



11127 Dora St. • Sun Valley, CA 91352 • Tel (818) 767-1000 • Fax (818) 767-1088

PRECISION MACHINING, SHEET METAL FABRICATION, AND ASSEMBLIES

Solara Engineering is a certified Small Disadvantaged Business company with over twenty years of experience in precision machined parts using 3, 4 and 5 Axis Machines, fabricating close tolerance sheet metal components, and assemblies. At Solara, we have been manufacturing products for the Department of Defense and military contractors, commercial aircraft and satellite manufacturers, as well as hi-tech industries. Some of the programs we have supported are:

Northrop - Joint Strike fighter
Boeing Delta Program
Raytheon -V22 and Global Hawk programs
Lockheed – F35 & F15 Program
Boeing's satellite and international space station projects

Solara Engineering is a Just in Time subcontractor and we function as an extension of our customers' manufacturing and engineering capacity. We serve high technology firms in the aerospace, aircraft, computer and medical industries.

Precision CNC Machining & Lathe – Over 50 CNC Machines!!!

- Complex 5 Axis Programming & Machining
- Close Tolerance 4 Axis Milling
- Machining of Parts up to 120" by 40" in Size
- Milling Capabilities down to .0005 Inch Tolerance
- Short Run Prototype and Large Volume Production, Flexible Production Scheduling

Precision Sheet Metal

- 3D Fabrication from Flat Pattern
- CNC Turret Punching
- Precision CNC Brake Forming up to 10'
- Precision Welding: All Types of Materials Including Aluminum Alloys and Titanium

Precision Assembly

- Riveting to Military and Customer Specifications
- Hardware Installation
- Bonding
- Finished Assemblies & Sub-Assemblies



Quality Control – 9 CMM's to accommodate prototype work

- AS9100 Certified Quality System
- Mil-I-45208A Supplier to all Major Aerospace Firms
- Total Quality Management (TQM) System
- Statistical Process Control (SPC) for "Close Tolerance" Manufacturing
- Coordinate Measuring Machine (CMM) Inspection
- 3D Contour Measurement Capabilities
- Ability to check straight from CAD (PC-DMIS and Apogee) – DPD Approved

Engineering

- Complex 3D Flat Pattern Development
- Precision CNC Programming
- Complex 3-D Programming
- 4 and 5 Axis Programming
- Production and Manufacturing from all Types of Customer Provided Electronic Files & Traditional Media, Computer Generated CAD Files, Customer Furnished IGES Files, DXF Files, CATIA Files, Cad Key Files
- Assistance in Part Design (From Existing Customer Blueprint)
- Reverse Engineering (From Existing Customer Parts or Tooling)

The Following is a Sample of Customer Requirements and Projects Completed

Machined Parts

- Complex Surface Wing Spars
- Close Tolerance Electrical Housings
- Lightweight Exotic Metal Assembly Covers
- Electrical and Structural Chassis

Sheet Metal Components

- Structural and Conductive Precision Brackets
- Ventilation and Stiffening Cover Plates
- Antenna Support Connectors
- Bus-bars, Groundstraps and Other Electrical Components

Assemblies

- Thermal Protection Barriers
- Brazed Electronic Housings
- Optical System Coverings and Housings
- Soldered and Bonded Conductive Sub-assemblies



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- Precision Spot Welded and Fusion Welded Assemblies
- Bonded and Riveted Structures

Materials Used in Manufacturing

- Alloys: Aluminum, Brass, Beryllium Copper, Delrin, Fiberglass, Fin Stock, Inconel, Kovar, Laminated Shim, Manganin, Magnesium, Nylon, Plastic Laminates, Rubber, Sintered Tungsten, Steel, Tantalum, Teflon, Titanium, and other Materials
- Forms: Bar, Castings, Extrusions, Foils, Forgings, Honeycombs, Plate, Sheet, Tubing, Thin Gauge & Wire

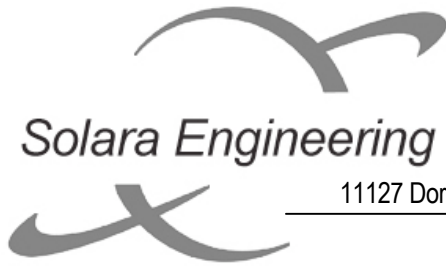
Outside Support Services

- Spun Metal Parts, Short Run Stampings & Certified: Brazing, Friction Coating, Heat-Treating, Aerospace Prime & Paint, Passivation, Penetrant Inspection, Military Specification Plating, Structural & Chemical Testing and many other processes.

Equipment List

Machining - up to 120 inches long

Cincinnati Milacron Lancer V5-2000/80x30x30/ 40 degrees A & B axes
OKK MCV-860 Vertical Milling Center/80x33x28



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Samsung MH-80 Horizontal Machining Center 4 Axis CNC 2 Pallets 50 Taper
XYZ - 45" X 32" X 36"

Okuma MC-40 Horizontal Machine w OSP 5000M control 20"x20" 2 pallets 40TP

LE BLONDE Makino MC-65 Horizontal Machine, 50TP glass scales, full 4th, 20" x 20" 2 pallets

Haas CNC Mill/64x40/4th Axis/VF8 15HP

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Haas CNC Mill/64x40/4th Axis/VF6 15HP

Haas CNC Mill / 50x30 /4th Axis /VF5 15HP 4th Axis Table

Haas CNC Mill / 40x20 /4th Axis /VF3 15HP 4th Axis Table

Haas CNC Mill / 40x20 /4th Axis /VF3 15HP 4th Axis Table

Haas CNC Mill / 40x20 /4th Axis /VF3 15HP 4th Axis Table

Haas CNC Mill/30x16/VF-2 15HP 4th Axis/ 7500RPM

Haas CNC Mill/30x16/VF-2 15HP 4th Axis/ 7500RPM

Akira Seiki Performa V4XP Mills 40" X 30" X 30"/10,000RPM

Akira Seiki Performa V4XP Mills 40" X 30" X 30"/10,000RPM)

Fadal CNC Mill/50x20/ CNC 88 4th Axis Table

Fadal CNC Mill/40x20/VMC4020HT 4th Axis Table

Fadal CNC Mill/40x20/VMC4020HT 4th Axis Table

Fadal CNC Mill/40x20/VMC4020HT 4th Axis Table

Fadal CNC Mill/40x20/VMC4020HT 4th Axis Table

Fadal CNC Mill/40x20/VMC4020HT 4th Axis Table

Fadal CNC Mill/30x16/VMC3016 4th Axis/ 10,000 RPM

Fadal CNC Mill/30x16/VMC3016 4th Axis/ 10,000 RPM

Fadal CNC Mill/30x16/VMC3016 4th Axis/ 10,000 RPM

Fadal VMC 40 CNC 88 Machine Center

Bridgeport Vertical Mills (7)

Drill Presses (5)

Sun Max 8" Surface Grinder

Tool Grinder

Turning - up to 100 inches long

Cincinnati Milacron Cinturn 15U Lathe 25" Chuck, 100" between Centers

Amera-Seike t4L CNC lathe w 10" chuck, 12 station turret, tailstock

Hitachi-Seiki CNC Turning Center 7.9" Swing 15.7" Z

8 HP Victor 1660 Lathe

Sheet Metal Punching

CNC Wiedeman Centrum 1000 Turret Punching Fabricator

Super 30/30 Strippit Fabricator

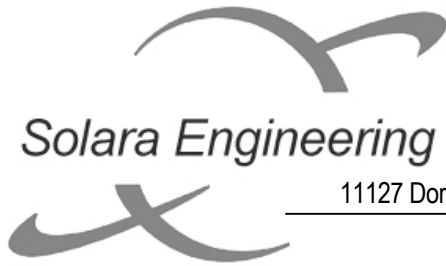
110 Ton Johnson Punch Press

Kick Press

Forming

10' 90 Ton Cincinnati Hydraulic Press Brake with Hurco 3 Axis CNC Backgauge

4' 30 Ton Accurpress Hydro-Mechanical Press Brake with 2 Axis CNC Backgauge



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Hand rollers (4)

Hand brake

Cutting

Amada 3/16" X 10" Shear with Digital Control

GROB 4V-36" Band Saw with Welder

Amada Corner Notcher CSW220

Diacro 2' 1/16 Gauge Hand Shear

Abrasive Cut Off Saw

Welding

Miller Synchrowave 250 amp Heli Arc Welder

Miller VIS-ARC 300 amp Heli Arc Welder

Hallowell Model 460 Synchronous Control Spot Welder (Titanium)

Nelson Stud Welding 2000 Spot Welder (Titanium)

Inspection

5 Starrett Computer-Assisted CMMs (PC Dimms and Apogee)

1 Starrett Optical Comparator

Hardness and Conductivity Testing Capabilities

Full complement of inspection tools and
gauges, periodically calibrated, and traceable
to NIST.

Assembly

GPT Model 8000 CSA C-Style Pneumatic Squeezer 5 Ton

ATS 114A Squeezer 1 Ton

ATS 114C Squeezer 1.5 Ton

18" Deep C Style Compression Riveter

Hand C Style Compression Riveter

35 Ton Hydraulic Press

Helium Pressure Tester w/leak Detector

Industrial Grieve Air Oven w/charts

Deburr

Complete deburring equipment including Disc Sander, Pedestal Grinders,
Sand Blast Cabinet, Tumbler, and Timesaver