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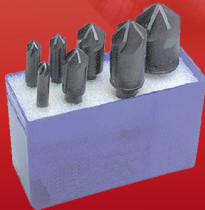
ISO 9001  
 BUREAU VERITAS  
 Certification



# FEATURING

**PG3**

**6 FLUTE  
 CHATTERLESS  
 COUNTERSINK SETS**



**PG14**

**Z3 XL ZIRCONIA  
 COMPACT TRIMMABLE  
 FLAP DISCS WITH  
 BUILT IN HUB**



**PG35**

**EXACT® PLUS TAPE  
 MEASURES**



PRICING AVAILABLE APRIL 1, 2024 THROUGH JUNE 30, 2024

# CUTTING TOOLS

## No. 10A Standard Set

Same as No. 10 Set, but for sixteenth-sized bores. 4 broaches & 9 bushings = 18 combinations



Bushings	Style	Order No.	Regular Price	SALE
9/16 11/16 13/16 15/16 1-1/16 1-3/16 1-5/16 1-7/16 1-9/16	B C	FB5011108	892.72	<b>585.00</b>

9719

## No. 20 Combination Set

Same as No. 10-10A combination set, but adds a 5/16" keyway for 11 extra combinations. 5 broaches & 18 bushings = 47 combinations



Bushings	Style	Order No.	Regular Price	SALE
1/2 5/8 3/4 7/8 1-1/8 1-1/4 1-3/8 1-1/2 9/16 11/16 13/16 15/16 1-1/16 1-3/16 1-5/16 1-7/16 1-9/16	B C	FB5011121	1321.03	<b>865.00</b>

9720

## 5 Pc. 3 Flute Countersink Sets

**Carbide - 60, 82, 90 and 100°**

- Each set includes one of each: 1/4, 3/8, 1/2, 5/8, 3/4"
- Available in uncoated or TiAlN coated



Point Angle (SIG)	Uncoated			TiAlN		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
60 Degrees	AV4255749	590.23	<b>395.00</b>	AV4255749TIALN	715.61	<b>499.80</b>
82 Degrees	AV4255759	590.23	<b>395.00</b>	AV4255759TIALN	715.61	<b>499.80</b>
90 Degrees	AV4255769	590.23	<b>415.40</b>	AV4255769TIALN	715.61	<b>499.80</b>
100 Degrees	AV4255779	590.23	<b>395.00</b>	AV4255779TIALN	715.61	<b>499.80</b>

30172

## Combined Drills & Countersinks

**60° Plain Type - Cobalt**

- For producing center holes in components or workpieces which require machining between centers
- Available in M42 cobalt or T15 cobalt
- Right hand



Size	Drill Bit Size / Cutting Diameter (DC)	Point Diameter (PDD)	Nose Length	Overall Length (OAL)	Cutting Edge Material - HSSCo			Cutting Edge Material - HSSCoPM		
					Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
#5-0	0.01"	0.01"	0.01"	1-1/4"	AV4210012	55.13	<b>38.70</b>	-	-	-
#4-0	0.015"	0.015"	0.015"	1-1/4"	AV4210017	53.56	<b>37.60</b>	-	-	-
#3-0	0.02"	0.02"	0.02"	1-1/4"	AV4210022	36.39	<b>25.50</b>	-	-	-
#2-0	0.025"	0.025"	0.025"	1-1/4"	AV4210027	36.39	<b>25.50</b>	-	-	-
#0	1/32"	1/32"	1/32"	1-1/4"	AV4210034	36.39	<b>25.50</b>	-	-	-
#1	1/8"	3/64"	3/64"	1-1/4"	-	-	-	AV4210115	29.32	<b>20.60</b>
#1	1/8"	3/64"	3/64"	1-1/4"	AV4210142	19.71	<b>13.80</b>	-	-	-
#2	3/16"	5/64"	5/64"	1-7/8"	-	-	-	AV4210215	30.15	<b>21.20</b>
#2	3/16"	5/64"	5/64"	1-7/8"	AV4210242	20.34	<b>14.30</b>	-	-	-
#3	1/4"	7/64"	7/64"	2"	-	-	-	AV4210315	30.95	<b>21.70</b>
#3	1/4"	7/64"	7/64"	2"	AV4210342	21.02	<b>14.80</b>	-	-	-
#4	5/16"	1/8"	1/8"	2-1/8"	-	-	-	AV4210415	31.24	<b>21.90</b>
#4	5/16"	1/8"	1/8"	2-1/8"	AV4210442	21.90	<b>15.40</b>	-	-	-
#5	7/16"	3/16"	3/16"	2-3/4"	-	-	-	AV4210515	49.08	<b>34.50</b>
#5	7/16"	3/16"	3/16"	2-3/4"	AV4210542	34.51	<b>24.20</b>	-	-	-
#6	1/2"	7/32"	7/32"	3"	-	-	-	AV4210615	75.71	<b>53.20</b>
#6	1/2"	7/32"	7/32"	3"	AV4210642	53.52	<b>37.60</b>	-	-	-
#7	5/8"	1/4"	1/4"	3-1/4"	-	-	-	AV4210715	112.44	<b>78.90</b>
#7	5/8"	1/4"	1/4"	3-1/4"	AV4210742	80.56	<b>56.60</b>	-	-	-
#8	3/4"	5/16"	5/16"	3-1/2"	-	-	-	AV4210815	163.10	<b>114.50</b>
#8	3/4"	5/16"	5/16"	3-1/2"	AV4210842	114.05	<b>80.10</b>	-	-	-
#9	7/8"	11/32"	11/32"	3-5/8"	-	-	-	AV4210915	303.58	<b>213.10</b>
#9	7/8"	11/32"	11/32"	3-5/8"	AV4210942	211.16	<b>148.30</b>	-	-	-
#10	1"	3/8"	3/8"	3-3/4"	-	-	-	AV4211015	398.57	<b>279.80</b>
#10	1"	3/8"	3/8"	3-3/4"	AV4211042	277.26	<b>194.60</b>	-	-	-
#4.5	9/64"	9/64"	9/64"	2-1/2"	-	-	-	AV4214515	41.10	<b>28.90</b>
#4.5	9/64"	9/64"	9/64"	2-1/2"	AV4214542	32.56	<b>22.90</b>	-	-	-

† Aircraft type

9865

## 6 Flute Chatterless Countersink Sets

### High Speed Steel - In Plastic Case

- 7 Piece sets include: 1/4, 5/16, 3/8, 1/2, 5/8, 3/4 and 1" diameter tools
- 4 Piece sets include: 1/4, 1/2, 3/4 and 1" diameter tools
- M A Ford Series #79



Quantity	60 Degrees			90 Degrees			82 Degrees			100 Degrees			90 Degrees, TiN			60 Degrees, TiN			82 Degrees, TiN		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
4	BC7579003	146.66	118.20	BC7579013	146.66	118.20	BC7579008	146.66	118.20	BC7579019	146.66	118.20	BC7579384	201.76	162.50	BC7579380	201.76	162.50	BC7579382	201.76	162.50
7	BC7579001	213.42	171.90	BC7579011	213.42	171.90	BC7579006	213.42	171.90	BC7579016	213.42	171.90	-	-	-	-	-	-	-	-	-

9905

## Uniflute® Countersinks

### High Speed Steel

- Designed for general purpose countersinking, chamfering or deburring
- Self piloting and completely chatterless
- No secondary burrs formed
- Steam homogeneous surface treatment (blackening) to prolong tool life and prevent galling
- M A Ford Series #61



Cutting Diameter (DC)	Connection Diameter Machine Side (DCONMS)	Overall Length (OAL)	100 Degrees			60 Degrees			120 Degrees			90 Degrees			82 Degrees		
			Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
1/8"	1/8"	1-1/2"	BC7061016	13.29	9.95	BC7061001	13.29	9.95	BC7061021	13.29	9.95	BC7061011	13.29	9.95	BC7061006	13.29	9.95
3/16"	3/16"	1-1/2"	BC7061041	13.71	10.25	BC7061026	13.71	10.25	BC7061046	13.71	10.25	BC7061036	13.71	10.25	BC7061031	13.71	10.25
1/4"	1/4"	2"	BC7061066	14.30	10.75	BC7061051	14.30	10.75	BC7061071	14.30	10.75	BC7061061	14.30	10.90	BC7061056	14.30	10.90
3/8"	1/4"	2"	BC7061091	16.24	12.15	BC7061076	16.24	12.15	BC7061096	16.24	12.15	BC7061086	16.24	12.30	BC7061081	16.24	12.30
1/2"	1/4"	2"	BC7061116	19.79	14.85	BC7061101	19.79	14.85	BC7061121	19.79	14.85	BC7061111	19.79	15.00	BC7061106	19.79	15.00
5/8"	1/4"	2-1/4"	BC7061141	26.42	19.85	BC7061126	26.42	19.85	BC7061146	26.42	19.85	BC7061136	26.42	20.00	BC7061131	26.42	20.00
3/4"	1/2"	2-3/4"	BC7061166	38.57	28.95	BC7061151	38.57	28.95	BC7061171	38.57	28.95	BC7061161	38.57	29.20	BC7061156	38.57	29.20
1"	1/2"	2-3/4"	BC7061191	64.25	48.15	BC7061176	64.25	48.15	BC7061196	64.25	48.15	BC7061186	64.25	48.70	BC7061181	64.25	48.70
1-1/4"	1/2"	3"	-	-	-	BC7061201	125.69	94.25	-	-	-	BC7061211	125.69	95.30	BC7061206	125.69	95.30
1-1/2"	3/4"	3-1/2"	-	-	-	BC7061216	170.17	127.65	-	-	-	BC7061226	170.17	129.00	BC7061221	170.17	129.00
2"	3/4"	3-3/4"	-	-	-	BC7061231	305.49	229.15	-	-	-	BC7061241	305.49	229.15	BC7061236	305.49	229.15
2-1/2"	3/4"	5"	-	-	-	BC7061246	814.61	610.95	-	-	-	BC7061256	814.61	610.95	BC7061251	814.61	610.95
3"	3/4"	5-1/4"	-	-	-	BC7061261	949.71	712.25	-	-	-	BC7061271	949.71	712.25	BC7061266	949.71	712.25

†Straight shank with tang drive. Standard angles may be modified from 55° to 119°.

9956

# CUTTING TOOLS

## Eight Pitch Straight Flute Hand Taps

Ground Thread • High Speed Steel • Bright Finish

• Morse List #2046



Thread Diameter Size (TDZ)	Threads per Inch (TPI)	Thread Tolerance Class (TCTR)	Flute Count (NOF)	Thread Cutting Part Length (THL)	Overall Length (OAL)	7 to 10 Threads			3 to 5 Threads			1 to 2 Threads		
						Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
1"	8	H4	4	2-1/2"	5-1/8"	MT3732323	114.57	<b>96.20</b>	MT3732480	114.57	<b>96.20</b>	MT3732659	114.57	<b>96.20</b>
1"	8	H6	4	2-1/2"	5-1/8"	-	-	-	MT3732481	121.87	<b>102.40</b>	-	-	-
1-1/8"	8	H5	4	2-9/16"	5-7/16"	MT3732334	117.65	<b>98.80</b>	MT3732508	117.65	<b>98.80</b>	MT3732501	117.65	<b>98.80</b>
1-1/4"	8	H5	4	2-9/16"	5-3/4"	MT3732336	139.67	<b>117.30</b>	MT3732509	139.67	<b>117.30</b>	MT3732502	139.67	<b>117.30</b>
1-3/8"	8	H5	4	3"	6-1/16"	MT3732338	180.29	<b>151.40</b>	MT3732510	180.29	<b>151.40</b>	MT3732503	189.34	<b>159.00</b>
1-1/2"	8	H5	6	3"	6-3/8"	MT3732340	209.70	<b>176.10</b>	MT3732511	209.70	<b>176.10</b>	MT3732504	209.70	<b>176.10</b>
1-5/8"	8	H6	6	3-3/16"	6-11/16"	-	-	-	MT3732512	270.39	<b>227.10</b>	MT3732505	270.39	<b>227.10</b>
1-3/4"	8	H6	6	3-3/16"	7"	MT3732344	301.60	<b>253.30</b>	MT3732513	316.66	<b>266.00</b>	MT3732506	301.60	<b>253.30</b>
1-7/8"	8	H7	6	3-9/16"	7-5/16"	-	-	-	MT3732514	356.72	<b>299.60</b>	MT3732507	356.72	<b>299.60</b>
2"	8	H7	6	3-9/16"	7-5/8"	MT3732348	378.68	<b>318.10</b>	MT3732515	378.68	<b>318.10</b>	MT3732516	378.68	<b>318.10</b>
2-1/8"	8	H7	6	3-9/16"	8"	MT3734919	696.46	<b>585.00</b>	MT3734925	696.46	<b>585.00</b>	MT3734933	696.46	<b>585.00</b>
2-1/4"	8	H7	6	3-9/16"	8-1/4"	MT3734920	764.04	<b>641.80</b>	MT3734926	764.04	<b>641.80</b>	MT3734934	764.04	<b>641.80</b>
2-3/8"	8	H6	6	4"	8-1/2"	MT3734921	821.12	<b>689.70</b>	MT3734927	821.12	<b>689.70</b>	MT3734935	821.12	<b>689.70</b>
2-1/2"	8	H6	6	4"	8-3/4"	MT3734922	961.09	<b>807.30</b>	MT3734928	961.09	<b>807.30</b>	MT3734936	961.13	<b>807.30</b>
2-5/8"	8	L1	6	4"	8-3/4"	-	-	-	MT3734929	1021.35	<b>857.90</b>	MT3734937	1021.35	<b>857.90</b>
2-3/4"	8	L1	6	4"	9-1/4"	MT3734923	1094.74	<b>919.60</b>	MT3734930	1094.83	<b>919.70</b>	MT3734938	1094.83	<b>919.70</b>
2-7/8"	8	L1	6	4"	9-1/4"	-	-	-	MT3734931	1254.24	<b>1053.60</b>	MT3734939	1254.24	<b>1053.60</b>
3"	8	NA2G	6	4-9/16"	9-3/4"	MT3734924	1264.73	<b>1062.40</b>	MT3734932	1264.73	<b>1062.40</b>	MT3734940	1264.73	<b>1062.40</b>

10025

## General Purpose Hand Tap Sets

Ground Thread • High Speed Steel • Bright Finish

- Set consists of 1 each taper, plug and bottoming
- Morse List #2046



Thread Diameter Size (TDZ)	Threads per Inch (TPI)	Flute Count (NOF)	Overall Length (OAL)	Order No.	Regular Price	SALE
1/4"	20	4	2-1/2"	MT3732701	27.05	<b>23.60</b>
1/4"	28	4	2-1/2"	MT3732702	27.05	<b>23.60</b>
5/16"	18	4	2-23/32"	MT3732703	33.12	<b>28.90</b>
5/16"	24	4	2-23/32"	MT3732704	33.12	<b>28.90</b>
3/8"	16	4	2-15/16"	MT3732705	37.59	<b>32.80</b>
3/8"	24	4	2-15/16"	MT3732706	37.59	<b>32.80</b>
7/16"	14	4	3-5/32"	MT3732707	64.64	<b>56.50</b>
7/16"	20	4	3-5/32"	MT3732708	64.64	<b>56.50</b>
1/2"	13	4	3-19/32"	MT3732709	67.56	<b>59.00</b>
1/2"	20	4	3-19/32"	MT3732710	77.24	<b>67.50</b>
9/16"	12	4	3-19/32"	MT3732711	113.59	<b>99.20</b>
9/16"	18	4	3-19/32"	MT3732712	113.59	<b>99.20</b>
5/8"	11	4	3-13/16"	MT3732713	136.98	<b>119.70</b>
5/8"	18	4	3-13/16"	MT3732714	136.98	<b>119.70</b>
11/16"	11	4	4-1/32"	MT3732715	170.32	<b>148.80</b>
11/16"	16	4	4-1/32"	MT3732716	170.32	<b>148.80</b>
3/4"	10	4	4-1/4"	MT3732717	193.14	<b>168.70</b>
3/4"	16	4	4-1/4"	MT3732718	193.14	<b>168.70</b>
7/8"	9	4	4-11/16"	MT3732719	265.75	<b>232.20</b>
7/8"	14	4	4-11/16"	MT3732720	265.75	<b>232.20</b>
1"	8	4	5-1/8"	MT3732721	354.30	<b>309.50</b>
1"	12	4	5-1/8"	MT3732722	354.30	<b>309.50</b>
1"	14	4	5-1/8"	MT3732723	354.30	<b>309.50</b>
1-1/8"	7	4	5-7/16"	MT3732724	567.81	<b>496.00</b>
1-1/8"	12	4	5-7/16"	MT3732725	613.37	<b>535.80</b>
1-1/4"	7	4	5-3/4"	MT3732726	749.59	<b>654.80</b>
1-1/4"	12	4	5-3/4"	MT3732727	760.90	<b>664.70</b>
1-3/8"	6	4	6-1/16"	MT3732728	942.72	<b>823.60</b>
1-3/8"	12	4	6-1/16"	MT3732729	953.88	<b>833.30</b>
1-1/2"	6	4	6-3/8"	MT3732730	1090.36	<b>952.50</b>
1-1/2"	12	4	6-3/8"	MT3732731	1112.79	<b>972.10</b>

10026

## Helical Flute Thread Mills - UN

Threads



- Completely CNC ground
- Helical flute design for reduced cutting forces, smoother cuts, longest tool life, and maximum thread milling performance
- 100% thread form; superior threads vs. tapping
- Cuts right hand and left hand high quality threads
- Internal and external threads
- Suitable for all types of materials, including heat treated and difficult to machine workpieces
- **Supplied with AlTiN coating only**

Tolerance:

- Shank diameter -.0001 to -.0003"
- Cutter diameter ±.0005"
- Length of cut ±.050 to .000"
- Overall length ±.015"
- T.I.R. maximum .0005"

Thread Size	Threads per Inch (TPI)	Connection Diameter Machine Side (DCONMS)	Usable Length (LU)	Flute Count (NOF)	Order No.	Regular Price	SALE
#6	32	1/8"	0.218"	3	MT3098600	110.77	<b>102.80</b>
#8	32	1/8"	1/4"	3	MT3098602	110.56	<b>102.60</b>
#8	36	1/8"	1/4"	3	MT3098601	113.02	<b>104.90</b>
#10	24	3/16"	0.312"	3	MT3098603	154.81	<b>143.70</b>
#10	32	3/16"	0.312"	3	MT3098604	154.81	<b>143.70</b>
1/4"	20	3/16"	1/2"	3	MT3098605	163.73	<b>152.00</b>
1/4"	28	3/16"	1/2"	3	MT3098606	163.73	<b>152.00</b>
5/16"	18	1/4"	5/8"	3	MT3098607	200.55	<b>186.20</b>
5/16"	24	1/4"	5/8"	3	MT3098608	200.55	<b>186.20</b>
3/8"	16	5/16"	3/4"	4	MT3098609	256.31	<b>237.90</b>
3/8"	24	5/16"	3/4"	4	MT3098610	256.31	<b>237.90</b>
7/16"	14	3/8"	7/8"	4	MT3098611	303.94	<b>282.10</b>
7/16"	20	3/8"	7/8"	4	MT3098612	303.94	<b>282.10</b>
1/2"	13	3/8"	7/8"	4	MT3098613	306.44	<b>284.40</b>
1/2"	20	3/8"	7/8"	4	MT3098614	306.44	<b>284.40</b>
9/16"	12	1/2"	7/8"	4	MT3098615	334.08	<b>310.10</b>
9/16"	18	1/2"	7/8"	4	MT3098616	336.01	<b>311.90</b>
5/8"	11	1/2"	1-1/4"	5	MT3098617	357.88	<b>332.20</b>
5/8"	18	1/2"	1-1/4"	5	MT3098618	350.41	<b>325.30</b>
3/4"	10	1/2"	1-1/4"	5	MT3098619	401.12	<b>372.30</b>
3/4"	16	1/2"	1-1/4"	5	MT3098620	399.17	<b>370.50</b>
7/8"	9	5/8"	1-1/4"	5	MT3098621	541.69	<b>502.80</b>
7/8"	14	5/8"	1-1/4"	5	MT3098622	541.69	<b>502.80</b>
1"	8	3/4"	1-3/8"	5	MT3098623	602.03	<b>558.80</b>
1"	12	3/4"	1-3/8"	5	MT3098624	602.40	<b>559.10</b>

10382

**MARXBORE Mechanics Drill Sets**

**List 383 - Black & Gold - 135° Point - 3/8" Reduced Shank**

- Packaged in plastic clip-on index
- 29 Pcs.: 1/16" - 1/2" x 64ths



Order No.	Regular Price	SALE
MX1082146	234.33	<b>185.50</b>

29154

**PRO-CUT Screw Machine Drills - Fractional Sizes**

**High Speed Steel - 118° Standard Point - Bright Finish**

- Developed primarily for use in screw machines
- The short length of these drills offers increased rigidity for strength, in machine and portable uses
- Morse List #1435



Drill Bit Size / Cutting Diameter (DC)	Decimal Equivalent	Flute Length	Overall Length (OAL)	Morse Cutting Tools			ProCut		
				Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
3/64"	0.0469"	1/2"	1-3/8"	-	-	-	AE80003	1.30	<b>0.95</b>
1/16"	0.0625"	5/8"	1-5/8"	MT1415110	2.14	<b>1.60</b>	AE80004	1.30	<b>0.95</b>
5/64"	0.0781"	11/16"	1-11/16"	MT1415116	2.24	<b>1.70</b>	AE80005	1.30	<b>0.95</b>
3/32"	0.0938"	3/4"	1-3/4"	MT1415123	2.44	<b>1.90</b>	AE80006	1.30	<b>0.95</b>
7/64"	0.1094"	13/16"	1-13/16"	MT1415130	2.39	<b>1.80</b>	AE80007	1.37	<b>1.05</b>
1/8"	0.125"	7/8"	1-7/8"	MT1415136	2.44	<b>1.90</b>	AE80008	1.37	<b>1.05</b>
9/64"	0.1406"	15/16"	1-15/16"	MT1415140	2.49	<b>1.90</b>	AE80009	1.37	<b>1.05</b>
5/32"	0.1563"	1"	2-1/16"	MT1415146	2.53	<b>1.90</b>	AE80010	1.58	<b>1.15</b>
11/64"	0.1719"	1-1/16"	2-1/8"	MT1415152	2.78	<b>2.10</b>	AE80011	1.70	<b>1.25</b>
3/16"	0.1875"	1-1/8"	2-3/16"	MT1415158	2.99	<b>2.30</b>	AE80012	2.01	<b>1.55</b>
13/64"	0.2031"	1-3/16"	2-1/4"	MT1415165	3.19	<b>2.40</b>	-	-	-
7/32"	0.2188"	1-1/4"	2-3/8"	MT1415170	3.38	<b>2.60</b>	AE80014	2.52	<b>1.85</b>
15/64"	0.2344"	1-5/16"	2-7/16"	MT1415174	3.73	<b>2.90</b>	AE80015	2.64	<b>1.95</b>
1/4"	0.25"	1-3/8"	2-1/2"	MT1415178	3.94	<b>3.00</b>	AE80016	2.64	<b>1.95</b>
17/64"	0.2656"	1-7/16"	2-5/8"	MT1415182	4.33	<b>3.30</b>	-	-	-
9/32"	0.2813"	1-1/2"	2-11/16"	MT1415187	4.98	<b>3.80</b>	AE80018	3.62	<b>2.75</b>
19/64"	0.2969"	1-9/16"	2-3/4"	MT1415190	5.22	<b>4.00</b>	AE80019	3.74	<b>2.85</b>
5/16"	0.3125"	1-5/8"	2-13/16"	MT1415192	5.37	<b>4.10</b>	AE80020	4.07	<b>3.05</b>
21/64"	0.3281"	1-11/16"	2-15/16"	MT1415195	5.87	<b>4.50</b>	AE80021	5.11	<b>3.85</b>
11/32"	0.3438"	1-11/16"	3"	MT1415198	6.67	<b>5.10</b>	AE80022	5.08	<b>3.85</b>
23/64"	0.3594"	1-3/4"	3-1/16"	MT1415201	7.36	<b>5.60</b>	AE80023	5.72	<b>4.25</b>
3/8"	0.375"	1-13/16"	3-1/8"	MT1415203	7.76	<b>5.90</b>	AE80024	6.22	<b>4.65</b>
25/64"	0.3906"	1-7/8"	3-1/4"	MT1415206	8.50	<b>6.50</b>	AE80025	6.87	<b>5.15</b>
13/32"	0.4063"	1-15/16"	3-5/16"	MT1415209	9.41	<b>7.20</b>	AE80026	7.32	<b>5.45</b>
27/64"	0.4219"	2"	3-3/8"	MT1415211	9.75	<b>7.50</b>	AE80027	7.88	<b>5.95</b>
7/16"	0.4375"	2-1/16"	3-7/16"	MT1415212	10.45	<b>8.00</b>	AE80028	8.20	<b>6.15</b>
29/64"	0.4531"	2-1/8"	3-9/16"	MT1415213	11.40	<b>8.70</b>	AE80029	10.00	<b>7.45</b>
15/32"	0.4688"	2-1/8"	3-5/8"	MT1415214	12.44	<b>9.50</b>	AE80030	10.55	<b>7.95</b>
31/64"	0.4844"	2-3/16"	3-11/16"	MT1415215	12.89	<b>9.90</b>	AE80031	10.64	<b>7.95</b>
1/2"	0.5"	2-1/4"	3-3/4"	MT1415216	13.48	<b>10.30</b>	AE80032	10.64	<b>7.95</b>

10621



## PRO-CUT Straight Shank Drills - 8" and 10" Overall Length



### High Speed Steel - 118° Point

- For general purpose drilling in applications where extra reach is required
- See index for extra long taper shank drills

Tool Diameter	ProCut, Overall Length (OAL) - 8", Flute Length - 6"			ProCut, Overall Length (OAL) - 10", Flute Length - 8"		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
1/8"	AM50008	16.32	7.00	AM51008	21.31	9.00
9/64"	AM50009	16.54	7.10	AM51009	18.48	7.80
5/32"	AM50010	16.71	7.10	AM51010	18.48	7.80
11/64"	AM50011	18.36	7.80	AM51011	20.60	8.70
3/16"	AM50012	18.36	7.80	AM51012	20.60	8.70
13/64"	AM50013	18.36	7.80	AM51013	20.60	8.70
7/32"	AM50014	18.36	7.80	AM51014	20.60	8.70
15/64"	AM50015	18.59	13.95	AM51015	21.06	15.75
1/4"	AM50016	18.59	7.90	AM51016	21.06	8.90
17/64"	AM50017	20.60	15.45	AM51017	23.06	17.25
9/32"	AM50018	20.39	8.70	AM51018	23.06	9.80
19/64"	AM50019	20.60	15.45	AM51019	23.91	17.95
5/16"	AM50020	21.06	8.90	AM51020	24.36	10.30
21/64"	AM50021	23.54	17.65	AM51021	26.36	19.75
11/32"	AM50022	23.54	10.00	AM51022	26.59	11.30
23/64"	AM50023	24.70	18.55	AM51023	27.55	20.65
3/8"	AM50024	24.70	10.50	AM51024	27.55	11.70
25/64"	AM50025	26.59	19.95	AM51025	30.12	22.55
13/32"	AM50026	22.08	11.30	AM51026	30.12	12.80
27/64"	AM50027	27.55	20.65	AM51027	30.47	22.85
7/16"	AM50028	27.30	11.70	AM51028	30.47	12.90
29/64"	AM50029	31.13	23.35	AM51029	34.63	25.95
15/32"	AM50030	31.45	13.30	AM51030	34.63	14.80
31/64"	AM50031	31.89	23.95	AM51031	35.56	26.65
1/2"	AM50032	31.89	13.50	AM51032	35.89	15.20

9740

## PRO-CUT 2-Flute, Single End Ball Nose Mills

High Speed Steel - Center Cutting



Cutting Diameter (DC)	Connection Diameter Machine Side (DCONMS)	Cutting Edge Material	Overall Length (OAL)	ProCut		
				Order No.	Regular Price	SALE
1/8"	3/8"	HSS	2-5/16"	CX50R4	17.31	12.95
3/16"	3/8"	HSS	2-3/8"	CX50R6	17.31	12.95
1/4"	3/8"	HSS	2-7/16"	CX50R8	17.31	12.95
5/16"	3/8"	HSS	2-1/2"	CX50R10	18.76	14.05
3/8"	3/8"	HSS	2-1/2"	CX50R12	19.93	14.95
7/16"	1/2"	HSS	3-1/4"	CX50R14	29.19	21.85
1/2"	1/2"	HSS	3-1/4"	CX50R16	28.23	21.15
9/16"	1/2"	HSS	3-3/8"	CX50R18	32.60	24.45
5/8"	1/2"	HSS	3-3/8"	CX50R20X	41.55	31.15
5/8"	5/8"	HSS	3-3/4"	CX50R20	39.64	29.75
3/4"	1/2"	HSS	3-5/8"	CX50R24X	48.07	36.05
3/4"	3/4"	HSS	3-7/8"	CX50R24	48.07	36.05
13/16"	3/4"	HSS	4-1/4"	CX50R26	56.83	42.65
7/8"	3/4"	HSS	4-1/4"	CX50R28Y	56.83	42.65
7/8"	7/8"	HSS	4-1/2"	CX50R28	56.83	42.65
15/16"	3/4"	HSS	4-1/2"	CX50R30	71.52	53.65
1"	3/4"	HSS	4-1/2"	CX50R32Y	71.52	53.65
1"	1"	HSS	4-3/4"	CX50R32	71.52	53.65
1-1/8"	1"	HSS	4-3/4"	CX50R36	93.65	70.25
1-1/4"	1-1/4"	HSS	5"	CX50R40	110.71	83.05
1-3/8"	1-1/4"	HSS	5"	CX50R44	122.23	91.65
1-1/2"	1-1/4"	HSS	5"	CX50R48	136.92	102.65
2"	1-1/4"	HSS	5"	CX50R64	240.40	180.25

9736

## ←RAPIDKUT→ DCLNR/L Toolholders

- For turning, facing or contouring
- 95° lead angle
- Uses CNMG, CNMA, CNMP, CNGA or CNMM 80° diamond inserts
- Right hand shown, left hand opposite



Right Hand										
Shank Height (H)	Shank Width (B)	Overall Length (OAL)	Head Length (LH)	Functional Width (WF)	Master Insert Identification (MIID)	Clamping System	Style	Order No.	Regular Price	SALE
3/4"	3/4"	4-1/2"	1.3"	1"	CN-432	PBCL4	DCLNR124B	ME2420240	103.65	68.80
1-1/4"	1-1/4"	6"	1.6"	1-1/2"	CN-432	PBCL4	DCLNR204D	ME2420280	125.05	83.00
1-1/4"	1-1/4"	6"	1.6"	1-1/2"	CN-543	PBCL5	DCLNR205D	ME2420320	141.48	93.90
1-1/4"	1-1/4"	6"	1.8"	1-1/2"	CN-643	PBCL6	DCLNR206D	ME2420340	143.06	94.90
2-1/2"	1-1/2"	6"	1.8"	2"	CN-543	PBCL5	DCLNR245D	ME2420360	160.09	106.20
2-1/2"	1-1/2"	6"	1.8"	2"	CN-643	PBCL6	DCLNR246D	ME2420380	163.15	108.20

Left Hand										
Shank Height (H)	Shank Width (B)	Overall Length (OAL)	Head Length (LH)	Functional Width (WF)	Master Insert Identification (MIID)	Clamping System	Style	Order No.	Regular Price	SALE
1"	1"	6"	1.6"	1-1/4"	CN-432	PBCL4	DCLNL164D	ME2420265	110.83	73.50
1-1/4"	1-1/4"	6"	1.6"	1-1/2"	CN-432	PBCL4	DCLNL204D	ME2420285	125.05	83.00
1-1/4"	1-1/4"	6"	1.6"	1-1/2"	CN-543	PBCL5	DCLNL205D	ME2420325	141.48	93.90
1-1/4"	1-1/4"	6"	1.8"	1-1/2"	CN-643	PBCL6	DCLNL206D	ME2420345	143.06	94.90
2-1/2"	1-1/2"	6"	1.8"	2"	CN-543	PBCL5	DCLNL245D	ME2420365	160.10	106.20
2-1/2"	1-1/2"	6"	1.8"	2"	CN-643	PBCL6	DCLNL246D	ME2420385	163.15	108.20

9269

# CUTTING TOOLS

## **RAPIDKUT** Turning Inserts

### Style CNMG

- 80 Degree diamond shape
- Negative with hole



ST	SS	CI	H	N	S	Insert Size	Grade	Chip Breaker Type	Inscribed Circle Diameter (IC)	Insert Thickness (S)	Corner Radius (RE)	Order No.	Regular Price	SALE
X	X	X	-	-	-	431	PT425	F41	1/2"	0.187"	0.016"	RE1010220	11.85	8.85
X	-	-	-	-	-	431	PT1115	F41	1/2"	0.187"	0.016"	RE1010230	11.85	8.85
X	-	-	-	-	-	431	PT1225	F41	1/2"	0.187"	0.016"	RE1010240	11.85	8.85
X	X	X	-	-	-	431	PT425	M42	1/2"	0.187"	0.016"	RE1010250	11.85	7.30
X	-	-	-	-	-	431	PT1115	F43	1/2"	0.187"	0.016"	RE1010260	11.85	8.85
X	-	-	-	-	-	431	PT1225	F43	1/2"	0.187"	0.016"	RE1010270	11.85	7.30
X	X	X	-	-	-	431	PT425	M45	1/2"	0.187"	0.016"	RE1010280	11.85	8.85
X	-	-	-	-	-	431	PT1115	M45	1/2"	0.187"	0.016"	RE1010290	11.85	8.85
X	-	-	-	-	-	431	PT1225	M45	1/2"	0.187"	0.016"	RE1010300	11.85	8.85
X	X	X	-	-	-	431	PT425	M46	1/2"	0.187"	0.016"	RE1010310	11.85	8.85
X	-	-	-	-	-	431	PT1115	M46	1/2"	0.187"	0.016"	RE1010320	11.85	8.85
X	-	-	-	-	-	431	PT1225	M46	1/2"	0.187"	0.016"	RE1010330	11.85	7.30
-	-	X	-	-	-	431	KT1125	R53	1/2"	0.187"	0.016"	RE1010340	11.85	8.85
X	-	-	-	-	-	431	PT1115	R53	1/2"	0.187"	0.016"	RE1010350	11.85	8.85
X	-	-	-	-	-	431	PT1225	R53	1/2"	0.187"	0.016"	RE1010360	11.85	8.85
X	X	X	-	-	-	432	PT425	F41	1/2"	0.187"	0.032"	RE1010370	11.85	8.85
X	-	-	-	-	-	432	PT1115	F41	1/2"	0.187"	0.032"	RE1010380	11.85	8.85
X	-	-	-	-	-	432	PT1225	F41	1/2"	0.187"	0.032"	RE1010390	11.85	8.85
X	X	X	-	-	-	432	PT425	M42	1/2"	0.187"	0.032"	RE1010400	11.85	7.30
X	-	-	-	-	-	432	PT1115	F43	1/2"	0.187"	0.032"	RE1010410	11.85	8.85
X	-	-	-	-	-	432	PT1225	F43	1/2"	0.187"	0.032"	RE1010420	11.85	7.30
X	X	X	-	-	-	432	PT425	M45	1/2"	0.187"	0.032"	RE1010430	11.85	8.85
X	-	-	-	-	-	432	PT1115	M45	1/2"	0.187"	0.032"	RE1010440	11.85	8.85
X	-	-	-	-	-	432	PT1225	M45	1/2"	0.187"	0.032"	RE1010450	11.85	8.85

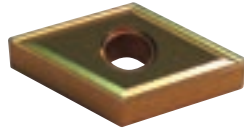
ST	SS	CI	H	N	S	Insert Size	Grade	Chip Breaker Type	Inscribed Circle Diameter (IC)	Insert Thickness (S)	Corner Radius (RE)	Order No.	Regular Price	SALE
X	X	X	-	-	-	432	PT425	M46	1/2"	0.187"	0.032"	RE1010460	11.85	8.85
-	-	X	-	-	-	432	KT1125	M46	1/2"	0.187"	0.032"	RE1010470	11.85	8.85
X	-	-	-	-	-	432	PT1115	M46	1/2"	0.187"	0.032"	RE1010480	11.85	8.85
X	-	-	-	-	-	432	PT1225	M46	1/2"	0.187"	0.032"	RE1010490	11.85	7.30
-	-	X	-	-	-	432	KT1125	R53	1/2"	0.187"	0.032"	RE1010500	11.85	8.85
X	-	-	-	-	-	432	PT1115	R53	1/2"	0.187"	0.032"	RE1010510	11.85	8.85
X	-	-	-	-	-	432	PT1225	R53	1/2"	0.187"	0.032"	RE1010520	11.85	8.85
X	-	-	-	-	-	432	PT1115	M86	1/2"	0.187"	0.032"	RE1010530	11.85	8.85
X	-	-	-	-	-	432	PT1225	M86	1/2"	0.187"	0.032"	RE1010540	11.85	8.85
X	-	-	-	-	-	433	PT1115	F41	1/2"	0.187"	0.047"	RE1010550	11.85	8.85
X	-	-	-	-	-	433	PT1225	F41	1/2"	0.187"	0.047"	RE1010560	11.85	8.85
X	X	X	-	-	-	433	PT425	M42	1/2"	0.187"	0.047"	RE1010570	11.85	7.30
X	-	-	-	-	-	433	PT1115	F43	1/2"	0.187"	0.047"	RE1010580	11.85	8.85
X	-	-	-	-	-	433	PT1225	F43	1/2"	0.187"	0.047"	RE1010590	11.85	7.30
X	X	X	-	-	-	433	PT425	M45	1/2"	0.187"	0.047"	RE1010600	11.85	8.85
X	-	-	-	-	-	433	PT1115	M45	1/2"	0.187"	0.047"	RE1010610	11.85	8.85
X	-	-	-	-	-	433	PT1225	M45	1/2"	0.187"	0.047"	RE1010620	11.85	8.85
X	X	X	-	-	-	433	PT425	M46	1/2"	0.187"	0.047"	RE1010630	11.85	8.85
-	-	X	-	-	-	433	KT1125	M46	1/2"	0.187"	0.047"	RE1010640	11.85	8.85
X	-	-	-	-	-	433	PT1115	M46	1/2"	0.187"	0.047"	RE1010650	11.85	8.85
X	-	-	-	-	-	433	PT1225	M46	1/2"	0.187"	0.047"	RE1010660	11.85	7.30
-	-	X	-	-	-	433	KT1125	R53	1/2"	0.187"	0.047"	RE1010670	11.85	8.85
X	-	-	-	-	-	433	PT1115	R53	1/2"	0.187"	0.047"	RE1010680	11.85	8.85
X	-	-	-	-	-	433	PT1225	R53	1/2"	0.187"	0.047"	RE1010690	11.85	8.85
X	-	-	-	-	-	433	PT1115	M86	1/2"	0.187"	0.047"	RE1010700	11.85	8.85
X	-	-	-	-	-	433	PT1225	M86	1/2"	0.187"	0.047"	RE1010710	11.85	8.85



## RAPIDKUT Turning Inserts

### Style DNMG

- 55 Degree diamond shape
- Negative with hole

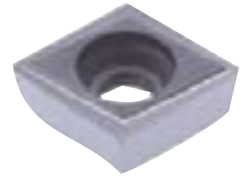


ST	SS	Cl	H	N	S	Insert Size	Grade	Chip Breaker Type	Inscribed Circle Diameter (IC)	Insert Thickness (S)	Corner Radius (RE)	Order No.	Regular Price	SALE
X	-	-	-	-	-	432	PT1115	F41	1/2"	0.187"	0.032"	RE1010940	14.73	11.05
X	-	-	-	-	-	432	PT1225	F41	1/2"	0.187"	0.032"	RE1010950	14.73	11.05
X	-	-	-	-	-	432	PT1115	F43	1/2"	0.187"	0.032"	RE1010960	14.73	11.05
X	-	-	-	-	-	432	PT1225	F43	1/2"	0.187"	0.032"	RE1010970	14.73	9.10
X	-	-	-	-	-	432	PT1115	M86	1/2"	0.187"	0.032"	RE1010980	14.73	11.05
X	-	-	-	-	-	432	PT1225	M86	1/2"	0.187"	0.032"	RE1010990	14.73	11.05
X	-	-	-	-	-	432	PT1225	M46	1/2"	0.187"	0.032"	RE1011000	14.73	9.10
X	-	-	-	-	-	433	PT1115	F43	1/2"	0.187"	0.047"	RE1011010	14.73	11.05
X	-	-	-	-	-	433	PT1225	F43	1/2"	0.187"	0.047"	RE1011020	14.73	9.10
X	-	-	-	-	-	433	PT1115	M45	1/2"	0.187"	0.047"	RE1011030	14.73	11.05
-	-	X	-	-	-	433	KT1125	R53	1/2"	0.187"	0.047"	RE1011040	14.73	11.05
X	X	X	-	-	-	441	PT425	M42	1/2"	1/4"	0.016"	RE1011050	16.60	10.20
X	X	X	-	-	-	442	PT425	M42	1/2"	1/4"	0.032"	RE1011060	16.60	10.20
X	X	X	-	-	-	443	PT425	M42	1/2"	1/4"	0.047"	RE1011070	16.60	10.20

9333

## RAPIDKUT Aluminum Cutting Turning Inserts

- Grade NT9125
- Ideal for semi-finishing to roughing in aluminum alloys and other non-ferrous materials
- Offers high hardness and good wear resistance
- MAU chipbreaker offers low cutting force and excellent chip evacuation



Insert Style	Insert Size	Chip Breaker Type	Inscribed Circle Diameter (IC)	Insert Thickness (S)	Corner Radius (RE)	Order No.	Regular Price	SALE
CCGT	21.50.5	MAU	1/4"	0.094"	0.008"	RE1062610	11.85	7.30
CCGT	21.51	MAU	1/4"	0.094"	0.016"	RE1062620	11.85	7.30
CCGT	32.50.5	MAU	1/4"	0.156"	0.008"	RE1062630	12.72	7.80
CCGT	32.51	MAU	3/8"	0.156"	0.016"	RE1062640	12.72	7.80
CCGT	32.52	MAU	3/8"	0.156"	0.032"	RE1062650	12.72	7.80
CCGT	431	MAU	1/2"	0.187"	0.016"	RE1062660	16.13	9.90
CCGT	432	MAU	1/2"	0.187"	0.032"	RE1062670	16.13	9.90
DCGT	21.50.5	MAU	1/4"	0.094"	0.008"	RE1062680	12.15	7.50
DCGT	21.51	MAU	1/4"	0.094"	0.016"	RE1062690	12.15	7.50
DCGT	32.50.5	MAU	1/4"	0.156"	0.008"	RE1062700	13.51	8.30
DCGT	32.51	MAU	3/8"	0.156"	0.016"	RE1062710	13.51	8.30
DCGT	32.52	MAU	3/8"	0.156"	0.032"	RE1062720	13.51	8.30
SCGT	431	MAU	1/2"	0.187"	0.016"	RE1062730	16.13	9.90
SCGT	432	MAU	1/2"	0.187"	0.032"	RE1062740	16.13	9.90
TCGT	21.51	MAU	1/4"	0.094"	0.016"	RE1062750	11.40	7.00
TCGT	32.51	MAU	3/8"	0.156"	0.016"	RE1062760	13.76	8.50
TCGT	32.52	MAU	3/8"	0.156"	0.032"	RE1062770	13.76	8.50
VCGT	220.5	MAU	1/4"	1/8"	0.008"	RE1062780	15.30	9.40
VCGT	221	MAU	1/4"	1/8"	0.016"	RE1062790	15.30	9.40
VCGT	331	MAU	3/8"	0.187"	0.016"	RE1062800	19.15	11.80
VCGT	332	MAU	3/8"	0.187"	0.032"	RE1062810	19.15	11.80

22455

# CUTTING TOOLS

## Substancer Carbide Inside Deburring Cutters

### Shear Tooth Design

- For general purpose light deburring applications
- Multi-flute design is self piloting
- May be reground many times
- One tool can deburr many different hole diameters
- Large variety of shanks available
- Noses all come to a point
- Furnished in 60° and 90° angles
- The sectional shear-tooth pattern on these cutters is intended for deburring only
- For heavy chamfering, use chatterless countersinks
- 3/32 thru 1/4" are solid carbide and double end, 5/16 thru 1" are solid carbide heads brazed to hardened alloy precision ground shanks and single end



Cutting Diameter (DC)	Connection Diameter Machine Side (DCONMS)	Overall Length (OAL)	90 Degrees			60 Degrees		
			Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
3/32"	3/32"	1-1/2"	BC5420680	20.79	14.20	BC5420620	20.79	14.20
1/8"	1/8"	1-1/2"	BC5422249	27.08	18.50	BC5422250	27.08	18.50
3/16"	3/16"	2"	BC5420682	40.13	27.40	BC5420622	40.13	27.40
1/4"	1/4"	2"	BC54222412	51.13	34.90	BC54222411	51.13	34.90
5/16"	1/4"	2-1/4"	BC5420688	52.25	35.60	BC5420628	52.25	35.60
3/8"	1/4"	2-1/4"	BC5420689	55.82	38.10	BC5420629	55.82	38.10
1/2"	1/4"	2-1/4"	BC5420693	59.10	40.30	BC5420633	59.10	40.30
1/2"	3/8"	2-1/8"	BC5420694	59.10	40.30	BC5420634	59.10	40.30
5/8"	1/4"	2-3/8"	BC5420699	65.44	44.60	BC5420639	65.44	44.60
5/8"	3/8"	2-3/8"	BC5420700	65.44	44.60	BC5420640	65.44	44.60
3/4"	1/2"	2-11/16"	BC5420704	109.97	75.00	BC5420644	109.97	75.00
1"	1/2"	2-13/16"	BC5420710	219.99	150.00	BC5420650	219.99	150.00

10572

## Starrett Univerz® Portable Bands

- Bi-Metal Unique, the best all-around bi-metal blade available.
- Cuts harder materials faster and longer
- Fits machine models: Black & Decker, Greenlee, Milwaukee, Porter-Cable, Ridgid, Rockwell, Skil
- 3-Pack sleeve provides better efficiencies, saves time, improves productivity (priced each sold in multiples of 3)



Length	Width (W)	Thickness (H)	Teeth per Inch (TPI)	Order No.	Regular Price	SALE
44-7/8"	1/2"	0.02"	10	FX83BM10	21.41	17.50
44-7/8"	1/2"	0.02"	14	FX83BM14	21.41	17.50
44-7/8"	1/2"	0.02"	18	FX83BM18	21.41	17.50
44-7/8"	1/2"	0.02"	24	FX83BM24	21.41	17.50
44-7/8"	1/2"	0.02"	10/14 VT	FX83BM1014	21.41	17.50
44-7/8"	1/2"	0.02"	14/18 VT	FX83BM1418	21.41	17.50

2356

## Starrett® 14 Pc. General Purpose Fastcut™ Hole Saw Kit

### Bi-Metal

- Includes:
- Nine bi-metal hole saws: 3/4, 7/8, 1-1/8, 1-3/8, 1-1/2, 1-3/4, 2, 2-1/4, & 2-1/2"
  - One each A1, A2 arbors
  - A014C high speed pilot drill bit
  - A12 arbor adaptor
  - A7 ejector spring



Order No.	Regular Price	SALE
FZ7001218	317.70	205.00

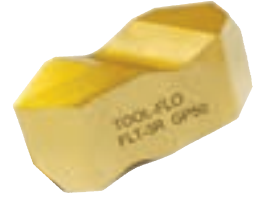
2333

**TOOL FLO** Member BMC Group **Flo-Lock/Chip-Flo 60° Threading Inserts**

**FLT**

Carbide Grades:

- AC3 - PVD TiAlN for 300 series stainless steel and other high temp alloy steel in premium conditions
- AC50 - PVD TiAlN for standard steels and 400 series stainless steel
- GP50 - PVD TiN general purpose for standard steel



ProductName	Pitch TPI External (TPI Ext)	Pitch TPI Internal (TPI Int)	Corner Radius (RE)	Cutting Edge Length (L)	Insert Thickness (S)	Order No.	Regular Price	SALE
FLT-2L	-	-	0.003" 0.005"	0.2661	0.15"	FG31FLT2LA	2718	<b>19.10</b>
FLT-2R	-	-	0.003" 0.005"	0.2661	0.15"	FG31FLT2RA	2718	<b>19.10</b>
FLT-2R AC50C	8-36	-	0.003"   0.005"	0.2661"	0.15"	FG31038190	2718	<b>21.75</b>
FLT-2L	-	-	0.003" 0.005"	0.2661	0.15"	FG315041	25.15	<b>17.70</b>
FLT-2R	-	-	0.003" 0.005"	0.2661	0.15"	FG315040	25.15	<b>17.70</b>
FLT-3L	-	-	0.005" 0.008"	0.3999	0.195"	FG31FLT3LA	28.21	<b>19.80</b>
FLT-3L	-	-	0.005" 0.008"	0.3999	0.195"	FG31FLT3L	28.21	<b>22.55</b>
FLT-3R	-	-	0.005" 0.008"	0.3999	0.195"	FG315042	26.17	<b>18.40</b>
FLT-3L	-	-	0.005" 0.008"	0.3999	0.195"	FG315043	26.17	<b>18.40</b>
FLT-3010R AC3R	6-18	-	0.009"   0.011	0.3999"	0.195"	FG31038250	30.82	<b>21.60</b>
FLT-3010R AC50C	6-18	-	0.009"   0.011	0.3999"	0.195"	FG31038260	30.82	<b>24.65</b>
FLT-3010R GP50C	6-18	-	0.009"   0.011	0.3999"	0.195"	FG31038280	28.84	<b>20.20</b>
FLT-4L	-	-	0.005" 0.008"	0.375	0.255"	FG31FLT4LAC50	35.27	<b>28.25</b>
FLT-4R	-	-	0.005" 0.008"	0.375	0.255"	FG31FLT4R	35.27	<b>28.25</b>
FLT-4R GP50E	4-20	-	0.005"   0.008"	0.6298"	0.255"	FG315047	32.51	<b>22.80</b>

# ABRASIVES

## 3M Cutting & Grinding Wheels

- Aluminum oxide
- Type 27
- Bonded abrasive wheel
- Provides a high rate of stock removal and long life
- 10 Pc. standard pack
- Do not use on tools without guards



Diameter	Thickness	Arbor Hole	Maximum RPM	Order No.	Regular Price	SALE
4"	1/16"	3/8"	26,250	TM0120449	3.15	<b>2.60</b>
4 1/2"	1/4"	7/8"	13,300	TM0192312	4.25	<b>3.30</b>
4 1/2"	1/4"	5/8"-11	13,300	TM0192314	7.68	<b>6.50</b>
7"	1/4"	7/8"	8,500	TM0192313	8.67	<b>7.20</b>

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## 3M Scotch-Brite™ Surface Conditioning Discs - Hook-and-Loop

- Aluminum Oxide
- Great general purpose surface conditioning disc
- For finishing, cleaning and light deburring
- Attach and remove easily to 3M™ Hook-and-Loop Backup Pads
- Use with right angle and random orbital tools
- 7" Available



Diameter	Maximum RPM	Grade	Color	Standard Pack	Order No.	Regular Price	SALE
4 1/2"	13000	Coarse	Brown	50	TM2114101	6.07	<b>5.00</b>
4 1/2"	13000	Medium	Maroon	50	TM2114100	5.35	<b>4.50</b>
4 1/2"	13000	Very Fine	Teal	50	TM2114099	5.35	<b>4.50</b>
5"	10000	Coarse	Brown	50	TM2100750	7.29	<b>6.10</b>
5"	10000	Medium	Maroon	50	TM2100643	6.41	<b>5.30</b>
5"	10000	Very Fine	Teal	50	TM2104303	6.41	<b>5.30</b>
7"	6000	Coarse	Brown	25	TM2100751	12.54	<b>10.40</b>
7"	6000	Medium	Maroon	25	TM2100645	11.01	<b>9.20</b>
7"	6000	Very Fine	Teal	25	TM2104305	11.01	<b>9.20</b>

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## 3M PSA Discs

### 348D

- Aluminum Oxide - X wt. cloth
- Heavy duty, cloth backed discs for more aggressive applications
- Provides excellent adhesion while removing easily



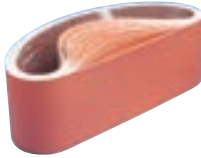
Diameter	Grit	Standard Pack	Order No.	Regular Price	SALE
2"	50	50	TM1120911	1.38	<b>1.13</b>
2"	60	50	TM1120910	1.35	<b>1.12</b>
2"	80	50	TM1120909	1.27	<b>1.03</b>
2"	P120	50	TM1120907	1.22	<b>1.00</b>
3"	40	50	TM1101335	1.65	<b>1.33</b>
3"	50	50	TM1101334	1.58	<b>1.40</b>
3"	60	50	TM1101333	1.53	<b>1.30</b>
3"	80	50	TM1101332	1.46	<b>1.30</b>
3"	P100	50	TM1101331	1.42	<b>1.20</b>
3"	P120	50	TM1101330	1.42	<b>1.20</b>
5"	36	50	TM1120891	2.44	<b>2.00</b>
5"	40	50	TM1120890	2.32	<b>1.90</b>
5"	50	50	TM1120889	2.21	<b>1.80</b>
5"	60	50	TM1120888	2.10	<b>1.80</b>
5"	80	50	TM1120887	1.98	<b>1.61</b>
5"	P100	50	TM1120886	1.90	<b>1.60</b>
5"	P120	50	TM1120885	1.90	<b>1.60</b>
5"	P150	50	TM1120884	1.90	<b>1.60</b>
5"	P180	50	TM1120883	1.90	<b>1.60</b>
5"	P240	50	TM1120881	1.90	<b>1.60</b>
6"	50	50	TM1120879	3.27	<b>2.70</b>
6"	60	50	TM1120878	3.07	<b>2.60</b>
6"	80	50	TM1120877	2.91	<b>2.40</b>
6"	P100	50	TM1120876	2.73	<b>2.30</b>
6"	P120	50	TM1121497	2.73	<b>2.30</b>
8"	36	50	TM1120874	6.49	<b>5.40</b>
8"	40	50	TM1120873	6.15	<b>5.20</b>
8"	60	50	TM1120871	5.60	<b>4.70</b>
8"	80	50	TM1120870	5.31	<b>4.50</b>
8"	P120	50	TM1120868	5.07	<b>4.20</b>
12"	36	10	TM1188906	15.12	<b>12.70</b>
12"	40	10	TM1188905	14.26	<b>12.00</b>
12"	60	10	TM1188903	12.66	<b>10.60</b>
12"	80	10	TM1188902	11.97	<b>10.10</b>
12"	P100	10	TM1188901	11.28	<b>9.50</b>
16"	36	10	TM1188890	27.78	<b>23.00</b>
16"	60	10	TM1188887	23.34	<b>19.00</b>
16"	80	10	TM1188886	22.00	<b>18.00</b>
18"	36	10	TM1188882	35.23	<b>29.00</b>
18"	60	10	TM1188880	29.56	<b>25.00</b>
20"	36	10	TM1188878	42.79	<b>35.00</b>
20"	40	10	TM1188877	40.43	<b>33.00</b>
20"	50	10	TM1188876	38.16	<b>32.00</b>
20"	60	10	TM1188875	35.99	<b>30.00</b>
20"	80	10	TM1188874	33.92	<b>29.00</b>
24"	36	10	TM1120802	61.20	<b>50.00</b>
24"	40	10	TM1120801	57.16	<b>48.00</b>
24"	80	10	TM1120798	47.02	<b>39.00</b>

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## 3M Backstand and Benchtop Belts

### 241D

- Aluminum Oxide - X weight cloth
- Excellent all-around abrasive belt for blending and finishing



## 3M Roloc™ Fibre Discs

### 361F

- Aluminum Oxide - YF weight cloth
- General purpose grinding, blending and finishing on all metals
- Roloc TR Plastic button



Width	Length	Grit	Standard Pack	Order No.	Regular Price	SALE
1"	42"	36	50	TM1026614	5.01	<b>4.25</b>
1"	42"	50	50	TM1031823	4.44	<b>3.75</b>
1"	42"	60	50	TM1001450	4.11	<b>3.40</b>
1"	42"	80	50	TM1001451	3.73	<b>3.10</b>
1"	42"	100	50	TM1001452	3.50	<b>3.00</b>
1"	42"	120	50	TM1001453	3.50	<b>3.00</b>
1"	42"	150	50	TM1026602	3.50	<b>2.95</b>
1"	42"	180	50	TM1026601	3.50	<b>2.95</b>
1"	42"	240	50	TM1026599	3.50	<b>2.95</b>
1"	42"	320	50	TM1026597	3.50	<b>2.95</b>
1-1/2"	60"	36	10	TM1026443	7.10	<b>6.05</b>
1-1/2"	60"	40	10	TM1026441	6.79	<b>5.75</b>
1-1/2"	60"	60	25	TM1026438	5.84	<b>4.95</b>
1-1/2"	60"	80	25	TM1026436	5.31	<b>4.55</b>
2"	48"	36	10	TM1026571	7.38	<b>6.25</b>
2"	48"	50	10	TM1026568	6.51	<b>5.55</b>
2"	48"	60	25	TM1026564	6.06	<b>5.15</b>
2"	48"	80	25	TM1026562	5.52	<b>4.65</b>
2"	48"	100	25	TM1026561	5.15	<b>4.35</b>
2"	48"	120	25	TM1026560	5.15	<b>4.35</b>
2"	60"	50	25	TM1026424	8.13	<b>6.95</b>
2"	60"	60	25	TM1033640	6.93	<b>5.85</b>
2"	60"	80	25	TM1033639	6.28	<b>5.35</b>
2"	60"	120	25	TM1033667	5.88	<b>4.95</b>
2"	72"	36	10	TM1026320	9.45	<b>8.05</b>
2"	72"	60	10	TM1026316	7.79	<b>6.50</b>
2"	72"	80	25	TM1033067	7.08	<b>5.90</b>
2"	72"	180	25	TM1026309	6.63	<b>5.60</b>
2"	72"	240	25	TM1081752	6.63	<b>5.60</b>
2-1/2"	60"	36	10	TM1026408	10.51	<b>8.95</b>
2-1/2"	60"	60	25	TM1026400	8.66	<b>7.35</b>
2-1/2"	60"	80	25	TM1026396	7.85	<b>6.65</b>
2-1/2"	60"	120	25	TM1026388	8.04	<b>6.85</b>
6"	48"	36	10	TM1001454	22.11	<b>18.75</b>
6"	48"	40	10	TM1001455	21.21	<b>18.05</b>
6"	48"	50	10	TM1001456	19.59	<b>16.65</b>
6"	48"	60	10	TM1001457	18.18	<b>15.10</b>
6"	48"	80	20	TM1010454	16.51	<b>13.90</b>
6"	48"	100	20	TM1010455	15.48	<b>12.90</b>
6"	48"	120	20	TM1010456	15.48	<b>12.90</b>
6"	48"	150	20	TM1026517	15.48	<b>13.15</b>
6"	48"	180	20	TM1026515	15.48	<b>13.15</b>
6"	48"	240	20	TM1026513	15.48	<b>13.15</b>

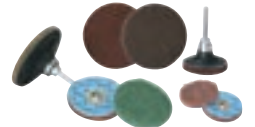
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Diameter	Grit	Maximum RPM	Order No.	Regular Price	SALE
1"	50	30000	TM1111411	0.99	<b>0.90</b>
1"	80	30000	TM1111416	0.95	<b>0.85</b>
1"	P100	30000	TM1111415	0.95	<b>0.85</b>
1"	P120	25000	TM1111414	0.95	<b>0.85</b>
1 1/2"	36	20000	TM1122396	1.23	<b>1.10</b>
1 1/2"	60	30000	TM1122397	1.09	<b>0.95</b>
1 1/2"	80	30000	TM1122407	1.09	<b>0.95</b>
1 1/2"	P120	20000	TM1122409	1.09	<b>0.95</b>
2"	24	25000	TM1111000	2.02	<b>1.80</b>
2"	36	25000	TM1122398	1.88	<b>1.60</b>
2"	50	25000	TM1122399	1.80	<b>1.50</b>
2"	60	20000	TM1122400	1.70	<b>1.40</b>
2"	80	25000	TM1122401	1.59	<b>1.40</b>
2"	P100	20000	TM1122402	1.59	<b>1.45</b>
2"	P120	25000	TM1122403	1.59	<b>1.45</b>
2"	P150	25000	TM1114559	1.59	<b>1.45</b>
2"	P180	25000	TM1113873	1.59	<b>1.45</b>
2"	P240	20000	TM1111419	1.59	<b>1.45</b>
3"	24	20000	TM1122392	2.63	<b>2.35</b>
3"	36	20000	TM1122393	2.44	<b>2.15</b>
3"	50	20000	TM1122394	2.28	<b>2.05</b>
3"	60	20000	TM1122395	2.17	<b>1.95</b>
3"	80	20000	TM1122404	2.17	<b>1.95</b>
3"	P100	20000	TM1122405	2.04	<b>1.85</b>
3"	P120	20000	TM1122406	2.04	<b>1.85</b>
3"	P150	20000	TM1182244	2.04	<b>1.85</b>
3"	P240	18000	TM1111418	2.04	<b>1.85</b>

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## 3M STANDARD ABRASIVE Quick Change Buff & Blend™ Discs

- High Strength provides increased cut-rate, durability and consistency
- Fast removal of light oxidation
- Blending minor imperfections
- Prepping surfaces for painting



Roll-On												
Diameter	Coarse			Medium			Fine			Very Fine		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
1 1/2"	MM75810211	1.97	<b>1.80</b>	MM75810212	1.89	<b>1.75</b>	MM75810213	1.84	<b>1.65</b>	-	-	-
2"	MM75810311	2.24	<b>2.05</b>	MM75810312	2.02	<b>1.85</b>	MM75810313	1.93	<b>1.75</b>	MM75810315	1.93	<b>1.75</b>
3"	MM75810411	3.83	<b>3.45</b>	MM75810412	3.30	<b>2.95</b>	MM75810413	3.00	<b>2.65</b>	-	-	-

Turn-On												
Diameter	Medium			Fine			Coarse			Very Fine		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
1 1/2"	MM75840212	1.89	<b>1.60</b>	MM75840213	1.84	<b>1.50</b>	MM75840211	1.97	<b>1.75</b>	-	-	-
2"	MM75840312	2.02	<b>1.80</b>	MM75840313	1.93	<b>1.70</b>	MM75840311	2.24	<b>2.05</b>	MM75840315	1.93	<b>1.70</b>
3"	MM75840412	3.30	<b>2.80</b>	MM75840413	3.00	<b>2.50</b>	MM75840411	3.83	<b>3.45</b>	MM75840415	3.00	<b>2.50</b>

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# ABRASIVES

## CGW 3-in-1 Cut-Grind-Finish Depressed Center Wheels - Type 27

- Cuts quickly, grinds easily and finishes work surfaces
- Contaminant free: less than 0.1 percent iron, sulfur or chlorine
- Fiberglass net reinforcement provides added strength and flexibility
- Ideal for stainless steel and a wide variety of metals and cutting metal profiles and thin pipes, and removing weld slag
- Use instead of a flap disc to complete the job with an excellent finish



Diameter	Arbor Hole	Width	Grit	Maximum RPM	Order No.	Regular Price	SALE
4 1/2"	7/8"	3/32"	36	13,300	MG9045218	3.58	2.50
4 1/2"	5/8"-11	3/32"	36	13,300	MG9045219	6.90	4.90
5"	7/8"	3/32"	36	12,250	MG9045220	4.38	3.10
5"	5/8"-11	3/32"	36	12,250	MG9045221	7.75	5.50
6"	7/8"	3/32"	36	10,200	MG9045222	6.38	4.50
6"	5/8"-11	3/32"	36	10,200	MG9045223	9.74	6.90

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## CGW Fast Cut Stationary Saw Wheels

- Aluminum oxide grain for use on metal, steel and general applications



Diameter	Thickness	Arbor Hole	Specification	Maximum RPM	Standard Pack	Order No.	Regular Price	SALE
12"	1/8"	1"	A24-RBF	5100	10	MG9070105	9.84	7.50
14"	1/8"	5/8"	A24-QBF	4400	10	MG9036233	9.49	7.90
20"	5/32"	1"	A24-RBF	3100	10	MG9070108	44.03	33.60
20"	3/16"	1"	A24-RBF	3100	10	MG9070109	49.63	37.90
20"	3/16"	1"	A24-RBF	3100	10	MG9070147	52.54	43.50

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## CGW Z3 XL Zirconia Compact Trimmable Flap Discs with Built in Hub

- Built in hub allows for easy off/on and closer disc placement to the tool
- Z3 (Zirconia) for fast, long-lasting grinding
- Ideal for heavy duty applications



Diameter	Arbor Hole	Grit	Maximum RPM	Order No.	Regular Price	SALE
4-1/2"	5/8"-11	40	13,300	MG9030142	12.82	9.80
4-1/2"	5/8"-11	60	13,300	MG9030144	12.30	9.40
4-1/2"	5/8"-11	80	13,300	MG9030145	12.09	9.20
4-1/2"	5/8"-11	120	13,300	MG9030146	11.52	8.80
5"	5/8"-11	40	12,200	MG9030152	13.52	10.30
5"	5/8"-11	60	12,200	MG9030154	12.64	9.60
5"	5/8"-11	80	12,200	MG9030155	13.07	10.00
5"	5/8"-11	120	12,200	MG9030156	10.72	8.90
6"	5/8"-11	40	10,200	MG9030162	20.35	15.60
6"	5/8"-11	60	10,200	MG9030164	19.51	14.90
6"	5/8"-11	80	10,200	MG9030165	15.80	13.10
6"	5/8"-11	120	10,200	MG9030166	15.38	12.80

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## CGW Reinforced Cut-Off Wheels

### For Hand Held Grinders

- Ideal for cutting off ferrous metals, alloy steels and cast iron.
- Aluminum oxide abrasive - fast cutting action.
- Resinoid bond - long life - burn free cutting.
- High strength reinforcement - resists breakage



Aluminum Oxide								
Diameter	Thickness	Arbor Hole	Specification	Maximum RPM	Standard Pack	Order No.	Regular Price	SALE
1 1/2"	1/32"	1/4"	A60-RBF	45000	50	MG9035687	2.39	1.70
1 1/2"	1/16"	1/4"	A60-RBF	45000	50	MG9035688	2.39	1.70
2"	1/32"	3/8"	A60-RBF	30000	50	MG9035689	2.39	1.70
2"	1/16"	1/4"	A36-TBF	30000	50	MG9045066	2.39	1.70
2"	1/16"	3/8"	A36-RBF	30000	50	MG9035690	2.39	1.70
2"	1/8"	3/8"	A24-RBF	30000	50	MG9035691	2.63	1.90
3"	1/32"	1/4"	A60-RBF	25000	50	MG9035500	2.39	1.70
3"	1/32"	3/8"	A60-RBF	25000	50	MG9035501	2.39	1.70
3"	1/16"	1/4"	A36-RBF	25000	50	MG9035502	2.41	1.70
3"	1/16"	1/4"	A60-RBF	25000	50	MG9045085	2.41	1.70
3"	1/16"	3/8"	A36-RBF	25000	50	MG9035503	2.41	1.70
3"	1/16"	3/8"	A60-RBF	25000	50	MG9045086	2.41	1.70
3"	1/8"	1/4"	A24-RBF	25000	50	MG9035504	2.69	1.90
3"	1/8"	3/8"	A24-RBF	25000	50	MG9035505	2.69	1.90
4"	1/32"	1/4"	A60-RBF	19100	50	MG9035506	3.12	2.20
4"	1/32"	3/8"	A60-RBF	19100	50	MG9035507	3.12	2.20
4"	1/16"	1/4"	A36-RBF	19100	50	MG9035508	3.36	2.40
4"	1/16"	1/4"	A60-RBF	19100	50	MG9045088	3.36	2.40
4"	1/16"	3/8"	A36-RBF	19100	50	MG9035509	3.36	2.40
4"	1/16"	3/8"	A60-RBF	19100	50	MG9045087	3.36	2.40
4"	1/16"	5/8"	A36-RBF	19100	50	MG9035510	3.36	2.40
4"	1/8"	1/4"	A24-RBF	19100	50	MG9035511	3.82	2.70
4"	1/8"	3/8"	A24-RBF	19100	50	MG9035512	3.82	2.70

Aluminum Oxide, Fast Cut								
Diameter	Thickness	Arbor Hole	Specification	Maximum RPM	Standard Pack	Order No.	Regular Price	SALE
3"	1/16"	1/4"	A36-RBF	25000	50	-	-	-
4"	1/32"	1/4"	A60-RBF	19100	50	MG9059106	1.50	1.20

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# ABRASIVES



## Quickie Cut™ Extra Thin Reinforced Cut-Off Wheels - Type 1

- A60-TB-Flex bond wheels are .040 thick, cut fast, last long and flex
- .045 wheels cut fast and offer longer life
- Cuts steel/stainless



Diameter	Thickness	Arbor Hole	Specification	Maximum RPM	Standard Pack	Order No.	Regular Price	SALE
4"	.040"	5/8"	A60-TB Flex	19000	25	MG9045014	3.08	<b>2.65</b>
4 1/2"	.035"	7/8"	A60-TB Flex	13300	25	MG9045010	3.02	<b>2.30</b>
4 1/2"	.045"	7/8"	A36-TBF	13300	25	MG9035514	3.06	<b>2.30</b>
5"	.040"	7/8"	A60-TB Flex	12250	25	MG9045011	3.43	<b>2.95</b>
5"	.045"	7/8"	A36-TBF	12250	25	MG9035516	3.54	<b>3.05</b>
6"	.040"	3/8"	A60-TB Flex	10200	25	MG9045051	4.52	<b>3.85</b>
6"	.040"	7/8"	A60-TB Flex	10200	25	MG9045012	3.89	<b>3.00</b>
6"	.045"	7/8"	A36-TBF	10200	25	MG9035517	3.85	<b>2.90</b>
7"	.040"	7/8"	A60-TB Flex	8600	25	MG9045013	6.12	<b>5.25</b>
7"	.045"	7/8"	A36-TBF	8600	25	MG9035518	6.03	<b>5.15</b>

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## Resin Fiber Discs

### GGW Features:

- Premium AO designed for long life, high stock removal and cool cutting action on metal and welds. 7" has depressed center
- High concentration of Zirconia and heat-treated AO grain provides twice the cutting action of premium AO discs and is extremely heat resistant



### Carborundum Features:

- Aggressive yet cool cutting with long life
- Special - treated aluminum oxide

### Premier Red Zirconia Alumina Resin Fiber Features:

- Ultra tough, aggressive yet cool cutting & self sharpening
- Best choice for stainless steel
- Increased durability - longer life
- Ideal for heavy duty grinding of welds, gates, risers and parting lines on castings and carbon steels

### High Performance Zirconia Resin Fiber Discs:

- Made in Canada
- Zirconium abrasive alloy sharpens itself in use
- Cool grinding action reduces glazing and loading
- Sharp cutting action lasts longer - maximizing life

Order No.	Price	SALE
MG9048005	1.11	<b>0.95</b>
MG9048006	1.05	<b>0.85</b>
MG9048010	1.43	<b>1.25</b>
MG9048011	1.23	<b>1.05</b>
MG9048012	1.11	<b>0.80</b>
MG9048013	0.98	<b>0.85</b>
MG9048014	1.09	<b>0.80</b>
MG9048015	1.05	<b>0.72</b>
MG9048016	1.02	<b>0.70</b>
MG9048017	1.02	<b>0.70</b>

Order No.	Price	SALE
MG9048018	1.02	<b>0.70</b>
MG9048020	1.65	<b>1.20</b>
MG9048021	1.33	<b>0.90</b>
MG9048022	1.26	<b>0.90</b>
MG9048024	1.19	<b>0.80</b>
MG9048025	1.09	<b>0.80</b>
MG9048026	1.05	<b>0.80</b>
MG9048027	1.05	<b>0.85</b>
MG9048028	1.05	<b>0.85</b>
MG9048030	2.60	<b>2.25</b>
MG9048031	2.32	<b>1.95</b>
MG9048032	2.17	<b>1.85</b>
MG9048034	2.10	<b>1.75</b>
MG9048035	2.02	<b>1.75</b>
MG9048036	1.96	<b>1.65</b>
MG9048037	1.96	<b>1.65</b>
MG9048038	1.96	<b>1.65</b>
MG9048040	4.10	<b>3.45</b>
MG9048041	4.21	<b>3.55</b>
MG9048042	3.89	<b>3.35</b>
MG9048044	3.67	<b>3.15</b>
MG9048101	1.78	<b>1.55</b>
MG9048102	1.69	<b>1.20</b>
MG9048104	1.54	<b>1.10</b>
MG9048105	1.43	<b>1.00</b>
MG9048106	1.41	<b>1.00</b>
MG9048111	1.86	<b>1.30</b>
MG9048112	1.76	<b>1.20</b>
MG9048113	1.65	<b>1.45</b>
MG9048114	1.65	<b>1.20</b>
MG9048115	1.47	<b>1.00</b>
MG9048116	1.47	<b>1.00</b>
MG9048120	3.12	<b>2.65</b>
MG9048121	3.82	<b>3.25</b>
MG9048122	3.06	<b>2.65</b>
MG9048123	2.45	<b>2.05</b>
MG9048124	2.91	<b>2.45</b>
MG9048125	2.80	<b>2.35</b>
MG9048126	2.63	<b>2.25</b>
MG9048231	1.19	<b>1.05</b>
MG9048232	1.47	<b>1.25</b>
MG9048234	1.37	<b>1.15</b>
MG9049233	1.82	<b>1.55</b>

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### CGW Rubber Back-Up Pads

- Rubber back-up pads for use with coarse grits
- Spiral ribs provide contact points and form channels for air flow, extending disc life 30% to 50%
- Larger air holes provide cooler operating and longer abrasive disc life
- Pad size meets ANIS B186.1 standards
- Smooth face pads are excellent for general purpose applications
- Nut not included



Rol-On					
Diameter	Arbor Hole	Density	Order No.	Regular Price	SALE
2"	1/4"	Medium	MG9059732	14.61	11.10
3"	1/4"	Medium	MG9059734	16.67	12.70

Rubber with Smooth Bore & Spiral Pattern					
Diameter	Arbor Hole	Density	Order No.	Regular Price	SALE
4 1/2"	7/8	Medium	MG9049521	51.74	39.50

Rubber with Smooth Face					
Diameter	Arbor Hole	Density	Order No.	Regular Price	SALE
4 1/2"	5/8"-11	Medium	-	-	-
7"	5/8"-11	Medium	MG9049506	53.80	44.60

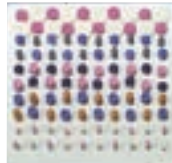
Rubber with Standard Spiral Pattern					
Diameter	Arbor Hole	Density	Order No.	Regular Price	SALE
4 1/2"	5/8"-11	Medium	MG9048220	52.97	39.00
5"	5/8"-11	Medium	MG9048221	54.12	41.30
7"	5/8"-11	Flexible	MG9049510	71.81	54.80
7"	5/8"-11	Medium	MG9048222	71.81	54.80
7"	5/8"-11	Rigid	MG9049511	71.81	54.80
9"	5/8"-11	Medium	MG9048239	82.85	63.20

Turn-On					
Diameter	Arbor Hole	Density	Order No.	Regular Price	SALE
2"	1/4"	Medium	MG9059733	15.34	11.70
3"	1/4"	Medium	MG9059735	18.01	13.70

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### Grier Mounted Point Tool Room Assortment - Common Sizes and Shapes

- All common sizes and shapes in a convenient storage box
- Use on die or in-line/straight shaft grinders
- Blending contours, deburring molded parts and mold finishing
- ID grinding, offhand bench grinding, tool and die



Shank Size	Number of Pieces	Order No.	Regular Price	SALE
1/8" x 1/2"	100 Piece Assortment	ML50MP100	142.61	100.30
1/4" x 1/2"	50 Piece Assortment	ML50MP50	142.61	100.30

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### BlueFire Pocket Stones

- Convenient and easily transported
- Ideal for outdoor enthusiasts for sharpening scissors, knives, axes, etc.
- Available in a protective case



Overall Length	Width	Thickness	Grade	Order No.	Regular Price	SALE
4"	3/4"	1/4"	Fine	MH6424153	23.92	17.60

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### BlueFire (PG S-Flex) Belts - R980 Y Weight Back

- Resists wear - cooler, faster cut rate
- Longer belt life lowers cost per unit
- Better grain adhesion - edge fray resistance
- More consistent grind throughout extended belt life
- Lasts 50% to 200% longer on mild and carbon steel, stainless, cobalt, chrome, inconel, and titanium.
- Cuts cooler and 20% faster than current generation belts
- Lowers total grinding cost



Width	Length	Grit	Order No.	Regular Price	SALE
1/2"	12"	40	MH61B0098018	4.89	2.80
1/2"	12"	60	MH61B0098019	4.69	2.70
1/2"	12"	80	MH61B0098020	4.53	2.70
1/2"	18"	40	MH61B0098021	5.25	3.10
1/2"	18"	60	MH61B0098022	4.92	2.90
1/2"	18"	80	MH61B0098023	4.75	2.80
1/2"	24"	40	MH61B0098024	5.71	3.30
1/2"	24"	60	MH61B0098025	5.38	3.20
1/2"	24"	80	MH61B0098026	4.92	2.90
3/4"	18"	40	MH61B0098027	5.84	3.30
3/4"	18"	60	MH61B0098028	5.48	3.20
3/4"	18"	80	MH61B0098029	5.13	2.90
3/4"	20-1/2"	40	MH61B0098030	5.98	3.40
3/4"	20-1/2"	60	MH61B0098031	5.71	3.30
3/4"	20-1/2"	80	MH61B0098032	5.42	3.20

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### BlueFire Mini Flap Discs

- Food processing equipment and machinery
- Pressure vessels, ship containers
- Surgical/medical/distilling equipment
- Aerospace
- Latest-generation ceramic alumina abrasive provides 50-200% longer life vs any flap disc on stainless, titanium and super alloys
- Supersize grinding aid provides a cool, noticeably faster cut rate



- **BLUEFIRE:**
  - Plate steel/structural steel
  - Civil/construction/military equipment
  - Propane tanks
  - Farm equipment
  - Strong zirconia alumina plus abrasive delivers aggressive cut rate and up to 30% longer life on mild carbon steel welds
  - Semi-open coat retards loading on aluminum
- **NEON:**
  - Job shops and small one-off runs in larger shops; anywhere a good-performing, general purpose disc is needed
  - Aluminum oxide abrasive blend flaps stand up to light-to-moderately-demanding soft metal, carbon, and stainless steel applications
  - Ideal when purchasing criteria is a good-performing, low-intial price, general purpose disc

Blaze								
			TR			TS		
Diameter	Grit	Standard Pack	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
2"	120	10	MH61D0290149	14.77	12.55	MH61D0290159	14.77	12.55
2"	36	10	MH61D0290145	14.77	12.55	-	-	-
2"	40	10	MH61D0290146	14.77	12.55	-	-	-
2"	60	10	MH61D0290147	14.77	12.55	MH61D0290157	14.77	12.55
2"	80	10	MH61D0290148	14.77	12.55	MH61D0290158	13.29	11.25

BlueFire								
			TR			TS		
Diameter	Grit	Standard Pack	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
2"	P120	10	MH61D0290169	11.00	8.30	MH61D0290179	12.24	9.30
2"	P36	10	MH61D0290165	11.00	8.30	MH61D0290175	12.24	9.30
2"	P40	10	MH61D0290166	11.00	8.30	MH61D0290176	12.24	9.30
2"	P60	10	MH61D0290167	11.00	8.30	MH61D0290177	12.24	9.30
2"	P80	10	MH61D0290168	11.00	8.30	MH61D0290178	12.24	9.30

Neon								
			TS					
Diameter	Grit	Standard Pack	Order No.	Regular Price	SALE			
2"	40	10	MH61D0232113	5.85	4.95			

Also available in 3" diameter

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# ABRASIVES

## Toolroom Cut-Off Wheels - Reinforced

- Layers of fiberglass mesh extending from the wheel's center to its periphery, help these wheels withstand lateral stress and rough usage
- Contains premium aluminum oxide with high temperature resin bonds formulated for long life and fast cutting ability



Diameter	Thickness	Arbor Hole	Specification	Order No.	Regular Price	SALE
3"	0.06"	1/4"	A60-OBNA2	MH60030028471	10.12	9.80
3"	0.06"	3/8"	A60-OBNA2	MH60030028552	10.12	9.80
6"	0.035"	1/2"	A60-OBNA2	MH60060035053	30.46	29.50
6"	0.035"	5/8"	A60-OBNA2	MH60060035054	29.15	28.30
6"	0.06"	1-1/4"	A60-OBNA2	MH60060035165	39.10	37.90
6"	0.06"	1/2"	A60-OBNA2	MH60060035164	36.34	35.20
7"	0.035"	1-1/4"	A60-OBNA2	MH60070038788	43.15	41.90
7"	0.035"	5/8"	A60-OBNA2	MH60070038787	39.10	37.90
7"	0.06"	1-1/4"	A602-OBNA2	MH60070038796	43.15	41.90
7"	0.06"	5/8"	A60-OBNA2	MH60070038811	39.73	38.50
7"	1/16"	5/8"	57A364-TB25N	MH60070022673	70.89	68.80
8"	0.035"	5/8"	A60-OBNA2	MH60080042979	50.14	48.60
8"	0.06"	1-1/4"	A60-OBNA2	MH60080042983	50.14	48.60
8"	0.06"	5/8"	A60-OBNA2	MH60080042981	50.14	48.60
8"	1/16"	5/8"	3W5G25Z	MH60800017771	49.45	42.05

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## Cloth Discs

### Blaze R980P:

- Next generation, Norton SG ceramic alumina grain with self lubricating, supersize treatment provides coolest cut; significantly faster cut rates
- Heaviest Y-wt. polyester cloth backing, for greatest durability, longest life, and edge-fray resistance on tough applications and stainless steel
- 3-ply heavy duty laminate discs (yellow backing) are ideal when durability and long life are required.

### Bluefire R884P:

- Premium, versatile, self-sharpening zirconia alumina plus grain provides aggressive cut and up to 15% longer life than competitive zirconia alumina products
- Upgraded resin bond improves base adhesion and reduces grain shedding
- New grain coating results in longer life and faster cut rate
- Semi open coat retards loading on soft metals (aluminum, brass, and bronze) and wood, as well as stainless steel and carbon steel
- Durable, Y-wt., 2-ply polyester backing stands up to demanding applications; high pressure and hard-to-grind exotic alloys



Di- am- eter	Grit	Blaze R980P, Premium Ce- ramic Alumina, TS Type II			Blaze R980P, Premium Ce- ramic Alumina, TR Type III			Blaze R980P, Ceramic Alumina, TS Type II			Blaze R980P, Ceramic Alumina, TR Type III			Bluefire R884, Zirconia Alumina, TR Type III			Bluefire R884, Zirconia Alumina, TS Type II			Bluefire R884, Ceramic Alumina, TS Type II			Bluefire R884, Ceramic Alumina, TR Type III		
		Order No.	Reg- ular Price	SALE	Order No.	Reg- ular Price	SALE	Order No.	Reg- ular Price	SALE	Order No.	Reg- ular Price	SALE	Order No.	Reg- ular Price	SALE	Order No.	Reg- ular Price	SALE	Order No.	Reg- ular Price	SALE	Order No.	Reg- ular Price	SALE
1.5"	120	MH61D0143379	2.49	2.15	MH61D0143380	2.25	1.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5"	36	MH61D0162307	2.14	1.85	MH61D0162308	2.14	1.85	-	-	-	-	-	MH61D0121041	1.62	1.00	MH61D0138624	1.62	1.00	-	-	-	-	-	-	-
1.5"	50	MH61D0162309	2.04	1.75	MH61D0162310	2.04	1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5"	60	MH61D0162311	2.04	1.75	MH61D0162312	2.04	1.75	-	-	-	-	-	MH61D0121043	1.51	0.90	MH61D0138621	1.51	0.90	-	-	-	-	-	-	-
1 1/2"	80	-	-	-	-	-	-	MH61D0162313	2.04	1.75	MH61D0162314	2.04	1.75	MH61D0121044	1.51	0.90	MH61D0138620	1.51	0.90	-	-	-	-	-	-
2"	100	MH61D0243382	3.21	2.75	MH61D0243383	3.21	2.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2"	120	MH61D0243384	3.21	2.75	MH61D0243386	3.21	2.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2"	24	-	-	-	-	-	-	-	-	-	-	-	MH61D0238672	2.70	1.60	MH61D0238638	2.70	1.60	-	-	-	-	-	-	-
2"	36	MH61D0262317	3.24	2.75	MH61D0262318	3.24	2.75	-	-	-	-	-	MH61D0238671	2.60	1.60	MH61D0238637	2.60	1.60	-	-	-	-	-	-	-
2"	50	MH61D0262319	3.15	2.65	MH61D0262320	3.15	2.65	-	-	-	-	-	MH61D0238670	2.39	1.50	MH61D0238635	2.39	1.50	-	-	-	-	-	-	-
2"	60	MH61D0262321	2.95	2.55	MH61D0262322	2.95	2.55	-	-	-	-	-	MH61D0221048	2.29	1.40	MH61D0238634	2.29	1.40	-	-	-	-	-	-	-
2"	80	-	-	-	-	-	-	MH61D0262323	2.95	2.55	MH61D0262324	2.95	2.55	MH61D0221049	2.29	1.40	-	-	-	MH61D0238633	2.29	1.40	-	-	-
3"	100	MH61D0343389	3.97	3.35	MH61D0343390	3.97	3.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3"	120	MH61D0343391	4.04	3.45	MH61D0343392	4.04	3.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3"	120	-	-	-	-	-	-	-	-	-	MH61D0343425	4.04	3.45	-	-	-	-	-	-	-	-	-	-	-	-
3"	24	-	-	-	-	-	-	-	-	-	-	-	MH61D0338675	3.66	2.20	MH61D0338665	3.66	2.20	-	-	-	-	-	-	-
3"	36	MH61D0362327	4.14	3.55	MH61D0362328	4.14	3.55	-	-	-	-	-	MH61D0338674	3.34	2.00	MH61D0338664	3.34	2.00	-	-	-	-	-	-	-
3"	50	MH61D0362329	3.90	3.35	MH61D0362330	3.90	3.35	-	-	-	-	-	MH61D0338673	3.13	1.90	MH61D0338662	3.13	1.90	-	-	-	-	-	-	-
3"	60	-	-	-	-	-	-	MH61D0362331	3.70	3.15	MH61D0362332	3.70	3.15	MH61D0321053	3.03	1.80	MH61D0338661	3.03	1.80	-	-	-	-	-	-
3"	80	-	-	-	-	-	-	MH61D0362333	3.70	3.15	MH61D0362334	3.70	3.15	-	-	-	-	-	MH61D0338660	3.03	1.80	MH61D0321054	3.03	1.80	

493

## Aluminum Oxide Shop Rolls Metalite K224 & K225

- For fast aggressive cut and long life
- Strong, durable backing conforms to various shapes
- Added strength for coarse grit applications
- Tough durable aluminum oxide abrasive
- K224 - 50 & 60 Grit
- K225 - All other grits
- 50 Yard rolls



Length	Grit	Standard Pack	Width - 1"			Width - 1-1/2"			Width - 2"		
			Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
50 yard	P50	5	MH61R0127728	92.15	<b>78.50</b>	MH61R0127730	128.97	<b>109.80</b>	MH61R0227732	164.13	<b>139.70</b>
50 yard	P60	5	MH61R0127729	86.24	<b>73.40</b>	MH61R0127731	120.44	<b>102.50</b>	MH61R0227733	153.27	<b>130.50</b>
50 yard	P80	5	MH61R0126276	73.14	<b>62.30</b>	MH61R0126288	102.29	<b>87.10</b>	MH61R0226299	130.13	<b>110.80</b>
50 yard	P100	5	MH61R0126275	70.60	<b>60.10</b>	MH61R0126287	98.95	<b>84.20</b>	MH61R0226298	125.79	<b>107.10</b>
50 yard	P120	5	MH61R0126274	70.60	<b>60.10</b>	MH61R0126286	98.95	<b>84.20</b>	MH61R0226297	125.79	<b>107.10</b>
50 yard	P150	5	MH61R0126273	70.60	<b>60.10</b>	MH61R0126285	98.95	<b>84.20</b>	MH61R0226296	125.79	<b>107.10</b>
50 yard	P180	5	MH61R0126272	70.60	<b>60.10</b>	MH61R0126284	98.95	<b>84.20</b>	MH61R0226295	125.79	<b>107.10</b>
50 yard	P220	5	MH61R0126271	70.60	<b>60.10</b>	MH61R0126283	98.95	<b>84.20</b>	MH61R0226294	125.79	<b>107.10</b>
50 yard	P240	5	MH61R0126270	70.60	<b>60.10</b>	MH61R0126282	98.95	<b>84.20</b>	MH61R0226293	125.79	<b>107.10</b>
50 yard	P280	5	MH61R0126269	70.60	<b>60.10</b>	MH61R0126281	98.95	<b>84.20</b>	MH61R0226292	125.79	<b>107.10</b>
50 yard	P320	5	MH61R0126268	70.60	<b>60.10</b>	MH61R0126280	98.95	<b>84.20</b>	MH61R0226291	125.79	<b>107.10</b>
50 yard	P400	5	MH61R0126267	70.60	<b>60.10</b>	MH61R0126279	98.95	<b>84.20</b>	MH61R0226290	125.79	<b>107.10</b>

435

## Cup Wire Brushes

- Easily reaches into narrow or recessed areas for quick material removal
- For scale removal, deburring, weld cleaning and flat surfaces
- For general use including cleaning and rust removal

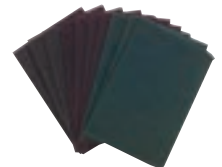


Diameter	Arbor Hole	Bristle Diameter	Style	Maximum RPM	Material	Order No.	Regular Price	SALE
2 3/4"	5/8"-11	0.014"	Knot Wire	12,500	Carbon Steel	SP25CB2345114CK	21.12	<b>12.90</b>
2 3/4"	5/8"-11	0.020"	Knot Wire	12,500	Carbon Steel	SP25CB2345120CK	21.57	<b>13.20</b>
4"	5/8"-11	0.020"	Knot Wire	8,500	Carbon Steel	SP25CB4005120CK	30.95	<b>22.90</b>

686

## 6" x 9" Non-Woven Hand Pads

- Excellent for hand finishing and cleaning of woods, metals and composites
- Ideal for wood finishing, paint prep and general cleaning
- Priced Each / Sold In Standard Pack 20 Only



Color	Abrasive Material	Grade	Feature	Order No.	Regular Price	SALE
Maroon	Aluminum Oxide	Very Fine	General Purpose	SP22HP69MAVFNA	2.12	<b>1.40</b>
Light Gray	Silicon Carbide	Ultra Fine	Cleaning	SP22HP69GYUFNS	2.29	<b>1.42</b>
Green	Aluminum Oxide	Very Fine	Scouring	SP22HP69GNVFNA	1.59	<b>1.20</b>
Tan	Aluminum Oxide	Medium	Heavy Duty	SP22HP69TNMEDA	4.48	<b>2.80</b>

643

## Economy Diamond Wheel Dressers

- For dressing vitrified grinding wheels



Diamond Carat Size	Shank Diameter - 3/8", Shank Length - 3"			Shank Diameter - 7/16", Shank Length - 3"		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
1/4"	MN45ED025A	9.27	<b>6.80</b>	MN45ED025B	9.27	<b>6.80</b>
1/2"	MN45ED050A	15.24	<b>11.00</b>	MN45ED050B	15.24	<b>11.00</b>
1"	MN45ED100A	29.86	<b>22.00</b>	MN45ED100B	29.86	<b>22.00</b>
1-1/2"	MN45ED150A	46.82	<b>34.30</b>	MN45ED150B	46.82	<b>34.30</b>
2"	MN45ED200A	57.82	<b>42.70</b>	MN45ED200B	57.82	<b>42.70</b>

674

## Bench & Pedestal Grinding Wheels - Aluminum Oxide

- Aluminum oxide grain
- Used for general purpose grinding and tool sharpening
- For ferrous metals (carbon steel, steel, iron, forgings, etc)
- Convenient single pack



Diameter	Width	Arbor Hole	Grit	Order No.	Regular Price	SALE
6"	3/4"	1"	36	SP01063041A036O	34.84	<b>26.50</b>
6"	3/4"	1"	60	SP01063041A060M	34.84	<b>27.80</b>
6"	3/4"	1"	80	SP01063041A080M	34.84	<b>26.50</b>
6"	1"	1"	36	SP01064041A036O	40.11	<b>27.30</b>
6"	1"	1"	60	SP01064041A060M	40.11	<b>32.00</b>
6"	1"	1"	80	SP01064041A080M	40.11	<b>25.40</b>
7"	1"	1"	36	SP01074041A036O	47.54	<b>34.30</b>
7"	1"	1"	60	SP01074041A060M	47.54	<b>34.30</b>
8"	1"	1"	36	SP01084041A036O	60.57	<b>42.50</b>
8"	1"	1"	60	SP01084041A060M	60.57	<b>42.50</b>
8"	1"	1"	80	SP01084041A080M	60.57	<b>42.50</b>

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# ABRASIVES

## SURF PRO® Diamond Dresser Only



Order No.	Regular Price	SALE
MN45ED025A	9.27	<b>6.80</b>

400

## SURF PRO® Bench & Pedestal Grinding Wheels

### - Silicon Carbide

- Silicon carbide grain
- Extremely sharp grain for fast, burr-free cutting
- Use on carbide tipped tool, cast and ferrous or non-ferrous metals
- Convenient single pack



Diameter	Width	Arbor Hole	Grit	Order No.	Regular Price	SALE
6"	3/4"	1"	60	SP01063041G060I	43.55	<b>31.90</b>
6"	3/4"	1"	80	SP01063041G080I	43.55	<b>31.90</b>
6"	3/4"	1"	100	SP01063041G100I	43.55	<b>31.90</b>
6"	1"	1"	60	SP01064041G060I	48.05	<b>36.50</b>
6"	1"	1"	80	SP01064041G080I	48.05	<b>36.50</b>
6"	1"	1"	100	SP01064041G100I	48.05	<b>36.50</b>
7"	1"	1"	60	SP01074041G060I	58.54	<b>43.90</b>
7"	1"	1"	80	SP01074041G080I	58.54	<b>41.80</b>
8"	1"	1 1/4"	60	SP01084041G060I	72.11	<b>48.40</b>
8"	1"	1 1/4"	80	SP01084041G080I	72.11	<b>48.40</b>
8"	1"	1 1/4"	100	SP01084041G100I	72.11	<b>48.40</b>

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## SURF PRO® Bench & Pedestal Grinding Wheels

### - Silicon Carbide

- Silicon carbide grain
- Extremely sharp grain for fast, burr-free cutting
- Use on carbide tipped tool, cast and ferrous or non-ferrous metals
- Convenient single pack



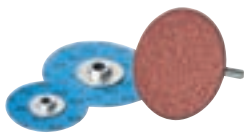
Diameter	Arbor Hole	Thickness	Grit	Order No.	Regular Price	SALE
6"	1"	3/4"	60	SP01063041G060I	43.55	<b>31.90</b>
6"	1"	3/4"	80	SP01063041G080I	43.55	<b>31.90</b>
6"	1"	3/4"	100	SP01063041G100I	43.55	<b>31.90</b>
6"	1"	1"	60	SP01064041G060I	48.05	<b>36.50</b>
6"	1"	1"	80	SP01064041G080I	48.05	<b>36.50</b>
6"	1"	1"	100	SP01064041G100I	48.05	<b>36.50</b>

Also available in 7" & 8" diameter.

25152

## SURF PRO® Ceramic Grain Quick Change

### Abrasive Discs



Diameter - 1 1/2"						
Roll-On			Turn-On			
Grit	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
24	SP11QCR15024C	1.02	<b>0.80</b>	SP11QCT15024C	1.02	<b>0.80</b>
36	SP11QCR15036C	0.91	<b>0.70</b>	SP11QCT15036C	0.98	<b>0.80</b>
40	SP11QCR15040C	0.88	<b>0.70</b>	SP11QCT15040C	0.88	<b>0.70</b>
50	SP11QCR15050C	0.84	<b>0.70</b>	SP11QCT15050C	0.84	<b>0.70</b>
60	SP11QCR15060C	0.78	<b>0.60</b>	SP11QCT15060C	0.78	<b>0.60</b>
80	SP11QCR15080C	0.74	<b>0.60</b>	SP11QCT15080C	0.74	<b>0.60</b>
100	SP11QCR15100C	0.74	<b>0.60</b>	SP11QCT15100C	0.74	<b>0.60</b>
120	SP11QCR15120C	0.74	<b>0.60</b>	SP11QCT15120C	0.74	<b>0.60</b>

Diameter - 2"						
Roll-On			Turn-On			
Grit	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
24	SP11QCR20024C	1.77	<b>1.10</b>	SP11QCT20024C	1.80	<b>1.13</b>
36	SP11QCR20036C	1.66	<b>1.10</b>	SP11QCT20036C	1.54	<b>1.00</b>
40	SP11QCR20040C	1.47	<b>1.20</b>	SP11QCT20040C	1.47	<b>1.00</b>
50	SP11QCR20050C	1.45	<b>1.00</b>	SP11QCT20050C	1.45	<b>1.00</b>
60	SP11QCR20060C	1.27	<b>0.90</b>	SP11QCT20060C	1.30	<b>0.90</b>
80	SP11QCR20080C	1.21	<b>0.80</b>	SP11QCT20080C	1.21	<b>0.80</b>
100	SP11QCR20100C	1.21	<b>0.80</b>	SP11QCT20100C	1.21	<b>0.80</b>
120	SP11QCR20120C	1.21	<b>0.80</b>	SP11QCT20120C	1.21	<b>0.80</b>

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## SURF PRO® Bench & Pedestal Grinding Wheels

### - Aluminum Oxide

- Aluminum oxide grain
- Used for general purpose grinding and tool sharpening
- For ferrous metals (carbon steel, steel, iron, forgings, etc)
- Convenient single pack



Diameter	Width	Arbor Hole	Grit	Order No.	Regular Price	SALE
6"	3/4"	1"	36	SP01063041A036O	34.84	<b>26.50</b>
6"	3/4"	1"	60	SP01063041A060M	34.84	<b>27.80</b>
6"	3/4"	1"	80	SP01063041A080M	34.84	<b>26.50</b>
6"	1"	1"	36	SP01064041A036O	40.11	<b>27.30</b>
6"	1"	1"	60	SP01064041A060M	40.11	<b>32.00</b>
6"	1"	1"	80	SP01064041A080M	40.11	<b>25.40</b>

Also available in 7" & 8" diameter.

25150

## SURF PRO® Air Cooled Quick Change

### Pads

- Serated pad air cools disc for reduced loading and longer disc life
- Multiple mounting option available



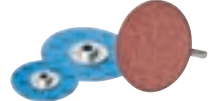
Diameter	Disc Mount	Style	Maximum RPM	Order No.	Regular Price	SALE
1 1/2"	TR	Air Cooled Quick Change	30,000	SP24QCH15TR14SC	16.16	<b>9.00</b>
1 1/2"	TS	Air Cooled Quick Change	30,000	SP24QCH15TS14SC	16.16	<b>9.00</b>
2"	TR	Air Cooled Quick Change	30,000	SP24QCH20TR14SC	16.86	<b>9.40</b>
2"	TS	Air Cooled Quick Change	30,000	SP24QCH20TS14SC	16.86	<b>9.40</b>
3"	TR	Air Cooled Quick Change	20,000	SP24QCH30TR14SC	18.92	<b>10.50</b>
4"	TR	Air Cooled Quick Change	15,000	SP24QCH40TR14SC	30.46	<b>16.80</b>
4"	TS	Air Cooled Quick Change	15,000	SP24QCH40TS14SC	30.46	<b>16.80</b>
3"	TS	Air Cooled Quick Change	20,000	SP24QCH30TS14SC	18.92	<b>10.50</b>

22031

## SURF PRO® Zirc Plus Grain Quick Change

### Abrasive Discs

- Best performance when medium to heavy pressure applied
- Cool running for extended stock removal and surface blending
- Significantly longer life, faster cutting action, increased productivity
- Outlasts aluminum oxide and zirconia in many applications
- Cool, rapid stock removal on heat-sensitive materials such as stainless steel and high nickel alloys
- Edge deburring and blending, heavy flash and parting line removal on castings, removal of heavy machine tool marks



Diameter - 1 1/2"						
Roll-On			Turn-On			
Grit	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
24	SP11QCR15024ZP	0.78	<b>0.70</b>	SP11QCT15024ZP	0.78	<b>0.70</b>
36	SP11QCR15036ZP	0.78	<b>0.70</b>	SP11QCT15036ZP	0.78	<b>0.70</b>
40	SP11QCR15040ZP	0.71	<b>0.60</b>	SP11QCT15040ZP	0.71	<b>0.60</b>
50	SP11QCR15050ZP	0.71	<b>0.60</b>	SP11QCT15050ZP	0.71	<b>0.60</b>
60	SP11QCR15060ZP	0.71	<b>0.60</b>	SP11QCT15060ZP	0.71	<b>0.60</b>
80	SP11QCR15080ZP	0.71	<b>0.60</b>	SP11QCT15080ZP	0.71	<b>0.60</b>

Diameter - 2"						
Roll-On			Turn-On			
Grit	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
24	SP11QCR20024ZP	1.30	<b>0.90</b>	SP11QCT20024ZP	1.30	<b>0.90</b>
36	SP11QCR20036ZP	1.30	<b>0.90</b>	SP11QCT20036ZP	1.30	<b>0.90</b>
40	SP11QCR20040ZP	1.13	<b>0.70</b>	-	-	-
50	SP11QCR20050ZP	1.13	<b>0.80</b>	SP11QCT20050ZP	1.13	<b>0.80</b>
60	SP11QCR20060ZP	1.13	<b>0.80</b>	SP11QCT20060ZP	1.13	<b>0.80</b>
80	SP11QCR20080ZP	1.13	<b>0.80</b>	SP11QCT20080ZP	1.13	<b>0.80</b>

Diameter - 3"						
Roll-On			Turn-On			
Grit	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
24	SP11QCR30024ZP	1.86	<b>1.20</b>	SP11QCT30024ZP	1.86	<b>1.20</b>
36	SP11QCR30036ZP	1.86	<b>1.60</b>	SP11QCT30036ZP	1.86	<b>1.20</b>
40	SP11QCR30040ZP	1.77	<b>1.20</b>	SP11QCT30040ZP	1.77	<b>1.20</b>
50	SP11QCR30050ZP	1.66	<b>1.10</b>	SP11QCT30050ZP	1.66	<b>1.10</b>
60	SP11QCR30060ZP	1.66	<b>1.10</b>	SP11QCT30060ZP	1.66	<b>1.10</b>
80	SP11QCR30080ZP	1.66	<b>1.10</b>	SP11QCT30080ZP	1.66	<b>1.10</b>

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**PRM PRO** Chicago Pneumatic **FLORIDA PNEUMATIC**  
**Air Powered High Speed Sanders 5"**



BrandName	Features	Sander Type	Maximum RPM	Air Inlet Size	Spindle Thread	Average Air Consumption	Order No.	Regular Price	SALE
Chicago Pneumatic	Rugged 1/2 HP motor with low vibration, variable speed throttle, built-in regulator	Angle	16,000	1/4" NPT	7/16"-20	12,00 CFM	PF50CP9778	223.49	<b>156.40</b>
Florida Pneumatic	Ideal for feathering, touch-up and production sanding, 4-vane motor for low vibration, spring mounted trigger, features an impact resistant handle	Angle	20,000	1/4" NPT	7/16"-20	4 CFM	PF52FP2000	120.41	<b>90.35</b>
PRM Pro	Perfect for feathering, touch-up and production sanding, built-in air regulator, complete with sanding pad sizes 3", 4-1/2" and 5-1/2" contoured trigger throttle for positive sanding control	Angle	18,000	1/4" NPT	7/16"-20	17,00 CFM	PJ707600	69.41	<b>52.60</b>

1946

**GUARDAIR CORPORATION** **Long Series Air Guns**

- 1/4" NPT inlet
- Maximum operating pressure 120 PSI
- Ideal for reaching inaccessible or difficult to reach locations
- Meets OSHA standards
- Purolator dimensional weight shipping rates apply
- **Blo-Hard Safety Air Gun - Model 900LJ** compact, thumb lever operated air gun fits comfortably in the palm of the hand
- **Long John® Safety Air Gun - Model 75LJ** venturi tip increases thrust & limits static pressure to less than 30 psi when tip is blocked
- **Whisper Jet® Air Gun - Model 80LJ** operates 6-20 dB quieter than conventional air guns



Extension Size	Long John®			Whisper Jet®			Blo-Hard Air Blow Gun		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
6"	LW5575LJ6	49.55	<b>37.20</b>	LW5580LJ6	53.29	<b>40.00</b>	LW55900LJ6	43.24	<b>32.40</b>
12"	LW5575LJ12	51.95	<b>39.00</b>	LW5580LJ12	55.69	<b>41.80</b>	LW55900LJ12	45.16	<b>33.90</b>
18"	LW5575LJ18	54.34	<b>40.80</b>	LW5580LJ18	58.10	<b>43.60</b>	LW55900LJ18	47.09	<b>35.30</b>
24"	LW5575LJ24	56.75	<b>42.60</b>	LW5580LJ24	60.49	<b>45.40</b>	LW55900LJ24	49.01	<b>36.80</b>
36"	LW5575LJ36	61.55	<b>46.15</b>	LW5580LJ36	65.32	<b>48.95</b>	LW55900LJ36	52.86	<b>39.60</b>

2218

**PRM PRO** Chicago Pneumatic **Precision Air Grinders with 1/8" Collet**

- Designed for high speed hand grinding, deburring, drilling, polishing, burring and sanding
- An in-line filter and oiler should be used to provide adequate lubrication to the air motor
- Air Pressure must be kept below 85 lb/in - High air pressure increases speed which causes damage to the wheels and grinder



BrandName	Maximum RPM	Order No.	Regular Price	SALE
Chicago Pneumatic	60,000	PF50CP9104QB	266.41	<b>199.90</b>
PRM Pro	54,000	PJ65TG11A	149.95	<b>93.70</b>

2316

**PRM PRO** **Pneumatic Cut Off Tool & Right Angle Grinder Kit**

**Kit Includes:**

- 1/4" Right angle die grinder
- 3" Cut-off tool
- 3 - Abrasive cut-off wheels
- 5 - Mounted points with 1/8" shank
- 5 - Mounted points with 1/4" shank
- 3 - Spanner wrenches
- 1 - Blow molded case
- 1 - Air fitting



Order No.	Regular Price	SALE
PJ752060	153.93	<b>116.70</b>

1960

**PRM PRO** **Air Filter / Regulator / Lubricator Trio**

- All-in-one air management system
- Air regulator controls air pressure and provides smooth, consistent tool performance
- Filter device removes harmful solid and liquid particles from air flow
- Brass drain valves for filter and lubricator
- Micro-fog lubricator supplies lubricating oil mist to working air tools in proper proportion to air consumption
- The combined unit effectively extends the life of air tools and reduces maintenance and repair costs
- Air inlet: 3/8" NPT
- Air outlet: 3/8" NPT



Order No.	Regular Price	SALE
KP8321001	68.33	<b>53.40</b>

2312

**COILHOSE PNEUMATICS** **Typhoon™ 1/4" NPT Blow Gun With High Flow Tip**

- Maximum flow for easy clean-up and blow-off of even the heaviest shavings and chips
- Lightweight and ergonomic
- 1/4" NPT up to 34 CFM at 125 PSI and 2.1 lbs of thrust
- OSHA compliant



Inlet Size	Tip Type	Order No.	Regular Price	SALE
1/2"	High Flow	LT51TYP2500CS	42.89	<b>29.30</b>
1/4" NPT	High Flow	LT51TYP2501CS	68.22	<b>46.60</b>
3/8" NPT	High Flow Multi-Jet	LT51TYP3800MJ	86.11	<b>54.90</b>

1987

**DYNABRADE** **Electric Dynaflex® II Abrasive Belt Machine**

**Model 40610**

- 11203 Contact Arm for 1/2" W x 18" L abrasive belts
- Accepts interchangeable contact arm for use with abrasive belts 1/4" to 3/4" W x 18" L

**Specifications:**

- Weight 5.5 lbs, 87 dBA
- 5 Amps @ 12,000 RPM
- Maximum SFPM 2,760
- 120 Volts



**SEE BELTS ON PAGE 17**

Belt Width	Belt Length	Maximum RPM	Order No.	Regular Price	SALE
1/2"	18"	12,000	PF3040501	821.22	<b>739.10</b>
1/2"	18"	12,000	PF3040500	603.15	<b>542.80</b>

2122

# HAND TOOLS

## Hacksaw Frames

### Ergonomic Hand Hacksaw:

- Designed according to Bahco 11-point scientific ergonomic program
- Two rubber coated hand grips for comfort and control
- A tensioning lever designed for fast and safe blade changes
- Highest blade tensioning results in a straight cut
- Supplied with Bahco 12 inch bi-metal blade for safety and efficiency



### Heavy Duty Frame with Blade Storage:

- Allows very high blade tension for accurate and fast cuts
- Strong rectangular back section for blade storage with easy-to-handle retaining screws
- Can also be used as a compass saw
- Alternative 55° blade mounting for flush cutting
- Supplied with reliable and shatterproof 12 inch bi-metal blade, 24 TPI

Blade Length	Teeth per Inch	Includes	Order No.	Regular Price	SALE
12"	24	Reliable and shatterproof 12" bi-metal blade, 24 TPI	FX84325	108.35	71.90
12"	24	Reliable and shatterproof 12" bi-metal blade, 24 TPI	KL30225PLUS	77.53	47.60

7472

## 10 Pc. Extractor Set

- Will remove broken screws, bolts, studs and pipes
- Will handle a range from 1/4" to 1-1/2"
- A space for the proper drill size has been molded in the case for your convenience



For Removing	Drive Size	Order No.	Regular Price	SALE
1/4" - 5/16", 3/8", 7/16", 1/2" - 9/16", 5/8", 3/4", 7/8", 1" - 1-1/8", 1-1/4" - 1-3/8" 1-1/2"	1/8", 3/16", 7/32", 5/16", 3/8", 15/32", 9/16", 21/32", 13/16", 1 1/16"	KP30EXS10	246.21	124.60

7518

## Adjustable Hook Spanner Wrenches

- Ideal for adjusting collars, lock nut rings, and bearings
- Specifically engineered to hold up under the most rigorous industrial use
- Industrial black finish, SAE



Minimum Capacity	Maximum Capacity	Overall Length	Thickness	Depth	Proto		
					Order No.	Regular Price	SALE
3/4"	2"	6 3/8"	11/32"	1/8"	KP4216385	54.58	46.35
1 1/4"	3"	8 1/8"	13/32"	5/32"	KP4216390	62.14	52.85
2"	4 3/4"	11 3/8"	15/32"	3/16"	-	-	-
4 1/2"	6 1/4"	12 1/8"	15/32"	1/4"	-	-	-
4 1/2"	6 1/4"	12 1/8"	15/32"	1/4"	-	-	-
6 1/8"	8 3/4"	13 3/4"	15/32"	5/16"	KP4216965	111.77	95.05

6489

## Lisle wiha **TEKTON** Torx® &

### Star Driver Bit Sets

- 1/4", 3/8", 1/2" Drive
- Standard & tamper proof
- Drop forged steel
- Precision machined bits
- Black oxide bits, chrome plated sockets



Number of Pieces	Drive Size	Drive Type	Set Includes	Case	Brand-Name	COO	Order No.	Regular Price	SALE
9	1/4", 3/8"	Torx	T10, T15, T20, T25, T27, T30, T40, T45, T50 Torx Bits	Neoprene Sleeve	Lisle	USA	KN6526550	53.67	40.25
5	1/4", 3/8", 1/2"	Torx	T40, T45, T50, T55, T60-1/2" Drive - Socket Drive Torx Bit Set	Clips & Rail	Williams	TAIWAN	KP3032908	99.68	50.40
6	1/4", 3/8", 1/2"	Torx	T10, T15, T20, T25, T27, T30-1/4" Drive - Socket Drive Torx Bit Set	Clips & Rail	Williams	TAIWAN	KP3030908	75.93	56.95
7	1/4", 3/8", 1/2"	Torx	T25, T27, T30, T40, T45, T47, T50 Torx Bits	Clips & Rail	Williams	TAIWAN	KP3031912	98.79	50.00
8	3/8"	Torx	T9, T10, T15, T20, T25, T27, T30, T40, 1/4" Replaceable Hex Bit, Molded Rail	Rail	Wiha	Germany	KN5476395	73.98	62.85

7615

## Aluminum Pipe Wrenches

- High quality; lightweight cast aluminum body
- Jaws are made of hardened alloy steel
- Heavy-duty adjustable ring



Overall Length	Jaw Capacity	Order No.	Regular Price	SALE
8"	1 5/16"	KP3013500	34.90	<b>17.60</b>
8"	1 5/16"	KP3013500	34.90	<b>17.60</b>
10"	1 5/8"	KP3013502	48.98	<b>24.80</b>
12"	2 1/8"	KP3013504	64.21	<b>32.50</b>
12"	2 1/8"	KP3013504	64.21	<b>32.50</b>
14"	2 9/16"	KP3013506	67.72	<b>34.30</b>
14"	2 9/16"	KP3013506	67.72	<b>34.30</b>
18"	3 1/8"	KP3013508	94.66	<b>47.90</b>
18"	3 1/8"	KP3013508	94.66	<b>47.90</b>
24"	3 3/4"	KP3013510	154.75	<b>116.05</b>
24"	3 3/4"	KP3013510	154.75	<b>116.05</b>

7566

## 3 Pc. Aluminum Pipe Wrench Set

- High quality; lightweight cast aluminum body
- Jaws are made of hardened alloy steel
- Heavy-duty adjustable ring



Sizes Included	Order No.	Regular Price	SALE
8", 12", 18"	KP3013542	203.43	<b>103.00</b>

7565

## TEKTON Heavy Duty C-Clamps

- Strong malleable steel frames
- T-handle with swivel pad
- Meets US Federal Specifications GGG C-404
- Zinc plated screw spindle
- Lifetime warranty



TEKTON						
Maximum Opening	Throat Depth	Spindle Diameter	Clamping Force	Order No.	Regular Price	SALE
4"	2 1/4"	1/2"	1,762 lbs	KP854017	23.93	<b>20.35</b>
6"	2 3/4"	5/8"	2,312 lbs	KP854027	37.22	<b>31.65</b>
8"	3 3/8"	5/8"	2,312 lbs	-	-	-

1832

## Eklind Metric Ball Driver Sets

- Sets come in plastic holder that firmly retains the keys in size marked holes
- Balldriver provides a 25° angle entry
- Heat treated steel-metric
- Wiha brand has Magic Ring has spring hardened steel ring in key that holds the screw on the tool for an exact fit and is hard chrome plated, all other brands are black oxide treated
- Available in long & short arm



Eklind		
Order No.	Regular Price	SALE
KM5010509	18.84	<b>16.05</b>
KM5010607	14.60	<b>12.45</b>
KM5010609	23.63	<b>20.05</b>
KM5013607	20.56	<b>17.45</b>
KM5013609	31.03	<b>11.10</b>

6523

## Eklind Cushion Grip T-Handle Hex Key Sets w/Stand



Number of Pieces	Arm Length	Sizes Included	Order No.	Regular Price	SALE
10	6"	3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	KM5050160	101.57	<b>59.80</b>
10	9"	3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	KM5050190	110.82	<b>65.30</b>
8	6"	2 mm, 2.5 mm, 3 mm, 4 mm, 5 mm, 6 mm, 8 mm, 10 mm	KM5056168	93.68	<b>55.20</b>
8	9"	2 mm, 2.5 mm, 3 mm, 4 mm, 5 mm, 6 mm, 8 mm, 10 mm	KM5056198	100.93	<b>59.50</b>

6599

**IRWIN VISE-GRIP C-Clamps**

**with Self-leveling Swivel Pads**

- Wide-opening jaws provided a variety of shapes
- Turn screw to adjust pressure and fit work
- High grade heat-treated alloy steel
- Classic trigger release designed to provide maximum locking force



Overall Length	Jaw Capacity	Throat Height	Throat Depth	Order No.	Regular Price	SALE
6"	2 1/8"	2"	1 1/4"	KX506SP	37.02	<b>19.50</b>
11"	3 3/4"	3 3/4"	2 1/2"	KX5011SP	59.72	<b>31.50</b>

6781

**IRWIN VISE-GRIP 2 Pc. Locking Plier Set**

**Includes:**

- 5" Curved jaw plier (5WR)
- 10" Curved jaw plier (10WR)



Order No.	Regular Price	SALE
KX50215G	66.59	<b>35.00</b>

6758

**IRWIN QUICKGRIP Bar Clamps**

- Handle and jaws engineered for strength and lightweight
- High carbon, heat treated steel bar
- Soft, pliable pads protect fine finishes
- Quick release trigger
- KX5000546 is a Mini Bar Clamp



Maximum Opening	Throat Depth	Reach	Order No.	Regular Price	SALE
6"	3 1/4"	7 1/2"-20 5/8"	KX5000546	25.89	<b>18.80</b>
6"	3 1/4"	7 1/2"-14 5/8"	KX50506QC	44.89	<b>32.50</b>
12"	3 1/4"	7 1/2"-26 5/8"	KX50512QC	52.13	<b>37.70</b>
18"	3 1/4"	7 1/2"-32 5/8"	KX50518QC	58.36	<b>42.30</b>
24"	3 1/4"	7 1/2"-44 5/8"	KX50524QC	63.99	<b>46.30</b>
36"	3 1/4"	7 1/2"-58 5/8"	KX50536QC	75.86	<b>54.90</b>

1230

**IRWIN VISE-GRIP 4 Pc. Locking Plier Set**

**Includes:**

- 5" Curved jaw plier (5WR)
- 6" Long nose plier (6LN)
- 7" Straight jaw plier (7R)
- 10" Curved jaw plier (10CR)
- Storage pouch



Order No.	Regular Price	SALE
KX50428GS	142.19	<b>74.80</b>

6764

**IRWIN VISE-GRIP Long Nose Locking Pliers**

**with Wire Cutter**



Overall Length	Jaw Capacity	Jaw Thickness	Jaw Length	Order No.	Regular Price	SALE
4"	1 5/8"	1/8"	1 1/2"	KX504LN	27.77	<b>23.60</b>
6"	2 1/4"	5/16"	1 3/4"	KX506LN	36.92	<b>31.40</b>
9"	2 7/8"	3/16"	2 1/2"	KX509LN	44.20	<b>37.60</b>

6798

**IRWIN VISE-GRIP 2 Pc. Locking Plier Set**

**Why Soft Grips? Grips right, locks tight.**

Comfortable yet rugged, cushioned handles make it easier to apply additional pressure and withstands rigorous use

**Includes:**

- 10" Curved jaw plier with wire cutter
- 6" Long-nose jaw plier with wire cutter



Order No.	Regular Price	SALE
KX5077T	79.98	<b>42.50</b>

6761



## Knife Files

For use on slots, keyways and acute angles. Knife Files are double cut on the "knife edge" with a safe (uncut) back and taper toward the point in width and thickness

- **Bastard file**, a coarse file designed for fast removal of stock material
- **2nd cut file**, a medium file designed for moderate stock removal
- **Smooth file**, a fine file designed for making an almost smooth surface



2-nd Cut			
Nicholson			
Overall Length	Order No.	Regular Price	SALE
4"	-	-	-
6"	FR5006836	47.79	40.65
8"	FR5006930	55.67	47.35

Bastard			
Nicholson			
Overall Length	Order No.	Regular Price	SALE
4"	FR5006711	37.75	25.70
6"	FR5006804	43.16	29.40
8"	FR5006898	51.40	35.00
10"	FR5006992	60.72	41.40

Smooth			
Nicholson			
Overall Length	Order No.	Regular Price	SALE
4"	FR5006773	39.60	27.00
6"	FR5006867	53.18	36.20
8"	FR5006961	57.87	39.40
10"	FR5007054	69.25	47.20

7434

## D Blades



Blade Type	Application	Order No.	Regular Price	SALE
D50-TiN	Tool and Die Makers	FN55BD5012	14.94	9.50
D50	Tool and Die Makers	FN55D50	10.43	6.60
D55	Tool and Die Makers	FN55D55	22.82	14.40
D66	Cross-Hole Deburring	FN55D66	8.54	5.40
D75	Scraper Blade	FN55D75	11.24	7.10
D77	Scraper Blade	FN55D77	10.43	6.60

10073

## Micro Deburring Set

### Model FT3000

- Contains 3 micro tools, (1) micro deburring tool FT1000, (1) micro scraper FT1100 and (1) micro rotodrive countersink FT1200
- Ideal for tool and die maker
- For extra fine jobs
- Blades are not replaceable



Order No.	Regular Price	SALE
FN55FT3000	48.24	29.70

10093

## Rotodrive Blades



Blade Type	Application	Order No.	Regular Price	SALE
RD03.2	3.2 mm RotoDrive for Chamfering	FN55BC3201	9.94	6.30
RD06.3	6.3 mm RotoDrive for Chamfering	FN55BC6301	22.70	14.40
RD08.3	8.3 mm RotoDrive for Chamfering	FN55BC8301	23.18	14.70
RD10.4	10.4 mm RotoDrive for Chamfering	FN55BC1041	26.06	16.50
RD16.5	16.5 mm RotoDrive for Chamfering	FN55BC1651	28.37	17.90

10111

## Reversible Countersinks

- RC1000 - very fine tool for deburring both back side and front side of holes. Unique 2 pairs of cutting edges. Cuts in both clockwise and anti clockwise directions.
- RC2000 - similar to RC1000 only larger
- RC2200 - similar to RC2000 only larger



Range	Included	Type	Order No.	Regular Price	SALE
3-5.5 mm	Steel Handle / R1 Blade	Mini-Reversible Set	FN55RC1000	39.72	27.60
5-10 mm	Steel Handle / R2 Blade	Medium-Reversible Set	FN55RC2000	39.72	27.60
10-22 mm	Steel Handle / R3 Blade	Large-Reversible Set	FN55RC2200	47.32	32.90
3.5 - 22 mm	Set of all 3	Mini, Medium, Large	FN55RC3300	126.78	88.10

24089

# HAND TOOLS

## PRM PRO Brass Hammers

- Non-marring, soft brass
- Non-sparking
- Available in wood hickory or fiberglass handle
- Lifetime warranty against manufacturing defect



			Fiberglass			Wood		
Head Weight	Head Diameter	Overall Length	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
1 lbs	1"	12"	-	-	-	KY402001	53.29	<b>37.90</b>
1 1/2 lbs	1 1/4"	14"	-	-	-	KY402015	72.12	<b>51.30</b>
2 lbs	1 1/2"	14"	KY401002	98.37	<b>69.90</b>	KY402002	74.21	<b>52.70</b>
3 lbs	1 5/8"	14"	KY401003	120.87	<b>85.90</b>	KY402003	90.05	<b>64.00</b>
4 lbs	1 3/4"	14"	KY401004	147.71	<b>105.00</b>	KY402004	113.78	<b>80.90</b>
5 lbs	1 7/8"	14"	KY401005	164.24	<b>116.70</b>	KY402005	131.05	<b>93.20</b>
8 lbs	2 3/8"	36"	KY401008	253.37	<b>180.10</b>	KY402008	230.12	<b>163.60</b>
10 lbs	2 1/2"	36"	KY401010	303.94	<b>216.00</b>	-	-	-
12 lbs	2 1/2"	36"	-	-	-	KY402010	269.62	<b>191.60</b>

6941

## PRM PRO Flat Hand Files - Professional Grade

- Excellent for a "Hogging" or rapid stock removal
- Flat files are double cut on both sides
- Single cut on the edges and taper towards the top
- Three cuts: Bastard for coarse filing, 2<sup>nd</sup> cut for moderate stock removal and Smooth for finishing
- 100% warranty against manufactures defect



Overall Length	2nd Cut			Bastard			Smooth		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
4"	-	-	-	PR0410404	6.62	<b>3.10</b>	PR0410504	10.14	<b>4.80</b>
6"	PR0410306	7.93	<b>3.80</b>	PR0410406	7.60	<b>3.60</b>	PR0410506	9.18	<b>4.30</b>
8"	PR0410308	9.94	<b>4.70</b>	PR0410408	9.53	<b>4.50</b>	PR0410508	11.94	<b>5.70</b>
10"	PR0410310	13.32	<b>6.30</b>	PR0410410	12.62	<b>6.00</b>	PR0410510	15.88	<b>7.50</b>
12"	PR0410312	21.25	<b>10.10</b>	PR0410412	16.43	<b>7.80</b>	PR0410512	20.70	<b>9.80</b>
14"	PR0410314	22.91	<b>10.90</b>	PR0410414	26.71	<b>12.70</b>	PR0410514	32.09	<b>15.20</b>
16"	-	-	-	PR0410416	40.03	<b>19.00</b>	-	-	-

28645

## PRM PRO Deadblow Hammers

- Non-marring, non-sparking
- Hot cast polyurethane construction
- Outlasts rawhide, rubber, lead and other plastic type heads by 10-20 times
- Shot filled canister provides dead blow action for sustained impact, maximum power and striking force



Head Weight	Head Diameter	Handle Length	Order No.	Regular Price	SALE
13 oz	1 1/4"	10"	KY4050013	48.03	<b>34.10</b>
21 oz	1 3/4"	11"	KY4050021	51.05	<b>36.30</b>
26 oz	2"	13"	KY4050026	56.19	<b>39.90</b>
45 oz	2 1/4"	14 1/2"	KY4050045	73.02	<b>51.90</b>
53 oz	2 3/4"	15"	KY4050053	102.11	<b>72.60</b>
5.5 lbs	2 3/4"	20"	KY4050088	139.65	<b>99.30</b>
9 lbs	2 3/4"	30"	KY4050144	194.07	<b>138.00</b>
10.5 lbs	3 1/4"	30"	KY4050168	265.87	<b>189.00</b>
12 lbs	3 1/4"	36"	KY4050192	301.78	<b>214.50</b>

6944

## PRM PRO 5 Pc. Universal Utility File Set with Ergo Handles

- Set contains a well-rounded collection of general-purpose files
- Includes: 8" & 10" Mill Bastard, 10" Half-Rnd Bastard, 8" Mill Smooth, 6" Slim 2<sup>nd</sup> Cut
- Ergonomic Handles for comfort and safety
- Sturdy pouch that protects and organize file placement
- PRM Pro files are made for industrial use



Order No.	Regular Price	SALE
PR0450005	109.04	<b>77.50</b>

28815

## PRM PRO 9 Pc. Maintenance File Set with Ergo Handles

- Set contains a complete file collection for the professional maintenance person
- Includes: 10" & 12" Mill Bastard, 8" & 10" Flat Bastard, 8" & 10" Half-Rnd Bastard, 10" Round Bastard, 6" Slim 2<sup>nd</sup>cut, & 6" xx Slim
- Sturdy pouch that protects and organize file placement
- PRM Pro files are made for industrial use



Order No.	Regular Price	SALE
PR0450009	199.03	<b>94.30</b>

28816

**SHAVIV** Replacement Blades - Style E



Noga Equivalent	Blade Type	Application	Order No.	Regular Price	SALE
S10	E100	The basic blade used for steel & Aluminum	FN50E100	3.73	<b>2.30</b>
S10TiN	E100P	Same as E100 blade with TiN coating for extended life when deburring exotic & abrasive materials	FN50E100P	5.68	<b>3.50</b>
None	E100C	Solid carbide blade similar to E100, for extra hard applications	FN50E100C	12.58	<b>7.80</b>
S101	E110	Heavy duty blade for steel & Aluminum with special design for versatility	FN50E110	3.79	<b>2.30</b>
None	E111	Can deburr a minimum hole Diameter of 1.5 mm	FN50E111	3.79	<b>2.30</b>
S20	E200	-	FN50E200	3.73	<b>2.30</b>
None	E200P	Same as E200 blade with TiN coating for extended life when deburring exotic & abrasive materials	FN50E200P	5.68	<b>3.50</b>
None	E200C	Solid carbide blade similar to E200, for extra hard applications	FN50E200C	12.58	<b>7.80</b>
S30	E300	Removes external & internal burrs simultaneously from holes drilled into tubing and sheet metal	FN50E300	4.84	<b>3.00</b>
None	E320	Same as E300 except for Brass & Cast Iron	FN50E320	4.84	<b>3.00</b>
S35	E350	Especially handy for straigh edges, keyways, etc.	FN50E350	3.73	<b>2.30</b>
S60	E600	Heavy duty HSS internal blade. Facilitates deburring in the most inaccessible locations	FN50E600	5.57	<b>3.40</b>
None	E700	Ideal for removing burrs from Plastic workpieces	FN50E700	4.92	<b>3.00</b>

10597

**PHOTO** Inspection Mirrors

- Versatile all-angle ball joint
- Features telescoping handle (J2372 and J2373)
- With pocket clip (J2373)



Mirror Diameter	Shape	Overall Length	Model No	Order No.	Regular Price	SALE
7/8"	Circular	7 1/2"	J2370	KP4270305	11.67	<b>8.80</b>
2 1/4"	Circular	10"-14"	J2372	KP4270315	17.58	<b>13.00</b>
1 1/4"	Circular	8"	J2374	KP4270325	12.09	<b>9.20</b>
1 x 2	Oval	8 3/4"	J2371	KP4270310	12.01	<b>8.80</b>
2-1/8 x 3-1/2	Rectan- gular	11 1/4"-15 1/2"	J2373	KP4270320	17.58	<b>13.00</b>

4891

**PHOTO** Pin Punches

- Two-piece design allows the tip to be hard for durability, while allowing it to be produced straight to help prevent binding
- Reverse taper to help prevent binding
- Made from S2 steel and heat-treated
- Modified parabolic striking end to help reduce mushrooming and chipping
- Black oxide finish
- A polished identification on flats marked with the tool number



Pin Punch							
Tip Di- ameter	Blade Length	Overall Length	Body Di- ameter	Model No	Order No.	Regular Price	SALE
1/16"	3/4"	4"	1/4"	J471/4X1/16	KP4260300	9.30	<b>7.00</b>
3/32"	1 5/16"	4 3/4"	1/4"	J471/4X3/32	KP4260305	9.69	<b>7.30</b>
1/8"	1 3/16"	6"	5/16"	J475/16X1/8	KP4260315	9.92	<b>7.50</b>
5/32"	1 7/16"	5 1/2"	5/16"	J475/16X5/32	KP4260320	11.51	<b>8.70</b>
3/16"	1 5/8"	6"	3/8"	J473/8X3/16	KP4260310	9.97	<b>7.60</b>
7/32"	1 7/8"	6"	3/8"	J477/16X7/32	KP4260325	14.41	<b>10.90</b>
1/4"	2 1/8"	6 3/4"	3/8"	J471/2X1/4	KP4260295	14.43	<b>10.90</b>

7318

**SHAVIV** Throwing Deburring Tools

- A handy tool to clip to your pocket and carry around with you
- Available with the standard B10 blade for lighter jobs or with the heavy duty E100 blades for tougher jobs



Application	Included	Order No.	Regular Price	SALE
Heavy Duty Deburring	Hexagonal Handle / E100 Blade	FN50VB1	6.66	<b>4.40</b>
Light Duty Deburring	Hexagonal Handle / B10 Blade	FN50VB2	6.32	<b>4.20</b>

10606

**SHAVIV** Set E - Deburring Sets

Heavy DeBurr

- Rugged deburring set for heavy-duty deburring of holes, slots and edges
- Supports all E blades
- Deburrs steel, aluminum copper, brass, cast iron and plastics



Included	Order No.	Regular Price	SALE
Mango II Handle / E100, E200, E300	FN50EMAN2	22.67	<b>15.00</b>
Plastic Handle / E100, E200, E300 Blades	FN50E	22.67	<b>15.00</b>

22420

**STANLEY** Fatmax® Retractable Twin Blade Knife

- 2 knives in 1 - new twin blade design allows the user to alternate between 2 blades without carrying more than 1 knife
- InstantChange™ feature allows the user to replace dull blades in seconds
- Easy access blade storage holds up to 9 blades for fast and easy blade change
- Interlocking blade sliders so that only 1 blade is extended at a time
- Rubber comfort grip minimizes fatigue and reduces slippage
- Total blade storage capacity - 11 (9 storage + 2 in use)



Overall Length	Blade Length	Model No	Order No.	Regular Price	SALE
7"	2 7/16"	10-789	KP439102	20.27	<b>16.20</b>

7736

# HAND TOOLS

## STEELMAN. Bend-A-Lights

- 3/16" Diameter bulb provides amazing brightness for tight situations
- Protective cover can be used for an extension
- On/off switch
- Bulb & batteries included



Overall Length	Type	Shaft Length	Shaft Type	Shaft Material	Lamp Diameter	Order No.	Regular Price	SALE
11"	Mini Pro Bend-A-Light	5"	Flexible	Brass Alloy	3/16"	KE5316102	37.08	<b>29.70</b>
16"	Bend-A-Light	10"	Flexible	Brass Alloy	3/16"	KE5310150A	48.28	<b>38.60</b>
24"	Krypton Pro Bend-A-Light	15"	Flexible	Brass Alloy	3/16"	KE5315150A	93.38	<b>74.70</b>

3111

## wiha Demagnetizer/Magnetizer

- Keep those small screw and nuts in position
- Simply insert a tool into the magnetizer section, pull it out, and it's magnetized
- To demagnetize, pass the tool through one of the outside channels or the demagnetizer section

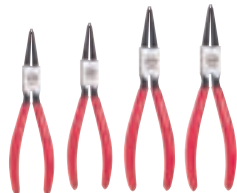


BrandName	ProductName	Opening	Order No.	Regular Price	SALE
Wiha	Magnetizer/De-magnetizer - 2" x 2" x 1"	Works with items over 1.3" in length and 1/8" or 3mm dia	KN5440010	10.62	<b>6.90</b>

1378

## wiha 4 Pc. Retaining Ring Pliers

- Heavy duty forged style with soft vinyl grips
- Tips included: .035, .050, .070 & .090
- Internal capacity 5/16 to 4"
- External capacity 1/8 to 4"



Type	Set Includes	Order No.	Regular Price	SALE
Straight Internal Ring Pliers Set	5/16 - 1/2" Tip .035" 1/2 - 1" Tip .050, 3/4 - 2 3/8" Tip .070, 1 1/2 - 4" Tip .090	KN5432626PT	222.67	<b>138.10</b>
90° Internal Ring Pliers Set	5/16 - 1/2" Tip .035" 1/2 - 1" Tip .050, 3/4 - 2 3/8" Tip .070, 1 1/2 - 4" Tip .090	KN5432627PT	227.83	<b>141.30</b>
External Ring Pliers Set	5/16 - 1/2" Tip .035" 1/2 - 1" Tip .050, 3/4 - 2 3/8" Tip .070, 1 1/2 - 4" Tip .090	KN5432628PT	238.11	<b>147.60</b>

7942

## wiha T-Handle TORX® Drivers

- Ergo molded on cushion grip for maximum torque - molded on handle for permanent bond
- Blades of Wiha exclusive CRM-72 tool steel
- Through hardened for maximum durability
- Precision machined exact fit TORX® tips
- Hard chromed surface finish for extreme wear



Torx Size	Order No.	Regular Price	SALE
T9	KN5436409	11.04	<b>7.10</b>
T10	KN5436410	11.30	<b>7.20</b>
T15	KN5436415	13.32	<b>8.50</b>
T15	KN5436417	13.56	<b>8.70</b>
T20	KN5436420	15.10	<b>9.70</b>
T20	KN5436422	15.10	<b>9.70</b>
T25	KN5436427	15.89	<b>10.20</b>

8000

## wiha Slotted & Phillips Individual Insulated Screwdrivers

- Ergo molded insulated cushioned grips, 1000 volt rated
- Each tool individually tested to 10,000 volts for insulation integrity
- Handle & insulation molded on for maximum durability
- Exact fit precision machined tips
- Wiha special CRM-72 tool steel blades hardened & tempered
- All tools made by Wiha Germany



Slotted				
Tip Size	Overall Length	Order No.	Regular Price	SALE
3 mm	204 mm	KN5432012	10.47	<b>6.70</b>
3.5 mm	204 mm	KN5432015	11.17	<b>7.20</b>
4.5 mm	236 mm	KN5432024	13.52	<b>8.70</b>
6.5 mm	268 mm	KN5432039	18.78	<b>12.00</b>

Phillips				
Tip Size	Overall Length	Order No.	Regular Price	SALE
#1	7.5"	KN5432101	13.23	<b>8.50</b>
#2	8.6"	KN5432102	16.42	<b>10.50</b>
#3	10.6"	KN5432103	23.60	<b>15.10</b>

25517

## wiha 11 Pc. Insulated Tool Set

### A Must for SAFE Electrical Repair

- 1000 Volt Rated
- (1) - 8" Combination linemans pliers
- (1) - 6-1/2" Long nose pliers
- (1) - 8" Long nose pliers
- (1) - 6-1/2" Diagonal cutters
- (1) - 8" Heavy duty high leverage cutter
- (1) - Canvas tool bag (made in USA)
- 6 Pc. Insulated screwdriver set - phillips & slotted (made in Germany)
- Tested & approved for the following standards: VDE 0680-201, ASTM F1505-01, EN 60900



Order No.	Regular Price	SALE
KN5432977	403.89	<b>258.20</b>

While supplies last

28731



**Edge Finders**

- Accurately locate working edges, shoulders, grooves, center points, and scribed lines
- Hardened and centerless ground to precision tolerances



End Type	Shank	Tip Diameter	Order No.	Regular Price	SALE
Single End	1/2"	0.500"	<b>MV4544595</b>	28.71	<b>23.00</b>
Double End	1/2"	0.200" x 0.500"	<b>MV4544596</b>	40.19	<b>32.00</b>

3365



**Dial Test Indicators**

- Two-way action - no reversing lever
- Carbide contact point
- Ball bearings and jeweled movement
- Extremely low measuring pressure
- Precise repetitive readings
- Easy-to-read tilted dial
- Points are interchangeable between .0005" and .001" indicators
- Contact point swivels 210°
- Shank diameter - 5/32" .080" diameter ball



Indicator Style	Graduation	Total Range	Contact Length	Dial Face Diameter	Model No	Order No.	Regular Price	SALE
Horizontal Inch regular model	0.0001"	.016"	11/16"	1 1/2"	312B-3	<b>MV4041680</b>	621.59	<b>472.00</b>
Horizontal Inch regular model	0.0001"	.016"	11/16"	1	312B-4	<b>MV4041681</b>	629.04	<b>479.00</b>
Horizontal Inch regular model	0.001"	.060"	11/16"	1.0"	312B-20	<b>MV4041682</b>	511.28	<b>385.00</b>
Vertical	0.01 mm	1.6 mm	16.5 mm	1 1/2"	312-1V	<b>MV4041683</b>	606.68	<b>546.05</b>
Inch Perpendicular model	0.0005"	.060"	11/16"	1 1/2"	312B-1V	<b>MV4041685</b>	541.09	<b>394.60</b>
Inch Perpendicular model	0.0005"	.060"	11/16"	1.0"	312B-2V	<b>MV4041686</b>	530.66	<b>397.00</b>
Inch Perpendicular model	0.001"	.060"	11/16"	1.0"	312B-20V	<b>MV4041687</b>	563.45	<b>429.00</b>
Horizontal	0.0005"	.060"	11/16"	1 1/4"	312	<b>MV4041710</b>	793.01	<b>713.75</b>
Inch Perpendicular model	0.0001"	.016"	11/16"	1 1/2"	312B-3V	<b>MV4041714</b>	672.27	<b>605.05</b>
Horizontal Inch regular model	0.0005"	.060"	11/16"	1 1/2"	312B-1	<b>MV4042775</b>	503.83	<b>389.00</b>
Horizontal Inch regular model	0.0005"	.060"	11/16"	1.0"	312B-2	<b>MV4086150</b>	503.83	<b>377.00</b>

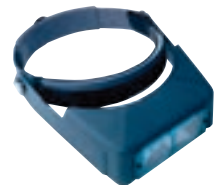
3963



**Opti-Visor - Magnification plus Comfort**

**2.5X Power**

- 8" Focal length
- Optically correct precision glass prismatic lenses
- Genuine leather comfort band
- Unique dial adjustment fits anyone
- Wear over regular or safety glasses
- Tilts upward when not in use (no tunnel vision)
- **Note:** Opti-Loupe is also available and easily attaches to any Opti-Visor lens plate-adds extra power - for monocular use only - Order No. JZ50LP1



Magnification	Focal Distance	Magnifying Visor			Replacement Lens		
		Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
1.5X	20	<b>JZ50DA2</b>	96.72	<b>82.80</b>	<b>JZ50LP2</b>	61.94	<b>54.20</b>
1.75X	14	<b>JZ50DA3</b>	96.72	<b>82.80</b>	<b>JZ50LP3</b>	61.94	<b>54.20</b>
2X	10	<b>JZ50DA4</b>	96.72	<b>82.80</b>	<b>JZ50LP4</b>	61.94	<b>54.20</b>
2.5X	8	<b>JZ50DA5</b>	96.72	<b>82.80</b>	<b>JZ50LP5</b>	61.94	<b>54.20</b>
2.75X	6	<b>JZ50DA7</b>	104.78	<b>89.70</b>	<b>JZ50LP7</b>	70.49	<b>61.40</b>
3.5X	4	<b>JZ50DA10</b>	106.28	<b>91.00</b>	<b>JZ50LP10</b>	71.53	<b>62.40</b>

3433

# MEASURING TOOLS

## Fowler Electronic Micrometers

### Xtra Value II

- Jet black, gray enamel finish
- Large LCD display
- Resolution: .0005"/0.001mm
- Direct RS 232 output
- Carbide measuring faces
- Absolute and incremental modes
- Ratchet thimble
- Includes shop hardened case



Minimum Measurement	Maximum Measurement	Order No.	Regular Price	SALE
0"	1" / 25 mm	NA5554870001	164.53	<b>119.00</b>
1"	2"	NA5554870002	177.66	<b>143.60</b>
2" / 50 mm	3" / 75 mm	NA5554870003	201.31	<b>181.20</b>
3" / 75 mm	4" / 100 mm	NA5554870004	225.11	<b>182.00</b>

3634

## Fowler Mini-Mag Protractor

The mini-MAG Protractor provides instant 360° digital inclination display of any angle with the additional unique feature of embedded magnets on two sides.

- Embedded magnets with 35 lb. pull
- Measuring range: 360° (4 x 90°)
- Resolution: .05°
- Accuracy: ± .1°
- Repeatability: ± .1°
- Voltage: standard 9V battery (250 hrs.)



Order No.	Regular Price	SALE
NA55544224501	175.35	<b>126.80</b>

3682

## Fowler Economy Outside Micrometers

- Carbide tipped measuring faces
- Ratchet thimble and locking nut
- Microfine graduations
- Meets or exceeds Federal accuracy specifications
- Complete in case



Measuring Range	Order No.	Regular Price	SALE
0 - 3"	NA5552229213	328.55	<b>241.90</b>

3720

## PROCHECK Fowler Dial Depth Gage

- Range: 0-22"
- Indicator resolution: .0005"
- Base length: 4"
- Includes 10 attachments (6 extension rods and 4 feeler points)
- Protective case included
- Procheck 1 Year Warranty



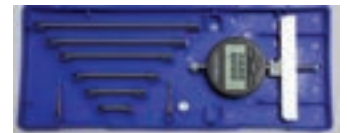
BrandName	Order No.	Regular Price	SALE
Fowler	NA5552125006	343.96	<b>219.30</b>
Procheck	PC21DG0221BDF	129.91	<b>97.45</b>

† Black dial face

3749

## PROCHECK Fowler Electronic Depth Gage

- Range: 0 - 22"
- Base length: 4"
- Includes 10 attachments (6 extension rods and 4 feeler points)
- Resolution: .0005" / 0.01mm / 1/128"
- Accuracy of indicator: +/- .0001"
- Protective case and battery included
- Procheck 1 Year Warranty



BrandName	Order No.	Regular Price	SALE
Fowler	NA5554125777	463.45	<b>344.30</b>
Procheck	PC20DG0225EI	188.58	<b>160.25</b>

3751

## Noga Heavy Duty Magnetic Base & Procheck Indicator Set

### Noga Magnetic Base

- Central locking mechanism
- Powerful - 176 lbs. force on/off magnetic base
- Easy 3-dimensional set-up

### Procheck AGD 2 Style Dial Indicator

- 0-1" travel with 0-100 dial and .001" graduation
- Revolution counter
- Mount with 3/8" stem or lug back (supplied)

### 22 Pc. Point Set

- 22 contact points (4-48 thread)

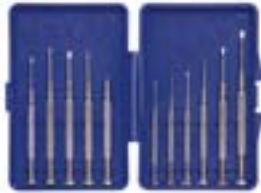


Order No.	Regular Price	SALE
NB65DG61003DPK	216.62	<b>179.20</b>

4273

## Fowler 11 Pc. Precision Screwdriver Kit

- This precision screwdriver and tool set is ideal for miniature work
- Features knurled and chromed swiveling handles
- Screwdriver and tool set contains nine screwdrivers, one tapered point scratch awl and one magnetic pick-up tool
- Screwdriver size range: #00, #0, #1, 1/32, 3/64, 1/16, 5/64, 3/32 & 1/8"
- Includes magnetic pick up tool and scratch awl



Order No.	Regular Price	SALE
NA5552490003	47.06	<b>37.90</b>

23218

## Fowler Test Indicators - .030 Range

- Bi-directional constant clockwise rotation
- Automatic reversal
- Three dovetail mountings
- 3 Contact points with diameters of .040", .080" and .120"
- Jewelled movement
- Two dovetail extensions
- Molded case



Total Range	Dial Reading	Graduation	Dial Face Diameter	Contact Length	Order No.	Regular Price	SALE
0.030"	0-15-0	0.0005"	1"	1/2"	NA5552562778	219.37	<b>149.30</b>

28832

## Fowler Test Indicator Set

- Bi-directional constant clockwise rotation
- Automatic reversal
- Range: .030"
- 0-15-0 Dial reading
- 1" Diameter
- Point length: 1/2"
- Graduations: .0005"
- Three dovetail mountings
- Three contact points with diameters of .040", .080" and .120"
- Jeweled movement
- Two dovetail extensions



Total Range	Dial Reading	Graduation	Order No.	Regular Price	SALE
0.030"	0-15-0	0.0005"	NA5552562778	219.37	<b>149.30</b>

30928

## Fowler Z-HEIGHT ABS Electronic Height Gages

### Features

- **NEW** True ABS measuring system
- Supplied with a NIST certified test block (1" x 2" x 3")
- Supplied with mini USB data cable
- Heavy duty single column design
- Carbide scriber
- Ground and lapped base for smooth movement
- Steel rack with large hand wheel for coarse and fine adjustment
- Positive locking level for scriber
- Can be used with wireless transmitter (NA55541151000)



Total Range	Accuracy	Order No.	Regular Price	SALE
0-12.0" / 0-300 mm	+/-0 .0016" / 0.04 mm	NA55541750121	1028.84	<b>925.00</b>
0-18.0" / 0-500 mm	+/-0 .002" / 0.05 mm	NA55541750181	1087.05	<b>927.40</b>
0-24.0" / 0-600 mm	+/-0 .002" / 0.05 mm	NA55541750241	1800.48	<b>1535.80</b>

28730

# MEASURING TOOLS

## Fowler Center Gages



Thread	Graduation	Order No.	Regular Price	SALE
Inch	14ths, 20ths, 24ths, 32nds	NA5552505001	22.79	<b>20.50</b>

3564



## Electronic Edge Finder/Probes

- Extremely accurate, all precision ground
- Steel ball for easy coordinate calculating
- As probe, can be used to measure inside, outside, height and depth



Quality Import				
Tip Diameter	Shank	Order No.	Regular Price	SALE
10 mm (Ball)	3/4"	NA45EF1	139.25	<b>125.30</b>
10 mm (Ball)	3/4"	NA45EF1	139.25	<b>125.30</b>

Generic USA				
Tip Diameter	Shank	Order No.	Regular Price	SALE
.400 (Ball)	3/4"	NB5150000	244.87	<b>220.40</b>

3438

## Mitutoyo Test Indicator with Ruby Stylus

- Wear characteristic improved by 50%
- Non magnetic and non conductive material enables use in EDM operations

### Specifications:

- Graduation: .0005"
- Measuring range: .03"
- Accuracy:  $\pm 0.0005$ "
- Measuring force: .07165" or less
- Contact point diameter: .79"
- Stem diameter: 3/8"



Order No.	Regular Price	SALE
MT80513-472-10E	235.41	<b>200.10</b>

4228

## Noga Double Fine Adjustment Magnetic Base

### Model DG6160

- New double fine adjustment - Bottom: unique single direction; Top: universal swivel clamp
- Powerful ON/OFF magnetic base with 176 lbs force
- Holds 6mm, 8mm 3/8", dovetail, and back lug
- Unique central locking mechanism with Noga designed spring loaded bearing
- Five axis holder
- Instantly fastens in any position
- Fast and easy to set up gauges into required position
- Black finished arms
- Bottom arm measures 110mm
- Top arm measures 101mm



Order No.	Regular Price	SALE
FN60DG6160	219.80	<b>165.50</b>

4261

## Noga Dial Gage Holders with Power On/Off Magnetic Base

### Fine Adjustment On Top Clamp

- Top clamp holds 3/8" stem and dovetail
- Central locking mechanism with spring loaded bearing
- NOGA dial gage holder is 3-dimensional
- Most powerful on/off magnetic base (176 LBF)



Bottom Arm Length	Top Arm Length	Order No.	Regular Price	SALE
4.33"	3.98"	FN60DG61003	182.37	<b>141.20</b>
5.26"	5.24"	FN60MG61003	229.02	<b>177.30</b>

4264

## Noga Economy Dial Gage Holders with Magnetic Base

### Fine Adjustment At Base

- 3/8" 8mm, 6mm & dovetail clamp
- Unique 3-point arm lock system
- Improved "at base" single direction fine adjustment
- Magnetic base with on/off switch



Bottom Arm Length	Top Arm Length	Model No	Order No.	Price	SALE
7.87"	7.48"	PH2040	FN60PH2040	72.74	<b>59.10</b>

4266



**PROCHECK PREMIUM Premier 1" Travel Dial**

**Indicators**

- Range: 0 - 1"
- Indicator graduation .001 per line .100 per revolution
- 1/4" Lug back and 3/8" stem
- Flat back and carbide tip included
- 1 Year Warranty



Dial Color	Order No.	Regular Price	SALE
Black	PC21DI211BCT	40.31	<b>22.80</b>
White	PC21DI211WCT	40.32	<b>22.80</b>

4340

**PROCHECK PREMIUM 6" Combination Squares**

- Fully hardened and tempered steel blade
- Satin chrome finish
- Etched, machine divided 4R graduations - 8ths, 16ths, 32nds and 64ths
- Fitted case
- 1 Year Warranty



For Blade Length	Order No.	Regular Price	SALE
Blade Only	PC23CS0624	65.85	<b>52.50</b>
Blade & Center Head	PC23CS0634	84.73	<b>67.50</b>

4404

**PROCHECK 1/8" Steel Parallel Set**

**Thin Styled, Matched Pairs - 10 Pair in Fitted Box**

- Made of high grade alloy steel, hardened and ground from 1/8" stock
- Two holes in each parallel
- Accuracy:  $\pm 0.002$ " parallelism in height  $\pm 0.001$ " to size in height

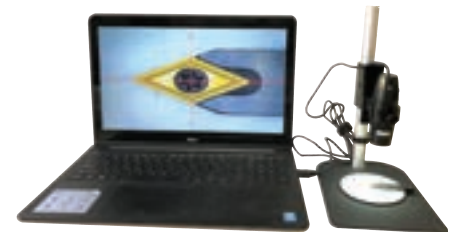


Order No.	Regular Price	SALE
NM55TPS11	114.80	<b>71.30</b>

4356

**PROCHECK 200X Digital Microscope with Stand**

- Magnification 10x - 200x @ 17" monitor full screen view
- Optical format: 1/3" CMOS Sensor (4:3)
- Field of View: Min: 2.5mm x 1.9mm @ 17mm working distance (200x), Max: 100mm x 75mm @ 300mm working distance (10x)
- Image sensor: 2.0 Mega Pixels
- Video Capture Resolution 1600 x 1200, 1280 x 1960, 640 x 480
- Color: 24 bit RGB or YUV or MJPG
- Lens: High precision microscope lens
- Focus Range: Manual from 8mm to 300mm
- White balance: Auto
- Exposure Time: Auto
- Light Source: Integrated adjustable LED illumination
- Length: 122mm
- Diameter: 36mm
- Output: USB streaming video
- Power supply: from USB
- Software included
- Microscope stand included
- 1 Year Warranty



Order No.	Regular Price	SALE
PC22DM200S	540.48	<b>373.00</b>

4376

# MEASURING TOOLS

## PRC CHECK Aspheric Magnifier

- These fixed focus, all plastic magnifiers are very useful in the industrial field
- The lenses are of aspheric type that give a clear non-distorted image across the diameter of the lens
- 1" Diameter 5X & 10X magnification
- Folds neatly into case



Order No.	Regular Price	SALE
KA53V341D	20.21	<b>16.30</b>

4451

## PRC CHECK Magnetic Bases

- Accepts all AGD dial indicators
- Permanent magnet (110 lb pull)
- On/off lever releases magnet
- Horizontal and vertical positioning capability
- Chrome rods and column
- V-Grooved base for mounting on cylindrical parts
- Accepts lug back groups 1, 2, 3 and 4
- Base size 2.36"L x 1.90"W x 2.00"H



Description	Order No.	Regular Price	SALE
Standard	PC21300	33.66	<b>24.50</b>
Fine Adjustment	PC21340	38.81	<b>28.20</b>

4569

## PRC CHECK 26 Pc. Decimal and Metric Radius Gage Sets

- Used for inspection, layout, pattern making and all other machining jobs
- Satin chrome finish
- Each gage is marked with its size
- Each gage has five measuring surfaces for convex and concave radii



Order No.	Regular Price	SALE
PC24L300D	70.12	<b>55.90</b>
PC24L300M	70.12	<b>55.90</b>

4515

## PRC CHECK PREMIUM IP54 Electronic Digital Micrometers

- Resolution: .00005"/0.001mm
- Absolute and incremental mode
- Ratchet thimble and spindle lock
- IP54 protection against water drops and dust
- Carbide measuring faces
- Ball attachment included
- Supplied with storage case
- Replacement battery: KA56ECR2032
- 1 Year Warranty



Measuring Range	Order No.	Regular Price	SALE
1"-2" / 25.4 mm-50.8 mm	PC20EM12505IP5	171.81	<b>122.10</b>
2"-3" / 50.8 mm-76.2 mm	PC20EM23755IP5	203.44	<b>144.60</b>
0"-1" / 0 mm-25.4 mm	PC20EM01255IP5	138.54	<b>98.50</b>
0"-3" / 0 mm-76.2 mm	PC20EM03755IP5	527.49	<b>375.00</b>

4628

## PRC CHECK Economy Jackscrew Set

- For leveling and adjusting machinery
- Easily fits into tight locations
- Total screw travel: 1"
- Minimum height: 2-3/8"
- Maximum body diameter is 1-1/4"
- Interchangeable parts have ringed shoulders and recesses for perfect alignment
- Set includes body, pivoting screw pad, conical screwpoint, 2" body extension, 1" body extension, Vee cap, knife edge cap and wrench, shop hardened case
- Black oxide finish



Order No.	Regular Price	SALE
PC24JS7PS	51.05	<b>40.70</b>

4568

## PRC CHECK 0 - 6" Electronic Caliper

### IP67 Protection

- Inside & outside measures
- Hardened stainless steel with precision lapped finish
- Replacement battery: KA56ECR2032



Caliper Type	Order No.	Regular Price	SALE
IP67	PC20EC061505I67	134.52	<b>92.80</b>

4638

**PROCHECK PREMIUM Stainless Steel Dial**

**Calipers**

- Covered rack for longer caliper life, keeps chips out
- Measuring face hardened stainless, ground and lapped
- Satin-chrome finish
- Complete with fitted case
- Certificate of Inspection included
- 1 Year Warranty



Measuring Range	Graduation	Order No.	Regular Price	SALE
0-6"	0.001"	PC21CDC6	89.91	<b>65.20</b>
0-6"	0.001"	PC21CDC6B	89.91	<b>65.20</b>
0-6"	0.001"	PC21CDC6CJ	163.29	<b>118.40</b>
0-6"	0.001"	PC21CDC6EM	95.42	<b>69.20</b>
0-150 mm	0.02 mm	PC21CDC6M1	95.42	<b>69.20</b>
0-6"/0-150mm	0.001" / 0.02 mm	PC21CDC6M2	126.62	<b>91.80</b>
0-8"	0.001"	PC21CDC8	90.53	<b>65.70</b>
0-12"	0.001"	PC21CDC12	131.09	<b>95.00</b>

†PC21CDC6EM Metric on scale only

4812

**PROCHECK Telescoping Gages**

- Measure inside diameter
- Spring loaded plunger expands within the bore
- Knurled end clamp



Minimum Measurement	Maximum Measurement	Order No.	Regular Price	SALE
5/16"	1/2"	PC24TSG1P	10.60	<b>6.60</b>
1/2"	3/4"	PC24TSG2P	11.04	<b>6.90</b>
3/4"	1 1/4"	PC24TSG3P	11.04	<b>6.90</b>
1 1/4"	2 1/8"	PC24TSG4P	12.48	<b>7.80</b>
2 1/8"	3 1/2"	PC24TSG5P	12.48	<b>7.80</b>
3 1/2"	6"	PC24TSG6P	12.48	<b>7.80</b>

4827

**PROCHECK Wavy Parallel Sets**

- 9 Pairs - 1/2" to 1-1/2" in 1/8" height increments - 4-1/4" overall length
- Guaranteed to size in height and parallelism ±.0002"
- For use on: precision clamping of parts in drilling, boring, milling, grinding, assembly work, etc
- Can be used as elastic shims
- Thin and fragile workpieces can be secured without damage
- Made of high quality spring steel, hardened, stress relieved and precision ground



BrandName	Order No.	Regular Price	SALE
Procheck	NM55WPS9	135.39	<b>89.80</b>

5237

**PROCHECK Shore A Durometer**

- Large LCD Display
- 0-100HA
- Resolution: 0.5HA
- Accuracy: 2HA
- CR2032 battery 1 piece
- 1 Year Warranty



Order No.	Regular Price	SALE
PC20EDSA0100HA	85.12	<b>68.10</b>

29928

**Starrett Exact® Steel Blade Long Tapes**

**530 Series - Closed Reel**

- Vinyl clad steel case
- Nylon rollers to reduce blade wear
- Easy to read 1/8" graduations
- Folding ring hook



Blade Width	Blade Length	Model No	Order No.	Regular Price	SALE
3/8"	50'	530-50	MV8065945	69.10	<b>49.00</b>
3/8"	100'	530-100	MV8065946	92.94	<b>65.00</b>

5035

**Starrett Exact® Plus Tape Measures**

- Graduated in 16ths
- Wider blade providing a 9' standout
- Nylon coated blade provides 6X abrasion resistance
- PC-ABS plastic case and heavy overmolding
- Positive lock holds blade firmly in place
- Black anodized steel belt clip



Blade Width	Blade Length	Model No	Order No.	Regular Price	SALE
1.06"	16'	KTXP106-16N	MV8030636	36.38	<b>29.00</b>
1.06"	25'	KTXP106-25N	MV8030638	50.22	<b>40.00</b>
1.06"	30'	KTXP106-30N	MV8030641	60.03	<b>42.00</b>

5037

### 3M 3M™ BX™ Protective Eyewear with Readers

- Clear choice for workers who have difficulty reading small print or who are engaged in small detail work
- BX protective reader eyewear features three magnifying diopters to choose from
- Lightweight, polycarbonate lenses with adjustable soft-tip temples, and a soft nose-bridge
- Curved lens side protection



Lens Color	Frame Color	Magnification	Order No.	Regular Price	SALE
Clear	Silver	1.5x	KB3511374	25.54	<b>28.00</b>
Clear	Silver	2.0x	KB3511375	25.54	<b>28.00</b>
Clear	Silver	2.5x	KB3511376	25.54	<b>28.00</b>

2391

### 3M 3M™ Lexa™ Dust GoggleGear™

- Aspheric lens provides expansive coverage and a virtually unobstructed viewing range
- Foam flange seals entire lens perimeter
- Top and bottom vent channels to increase airflow
- Flame retardant, elastic headstrap
- Polycarbonate lens absorbs 99.9% UV



Size	Lens Color	Lens Coating	Frame Color	Order No.	Regular Price	SALE
Medium	Clear	Anti-Fog	Black	KB3562330	16.40	<b>18.90</b>

2410

### 3M Earplugs

- Soft foam seals the ear canal comfortably
- Fits wide range of ear canals
- Can be used with other hearing protection devices
- Disposable and reusable
- Technical Information: Class AL (CSA Z94.2-94), Grade 4 (CSA Z94.2-02)
- Test compatible with 3M™ E-A-Rfit™ Validation System



Noise Reduction Rating	Style	Standard Pack	Order No.	Regular Price	SALE
29 dB	Disposable / Uncorded	200	KB3511000	0.24	<b>0.22</b>
33 dB	Disposable / Corded	200	KB3511033	0.44	<b>0.42</b>
29 dB	Disposable / Corded	100	KB3511110	0.52	<b>0.50</b>
33 dB	Disposable / Uncorded	200	KB3512063	0.25	<b>0.22</b>
28 dB	Corded;Electrically Insulated;Not Moisture Resistant;Slow Recovery Foam	200	KB3518003	1.02	<b>0.85</b>
17 dB	Banded Hearing Caps	1	KB3521001	11.03	<b>9.35</b>
25 dB	Corded	100	KB35311115	2.00	<b>1.65</b>
33 dB	Corded	2000	KB35311252	0.64	<b>0.55</b>
29 dB	General Purpose	200	KB353121201	0.31	<b>0.25</b>
33 dB	Uncorded	2000	KB353121252	0.35	<b>0.29</b>
30 dB	Uncorded	2000	KB353181008	0.80	<b>0.70</b>
30 dB	Corded	2000	KB353181009	1.29	<b>1.10</b>
25 dB	UltraFit	200	KB353404002	3.31	<b>2.85</b>
25 dB	Reusables	100	KB3540002	1.98	<b>1.65</b>
25 dB	Reusables	100	KB3540051	3.75	<b>3.15</b>
33 dB	Disposable / Foam	500	KB3591004	0.20	<b>0.18</b>
32 dB	Corded	120	KB3592952	1.39	<b>1.20</b>
29 dB	Corded	100	KB3593402	1.88	<b>1.60</b>

†The NRR may overestimate the protection provided during typical use. 3M recommends reducing the NRR by 50% for estimating the amount of noise reduction provided. See packaging for details.

2392

### MCR SAFETY BK1®

- Non-slip temple sleeves
- Single wrap-around lens design with integral side shields



Lens Color	Lens Coating	Frame Color	Order No.	Regular Price	SALE
Clear	Uncoated	Clear	KB85BK010	2.96	<b>1.80</b>
Clear	Scratch Resistant	Clear	KB85BK110	3.18	<b>2.10</b>
Clear	Anti-Fog & Scratch Resistant	Clear	KB85BK110AF	4.31	<b>2.80</b>
Gray	Scratch Resistant	Gray	KB85BK112	3.18	<b>2.10</b>
Light Blue	Scratch Resistant	Light Blue	KB85BK113	4.05	<b>2.60</b>
Mirrored	Scratch Resistant	Clear	KB85BK119	4.05	<b>2.60</b>

2529

### MCR SAFETY SR1®

- Non-slip co-injected soft temple material
- Wider temples for better side protection
- Soft secure TRP nose pad
- Rugged polycarbonate lens filters 99.9% UV rays
- Exclusive Duramass® scratch resistant coating



Lens Color	Lens Coating	Frame Color	Order No.	Regular Price	SALE
Clear	Anti-Fog & Scratch Resistant	Clear	KB85SR140AF	13.25	<b>8.20</b>
Gray	Anti-Fog & Scratch Resistant	White	KB85SR122AF	14.12	<b>8.70</b>
Gray	Polarized Scratch Resistant	Black	KB85SR112Z	44.69	<b>27.50</b>
Amber	Scratch Resistant	Black	KB85SR114	12.07	<b>7.40</b>
Blue Mirror	Scratch Resistant	Clear	KB85SR148B	15.53	<b>9.60</b>
Clear	Scratch Resistant	Black	KB85SR110	12.11	<b>7.50</b>
Clear	Scratch Resistant	White	KB85SR120	11.22	<b>6.90</b>
Clear	Scratch Resistant	Red	KB85SR130	11.22	<b>6.90</b>
Fire Mirror	Scratch Resistant	Red	KB85SR13R	15.53	<b>9.60</b>
Gray	Scratch Resistant	Black	KB85SR112	12.97	<b>8.00</b>

2544

### PRM PRO® Class 2 Hi-Vis Safety Vests

- Class 2
- Reflective tape
- Zipper front closure
- SV80 radio straps both shoulders, 2 pockets with velcro closure and one chest pocket



Size	Yellow/Silver, Zipper			Yellow/Orange/Silver, Zipper		
	Order No.	Regular Price	SALE	Order No.	Regular Price	SALE
Medium	KB38SV8030	12.27	<b>8.10</b>	KB38SV8100	17.37	<b>11.50</b>
Large	KB38SV8035	12.27	<b>8.10</b>	KB38SV8105	17.37	<b>11.50</b>
X-Large	KB38SV8040	12.27	<b>8.10</b>	KB38SV8110	17.37	<b>11.50</b>
2X-Large	KB38SV8045	12.27	<b>8.10</b>	KB38SV8115	12.27	<b>11.50</b>
3X-Large	KB38SV8050	12.27	<b>8.10</b>	KB38SV8120	17.37	<b>11.50</b>

2932

### KN95 Respirator Mask

- 4-Layers of protection Non-woven fabrics+
- Hot air cotton + Melt blown fabric + Non-woven fabrics
- Includes adjustable nose bridge strip
- Comfortable and breathable with ear hook design
- PTE rating >95%
- BFE rating >95%
- FFP2 PROTECTION
- Sold in minimum packs of 20 or 50



Standard Pack	Order No.	Regular Price	SALE
50	KN95RESPB	5.90	4.60
20	KN95RESPP	6.23	4.90

PRICE PER EACH MASK

29356

### PRECISION BRAND Steel Shim Stock

- Cold rolled, low carbon steel
- Full hard (RB80 minimum) steel
- For tool and die alignment, arbor spacers and all shim applications where hardness, flatness and accuracy are required
- 1 roll per box



Thickness	Width	Length	Order No.	Regular Price	SALE
0.001"	6"	180"	MA5216700	76.10	44.60
0.0015"	6"	180"	MA5216705	76.10	44.60
0.010"	6"	180"	MA5216710	50.73	29.70
0.012"	6"	180"	MA5216715	51.35	30.10
0.015"	6"	180"	MA5216725	51.35	30.10
0.002"	6"	180"	MA5216740	49.07	28.70
0.020"	6"	180"	MA5216750	60.82	35.60
0.025"	6"	180"	MA5216760	62.30	36.50
0.003"	6"	180"	MA5216765	41.59	24.40
0.031"	6"	180"	MA5216775	66.62	39.00
0.004"	6"	180"	MA5216780	43.54	25.50
0.005"	6"	180"	MA5216785	38.66	25.90
0.006"	6"	180"	MA5216790	46.87	27.40
0.007"	6"	180"	MA5216795	46.87	27.40
0.008"	6"	180"	MA5216800	48.00	28.10

24417

### PRM PRO 17 Series Tig Torch Packages

- 150 Amp Air-cooled
- Available in two lengths, 12.5' & 25'
- \* Includes flex head and power cable



Length	Includes	Order No.	Regular Price	SALE
12.5'	Power Cable, Torch, Handle, Back Cap	WE1017FV12R	160.71	107.70
25'	Power Cable, Torch, Handle, Back Cap	WE1017FV25R	191.63	128.30
25'	Power Cable, Torch, Handle, Back Cap	WE1017V25R	181.85	121.80

2901

### PRM PRO 18 Series Tig Torch Package

- 350 Amp Water-cooled



Type	Length	Includes	Order No.	Regular Price	SALE
Torch Package	25'	Gas & Water Hose, Power Cable, Torch, Handle, Back Cap	WE101825R	320.49	199.00

2902

### PRM PRO 20 Series Tig Torch Packages

- 250 Amp Water-cooled



Type	Length	Includes	Order No.	Regular Price	SALE
Torch Package	12.5'	Gas & Water Hose, Power Cable, Torch, Handle, Back Cap	WE102012R	196.87	129.00
Torch Package	25'	Gas & Water Hose, Power Cable, Torch, Handle, Back Cap	WE102025	146.35	98.00
Torch Package	25'	Gas & Water Hose, Power Cable, Torch, Handle, Back Cap	WE102025R	279.23	185.00
Flex Torch Package	25'	Gas & Water Hose, Power Cable, Torch, Handle, Back Cap	WE1020F25R	280.23	200.30

2903

### DURACELL PROCELL Alkaline Industrial Batteries

- Reliable long-lasting power for years
- Manufactured using superior cell design to ensure high-quality cell construction.
- Each battery comes with a 'quality guarantee.'
- Individually date-coded for effective inventory management.
- Procell Alkaline batteries have been designed in collaboration with manufacturers to work best in professional devices
- Operating in temperatures from -4°F to 129.2°F.
- Sold in min box carton qty only



Battery Size	Number of Batteries	ManufacturerNo	Order No.	Regular Price	SALE
AAA	24	4133353648	DU0310000	1.23	1.00
AA	24	4133352148	DU0310050	1.23	1.00
9V	12	4133352748	DU0310200	5.16	4.20
C	12	4133311440	DU0310070	2.91	2.40
D	12	4133311340	DU0310090	3.47	2.80

PRICED PER EACH BATTERY

28639

### PRM<sup>PRO</sup> 20" All Purpose Tool Bag

- Made from heavy duty water repellent polyester
- For easy storage of welding helmet, welding jacket, tools and gloves
- Closed top with zip
- Includes padded handle and detachable shoulder strap



Length	Width	Height	Order No.	Regular Price	SALE
20"	11"	13"	LC700001	62.85	<b>47.70</b>

5461

### PRM<sup>PRO</sup> 25" Tote Tool Bag

- Made from heavy duty water repellent polyester
- Hard bottom reinforced base with studs for base protection
- Closed top with zip and framed opening
- 19 exterior pockets and 18 interior pockets; 2 side strapping for levels
- Includes padded handle and detachable shoulder strap



Length	Width	Height	Order No.	Regular Price	SALE
25"	12"	13"	LC707701	86.42	<b>65.50</b>

5462

### PRM<sup>PRO</sup> Mechanic's Roller Seat with Drawer

- Hard-wearing steel frame
- Comfortable foam-cushioned seat holds up to 300 lbs
- Seat sits 14" off the ground
- Handy sliding drawer (ball-bearing slide)
- 2-1/2" roll smoothly swivel casters
- Sturdy high-impact pan keeps tools and parts close at hand
- Limited lifetime warranty



Height	Weight	Order No.	Regular Price	SALE
29"	14.3 lbs	RZ455000	95.14	<b>58.60</b>

5475

Ships Purolator

### PRM<sup>PRO</sup> Mechanics Shop Stool Seat

- 14" Seat adjusts from 15-3/4" to 20"
- Cushion seat swivels 360°
- 2-1/2" diameter nonmarring nylon casters
- 300 lb maximum seat capacity
- Limited lifetime warranty
- Ships Purolator



Order No.	Regular Price	SALE
RZ453000	99.16	<b>61.10</b>

5480

### PRM<sup>PRO</sup> Shop Stool with Cushion Seat

- Vinyl black padded seat swivels 360°
- Chrome plated legs
- Seat diameter 13.7"
- Great for shop, warehouse, office, etc.
- Limited lifetime warranty against manufacturer defects
- Ships Purolator



Height	Order No.	Regular Price	SALE
29"	RZ456000	93.80	<b>57.80</b>

5481

**MILCOTE** ID Xpansion Clamps

- Ideal way to hold parts on an inside diameter for multiple machining on vertical or horizontal machining centers
- Can also be used as an expanding mandrel on a lathe
- Produced in 12L14 steel with black oxide coating
- Can hold internal diameters from under 3/16 to amlomst 10" (4.0 to 254mm)
- No. 10 manufactured using 7076-T6 aluminum
- Flange diameter of the clamp is held to a close tolerance for precision locating in a machined pocket on work cubes and fixture plates
- Wuickly tightened with a hex key, torque driver or can be mated to hydraulic pull cylinders for automation
- G†- Minimum diameter the "F" dimension be machined or turned down to
- H\*- (3) Mounting screws included



Inch														
Model No	Overall Height	Clamp Height	Contact Length	Flange Thickness	Flange Diameter	Diameter	Minimum Diameter	Outer Edge Screw	Thread Size	Thread Length	Holding Force	Order No.	Regular Price	SALE
#10	1.790"	1.480"	1.2700"	0.3100"	6.0000"	9.8500"	1.1500"	1/4"-20 on 5.250 BHC	5/8"-11	0.7900"	6,000 lbs	SG7031550	1281.11	1153.00
#9	1.790"	1.480"	1.2700"	0.3100"	5.2320"	6.8900"	1.1500"	1/4"-20 on 4.648 BHC	5/8"-11	0.7900"	10,000 lbs	SG7031500	729.69	656.80
31050	0.860"	.630"	0.590"	0.230"	1.170"	0.490"	0.280"	6-32 on .825 BHC	#8-32	0.300"	950 lbs	SG7031050	55.34	44.30
31000	0.420"	.300"	0.240"	0.120"	0.787"	0.290"	0.160"	2-56 on .540 BHC	#2-56	0.160"	250 lbs	SG7031000	55.34	46.50
31100	0.980"	3/4"	0.590"	0.230"	1.240"	0.560"	0.480"	6-32 on .910 BHC	1/4"-20	0.500"	1,900 lbs	SG7031100	55.34	46.50
31150	0.980"	3/4"	0.590"	0.230"	1.476"	0.790"	0.530"	6-32 on 1.140 BHC	5/16"-18	0.560"	2,500 lbs	SG7031150	58.92	49.50
31200	1.130"	.880"	0.690"	0.250"	1.968"	1.060"	0.710"	8-32 on 1.550 BHC	3/8"-16	0.710"	4,500 lbs	SG7031200	76.58	64.40
31250	1.250"	1"	0.810"	0.250"	2.205"	1.390"	0.900"	8-32 on 1.790 BHC	1/2"-13	0.710"	5,900 lbs	SG7031250	94.44	79.40
31300	1.560"	1 1/4"	1.060"	0.310"	2.736"	1.650"	1.150"	10-32 on 2.200 BHC	5/8"-11	0.790"	10,000 lbs	SG7031300	121.08	101.80
31350	1.560"	1 1/4"	1.060"	0.310"	2.972"	2.030"	1.150"	10-32 on 2.515 BHC	5/8"-11	0.790"	10,000 lbs	SG7031350	132.85	111.70
31400	1.790"	1.480"	1.270"	0.310"	4.232"	3.060"	1.150"	1/4-20 on 3.646 BHC	5/8"-11	0.790"	10,000 lbs	SG7031400	211.21	177.50
31450	1.790"	1.480"	1.270"	0.310"	5.232"	4.060"	1.150"	1/4-20 on 4.648 BHC	5/8"-11	0.790"	10,000 lbs	SG7031450	259.17	217.80

Metric														
Model No	Overall Height	Clamp Height	Contact Length	Flange Thickness	Flange Diameter	Diameter	Minimum Diameter	Outer Edge Screw	Thread Size	Thread Length	Holding Force	Order No.	Regular Price	SALE
#0	21.8 mm	16 mm	15mm	5.9mm	29.72mm	12.4mm	71mm	M3 on 20.95 mm BHD	M4	7.2mm	3125 lbs	SG7038050	55.34	49.90
#00	10.7 mm	7.6 mm	6.1mm	3mm	20mm	7.4mm	4.1mm	M2 on 13.7 mm BHC	M2	4.1mm	823 lbs	SG7038000	55.34	49.90
#1	24.9 mm	19 mm	15mm	5.9mm	31.5mm	14.2mm	12.2mm	M3 on 23.1 mm BHC	M4	11.2mm	6,256 lbs	SG7038100	55.34	49.90
#10	45.5 mm	37.6 mm	32.3mm	7.9mm	152.4mm	250.2mm	29.3mm	M6 on 133.35 mm BHC	M16	19.3mm	19,240 lbs	SG7038550	1281.11	1153.00
#2	24.9 mm	19 mm	15mm	5.9mm	37.5mm	20mm	13.5mm	M3 on 29.0 mm BHC	M8	13.2mm	8,232 lbs	SG7038150	58.92	53.10
#3	28.6 mm	22.2 mm	17.5mm	6.4mm	50mm	27mm	18mm	M4 on 39.4 mm BHC	M10	16.3mm	14,818 lbs	SG7038200	76.58	69.00
#4	31.8 mm	25.4 mm	20.6mm	6.4mm	56mm	35.3mm	23mm	M4 on 45.5 mm BHC	M12	20.3mm	19,425 lbs	SG7038250	94.44	85.00
#5	39.6 mm	31.8 mm	27mm	7.9mm	69.5mm	42mm	29.3mm	M5 on 55.9 mm BHC	M16	21.4mm	32,930 lbs	SG7038300	121.08	109.00
#6	39.6 mm	31.8 mm	27mm	7.9mm	72.5mm	51.5mm	29.3mm	M5 on 63.9 mm BHC	M16	21.4mm	32,930 lbs	SG7038350	132.85	119.60
#7	45.5 mm	37.6 mm	32.3mm	7.9mm	107.5mm	77.7mm	29.3mm	M6 on 92.6 mm BHC	M16	19.3mm	32,930 lbs	SG7038400	211.21	190.10
#9	45.5 mm	37.6 mm	32.3mm	7.9mm	132.9mm	175mm	29.3mm	M6 on 118.06 mm BHC	M16	19.3mm	32,930 lbs	SG7038500	729.69	656.80
38	45.5 mm	37.6 mm	32.3mm	7.9mm	132.9mm	103mm	29.3mm	M6 on 118.06 mm BHC	M16	19.3mm	32,930 lbs	SG7038450	259.17	233.30

**HOLDING SYSTEMS** CAT40 & CAT50 V-Flange Shell Mill Holders

- Produced according to AT3 specifications
- Tools are made of high quality alloy steel
- Shell end mill pilot T.I.R. ≤ .0002"
- Thru the spindle coolant capability (Except R8 Style)
- Constructed of alloy steel



CAT40				
Shell Mill Pilot Size	Protruding Length (LPR)	Order No.	Regular Price	SALE
1/2"	1.380"	MT6519900	119.98	90.00
3/4"	1.380"	MT6519901	119.98	90.00
3/4"	3.500"	MT6519902	127.68	95.80
1"	2.060"	MT6519903	118.58	88.90
1"	4"	MT6519904	127.68	95.80
1-1/4"	2.120"	MT6519905	177.17	132.90
1-1/4"	4"	MT6519906	184.15	138.10
1-1/2"	2.410"	MT6519907	177.17	132.90
1-1/2"	4"	MT6519908	184.15	138.10

CAT50				
Shell Mill Pilot Size	Protruding Length (LPR)	Order No.	Regular Price	SALE
1/2"	1.380"	MT6519910	227.63	170.70
1/2"	3.500"	MT6519911	234.97	176.20
3/4"	1.380"	MT6519912	227.63	170.70
3/4"	3.500"	MT6519913	234.97	176.20
3/4"	6"	MT6519914	275.34	206.50
1"	2.060"	MT6519915	235.71	176.80
1"	4"	MT6519916	234.97	176.20
1"	6"	MT6519917	275.34	206.50
1-1/4"	2.120"	MT6519918	227.63	170.70
1-1/4"	4"	MT6519919	234.97	176.20
1-1/4"	6"	MT6519920	271.67	203.80
1-1/2"	2.410"	MT6519921	227.63	170.70
1-1/2"	4"	MT6519922	234.97	176.20
1-1/2"	6"	MT6519923	275.34	206.50

**PRM PRO** Steel Barrel Pump - Lever Type

- Heavy steel pump body with ribbed section pump head
- Fits 15 to 55 gallon drums with built in 1-1/2" and 2" bung opening
- Includes curved discharge metal pipe and telescoping steel tube assembly
- Recommended for use with oil based fluids, heating oils, motor oils, heavy & light oils, diesel & kerosene
- Pump not suited for use with water



Order No.	Regular Price	SALE
LC727765	86.62	65.70

**WORLD CLASS QUALITY** 5/8" 6 Pc. Milling T-Slot Cover Set

- Anodized Aluminum T-Slot table guard inserts
- Save time from cleaning, speedy and convenient to enhance working efficiency
- Drilled for coolant drainage
- 6 Per package approximately 16" long each



Compatible With	Order No.	Regular Price	SALE
5/8" T-Slot Milling Tables	JF70MSCSET	66.60	40.80

## MORSE Retention Knobs

- Our retention knobs are made out of 8620 Alloy Steel
- Hardened to 60HRC
- Black Oxide coating for rust protection
- All contact surfaces are precision ground



CAT40											
Tool Type	Coolant Supply Property (CSP)	Connection Retention Knob Thread Size (CRKS)	Neck Diameter	Body Diameter (BD)	Pilot Diameter	Flange to Angle Length	Flange to Knob Length	Overall Length (OAL)	Order No.	Regular Price	SALE
BRIDGEPORT, LEADWELL	No	5/8"-11	0.392"	0.589"	0.636"	0.988"	1.264"	2-1/4"	MT8226599	36.53	27.40
FADAL, DMG, HURCO	Yes	5/8"-11	0.490"	0.74"	0.636"	0.440"	0.640"	1.62"	MT8226597	34.06	25.50
HAAS, CHEVALIER, FEELER, FRYER, JOHNFORD	Yes	5/8"-11	0.392"	0.589"	0.636"	0.988"	1.264"	2-1/4"	MT8226601	36.53	27.40
HAAS, CHEVALIER, FEELER, FRYER, JOHNFORD	No	5/8"-11	0.392"	0.589"	0.636"	0.988"	1.264"	2-1/4"	MT8226600	36.53	27.40
KITAMURA, DOOSAN, HYUNDAI KIA	Yes	5/8"-11	0.549"	0.747"	0.641"	0.787"	1.024"	2.004"	MT8226606	36.53	27.40
MAKINO	Yes	5/8"-11	0.549"	0.746"	0.641"	0.792"	1.028"	2.008"	MT8226604	36.53	27.40
MAKINO, MITSUBISHI, ENSHU, HITACHI, KIRA, OKUMA, MILL-TRONICS	No	5/8"-11	0.392"	0.589"	0.636"	0.988"	1.264"	2-1/4"	MT8226602	36.53	27.40
MAZAK, FADAL, DMG, HURCO	Yes	5/8"-11	0.490"	0.74"	0.641"	0.440"	0.640"	1.62"	MT8226603	34.06	25.50
MAZAK, FADAL, DMG, HURCO	No	5/8"-11	0.490"	0.74"	0.636"	0.440"	0.640"	1.62"	MT8226596	34.06	25.50
MORI SEIKI	Yes	5/8"-11	0.548"	0.747"	0.641"	0.787"	1.024"	2.004"	MT8226605	36.53	27.40
MORI SEIKI, OKK, KIRA	No	5/8"-11	0.392"	0.589"	0.636"	0.988"	1.264"	2-1/4"	MT8226598	36.53	27.40

CAT50											
Tool Type	Coolant Supply Property (CSP)	Connection Retention Knob Thread Size (CRKS)	Neck Diameter	Body Diameter (BD)	Pilot Diameter	Flange to Angle Length	Flange to Knob Length	Overall Length (OAL)	Order No.	Regular Price	SALE
DOOSAN, HYUNDAI KIA	Yes	1"-8	0.668"	0.903"	1.026"	1.384"	1.778"	3.355"	MT8226614	53.87	40.40
HAAS, MILLTRONICS, VIPER, ENSHU, AWEA	Yes	1"-8	0.668"	0.903"	1.026"	1.384"	1.778"	3.355"	MT8226612	53.87	40.40
HAAS, MILLTRONICS, VIPER, ENSHU, AWEA	No	1"-8	0.668"	0.903"	1.026"	1.384"	1.778"	3.355"	MT8226613	53.87	40.40
-	Yes	1"-8	0.668"	0.903"	1.026"	1.384"	1.778"	3.355"	MT8226617	53.87	40.40
MAZAK, DMG, G&L, HURCO, FADAL	Yes	1"-8	0.820"	1.14"	1.026"	0.700"	1.000"	2.575"	MT8226608	50.75	38.10
MAZAK, DMG, G&L, HURCO, FADAL, WALTER GRINDERS	No	1"-8	0.820"	1.14"	1.026"	0.700"	1.000"	2.575"	MT8226607	50.75	38.10
MORI SEIKI, OKK, YANG	No	1"-8	0.668"	0.903"	1.026"	1.384"	1.778"	3.355"	MT8226616	50.75	38.10
OKK	Yes	1"-8	0.668"	0.903"	1.026"	1.384"	1.778"	3.355"	MT8226609	53.87	40.40
OKUMA, HITACHI, SNK, TOSHIBA	Yes	1"-8	0.668"	0.903"	1.026"	1.384"	1.778"	3.355"	MT8226610	53.87	40.40
OKUMA, HITACHI, SNK, TOSHIBA	No	5/8"-11	0.668"	0.746"	1.026"	1.384"	1.778"	2.008"	MT8226611	53.87	40.40
TOYODA	Yes	1"-8	0.668"	0.903"	1.030"	1.384"	1.778"	3.355"	MT8226615	53.87	40.40

1561

## ROYAL High Precision Quad Bearing Live Centers

- Great for grinding and tight tolerance turning
- ±0.00005" T.I.R. guaranteed
- Three precision angular contact bearings are secured to the point with a locknut to form a rigid, preloaded assembly
- The point extends into the body where it is supported by a needle roller bearing, which further increases rigidity, reduces point deflection, and dampens vibration
- Bearing life is significantly extended with the exclusive Royal Roto-Shield™ coolant slinger and upgraded, long-life, spring-loaded seal that is resistant to abrasion, high temperatures and virtually all metalworking fluids
- Low profile head provides excellent tool clearance
- Body and point are hardened for strength and durability



CNC											
Mount	Head Diameter	Head Length	Point Length	Point Diameter	Tip Diameter	Maximum RPM	Radial Load	Thrust Load	Order No.	Regular Price	SALE
3 MT	1.70"	2.120"	1.75"	0.880"	0.380"	6,000	465 lbs	1,270 lbs	HK2610663	1338.79	1138.00
4 MT	2.45"	2.780"	2.35"	1.250"	0.500"	5,000	1,230 lbs	2,150 lbs	HK2610664	1642.44	1396.10
5 MT	2.45"	2.780"	2.35"	1.250"	0.500"	5,000	1,230 lbs	2,150 lbs	HK2610665	1725.25	1466.50

Standard											
Mount	Head Diameter	Head Length	Point Length	Point Diameter	Tip Diameter	Maximum RPM	Radial Load	Thrust Load	Order No.	Regular Price	SALE
3 MT	1.70"	2.120"	1.07"	0.880"	-	6,000	885 lbs	1,270 lbs	HK2610413	1376.06	1169.70
4 MT	2.45"	2.780"	1.47"	1.250"	-	5,000	2,240 lbs	2,150 lbs	HK2610414	1642.44	1396.10
5 MT	2.45"	2.780"	1.47"	1.250"	-	5,000	2,240 lbs	2,150 lbs	HK2610415	1725.25	1466.50
5 MT	3.82"	3.890"	2.31"	2.00"	-	3,000	5,240 lbs	5,300 lbs	HK2610445	3464.30	2944.70

1666





# WORKHOLDING

## TCO Equal Thread Length Driver Studs - Inch

- Tensile 125,000 PSI
- Yield 100,000 PSI
- Black Oxide finish
- Medium carbon steel



Thread Size	Thread Length A	Thread Length B	Overall Length	Order No.	Regular Price	SALE
1/4"-20	1/2"	1/2"	1 1/2"	SG5040301	3.18	<b>2.35</b>
1/4"-20	3/4"	3/4"	2"	SG5040302	3.18	<b>2.35</b>
1/4"-20	1"	1"	2 1/2"	SG5040303	3.18	<b>2.35</b>
5/16"-18	1/2"	1/2"	1 1/2"	SG5040401	3.46	<b>2.55</b>
5/16"-18	3/4"	3/4"	2"	SG5040402	3.59	<b>2.65</b>
5/16"-18	1"	1"	2 1/2"	SG5040403	3.59	<b>2.65</b>
5/16"-18	1 1/8"	1 1/8"	3"	SG5040404	3.73	<b>2.75</b>
5/16"-18	1 1/8"	1 1/8"	3 1/2"	SG5040405	3.86	<b>2.85</b>
3/8"-16	1/2"	1/2"	1 1/2"	SG5040501	3.04	<b>2.25</b>
3/8"-16	3/4"	3/4"	2"	SG5040502	3.04	<b>2.40</b>
3/8"-16	1"	1"	2 1/2"	SG5040503	3.04	<b>2.40</b>
3/8"-16	1"	1"	3"	SG5040504	3.04	<b>2.40</b>
3/8"-16	1 1/4"	1 1/4"	3 1/2"	SG5040505	3.04	<b>2.40</b>
3/8"-16	1 1/4"	1 1/4"	4"	SG5040506	3.18	<b>2.40</b>
3/8"-16	1 1/4"	1 1/4"	4 1/2"	SG5040507	3.18	<b>2.35</b>
3/8"-16	1 1/4"	1 1/4"	5"	SG5040508	3.18	<b>2.35</b>
3/8"-16	1 1/4"	1 1/4"	6"	SG5040510	3.31	<b>2.45</b>
3/8"-16	1 1/4"	1 1/4"	7"	SG5040512	3.46	<b>2.55</b>
3/8"-16	1 1/4"	1 1/4"	8"	SG5040514	3.46	<b>2.55</b>
1/2"-13	1/2"	1/2"	1 1/2"	SG5040701	3.18	<b>2.35</b>
1/2"-13	3/4"	3/4"	2"	SG5040702	3.31	<b>2.50</b>
1/2"-13	1"	1"	2 1/2"	SG5040703	3.18	<b>2.40</b>
1/2"-13	1"	1"	3"	SG5040704	3.31	<b>2.50</b>
1/2"-13	1 1/4"	1 1/4"	3 1/2"	SG5040705	3.46	<b>2.55</b>
1/2"-13	1 1/2"	1 1/2"	4"	SG5040706	3.59	<b>2.80</b>
1/2"-13	1 1/2"	1 1/2"	4 1/2"	SG5040707	3.59	<b>2.65</b>
1/2"-13	1 1/2"	1 1/2"	5"	SG5040708	3.73	<b>2.80</b>
1/2"-13	1 1/2"	1 1/2"	5 1/2"	SG5040709	3.73	<b>2.75</b>
1/2"-13	1 1/2"	1 1/2"	6"	SG5040710	3.86	<b>3.10</b>
1/2"-13	1 1/2"	1 1/2"	6 1/2"	SG5040711	4.14	<b>3.15</b>
1/2"-13	1 1/2"	1 1/2"	7"	SG5040712	4.27	<b>3.25</b>
1/2"-13	1 1/2"	1 1/2"	7 1/2"	SG5040713	4.42	<b>3.35</b>
1/2"-13	1 1/2"	1 1/2"	8"	SG5040714	4.56	<b>3.45</b>
1/2"-13	1 1/2"	1 1/2"	9"	SG5040715	8.56	<b>6.45</b>
1/2"-13	1 1/2"	1 1/2"	10"	SG5040716	9.66	<b>7.25</b>
1/2"-13	1 1/2"	1 1/2"	12"	SG5040717	11.74	<b>8.85</b>
1/2"-13	1 1/2"	1 1/2"	14"	SG5040718	12.97	<b>9.75</b>
1/2"-13	1 1/2"	1 1/2"	16"	SG5040719	16.56	<b>12.45</b>
5/8"-11	1"	1"	3"	SG5040804	4.14	<b>3.20</b>
5/8"-11	1 1/4"	1 1/4"	3 1/2"	SG5040805	4.42	<b>3.30</b>
5/8"-11	1 5/8"	1 5/8"	4"	SG5040806	4.42	<b>3.30</b>

Thread Size	Thread Length A	Thread Length B	Overall Length	Order No.	Regular Price	SALE
5/8"-11	1 3/4"	1 3/4"	4 1/2"	SG5040807	4.69	<b>3.60</b>
5/8"-11	1 3/4"	1 3/4"	5"	SG5040808	4.97	<b>3.80</b>
5/8"-11	1 3/4"	1 3/4"	5 1/2"	SG5040809	5.11	<b>3.80</b>
5/8"-11	1 3/4"	1 3/4"	6"	SG5040810	5.39	<b>4.10</b>
5/8"-11	1 3/4"	1 3/4"	6 1/2"	SG5040811	5.65	<b>4.30</b>
5/8"-11	1 3/4"	1 3/4"	7"	SG5040812	5.80	<b>4.50</b>
5/8"-11	1 3/4"	1 3/4"	7 1/2"	SG5040813	6.35	<b>4.80</b>
5/8"-11	1 3/4"	1 3/4"	8"	SG5040814	6.35	<b>4.80</b>
5/8"-11	1 3/4"	1 3/4"	9"	SG5040815	10.91	<b>8.30</b>
5/8"-11	1 3/4"	1 3/4"	10"	SG5040816	12.01	<b>9.30</b>
5/8"-11	1 3/4"	1 3/4"	12"	SG5040817	13.25	<b>10.20</b>
5/8"-11	1 3/4"	1 3/4"	14"	SG5040818	15.46	<b>11.80</b>
5/8"-11	1 3/4"	1 3/4"	16"	SG5040819	17.66	<b>13.50</b>
5/8"-11	1 3/4"	1 3/4"	18"	SG5040820	19.46	<b>14.90</b>
5/8"-11	1 3/4"	1 3/4"	20"	SG5040821	21.80	<b>16.35</b>
5/8"-11	1 3/4"	1 3/4"	22"	SG5040822	24.98	<b>18.75</b>
5/8"-11	1 3/4"	1 3/4"	24"	SG5040823	26.92	<b>20.15</b>
3/4"-10	1 1/8"	1 1/8"	3"	SG5040901	4.97	<b>3.75</b>
3/4"-10	1 3/8"	1 3/8"	3 1/2"	SG5040902	5.39	<b>4.05</b>
3/4"-10	1 1/2"	1 1/2"	4"	SG5040903	5.65	<b>4.25</b>
3/4"-10	1 3/4"	1 3/4"	4 1/2"	SG5040904	6.22	<b>4.65</b>
3/4"-10	2"	2"	5"	SG5040905	6.35	<b>4.75</b>
3/4"-10	2"	2"	5 1/2"	SG5040906	6.77	<b>5.05</b>
3/4"-10	2"	2"	6"	SG5040907	7.04	<b>5.25</b>
3/4"-10	2"	2"	6 1/2"	SG5040908	7.45	<b>5.55</b>
3/4"-10	2"	2"	7"	SG5040909	7.60	<b>5.65</b>
3/4"-10	2"	2"	7 1/2"	SG5040910	8.15	<b>6.15</b>
3/4"-10	2"	2"	8"	SG5040911	8.15	<b>6.15</b>
3/4"-10	2"	2"	9"	SG5040912	14.90	<b>11.15</b>
3/4"-10	2"	2"	10"	SG5040913	16.28	<b>12.25</b>
3/4"-10	2"	2"	12"	SG5040914	18.36	<b>13.75</b>
3/4"-10	2"	2"	14"	SG5040915	19.87	<b>14.95</b>
3/4"-10	2"	2"	16"	SG5040916	21.80	<b>16.35</b>
3/4"-10	2"	2"	18"	SG5040917	23.33	<b>17.45</b>
3/4"-10	2"	2"	20"	SG5040918	25.26	<b>18.95</b>
3/4"-10	2"	2"	22"	SG5040919	28.15	<b>21.15</b>
3/4"-10	2"	2"	24"	SG5040920	30.50	<b>22.85</b>
7/8"-9	1"	1"	3"	SG5041001	10.91	<b>8.15</b>
7/8"-9	1 1/2"	1 1/2"	4"	SG5041003	12.29	<b>9.25</b>
7/8"-9	2"	2"	5"	SG5041005	13.94	<b>10.45</b>
7/8"-9	2 1/4"	2 1/4"	6"	SG5041007	15.32	<b>11.45</b>
7/8"-9	2 1/4"	2 1/4"	7"	SG5041009	17.11	<b>12.85</b>
7/8"-9	2 1/4"	2 1/4"	8"	SG5041011	19.04	<b>14.25</b>
7/8"-9	2 1/4"	2 1/4"	9"	SG5041012	21.80	<b>16.35</b>
7/8"-9	2 1/4"	2 1/4"	10"	SG5041013	23.74	<b>17.90</b>
7/8"-9	2 1/4"	2 1/4"	12"	SG5041014	25.54	<b>19.20</b>

† Items Do Not Have Flats on Studs

1763

## RAPIDHOLD Low Profile Drill Press Vises

- Designed for drilling, tapping and reaming operations
- Base has four 1/2" shoulder slots for quick, easy positioning on drill press tables
- Moveable jaw is flat and the fixed jaw has a vertical and horizontal v-groove cut
- Replaceable jaws



Jaw Width	Jaw Opening Capacity	Jaw Height	Weight	Order No.	Regular Price	SALE
3"	3"	1 1/8"	10 lbs	HT968461	57.46	<b>35.70</b>
4"	4"	1 1/2"	15 lbs	HT968462	78.55	<b>48.80</b>
6"	6"	2"	34 lbs	HT968464	178.76	<b>111.00</b>

F.O.B. Warren, MI

1550

## TECO 52 Pc. Machinist Clamping Set

For 5/8" Table Slot with 1/2" -13 T-Nuts & Studs

Set Contains:

- 4 Coupling nuts
- 6 Flange nuts
- 6 T-slot nuts
- 24 Studs, 4 each: 3, 4, 5, 6, 7 & 8" long
- 6 Step blocks
- 6 Serrated end clamps
- 1 All plastic holder



Order No.	Regular Price	SALE
SG6012625CKUS	217.76	<b>166.40</b>

1759

## NATIONAL 52 Pc. Clamping Set

For Bridgeport Type Machines For 5/8 Table Slot with 1/2-13 T-Nuts Studs

Set Contains:

- 4 Coupling nuts
- 6 Flange nuts
- 6 T-slot nuts
- 24 Studs, 4 each: 3, 4, 5, 6, 7 & 8" long
- 6 Step blocks
- 6 Serrated end clamps
- 1 All plastic holder



Order No.	Regular Price	SALE
SG6012625CK	136.49	<b>82.80</b>

1450

## WIDEN Classic Series Regular Duty F-Clamps

- Black oxide spindles resist wear and tear while impeding rust
- Drop forged arm provides minimal flex under heavy workloads
- Swivel pad centers on workpiece for sturdy hold
- Sturdy tommy bar engineered for durability and comfort



Capacity	Throat Depth	Clamping Force	Order No.	Regular Price	SALE
8"	4 3/4"	1,800 lbs	HZ4186200	93.29	<b>77.00</b>
12"	5 1/2"	1,800 lbs	HZ4186210	103.50	<b>89.70</b>
18"	4 3/4"	1,800 lbs	HZ4186220	124.87	<b>102.20</b>
24"	4 3/4"	1,800 lbs	HZ4186230	132.04	<b>108.20</b>

1900

## TECO Step Blocks - Steel

- Larger sizes have chamfered holes for ease of use
- Blocks work in conjunction with serrated end clamps
- Two halves = One Block



1"			
Overall Length	Order No.	Regular Price	SALE
1-1/16"	SG5040102	10.36	<b>8.30</b>
3-3/4"	SG5040104	35.60	<b>28.60</b>
1-39/64"	SG5040103	14.77	<b>11.80</b>

2"			
Overall Length	Order No.	Regular Price	SALE
5-21/64"	SG5040110	118.01	<b>94.80</b>
3-3/4"	SG5040109	64.32	<b>51.70</b>
2-17/32"	SG5040108	42.37	<b>34.00</b>
7-3/8"	SG5040111	357.61	<b>268.25</b>

1-1/2"			
Overall Length	Order No.	Regular Price	SALE
5-21/64"	SG5040107	90.96	<b>73.10</b>
3-3/4"	SG5040106	50.52	<b>40.60</b>
2-17/32"	SG5040105	25.54	<b>20.50</b>

30927

## WIDEN 400 Series Hi-Vis Safety Yellow C-Clamps

- High Visibility Yellow Conforms to OSHA Safety Color Standard for Physical Hazards Regulation # 1910.144
- V Grooved Anvil Feature Allows Secure Holding of All Materials Including Rounds, Squares and Flats.



Maximum Opening	Throat Depth	Spindle Diameter	Clamping Force	Order No.	Regular Price	SALE
2 1/8"	2 1/4"	9/16"	3,500 lbs	HZ41402SF	38.63	<b>32.85</b>
3"	2 1/2"	9/16"	3,500 lbs	HZ41403SF	48.29	<b>41.05</b>
4 1/4"	3 1/4"	3/4"	6,200 lbs	HZ41404SF	76.06	<b>59.00</b>
6 1/16"	4 1/8"	3/4"	6,600 lbs	HZ41406SF	116.25	<b>90.00</b>
8 1/4"	5"	3/4"	6,900 lbs	HZ41408SF	144.96	<b>112.30</b>
10 1/8"	6"	3/4"	8,000 lbs	HZ41410SF	199.51	<b>154.50</b>
12 1/4"	6 5/16"	7/8"	9,300 lbs	HZ41412SF	322.95	<b>250.20</b>

1887



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ISO 9001  
BUREAU VERITAS  
Certification



## PERFORMANCE-DRIVEN GLOVES FOR EVERY JOB.



**I2466**

**PERFORMANCE RATINGS:**

CUT A7	ABR 4	PUNCT 4	IMPACT 2

**SPECIFICATIONS:**

Style	I2466
Description	18G, A7, Foam Nitrile, Thumb Crotch, Abrasion 4, Impact 2
Material	Fiberglass/Stainless Steel/Nylon/Lycra/HPPE/Thermoplastic Rubber
Palm	Foam Nitrile
Cut Performance	ANSI Level A7
Abrasion Performance	ANSI Level 4
Puncture Performance	ANSI Level 4
Impact Level	ANSI Level 2
Size	S-XXL
Packaging (Inner Pack)	6 Pairs
Packaging (Case Pack)	72 Pairs
Touchscreen	Touchscreen compatible



**I2478**

**PERFORMANCE RATINGS:**

CUT A5	ABR 4	PUNCT 4	IMPACT 1

**SPECIFICATIONS:**

Style	I2478
Description	18G, A5, Nitrile dipped with TPR
Material	Stainless Steel/Fiberglass/HPPE/Nylon/Lycra
Palm	Foam Nitrile
Cut Performance	ANSI Out Level A5
Abrasion Performance	ANSI Level 4
Puncture Performance	ANSI Level 4
Impact Performance	ANSI Level 1
Size	S-XXL
Packaging (Inner Pack)	6 Pairs (1 pair per polybag)
Packaging (Case Pack)	72 Pairs



**Y9214**

**PERFORMANCE RATINGS:**

CUT A6	ABR 4	EN 388

**SPECIFICATIONS:**

Style	Y9214
Description	Cut Resistant Sandy Nitrile Palm Coated Touchscreen Gloves
Material	13 Gauge HPPE; Silicone-Free; Latex-Free
Palm	Sandy Nitrile
Cut Performance	ANSI Level A6
Abrasion Performance	ANSI Level A4
Puncture Performance	ANSI Level A4
Size	S-XXL
Packaging (Inner Pack)	12 Pairs
Packaging (Case Pack)	144 Pairs



**Y9216**

**PERFORMANCE RATINGS:**

CUT A7	ABR 5	EN 388

**SPECIFICATIONS:**

Style	Y9216
Description	Seamless Knit Palm Coated Glove
Material	Blend of High Performance Fibers & Steel
Palm	Sandy Nitrile
Cut Performance	ANSI Level A7
Abrasion Performance	ANSI Level A5
Puncture Performance	ANSI Level A5
Size	S-XXL
Packaging (Inner Pack)	12 Pairs
Packaging (Case Pack)	144 Pairs



**Y9219**

**PERFORMANCE RATINGS:**

CUT A9	ABR 4	EN 388

**SPECIFICATIONS:**

Style	Y9219
Description	18G, A9, PU Coated, ANSI Puncture 4
Material	Tungsten/Fiberglass/Polyester/HPPE
Palm	Polyurethane (PU)
Cut Performance	ANSI Level A9
Abrasion Performance	ANSI Level 4
Puncture Performance	ANSI Level 4
Size	S-XXL
Packaging (Inner Pack)	12 Pairs
Packaging (Case Pack)	144 Pairs

INNOVATION LEADERS SINCE 1907

PRICES EFFECTIVE APRIL 1ST THROUGH JUNE 30, 2024

NOT ALL ITEMS EXACTLY AS PICTURED. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS. WE RESERVE THE RIGHT TO LIMIT QUANTITIES. ITEMS AVAILABLE WHILE SUPPLIES LAST.