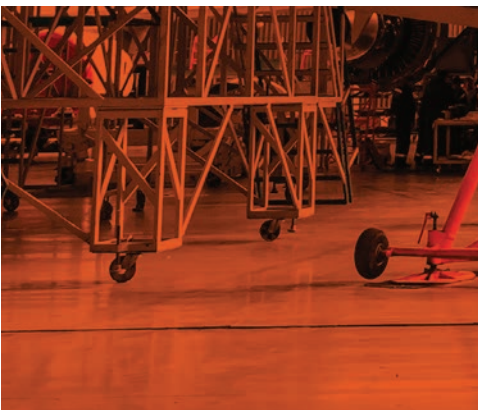


PERFECT POINT



AEROSPACE MAINTENANCE TECHNOLOGY



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The Structural MRO Business is Changing - Workforce, Construction,
Fleet Size, Damage - The Status Quo is No Longer Acceptable



***It is time for innovative change to the
basic process***



Overall Winner of the 2022
DoD Maintenance Innovation Challenge



Fastener removal can account for **30-60%** of structural maintenance program efforts. E-Drill can introduce an exponential saving in this business equation.

1

21st Century Solution

Perfect Point is changing the way structural maintenance is performed in the 21st century, by providing a Faster, Safer, and Better method of removing "Hard-Metal" Fasteners in airframe structures and engines. E-Drill FST(Fastener Separation Technology) yields 20x productivity improvements, drives first-pass quality, reduces the cost of consumables, increases throughput and protects workers.

2

Turnkey Capabilities

Perfect Point has developed a unique technology used to remove fasteners from aircraft. The E-Drill's EDM cut is precisely controlled to a specific depth, located accurately over the fastener, and cooled by a stream of high-pressure/high-flow water. These features make the E-Drill fastener removal process consistent, reliable, and repeatable, while its rugged simplicity enables users to train fast and reach proficiency in record time.

3

Rapid Prototyping and Custom Solutions

Perfect Point provides a suite of engineering services that includes custom fixture and tooling design, hands-on support for key projects and process engineering to optimize the use of the E-Drill and S-Blaster.



Competitive Benefits

- ✓ Reduced AOG Time
- ✓ Reduced Labor Time
- ✓ Reduced Damage Rate
- ✓ Reduced Training Time to Reach Proficiency
- ✓ Minimize FOD
- ✓ Reduce Injuries
- ✓ Eliminate Exposure to Hazardous Waste



Capability Overview

- ✓ Hard-Metal Fastener Removal 3/32" to 7/16" Diameter
- ✓ Head Side or Collar Side Removal
- ✓ Metal or Composite Skin
- ✓ Airframe or Engine Applications
- ✓ Removal of Key-Locked Inserts and Captive Nuts
- ✓ Square Drive Rescue Kit (Broken Bolt or Stud Removal)



REDUCE FOD - 4 Fasteners removed with the E-Drill vs 1 fastener with a Twist Drill

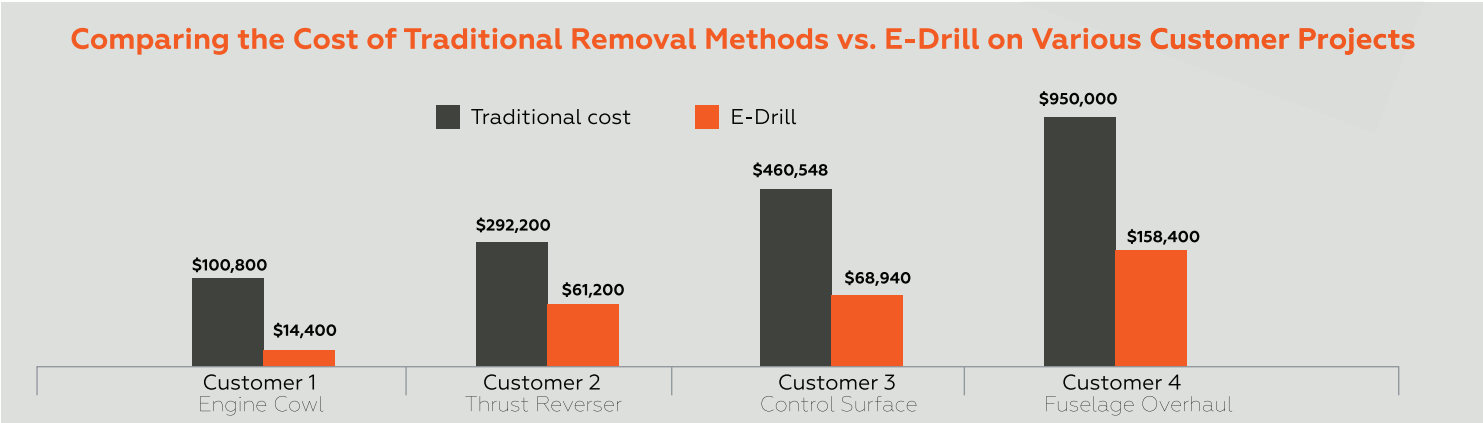
E-Drill Cost Comparison

Example Project Data: Wing Flap De-Skin

	Conventional Removal	E-Drill
Cost per Drill Bit/E-Drill Electrode	\$9.00	\$36.00
Bit/Electrode Life (# of fasteners)	5	60
Fasteners per Hour (1 worker)	10	80
FOD Cleanup/ Shift (# of Hours)	1	0.25
Shop Labor Rate Per Hour (Fully Burdened)	\$150.00	\$150.00

	Cost Per Fastener Removed		Cost Per Component (1000 Fasteners)	
	Conventional Removal	E-Drill	Conventional Removal	E-Drill
Consumable	\$1.80	\$0.75	\$1,800.00	\$750.00
Labor	\$15.00	\$1.88	\$15,000.00	\$1,875.00
Cleanup Labor	\$1.88	\$0.06	\$1,875.00	\$58.59
Total	\$18.68	\$2.68	\$18,675.00	\$2,683.59

Total Wing Flap De-Skin Project Cost (50 Flaps/ 50,000 Fasteners)		
Conventional Removal	E-Drill	E-Drill Savings
\$933,750.00	\$134,179.69	\$799,570.31



S-Blaster Spot Coating Removal

The S-Blaster is the perfect tool for removing coatings from small areas such as fastener heads. This device effectively clears paint, debris, and residue from various types of fasteners, including phillips head screws. Featuring a closed loop system with a HEPA filter, the S-Blaster is completely self-contained, providing significant cost and risk reduction associated with the removal of toxic coatings. With its powerful capabilities and safety features, the S-Blaster ensures a streamlined and effective process for coating removal, making it an invaluable tool in various applications.



Vacuum Locator Tools



Offset Vacuum Locator (OVL)

The key to the E-Drill fastener removal process is LOCATION, it's why our damage rate is less than 1%. Achieving this level of accuracy is facilitated by utilizing a magnifying "bomb sight" with interchangeable apertures or a mechanical locking mechanism, which is incorporated into the vacuum locator tool to align precisely with the center of the fastener.

Once the location is established, the tooling is held in place using vacuum. The E-Drill hand tool is then inserted in the locator tool to make the cut. Locator tools are key to the "Perfect Cut".

Aperture Bombsight

Utilizing interchangeable aperture rings in various sizes, a 5x magnification lens, and built-in LED lighting, this new and improved bombsight provides better visibility for technicians when locating over flush fasteners. The innovative design allows for easy centering of the fastener head within the aperture, ensuring precise and concentric location



Mechanical Locators

Mechanical Locators offer a reliable solution for flush fasteners with physical features such as Blind-Bolts, Jo-Bolts, Composiloks, Radialoks, Visuloks, Torx and more. By physically locking onto the features of these fasteners, Mechanical Locators guarantee concentric location, resulting in a perfect cut every time.

Single Shot Air Punch

The Single Shot Air Punch is designed to effortlessly complete the fastener removal process by severing the remaining material from fasteners previously cut using the E-Drill. This is achieved by utilizing an adapter that precisely engages in the E-Drill cut groove, allowing the Air Punch to accurately strike the fastener pin while safeguarding other structural components. With this targeted approach, the risk of potential damage to the structure is minimized, and the chance of impact injury and repetitive motion injury to the operator are significantly reduced. The Air Punch serves as a valuable addition to the E-Drill system, ensuring enhanced safety and precision throughout the fastener removal process.



During our short history, the E-Drill has earned the trust of aerospace, military and commercial leaders on platforms from the B-2, F-5, F-15, F-16, F-18, F-22, F-35, C-130, KC-135, and V-22 to select platforms for Airbus, Boeing, Northrop Grumman, Lockheed Martin, Gulfstream, Bombardier, Embraer, Rolls-Royce, Pratt & Whitney, and leading airlines and MROs.



Perfect Point has delivered over 300 E-Drill fastener removal systems worldwide



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