	72130	72237	72370	—	—
—	17	—	—	.1730	—	72131	72238	72371	—	—
4.4	—	—	—	.1732	—	75146	75194	75266	—	—
—	16	—	—	.1770	—	72132	72239	72372	—	—
4.5	—	—	—	.1771	—	75147	75195	75267	—	—
—	15	—	—	.1800	—	72133	72240	72373	—	—
4.6	—	—	—	.1811	—	75148	75196	75268	—	—
—	14	—	—	.1820	—	72134	72241	72374	—	—
4.7	—	—	—	.1850	—	75149	75197	75269	—	—
—	13	—	—	.1850	—	72135	72242	72375	—	—
—	—	3/16	—	.1875	—	72136	72243	72376	—	—
4.8	—	—	—	.1890	—	75150	75198	75270	—	—
—	12	—	—	.1890	—	72137	72244	72377	—	—
—	11	—	—	.1910	—	72138	72245	72378	—	—
4.9	—	—	—	.1929	—	75151	75199	75271	—	—
—	10	—	—	.1935	—	72139	72246	72379	—	—
—	9	—	—	.1960	—	72140	72247	72380	—	—
5.0	—	—	—	.1969	—	75152	75200	75272	—	—
—	8	—	—	.1990	—	72141	72248	72381	—	—
5.1	—	—	—	.2008	—	75153	75201	75273	—	—
—	7	—	—	.2010	—	72142	72249	72382	—	—
—	—	13/64	—	.2031	—	72143	72250	72383	—	—
—	6	—	—	.2040	—	72144	72251	72384	—	—
5.2	—	—	—	.2047	—	75154	75202	75274	—	—
—	5	—	—	.2055	—	72145	72252	72385	—	—
5.3	—	—	—	.2087	—	75155	75203	75275	—	—
—	4	—	—	.2090	—	72146	72253	72386	—	—
5.4	—	—	—	.2126	—	75156	75204	75276	—	—
—	3	—	—	.2130	—	72147	72254	72387	—	—
5.5	—	—	—	.2165	—	75157	75205	75277	—	—
—	—	7/32	—	.2187	—	72148	72255	72388	—	—
5.6	—	—	—	.2205	—	75158	75206	75278	—	—
—	2	—	—	.2210	—	72149	72256	72389	—	—
5.7	—	—	—	.2244	—	72150	72257	72390	—	—
—	1	—	—	.2280	—	72151	72258	72391	—	—
5.8	—	—	—	.2283	—	75159	75207	75279	—	—
5.9	—	—	—	.2323	—	75160	75208	75280	—	—
—	—	—	A	.2340	—	72152	72259	72392	—	—
—	—	15/64	—	.2344	—	72153	72260	72393	—	—
6.0	—	—	—	.2362	—	75161	75209	75281	—	—
—	—	—	B	.2380	—	72154	72261	72394	—	—
6.1	—	—	—	.2402	—	72155	72262	72395	—	—
—	—	—	C	.2420	—	72156	72263	72396	—	—
6.2	—	—	—	.2441	—	75162	75210	75282	—	—
—	—	—	D	.2460	—	72157	72264	72397	—	—
6.3	—	—	—	.2480	—	75163	75211	75283	—	—
—	—	1/4	—	.2500	—	72158	72265	72398	—	—
—	—	—	E	.2500	—	72159	72266	72399	—	—
6.4	—	—	—	.2520	—	72160	72267	72400	—	—
6.5	—	—	—	.2559	—	75164	75212	75284	—	—
—	—	—	F	.2570	—	72161	72268	72401	—	—
6.6	—	—	—	.2598	—	75165	75213	75285	—	—
—	—	—	G	.2610	—	72162	72269	72402	—	—

DRILL COLLETS (Cont.)

SIZE				DEC. EQUIV.	125	265	375	HEAVY DUTY	JR. .093	JR. .130
MILLI-METER	WHOLE NO.	FRACTION	LETTER		ITEM NUMBERS					
6.7	—	—	—	.2638	—	75166	75214	75286	—	—
—	—	17/64	—	.2656	—	72163	72270	72403	—	—
—	—	—	H	.2660	—	—	72271	72404	—	—
6.8	—	—	—	.2677	—	—	75215	75287	—	—
6.9	—	—	—	.2717	—	—	75216	75288	—	—
—	—	—	I	.2720	—	—	72272	72405	—	—
7.0	—	—	—	.2756	—	—	75217	75289	—	—
—	—	—	J	.2770	—	—	72273	72406	—	—
7.1	—	—	—	.2795	—	—	75218	75290	—	—
—	—	—	K	.2810	—	—	72274	72407	—	—
—	—	9/32	—	.2813	—	—	72275	72408	—	—
7.2	—	—	—	.2835	—	—	75219	75291	—	—
7.25	—	—	—	.2854	—	—	72276	72409	—	—
7.3	—	—	—	.2874	—	—	75220	75292	—	—
—	—	—	L	.2900	—	—	72277	72410	—	—
7.4	—	—	—	.2913	—	—	72278	72411	—	—
—	—	—	M	.2950	—	—	72279	72412	—	—
7.5	—	—	—	.2953	—	—	75221	75293	—	—
—	—	19/64	—	.2969	—	—	72280	72413	—	—
7.6	—	—	—	.2992	—	—	75222	75294	—	—
—	—	—	N	.3020	—	—	72281	72414	—	—
7.7	—	—	—	.3031	—	—	75223	75295	—	—
7.8	—	—	—	.3071	—	—	72282	72415	—	—
7.9	—	—	—	.3110	—	—	75224	75296	—	—
—	—	5/16	—	.3125	—	—	72283	72416	—	—
8.0	—	—	—	.3150	—	—	75225	75297	—	—
—	—	—	O	.3160	—	—	72284	72417	—	—
8.1	—	—	—	.3189	—	—	75226	75298	—	—
8.2	—	—	—	.3228	—	—	75227	75299	—	—
—	—	—	P	.3230	—	—	72285	72418	—	—
8.3	—	—	—	.3267	—	—	75228	75300	—	—
—	—	21/64	—	.3281	—	—	72286	72419	—	—
8.4	—	—	—	.3307	—	—	75229	75301	—	—
—	—	—	Q	.3320	—	—	72287	72420	—	—
8.5	—	—	—	.3346	—	—	75230	75302	—	—
8.6	—	—	—	.3386	—	—	75231	75303	—	—
—	—	—	R	.3390	—	—	72288	72421	—	—
8.7	—	—	—	.3425	—	—	75232	75304	—	—
—	—	11/32	—	.3437	—	—	72289	72422	—	—
8.8	—	—	—	.3465	—	—	75233	75305	—	—
—	—	—	S	.3480	—	—	72290	72423	—	—
8.9	—	—	—	.3504	—	—	75234	75306	—	—
9.0	—	—	—	.3543	—	—	72291	72424	—	—
—	—	—	T	.3580	—	—	72292	72425	—	—
9.1	—	—	—	.3583	—	—	75235	75307	—	—
—	—	23/64	—	.3594	—	—	72293	72426	—	—
9.2	—	—	—	.3622	—	—	75236	75308	—	—
9.3	—	—	—	.3661	—	—	75237	75309	—	—
—	—	—	U	.3680	—	—	72294	72427	—	—
9.4	—	—	—	.3701	—	—	75238	75310	—	—
9.5	—	—	—	.3740	—	—	75239	75311	—	—
—	—	3/8	—	.3750	—	—	72295	72428	—	—
—	—	—	V	.3770	—	—	72296	72429	—	—
9.6	—	—	—	.3780	—	—	—	75312	—	—
9.7	—	—	—	.3819	—	—	—	75313	—	—
9.8	—	—	—	.3858	—	—	—	75314	—	—
—	—	—	W	.3860	—	—	—	72430	—	—
9.9	—	—	—	.3898	—	—	—	75315	—	—
—	—	25/64	—	.3906	—	—	—	72431	—	—
10.0	—	—	—	.3937	—	—	—	75316	—	—
—	—	—	X	.3970	—	—	—	72432	—	—
10.1	—	—	—	.3976	—	—	—	75317	—	—
10.2	—	—	—	.4016	—	—	—	75318	—	—
—	—	—	Y	.4040	—	—	—	72433	—	—
10.3	—	—	—	.4055	—	—	—	75319	—	—
—	—	13/32	—	.4062	—	—	—	72434	—	—
10.4	—	—	—	.4094	—	—	—	75320	—	—
—	—	—	Z	.4130	—	—	—	72435	—	—
10.5	—	—	—	.4134	—	—	—	75321	—	—
10.6	—	—	—	.4173	—	—	—	75322	—	—
10.7	—	—	—	.4213	—	—	—	75323	—	—
—	—	27/64	—	.4219	—	—	—	72436	—	—
10.8	—	—	—	.4252	—	—	—	75324	—	—
10.9	—	—	—	.4291	—	—	—	75325	—	—
11.0	—	—	—	.4331	—	—	—	75326	—	—
11.1	—	—	—	.4370	—	—	—	75327	—	—
—	—	7/16	—	.4375	—	—	—	72437	—	—
11.2	—	—	—	.4409	—	—	—	75328	—	—
11.3	—	—	—	.4449	—	—	—	75329	—	—
11.4	—	—	—	.4488	—	—	—	75330	—	—

SIZE				DEC. EQUIV.	125	265	375	HEAVY DUTY	JR. .093	JR. .130
MILLI-METER	WHOLE NO.	FRACTION	LETTER		ITEM NUMBERS					
11.5	—	—	—	.4528	—	—	—	75331	—	—
—	—	29/64	—	.4531	—	—	—	72438	—	—
11.6	—	—	—	.4567	—	—	—	75332	—	—
11.7	—	—	—	.4606	—	—	—	75333	—	—
11.8	—	—	—	.4646	—	—	—	75334	—	—
11.9	—	—	—	.4685	—	—	—	75335	—	—
—	—	15/32	—	.4687	—	—	—	72439	—	—
12.0	—	—	—	.4724	—	—	—	75336	—	—
12.1	—	—	—	.4764	—	—	—	75337	—	—
12.2	—	—	—	.4803	—	—	—	75338	—	—
12.3	—	—	—	.4843	—	—	—	75339	—	—
—	—	31/64	—	.4844	—	—	—	72440	—	—
12.4	—	—	—	.4882	—	—	—	75340	—	—
12.5	—	—	—	.4921	—	—	—	75341	—	—
12.6	—	—	—	.4961	—	—	—	75342	—	—
12.7	—	—	—	.5000	—	—	—	75343	—	—
—	—	1/2	—	.5000	—	—	—	72441	—	—

TAP COLLETS

TAP SIZE	SHANK SIZE	265	375	500	Insert for Tapping with ½" Bored Spindle	JR*
		ITEM NUMBER				
0-6T	.141	72603	72616	—	72642	72653
8T	.168	72605	72618	72631	72644	—
10T	.194	72606	72619	72632	72645	—
12T	.220	72607	72620	72633	72646	—
14T	.247	72608	72621	72634	72647	—
1/4T	.255	72609	72622	72635	72648	—
5/16T	.318	—	72623	72636	72649	—
3/8T	.381	—	—	72637	72650	—
7/16T	.323	—	—	72638	72651	—
1/2T	.367	—	—	72639	72652	—

*Tap shank must be modified for use with JR .093 and JR .130.

tk Commander

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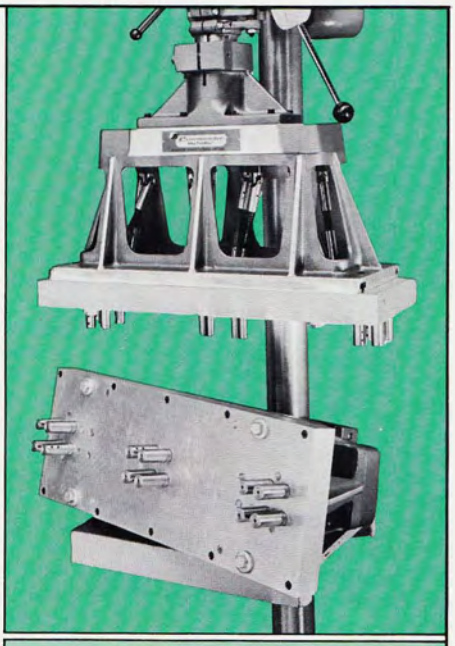

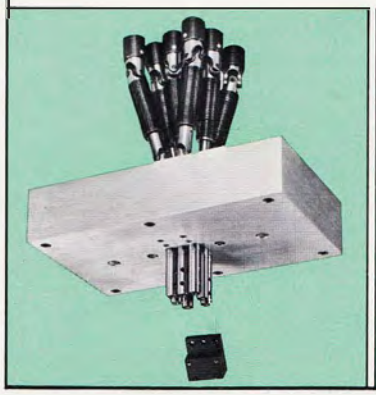

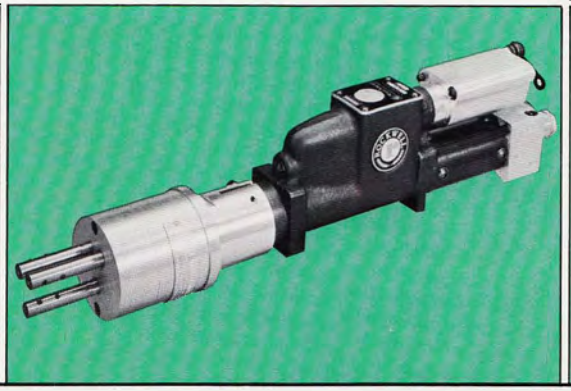

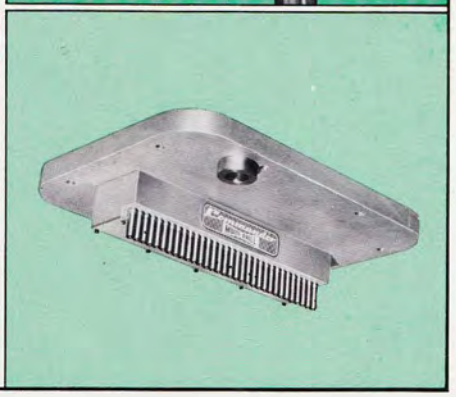

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