

# RED LION OPERATIONS

OEM Contracting

## OTS FACILITIES

## RED LION, PA

General Dynamics Ordnance and Tactical Systems provides you with versatility and experience, offering a wide range of material capability including titanium and carbon fiber composite. From design and material selection to machining and fabrication, we can assist with selecting the proper material for the job and providing a product within tolerance, meeting all requirements. We can handle all phases of the manufacturing process.

**We supply parts and assemblies for the Aerospace, Telecommunications, Defense, and Medical industries among many other commercial markets.**

## MATERIALS

- » Titanium
- » Nylon
- » Conventional and High-Strength Steels
- » High Strength, Light-weight Composite Structures
- » High-Strength Aluminum
- » Hardened and Annealed Stainless Steel

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

## CERTIFICATIONS

Our continued focus on quality and environmental health and safety has resulted in the following certifications:

AS9100D «  
ISO 14001 «  
OHSAS 45001 «



## Production Capabilities

### CNC MACHINING

- » State of the art turning and milling equipment, including 5-axis multi-pallet machining centers which offer a wide range of manufacturing capabilities.

### CONVENTIONAL MACHINING

- » A complete complement of equipment to support production and prototype manufacturing.

### SHEET METAL AND WELDING

- » Weld systems able to meet customer requirements, including special capabilities for aluminum and stainless steel as well as high precision CNC punching and forming capabilities.

### PRODUCT ASSEMBLY

- » Production assembly capabilities for short-run and long-run requirements.

### QUALITY ASSURANCE SYSTEMS

- » Providing the customer with quality assurance in all products delivered. Extensive inspection and testing capabilities, including Destructive and Non-Destructive Testing, Calibrated Measuring Systems, and an In-House Lab. Our quality system is certified to ISO 9001 and AS9100D.

### VARIETY OF FINISHES

- » Automated and conventional systems provide efficiency and versatility to meet a wide range of needs, including Phosphatizing, Zinc Plating, Chromate, Hard Coat Anodizing, Painting, Passivation and others.

Additional capabilities include hot forging, rubber molding, forming nylon, and heat treating.

## Facilities List

|                    |  |
|--------------------|--|
| <b>Milling</b>     | 100" (X-axis travel) x 60" (Y-axis travel) x 31.5" (Z-axis travel) |
| <b>Turning</b>     | 14" diameter x 26" max length                                      |
| <b>Sheet Metal</b> | ¼" thick x 50" x 50"   |
| <b>Welding</b>     | MIG, TIG and Stick   |

### 5-AXIS MULTI-PALLET

|                        |  |
|------------------------|--|
| <b>Yasda PX30I (2)</b> | 26.7" x 15.7" x 19.7", 20,000 RPM<br>Thru-coolant spindle,<br>306 position ATC, 32 Pallets |
| <b>Makino DA300</b>    | 17.7" x 24.4" x 19.6", 20,000 RPM<br>Thru-coolant spindle,<br>260 position ATC, 35 Pallets |

### SWISS TURN

|                                     |   |
|-------------------------------------|---|
| <b>Nexturn Swiss<br/>SA-32D</b>     | 1.25" Max DIA x 14.5" Max Length<br>MTA Tracer 32, 12' Bar Feeder |
| <b>Nexturn Swiss<br/>SA-32E (2)</b> | 1.25" Max DIA x 14.5" Max Length<br>MTA Tracer 32, 12' Bar Feeder |



## VERTICAL MACHINING CENTERS

|                           |  |
|---------------------------|--|
| <b>Kitamura Bridge 8</b>  | 80" x 42.6" x 32", 10,000 RPM<br>30 position ATC, 4th axis                             |
| <b>Kitamura Bridge 10</b> | 100" x 60" x 31.5", 10,000 RPM<br>40 position ATC, 4th axis                            |
| <b>Matsuura 760VX</b>     | 29.5" x 17.3" x 19", 6,000 RPM<br>30 position ATC, 4th axis                            |
| <b>OKK V65R</b>           | 60.63" x 29.92" x 26", 12,000 RPM<br>Thru-coolant spindle, 4th axis<br>30 position ATC |
| <b>Bridgeport XR (2)</b>  | 40" x 20" x 20", 12,000 RPM<br>Thru-coolant spindle, Vacuum<br>48 position ATC         |
| <b>Fanuc Robodrill</b>    | 27.5" x 15.75" x 13", 24,000 RPM<br>Thru-coolant spindle<br>21 position ATC            |
| <b>Kitamura 2xl</b>       | 20" x 14" x 18", 15,000 RPM<br>Vacuum Fixture<br>24 position ATC, 2 Pallets            |
| <b>Kitamura 3xl</b>       | 30" x 18" x 18", 15,000 RPM<br>Vacuum Fixture<br>24 position ATC, 2 Pallets            |
|                           | 22.8" x 16.5" x 20", 10,000 RPM<br>Vacuum Fixture<br>24 position ATC, 2 Pallets        |

### Matsuura Ra3

31" x 17" x 23", 15,000 RPM  
40 position ATC, 2 Pallets

### Fadal 4020

40" x 20" x 19", 10,000 RPM  
21 position ATC

## HORIZONTAL MACHINING CENTERS

### Makino A51 (6)

22" x 22" x 23", 14,000 RPM  
Thru-coolant spindle, Full 4th axis  
60 position ATC

### Makino A55 (7)

22" x 22" x 23", 14,000 RPM  
Thru-coolant spindle, Full 4th axis  
60 position ATC

### Makino A61 (2)

28.7" x 25.6" x 28.7", 12,000 RPM  
Thru-coolant spindle, Full 4th axis  
40 position ATC

### Matsuura 630I (2)

41.3" x 36.2" x 34.2", 12,000 RPM  
Thru-coolant spindle, Full 4th axis  
150 position ATC, 6 pallets

### Kitamura 630I (2)

39.44" x 31.57" x 35.4", 12,000 RPM  
Thru-coolant spindle, Full 4th axis  
50 position ATC

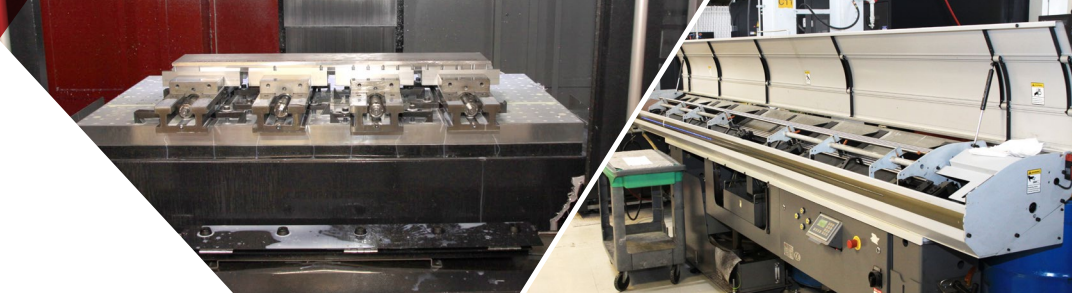
### Matsuura Es450 (3)

17.7" x 15.75" x 15.75", 12,000 RPM  
30 position ATC

### Matsuura 300

19.6" x 22" x 19.7", 15,000 RPM  
60 position ATC





## CNC TURNING CENTER

**Mori Seiki  
SL2500SY** 19" Max Dia x 25" Max Length  
Live tooling, Sub Spindle, Y axis

**Mori Seiki SL-25** 13" Max Dia x 20" Max Length  
Live Tooling

**Daewoo Puma  
230M** 13" Max Dia x 21" Max Length  
Live Tooling

**Hardinge SV150  
(3)** 11" Max Dia x 18" Max Length  
Live Tooling

**Mori Seiki  
SL3AS** 10" Max Dia x 22" Max Length

## WELDING

**Miller XRW**

**Miller S-22A**

**Miller Millermatic 350P**

**Miller Syncrowave 350 LX**

## FABRICATION

**Trumph Trumatic 2010R** 1/4" thick x 50" x 50"

**Wysong 1072** 10 Ga x 6' Shear Length

**Amada RG-80** 80 Ton x 98.7" Max Bend Length



## Inspection Equipment

### Coordinate Measuring Machines (CMM)

|               |
|---------------|
| Global S      |
| Mistral       |
| Global        |
| One           |
| Discovery III |
| Romer Arm     |

### Measurement Envelope

|                 |
|-----------------|
| 18" x 24" x 15" |
| 24" x 38" x 18" |
| 59" x 85" x 38" |
| 24" x 38" x 24" |
| 30" x 40" x 24" |
| 8.2'            |

## CAMERA/VISION SYSTEMS

**Keyence XM-T1200**

Portable CMM /  
Handheld Probe

**Evo Cam 2**

Digital Microscope

**Keyence IM-7030T**

Instant Measurement  
System

**RAM Optical**

3-axis Measurement

## OTHER INSPECTION TOOLS

- » Mitutoyo Surface Roughness System
- » Phase 2 Hardness Tester
- » Mitutoyo High Accuracy Micrometer
  - » 0.1  $\mu$ m resolution
- » Wide Range of hand inspection equipment
  - » Pins, Thread Gauges, Micrometers, Calipers