

SPECIALISTS IN DEBURRING AND METAL FINISHING



Eaglemaster Inc. Service List

We are committed to providing products and services that meet the highest standards possible. We are dedicated to performing defect-free work for our customers, to be delivered on time, at competitive prices.

Customer satisfaction is guaranteed.

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2. Industries we serve include:

- [Aerospace](#)
- [Agricultural equipment](#)
- [Construction equipment](#)
- [Electronics](#)
- [Firearms](#)
- [Food service](#)
- [Hardware](#)
- [Technology](#)
- [Hydraulics](#)
- [Job shop manufacturers](#)
- [Medical](#)
- [Military](#)
- [OEM manufacturers](#)
- [Recreational equipment](#)

3. Registrations and Licenses



FFL Certified by the ATF

Eaglemaster holds a Federal Firearms License (FFL). As outlined in the Gun Control Act of 1968, this license allows us to engage in the business pertaining to the manufacture of firearms and ammunition or the interstate and intrastate sale of firearms. The license is a Type 7 manufacturer FFL.



ITAR Certified

Eaglemaster is certified in the International Traffic in Arms Regulations (ITAR). This set of United States government regulations control the export and import of defense-related articles and services on the United States Munitions List. This certification demonstrates that we fully comply with the Arms Export Control Act (AECA) and International Traffic in Arms Regulations. It also shows that we have corporate procedures and controls in place to ensure compliance.

4. Vibratory Processing Services

Vibratory/tumble deburring is a mass finishing process that uses vibratory motion to remove burrs, smooth surfaces, and prepare parts for further processing. Parts are placed in a vibratory bowl or tub with abrasive media, which rubs against the components as the machine vibrates. The vibratory action results from a spinning, counterweighted bearing assembly that transfers energy to the mass inside the chamber.

The process can be customized based on media selection, cycle time, and compound usage, ensuring precision finishing for various materials such as metals, plastics, and composites.

Ideal Applications:

- ☒ Removal of burrs and sharp edges
- ☒ Creating uniform edge radiusing for safe handling
- ☒ Prepping parts for plating, anodizing, or coating
- ☒ Texturing parts for improved adhesion
- ☒ Achieving a polished, uniform surface finish
- ☒ Surface cleaning, descaling, and deflashing
- ☒ Providing edge radius on precision parts with tight tolerances

5. Centrifugal Barrel Finishing Services

Centrifugal barrel finishing (CBF) is a high-energy mass finishing process that uses G-forces to deburr, polish, and refine surfaces quickly and efficiently. The process involves mounting four barrels onto a large turret, which rotates in one direction while the barrels spin in the opposite direction. This combination generates intense centrifugal force, significantly reducing processing time compared to traditional vibratory finishing.

This method is ideal for high-precision components, particularly those requiring a smooth micro-finish, aggressive material removal, or a high-end cosmetic appearance. The ability to compartmentalize parts within the barrel prevents part-on-part impingement, ensuring consistent results.

Ideal Applications:

- ☒ Finishing of high-value components with strict tolerances
- ☒ Achieving ultra-smooth micro-finishes
- ☒ Removing sharp edges while maintaining critical dimensions
- ☒ Producing high-polish, cosmetic-grade surfaces
- ☒ Processing small, intricate parts that require precision finishing

6. Ball Burnishing Services

Ball burnishing is a mechanical process that improves surface finish by compressing the metal with hardened steel or ceramic media. This process smooths out microscopic irregularities and increases the material's surface hardness. It is performed in vibratory burnishing machines, where parts are tumbled with media and special burnishing compounds that enhance brightness.

Unlike abrasive finishing, burnishing does not remove material but instead compacts it, making the surface more resistant to wear and corrosion. It is an efficient way to achieve a high-gloss finish on a variety of metal components.

Ideal Applications:

- ☒ Enhancing cosmetic appearance with a mirror-like shine
- ☒ Deburring and deflashing die-cast components
- ☒ Smoothing aluminum extrusions for improved aesthetics
- ☒ Strengthening surfaces by work-hardening the material

7. Mechanical Polishing Services

Mechanical polishing refines surfaces through a staged process that combines abrasive media with vibratory or centrifugal forces. This multi-step method involves an initial aggressive material removal phase, followed by intermediate smoothing and a final polishing stage that creates a high-gloss, reflective finish.

The process is widely used in industries requiring premium surface aesthetics and functional smoothness, such as jewelry, medical devices, and high-end hardware.

Ideal Applications:

- ☒ Components requiring a bright, polished finish
- ☒ Medical and surgical tools requiring a smooth, hygienic surface
- ☒ Jewelry and decorative metal parts
- ☒ Precision hardware and architectural components

8. Bead & Grit Blasting Services

Bead and grit blasting use pressurized air to propel abrasive particles against a surface, removing contaminants, rust, tool marks, and oxidation. This process is crucial for surface preparation before coating, plating, or painting, as it increases adhesion by creating a roughened texture.

The choice of blasting media depends on the desired outcome:

- **Glass Bead:** Produces a soft, bright finish ideal for cosmetic applications.
- **Aluminum Oxide:** Provides aggressive cleaning and surface roughening for enhanced adhesion.
- **Custom Options:** Various synthetic and mineral abrasives are available for specialized needs.

Ideal Applications:

- ☒ Cleaning and descaling metal surfaces
- ☒ Removing rust, corrosion, and oxidation
- ☒ Prepping surfaces for painting, coating, or anodizing
- ☒ Blending tool marks and imperfections
- ☒ Creating uniform cosmetic finishes

9. Shot Blasting Services

Shot blasting is a high-velocity surface treatment that uses metallic shot to clean, deburr, and prepare parts for further processing. The impact of the shot removes contaminants such as rust, scale, and heat-treat residue, making it ideal for large-scale industrial applications.

Bulk and precision shot blasting allow for different levels of surface refinement, from aggressive cleaning to fine texturing. This method is commonly used before painting, plating, or machining, ensuring a clean, uniform substrate.

Size & Weight Limitations:

- Maximum part size: **48" x 24"**
- Maximum weight: **300 lbs per piece**

Ideal Applications:

- ☒ Fast and efficient part cleaning
- ☒ Deburring and de-flashing die-cast parts
- ☒ Surface preparation for coatings and adhesives
- ☒ Rust removal and metal descaling
- ☒ Texturing for improved mechanical function

10. Shot Peening Services

Shot peening is a controlled surface treatment process that extends the fatigue life of metal components by introducing beneficial compressive stresses. Small spherical shot media is propelled at the surface, creating microscopic dimples that relieve tensile stress, preventing crack initiation and propagation.

Shot peening is widely used in aerospace, automotive, and industrial applications where components are subject to high-stress conditions. By improving surface durability, it helps prevent failure due to fatigue, corrosion, and stress-related cracking. Eaglemaster offers process certification for shot peening to AMS, MIL, or customer standards.

Ideal Applications:

- ☒ Increasing fatigue resistance in automotive, aerospace, and heavy machinery components
- ☒ Improving the lifespan of high-stress metal parts
- ☒ Restoring parts to meet engineering and specification requirements
- ☒ Reducing tensile stresses that lead to cracking and material failure

11. Masking Services

Eaglemaster provides advanced precision masking solutions, utilizing high-quality tapes, plugs, caps, and fixtures to protect specific areas during finishing processes. Our expertise includes leveraging 3D printing capabilities to produce custom masking solutions for complex geometries, ensuring precise protection and cost-effective finishing.

Ideal Applications:

- ☒ Protecting intricate or sensitive areas from finishing processes
- ☒ Masking threaded and blind holes
- ☒ Shielding bearing and ground surfaces
- ☒ Ensuring precise surface coverage for multi-stage finishing

12. Ultrasonic Cleaning Services

Our ultrasonic cleaning service offers a solution for cleaning of intricate parts, and hard-to-reach areas. Using high-frequency sound waves and specialized cleaning solutions, ultrasonic technology provides superior results compared to traditional cleaning methods.

Ideal applications:

- ☒ Deep Cleaning – Removes dirt, grease, oil, and contaminants from even the most complex surfaces.
- ☒ Non-Damaging – Safe for delicate materials, precision components, and intricate designs.
- ☒ Time-Efficient – Rapid cleaning process reduces downtime and boosts operational efficiency.
- ☒ Eco-Friendly – Uses minimal chemicals and water, making it a sustainable cleaning option.
- ☒ Versatile Applications – Ideal for medical, automotive, aerospace, manufacturing, and jewelry industries.

13. No Charge Process Development

From small quantity to large quantity production, we have the experience, equipment and capabilities necessary to engineer solutions to meet our customers' demands. We customize every process for each customer we serve. This helps ensure we address the issues our customers have and provide them with superb finished parts that satisfy and surpass their requirements.

Key Benefits:

- ☒ Customer satisfaction
- ☒ Ensures quality requirements are achieved
- ☒ Competitive and accurate pricing
- ☒ Ontime Delivery through known processing requirements

14. Local Pickup and Delivery

Eaglemaster provides reliable local pickup and delivery services throughout the Twin Cities area. Many customers depend on third-party logistics, which can lead to increased processing costs. Our dedicated service ensures timely delivery, careful handling of shipments, and cost-effective solutions to meet your needs.

Key Benefits:

- ☒ On time delivery.
- ☒ Minimized transportation costs.
- ☒ Careful handling of shipments.