

FLOOR MOUNTED CLINCHING

No rivets, bolts, fasteners, heat, or adhesives. The least expensive way to fasten material.



FEATURING...

- Air powered machines with fast cycle times
- Simple tool adjustments, small machine footprint
- Clinching product lines that set industry standards



INNOVATIONS IN ENGINEERING

WELCOME TO NORLOK CLINCHING

With versatile designs and unsurpassed features, our floor mounted machines are guaranteed to outperform the competition every time.



◀ SURELOK III

Introducing our newest floor mounted problem solver with a 25" throat. The new SURELOK III is designed for all clinching applications. It's faster, smoother, quieter and uses less air. Our stainless steel ready machine offers a no hassle 2 minute changeover for efficient operation and production.

- Stainless steel ready with simple tool changeover
- Clinches material with 5 tons of force smoothly and efficiently using only 90 psi shop air
- Fastens up to 2-ply 14 ga mild steel
- Adjustable 2 1/2" stroke
- Convenient adjustment for accuracy and safety
- Self Piercing Rivet kit available for any SURELOK III to join aluminum composite materials, TPO and PVC coatings. No pre-drilled holes required



◀ SURELOK II

The SURELOK II E and P series' offer solid and reliable machines that become your go-to clinching solutions. Our standard floor mounted machines are guaranteed to outperform the competition.

The SURELOK II E series machine is our basic entry-level machine that offers proven clinching technology.

The SURELOK II P series is our production oriented machine featuring robust tooling.

- Rigid steel frame offers less deflection for longer tool life
- Fastens up to 2-ply 14 ga mild steel
- Close tooling access to get in close for more applications
- Fast cycle times for increased production
- 18" or 25" throats for greater reach of larger parts
- "Intelligent" safety stroke for greater operator safety
- Simple tool adjustments for little or no setup time
- Air powered (requires no electrical hookup)
- Affordable prices for low investment and faster payback



◀ **Proven industry technology you can trust to take care of all your clinching applications**

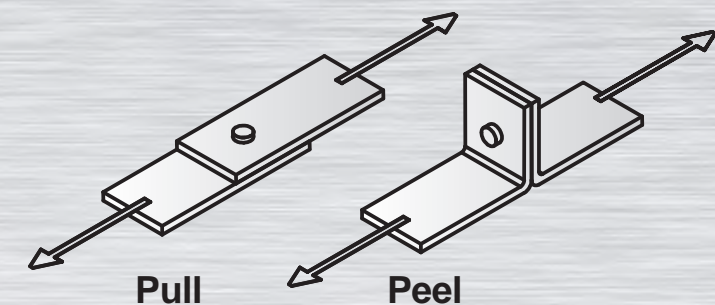
CUSTOM MACHINES ▶

Norlok engineers are experts in clinching technology. No matter what your needs may be, Norlok can provide you with assessments and detailed proposals to solve your fastening needs. From the largest, multi-lock, computer-controlled machines to the smallest portable units, each custom machine is designed and manufactured to the highest quality. Norlok is a leader and innovator in the sheet metal fastening industry.



TYPICAL JOINT STRENGTHS ▶

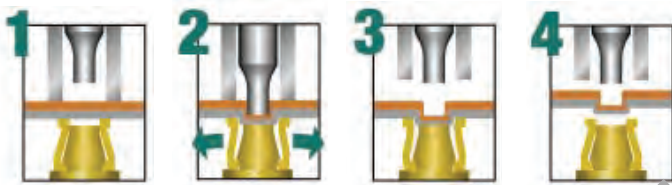
There are two ways to measure the strength of a Clinchlok joint; pull and peel. The pull joint is almost always stronger than the peel joint and is less sensitive to die adjustment. For pull, joint strengths range from 120 lbs at 0.012" material thickness to 1400 lbs at 0.138" material thickness. For peel, joint strengths range from 15 lbs at 0.012" material thickness to 500 lbs at 0.138" material thickness.



NORLOK CLINCHING

HOW DOES IT WORK?

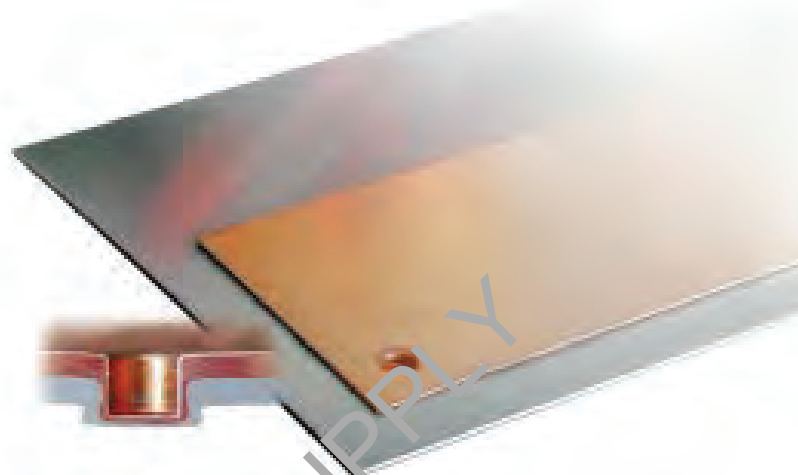
Clinching describes the forming of a Clinchlok joint. A Clinchlok joint is formed when the upper tooling squeezes the two ply of material joined between a punch and die. The strength of the Clinchlok joint and the life expectancy of the punch and die are both determined by the amount of squeeze. It is important to note that because the die is of a very special design, the Clinchlok is able to “mushroom”. Like the die, the punch in a Clinchlok joint is also of a special design that has a rounded edge, rather than a sharp edge like a normal punch. This rounded edge is known as the punch tip radius. To form a Clinchlok joint, neither the punch or die can be sharpened.



HOW MUCH DOES IT COST?

A breakdown of consumable and maintenance costs associated with three common fastening processes. (Based on 100,000 joints)

NORLOK	\$936.43
RIVETING	\$1273.58
SPOT WELDING	\$1517.83



WHAT ARE THE ADVANTAGES?

Fast and consistent joint quality

With fast cycle times and unsurpassed consistency, production is increased.

No rivets, bolts, fasteners, heat or adhesives

The least expensive way to fasten material.

No fumes, heat or electrical hookups

Clinching allows for a clean and safe working environment.

Little or no damage to material

No rework is necessary as there is no heat to burn paint or galvanized finishes.

Join dissimilar material

Fasten different materials and thicknesses together with the same machine.

Simple adjustments and little maintenance

Save on downtime and maintenance.

Portable and versatile

Norlok machines can be built in portable versions and as custom designs to fit your needs.



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The New SURELOK III

25" Throat Machine Designed for all clinching applications

With its versatile design and unsurpassed features the Surelok III series of machines outperform the competition like no other.

Solid and reliable, the Surelok III will fasten material from as thick as 14 gauge to as thin as 32 gauge with our proven clinching technology.

Superior Features include...

APU - Advanced Power Unit

- faster, smoother, quieter and uses less air

Stainless steel ready

- with a simple punch and die change

Adjustable 2 1/2" (63mm) stroke

- convenience of use

15 years of design experience

- proven reliability and quality

Air powered

- requires no electrical hookup

When you combine all the features, benefits and quality, the Surelok III sets the standard by which other clinching machines are measured.

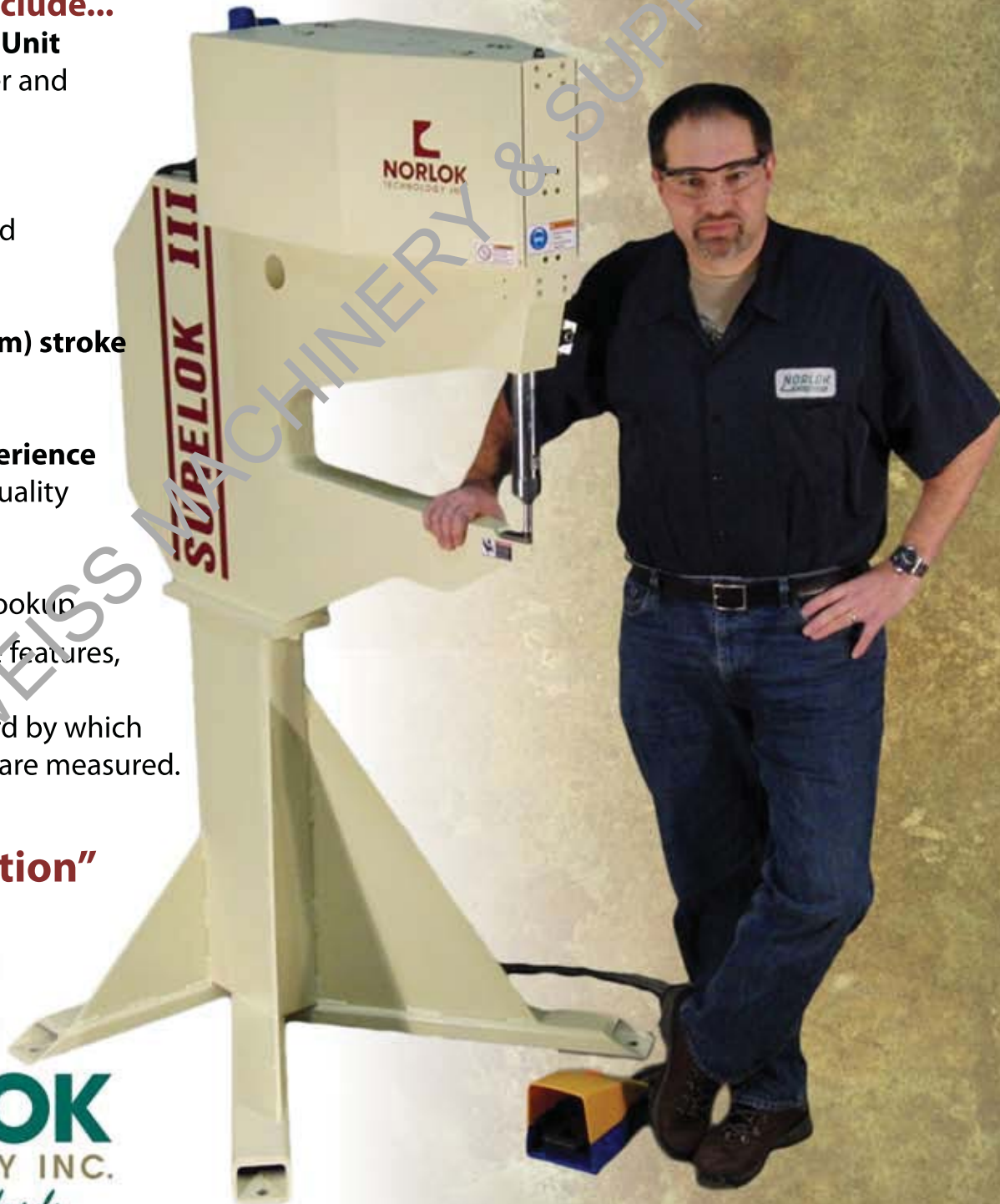
Join the

"clinching revolution"

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NORLOK

TECHNOLOGY INC.

Setting the standards

SPECIFICATIONS – SURELOK III

Press Design: Solid 3" (76mm) steel "C" frame.
Rigid steel frame = longer tool life

Features: APU pneumatic power unit.
Regulator, Shut-off valve
Foot pedal operated

Stroke: 2 1/2" (63mm) max. (adjustable)
"Intelligent" safety stroke for greater operator safety.

Throat: SL 25" (635mm)
Work Height: 45" (1143mm)

Upper Tooling: Round or Rectangular ready
Close tooling access allows for more applications.
Simple adjustments to suit material thickness.

Lower Tooling: Die insert on a hardened die plate with a hardened protection collar.

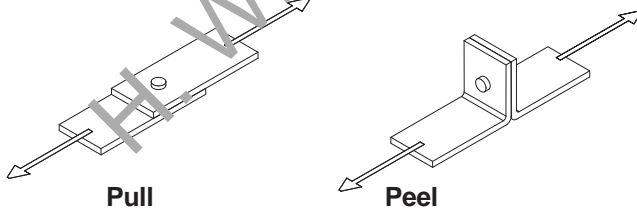
Capacity: MAX: 2 ply .075" (1.9mm) mild steel.
MIN: 2 ply .010" (.25mm) mild steel.
MAX: 2 ply .050" (1.25mm) Stainless.
MIN: 2 ply .010" (.25mm) Stainless.
(Rectangular tooling for stainless)

Cycle speed: 60-80 cycles/minute (standard)
Up to 150 cycles/minute with options

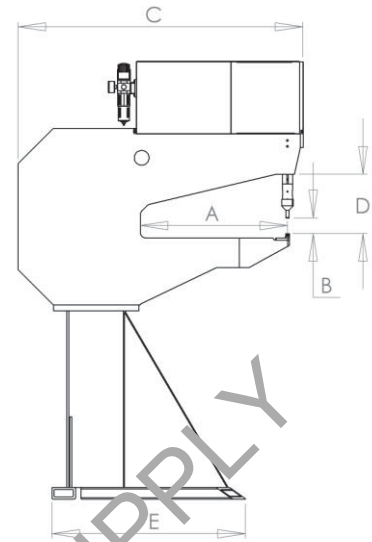
Air Requirements: 80psi to 100psi (5.4 - 6.8 Bar)
100psi (6.8 Bar) (recommended)
Approx .2 cu ft (0.056 cu m) free air per cycle.
2 HP (1.5 kW) @ 60 clinches per min.

Weight: SL 25: 1300 lb (591kg)

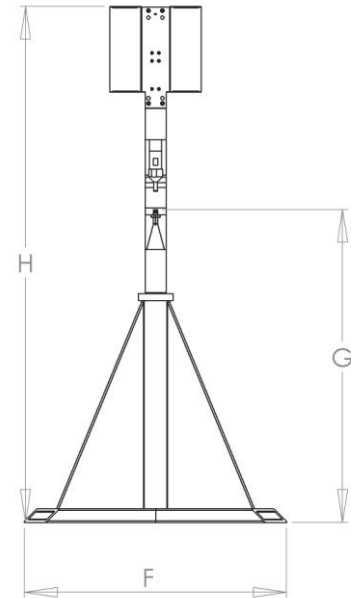
Typical Joint Strengths in Mild Steel:



Material Thickness" (mm)	Pull lbs(N)	Peel lbs(N)	Die Type
.075 (1.9)	550 (2447)	225 (1001)	#50
.060 (1.5)	475 (2113)	175 (778)	#50
.050(1.25)	430 (1913)	150 (667)	#40/#50
.040 (1.0)	400 (1779)	120 (534)	#40
.034 (.86)	375 (1668)	100 (445)	#30/#40
.028 (.71)	325 (1446)	85 (378)	#30
.022 (.55)	285 (1268)	70 (311)	#30



SL 25	
A	25" [635mm]
B	2.5" [63mm]
C	48.5" [1232mm]
D	10" [254mm]
E	33" [838mm]
F	37.5" [953mm]
G	45" [1143mm]
H	74.5" [1892mm]



Pipe diameter	Die reach into Pipe
3" (76mm) Ø	1-3/8" (34.9mm)
4" (102mm) Ø	3 1/4" (82.5mm)
5" (127mm) Ø	5" (127mm)
6" (152mm) Ø	12-1/4" (311mm)
7" (178mm) Ø	13-5/8" (346mm)
8" (203mm) Ø	15-7/8" (403mm)
9" (229mm) Ø	18-1/8" (460mm)
10" (254mm) Ø	20-1/2" (521mm)*
11" (279mm) Ø	22-3/4" (578mm)*
12" (305mm) Ø	24-1/2" (622mm)*

The SURELOK II

18" or 25" Throat Machine Designed for standard clinching applications

With its versatile design and unsurpassed features the Surelok II series of machines outperform the competition like no other.

Solid and reliable, the Surelok II will fasten material from as thick as 14 gauge to as thin as 32 gauge with our proven clinching technology.

Superior features include ...

Rigid steel frame

- ▶ less deflection for longer tool life

Close tooling access

- ▶ get in close for more applications

Fast cycle times

- ▶ for more production

18" or 25" throats

- ▶ greater reach for larger parts

"Intelligent" safety stroke

- ▶ for greater operator safety

Direct acting power stroke

- ▶ for more reliable joints

Simple tool adjustments

- ▶ little or no setup time

Adjustable stroke

- ▶ Reduces pinch point and air consumption

Completely upgradeable

- ▶ add what you need - when you need it

Small footprint

- ▶ requires less floor space

10 years of design experience

- ▶ proven reliability and quality

Air powered

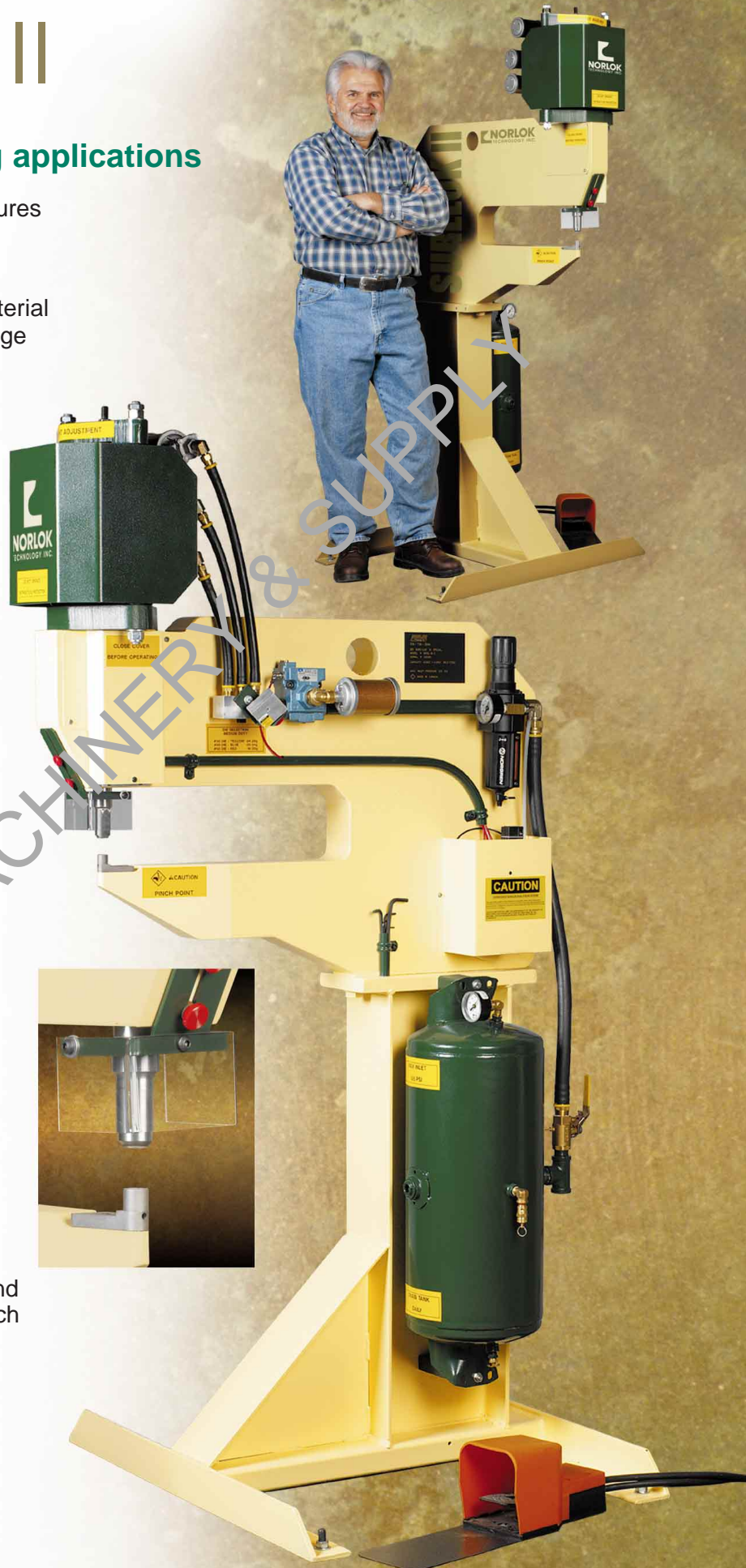
- ▶ requires no electrical hookup

Affordable prices

- ▶ low investment and faster payback

When you combine all the features, benefits and quality, the Surelok II sets the standard by which other clinching machines are measured.

NORLOK
TECHNOLOGY INC.
Setting the standards



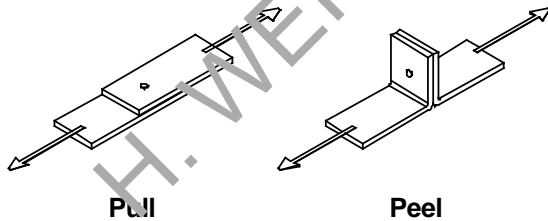
SPECIFICATIONS – SURELOK II

- Press Design:** Solid 3" steel "C" frame.
- Features:** WAMP pneumatic power unit.
Air surge tank and regulator
Foot pedal operated
- Stroke:** 1" max. (adjustable)
- Throat:** 18" or 25"
- Work Height:** 45"
- Upper Tooling:** 3 Types available.
See features chart for details.
Adjustable to suit material thickness.
- Lower Tooling:** Die insert in a 2-piece hardened die plate.
- Capacity:** MAX: Two ply 0.075" mild steel.
MIN: Two ply 0.010" mild steel.
- Cycle speed:** 60-80 cycles/minute (standard)
Up to 160 cycles/minute with options
- Air Requirements:** 80psi to 125psi
125psi (recommended)
Approx. 0.6 cu ft free air per cycle.
(5 HP @ 60 clinches per minute)

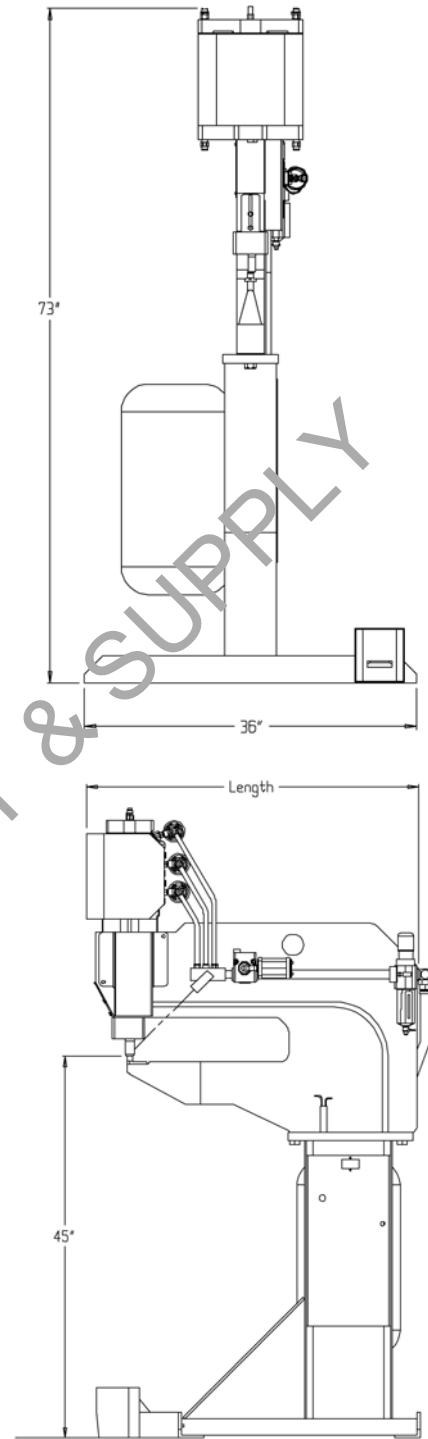
Dimensions:

	Surelok18	Surelok25
Width	36"	36"
Length	39"	51"
Height	73"	73"
Weight	800 lbs	1000 lbs

Typical Joint Strengths (Mild Steel):



Material Thickness	Pull (lbs)	Peel (lbs)	Die Type
0.075" (14g)	550	225	#50
0.060" (16g)	475	175	#50
0.050" (18g)	430	150	#40/#50
0.040" (20g)	400	120	#40
0.034" (22g)	375	100	#30/#40
0.028" (24g)	325	85	#30
0.022" (26g)	285	70	#30

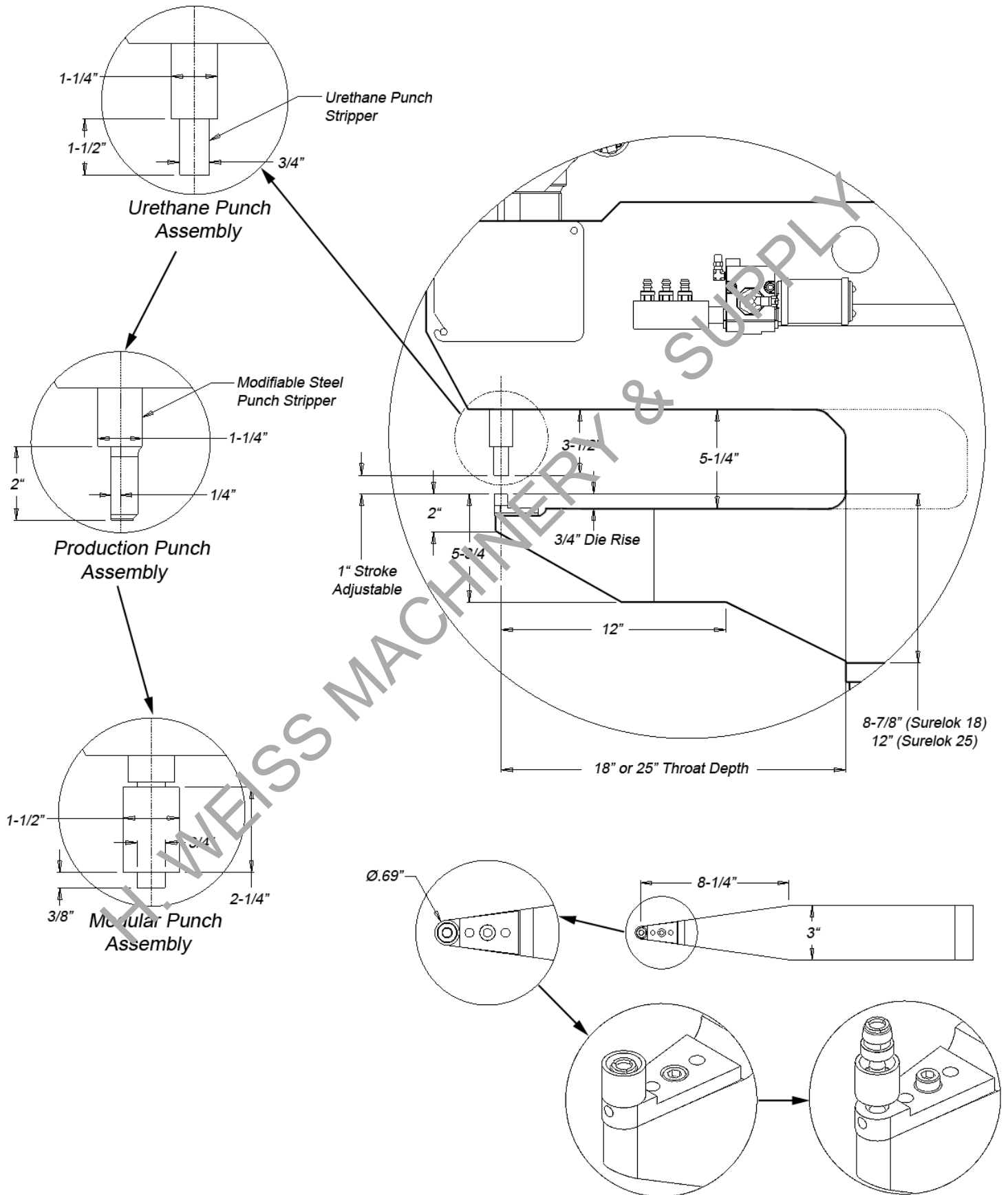


Pipe diameter Die reach into Pipe

3" Ø	1-3/8"
4" Ø	3 1/4"
5" Ø	5"
6" Ø	12-1/4"
7" Ø	13-5/8"
8" Ø	15-7/8"
9" Ø	18-1/8"
10" Ø	20-1/2" *
11" Ø	22-3/4" *
12" Ø	24-1/2" *

*Surelok II 25" throat only

Surelok II Frame & Tooling Detail



The SURELOK II

Features and Options

The Surelok II machines come in 2 varieties

- E series** Entry level affordability with urethane punch stripper assembly
- P series** Performance with production tooling, laser pointer, high speed control and 2 free dies.

STANDARD FEATURES	
Throat 18" or 25"	Choose the depth of frame behind punch
Urethane punch assembly	Reliable tooling with urethane stripper
Close reach lower arm	Clinch in tight areas – also great for pipes
2 piece die holder and insert	Fast to change and easy to clean
Adjustable stroke	Adjust open height to minimize pinch point
"Intelligent" Safety stroke	Reduces pinch point to less than 1/4" even with 1" stroke - includes self checking circuits for added safety
Lexan guard	Eye protection without restricting access
Air surge tank	Minimizes the effects of poor air supply
Air filter / regulator	Nothing to add - just plug your air line into the tank
Frame mounted tool kit	All tools required for adjustments are included

OPTIONS	Series	E	P	✓ included	● available
Production punch assembly [P]		●	✓	Our best tooling with longest punch and die life, best part access, best material range, and easily modified.	
Modular punch assembly [M]		●	●	Modular tooling is best for stainless steel. Either lance (SS) or round punches can be installed.	
Auto return [R]		✓	●	Automatic (timed) press return - adjustable to suit application and air pressure	
Advanced power unit [A]		✓	●	A fast, production oriented power unit - increases press speed by approximately 10%	
Extended Warranty [X]		●	✓	Extends standard warranty to 3 years (punches and dies excluded)	
High speed control [H]		●	✓	1 touch operation with increased speed & reliability - includes pressure sensing circuit.	
Laser pointer [L]		●	✓	Shows where clinch will be made – easy to use - meets all regulations for laser pointers	
Side table [T]		●	●	12" x 18" swivel table - great for holding small parts and tools	

Examples of Surelok II Model Numbers
 SLII E-18-L "Entry" series 18" with Laser Pointer
 SLII P-25 "Performance" series 25"



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SPECIALISTS IN CLINCHING TECHNOLOGY
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The Heavy-Duty Surelok II

Designed for heavy material applications

The heavy duty Surelok II machine is an air over oil booster powered clinching machine, featuring all the power you need for clinching up to 10g material. Available in 18" or 25" throat depths.

Features include ...

Strength

- ▶ Typical shear strength for 2-ply 10g mild steel is 1400lbs per clinch

Versatility

- ▶ Fasten materials as thin as 24g and as thick as 10g

Dual approach stroke

- ▶ A double foot pedal controls the 1-1/2" low-pressure approach stroke and 1/2" high-pressure clinching stroke for added safety

Closer tooling access

- ▶ Specially designed arm and frame for even greater part access.

Air powered

- ▶ Requires no electrical hookup. Uses standard shop air supply

Special tool holders

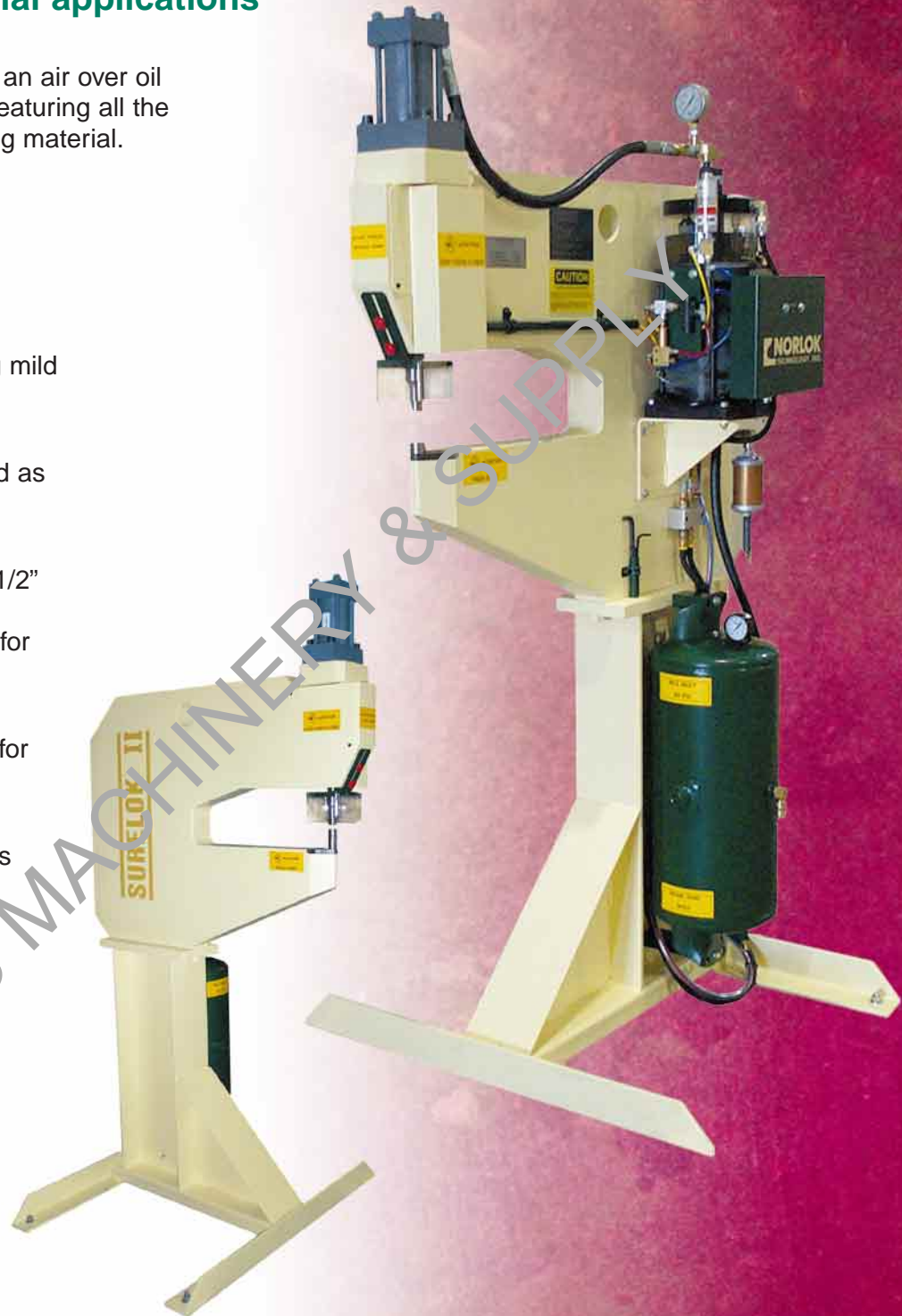
- ▶ For faster tooling changes and low replacement part costs

Small footprint

- ▶ Requires less floor space

10 years of design experience

- ▶ Proven reliability and quality



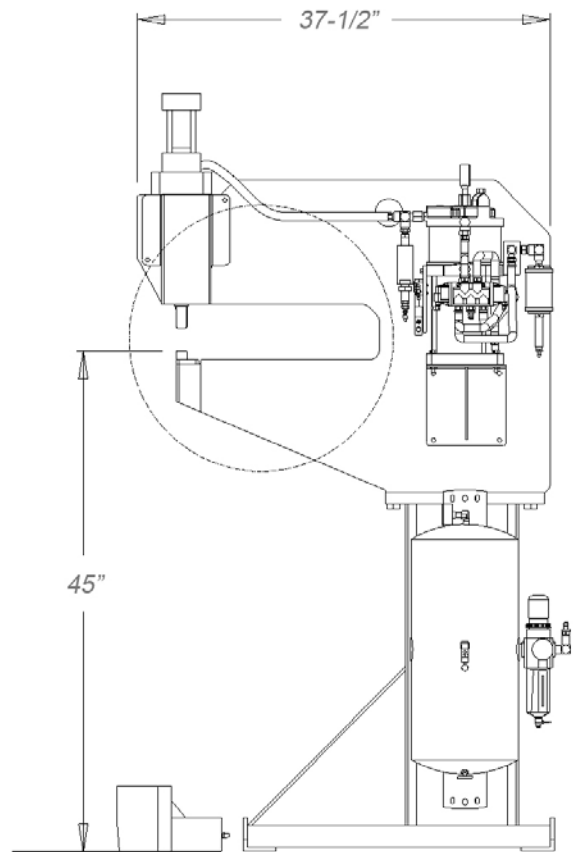
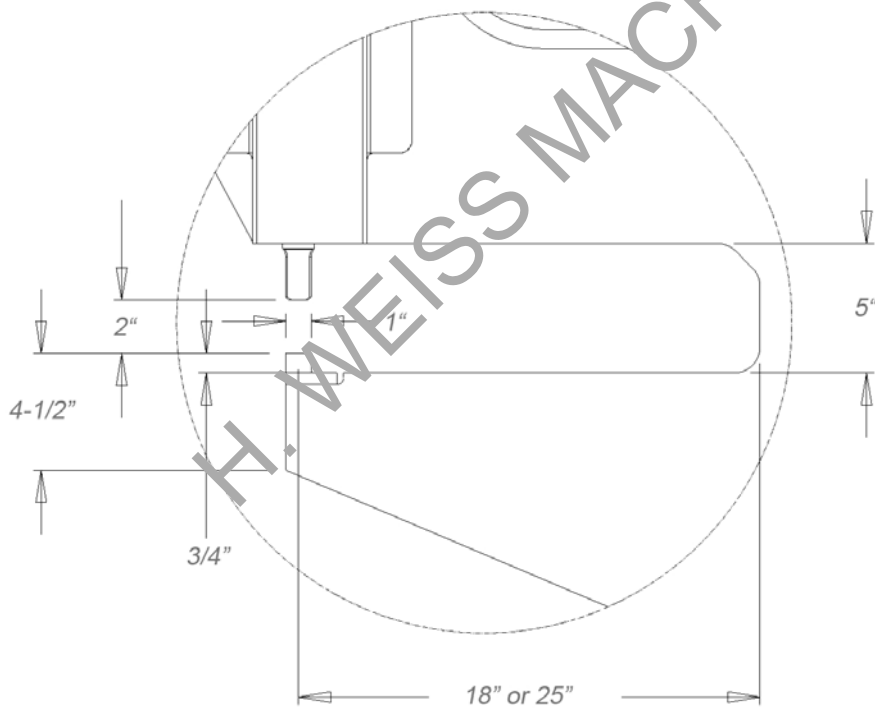
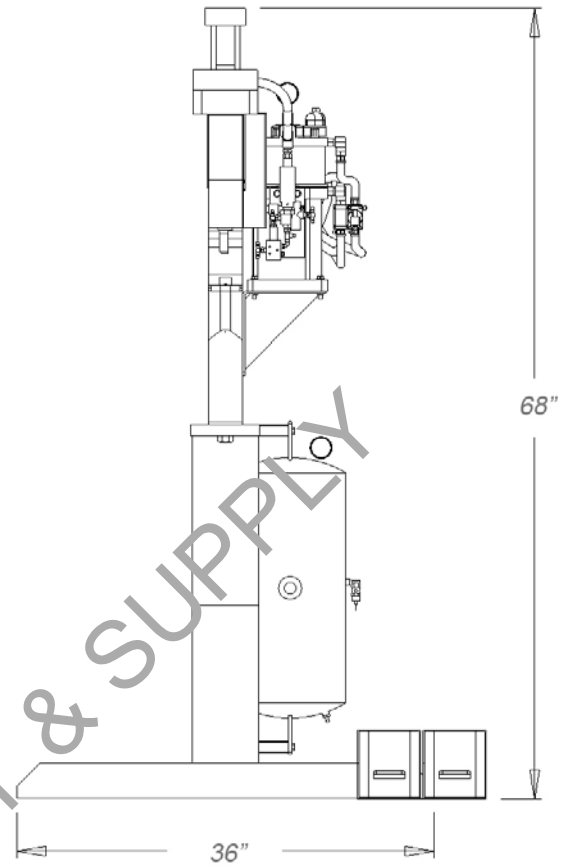
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SPECIFICATIONS – Heavy Duty Surelok II

- Press Design:** Solid 3" steel "C" frame.
- Features:** Air over oil intensifier unit
Air surge tank and regulator
Dual foot pedal operated
- Stroke:** 2" max., 1/2" high pressure
- Throat:** 18" or 25"
- Work Height:** 45"
- Upper Tooling:** Quick change punch
Hardened steel punch stripper
- Lower Tooling:** Die insert in a 2-piece hardened die plate.
- Capacity:** MAX: Two ply 0.138" mild steel.
MIN: Two ply 0.028" mild steel.
- Cycle speed:** 30-40 cycles/minute
100% duty cycle
- Air Requirements:** 60psi to 80psi
65psi (recommended)
Approx. 0.8 cu ft free air per cycle.
(3 HP @ 20 clinches per minute)



Letter Lok 4000

Versatile design and unsurpassed features will reduce your channel letter fastening costs.

- 25" throat
- Fast cycle times
- Cinch up to 10" deep letters
- Large table 30" x 60"
- UL recognized tooling*
- Simple tool adjustment
- Air powered

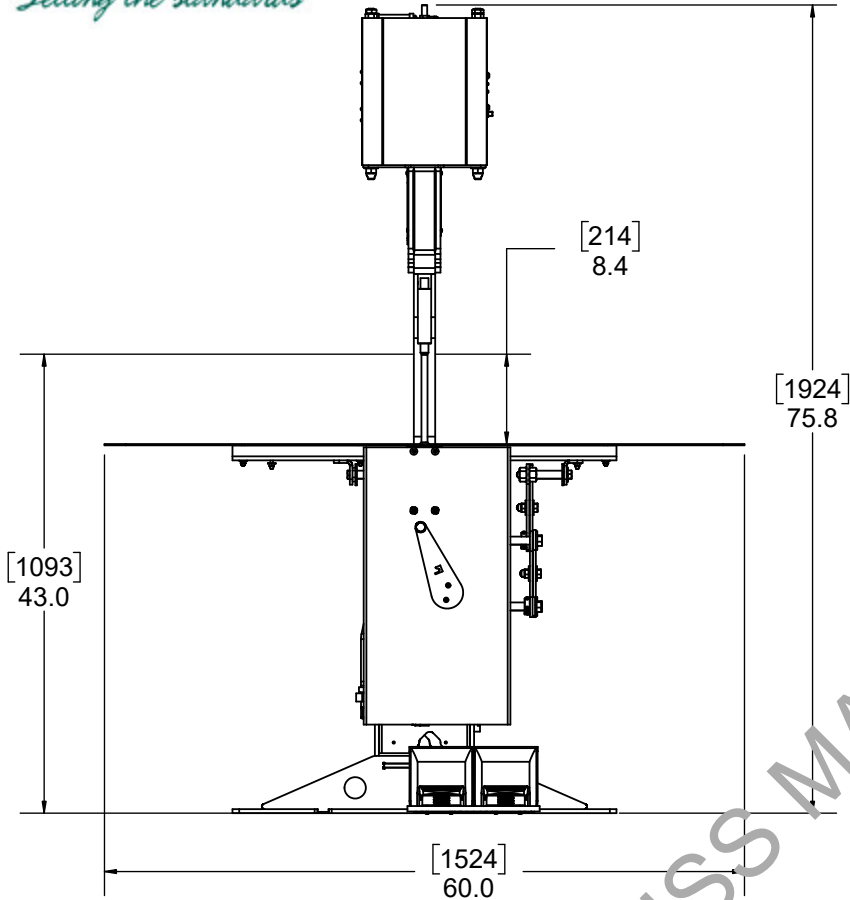
When you combine all the features, benefits and quality, the Letter Lok 4000 sets the standard for the channel letter industry.

*Norlok tooling components MP70001, MP70002 & MP70010. This is standard in all Letter Lok 4000 machines

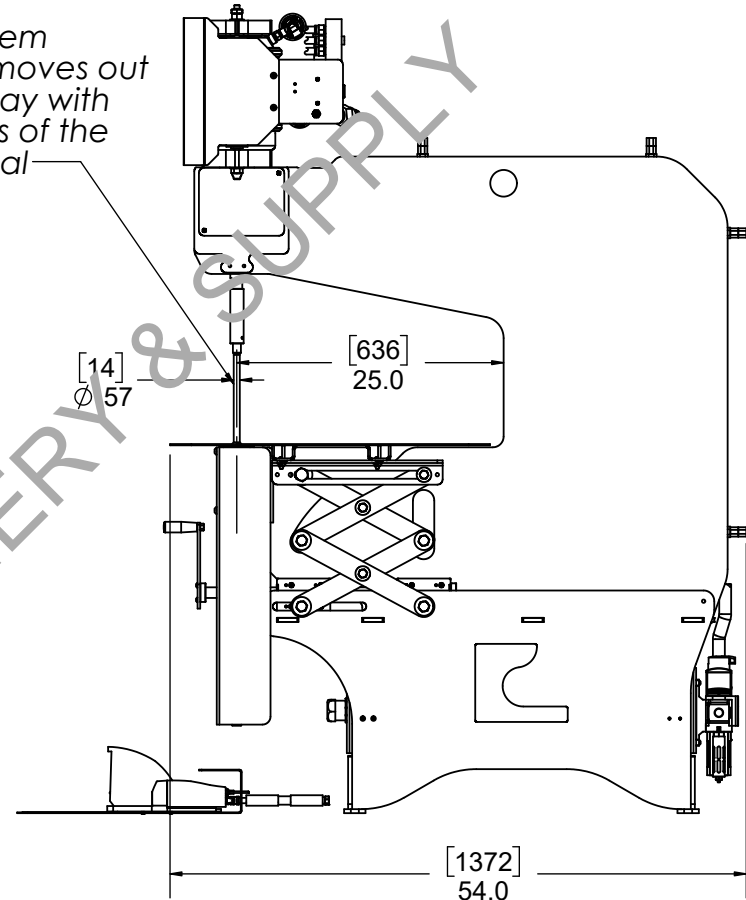


INNOVATIONS IN ENGINEERING

Setting the standards



Lower stem rapidly moves out of the way with the press of the foot pedal



Material	Joined With	Net Max Thickness	Net Min Thickness
Aluminum	Clinch/SPR	0.160" / 4mm *	0.048" / 2.00mm
TPO	SPR	Contact Norlok	
Galvanized Steel	Clinch/SPR	0.120" / 3.8mm *	.030" / 0.50mm
Aluminum Composite	SPR	Contact Norlok	

* Self Piercing Rivets (SPR) are sold by Norlok. SPR can join thicker material and produce stronger bonds compared to clinch

- Stroke:** 1/4" [6mm] operating
8" [200mm] low pressure opening
- Throat:** 25" [635mm]
- Max Letter Height:** 8" [200mm] (10" [254mm] option available)
- Table:** 30" deep x 60" wide [760 x 1520 mm]
- Cycle Speed:** 80 CPM
- Air Requirements:** 70-100psi [5-6.8 bar]
Approx 0.8 cu ft free air per cycle

THE LETTER LOK

'LITTLE LOK' 1200

The LetterLok 'LittleLok' 1200 fastening machine has been designed for fastening channel letters. It has a 12" throat and can accommodate a 6" return.

With the ability to fasten up to a 6" return and it's ease of use the LittleLok 1200 can make short work of your channel letter fastening needs.

FEATURES:

- > machine can operate at 60 - 80 cycles per minute.
- > maximum combined material thickness of 0.125"
- > machine is 100% air powered
- > has an adjustable table to accommodate a 6" high letter.
- > UL recognized tooling. Norlok Technology Inc. in conjunction with the Letterlok series of machines produce a UL recognized clinch for Channel Letters.

THE LITTLELOK 1200 REPRESENTS THE NEXT GENERATION OF LETTERLOK MACHINES. WHETHER IT IS YOUR MAIN FASTENING MACHINE OR A SIBLING FOR AN EXISTING LETTERLOK THE LITTLELOK HAS THE FEATURES YOU NEED. YOU WILL HAVE THE PEACE OF MIND KNOWING YOU HAVE A MACHINE THAT WAS DESIGNED AND BUILT BY THE COMPANY THAT SETS THE STANDARD FOR THE CHANNEL LETTER INDUSTRY.



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**SPECIFICATIONS – Letter Lok ‘LittleLok 1200
(Model – LT1200)**

- Press Design:** 3" Solid steel "C" frame.
- Features:** WAMP pneumatic power unit.
Single shot auto return.
- Stroke:** 3 1/2" low pressure closing stroke
1/4"-3/8" high pressure clinching stroke
- Throat:** 12"
- Table:** 18" deep x 34" wide
- Work Height:** 44"
- Lower Tooling:** Die insert set in a hardened die holder.
- Upper Tooling:** Fast change punch
Replaceable punch stripper
Adjustable to suit material thickness.
- Capacity:** MAX: Combined thickness of 0.125".
MIN: Two ply 0.024" Aluminum.
MAX: Two ply 0.040" Mild Steel.
MIN: Two ply 0.015" Mild Steel.
- Cycle speed:** Clinching stroke 60 - 80 CPM.
100% duty cycle.
- Air Requirements:** 65 psi (operating)
125 psi (max supply) 80 psi (min)
Approx. 12-13 SCFM @ 65 PSI.
(80 clinches per minute)
- Dimensions:** Width 36" (overall)
Length 34" (overall)
Height 74" (overall)
Weight 700 lbs. (approx.)

Typical Joint Strengths (Aluminum):

Material Thickness Punch side / Die side	Pull	Peel
	Pull (lbs)	Peel (lbs)
0.063 to 0.063	240	72
0.063 to 0.040	270	50
0.040 to 0.040	175	60

