Equipment List

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ITAR Controlled

Product Photography by Tom Malinski
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

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

Software

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

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

Trigger Bar

Battery Connector

Bipolar Clip

Retention Spring Clips

Shaft Tip UMB

Contact

Clutch Springs

Pressure Spring
#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
- Pressure Speed Spring
- Cap-Metal Throughshaft
- Receiver End Plate
- Clip
- Mount Lever
- Pressure Speed Spring
- 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’s 10”
- 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.
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 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.