

XURON
CORP.



precisiontools

DESIGNED FOR CUTTING EXCELLENCE

shears



shear facts Q&A.

Q. Why do Micro-Shear® flush cutters cut so well?

A. The term Micro-Shear® flush cutter is a registered trademark of XURON CORP. and is applied only to our products which utilize our patented, blade by-pass shear cutting action.

Conventional wire cutters utilize a compression-type cut, with the advancing cutting edges forcing the metal of the wire out of their way.

Micro-Shear® flush cutters utilize a shearing cut, with the by-pass cutting edges slicing cleanly through the metal (see illustration at bottom of adjacent page).

Shear cutting greatly reduces mechanical shock delivered to the component and requires only about half the effort to cut a wire as compared to conventional compression-type wire cutters.

Q. What's the difference between a Micro-Shear® flush cutter and a conventional wire cutter?

A. All primary cutting surfaces on our 170-II, 410 and LX Series Micro-Shear® flush cutters are generated on high precision, three microprocessor-controlled, self diagnostic grinding equipment. The grinding on every blade is as precisely identical to that on every other blade as their computer controlled tolerances allow. It is also exactly the same type of grinding as used on such fine tools as LINDSTROM® and EREM®.

We're not suggesting any company use XURON Micro-Shear® flush cutters instead of these other great tools, but why should you sacrifice that level of quality just because your requirements call for "economically priced" tools?

Q. Why do Micro-Shear® flush cutters last so long?

A. XURON Micro-Shear® flush cutters ensure durability by design. Let's use a little basic physics to illustrate how:

If you generate 10 pounds of pressure on the grips of a conventional, compression-type wire cutter to cut a wire, that 10 pounds of force must be dissipated somewhere (Law of Conservation of Energy). Part of it is dissipated into the severed section of wire, which is why it sails across the room. A portion travels down the lead wire and is dissipated into the component or solder joint,



which can cause damage. The balance is dissipated into the opposing cutting edge of the cutter, which is why they get dull.

Using a Micro-Shear® flush cutter requires only about half the pressure (approximately 5 pounds) to cut the same wire. Part of the force is dissipated into the severed section of the wire. But if you're using our patented lead retainer the wire won't sail across the room. Because of our shearing cut very little is dissipated into the component or solder joint; the rest is dissipated into the opposing cutting jaw. Because of our blade by-pass, edge-to-edge contact is eliminated and the life of our Micro-Shear® flush cutter's precision cutting edges is extended.

Q. What is the difference between a stamped tool and a drop-forged tool?

A. Precision stamped Micro-Shear® flush cutters have more in common with precision drop-forged tools than with conventional drop-forged tools.

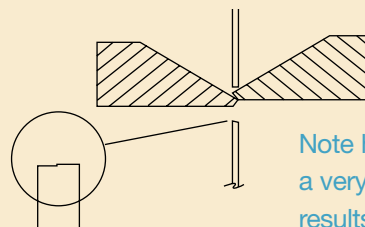
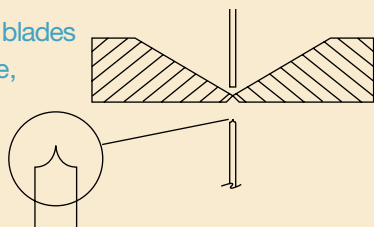
The most obvious difference is that the blank shape of a drop-forged tool is created from hot metal. A stamped tool does not require heat at this stage. Beyond this point the differentiation becomes less distinct.

In conventional drop-forging a crude, basic shape is created. With precision drop-forging a more refined shape with reference points for subsequent grinding operations is created. Conventional drop-forged tools typically then undergo hand-guided grinding operations. With precision drop-forged tools these grinding operations are usually done with computer controlled machines utilizing the reference marks on the blank.

When we manufacture precision stamped Micro-Shear® flush cutters a refined shape, complete with reference points for our computer controlled grinding operations, is generated in the stamping process.

All tools, regardless of the method of manufacture, have to be heat treated. In the electronics industry return springs and cushion grips are required. The distinction between drop-forged and stamped tools is further blurred since, due to the high density areas electronics pliers are required to be able to work in, one of the more popular head configurations on drop-forged tools is the "relieved head." On these tools additional grinding operations remove head stock to reduce the tool's profile, increasing access and maneuverability. The result is a head shape very similar to our standard XURON Micro-Shear® flush cutter.

Compression cutter blades meet edge-to-edge, causing a spiked cut and an eventual dulling of the tool.



This is a cross section view of a XURON Micro-Shear® flush cutter from the tip end.

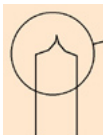
Note how the blades by-pass – this is a very important patented feature that results in a clean square cut with no spikes.

“SUPER FLUSH”

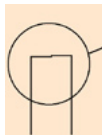
TENAZAS DE CORTE

Obtenga un corte supersuave con el corte patentado Micro-Shear® más barato que las tenazas de corte suaves y otras tenazas de corte corrientes. Todas incluyen resortes y mangos amortiguados para su fácil manejo.

¡Corte Perfecto!



Tenazas de corte suaves o tenazas de corte corrientes



El corte Xuron Super le ahorra tiempo en el acabado

Retenedor De Alambre Integrado

Retenedores opcionales en todos los productos. El corte para el alambre se mantiene.



Tabla de Conversión

Calibre	Pulg.	MM
12	.081	2.05
13	.072	1.83
14	.064	1.63
15	.057	1.45
16	.051	1.29
18	.040	1.02

Artículo Número	Descripción	Total de Largo Pulg. (mm)	Largo de la abertura Pulg (mm)	Corte Máximo	Detalle Principal
90183	Nuestras tenazas de corte más populares. Ofrece un corte suave con el mínimo esfuerzo. 2175 Maxi-Shear™	6" (152mm)	.47" (12mm)	12 AWG (2.05mm)	
90187	2175F Maxi-Shear™ con retenedores				
90310	2175SH para manos pequeñas La manija mide solo 1.70" (47mm), para un mejor agarre.	5" (127mm)	.47" (12mm)	12 AWG (2.05mm)	
90153	Estas tenazas de corte le ofrecen una gran durabilidad y rendimiento, que puede competir con cualquiera de las marcas más caras. Disponibles tanto con cabezal oval como con cabeza cónica. 9100 Micro-Shear® de cabeza oval	5" (127mm)	.35" (9mm)	12 AWG (2.05mm)	
90154	9100F con retenedor				
90160	9200 Micro-Shear® de cabeza cónica	5" (127mm)	.35" (9mm)	14 AWG (1.6mm)	
90161	9200F con retenedor				
90174	Su acabado pulido hace que esta herramienta pueda ser fácilmente localizable en la zona de trabajo. Con la medida perfecta para un trabajo delicado, pero capaz de corta metales y alambres suaves de hasta 1,29 mm. LX Micro-Shear®	5" (127mm)	.35" (9mm)	16 AWG (1.29mm)	
90175	LXF con retenedor				
90192	El alambre grueso se puede cortar con el sujetador de grapas, el cual se ajusta automáticamente para sostener el material mientras se corta en el ángulo correcto de la abertura. Permite cortes planos en ambos lados. 2193F with Clamp Fixture	6" (152mm)	.53" (13mm)	14 AWG (1.6mm)	
90191	2193 without Clamp Fixture			18 AWG (1mm)	

Upgraded for the 21st century, the LX Series Micro-Shear® Flush Cutters are stronger and more durable with improved cutting capacity. These mid-range flush cutters feature precision-ground, ultra-sharp cutting edges on a tool designed for maximum strength and durability. State of the art heat treating to a Rockwell 55-57C ensures a rugged, precise, and extremely durable flush cutter capable of cutting soft leads up to 16 AWG (1.29 mm). Features also include ergonomic design, non-slip Xuro-Rubber™ grips, a glare resistant bright finish and our patented, lifetime warranted, *Light Touch*™ return spring.

LX Series shears are optionally available with static control (AS) grips

2175 Maxi-Shear™ Flush Cutter

An extremely durable and versatile wire cutter featuring our patented Micro-Shear® cutting action. Tough enough for harnesses and cables with the precision to cut material less than 1 mil. thick or work in high density areas. Ergonomically shaped, non-slip Xuro-Rubber™ grips and a glare eliminating black finish ensure operator comfort. Non-protruding, lifetime warranted flat spring provides excellent "feel" without excessive spring tension. Flush cuts soft wire up to 12 AWG (2.05 mm).

LX Micro-Shear® Flush Cutter

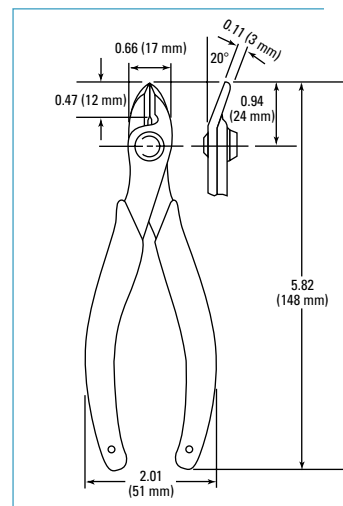
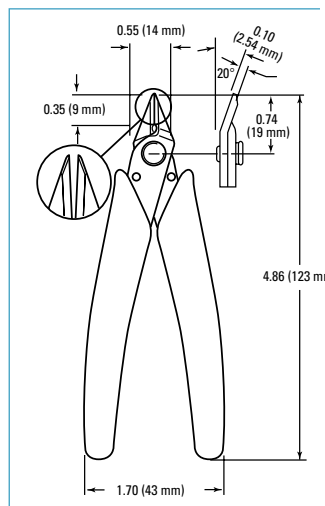
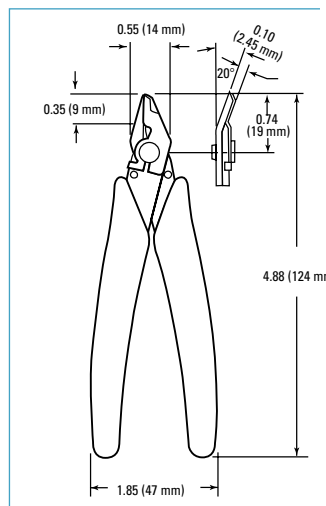
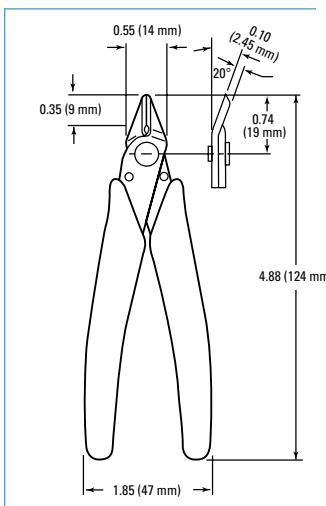
Our patented Micro-Shear® cutting action combined with precision ground cutting edges, extra tough .100" thick high carbon steel blades, and an ultra slim profile for access in high density areas. Sized for smaller hands and maximum maneuverability. Flush cuts soft wire up to 16 AWG (1.29 mm).

LX-F Micro-Shear® Flush Cutter

Our LX with a factory installed lead retainer. Design provides a low profile and non-slip mounting on the shear. Helps prevent flying leads and component shorting from stray leads.

LX-T Micro-Shear® Flush Cutter

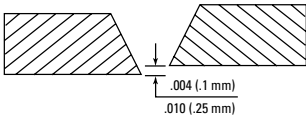
A special, extra tapered cutter head with an ultra-slim tip profile combined with the same Micro-Shear® cutting action, precision grinding, and tough high carbon steel blades of the standard LX. Ultra-sharp, precision tip for access in highly restricted areas. Flush cuts soft wire up to 20 AWG (0.8 mm).



The 2175 Maxi-Shear™ Series flush cutters are manufactured from the highest grade, 0.125" high carbon steel. They feature our lifetime warranted, *Light Touch™* return spring and ergonomically-shaped, non-slip Xuro-Rubber™ grips. Most important, all 2175 Maxi-Shear™ flush cutters utilize our patented Micro-Shear® cutting action. This means less cutting effort, less fatigue, and fewer fatigue-related injuries and complaints. Maxi-Shears™ are optionally available with static control (AS) grips.

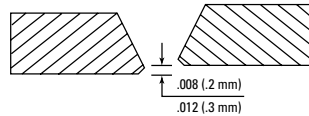
2175A Maxi-Shear™ Flush Cutter

Ultra flush cutting version of our 2175 for fine work and very soft materials. Very lightly bevelled cutting edges allow for minimal blade by-pass (see diagram) ensuring the finest flush cut possible. Glare eliminating black finish and ergonomically-shaped Xuro-Rubber™ grips. Cuts soft wire up to 14 AWG (1.6 mm).



2175B Maxi-Shear™ Flush Cutter

Semi-flush cutting version of our 2175. A more pronounced bevel on the cutting edges (see diagram) allows for heavier cutting or extended wear where flush or ultra flush cuts are not required. Non-slip, ergonomically shaped Xuro-Rubber™ grips and a glare eliminating black finish for operator comfort. Semi-flush cuts on soft wire up to 12 AWG (2.05 mm).



2193 Music Wire Shear

Large, full by-pass shear designed specifically for cutting music wire and other types of hardened wire. Shearing cut combined with high mechanical advantage make cutting iron, hardened and tempered steel wire up to 12 AWG (2.05mm) seem effortless. Cushioned Xuro-Rubber™ grips and our *Light Touch™* return spring for operator comfort. Cuts music wire up to 0.040" diameter.

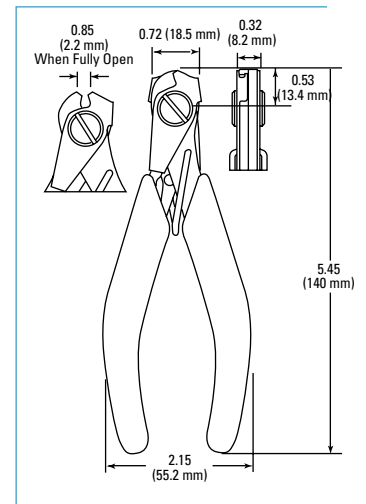
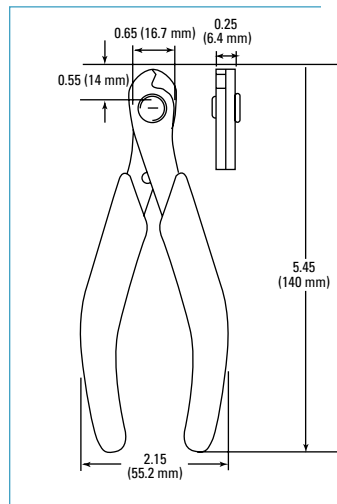
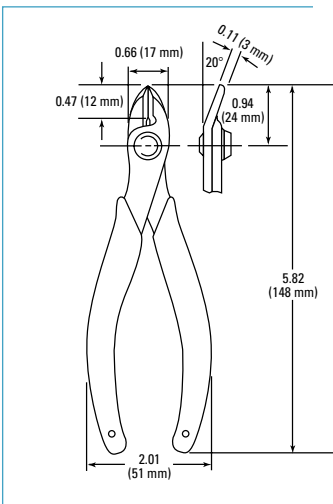
2193F Music Wire Shear

Our 2193 with self-adjusting clamping fixtures which hold the material being cut perpendicular to the cutter jaws. Greatly simplifies cutting process while adding significantly to both the precision of the cut and cutting capacity. Gives square ended cuts on both the cut and off-cut sides. Cuts music wire up to 0.060".



2175F Maxi-Shear™ Flush Cutter

Our 2175 with a factory-installed lead retainer. Clip is permanently installed for non-slip positioning. Low profile design for good sight lines and accessibility. Helps prevent flying leads and component shorting from stray leads.



TOOL OPTIONS

Xuron Tools Options



Model	Page #	Materials Rating	Ultra Flush (A)	Flush	Semi Flush (B)	Lead Retainer	Static Control Grips	Extended Handle Length
9100 Oval Head Shear Cutter	4	12 AWG (2.0mm) soft wire		•		•	•	•
9180 Kevlar® Shear* Scissor Type	4	Either Kevlar® fiber or soft wire up to 12 AWG (2mm), as well as soft sheet metal up to .030" (0.8mm)					•	
9180NS Shear Scissor Type	4	12 AWG (2.0mm) soft wire as well as soft sheet metal up to 030" (0.8 mm)					•	
9200 Tapered Head Shear Cutter	5	14 AWG (1.6mm) soft wire		•		•	•	•
9250ET Shear Cutter	5	18 AWG (1.02mm) soft wire		•			•	
LX Shear Cutter	6	18 AWG (1.02mm) soft wire		•		•	•	
LXT Tapered Head Shear Cutter	6	20 AWG (0.8mm) soft wire		•			•	
2175 Shear Cutter	6&7	12 AWG (2.05mm) soft wire	•	•	•	•	•	
2193 Hard Wire Shear	7	12 AWG (2mm) soft wire as well as music and spring wire up to 0.040" (1.0mm)		•			•	
2193F Hard Wire Shear	7	12 AWG (2mm) soft wire as well as music & spring wire up to 0.60" (1.5mm)		•		•	•	
410 Shear Cutter	8	18 AWG (1.02mm) soft wire	•	•		•	•	
410T Tapered Head Shear Cutter	8	20 AWG (0.8mm) soft wire		•			•	
420 Angled Head Shear Cutter	9	20 AWG (0.8mm) soft wire		•			•	
420T Tapered Head Shear Cutter	9	22 AWG (.64mm) soft wire		•			•	
440 Mini-Shear - scissor type	9	20 AWG (0.8 mm) soft wire as well as 0.005" (.127 mm) mylar, plastic and shielded cable					•	
170-II Shear Cutter	10	18 AWG (1.02mm) soft wire	•	•		•	•	
280-II Angled Head Shear Cutter	10	20 AWG (0.08mm) soft wire		•			•	
8500 Bio-Shear® Shear Cutter	11	18 AWG (1.02mm) soft wire		•		•	•	
635 Shear Rise Cutter	11	20 AWG (0.08mm) soft wire		•			•	
670 Cut & Crimp Tool	11	20 AWG (0.08mm) soft wire					•	
670HD Heavy Duty Cut & Crimp Tool	11	18 AWG (1.02mm) soft wire					•	
501 Wire Stripper/ Cutter	13	10-26 AWG (2.59-.405mm) soft wire		•			•	
505 Wire Stripper/ Cutter	13	12-26 AWG (2.05-.405mm) - solid wire (soft)		•			•	
505ST Wire Stripper/ Cutter	13	12-26 AWG (2.05-.405mm) - stranded wire (soft)		•			•	
590 Pneumatic Cutter	17	16 AWG (1.3mm) soft wire		•		•		
590LP Low Profile Pneumatic Cutter	17	20 AWG (0.08mm) soft wire		•				

*Usage Note: If using the 9180 to cut Kevlar® fiber, best results are achieved when it is used for this purpose exclusively.