

Swanstrom Tools for Electronics

ESD Safe

Made in the USA

Ergonomic

Precision



**Swanstrom
Tools USA**



Swanstrom Tools USA

OUR MISSION

To profit with our partners by increasing productivity with precision quality ergonomic tools.

OUR PROMISE

We promise our customers simply the finest, most ergonomic and durable tools for their industrial requirements, and to serve them accurately, on time, and with the highest ethical standards.

OUR QUALITY AND ERGONOMICS

Our specialties are long life, user friendly tools, for high tech industries and people who use tools intensely. Swanstrom Tools soon prove themselves to operators, engineers, ergonomists, buyers and distributors.

Strength and long life starts in our steel. Smoother bearings, sharper blades, beautiful ergo black finishes and

Soft Touch™ handles set our tools apart from the competition. Precision shaping, honing and other finishes conform exactly to each user's unique requirements.

Factory use proves our long edge and bearing life. Comfort of our ESD safe textured foam is immediately obvious and best for users' product quality and people, thereby reducing their tool costs, workers comp costs, and total costs.

OUR WARRANTY

We warrant these products free of defects in material or workmanship for a tool lifetime of normal use, often many years. Any product failing to satisfy the customer should be reported to our Sales Manager, who will quickly get the customer satisfied while directing the complaints, tools, and questions to quality manager for thorough analysis.

If inspection shows that the product failed to meet new tool specifications, we will repair, replace, or credit (our option). Abused or altered tools are not covered.

Feature

Super cutters are forged out of high chromium, high carbon, 52100 grade ball bearing steel.

Swanstrom pioneered ergonomic handles for the electronic hand tool industry.

All Swanstrom Super, Spartan, and STUSA forged tools are manufactured in the USA.

Ergonomic handle designs combined with many choices of edges and bevels.

Super cutters have induction hardened (HRC65) cutting edges.

Factory reconditioning of all Super Tools and many competitors tools with fast turn-around time.

Scrivet joints™.

Specialty tool design and manufacture.

Super Tools feature adjustable leaf springs and option of positive adjustable stops.

Multiple spring options available for Super Tools.

All Swanstrom Super Tools are ESD safe.

We offer leadcatchers.

Benefit

Best steel for combined durability (wear) and reliability (life).

Ergonomic handles reduce the probability of CTD's.

American jobs for American workers.

Provides ease of operator use.

Long life, more cuts.

Facilitates ISO 14000 compliance. Extends life of tool. Reduces cost per cut.

Allows for easy readjustment of joint.

Tools for unique applications.

Provides flexibility for the operator.

Leaf springs - adjustable.
Coil springs - field replaceable.

Appropriate for bench use in static sensitive areas.

Prevents cut wire from falling into components.

Table of Contents

General Information:

Ergonomics, Tool Head and Tip Shape	2
Tool Life, Capacities, Abbreviations.	3

Cutters:

Diagonal	4, 5
Reverse Angle	6
Angle End	6
Transverse End.	7
Anvil	7
Long Nose Tip Cutters	7
Shear	8
Strippers	8
Stand-Off	9

Pliers:

Snipe	10
Long Nose	10
Flat Nose	11
Needle Nose.	11
Curve Nose.	10, 11
Round Nose.	12
Straightening	12
Forming.	12
Plizers	13

Tweezers:

Tweezers (Ergonomic—ESD Safe)	14
SMD Tweezers	15
Plizers	13

Spartan:

Electronic Tools	16, 17, Back Pocket
----------------------------	---------------------

STUSA:

Electronic Tools	18, 19
----------------------------	--------

Reconditioning:

Hand Tool Reconditioning	Back Pocket
------------------------------------	-------------

Index	20, Inside Back Cover
------------------------	-----------------------

Connecting with Swanstrom:

Swanstrom Tools USA
3300 James Day Avenue
Superior, WI 54880-5526

Web site: www.swanstromtoolsusa.com
Email: sales@swanstromtools.com
Phone: (715) 392-9231
Toll Free: (800) 287-8872
Fax: (715) 392-9233

Credit Cards accepted: American Express, MasterCard and Visa
Copyright © 2002 by Swanstrom Tools USA



Ergonomic Considerations

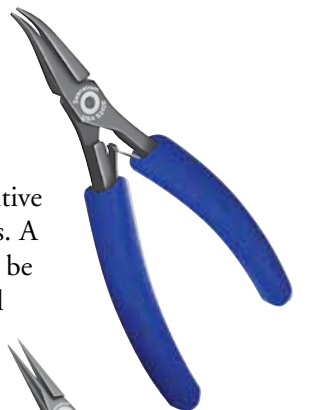
Ergonomic tools allow people to work safely and cost effectively. Tools should be selected based on the operator and task to be performed.

Size, weight and handle form and opening should be comfortable to the employee. Generally, smaller sized tools are more comfortable for smaller hands and larger tools are more effective with larger hands.

Swanstrom electronic tools are available in sizes 3 to 7 dependent upon tool type.

Handles

- Traditional Shorts for less repetitive work areas with restricted access. A traditional style handle can also be an operator's preference. Typical width: 2.0"
- Double Ergonomic (E) disperse and minimize pressure. Extended handle lengths are available. Typical width: Sizes 4 & 5: 1.75"; Size 6–1.95"; Size 7–2.13"
- Pistol Grip (EPR or EPL) are excellent for highly repetitive tasks. They help maintain normal wrist alignment, reducing potential for carpal tunnel and disperse pressure on the hand; Pistol grips further reduce strain and fatigue by allowing all four fingers to be used.



Handle Features

- Handle diameter distributes the pressure over a larger hand surface and eases pick up.
- Double action leaf springs are soft touch and adjustable, minimizing the force and pressure on the hand.
- Static Dissipative Soft Touch™ foam handles distribute hand pressure evenly while protecting sensitive components from electro-static discharge.



Spring Choices Include:

- Double adjustable leaf
- Coils



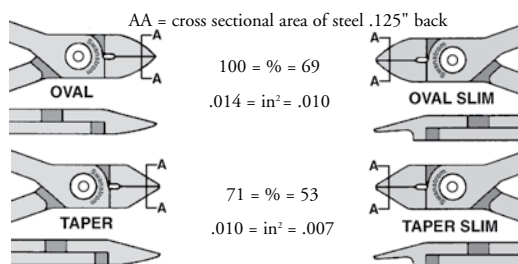
All Handles are ESD Safe
(Static Dissipative)

Head, Tip, and Edge Options

The many tool heads, angles and tip shapes, and edges allow tool choices based on arm and hand position to maximize visibility, ergonomics, and economics. Generally a tool with a larger head lasts longer.

Tip Shape

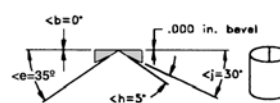
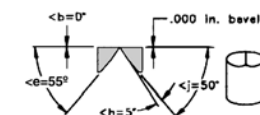
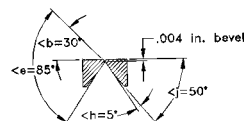
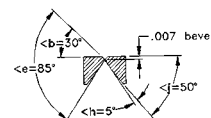
- Oval - the most durable
- Oval Slim - for getting into smaller spaces
- Taper - also for getting into very small spaces
- Taper Slim - most versatile but weaker tips



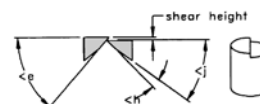
- Angle end and curved nose cutters - the most task specific.
- Leverage and Tip Control - operator effort minimized by using the shortest jaw length possible for the task.

Edge Type

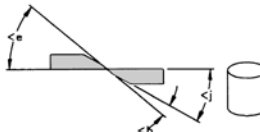
- Bevel - cuts where pinch or spike is not critical, longest life, most pressure to cut
- Flush - reduces pinch, spike and squeeze pressure
- Super Flush - produces minimal spike and shock transmittal, more ergonomic, less squeeze
- Super Flush, Super Sharp - produces least spike, most ergonomic and easiest to squeeze



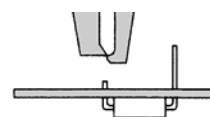
- Near Shear - leaves a slight deformation and step left on the cut, reduces force required to cut.



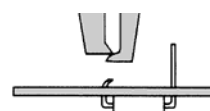
- Pure Shear - no spike, small side deformation, easiest cut



- Stand-Off Shear - minimizes shock, leaves no spike and produces consistent "stand off" lead lengths



- Stand-Off Bend/Cut



Tool Life Expectancy

Tool attributes that give Swanstroms longest life:

- High chrome, high carbon alloy steel for bearings and edges. Aircraft grade bearing quality E52100 steel hardenable to HRC 65 and subsequently tempered.
- Edge angles for ease of cut and edge life (10 choices).
- Longer handles for leverage and pressure distribution.
- Wider bodies for better bearing properties and strength.
- Very hard cut edges for edge life (HRC 65, tempered).
- Scrivets™ for lubricity, adjustability, cleanliness.
- Stainless adjustable leaf springs welded in place.

Tools are scientifically inspected and tested at key production stages. Touch tests are performed on tool edges, tip, joints and springs to ensure ideal function.

Many years of lab and field testing prove that Swanstrom cutters used within design limits, give well over 1,000,000 clean cuts on common lead material such as .020 tinned copper.

Tool Maintenance:

For better tool life, perform proper easy local maintenance.

- Oil joints regularly. An occasional single drop is wise.
- Oil joint and Scrivet™ before adjustment.
- Protect spring-to-handle weld if adjusting leaf spring.
- Cut only material the tool is designed to cut.
- Use proper size tools for parts being cut. Use larger tools for larger and harder parts.
- Keep tools with stops adjusted for type of material cut.
- Keep tools sharp and well serviced. Use Swanstrom Tool Service. (all brands)

Don'ts:

- Don't force a tight, stiff joint. (oil it)
- Don't cut material for which tool was not designed.
- Don't pull on springs without protecting the weld under the plastic (rotate-bend for more pressure).
- Don't improperly grind. Heat and the wrong touch will quickly damage tool beyond repair, may soften the edges, and void warranty.
- Don't forget Swanstrom Tool Service. 1-800-287-8872

Abbreviations for Tool Head Descriptions

Anvil	A	High Leverage	HL	Short Nose	SN
Bevel/Semi Flush	BSF	Jaw Relief	JR	Slim	SL
Bend Cut	BC	Long Nose	LN	Smooth	SM
Bypass	BP	Long Slim	LS	Snipe Nose	SNP
Concave	CV	Micro	MI	Special Radius	SR
Convex	CX	Mini	M	Step	ST
Curved	C	Near Shear	NS	Stress Relief	STR
Double	D	Needle Nose	NN	Submini	SU
Double End	DE	Nipper	N	Super Flush	SPRF
Extra Long	EL	Oval	OV	Taper	T
Fine	FN	Oval Slim	OS	Taper Relieved	TR
Fine Tip	FT	Relieved	RE	Tip Cut	TC
Flat Nose	FLN	Round	R	Ultra Fine	UF
Flat/Round	F/R	Round Nose	RN	V Notch	V
Flush	F	Scissor	SC	Variable Jaw	VJ
Full Flush	FF	Serrated	SER		
Hose Clamp	HC	Shear	S		

Special radiused edges to meet DOD 2000 Specs are available by adding the suffix SR to the part number.

Cutting Capacities

Gage	in	mm	Part Numbers
32	0.007	0.2	S185E
24	0.020	0.6	S171E, S171, S219E, S219, S223E, S223
22	0.025	0.6	S170E, S170, S212E, S212, S215E, S215, S218E, S218, S224E, S224, S225E, S225, S482E, S482
20	0.032	0.8	S202E, S202, S203E, S203, S205B, S213E, S213, S233E, S233, S234E, S234, S291, S402E, S402, S423E, S423, S432E, S432, S483E, S483, S485E, S485, S491E, S491, S492E, S492, S605E, S605
18	0.040	1.0	S201E, S201, S205E, S205, S405E, S405, S412E, S412, S413E, S413, S414E, S414, S420E, S420, S421E, S421, S422E, S422, S430E, S430, S431E, S431, S435E, S435, SC15E
16	0.050	1.3	S410E, S410, S411E, S411, S415E, S415, S416E, S416, S512E, S512, S513E, S513, S514E, S514, S516E, S516, S520E, S520, S521E, S521
14	0.060	1.6	S510E, S510, S511E, S511, S515E, S515, S534E, S534, S535E, S535, S612E, S613E, S614E, S616E, S620E, S621E
12	0.080	2.0	S610E, S611E, S615E, SC5E, SC17E, ST5E, SV5E, SV5ESP
11	0.090	2.3	S700E, S710E
9	0.114	2.9	S350E, S350, S351E, S351
2	0.258	6.6	SC7E, ST7E, SV7E

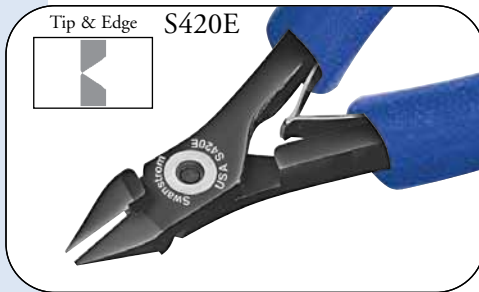
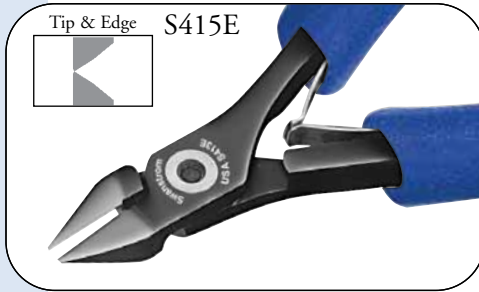
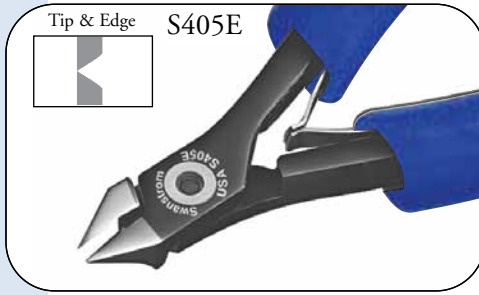
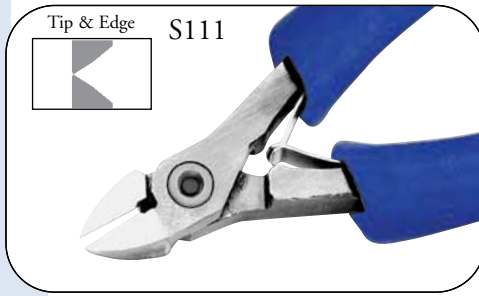


**All Serviced Tools Are Returned ESD Safe
(Static Dissipative)**



Swanstrom

Super Diagonal Cutters

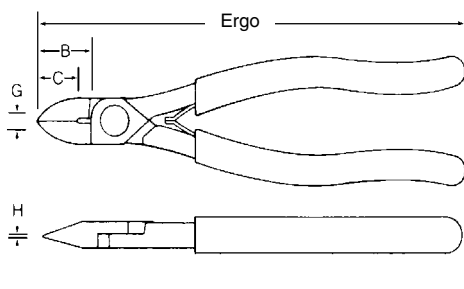


Tool Numbers		Description				Overall Length		Jaw Length	Cutter Length	Tip Width	Tip Thick
ergo	short	head	edge			ergo		short			
S111E	S111	OV	F	.004	in	5.65	4.25	0.53	0.40	0.23	0.03
				.100	mm	144	108	13	10	6	0.80
S112E	S112	OV	SF	.000	in	5.65	4.25	0.53	0.40	0.23	0.03
				.000	mm	144	108	13	10	6	0.80
S115E	S115	T	F	.004	in	5.65	4.25	0.53	0.40	0.17	0.03
				.100	mm	144	108	13	10	4	0.80
S116E	S116	T	SPRF	.000	in	5.65	4.25	0.53	0.40	0.17	0.03
				.000	mm	144	108	13	10	4	0.80
S121E	S121	TR	SPRF	.000	in	5.65	4.25	0.53	0.40	0.17	0.03
				.000	mm	144	108	13	10	4	0.80
S405E	S405	TS SN	SPRF	.000	in	5.46	4.61	0.34	0.21	0.25	0.03
				.000	mm	139	117	9	5	6	0.80
S410E	S410	OV	BSF	.007	in	5.65	4.80	0.53	0.40	0.23	0.03
				.180	mm	144	122	13	10	6	0.80
S411E	S411	OV	F	.004	in	5.65	4.80	0.53	0.40	0.23	0.03
				.100	mm	144	122	13	10	6	0.80
S412E	S412	OV	SPRF	.000	in	5.65	4.80	0.53	0.40	0.23	0.03
				.000	mm	144	122	13	10	6	0.80
S413E	S413	OS	F	.004	in	5.65	4.80	0.53	0.40	0.23	0.03
				.100	mm	144	122	13	10	6	0.80
S414E	S414	OS	SPRF	.000	in	5.65	4.80	0.53	0.40	0.23	0.03
				.000	mm	144	122	13	10	6	0.8
S415E	S415	T	F	.004	in	5.65	4.80	0.53	0.40	0.17	0.03
				.100	mm	144	122	13	10	4	0.80
S416E	S416	T	SPRF	.000	in	5.65	4.80	0.53	0.40	0.17	0.03
				.000	mm	144	122	13	10	4	0.80
S420E	S420	TR	F	.004	in	5.65	4.80	0.53	0.40	0.17	0.03
				.100	mm	144	122	13	10	4	0.80
S421E	S421	TR	SPRF	.000	in	5.65	4.80	0.53	0.40	0.17	0.03
				.000	mm	144	122	13	10	4	0.80
S422E	S422	OV SU	SPRF	.000	in	5.63	4.78	0.50	0.38	0.20	0.03
				.000	mm	143	121	13	10	5	0.80
S423E	S423	OS TC	SPRF	.000	in	5.63	4.78	0.50	0.30	0.20	0.03
				.000	mm	143	121	13	8	5	0.80
S430E	S430	OV HL	BSF	.007	in	5.53	4.68	0.40	0.28	0.20	0.03
				.180	mm	140	119	10	7	5	0.80
S431E	S431	OC HL	F	.004	in	5.53	4.68	0.40	0.28	0.20	0.03
				.100	mm	140	119	10	7	5	0.80
S432E	S432	OV HL	BSF	.000	in	5.53	4.68	0.40	0.28	0.20	0.03
				.000	mm	140	119	10	7	5	0.80
S435E	S435	T HL	SPRF	.000	in	5.51	4.66	0.38	0.26	0.19	0.03
				.000	mm	140	118	10	7	5	0.80
S510E	S510	OV	BSF	.007	in	5.78	4.93	0.63	0.50	0.24	0.05
				.180	mm	147	125	16	13	6	1.30
S511E	S511	OV	F	.004	in	5.78	4.93	0.63	0.50	0.24	0.05
				.100	mm	147	125	16	13	6	1.30
S512E	S512	OV	SPRF	.000	in	5.78	4.93	0.63	0.50	0.24	0.05
				.000	mm	147	125	16	13	6	1.30
S513E	S513	OS	F	.004	in	5.78	4.93	0.63	0.50	0.24	0.05
				.100	mm	147	125	16	13	6	1.30
S514E	S514	OS	SPRF	.000	in	5.78	4.93	0.63	0.50	0.24	0.05
				.000	mm	147	125	16	13	6	1.30
S515E	S515	T	F	.004	in	5.78	4.93	0.63	0.50	0.17	0.05
				.100	mm	147	125	16	13	4	1.30
S516E	S516	T	SPRF	.000	in	5.78	4.93	0.63	0.50	0.17	0.05
				.000	mm	147	1.25	16	13	4	1.30
S520E	S520	TR	F	.004	in	5.78	4.93	0.63	0.50	0.17	0.05
				.100	mm	147	125	16	13	4	1.30
S521E	S521	TR	SPRF	.000	in	5.78	4.93	0.63	0.50	0.17	0.05
				.000	mm	147	1.25	16	13	4	1.30

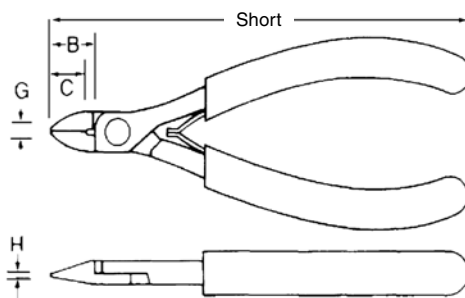
Super Diagonal Cutters

Tool Numbers		Description				Overall Length		Jaw Length	Cutter Length	Tip Width	Tip Thick
ergo	short	head	edge			ergo	short				
S534E	S534	T HL	F	.004	in	5.60	4.75	0.44	0.32	0.22	0.05
				.100	mm	142	121	11	8	5	1.30
S535E	S535	T HL	SPRF	.000	in	5.60	4.75	0.44	0.32	0.22	0.05
				.000	mm	142	121	11	8	5	1.30
S610E	S610	OV	BSF	.007	in	6.33	5.40	0.80	0.60	0.26	0.06
				.180	mm	161	137	20	15	7	1.50
S611E	S611	OV	F	.004	in	6.33	5.40	0.80	0.60	0.26	0.06
				.100	mm	161	137	20	15	7	1.50
S612E	S612	OV	SPRF	.000	in	6.33	5.40	0.80	0.60	0.26	0.06
				.000	mm	161	137	20	15	7	1.50
S613E	S613	OS	F	.004	in	6.33	5.40	0.80	0.60	0.26	0.06
				.100	mm	161	137	20	15	7	1.50
S614E	S614	OS	SPRF	.000	in	6.33	5.40	0.80	0.60	0.26	0.06
				.000	mm	161	137	20	15	7	1.50
S615E	S615	T	F	.004	in	6.33	5.40	0.80	0.60	0.18	0.05
				.100	mm	161	137	20	15	5	1.30
S616E	S616	T	SPRF	.000	in	6.33	5.40	0.80	0.60	0.18	0.05
				.000	mm	161	137	20	15	5	1.30
S620E	S620	TR	F	.004	in	6.33	5.40	0.80	0.60	0.18	0.05
				.100	mm	161	161	20	15	5	1.30
S621E	S621	TR	SPRF	.000	in	6.33	5.40	0.80	0.60	0.18	0.05
				.000	mm	161	161	20	15	5	1.30
S63E	S63	OS SN	FF	.002	in	6.23	5.30	0.70	0.50	0.28	0.04
				.050	mm	158	135	13	8	11	1
S700E	S700	OV	BSF	.007	in	7.34	6.10	0.50	0.30	0.44	0.07
				.180	mm	186	155	13	8	11	1.80
S710E	S710	OV	BSF	.007	in	7.74	6.50	0.90	0.70	0.33	0.07
				.180	mm	197	165	23	18	8	1.80

Ergonomic Handles



Traditional Handles

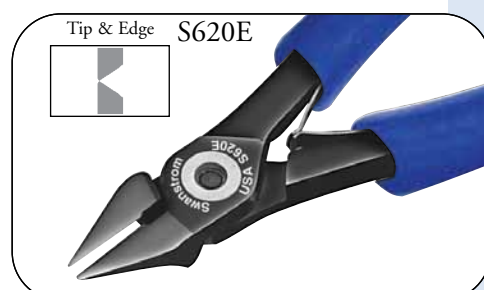
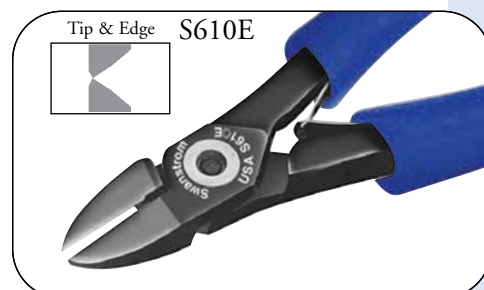


"G" measured .125 from tip.

Ergo Overall Length
Short Overall Length
B Jaw Length
C Cutter Length
G Tip Width
H Tip Thickness



Specifications page 4

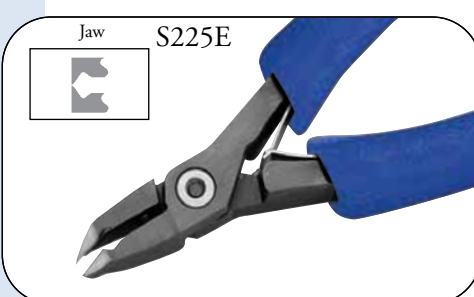
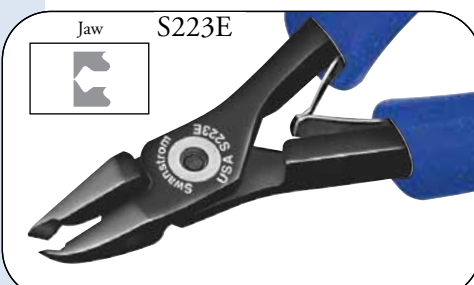


All tools ESD Safe (Static Dissipative)
 Protects circuit components. Does not
 insulate. Do not use on live circuits!



Angle End and Tip Cutters

Reverse Angle, Angle End, and Tip Cutters



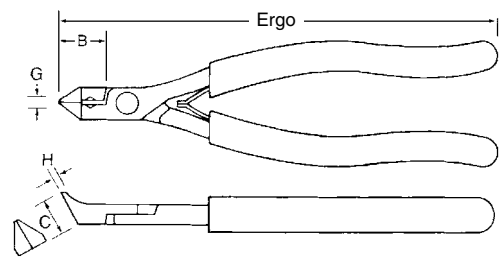
Reverse Angle Cutters

Tool Numbers		Description		Overall Length		Jaw Length	Cutter Length	Tip Width	Tip Thick
ergo	short	head	edge	ergo	short				
S170E	S170	long	SF	.000 in	5.74	4.88	0.61	0.20	0.15
				.000 mm	146	124	15	5	4
S171E	S171	long	SF	.000 in	5.73	4.88	0.60	0.17	0.13
				.000 mm	146	124	15	4	3

Angle End Cutters

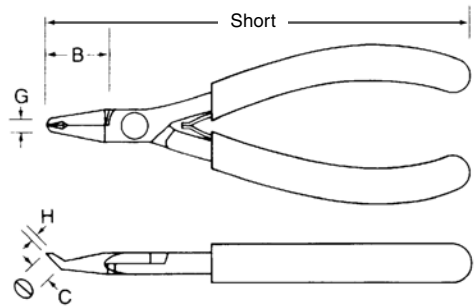
Tool Numbers		Description		Overall Length		Jaw Length	Cutter Length	Tip Width	Tip Thick
ergo	short	head	edge	ergo	short				
S215E	S215	SU LN 45°	SF	.000 in	5.84	4.99	0.71	0.25	0.19
				.000 mm	148	127	18	6	5
S218E	S218	M 45° T	SF	.000 in	5.72	4.87	0.59	0.23	0.17
				.000 mm	145	124	15	6	4
S223E	S223	MI 45° LN	SF	.000 in	5.80	4.95	0.67	0.16	0.15
				.000 mm	147	126	17	4	4
S224E	S224	LN 45° JR	SF	.000 in	5.89	5.04	0.76	0.19	0.18
				.000 mm	150	128	19	5	4
S225E	S225	LN 45°	SF	.000 in	5.84	4.99	0.71	0.26	0.18
				.000 mm	148	127	18	7	5
S482E	S482	MI 45° N	SF	.000 in	5.59	4.74	0.46	0.23	0.20
				.000 mm	142	121	12	6	5
S483E	S483	T 60° N	SF	.000 in	5.76	4.91	0.60	0.45	0.18
				.000 mm	146	125	15	11	5
S485E	S485	R 60° N	SF	.000 in	5.76	4.91	0.60	0.45	0.25
				.000 mm	146	125	15	11	6
S491E	S491	60° N	F	.004 in	5.76	4.91	0.60	0.45	0.25
				.100 mm	146	125	15	11	6
S492E	S492	60° N	SF	.000 in	5.76	4.91	0.60	0.45	0.25
				.000 mm	146	125	15	11	6

Ergonomic Handles



"G" measured .125 back from tip on 60° angle cutter.

Traditional Handles



"G" measured at widest point on 45° angle cutter.

- Ergo Overall Length
- Short Overall Length
- B Jaw Length
- C Cutter Length
- G Tip Width
- H Tip Thickness

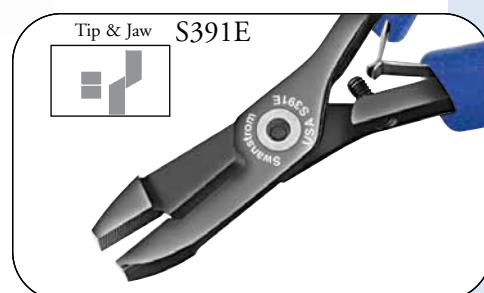
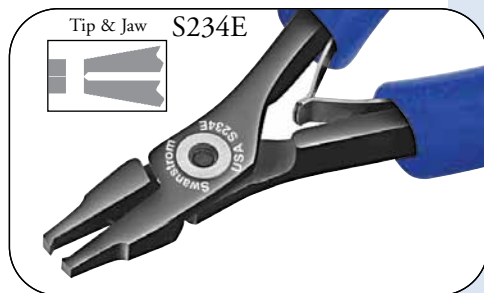
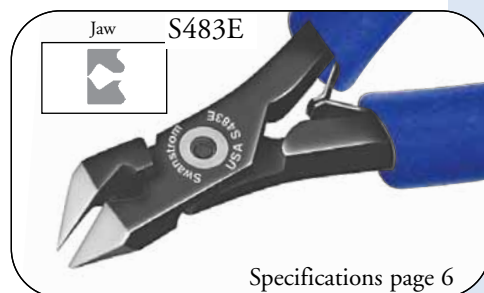
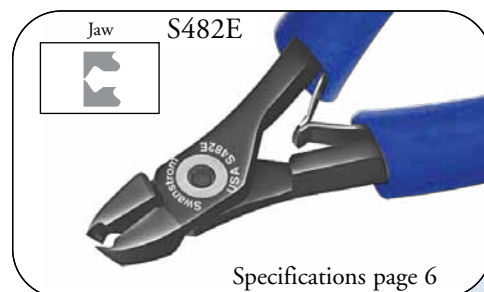
Transverse End and Long Nose Tip Cutters

Transverse End Cutters

Tool Numbers		Description		Overall		Jaw Length		Cutter Length	Tip Length	Tip Width	Thick
ergo	short	head	edge			ergo	short				
S233E	S233	LN	SF	.000	in	5.88	5.03	0.75	0.10	0.20	0.10
				.000	mm	149	128	19	2.5	5	2.50
S234E	S234	SN	F	.004	in	5.88	5.03	0.75	0.11	0.15	0.11
				.100	mm	149	128	19	2.50	4	2.50

Long Nose Tip Cutters

Tool Numbers		Description		Overall		Jaw Length		Cutter Length	Tip Length	Tip Width	Thick
ergo	short	head	edge			ergo	short				
S212E	S212	FN RE	SF	.000	in	5.99	5.14	0.86	0.17	0.15	0.10
				.000	mm	152	131	22	4	4	0.25
S213E	S213	RE	SF	.000	in	5.99	5.14	0.86	0.17	0.17	0.1
				.000	mm	152	131	22	4	4	2.40
S219E	S219	UF RE	SF	.000	in	5.99	5.14	0.86	0.17	0.13	0.08
				.000	mm	152	131	22	4	3	2
-	S291	LN SER A			in	-	5.28	1.00	0.25	0.08	0.06
					mm	-	134	25	6	2	1.50
S350E	S350	SM	S		in	6.86	6.01	1.70	0.50	0.08	0.06
					mm	174	153	43	13	2	1.50
S351E	S351	SER	S		in	6.86	6.01	1.70	0.50	0.08	0.06
					mm	174	153	43	13	2	1.50
S391E	-	SER	S		in	6.16	-	1	0.50	0.23	0.23
					mm	156	-	25	13	6	6



All tools ESD Safe (Static Dissipative)
Protects circuit components. Does not
insulate. Do not use on live circuits!



Shear Cutters and Strippers

Shear Cutters

Tool Numbers	Description Overall			Jaw Length	Cutter Length	Tip Length	Tip Width	Thick
ergo	head	edge		ergo				
SC5E	OvSC	S	in	6.41	1.25	1.25	0.35	0.05
			mm	163	32	32	9	1.30
SC7E	OvSC	S	in	8.29	1.45	1.45	0.35	0.10
			mm	211	37	37	9	2.50
SC15E	T SC	S	in	5.66	0.50	0.50	0.06	0.05
			mm	144	13	13	1.4	1.30
SC17E	T SC	S	in	7.50	0.70	0.70	0.08	0.07
			mm	190	18	18	1.90	1.80
ST5E	R ST	S	in	6.66	1.50	1.25	0.33	0.20
			mm	169	38	32	8	5
ST7E	R ST	S	in	8.47	1.63	1.50	0.35	0.22
			mm	215	41	38	9	6

Strippers

Tool Numbers	Description Overall			Jaw Length	Cutter Length	Tip Length	Tip Width	Thick
ergo	head	edge		ergo				
SV5E	T V	S	in	5.79	0.63	0.50	0.32	0.22
			mm	147	16	13	8	6
SV5E-SP	T V BP	S	in	5.79	0.63	0.50	0.32	0.22
			mm	147	16	13	8	6
SV7E	Ov	S	in	8.29	1.45	1.45	0.35	0.10
			mm	211	37	37	9	2.50

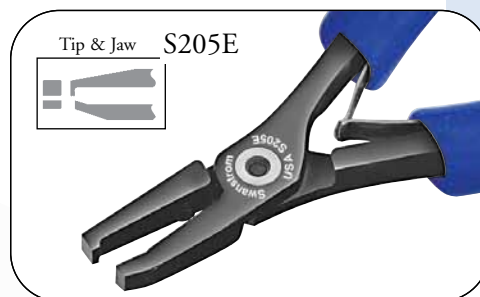
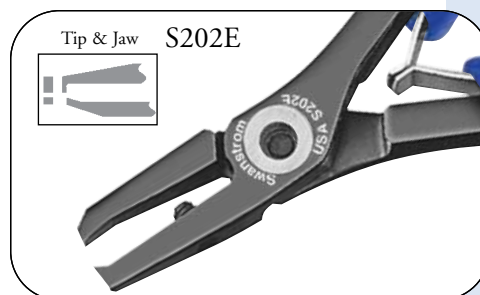
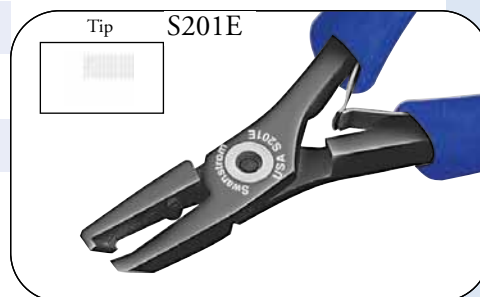


All tools ESD Safe (Static Dissipative)
Protects circuit components. Does not
insulate. Do not use on live circuits!

Stand-Off Cutters

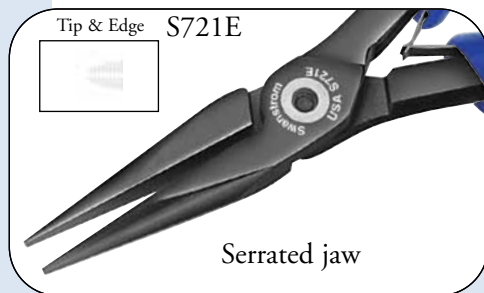
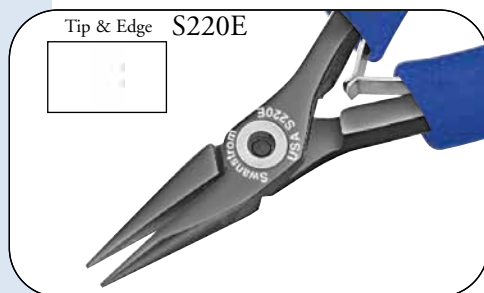
Stand-Off Cutters

Tool Numbers		Description			Overall Length		Jaw Length	Cutter Length	Tip Width	Tip Thick	Stand-Off Distance
ergo	short	head	edge		ergo	short					
S185E	-	LSH	S	in	5.93	-	0.78	0.13	0.32	0.03	0.03
(lead stabilizing hole)					mm		151	-	20	3	8 3
S201E	S201	45°	S	in	5.83	4.98	0.70	0.18	0.25	0.18	0.04
					mm		146	126	18	5	1
S202E	S202	UF LN	S	in	5.92	5.07	0.79	0.10	0.215	0.09	0.04
					mm		150	129	20	3	1
S203E	S203	LN	A	in	6.09	5.24	0.96	0.10	0.18	0.03	0.04
					mm		155	133	24	2.5	1
S205E	S205	LN	S	in	5.92	5.07	0.79	0.18	0.235	0.18	0.04
					mm		150	129	20	5	1
S205EB	S205B	BC	S	in	5.92	5.10	0.79	0.18	0.235	0.18	0.04
					mm		150	129	20	5	1
S605E	S605	LS	S	in	6.52	5.67	1.36	0.092	0.193	0.09	0.03
					mm		166	144	35	2	0.80



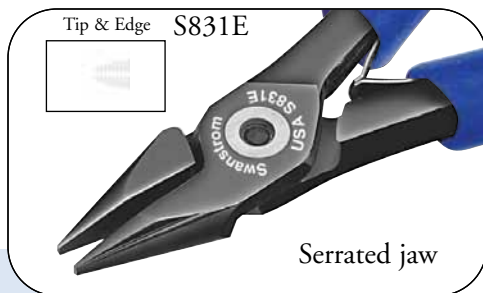


Snipe (short) and Long Nose Pliers



Snipe Nose Pliers					Overall Length		Jaw Length	Tip Width	Tip Thick
Tool Numbers		Tool Description			ergo	short			
		head	jaw						
S108E	S108	MI	SM	in	6.00	4.61	0.88	0.05	0.03
				mm	152	117	22	1.10	0.80
S109E	S109	MI	SER	in	6.00	4.61	0.88	0.05	0.03
				mm	152	117	22	1.10	0.80
S206E	S206	MI	SM	in	5.58	4.73	0.45	0.05	0.03
				mm	142	120	11	1.10	0.80
S208E	S208	SU	SM	in	5.93	5.08	0.80	0.05	0.03
				mm	151	129	20	1.10	0.80
S209E	S209	SU	SER	in	5.93	5.08	0.80	0.05	0.03
				mm	151	129	20	1.10	0.80
S210E	S210	SNP	SM	in	5.93	5.08	0.80	0.06	0.03
				mm	151	129	20	1.50	0.80
S211E	S211	SNP	SER	in	5.93	5.08	0.80	0.06	0.03
				mm	151	129	20	1.50	0.80
S242E	S242	C	SM	in	6.03	5.18	0.90	0.07	0.04
				mm	153	132	23	1.80	1
S243E	S243	C	SER	in	6.03	5.18	0.90	0.07	0.04
				mm	153	132	23	1.80	1

Long Nose Pliers					Overall Length		Jaw Length	Tip Width	Tip Thick
Tool Numbers		Description			ergo	short			
		head	jaw						
S220E	S220	LN	SM	in	6.13	5.28	1.00	0.06	0.03
				mm	156	134	25	1.50	0.80
S221E	S221	LN	SER	in	6.13	5.28	1.00	0.06	0.03
				mm	156	134	25	1.50	0.80
SS221E	-	LN	SCR	in	6.13	-	1.00	0.06	0.03
(stainless steel)				mm	156	-	25	1.50	0.80
S320E	S320	LN	SM	in	6.86	6.01	1.70	0.06	0.03
				mm	174	153	43	1.50	0.80
S321E	S321	LN	SER	in	6.86	6.01	1.70	0.06	0.03
				mm	174	153	43	1.50	0.80
S323E	-	LN	SER	in	6.86	-	1.70	0.06	0.06
				mm	174	-	43	1.60	1.60
S324E	S324	SL	SM	in	6.21	5.36	1.08	0.06	0.06
				mm	158	136	27	1.50	1.50
S325E	S325	SL	SER	in	6.21	5.36	1.08	0.06	0.06
				mm	158	136	27	1.50	1.50
S328E	S328	EL	SM	in	6.94	6.09	1.78	0.08	0.08
				mm	176	155	45	2	2
S329E	S329	EL	SER	in	6.94	6.09	1.78	0.08	0.08
				mm	176	155	45	2	2
S630E	S630	LN	SM	in	7.53	6.55	1.85	0.08	0.06
				mm	191	166	47	2	1.50
S631E	S631	LN	SER	in	7.53	6.55	1.85	0.08	0.06
				mm	191	166	47	2	1.50
S721E	-	LN	SER	in	8.94	-	2.13	0.13	0.13
				mm	227	-	54	3	3
S831E	-	LN	SER	in	7.94	-	1.10	0.09	0.09
				mm	202	-	28	2.40	2.40



Flat, Needle, and Curve Nose Pliers

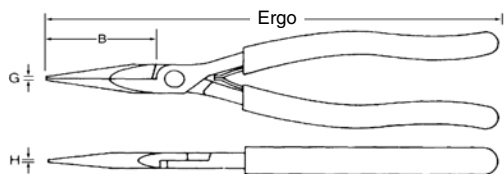
Flat Nose Pliers

Tool Numbers		Tool Description			Overall Length		Jaw Length	Tip Width	Tip Thick
ergo	short	head	jaw		ergo	short			
S200E	S200	FLN	SM	in	6.13	5.28	1.00	0.05	0.12
				mm	156	134	25	1.30	3
S300E	S300	FLN	SM	in	6.86	6.01	1.70	0.05	0.12
				mm	174	153	43	1.30	3
S380EPR-		FLN	SM	in	7.64	-	1.00	0.05	0.12
(pistol grip)				mm	194	-	25	1.30	3
S800E	-	FLN	SER	in	8.21	-	1.25	0.14	0.40
				mm	209	-	32	3.50	10

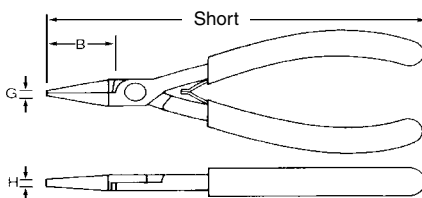
Needle Nose Pliers

Tool Numbers		Description			Overall Length		Jaw Length	Tip Width	Tip Thick
ergo	short	head	jaw		ergo	short			
S230E	S230	NN	SM	in	6.13	5.28	1.00	0.06	0.03
				mm	156	134	25	1.50	0.80
S231E	S231	NN	SER	in	6.13	5.28	1.00	0.06	0.03
				mm	156	134	25	1.50	0.80
S240E	S240	C	SM	in	5.93	5.08	0.80	0.06	0.03
				mm	151	129	20	1.5	0.80
S330E	S330	NN	SM	in	6.86	6.01	1.70	0.06	0.03
				mm	174	153	43	1.50	0.80
S331E	S331	NN	SER	in	6.86	6.01	1.70	0.06	0.03
				mm	174	153	43	1.50	0.80
S331E-1	-	NN	SER	in	6.86	-	1.70	0.09	0.06
				mm	174	-	43	2.30	1.50
S330AE	S330A	EL	SM	in	7.35	6.50	2.19	0.06	0.06
				mm	187	165	56	1.60	1.60
S340E	S340	C	SM	in	6.56	5.71	1.40	0.06	0.03
				mm	167	145	36	1.50	0.80
S340AE	-	90° EL	SM	in	6.21	-	1.05	0.06	0.06
		C		mm	158	-	27	1.60	1.60
S341E	S341	C	SER	in	6.21	5.71	1.40	0.06	0.03
				mm	158	145	36	1.50	0.80
S660E	S660	NN	SM	in	7.53	6.45	1.85	0.08	0.80
				mm	191	164	47	2	1.50
S661E	S661	NN	SER	in	7.53	6.45	1.85	0.08	0.06
				mm	191	164	47	2	1.50

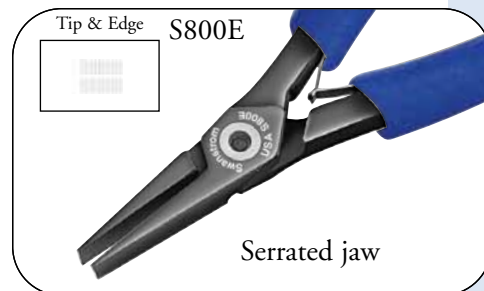
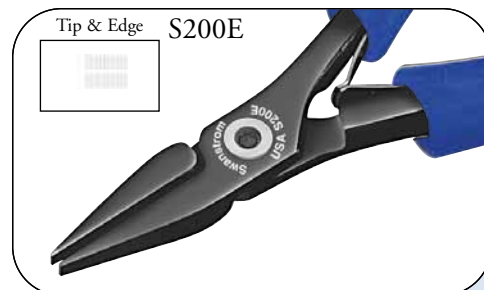
Ergonomic Handles



Traditional Handles



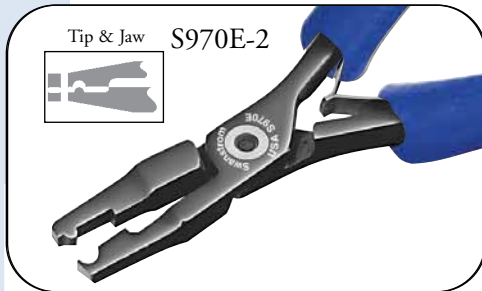
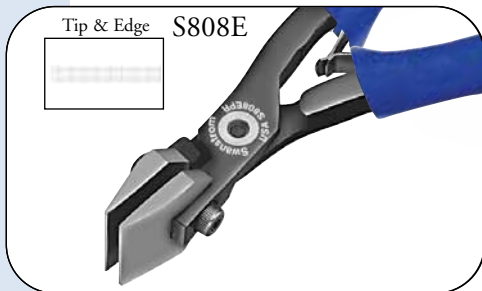
Ergo Overall Length
Short Overall Length
B Jaw Length
G Tip Width
H Tip Thickness



All tools ESD Safe (Static Dissipative)
 Protects circuit components. Does not
 insulate. Do not use on live circuits!



Round Nose, Straightening, and Forming Pliers



Round Nose Pliers

Tool Numbers		Description			Overall Length		Jaw Length	Tip Width	Tip Thick
ergo	short	head	jaw		ergo	short			
S236E	S236	RN	SM		in	6.13	5.28	1.00	0.06
					mm	156	134	25	1.50
S238E	S238	RN	SM		in	5.60	4.75	0.63	0.06
					mm	142	-	16	1.50

Straightening Pliers

Tool Numbers		Description			Overall Length		Jaw Length	Tip Width	Tip Thick
ergo	short	head	jaw		ergo	short			
S808E	-	-	SM		in	6.06	-	0.90	0.06
					mm	154	-	23	1.50

Forming Pliers

Tool Numbers		Description			Overall Length		Jaw Length	Tip Width	Tip Thick
ergo	short	head	jaw		ergo	short			
S195E	-	LN	-		in	6.26	-	1.00	0.09
					mm	159	-	25	2.30
S970E-2	-	STR	S		in	6.25	-	1.09	0.27
					mm	159	-	27	6.90
S980E	S980	CV/CX	SM		in	5.88	5.03	1.00	0.11
					mm	149	128	25	2.80
S986E	-	F/R	SM		in	6.13	-	1.00	0.11
					mm	156	-	25	2.80
S990E	S990	STR	-		in	6.19	5.34	1.03	0.17
					mm	157	136	26	4.30
S991E	-	D STR	-		in	6.39	-	1.23	0.75
					mm	162	-	31	19

Double Ended Pliers

Tool Numbers		Description			Overall Length		Jaw Length		Tip Width		Tip Thick
							Cutter	Plier	Cutter	Plier	
S995	DE	in	7.50	0.53	0.88	0.23	0.45	0.03	0.03		
	Cutter/Plier	mm	191	13	22	6	1.10	0.80	0.80		
	Round	Flat	Round	Flat	Round	Flat					
S996	DE	in	7.75	0.75	0.80	0.06	0.05	0.03	0.11		
	Round Nose /Flat Nose	mm	197	19	20	1.50	1.30	0.80	2.80		

S995
Shown at Actual Size

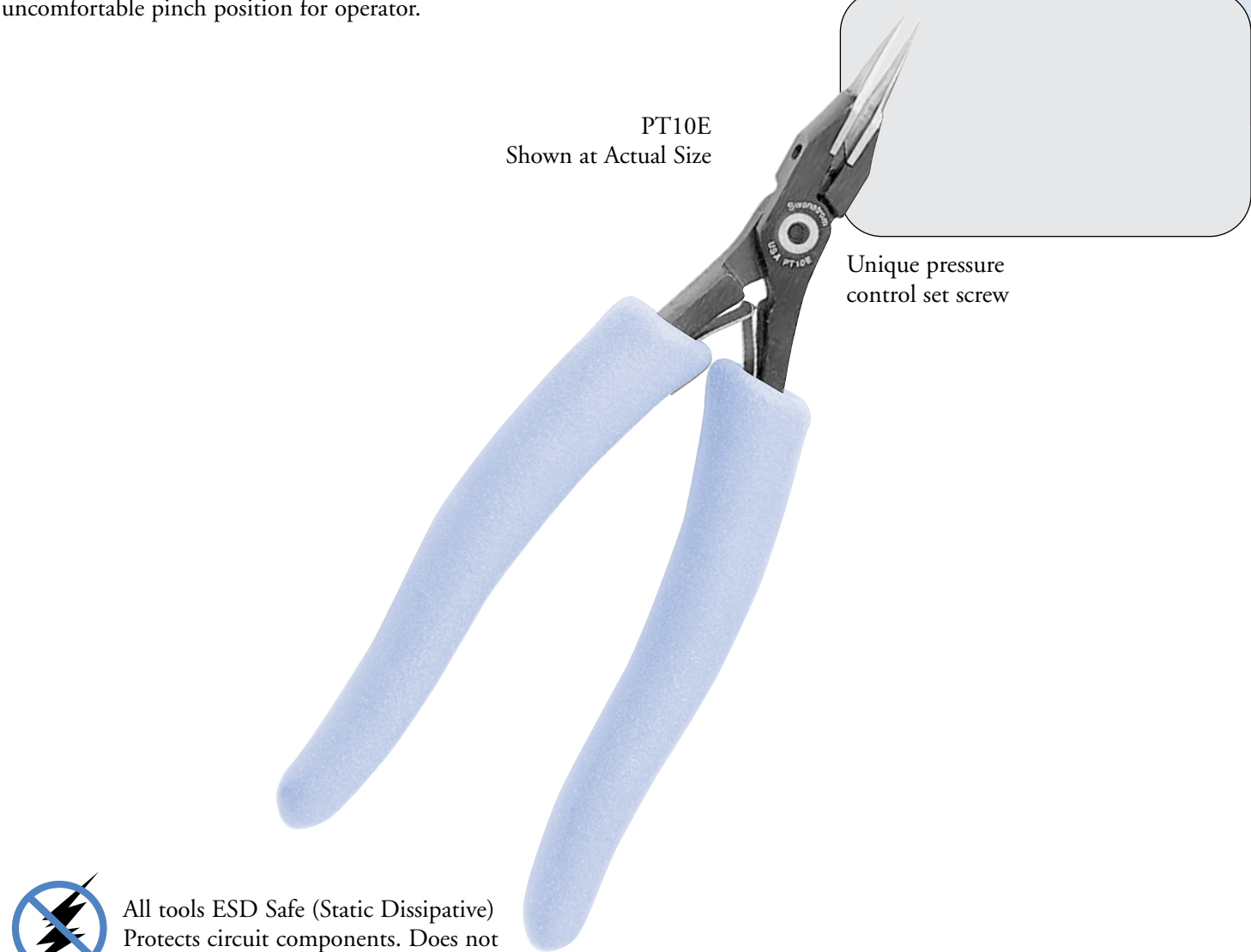


All tools ESD Safe (Static Dissipative)
Protects circuit components. Does not insulate. Do not use on live circuits!

Plazers

Plazers Part	Jaw/Head Type		Overall length	Jaw Length	Width at Joint	Thick at Joint	Handle Width
PT10	Straight Smooth	in	5.50	1.27	0.40	0.25	2
		mm	140	32	10	6	51
PT11	Straight Serrated	in	5.50	1.27	0.40	0.25	2
		mm	140	32	10	6	51
PT30	Bent Smooth	in	5.10	0.93	0.40	0.25	2
		mm	130	24	10	6	51
PT31	Bent Serrated	in	5.10	0.93	0.40	0.25	2
		mm	130	24	10	6	51
PT10E	Straight Smooth	in	6.40	1.27	0.40	0.25	1.75
		mm	163	32	10	6	44
PT11E	Straight Serrated	in	6.40	1.27	0.40	0.25	1.75
		mm	163	32	10	6	44
PT30E	Bent Smooth	in	6.10	0.93	0.40	0.25	1.75
		mm	155	24	10	6	44
PT31E	Bent Serrated	in	6.10	0.93	0.40	0.25	1.75
		mm	155	24	10	6	44

Swanstrom, first in the world to bring tweezer precision, stainless, anti-magnetic, and ESD safe ergo handles to bear on the work without the uncomfortable pinch position for operator.



 All tools ESD Safe (Static Dissipative)
Protects circuit components. Does not insulate. Do not use on live circuits!



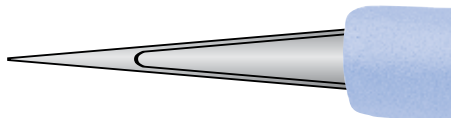
Swanstrom Tweezers

Swanstrom, first in the world to ergonomicize
tweezers, and thereby render them ESD safe.

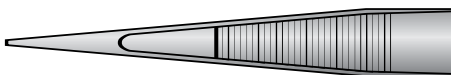
Part	Description	Size in	Size mm
AA-SAH	Fine Strong Tips	4.75	120
AC-SAH	Thick Short Tips	4.25	110
MM-SAH	Strong Multi Purpose	5.00	125
OO-SAH	Strong Thick Smooth Tips	4.75	120
OOD-SAH	Strong Thick Serrated Tips	4.75	120
2H	Fine Point Tapered Tips	4.50	115
2A-SAH	Rounded Flat Tips	4.50	115
3-SAH	Fine Tips	4.75	120
3C-SAH	Narrow Fine Tips	4.25	110
5A-SAH	Extra Fine, Very Sharp Tips	4.50	115
5-SAH	Extra Fine, Very Sharp Tips	4.50	115
7-SAH	Curved, Very Fine Tips	4.50	115
7-SADH	Curved, Serrated Tips	4.50	115
21-SAH	Strong Rounded Tips	6.25	159
24-SAH	Fine Bent Tips	6.00	152

Swanstrom's standard
foamed tweezers are
ESD safe. For no
foam drop suffix "H".
For serrations add
suffix "D"

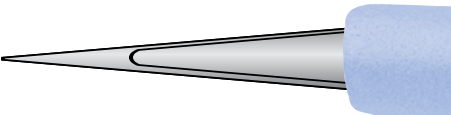
AA-SA



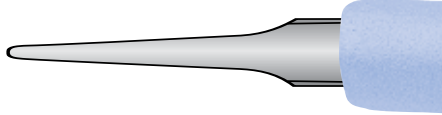
AC-SA



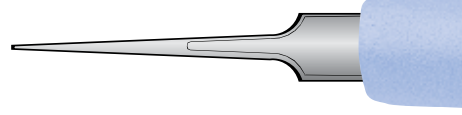
MM-SA



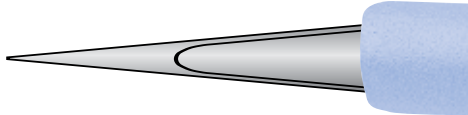
2A-SA



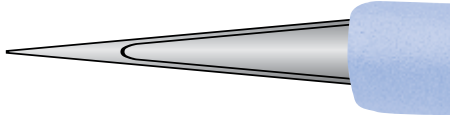
5-SA



OO-SA



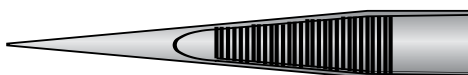
3-SA



7-SA

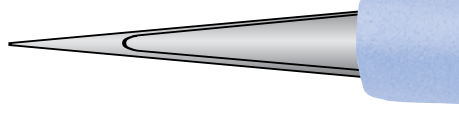


OOD-SA



Serrated jaw

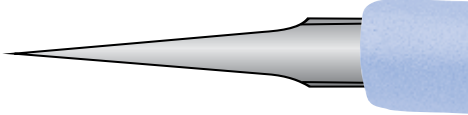
3C-SA



21-SA



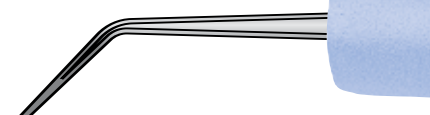
2



5A-SA



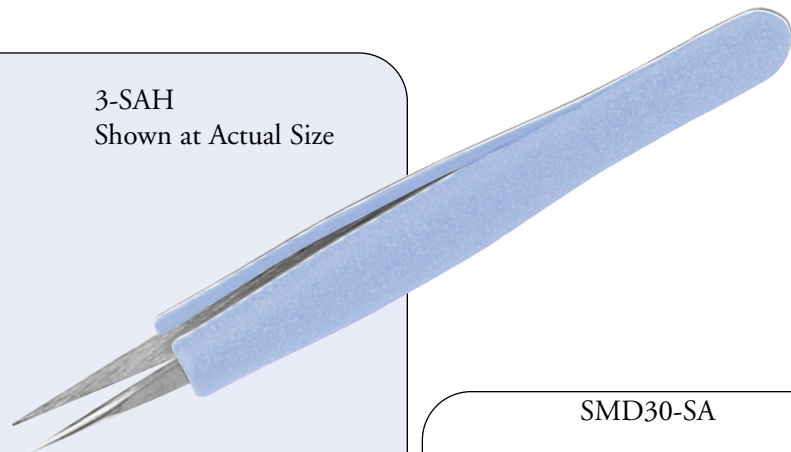
24-SA



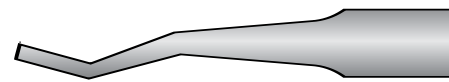
SMD Tweezers

Part	Description	Size in Size mm	
SMD10-SA	Groove Tips w/ Anti Crush Control	4.75	120
SMDR10-SA	Groove Tips w/ Anti Crush Control	4.75	120
SMD20-SA	Groove Tips	4.75	120
SMD30-SA	Horizontal Tips	4.75	120
SMDR30-SA	Horizontal Tips, Reverse Action	4.75	120
SMD40-SA	Vertical Placement	4.75	120
SMD50-SA	45° Angle Tips	4.75	120
SMD90-SA	Placing at 60°	4.75	120
SMD110-SA	Tips Relieved	4.75	120
SMD200-SA	Fine Relieved Tips	4.75	120
SMD201-SA	Curved Fine Relieved Tips	4.75	120
SMD203-SA	Narrow Relieved Tips	4.75	120
SMDR254-SA	Angled Flat Tip w/ Inside Relieve	4.50	115

3-SAH
Shown at Actual Size



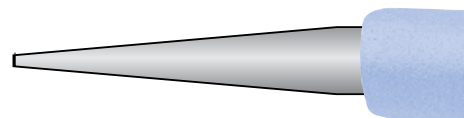
SMD90-SA



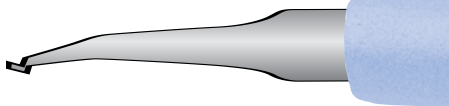
SMD110-SA



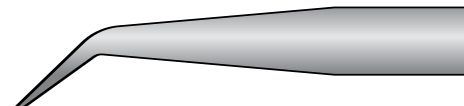
SMD200-SA



SMD30-SA



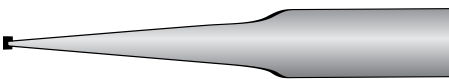
SMD201-SA



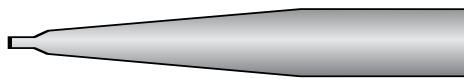
SMD10-SA



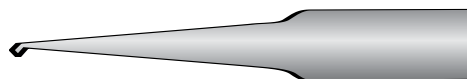
SMD40-SA



SMD203-SA



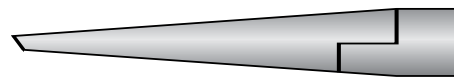
SMD20-SA



SMD50-SA



SMDR254-SA



Swanstrom Tools USA



®

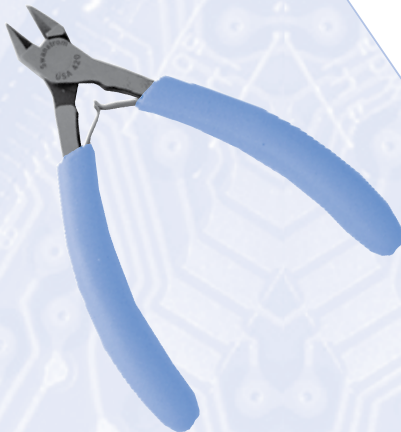
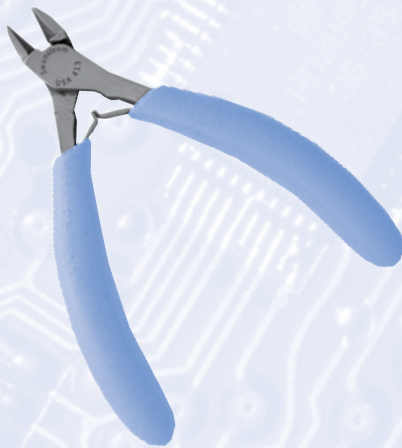
Spartan S E R I E S



SWANSTROM QUALITY, PRECISION AND VALUE IN AN ECONOMICAL PACKAGE

The spartans of ancient Greece enjoyed a well earned reputation for strength, endurance and frugality. These qualities are embodied in the Spartan Series Tools from Swanstrom Tools USA. Designed to maximize performance by utilizing top grade materials and engineering excellence; Spartan Tools are a sensible choice in today's economy.

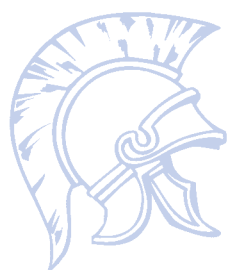
- Forged from high chromium, high carbon steel
- Precision honed cutting edges
- Electronically inducted, heat treated cutting edges
- Cutting edges hardened to Rc58
- ESD safe handle
- Leaf Springs are spot welded for durability and reliability



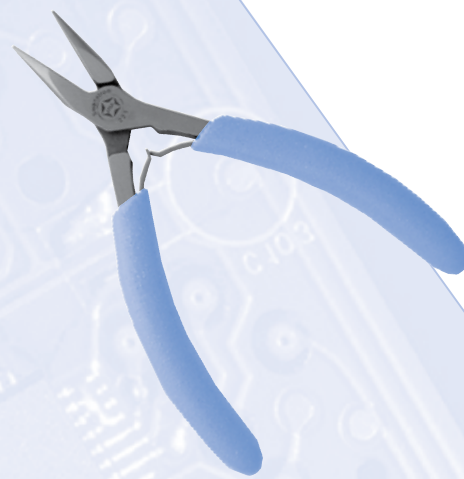
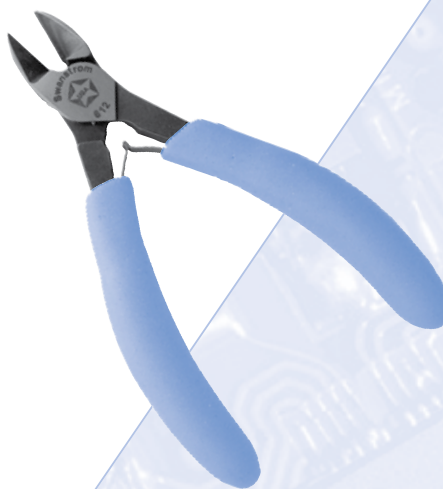
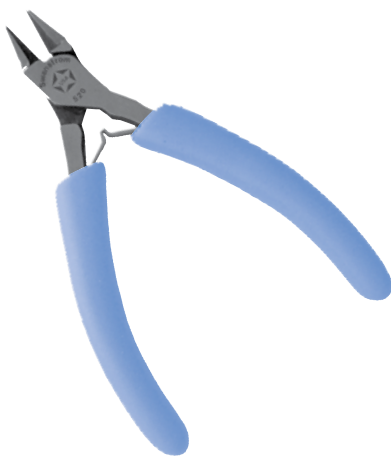
4" CUTTERS

	Head & Cut Type	Body Width	Cutter Length	Cutting Capacity
410	Oval, Bevel	.440	.380	16 gauge
411	Oval, Flush	.440	.380	16 gauge
413	Oval Slim, Flush	.440	.380	18 gauge
415	Taper, Flush	.440	.380	16 gauge
420	Taper Slim, Flush	.440	.380	18 gauge
491	60° Taper Tip, Flush	.440	.460	20 gauge

Swanstrom Tools USA



Spartan SERIES



5" CUTTERS

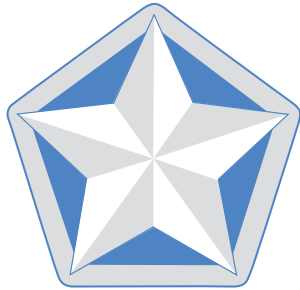
	Head & Cut Type	Body Width	Cutter Length	Cutting Capacity
510	Oval, Bevel	.500	.500	14 gauge
511	Oval, Flush	.500	.500	14 gauge
520	Taper Slim, Flush	.500	.500	16 gauge

6" CUTTERS

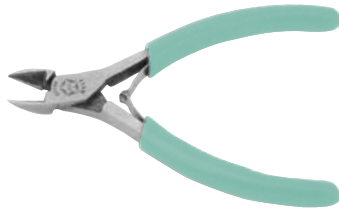
	Head & Cut Type	Body Width	Cutter Length	Cutting Capacity
610	Oval, Bevel	.600	.600	12 gauge
611	Oval, Flush	.600	.600	12 gauge
616	Taper, Flush	.600	.600	14 gauge

PLIERS

	Head Shape/ Style	OAL	Tip Width	Jaw Length	Edge/ Jaw
221	Long Nose	5.30	.060	1.00	Serrated
230	Needle Nose	5.30	.060	1.00	Smooth
320	Long Nose	6.01	.060	1.70	Smooth
325	Long Nose, Slim	5.43	.060	1.08	Serrated
331	Needle Nose	6.01	.060	1.70	Serrated



- Engineered for small hands and intricate work
- Forged steel for strength, durability, and long life
- Machined with precision for tight tolerances
- Hardened electronically, tempered for toughness
- Honed to precise cut requirements
- Stainless steel leaf springs welded in place
- Cushioned grips for operator comfort
- ESD SAFE for component protection



MX54

Oval head semi-flush diagonal cutters

- Strongest tips and beveled edge for long life
- Induction hardened edges optimize cutting ease and life
- OAL 4.25" Jaw 0.60"



MX54-9

Oval head diagonal flush cutters

- Strong tips and long life
- Induction hardened edges optimize cutting ease and life
- Flush cut for a sharper edge requiring less squeeze and reduces spike
- OAL 4.25" Jaw 0.60"



MX54-3

Oval relieved/slim diagonal flush cutters

- For intricate and repetitive work between and under closely spaced components
- Induction hardened edges optimize cutting ease and life
- Flush cut for a sharper edge requiring less squeeze and reduces spike
- OAL 4.25" Jaw 0.60"



MX54-5

Taper head diagonal flush cutters

- For intricate work between closely spaced components
- Induction hardened edges optimize cutting ease and life
- Flush cut for a sharper edge requiring less squeeze and reduces spike
- OAL 4.25" Jaw 0.60"



EMX54-3

Oval relieved/slim diagonal flush cutters with ergonomic handles

- For intricate and repetitive work between and under closely spaced components
- Induction hardened edges optimize cutting ease and life
- E denotes ergonomic (double curve) handles to spread pressure across the palm and relieve carpal tunnel pocket pressure
- Most comfortable hand, wrist and arm positions
- Flush cut for a sharper edge requiring minimum squeeze and reduces spike
- OAL 5.60" Jaw 0.60"

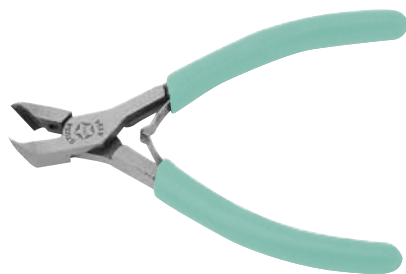


EAX54

Angle end flush cutters with ergonomic handles

- Angled 60°/30° for ergonomic work positions
- Induction hardened edges optimize cutting ease and life
- E denotes ergonomic (double curve) handles to spread pressure across the palm and relieve carpal tunnel pocket pressure
- For most comfortable hand, wrist and arm positions
- Flush cut for sharper edge, minimum squeeze, maximum ease
- OAL 5.70" Jaw 0.63"



**AX54****Angle end flush cutters**

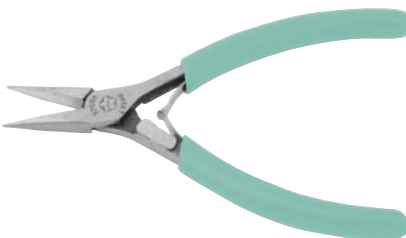
- Angled 60°/30° for most ergonomic work positions
- Induction hardened edges optimize cutting ease and life
- Flush cut -for a sharp edge requiring less squeeze and reduces spike
- OAL 4.75" Jaw 0.63"

**LX4****Submini needle nose serrated pliers**

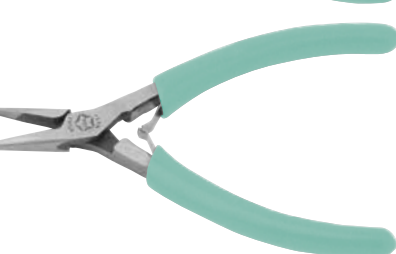
- Where short handles are a must
- Each jaw has fine parallel serrations and beveled edges
- OAL 4.50" Jaw 0.92"

**LX4G****Submini needle nose smooth pliers**

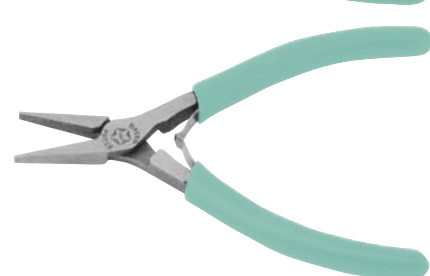
- Where short handles are a must
- Each jaw is smooth with beveled edges
- OAL 4.50" Jaw 0.92"

**LX54****Thin long nose serrated pliers**

- Each jaw has fine parallel serrations and beveled edges
- OAL 5.25" Jaw 1.02"

**LX54G****Thin long nose smooth pliers**

- Each jaw is smooth with beveled edges
- OAL 5.25" Jaw 1.02"

**NX54****Slim needle nose serrated pliers**

- Each jaw is serrated with beveled edges
- OAL 5.25" Jaw 1.02"

**NX54G****Slim needle nose smooth pliers**

- Each jaw is smooth with beveled edges
- OAL 5.25" Jaw 1.02"

**DX54G****Flat nose smooth pliers**

- Strongest gripping plier
- Ideal for straightening flat leads
- OAL 5.25" Jaw 1.02"

RX54**Round nose smooth jaw pliers**

- Used to form perfectly round loops without deformation
- OAL 5.25" Jaw 1.02"

CX54G**Curve nose smooth jaw pliers**

- A very ergonomic alternative to long nose pliers
- Each jaw is smooth with beveled edges
- Permits most comfortable arm position for working
- OAL 5.25" Jaw 1.03"



Index by Alphanumeric Sequence

Part#	Page	Part#	Page	Part#	Page	Part#	Page
AA-SAH	14	ST7E.....	8	S212E	7	S325E	10
AC-SAH	14	SV5E.....	8	S213	7	S328	10
AX54.....	19	SV5E-SP	8	S213E	7	S328E	10
CX54G	19	SV7E.....	8	S215	6	S329	10
DX54G	19	S63	5	S215E	6	S329E	10
EAX54.....	18	S63E	5	S218	6	S330	11
EMX54-3	18	S108	10	S218E	6	S330A.....	11
LX4.....	19	S108E	10	S219	7	S330AE.....	11
LX4G	19	S109	10	S219E	7	S330E	11
LX54.....	19	S109E	10	S220	10	S331	11
LX54G	19	S111	4	S220E	10	S331E	11
MM-SAH	14	S111E	4	S221	10	S331E-1	11
MX54	18	S112	4	S221E	10	S340	11
MX54-3	18	S112E	4	S223	6	S340AE.....	11
MX54-5	18	S115	4	S223E	6	S340E	11
MX54-9	18	S115E	4	S224	6	S341	11
NX54	19	S116	4	S224E	6	S341E	11
NX54G.....	19	S116E	4	S225	6	S350	7
OO-SAH.....	14	S121	4	S225E	6	S350E	7
OOD-SAH	14	S121E	4	S230	11	S351	7
PT10.....	13	S170	6	S230E	11	S351E	7
PT10E.....	13	S171	6	S231	11	S380EPR.....	11
PT11.....	13	S171E	6	S231E	11	S391E	7
PT11E.....	13	S185E	9	S233	7	S405	4
PT30.....	13	S195E	12	S233E	7	S405E	4
PT30E.....	13	S200	11	S234	7	S410	4
PT31.....	13	S200E	11	S234E	7	S410E	4
PT31E.....	13	S201	9	S236	12	S411	4
RX54.....	19	S201E	9	S236E	12	S411E	4
SC5E.....	8	S202	9	S238	12	S412	4
SC7E.....	8	S202E	9	S238E	12	S412E	4
SC15E.....	8	S203	9	S240	11	S413	4
SC17E.....	8	S203E	9	S240E	11	S413E	4
SMD10-SA	15	S205	9	S242	10	S414	4
SMD20-SA	15	S205B	9	S242E	10	S414E	4
SMD30-SA	15	S205EB.....	9	S243	10	S415	4
SMD40-SA	15	S205E	9	S243E	10	S415E	4
SMD50-SA	15	S206	10	S291	7	S416	4
SMD90-SA	15	S206E	10	S300	11	S416E	4
SMD110-SA	15	S208	10	S300E	11	S420	4
SMD200-SA	15	S208E	10	S320	10	S420E	4
SMD201-SA	15	S209	10	S320E	10	S421	4
SMD203-SA	15	S209E	10	S321	10	S421E	4
SMDR10-SA.....	15	S210	10	S321E	10	S422	4
SMDR30-SA.....	15	S210E	10	S323E	10	S422E	4
SMDR254-SA.....	15	S211	10	S324	10	S423	4
SS221E	10	S211E	10	S324E	10	S423E	4
ST5E.....	8	S212	7	S325	10	S430	4

Index by Alphanumeric Sequence

Part#	Page	Part#	Page	Part#	Page	Part#	Page
S430E	4	S515E	4	S620E	5	2H.....	14
S431	4	S516	4	S621	5	2A-SAH	14
S431E	4	S516E	4	S621E	5	3-SAH.....	14
S432	4	S520	4	S630	10	3C-SAH	14
S432E	4	S520E	4	S630E	10	5A-SAH	14
S435	4	S521	4	S631	10	5-SAH.....	14
S435E	4	S521E	4	S631E	10	7-SAH.....	14
S482	6	S534	5	S660	11	7-SADH	14
S482E	6	S534E	5	S660E	11	21-SAH.....	14
S483	6	S535	5	S661	11	24-SAH.....	14
S483E	6	S535E	5	S661E	11	221	17
S485	6	S605	9	S700	5	230	17
S485E	6	S605E	9	S700E	5	320	17
S491	6	S610	5	S710	5	325	17
S491E	6	S610E	5	S710E	5	331	17
S492	6	S611	5	S721E	10	410	16
S492E	6	S611E	5	S800E	11	411	16
S510	4	S612	5	S808E	12	413	16
S510E	4	S612E	5	S831E	10	415	16
S511	4	S613	5	S970E-2	12	420	16
S511E	4	S613E	5	S980	12	491	16
S512	4	S614	5	S980E	12	510	17
S512E	4	S614E	5	S986E	12	511	17
S513	4	S615	5	S990	12	520	17
S513E	4	S615E	5	S990E	12	610	17
S514	4	S616	5	S991E	12	611	17
S514E	4	S616E	5	S995	12	616	17
S515	4	S620	5	S996	12		

Distributor Label Here