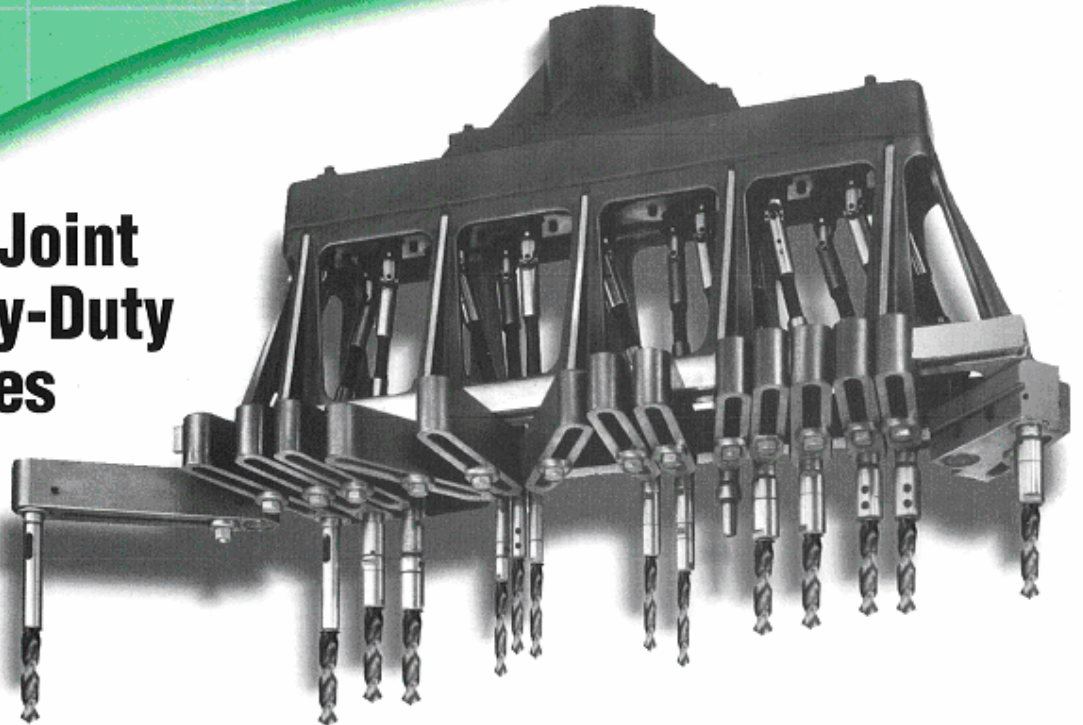


**3-22****Universal Joint  
with Heavy-Duty  
Capabilities**

- *Drill / Tap up to 15 holes in 3" x 21-3/4" area, or an area of 16-1/2" x 35-1/2" with extension spindles.*
- *3/8" drill capacity*
- *35-1/2" of in-line drilling*
- *Adapts to any drill press or automatic feed unit.*

The Model 3-22 Multi-Drill is a ruggedly constructed, heavy-duty multiple spindle drill head. It features precision built anti-friction gear case drive with ball and roller bearings and extra-strength gear train. It is capable of withstanding high torque and thrust in keeping with rated capacity.

<b>MULTI-DRILL 3-22</b>	<b>ITEM #</b>
Basic Unit without Adaptation	C70091
Basic Unit with Adaptation	C70092

<b>SPECIFICATIONS</b>	
Maximum Drilling Area	3 x 21-3/4"
Minimum Center Distance	7/16"
Maximum Number of Spindles	15
Drill Capacity in mild steel	3/8"
Maximum Drilling Area w/ Extension Spindles	16-1/2" x 35-1/2"
Maximum Horsepower Transmitted	3
Maximum Torque Transmitted	70 inch / lbs.
Maximum Spindle RPM	1800
Maximum Drill Press RPM	1800
Speed Ratio	1:1

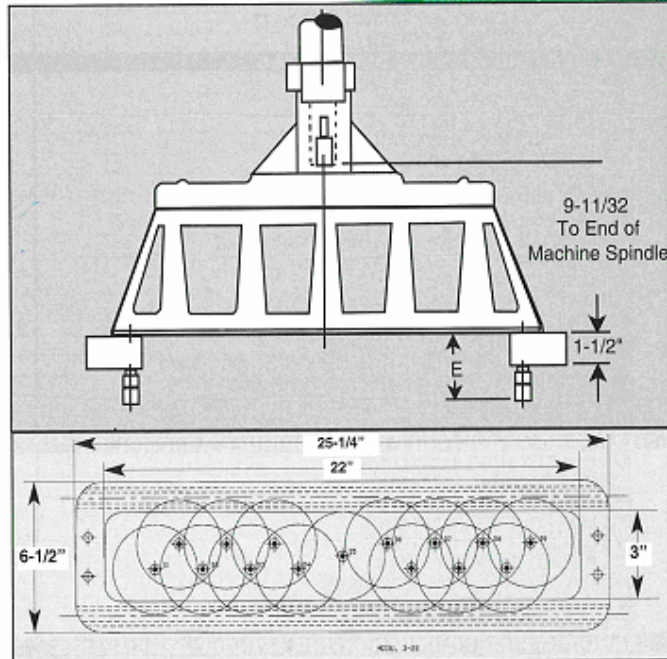


Proudly made in  
Franklin, WI USA

*Ideal for adaptation to drill presses, tapping machines, automatic self-feed drill and tap units, and special machines*

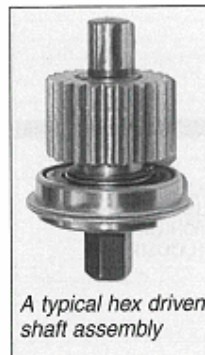
- 35-1/2" of in-line drilling
- 7/16" minimum centers
- One 3/8" hex center drive and eight 3/8" hex driven shaft assemblies included. (For additional driven shaft assemblies use item#C71230).\*
- Heavy-duty gear case allows drilling up to 15 holes in 3" x 21-3/4" area, or an area of 16-1/2" x 35-1/2" with extension spindles.
- Close center capacity.
- 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 drill heads can be used for multiple tapping by use of a motor reversing unit.
- Minimum maintenance required.

*The maximum angularity of universal joint assemblies should be no more than 22 degrees to obtain best service life.*



Commander Multi-Drill has on file spindle specifications for most machines. Please furnish us with the make and model number of the machine that our head will be adapted to. (See adaptations page)

In some cases there may be an additional charge for adaptation.



*A typical hex driven shaft assembly*

**\* Multi-Drill Terminology...  
Hex Pick-Off**

A Hex Pick-Off is the hex protruding from the multi-drill gear case that a universal joint spindle can be attached to.

The model 3-22 includes 9 hex pick-offs with the basic unit. You may add up to 6 more pick-offs for a maximum total of 15 spindles.

# MULTI-DRILL® 3-22 ADJUSTABLE ARM



Minimum Center Distances		Spindle Length "E" Dimension <i>see drawing</i>	Adjustable Arm	
Plain	Booted		Plain	Booted

STANDARD SPINDLE ASSEMBLIES					
125 COLLET TYPE 1/32 TO 1/8	1/2	-----	3-5/16	C74040	-----
125 COLLET TYPE 1/32 TO 1/8	7/16	-----	3-5/16	C74119	-----
125 BORED TYPE .255" MAX.	1/2	-----	3-1/8	C74045	-----
265 COLLET TYPE 1/32 TO 17/64	11/16	-----	3-9/16	C74046	-----
265 COLLET TYPE 1/32 TO 17/64	5/8	-----	3-9/16	C74121	-----
265 BORED TYPE .4375" MAX.	5/8	-----	3-1/8	C74122	-----
375 COLLET TYPE 1/32 TO 3/8	7/8	1-1/4	3-5/8	C74048	C75048
375 BORED TYPE .500" MAX.	7/8	1-1/4	3-5/8	C74050	C75050
#1 MORSE TAPER TYPE	11/16	1-1/4	5	C74051	C75051
375 Q.T. FLOATING TAP SPINDLES			-----	P.O.A.	P.O.A.
375 Q.C. FLOATING TAP SPINDLES (BILZ)			-----	P.O.A.	P.O.A.
375 PLAIN FLOATING SPINDLES			-----	P.O.A.	P.O.A.
BALL BEARING SPINDLE ASSEMBLIES					
375 COLLET TYPE 1/32 TO 3/8	1-3/8	1-3/8	3-5/8	-----	C85324
375 BORED TYPE .500" MAX.	1-3/8	1-3/8	3-3/8	-----	C85451
500 COLLET TYPE 1/32 TO 1/2	1-3/8	1-3/8	4-9/16	-----	C85329
500 BORED TYPE .625" MAX.	1-3/8	1-3/8	3-13/16	-----	C85453
#1 MORSE TAPER TYPE	1-3/8	1-3/8	4-7/16	-----	C85325
#2 MORSE TAPER TYPE	1-3/8	1-3/8	5-7/16	-----	C85326
5/8 ASA SPINDLE	-----	-----	-----	-----	C85327
7/8 ASA SPINDLE	-----	-----	-----	-----	C85328
375 STUB ASA SPINDLE SPECIFY BORE SIZE	-----	-----	-----	-----	C85403
375 PLAIN FLOATING TAP SPINDLES	-----	-----	-----	-----	C85452
375 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	-----	C85389
375 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	-----	C85392
500 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	-----	C85393
500 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	-----	C85390
ADJUSTABLE DEPTH 375 COLLET TYPE 1/32 TO 3/8	-----	-----	-----	-----	C85417
ADJUSTABLE DEPTH 375 BORED TYPE .500" MAX.	-----	-----	-----	-----	C85481
PITCH COMPENSATING 375 COLLET TYPE 1/32 TO 3/8	-----	-----	-----	-----	C85427
PITCH COMPENSATING 375 BORED TYPE .500" MAX.	-----	-----	-----	-----	C85482
STANDARD ADJUSTABLE DEPTH SPINDLE ASSEMBLIES					
125 COLLET TYPE 1/32 TO 1/8	1/2	-----	3-13/16	C74075	-----
125 BORED TYPE .255" MAX.	1/2	-----	3-13/16	C74035	-----
265 COLLET TYPE 1/32 TO 17/64	11/16	-----	4-3/16	C74076	-----
265 BORED TYPE .4375" MAX.	-----	-----	-----	P.O.A.	P.O.A.
375 COLLET TYPE 1/32 TO 3/8	7/8	1-1/4	4-3/8	C74077	C75077
375 BORED TYPE .500" MAX.	7/8	1-1/4	4-1/8	C74080	C75080
375 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
375 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	P.O.A.	P.O.A.
375 PLAIN FLOATING SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
STANDARD PITCH COMPENSATING SPINDLE ASSEMBLIES					
125 BORED TYPE .255" MAX.	1/2	-----	4-1/8	C74115	-----
265 BORED TYPE .255" MAX.	-----	-----	-----	P.O.A.	-----
265 COLLET TYPE #0-1/4 TAP	-----	-----	-----	C74084	-----
375 COLLET TYPE #0-5/16 TAP	7/8	1-1/4	4-1/8	C74085	C75085
375 BORED TYPE 5/16" TAP MAX.	-----	-----	-----	-----	-----
375 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
375 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	P.O.A.	P.O.A.
375 PLAIN FLOATING SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
3" EXTENSION SPINDLES					
375 COLLET TYPE BALL BRG. 1/32 TO 3/8	1-3/8	1-3/8	3-5/8	C74067	C75067
375 BORED TYPE BALL BRG. .500" MAX.	1-3/8	1-3/8	3-3/8	C74069	C75069
375 COLLET TYPE BALL BRG. 1/32 TO 3/8 ADJUST. DEPTH	1-3/8	1-3/8	4-7/16	C74071	C75071
375 BORED TYPE BALL BRG. .500 MAX ADJUST. DEPTH	1-3/8	1-3/8	4-3/16	C74073	C75073
375 COLLET TYPE BALL BRG. 1/32 TO 3/8 PITCH COMP.	-----	-----	-----	C74074	C75074
375 BORED TYPE BALL BRG. .500 MAX PITCH COMP	-----	-----	-----	P.O.A.	P.O.A.
500 COLLET TYPE BALL BRG. 1/32 TO 1/2	-----	-----	-----	P.O.A.	P.O.A.
500 BORED TYPE BALL BRG. .625" MAX.	1-3/8	1-3/8	3-13/16	P.O.A.	P.O.A.
#1 MORSE TAPER TYPE	1-3/8	1-3/8	4-7/16	C74070	C75070
#2 MORSE TAPER TYPE	1-3/8	1-3/8	5-7/16	P.O.A.	P.O.A.
375 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
375 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	P.O.A.	P.O.A.
375 PLAIN FLOATING SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
6 3/4" EXTENSION SPINDLES					
375 COLLET TYPE BALL BRG. 1/32 TO 3/8	1-3/8	1-3/8	3-5/8	C74059	C75059
375 BORED TYPE BALL BRG. .500" MAX.	1-3/8	1-3/8	3-3/8	C74061	C75061
375 COLLET TYPE BALL BRG. 1/32 TO 3/8 ADJUST. DEPTH	1-3/8	1-3/8	4-7/16	C74063	C75063
375 BORED TYPE BALL BRG. .500 MAX ADJUST. DEPTH	1-3/8	1-3/8	4-3/16	C74065	C75065
375 COLLET TYPE BALL BRG. 1/32 TO 3/8 PITCH COMP.	1-3/8	1-3/8	4-7/16	C74066	C75066
375 BORED TYPE BALL BRG. .500 MAX PITCH COMP	1-3/8	1-3/8	4-3/16	P.O.A.	P.O.A.
500 COLLET TYPE BALL BRG. 1/32 TO 1/2	1-3/8	1-3/8	4-9/16	P.O.A.	P.O.A.
500 BORED TYPE BALL BRG. .625" MAX.	1-3/8	1-3/8	3-13/16	P.O.A.	P.O.A.
#1 MORSE TAPER TYPE BALL BRG.	1-3/8	1-3/8	5	C74062	C75062
#2 MORSE TAPER TYPE BALL BRG.	1-3/8	1-3/8	5-7/16	P.O.A.	P.O.A.
375 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
375 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	P.O.A.	P.O.A.
375 PLAIN FLOATING SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
VERSA SPINDLES					
3/8" CAPACITY	-----	-----	-----	-----	C80147
1/2" CAPACITY	-----	-----	-----	-----	-----



Plain



Booted

# MULTI-DRILL® 3-22 SLIP SPINDLE



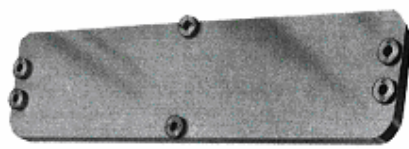
Minimum Center Distances		Spindle Length "E" Dimension see drawing	Slip Spindle	
Plain	Booted		Plain	Booted

STANDARD SPINDLE ASSEMBLIES					
125 COLLET TYPE 1/32 TO 1/8	1/2	-----	3-5/16	C74549	
125 COLLET TYPE 1/32 TO 1/8	7/16	-----	3-5/16	P.O.A.	
125 BORED TYPE .255" MAX.	1/2	-----	3-1/8	C74554	
265 COLLET TYPE 1/32 TO 17/64	11/16	-----	3-9/16	P.O.A.	
265 COLLET TYPE 1/32 TO 17/64	5/8	-----	3-9/16	P.O.A.	
265 BORED TYPE .4375" MAX.	5/8	-----	3-1/8	P.O.A.	
375 COLLET TYPE 1/32 TO 3/8	7/8	1-1/4	3-5/8	C74555	C75555
375 BORED TYPE .500" MAX.	7/8	1-1/4	3-3/8	C74557	C75557
#1 MORSE TAPER TYPE	11/16	1-1/4	5	C74598	C75598
375 Q.T. FLOATING TAP SPINDLES	7/8	1-1/4	-----	P.O.A.	P.O.A.
375 Q.C. FLOATING TAP SPINDLES (BILZ)	7/8	1-1/4	-----	P.O.A.	P.O.A.
375 PLAIN FLOATING SPINDLES	7/8	1-1/4	-----	P.O.A.	P.O.A.
BALL BEARING SPINDLE ASSEMBLIES					
375 COLLET TYPE 1/32 TO 3/8	1-3/8	1-3/8	3-5/8	-----	C85346
375 BORED TYPE .500" MAX.	1-3/8	1-3/8	3-3/8	-----	C85471
500 COLLET TYPE 1/32 TO 1/2	1-3/8	1-3/8	4-9/16	-----	C85351
500 BORED TYPE .625" MAX.	1-3/8	1-3/8	3-13/16	-----	C85473
#1 MORSE TAPER TYPE	1-3/8	1-3/8	4-7/16	-----	C85347
#2 MORSE TAPER TYPE	1-3/8	1-3/8	5-7/16	-----	C85348
5/8 ASA SPINDLE	-----	-----	-----	-----	C85349
7/8 ASA SPINDLE	-----	-----	-----	-----	C85350
STUB ASA (SPECIFY BORE)	-----	-----	-----	-----	C85406
375 PLAIN FLOATING TAP SPINDLES	-----	-----	-----	-----	C85472
375 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	-----	C85374
375 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	-----	C85377
500 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	-----	C85378
500 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	-----	C85375
ADJUSTABLE DEPTH 375 COLLET TYPE 1/32 TO 3/8	-----	-----	-----	-----	C85418
ADJUSTABLE DEPTH 375 BORED TYPE .500" MAX.	-----	-----	-----	-----	C85491
PITCH COMPENSATING 375 COLLET TYPE 1/32 TO 3/8	-----	-----	-----	-----	C85428
PITCH COMPENSATING 375 BORED TYPE .500" MAX.	-----	-----	-----	-----	C85492
STANDARD ADJUSTABLE DEPTH SPINDLE ASSEMBLIES					
125 COLLET TYPE 1/32 TO 1/8	1/2	-----	-----	C74562	-----
125 BORED TYPE .255" MAX.	1/2	-----	3-13/16	C74590	-----
265 COLLET TYPE 1/32 TO 17/64	11/16	-----	3-13/16	P.O.A.	-----
265 BORED TYPE .4375" MAX.	-----	-----	4-3/16	P.O.A.	-----
375 COLLET TYPE 1/32 TO 3/8	7/8	-----	-----	C74563	C75563
375 BORED TYPE .500" MAX.	7/8	1-1/4	4-3/8	C74565	C75565
375 Q.T. FLOATING TAP SPINDLES	-----	1-1/4	4-1/8	P.O.A.	P.O.A.
375 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	P.O.A.	P.O.A.
375 PLAIN FLOATING SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
STANDARD PITCH COMPENSATING SPINDLE ASSEMBLIES					
125 BORED TYPE .255" MAX.	1/2	-----	-----	C74571	-----
265 BORED TYPE .255" MAX.	-----	-----	4-1/8	P.O.A.	-----
265 COLLET TYPE #0-1/4 TAP	-----	-----	-----	P.O.A.	-----
375 COLLET TYPE #0-5/16 TAP	7/8	-----	-----	C74573	C75573
375 BORED TYPE 5/16" TAP MAX.	-----	1-1/4	4-1/8	P.O.A.	P.O.A.
375 Q.T. FLOATING TAP SPINDLES	-----	-----	-----	P.O.A.	P.O.A.
375 Q.C. FLOATING TAP SPINDLES (BILZ)	-----	-----	-----	P.O.A.	P.O.A.
375 PLAIN FLOATING SPINDLES	-----	-----	-----	P.O.A.	P.O.A.

HEAD ACCESSORIES	ITEM #
FIXED POSITION PLATE	C71040
BORED HOLES	C71135
GUIDE RODS AND BUSHED ARMS	C71211 / C71212



The maximum angularity of universal joint assemblies should be no more than 22 degrees to obtain best service life.



Fixed Position Plate



Guide Rods & Bushed Arms