MASTERS OF SPRINGS & STAMPED METAL

Connecticut Spring & Stamping

Equipment List

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860.677.1341 ● Fax 860.677.7199
www.ctspring.com

October 30, 2014

ENGINEERING [DESIGN] SUPPORT | PROTOTYPING | PRODUCTION

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This brochure: (i) may contain technical data as defined in 22 CFR 120.10 of the International Traffic in Arms Regulations (ITAR) or the Export Administration Regulations (EAR) at 15 CFR 730-774.

Product Photography by Tom Malinski

Introduction

Connecticut Spring & Stamping (CSS)

CSS was established in 1939 as a family owned and managed company. We design and manufacture all varieties of Springs, Metal Stampings, Fourslide, Precision Machined Parts, Fine Blanked Parts and Assemblies.

We specialize in close tolerance precision parts to support cost effective low and high volume production.

We supply the Medical, Firearm, Aerospace, Government & Defense and many more markets.

Our CSS South manufacturing operations are contained in one modern single story facility with 150,000 square feet of space.

Our CSS North manufacturing operations are contained in one modern single story facility with 51,000 square feet of space.

Warehousing facilities are located in the USA, Puerto Rico, Singapore, Shanghai & Dongguan.

QUALITY ASSURANCE

Testers

- SDHD Digital Hand Testers — Capacity 11—110 pounds
- Probat SF 201 Computer Spring Testers — Capacity 55 pounds
- Carlson Electronic Spring Testers — Capacity 50 pounds
- Carlson Electronic Torsion Testers — Capacity up to 200 inch pounds
- Carlson Precision Spring Testers — Capacity 200 pounds
- Larson Flash Load Testers — Capacity 200—500 pounds
- Link Spring Testers — Capacity 1900 pounds
- Tinios Olsen Tensile Testers — Capacity 5000 pounds
- Wilson Twin Hardness Testers
- Tukon Superficial Hardness Testers
- CT-200 Automated Spring Analyzers

Gauges

- Check Line Plating Thickness Gauges
- Brown & Sharpe Cadillac Hite Gauges

Software

- Statistical Process Control
- Production Part Approval Process
- Corrective Actions
- Quality Process Management
- Calibration
- MeasureMind 3D Multisensor
- MeasureFIT for OGP Smart Scope

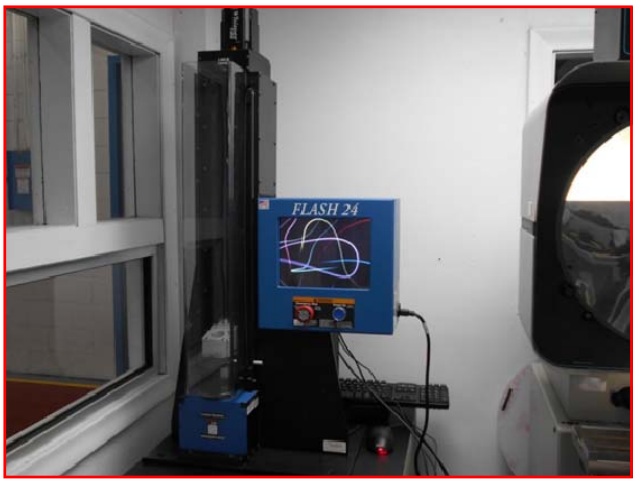
Major Inspection Equipment

- 30" Optical Comparators
- Starrett Digital Height Indicators
- Federal Profilometers
- Tool Maker Microscopes
- Buehler Specimen Mount Presses
- OGP Smart Scope 500 Vision Measuring System with Touch Probes and Smart Scopes
- Keyence 1M6120 Optical Measuring Systems

Facilities and Certification to perform Eddy Current Test for Surface Defects

QUALITY ASSURANCE

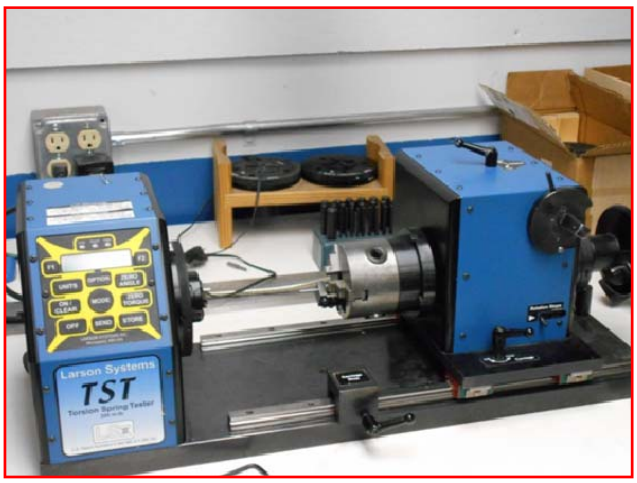
Inspection and Test Equipment



Larson Flash 24 Load Tester

Vision Dynascope Toolmaker's Microscope

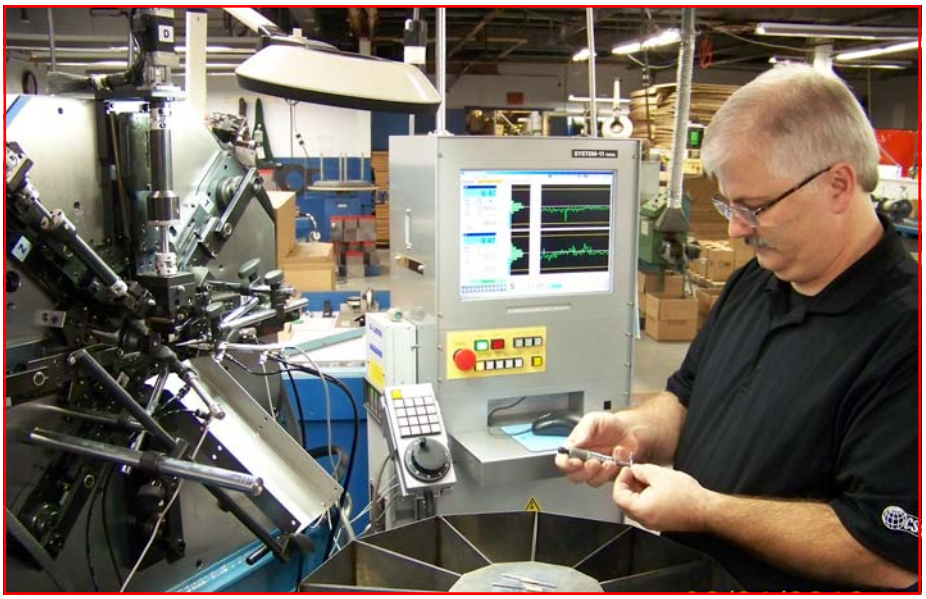
Keyence IM 6500 Measuring System

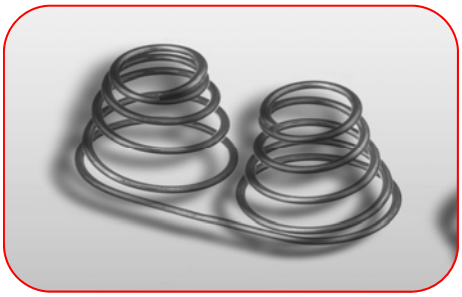


Larson Torsion Spring Tester 200 in-lb

OGP Smartscope Coordinate Measuring Machine

Spring Components





Battery Contact

Catheter Springs

Torsion Spring

Extension Springs

Magazine Springs

Contact Spring

PRIMARY
SPRING MANUFACTURING

Small Order Short-run and prototype production of extension springs, compression springs and wire forms.

Small Coil	7900 High Production Sleeper Hartley Coilers	.004 to .026
	720 Sleeper Hartley Coilers	.008 to .028
	Torin Coilers	.008 to .030
Medium Coil	790 High Production Sleeper Hartley Coilers	.008 to .042
	7910 High Production Sleeper Hartley Coilers	.014 to .063
	Torin Coilers	.025 to .080
Large Coil	BHS-Torin CNC 11 Coilers	.015 to .080
	BHS-Z0CNC Coilers	.026 to .080
	Torin Coilers	.048 to .350
	Simplex Rapid Coilers	.062 to .148

In Line Ovens For All Coilers
Lion Precision and Moyer Merlin Gauges

Wire diameters ranging from .004" to .350"

Automatic Looping, Wire Form & Torsion

• Itaya MCS 4 Spring Generators	.004 to .015
• Itaya MCS 8 and 8G Spring Generators	.008 to .031
• Itaya MX 8's	.008 to .031
• MEC CLS 10 'sSpring Loopers	.008 to .039
• MEC 10V 's	.008 to .039
• Itaya MCX 10 Spring Generators	.015 to .040
• MEC CL 16 Spring Loopers	.015 to .055
• Itaya MX10's	.016 to .040
• Shinko VF 812 MFT Spring Loopers	.017 to .042
• SX-15 Computer Controlled Spring Coilers	.025 to .059
• Itaya MX 20's	.025 to .079
• Itaya MCX 20 Spring Generators	.025 to .079
• Shinko VF 820 MFT Spring Loopers	.028 to .079
• Itaya MX 20 A's	.035 to .079
• NuCoil FX35 Coilers	.039 to .138
• Shinko VF 8030 MFT Spring Loopers	.048 to .125

In Line Ovens For All Generators and Loopers

Torsion	SIMCO & MEC 10 Coilers	.007 to .040
	Torin Coilers	.025 to .090
	MEC 23 Coilers	.028 to .156

Truing Load testers for all types of loads on a wide range of wire sizes.

TOOL ROOM

Complete Tool Building Facilities for Power Presses and Fourslide / Multislide / Vertislide

Wire EDM

- Mitsubishi Wire EDM Machines with DNC Links to CAD/CAM Systems
- Form 20 Sinker

Grinders

- Surface
- Moore Jig
- Okamoto 12 x 24
- Okamoto 20 x 48 Wet
- Moyer CNC

Drills

- Current EDM Drills
- Radial Arm Drills
- Drill Presses

Milling Machines

CNC Vertical Machining Center with Tool Changer
Bridgeports with Proto Track EMX-1 Systems
HAAS VF4 CNC Vertical Machining Center
Fadal 2016 CNC Vertical Machining Center
Fadal 2216 CNC Vertical Machining Center
Fadal 3016L Vertical Machining Center
Hyundai-Kia VX400 Vertical Machining Center

Misc Equipment

- Lathes
- Bandsaws
- Kalamazoo Cut Off Saws

Presses

- 75 Ton Straight Side Tryout Press for New Tools
- 50 Ton Hydraulic Arbor Presses

ENGINEERING

PC Based Workstations

- AutoCAD Mechanical Desktop 2008 and AutoCAD 2010 software
- AutoCAD Lite 2010 CAD software
- Autodesk Inventor Suite 2010
- Pro Engineer 2001 and Wildfire by PTC
- DP Esprit
- CNC Programming System
  (with direct electronic download capability to NC wire EDM)
- Master cam
- Solidworks—Basic, Premium, Simulation Premium FMEA 2010

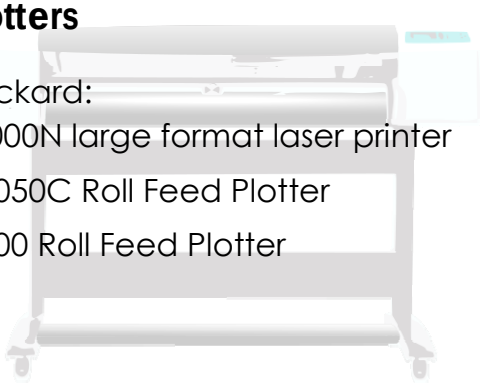
Electronic File Transfer Capabilities

Import and Export capabilities for the following file types:

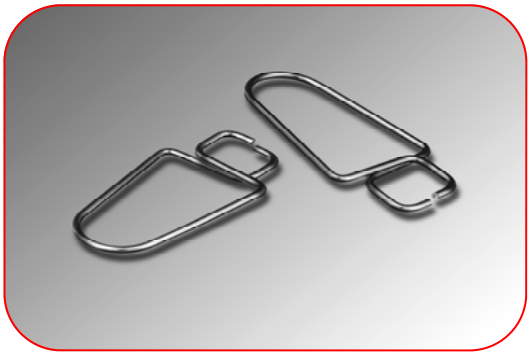
- AutoCAD DWG (R12-R14 and AutoCad 2004-2010)
- Autodesk Inventor .IPT
- DXF
- IGES
- STEP
- Cadkey
- Pro E
- Solid Works
- Parasolid
- E-Drawings

Printers & Plotters

- Hewlett-Packard:
- Laser Jet 5000N large format laser printer
- Designjet 1050C Roll Feed Plotter
- Designjet 700 Roll Feed Plotter



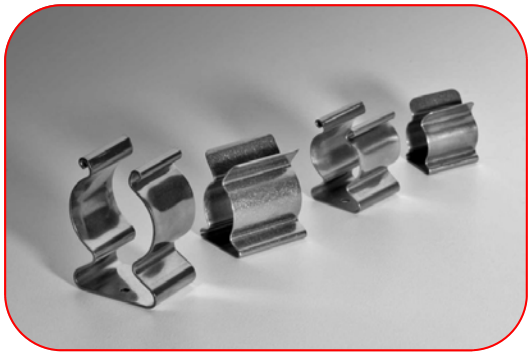
Fourslide Components



Wire Formed Clamp

Battery Connector

Bipolar Clip



Retention Spring Clips

Shaft Tip UMB

Pressure Speed Spring

Clutch Springs

Pressure Spring

PRIMARY
FOURSLIDE MANUFACTURING

Fourslide / Multislide / Vertislide

- #00 Nilson's
- 700L Nilson's
- #1 Nilson Reg S1's
- #1 Nilson S1F's
- #2 Nilson S2F's
- #752 Nilson's
- #3 Nilson Reg S3's
- #3 Nilson S3F's
- #4 Nilson
- V81 Torrington Verti-Slides
- V82 Torrington Verti-Slides
- Sleeper-Hartley
- Kick Presses
- WAFIOS BM3

Material Range: Wire diameters .005" to .188"
Flat stock .003" to .062"

Metal Stamping Components

Shield Lock

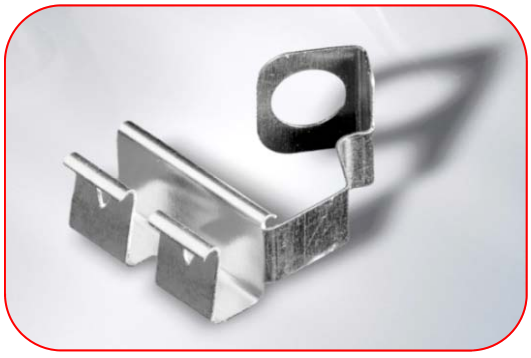
Trigger Bar

Cap-Metal Throughshaft

Receiver End Plate

Clip

Mount Lever



Contact

Cable Guide

PRIMARY
METAL STAMPING MANUFACTURING

Automatic Power Press

Automatic presses from 30 ton to 300 ton provide a full range of metal stampings. High speed presses capable of 1,500 parts per minute. Large parts requiring heavy tonnage can be accommodated by 300 ton presses with die beds up to 84 inches long.

- High Speed Bruders — 30 and 60 Ton
- Straight Side Minsters — 60 to 300 Ton

Secondary Power Press

- Presses — 3 to 10 Tons
- Presses — 10 to 15 Tons
- Presses — 15 to 50 Tons
- Minsters — 75 Tons
- Greenerd Hydraulics — 200 Tons

Miscellaneous

- Foot and Drill Presses
- Lapping Machines
- Bridgeports
- Surface and Bench Grinders
- CNC Machining Centers
- Time Savers
- Servo Roll Feeds

Secondary Manufacturing

Grinding

- Large OMD Downfeed
- Bennett's 9"
- Besley's10"
- Bennett's 14"
- Besley's 18"
- Gardner's 20"
- Moyer CNC 15-30-2VCD's
- Moyer Auto Feed Capabilities

Setout Machines

- Automatic Air Cycle
- Automatic Setout Presses

Miscellaneous

- Tumbling Barrels
- Harperizers
- Pangborn Roto Blasts
- Wheelabrators
- Sweco Vibrators
- Uni Hone Dry Blasting
- Heat Set Machines
- Empire and Pangborn Shot Peen Machines
- Cob Dryers
- New Holland Dryers

Secondary Manufacturing

Heat Treating

Complete stress relieving capabilities
Fixture Heat Treating (Electric and Salt Set)

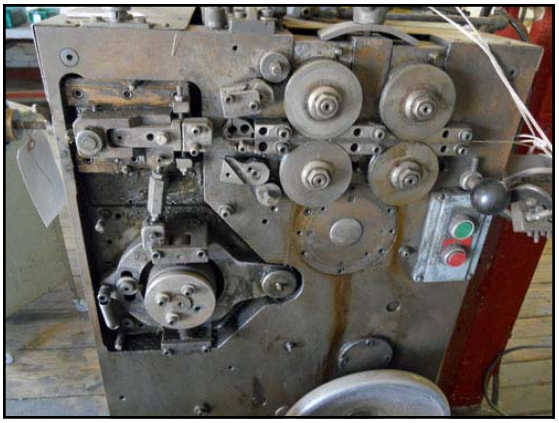
Lindberg Oven #8 Type 11-HC-242424-13 is approved for stress relieving and Precipitation type treatments requiring temperatures of less than 1000 degrees F to MIL-H-6875

Secondary Wire Forms

- Foot Presses
- Air Presses
- Power Presses
- Hand Winders

Looping

- Foot presses for secondary extension spring operations
- Torin 10A's and Torin 11A's



Welding

- Induction Heaters (10 KW Max.)
- Spot Welders (0-25 KVA Range)
- Precision Welders

Machining

Tsugami S206

Tsugami SS207-5AX

Hyundai-Kia CNC

Fadal Machining Center

Tsugami VA1-II

Hyundai-Kia VX380TD

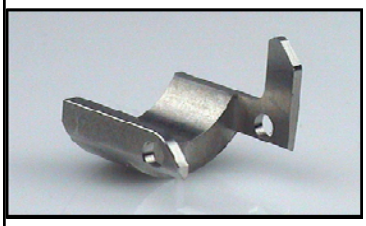
PRIMARY
MACHINING MANUFACTURING

CNC Machining

CSS has CNC machining centers that produce completely smooth edges on windows, slots and holes in parts where a smooth edge condition is critical.

We have the capability of applying CNC machining processes to stamped parts to generate finished parts with unique and difficult to produce features. Customers can achieve significant savings by having their basic components made with stampings, then incorporating more critical features by CNC machining.

Swiss Machining



CSS has 5-axis Swiss CNC Machining capabilities. Bar-fed multi-axis automatic CNC Swiss lathes use single point tooling to profile the work piece, producing intricate finished parts with virtually no requirements for secondary operations.

This applies to parts that are up to 1 inch in diameter. CSS has also developed a proprietary process to handle machining parts from tubing. Parts are produced quickly with excellent finishes and intricate details. This is an ideal process for small precision components.

Channel

Housing

Assemblies

Cassette Assembly

Breaker Spring

Channel & Clip Retainer

Spring Caged Assembly

Magazine Tube

Slide Stop Lever

Finger Sensor

Low Profile Clip Assembly

Assembly and Subassembly

Assembly

We offer….

- Expertise in project management
- Flexibility
- Reliability
- Competitive pricing

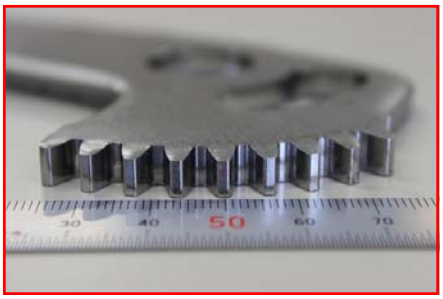
From prototype to high volume production, using innovative tech-aided single-part throughput assembly

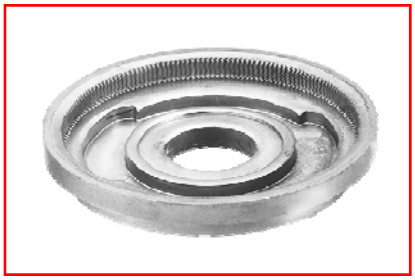
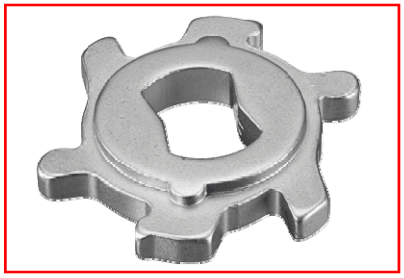
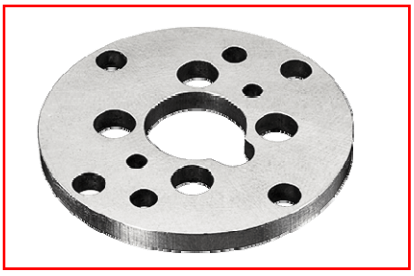
Subassembly Solutions Incorporating:

- Welding (ultrasonic, EB, resistance laser)
- PEM and other fastener insertion
- Semi and full automation

FINEBLANKING

GKP-F 250



Fineblanking allows CSS to make parts with challenging features that would typically require secondary operations or could be beyond our baseline stamping capabilities.

Fineblanking allows us to produce complex parts in a more cost efficient manner while meeting quality and productivity goals.