

THICK TURRET TOOLING

Quality from The Cutting Edge of Fabrication



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ENGINEERING DATA

MATERIAL MULTIPLIER CHART

	MATERIAL	MULTIPLIER
STEEL	COLD ROLLED	25
	HOT ROLLED	30
	1095 SPRING STEEL, ANNEALED	50
	1095 SPRING STEEL, TEMPERED	130
STAINLESS STEEL	202, ANNEALED	55
	302,303,304,316, 321,430, ALL ANNEALED	48
ALUMINUM	2024 - 0	14
	2024 - T3	35
	6061 - 0	9
	6061 - T6	23
	5052 - H32	17
COPPER	ANNEALED	16
	HALF HARD	21
	HARD	25

TOTAL LAND INCHES (L)

SHAPE	"A" DIMENSION	"L" DIMENSION
	A=DIAMETER	$L = \pi \times A$
	$A = B \times 1.414$	$L = 4 \times B$
	$A = \sqrt{B^2 + C^2}$	$L = 2 \times (C + B)$
	A = LENGTH	$L = 2A + 1.14B$

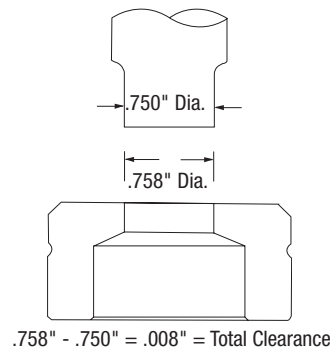
SHEET METAL GAUGES

GAUGE	APPROXIMATE THICKNESS	GAUGE	APPROXIMATE THICKNESS
30	0.012	16	0.060
29	0.014	15	0.067
28	0.015	14	0.075
27	0.016	13	0.090
26	0.018	12	0.105
25	0.021	11	0.120
24	0.024	10	0.135
23	0.027	9	0.150
22	0.030	8	0.164
21	0.033	7	0.179
20	0.036	6	0.194
19	0.042	5	0.209
18	0.048	4	0.224
17	0.054	3	0.239

TONNAGE CALCULATION

TONNAGE =	MATERIAL THICKNESS x PERIMETER OF CUT x MATERIAL MULTIPLIER
EXAMPLE:	1" x 2" RECTANGLE THROUGH 1/8" HOT ROLLED STEEL. TONNAGE = .125 x 6 x 30 = 22.5 TONS

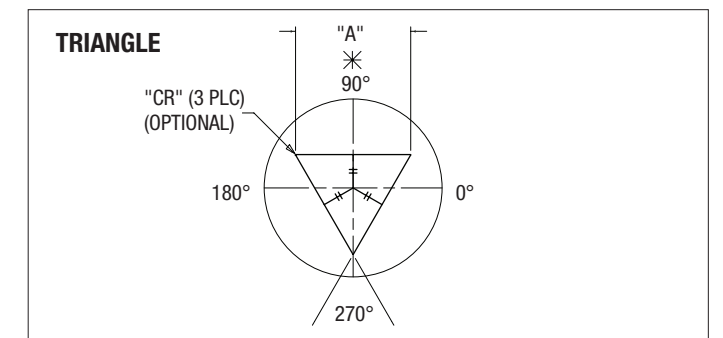
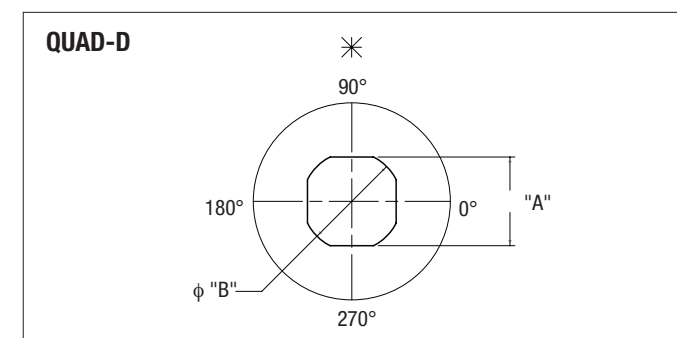
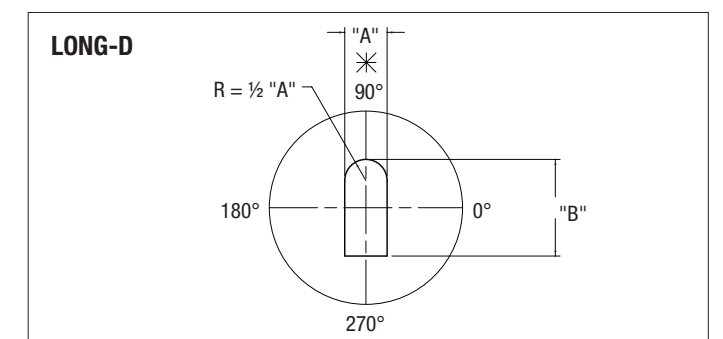
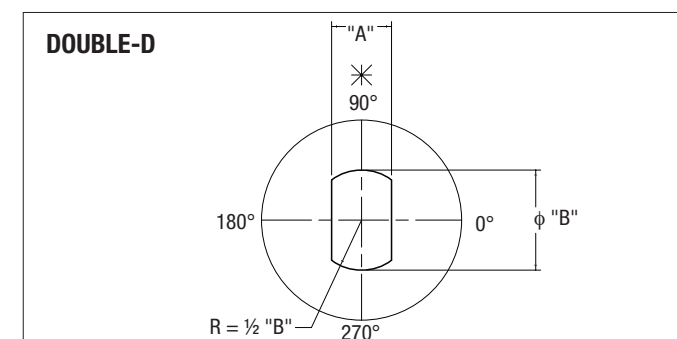
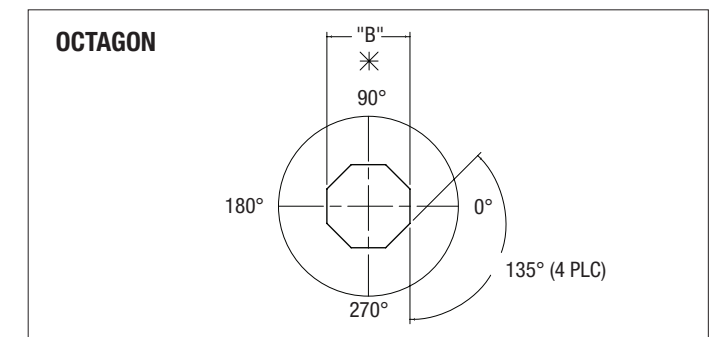
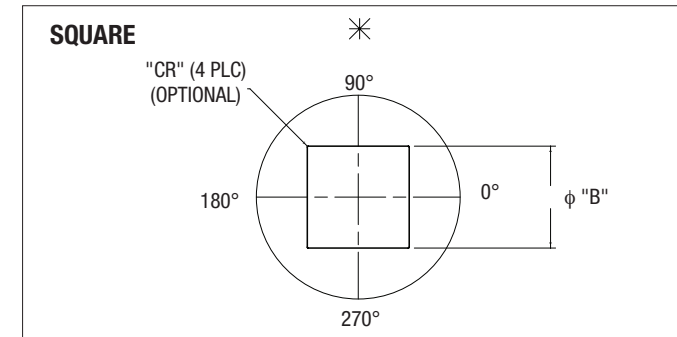
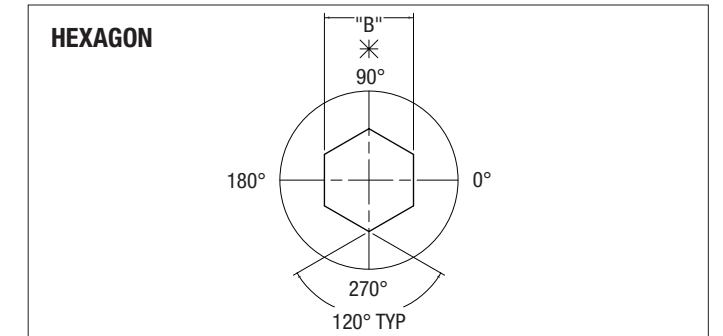
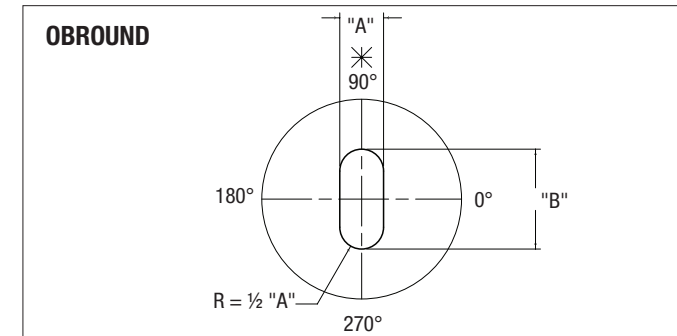
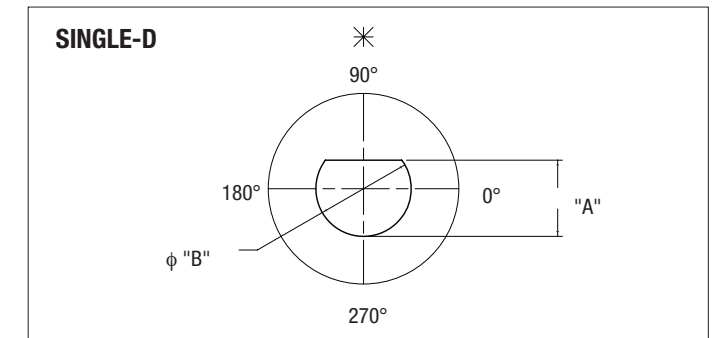
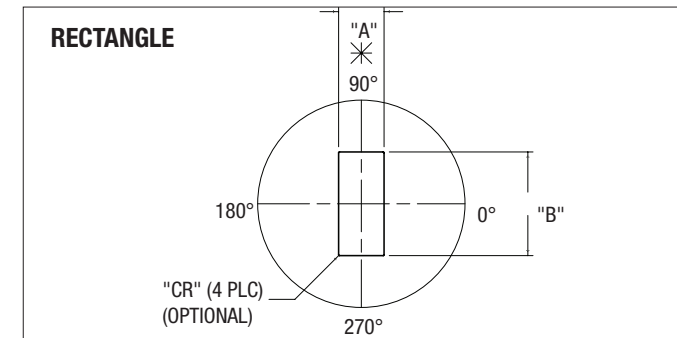
RECOMMENDED DIE CLEARANCE



SHEET METAL GAUGE	MATERIAL THICKNESS	RECOMMENDED CLEARANCE		
		MILD STEEL	ALUMINUM	STAINLESS STEEL
20 ga.	0.036	.006	.006	.006
18 ga.	0.048	.008	.008	.009
16 ga.	0.060	.010	.010	.012
14 ga.	0.075	.012	.012	.016
12 ga.	0.105	.018	.018	.024
11 ga.	0.120	.024	.020	.028
10 ga.	0.135	.030	.022	.032
9 ga.	0.150	.032	.026	.036
8 ga.	0.164	.034	.028	.040
7 ga.	0.180	.039	.032	.050
	0.250	.055	.042	.075

NOTE: For material of .251 or greater use 25% of material thickness for die clearance.

STANDARD SHAPES

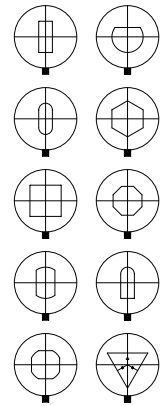


CR=Corner Radius, PLC= Places

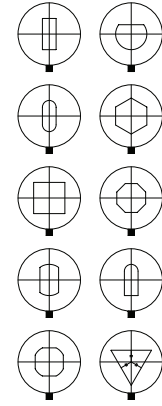
INSTRUCTIONS FOR ORDERING TOOLING AT SPECIAL ANGLES

KEY LOCATION FOR STANDARD SHAPES (VIEW IS TOP OF DIE)

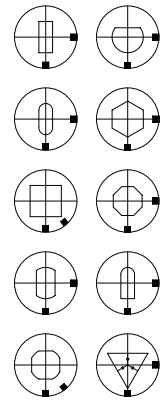
1/2" STATION



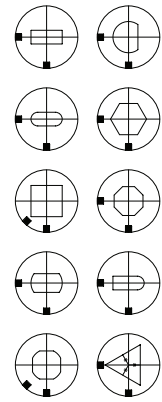
1 1/4" STATION



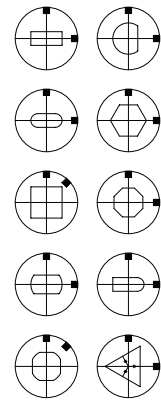
2" STATION



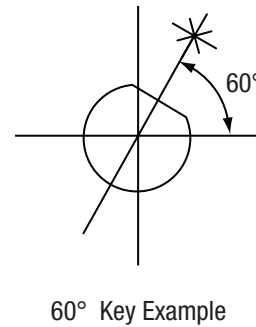
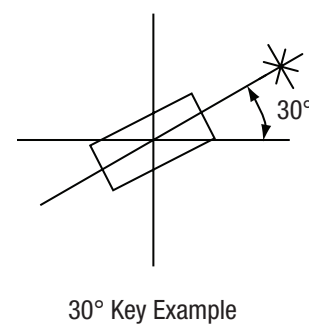
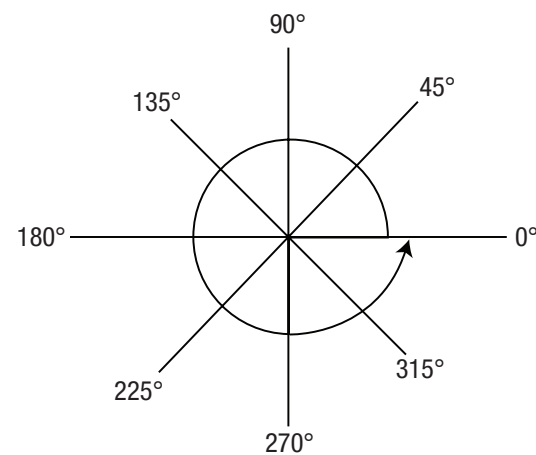
3 1/2" STATION



4 1/2" STATION



KEY ANGLE POSITION

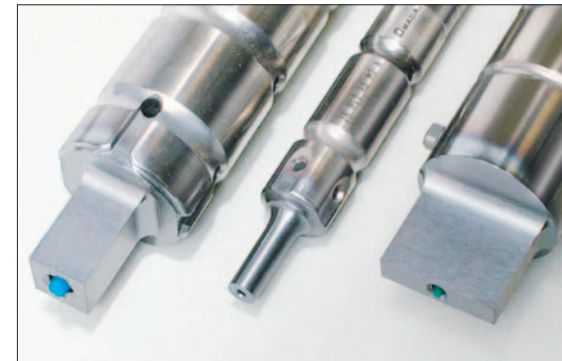


This example shows a rectangle shape oriented at 30° and single D shape at 60°. To ensure proper shape orientation, it is important that you follow these examples.

PRODUCT INFORMATION

ATLX[®] Coating

ALL AMADA TURRETS



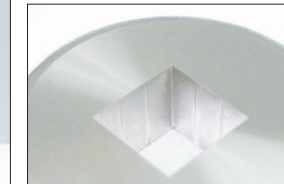
Amada's premium coating incorporates high-grade materials and the latest application technology to increase abrasion endurance, restrain edge decomposition, and significantly multiply expected life. Designed specifically for use with M2 tool steel, Amada has achieved a perfect combination of top quality steel and leading-edge coating technology to provide unparalleled punching performance.

FEATURES

- Available in Standard and Air Blow types
- Available in NCT and Z-style
- M2 tool steel exclusively

SLUG PULL Suppression Die

ALL AMADA TURRETS



Amada's SPS dies suppress slug pull while allowing the slugs to fall free from the die with each hit. Other designs retain the slug creating fused blocks of material which inhibit machine performance, increase tonnage, extend set-up times, and decrease punch tip life. SPS dies are designed to provide maximum grind life and are available in all station sizes and standard shapes.

FEATURES

- Innovative design allows suppression of slug pull without slug buildup in the die
- Maximum grind life while providing slug pull deterrence
- Protects your sheetmetal investment

Power Vacuum Die

EM, AC, C1



Available in 1/2" and 1 1/4" stations, the patented Power Vacuum Die works in combination with Amada's EM model turret punch press to virtually eliminate slug pull. The EM's forced-air system directs a continuous stream of air through the die to create directional airflow to the slug chute. In turn, this allows die penetration to be reduced to 1 mm. Reduced die penetration equals reduced punching time and the faster part processing achievable with the EM machine.

FEATURED PRODUCTS

CONTOURING TOOL



The Contour Tool is a specially designed nibbling tool that allows nibbling at pitches of less than material thickness. The result is a fine contour that is not achievable with standard tools and the elimination of secondary operations.

EM, AC, C1, VIPROS

DESCRIPTION (2MM DIAMETER)	CODE NO.
½" STATION PUNCH ASSEMBLY	085100
½" STATION DIE ASSEMBLY	085120
REPLACEMENT PUNCH CHIP	108830
O-RING	91015K

FLAT POSITIONING (F/P) TOOL



Amada's Flat Positioning "F/P" Tool was designed to eliminate the need for spot welding positioning jigs thus reducing the need for secondary operations. The F/P tool only forms on one side of your material eliminating the need to fill in the uneven surfaces. It is available for up form or down form applications in .031 ~ .063 mild steel and aluminum.

ALL AMADA TURRETS

DESCRIPTION	CODE NO.
1¼" UP FORM F/P PUNCH ASSY	07742K
1¼" UP FORM F/P DIE	07748K

SLOTING TOOL

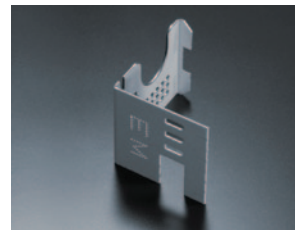


This specially designed punch and die assembly allows continuous material parting without the common overlap marks on the edge of the material. The Slotting Tool provides outstanding edge quality for cosmetic-sensitive parts and the elimination of secondary edge processing. This tool can be made for any Amada turret punch press equipped with an Air Blow system. In addition, the 4½" station design is of the Sheet Saver configuration with clamp relief on both sides of the punch and die assembly. Machine model must be specified at time of order.

**ALL AMADA TURRETS
WITH AIR BLOW SYSTEM**

DESCRIPTION		2" STATION	3½" STATION	4½" STATION
TOOL SIZE				
WIDTH OF PUNCH		.250" - .375"		
MAX FEED PITCH		.750"	1.00"	1.25"
MAXIMUM MATERIAL THICKNESS	MILD STEEL	.063"		.090"
	STAINLESS	.059"		.079"
	ALUMINUM	.059"		.120"

SAFETY INCH BEND TOOL



Short flanges can be formed safely where processing on the press brake may not be possible. Made for the 2" station, minimum flanges of 3 times material thickness to a maximum of 1.378" can be achieved with this tool. The Safety Inch Bend tool can form a maximum bend length of 1.181" in materials ranging from .020" to .063" in thickness (CRS, AL, SS).

EM, AC, C1

DESCRIPTION	CODE NO.
2" STATION SET W/GUIDE ASSEMBLY	06140A
2" STATION REPLACEMENT PUNCH CHIP	061430

FEATURED PRODUCTS

E-FINE TOOL

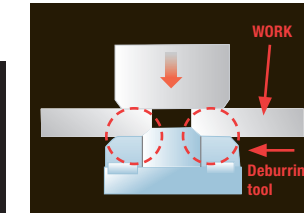


The E-Fine tool is designed to minimize nested skeleton by more than 50%. Utilizing power vacuum (PV) dies, the e-Fine can run at speeds that justify using such a fine tool for short slot operations. It has a guided punch body for additional strength. 3 blade widths are available: .039" (1mm), .078" (2mm) and .117" (3mm).

EM, AC, C1

DESCRIPTION	CODE NO.
1¼" E-FINE PUNCH ASSY (2 mm STANDARD)	07720A
1¼" PV DIE (2 mm STANDARD)	271940

DEBURRING TOOL



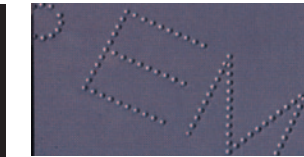
FOR ALL AMADA TURRETS

Deburr parts quickly and without adding a second operation with this Deburring Tool. Utilizing a chamfered edge die, the burred edge of the punched part is pressed flat, making secondary deburring operations unnecessary. The Deburring Tool can be made to match any parting tool size.

DESCRIPTION	CODE NO.
1¼" STATION DEBURRING TOOL SET	
1¼" STATION DEBURRING TOOL PUNCH ASSEMBLY	
1¼" STATION DEBURRING TOOL DIE ASSEMBLY	

Width needed at time of order.

HIGH-SPEED MARKING TOOL FORM DOWN

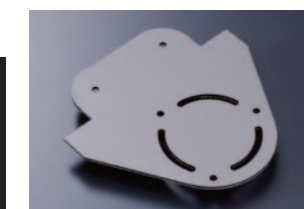


Mark part numbers, lot numbers, manufacturing dates, etc., with this marking tool and Amada's AP100 programming software. Add value to punched parts without adding secondary operations. Characters are created by punching .008" deep indentations on .020" centers.

FOR ALL AMADA TURRETS

DESCRIPTION	CODE NO.
½" STATION PUNCH ASSEMBLY	07586A
½" STATION DIE	28200K

SMALL PARTS REMOVAL TOOL

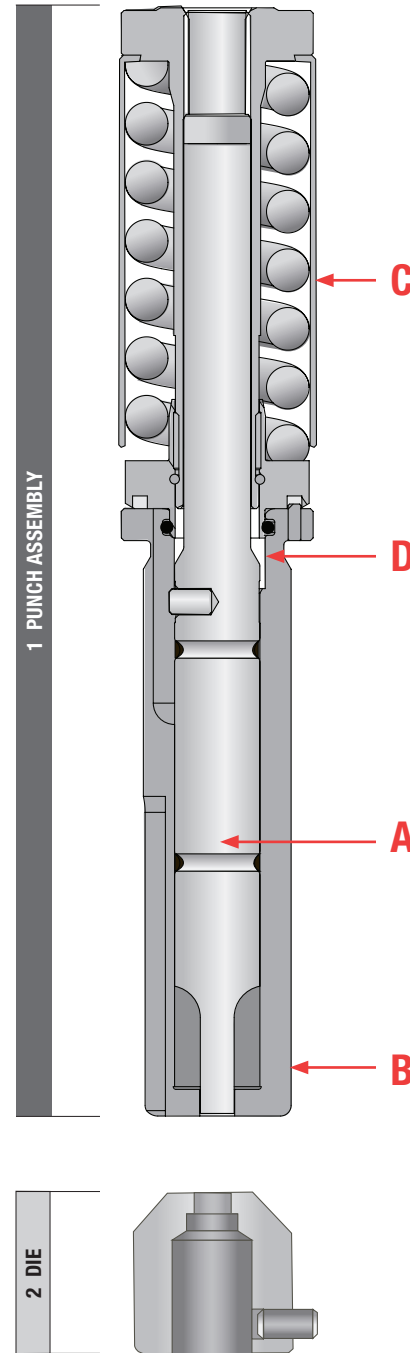


FOR ALL AMADA TURRETS

Designed to separate small parts (approx 1.969" x 1.969") from the work sheet and deposit them through the slug chute. This process can eliminate the need for micro-joints and manual part separation after punching. Guide Assembly is priced separately.

DESCRIPTION	3½" STATION	4½" STATION
	CODE NO.	CODE NO.
SET ASSEMBLY W/O GUIDE ASS'Y	043280	059510
PUNCH CHIP	108820	108820
DIE INSERT	043320	043320

Z-TOOLING 1/2" STATION



STANDARD	ROUND		SHAPED
	.060" ~ .126"	.127" ~ .500"	WITHIN .500"
	CODE NO.	CODE NO.	CODE NO.
1 PUNCH ASSEMBLY (D2)	11142K	11143K	12142K
PUNCH ASSEMBLY W/ ATLX COATING (M2)	11642K	11643K	12642K

DIE	21102K	21102K	22102K
2 SPS DIE - SLUG PULL SUPPRESSION	21142K	21142K	22142K
POWER VACUUM DIE - FOR USE IN EM MACHINE	261920	261920	271920

A PUNCH BODY (D2)	41142K	41143K	42102K
PUNCH BODY W/ ATLX COATING (M2)	41642K	41643K	42602K
B GUIDE W/O-RING - CLOSED END ONLY	51142K	51142K	52142K
C Z-SPRING PACK	59002K	59002K	59002K
D O-RING	90090K	90090K	90090K

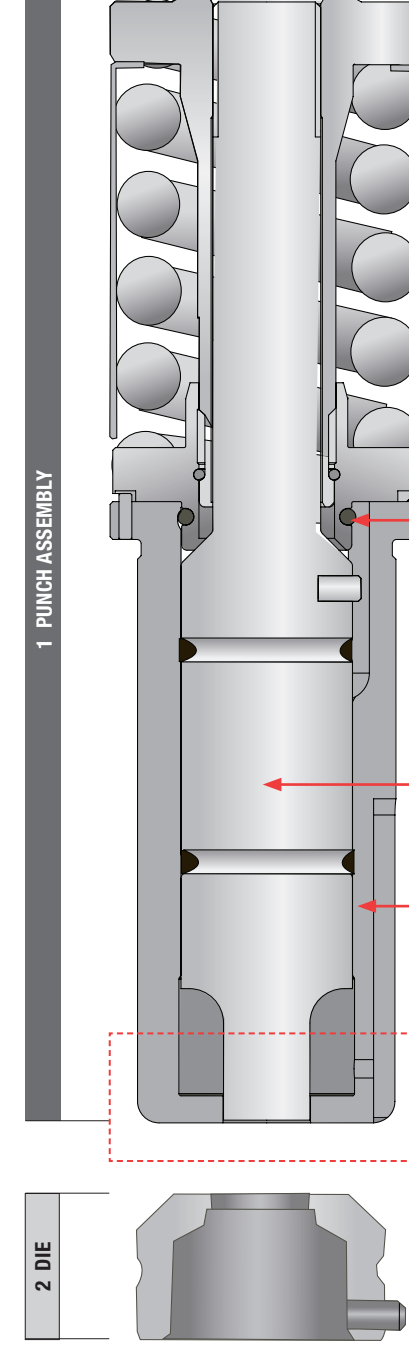
AIR BLOW	ROUND		SHAPED
	.060" ~ .126"	.127" ~ .500"	WITHIN .500"
	CODE NO.	CODE NO.	CODE NO.
1 PUNCH ASSEMBLY (M2)	11842A	11843A	12842A
PUNCH ASSEMBLY W/ ATLX COATING (M2)	11742A	11743A	12742A

DIE	21102K	21102K	22102K
2 SPS DIE - SLUG PULL SUPPRESSION	21142K	21142K	22142K
POWER VACUUM DIE - FOR USE IN EM MACHINE	261920	261920	271920

A PUNCH BODY (M2)	41842A	41843A	42802A
PUNCH BODY W/ ATLX COATING (M2)	41742A	41743A	42702A
B GUIDE W/O-RING - CLOSED END ONLY	51842A	51842A	52842A
C Z-SPRING PACK	59002K	59002K	59002K
D O-RING	90090K	90090K	90090K

Notes & Recommendations:
 Maximum material thickness: 9 gauge Mild Steel
 Standard Shaped Punch Assembly keying is 0° & 90°, except Squares which are 0° & 45°
 Add \$25.00 for each additional keyway
 SPS Dies: Minimum diameter = .080" and minimum width = .060"
 (D2), (M2) denotes tool steel
 See page 2 for Standard Shapes

Z-TOOLING 1/4" STATION



STANDARD	ROUND	SHAPED
	.501" ~ .1.250"	.501" ~ .1.250"
	CODE NO.	CODE NO.
1 PUNCH ASSEMBLY - CLOSED END GUIDE (D2)	11144K	12144K
PUNCH ASSEMBLY - W/ATLX COATING - CLOSED END GUIDE (M2)	11644K	12644K
PUNCH ASSEMBLY - OPEN END GUIDE (D2)	11154K	12154K
PUNCH ASSEMBLY - W/ATLX COATING - OPEN END GUIDE (M2)	11654K	12654K

DIE	21101K	22104K
2 SPS DIE - SLUG PULL SUPPRESSION	21144K	22144K
POWER VACUUM DIE - FOR USE IN EM MACHINE	261940	271940

A PUNCH BODY (D2)	41144K	42104K
PUNCH BODY W/ ATLX COATING (M2)	41644K	42604K
B GUIDE - CLOSED END	51144K	52144K
GUIDE - OPEN END	51154K	52154K
C STRIPPER PLATE - FOR OPEN GUIDE	51165K	52165K
D Z-SPRING PACK	59004K	59004K
E O-RING	91009K	91009K

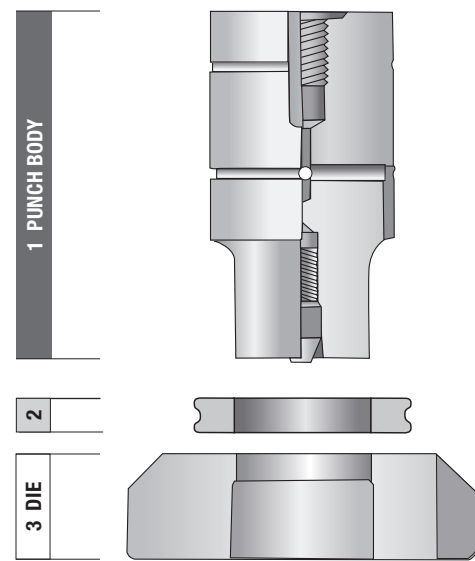
AIR BLOW	ROUND	SHAPED
	.501" ~ .1.250"	.501" ~ .1.250"
	CODE NO.	CODE NO.
1 PUNCH ASSEMBLY - CLOSED END GUIDE (M2)	11844A	12844A
PUNCH ASSEMBLY - W/ATLX COATING - CLOSED END GUIDE (M2)	11744A	12744A
PUNCH ASSEMBLY - OPEN END GUIDE (M2)	11854A	12854A
PUNCH ASSEMBLY - W/ATLX COATING - OPEN END GUIDE (M2)	11754A	12754A

DIE	21101K	22104K
2 SPS DIE - SLUG PULL SUPPRESSION	21144K	22144K
POWER VACUUM DIE - FOR USE IN EM MACHINE	261940	271940

A PUNCH BODY (M2)	41844A	42804A
PUNCH BODY W/ ATLX COATING (M2)	41744A	42704A
B GUIDE - CLOSED END	51844A	52844A
GUIDE - OPEN END	51854A	52854A
C STRIPPER PLATE - FOR OPEN GUIDE	51865A	52865A
D Z-SPRING PACK	59004K	59004K
E O-RING	91009K	91009K

Notes & Recommendations:
 Maximum material thickness: 3/8" Mild Steel
 Closed End Guide: Standard Shaped Punch Assembly keying is 0° & 90°, except Squares which are 0° & 45°
 Add \$25.00 for each additional keyway
 Open End Guide: Standard Shaped Punch Assembly keying is 0°, 45° & 90°
 SPS Dies: Minimum diameter = .080" and minimum width = .060"
 (D2), (M2) denotes tool steel
 See page 2 for Standard Shapes

2" STATION



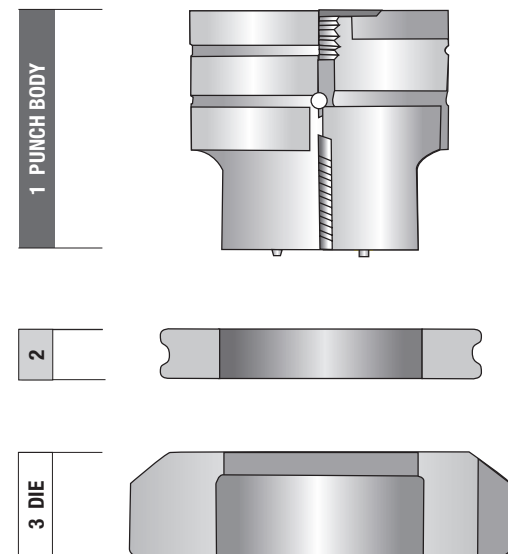
STANDARD		ROUND	SHAPED
		1.251" ~ 2.000"	WITHIN 2.000"
		CODE NO.	CODE NO.
1	PUNCH BODY (D2)	41106K	42106K
	PUNCH BODY W/ AT LX COATING (M2)	41606K	42606K
2	STRIPPER PLATE	51106K	52106K
3	DIE	21106K	22106K
	SPS DIE - SLUG PULL SUPPRESSION	21146K	22146K

AIR BLOW		ROUND	SHAPED
		1.251" ~ 1.850"	WITHIN 1.850"
		CODE NO.	CODE NO.
1	PUNCH BODY (M2)	41806A	42806A
	PUNCH BODY W/ AT LX COATING (M2)	41706A	42706A
2	STRIPPER PLATE - BOLT ON	51806A	52806A
	STRIPPER PLATE - Z STYLE	51896A	52896A
3	DIE	21106K	22106K
	SPS DIE - SLUG PULL SUPPRESSION	21146K	22146K

Notes & Recommendations:
 Maximum material thickness: 3/8" Mild Steel
 Standard Die keying is 0° & 90°, except Squares which are 0° & 45°
 Standard Punch keying is 0°, except Squares which are 0° & 45°
 (D2),(M2) denotes tool steel

See page 2 for Standard Shapes

3½" STATION



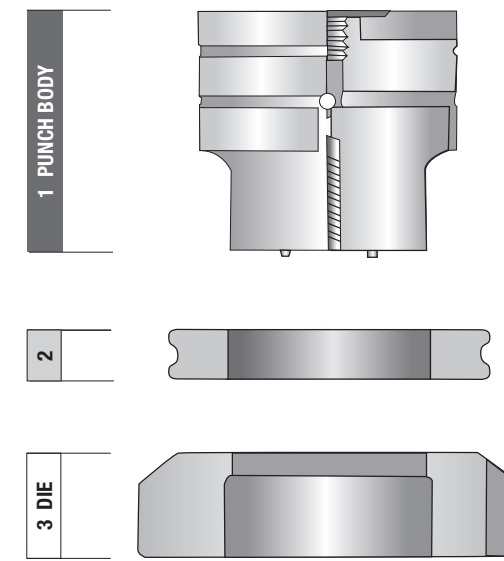
STANDARD		ROUND	SHAPED
		2.001" ~ 3.500"	WITHIN 3.500"
		CODE NO.	CODE NO.
1	PUNCH BODY (D2)	41108K	42108K
	PUNCH BODY W/ AT LX COATING (M2)	41608K	42608K
2	STRIPPER PLATE	51108K	52108K
	ALPHA GUIDE SOLID STRIPPER CAP	51708K	52708K
		-	52728K
3	DIE	21108K	22108K
	SPS DIE - SLUG PULL SUPPRESSION	21148K	22148K
3	DOUBLE RELIEF - DIE	-	22996K
	DOUBLE RELIEF - SPS DIE - SLUG PULL SUPPRESSION	-	22956K

AIR BLOW		ROUND	SHAPED
		1.851" ~ 3.370"	WITHIN 3.370"
		CODE NO.	CODE NO.
1	PUNCH BODY (M2)	41808A	42808A
	PUNCH BODY W/ AT LX COATING (M2)	41708A	42708A
2	STRIPPER PLATE - BOLT ON	51808A	52808A
	STRIPPER PLATE - Z STYLE	51898A	52898A
2	ALPHA A/B GUIDE SOLID STRIPPER CAP	51708A	52708A
	DOUBLE RELIEF ALPHA GUIDE STRIPPER	-	52728A
3	DIE	21108K	22108K
	SPS DIE - SLUG PULL SUPPRESSION	21148K	22148K
3	DOUBLE RELIEF - DIE	-	22996K
	DOUBLE RELIEF - SPS DIE - SLUG PULL SUPPRESSION	-	22956K

Notes & Recommendations:
 Maximum material thickness: 3/8" Mild Steel
 Standard Die keying is 0° & 90°, except Squares which are 0° & 45°
 Standard Punch keying is 0°, except Squares which are 0° & 45°
 (D2),(M2) denotes tool steel

See page 2 for Standard Shapes

4½" STATION



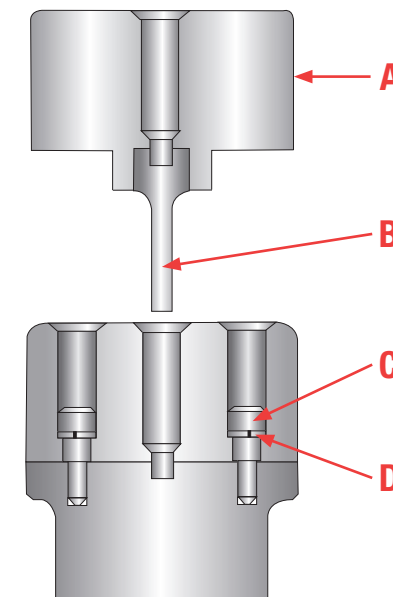
STANDARD		ROUND	SHAPED
		3.501" ~ 4.500"	WITHIN 4.500"
		CODE NO.	CODE NO.
1	PUNCH BODY (D2)	41109K	42109K
	PUNCH BODY W/ AT LX COATING (M2)	41609K	42609K
2	STRIPPER PLATE	51109K	52109K
	ALPHA GUIDE SOLID STRIPPER CAP	51709K	52709K
		-	52729K
3	DIE	21109K	22109K
	SPS DIE - SLUG PULL SUPPRESSION	21149K	22149K
		-	22997K
		-	22957K

AIR BLOW		ROUND	SHAPED
		3.371" ~ 4.350"	WITHIN 4.350"
		CODE NO.	CODE NO.
1	PUNCH BODY (M2)	41809A	42809A
	PUNCH BODY W/ AT LX COATING (M2)	41709A	42709A
2	STRIPPER PLATE - BOLT ON	51809A	52809A
	STRIPPER PLATE - Z STYLE	51899A	52899A
2	ALPHA A/B GUIDE SOLID STRIPPER CAP	51709A	52709A
	DOUBLE RELIEF ALPHA GUIDE STRIPPER	-	52729A
3	DIE	21109K	22109K
	SPS DIE - SLUG PULL SUPPRESSION	21149K	22149K
		-	22997K
		-	22957K

Notes & Recommendations:
 Maximum material thickness: 3/8" Mild Steel
 Standard Die keying is 0° & 90°, except Squares which are 0° & 45°
 Standard Punch keying is 0°, except Squares which are 0° & 45°
 (D2),(M2) denotes tool steel

See page 2 for Standard Shapes

INSERT PARTING TOOL

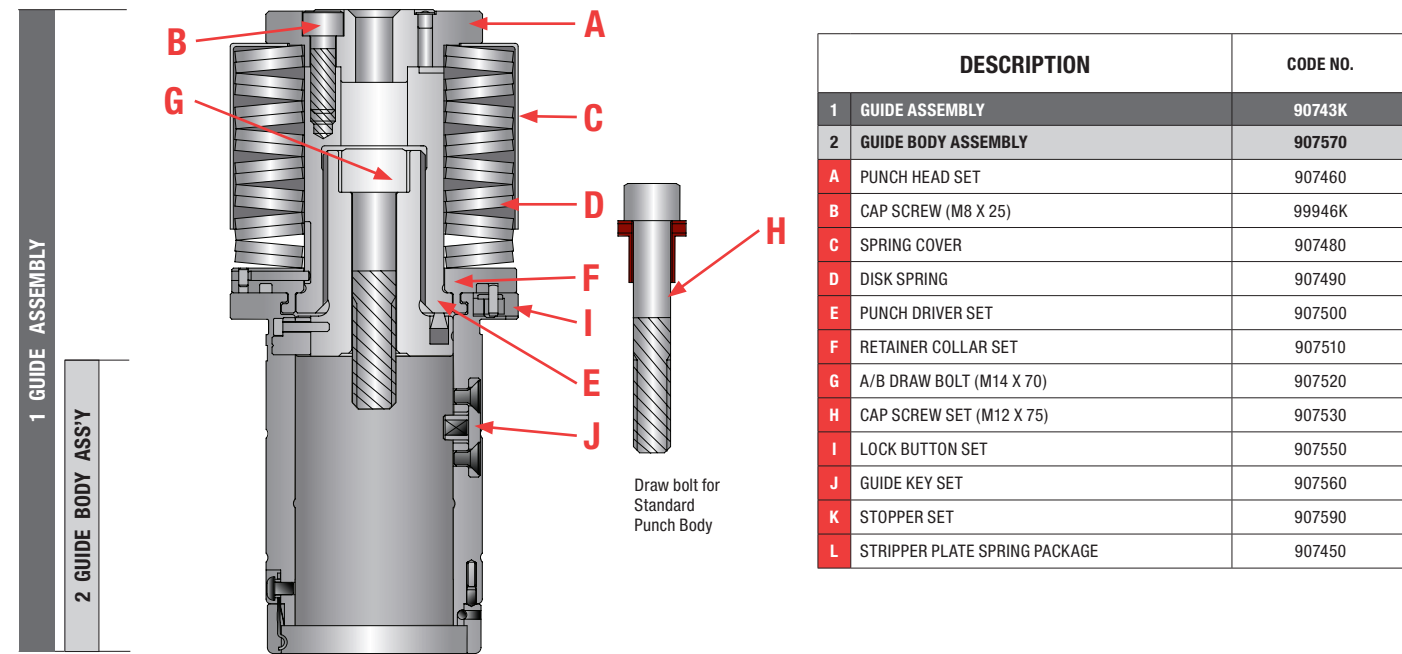


3½" STATION		CODE NO.
A	HOLDER	90117K
	HOLDER - AIR BLOW	90120A
B	BLADE (D2)	42138K
	BLADE (M2)	42238K
		42638K
C	CAP SCREW (3/8 - 16 X 1)	90080K
D	LOCK WASHER	90081K

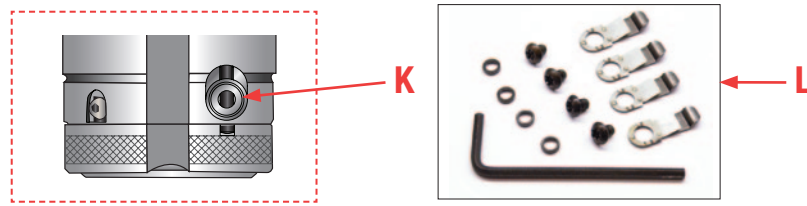
4½" STATION		CODE NO.
A	HOLDER	90118K
	HOLDER - AIR BLOW	90121A
B	BLADE (D2)	42139K
	BLADE (M2)	42239K
		42639K
C	CAP SCREW (3/8 - 16 X 1)	90080K
D	LOCK WASHER	90081K

Notes & Recommendations:
 Maximum material thickness: ¼" Mild Steel
 Maximum blade width: .313" Minimum blade length: 2"
 2° rooftop shear standard on 4½" blade
 (D2), (M2) denotes tool steel

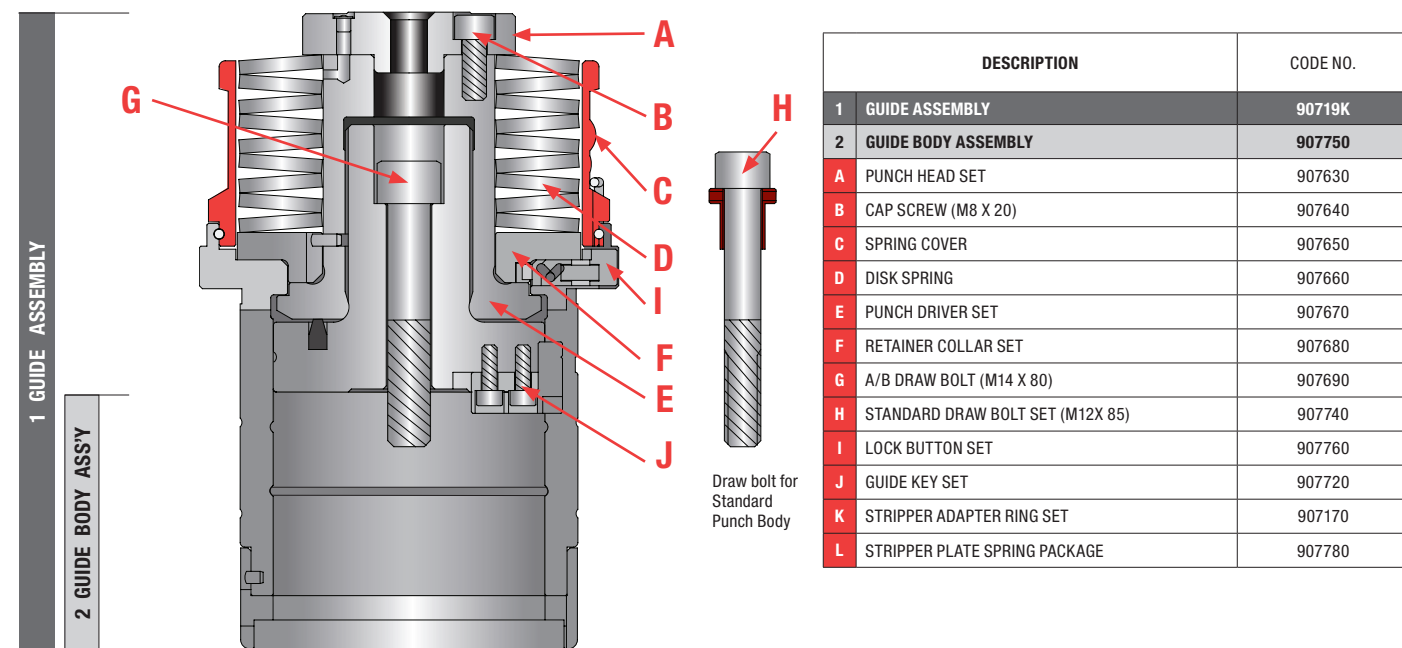
2" ALPHA GUIDE



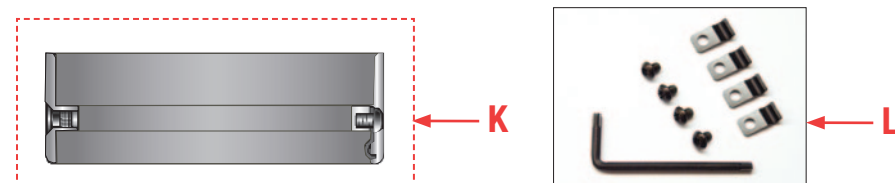
Notes & Recommendations:
Maximum material thickness: 3/8" Mild Steel



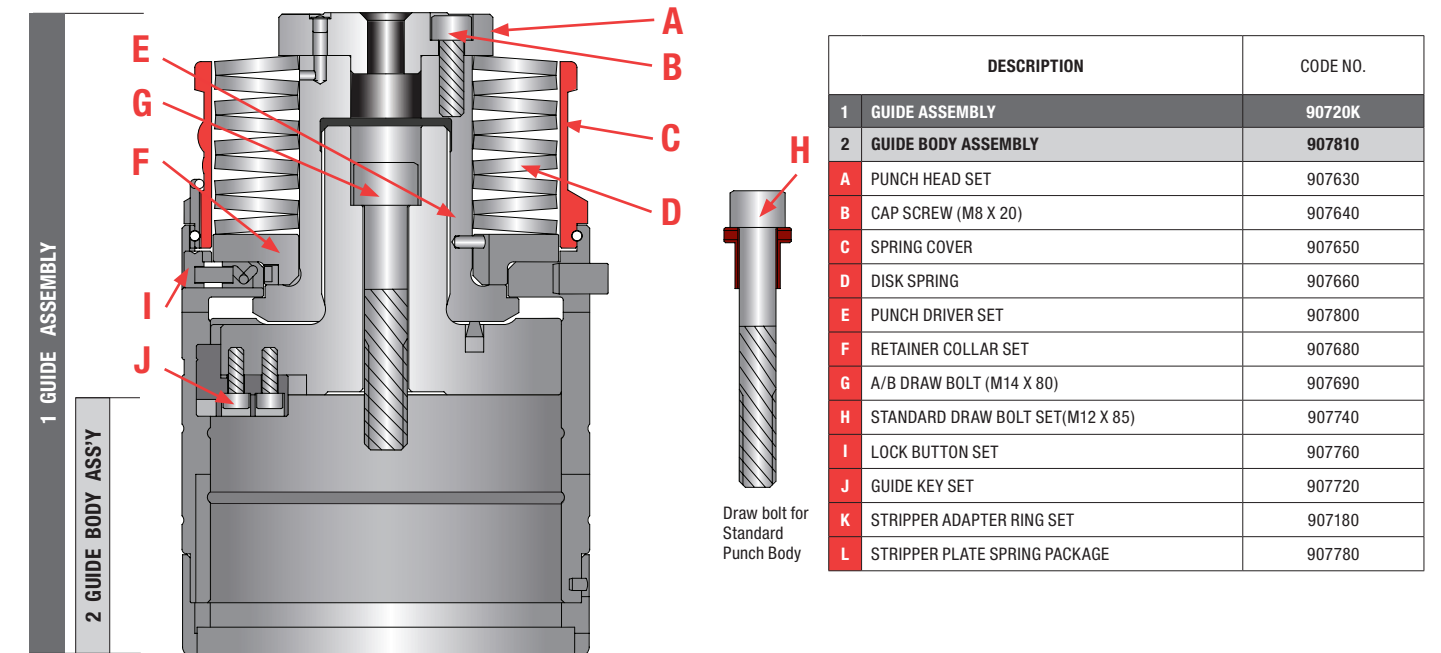
3 1/2" ALPHA GUIDE



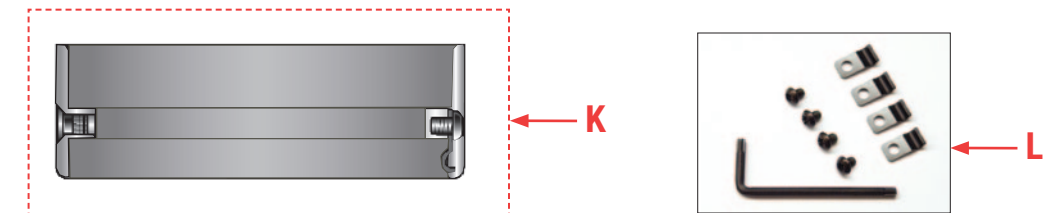
Notes & Recommendations:
Maximum material thickness: 3/8" Mild Steel



4 1/2" ALPHA GUIDE



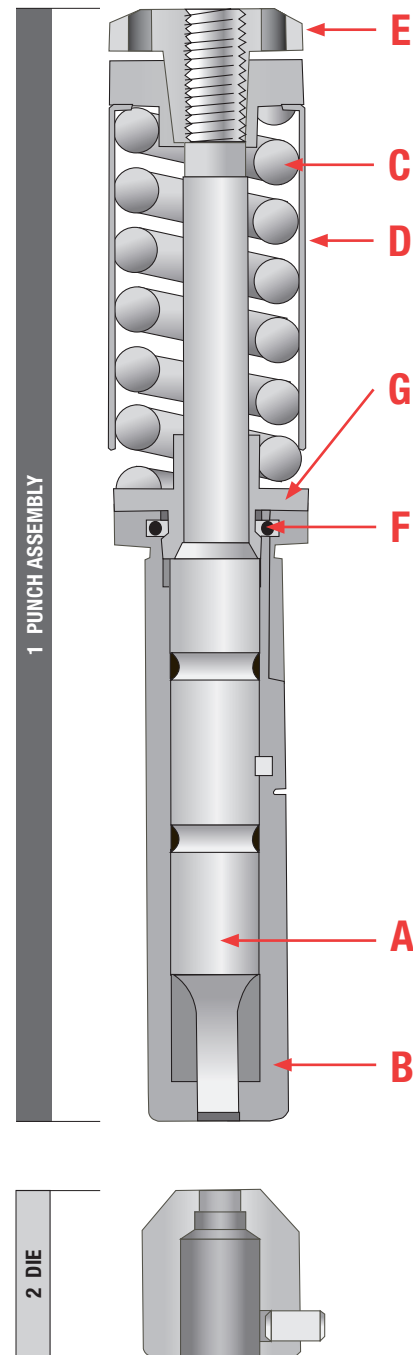
Notes & Recommendations:
Maximum material thickness: 3/8" Mild Steel



Features: (2", 3 1/2" & 4 1/2" Stations)

- Full adjustability on all large station guide assemblies; no shimming necessary
- No hand tools necessary to adjust length
- Accommodates both NCT and Air Blow style punch bodies
- Guide Assemblies have keyways at 0° and 90° with the ability to additionally locate the punch body at 45° and 135°

NCT 1/2" STATION



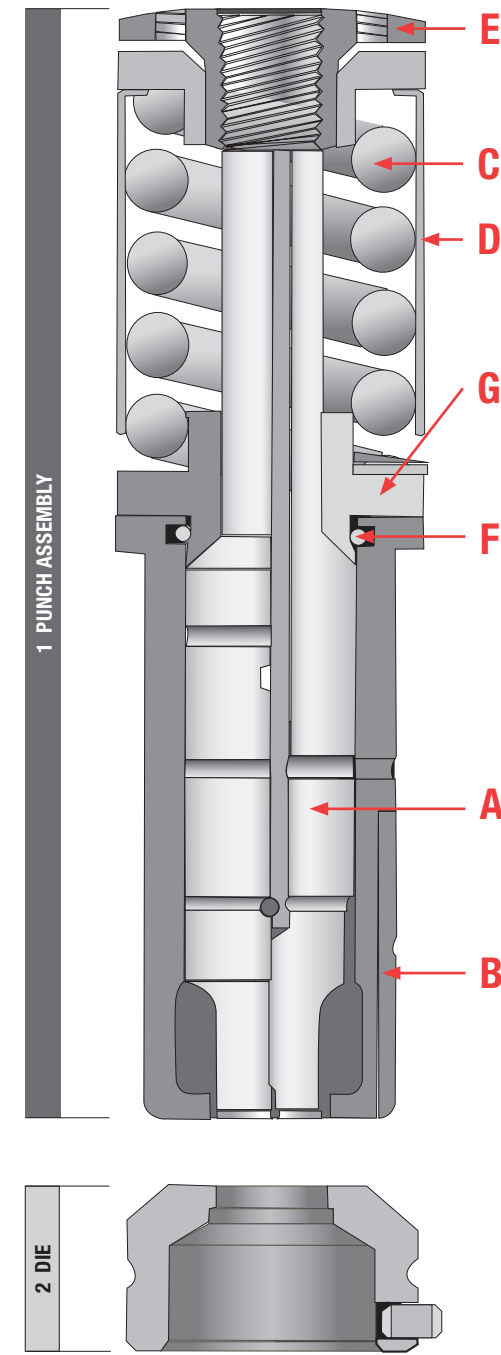
STANDARD	ROUND		SHAPED
	.060" ~ .126"	.127" ~ .500"	WITHIN .500"
	CODE NO.	CODE NO.	CODE NO.
1 PUNCH ASSEMBLY (D2)	11102K	11103K	12102K
1 PUNCH ASSEMBLY W/ AT LX COATING (M2)	11602K	11603K	12602K
2 DIE	21102K	21102K	22102K
2 SPS DIE - SLUG PULL SUPPRESSION	21142K	21142K	22142K
A PUNCH BODY (D2)	41102K	41103K	42102K
A PUNCH BODY W/AT LX COATING (M2)	41602K	41603K	42602K
B GUIDE (WITH O-RING)	51102K	51102K	52102K
C SPRING	90130K	90130K	90130K
D SPRING COVER	926120	926420	926120
E PUNCH HEAD (2 PC)	90140K	90140K	90140K
E PUNCH HEAD (1 PC)	93500K	93500K	93500K
F O-RING	90090K	90090K	90090K
G RETAINER	90120K	90120K	90120K

AIR BLOW	ROUND		SHAPED
	.060" ~ .126"	.127" ~ .500"	WITHIN .500"
	CODE NO.	CODE NO.	CODE NO.
1 PUNCH ASSEMBLY (M2)	11802A	11803A	12802A
1 PUNCH ASSEMBLY W/AT LX COATING (M2)	11702A	11703A	12702A
2 DIE	21102K	21102K	22102K
2 SPS DIE - SLUG PULL SUPPRESSION	21142K	21142K	22142K
A PUNCH BODY (M2)	41802A	41803A	42802A
A PUNCH BODY W/AT LX COATING (M2)	41702A	41703A	42702A
B GUIDE (WITH O-RING)	51802A	51802A	52802A
C SPRING	90130K	90130K	90130K
D SPRING COVER	926120	926420	926120
E PUNCH HEAD (2PC)	90147A	90147A	90147A
E PUNCH HEAD (1PC)	93500K	93500K	93500K
F O-RING	90090K	90090K	90090K
G RETAINER	90120K	90120K	90120K

Notes & Recommendations:
 Punch Assembly is standard with 2 piece Punch Head
 Maximum material thickness: 9 gauge mild steel for 1/2" station
 Standard Shaped Punch Assembly keying is 0° & 90°, except Squares which are 0° & 45°
 Add \$25.00 for each additional keyway
 SPS Dies: Minimum diameter = .080" and minimum width = .060"
 (D2),(M2) denotes tool steel

See page 2 for Standard Shapes

NCT 1/4" STATION



STANDARD	ROUND		SHAPED
	.501" ~ 1.250"		WITHIN 1.250"
	CODE NO.		CODE NO.
1 PUNCH ASSEMBLY (D2)	11104K		12104K
1 PUNCH ASSEMBLY W/ AT LX COATING (M2)	11604K		12604K
2 DIE	21101K		22104K
2 SPS DIE - SLUG PULL SUPPRESSION	21144K		22144K
A PUNCH BODY (D2)	41104K		42104K
A PUNCH BODY W/AT LX COATING (M2)	41604K		42604K
B GUIDE (WITH O-RING)	51104K		52104K
C SPRING	90131K		90131K
D SPRING COVER	926140		926140
E PUNCH HEAD (2 PC)	90143K		90143K
E PUNCH HEAD (1 PC)	93502K		93502K
F O-RING	91008K		91008K
G RETAINER	90121K		90121K

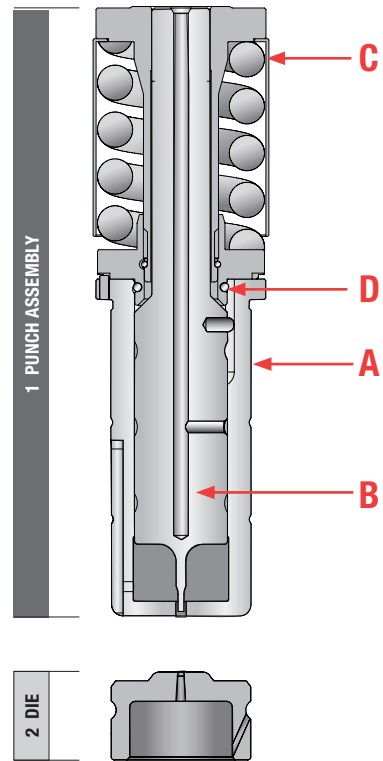
AIR BLOW	ROUND		SHAPED
	.501" ~ 1.181"		WITHIN 1.181"
	CODE NO.		CODE NO.
1 PUNCH ASSEMBLY (M2)	11804A		12804A
1 PUNCH ASSEMBLY W/ AT LX COATING (M2)	11704A		12704A
2 DIE	21101K		22104K
2 SPS DIE - SLUG PULL SUPPRESSION	21144K		22144K
A PUNCH BODY (M2)	41804A		42804A
A PUNCH BODY W/AT LX COATING (M2)	41704A		42704A
B GUIDE (WITH O-RING)	51804A		52804A
C SPRING	90131K		90131K
D SPRING COVER	926140		926140
E PUNCH HEAD (2 PC)	90148A		90148A
E PUNCH HEAD (1 PC)	93502K		93502K
F O-RING	91008K		91008K
G RETAINER	90121K		90121K

Notes & Recommendations:
 Punch Assembly is standard with 2 piece Punch Head
 Maximum material thickness: 3/8" Mild Steel for 1/4" station
 Standard Shaped Punch Assembly keying is 0° & 90°, except Squares which are 0° & 45°
 Add \$25.00 for each additional keyway
 SPS Dies: Minimum diameter = .080" and minimum width = .060"
 (D2),(M2) denotes tool steel

See page 2 for Standard Shapes

STRONG PUNCH TOOL

EM, AC, C1



The Amada Strong Punch Tool is designed to produce a hole size as small as 56% of material thickness.

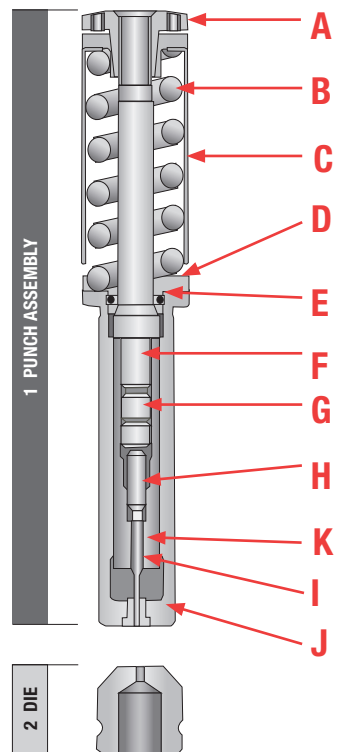
- Air Blow Stubby Style Punch Body
- ATLX Coated
- Power Vacuum Die w/relief (to reduce slug pull)

Example) Material Thickness = .240
 $.240 \times 56\% = .134$
 Minimum Hole Size = .134

DESCRIPTION	
1	PUNCH ASSEMBLY
2	POWER VACUUM DIE W/RELIEF*
A	GUIDE
B	PUNCH BODY
C	Z-SPRING PACK
D	O-RING

*Recommended Die clearance is 20% of material thickness

SMALL DIAMETER TOOLING

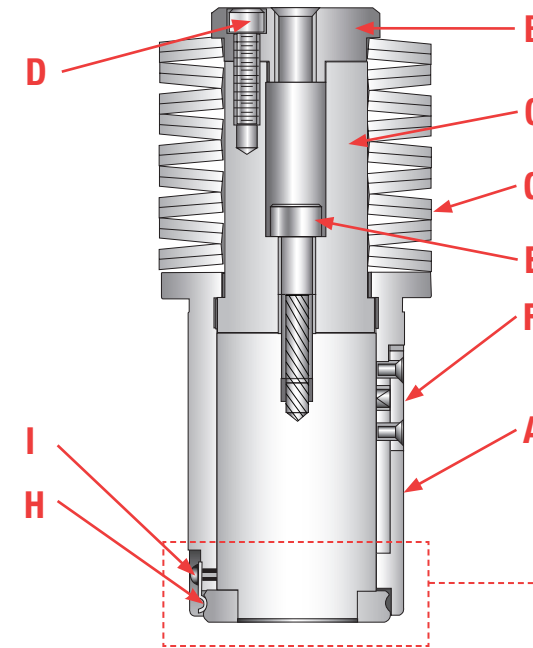


ALL AMADA TURRETS

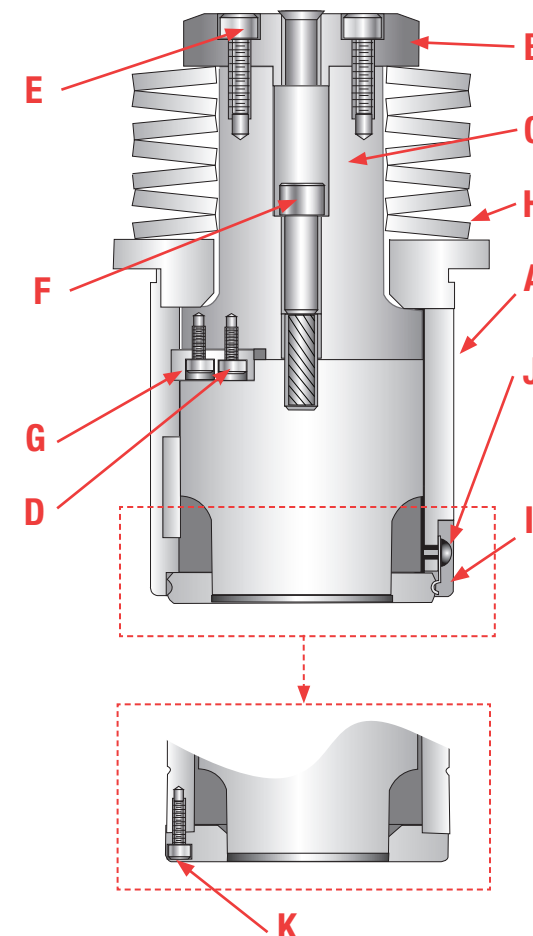
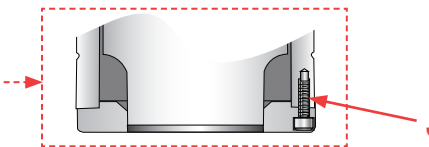
DESCRIPTION	ROUND
	.031" ~ .059"
CODE NO.	
1 PUNCH ASSEMBLY	11111K
2 DIE	21102K
A PUNCH HEAD (2PC)	90140K
B PUNCH HEAD (1PC)	93500K
C SPRING	90130K
D SPRING COVER	926120
E SPRING RETAINER	90120K
F O-RING	90090K
G PUNCH DRIVER	90670K
H SET SCREW (M10 x 10)	99950K
I PARALLEL PIN (8 x 20)	99951K
J PUNCH CHIP (M2)	41101K
K GUIDE	51111K
L PUNCH HOLDER	90671K

Notes & Recommendations:
 Punch Assembly is standard with 2 piece punch head
 Maximum material thickness: 16 gauge mild steel
 (D2), (M2) denotes tool steel

REPLACEMENT PARTS FOR NON-ADJUSTABLE GUIDE



2" STATION		STANDARD	AIR BLOW
		CODE NO.	CODE NO.
A	GUIDE	90072K	90065A
B	PUNCH HEAD	90102K	90105A
C	PUNCH DRIVER	90112K	90117A
D	CAP SCREW (M8 X 25)	99946K	99946K
E	DRAW BOLT (M12 X 50)	99944K	99190A
F	KEY W/SCREWS	90142K	90142K
G	SPRING	90132K	90132K
H	STRIPPER CLIP	99869K	-
I	TORX SCREW (M4 X 5)	99870K	-
J	AIR BLOW STRIPPER BOLT	-	99941A

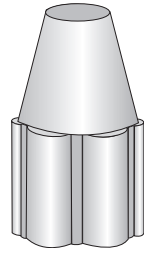


3 1/2" STATION		STANDARD	AIR BLOW
		CODE NO.	CODE NO.
A	GUIDE	90073K	90066A
B	PUNCH HEAD	90103K	90106A
C	PUNCH DRIVER	90113K	90118A
D	CAP SCREW (M5 X 10)	99949K	99949K
E	CAP SCREW (M8 X 25)	99946K	99946K
F	A/B DRAW BOLT (M14 X 70)	99948K	90190A
G	KEY	91011K	91011K
H	SPRING	90133K	90133K
I	STRIPPER CLIP	99869K	-
J	TORX SCREW (M4 X 5)	99870K	-
K	AIR BLOW STRIPPER BOLT	-	99941A

4 1/2" STATION		STANDARD	AIR BLOW
		CODE NO.	CODE NO.
A	GUIDE	90074K	90067A
B	PUNCH HEAD	90104K	90107A
C	PUNCH DRIVER	90114K	90119A
D	CAP SCREW (M5 X 10)	99949K	99949K
E	CAP SCREW (M8 X 25)	99975K	99975K
F	A/B DRAW BOLT (M14 X 70)	99948K	90190A
G	KEY	91011K	91011K
H	SPRING	90133K	90133K
I	STRIPPER CLIP	99869K	-
J	TORX SCREW (M4 X 5)	99870K	-
K	AIR BLOW STRIPPER BOLT	-	99941A

ACCESSORIES

SLUG EJECTORS



DESCRIPTION	CODE NO.
#1 GREEN	10001K
#2 BLUE	10002K
#3 DARK BLUE	10003K

PRECISION GROUND SHIMS



DESCRIPTION	PUNCH SHIMS		
	STATION SIZE		
	2" STATION	3½" STATION	4½" STATION
SIZE	CODE NO.		
0.016"	00051K	00061K	00071K
0.024"	00052K	00062K	00072K
0.031"	00053K	00063K	00073K
0.039"	00054K	00064K	00074K
0.047"	00055K	00065K	00075K
0.063"	00056K	00066K	00076K
0.079"	00057K	00067K	00077K

DESCRIPTION	DIE SHIMS				
	STATION SIZE				
	½" STATION	1¼" STATION	2" STATION	3½" STATION	4½" STATION
SIZE	CODE NO.				
0.016"	00001K	00011K	00021K	00031K	00041K
0.024"	00002K	00012K	00022K	00032K	00042K
0.031"	00003K	00013K	00023K	00033K	00043K
0.039"	00004K	00014K	00024K	00034K	00044K
0.047"	00005K	00015K	00025K	00035K	00045K
0.063"	00006K	00016K	00026K	00036K	00046K
0.079"	00007K	00017K	00027K	00037K	00047K

ALPHA GUIDE ASSEMBLY TOOLS



GUIDE T-HANDLE WRENCH

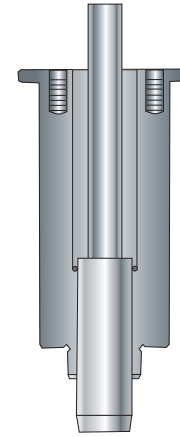


STRIPPER PLATE TORX WRENCH

DESCRIPTION	CODE NO.
GUIDE T-HANDLE WRENCH (10MM)	10010K
STRIPPER PLATE TORX WRENCH (T20)	10020K

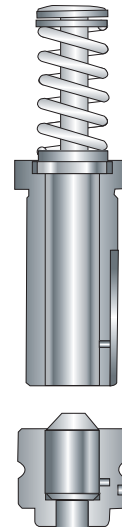
ACCESSORIES

STANDARD ALIGNMENT TOOL



DESCRIPTION	CODE NO.
½" STATION ALIGNMENT TOOL	80006K
1¼" STATION ALIGNMENT TOOL	80008K
1¼" AUTO INDEX STATION ALIGNMENT TOOL	81007K
1¼" AUTO INDEX STATION ALIGNMENT T-TYPE JIG	83001K
T-JIG FOR ABOVE (2 REQ'D)	84001K
½" STATION ALIGNMENT TOOL, OCTO	81005K
2" STATION ALIGNMENT TOOL	92100K
3½" STATION ALIGNMENT TOOL	92200K
4½" STATION ALIGNMENT TOOL	92300K
LARGE STATION ALIGNMENT TOOL SET (2", 3½", 4½")	92400K

ADAPTER



Adapt ½" station tool to 1¼" station.

DESCRIPTION	CODE NO.
PUNCH ADAPTER	62001K
DIE ADAPTER 1*	91370K
DIE ADAPTER 2*	62002K

* 1. For use in Turret Punch Press

** 2. For use in Triple Track Holder

ADP-7

Adapt one 4½" Auto Index station to seven ½" station tools. Increases turret capacity and minimizes run time by reducing turret rotation.

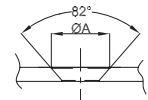
- Maximum of seven ½" station tools
- The center ½" station tool is 100% indexable
- The outside ½" die stations are keyed at 0° - 90° - 180° - 270°
- Use standard or air blow ½" station punch assemblies
- No special tools to buy or assemble



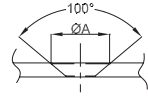
DESCRIPTION	CODE NO.
PUNCH ADAPTER	60001K
DIE ADAPTER	60002K

ACCESSORIES

COUNTERSINK TOOL KIT



82-Degree



100-Degree

Form Direction: Form Down
Station Size: 1/2"

SCREW SIZE	"A" DIMENSION	MATERIAL THICKNESS RANGE	
		FOR 82°	FOR 100°
#3	0.199"	18 GA TO 11 GA	
#4	0.225"		
#6	0.279"		
#8	0.332"		
#10	0.385"		
#12	0.438"		
1/4"	0.507"		

DESCRIPTION	CODE NO.
82° KIT	95000K
100° KIT	95100K

All-In-One kit designed to form countersinks for a variety of standard screw head sizes. Kit available in 82° and 100° styles for the most common sheet metal fasteners. The quick-adjust design allows quick set-up time on a variety of material types and thicknesses.

EXTRUDED FLANGE TOOL KIT

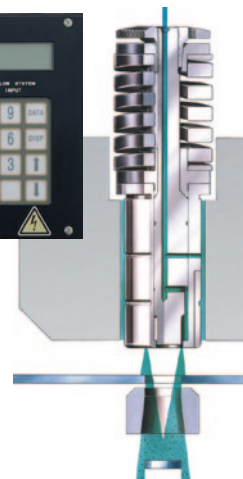
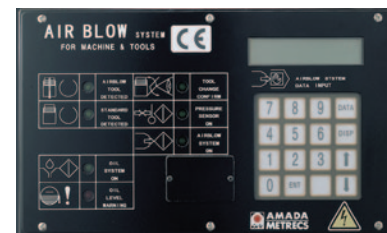


TOOLING SIZE	1/4" STATION
FORM DIRECTION	FORM UP
APPLICABLE TAP SIZES	AMERICAN STANDARD #4-40, #6-32, #8-32, #10-32, 1/4-20
APPLICABLE MATERIAL	CRS ALU
MATERIAL THICKNESS	.030" - .075" .040" - .075"

DESCRIPTION	CODE NO.
	30100K

All-In-One kit designed to form a wide range of extruded flanges in various material thicknesses. Kit contains tools to form extruded flanges for tap sizes shown in the chart to the right. The quick-adjust punch head allows for rapid set-up and adjustment. For use on mild steel and aluminum.

RETROFIT AIR BLOW KIT



Effectively prolongs tool life, eliminates punching problems and increases productivity by lubricating the tool and turret bore. Computer controlled system can be retrofitted to your existing Pega, Vela or Coma turret punch presses.

- Air Blow functions are computer controlled
- Air Blow On-time and Off-time can be automatically set
- Ability to set oil flow rate in 5% increments (from 0-100%)
- Automatic Tool identification eliminates the need to modify existing programs
- Retrofittable to Pega, Coma & Vela machines
- For machine specific price quote, please contact your local tooling sales representative

CODE NUMBER	MACHINE
99530121	PEGA. VELA II, 30 TON (production until Dec.1993)
99530122	PEGA. 30 TON (production Jan. 1994-Sep. 1994)
99530123	APELIO II/IV 30 TON
99530124	COMA 50 TON
99530125	PEGA 20 TON
99530126	APELIO II, APELIO IV 30 TON
99530127	APELIO IV 20 TON
99530128	ARIES 245
99530129	EML

ACCESSORIES

TOOLING CABINET



Ideal for storing large quantities of punch tooling in a compact floor space. This cabinet provides a standard secure locking system and an optional fork-lift base or mobile base for ease of movement. Each drawer is configured for Amada tooling.

DESCRIPTION	CODE NO.
NCT CABINET 2 COLOR W/MOBILE BASE	99570230
NCT CABINET 2 COLOR W/FORKLIFT BASE	99570231
MAPLE TOP INSTEAD OF RETAINER TOP	99570232
NCT CABINET W/SPECIAL DRAWER CONFIGURATION	99570233

TOGU III AUTOMATIC TOOL GRINDER

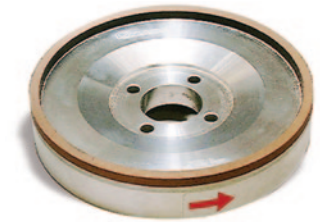


High precision, automated grinding designed specifically for turret punch press tooling. Servo-controlled, wet rotary grinding provides unsurpassed surface finish, significantly increasing tool life.

CODE NO.
99520200

For specifications and price quote, please contact your local tooling sales representative.

TOGU III GRINDING WHEEL



Replacement grinding wheel for Togu III Tool Grinder.

DESCRIPTION	CODE NO.
	99520215

TOGU III COOLANT



Replacement grinding oil for Togu III Tool Grinder.

DESCRIPTION	CODE NO.
	74081151

TERMS AND CONDITIONS

CREDIT/PAYMENT

All purchases are COD unless credit approved. If account is past due, Amada America, Inc. reserves the right to hold shipment or require COD terms. Credit/Payment terms are Net 30 days from date of invoice. Past due accounts are subject to interest charges. No early payment or cash discounts are allowed.

ORDERS

Minimum of \$25.00. Please write your Amada America, Inc. customer account number on all purchase orders to speed processing. Also, please specify machine model, turret type, material type and thickness.

F.O.B

All orders are F.O.B. shipping point.

SPECIAL ORDERS

All special orders are non-cancelable, non-returnable, and non-refundable.

RETURNED MATERIAL

Accepted only with prior approval of Amada America, Inc.'s Tooling Department Manager. There will be a 25% re-stocking fee on all standard items. All items must be returned unused and freight prepaid. No returns will be allowed beyond 30 days of original shipment.

DELIVERY

Delivery on special items will be established at time of order.

PURCHASE ORDER NUMBER

Purchase order number must accompany all telephone orders. Verbal orders will be not processed without a purchase order number.

DAMAGE OR SHORTAGE CLAIMS

All claims must be made within ten calendar days of receipt of tooling.

PRICING

All prices in this catalog are subject to change without notice. All prices provided by Amada America, Inc. in the form of a written quotation are valid for 30 days following the date of the quote.

Amada America, Inc.

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www.amada.com • toolingdept@amada.com