INDUSTRY BASED DESIGN FOCUSED UAV-MLV

Battlefield International is a Canadian based manufacturer of high-performance fluid power solutions designed specifically to excel in UAV (unmanned air vehicle) and MLV (military land vehicle) applications. Systematic, experimental product development is woven into everything we do.

We apply laser focus toward meeting the unique and technically demanding challenges faced by these two specific industries alone. This has enabled us to become uniquely knowledgeable of the complete range of challenges within these industries. Our standard product offering is classified as “COTS” (commercial off the shelf) and does not fall under ITAR or Export Control classification.

LAND SYSTEMS QUICK COUPLING NEED/HATE RELATIONSHIP

Land systems engineering groups all share a “need-hate” relationship with quick couplings. We “need” to use them to enable rapid vehicle servicing but “hate” them because of the unique technical challenges that are basic into land vehicle applications. These challenges cannot be overcome by standard industrial or even aerospace grade quick-connect solutions, resulting in dramatic failure and chronic frustrations.

Limited internal vehicle space can often result in technically improper hose routing. This leads to severe side-load on the coupled quick-connect set. Confined spaces force near-impossible coupling/uncoupling procedures which is further exacerbated by low light and cold conditions. Leakage and mechanical coupling failure are often expected. Oscillation, non-venting oil lines and ever-increasing working pressures combined with the continuous push for efficient flow performance create significant challenges that must be overcome when designing quick couplings for the harsh environment of a military land system.

Our systematic, experimentally developed high performance quick coupling designs (tested on a wide range of risk reduction land vehicles) solve these commonly shared QD failure points and set a new global standard in coupling engineering.

Over two years of laboratory Mil Spec testing was performed on our LS and HP product groups. The Mil Spec testing was augmented with additional application-specific testing including low pressure with high vibration and severe oscillation environments which are common in the industry.

Throughout on-vehicle and lab testing cycles we made several LS and HP design revisions that were retested until each technical challenge was fully overcome.

www.battlefield.biz | info@battlefield.biz | 905-772-3000
This catalogue is only a small insight of the products we produce. Should you require something slightly different or a modification to an existing product, please let us know. We will do our very best to produce exactly what you need and if we don't, we'd be pleased to review your requirements and quickly determine if we can develop an acceptable COTS solution to meet your project timeline.

**BATTLEFIELD INTERNATIONAL DESIGN PROCESS**

Our product design services are free of charge to all aerospace and defense-based customers if the scope of the request has been reviewed and accepted by Battlefield Management. Whether you’re looking for a completely unique solution (outside of our current product list) a slight modification to an existing Battlefield product or a Product design that meets an existing drawing we have you covered.

We will do our very best to realize the optimal solution. Although we typically succeed in meeting all customer requirements, our approval of the project scope is not a guarantee that we can meet the parameters of the request, however it does mean that we will do our very best to realize the optimal solution. We reserve the right to suggest alternate approaches to realizing an acceptable solution and will work concurrently with your engineering team to ensure our design tactics and final performance attributes of the COTS parts we design are acceptable.

**Tap into our expertise without cost or obligation.**

This no-charge approach allows any interested company (Aerospace/Defense applications) to tap into our expertise without cost or obligation. Once the design concept is approved in theory, we will move forward with producing a no-cost or obligation sample for your review. Simply send us a napkin sketch, drawing or your design parameters and we'll follow up with a conceptual solution.

Although not limited to these items, our primary design and manufacturing capabilities include Quick disconnect couplings, Check valves, Relief valves, Ball valves, Fuel filters, Sorelco, Manifolds, Air compressor intake silencers, Machined metal or plastic components, Custom fittings (adaptors etc.), Kitting and specialty assemblies.

This may be in the form of a 3D printed model however typically we produce (machine) the part as if it was in production so that it can be tested in a real-world environment. We will not expect any form of payment to be made, or for the samples to be returned.

Even after a no-charge sample has been accepted and testing completed we will not charge or expect an order.

If the project is cancelled or the customer decides to pursue another alternative (non-Battlefield) solution our design team will work concurrently with your engineering team to ensure our design tactics and final performance attributes of the COTS parts we design are acceptable.

**We are responsive, agile and have the best lead times in the industry.**

Our pricing is typically a fraction of our worthy aerospace grade competitors and we will never discontinue a product that has been specified on a Military application.

**CORPORATE STRATEGY**

We began with our sights set on becoming the world standard designer and producer of UAV quick connect couplings and we are proud say that we’ve since achieved that goal. Today, our EnduroLink™ (EL) is the World Standard UAV coupling and is in service on all contract winning small to mid-sized UAV platforms. With over a million successful flight hours, our EnduroLink™ couplings continue to excel in the most difficult environments, proving the reliability of our designs and the capability of our teams.

After meeting that goal, we added the military land systems OD market to our business strategy. We made a dramatic entrance into the industry with a significant contract for our LS and HP series couplings supporting one of the most advanced military land vehicles on the planet (GDSL-CA B LAV-700).

We’ve travelled around the globe to establish a knowledge base of what the industry requires from quick couplings and valves by reviewing the inner workings of new vehicle designs from various land systems manufacturers. This experience has led to realizing a quick connect product group that perfectly matches this market’s special needs.

We have an unprecedented understanding of the quick connect issues in theater. Just as we did in the UAV industry, we will not rest until the land systems market realizes the value of working with quick connects that can fully trust.

Our Policies revolve around the idea of continually increasing the benefits to our customers by aligning our processes to compliment their business model while exceeding their expectations. The effectiveness of our policies are continually reviewed and assessed on this basis.

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**CONNECT WITH US**

**SALES@BATTLEFIELD.BIZ | 905-772-3000**
**Quick Disconnects**

**High Performance | Self-Sealing | Single-Hand Operation**

**LS Series**
- Style: Push-Pull
- Pressure: Vacuum to 1,000psi
- [Page 6]

**HT Series**
- Style: Thread
- Pressure: Vacuum to 4,000psi
- [Page 9]

**LT Series**
- Style: Thread
- Pressure: Vacuum to 1,000psi
- [Page 10]

**HP Series**
- Style: Push-Pull
- Pressure: Vacuum to 5,000psi
- [Page 7]

**HF Series**
- Style: Bayonet
- Pressure: Vacuum to 75psi
- [Page 11]

**ET Series**
- Style: Push-Pull
- Pressure: Vacuum to 150psi
- [Page 12]

**EL Series**
- Style: Push-Pull
- Pressure: Vacuum to 150psi
- [Page 13]

**CP Series**
- Style: Push-Pull
- Pressure: Vacuum to 1,000psi
- [Page 12]

**DL Series**
- Style: Push-Pull
- Pressure: Vacuum to 150psi
- [Page 14]

**VL Series**
- Style: Push-Pull
- Pressure: Vacuum to 50psi
- [Page 15]
**HP SERIES**

**Operating Pressure Range (OP)**
- Vacuum to 5,000psi

**Proof Pressure**
- 1.5x OP

**Burst Pressure**
- 2.5x OP

**Dry Break**
- Zero-leakage with ultra low air inclusion.

**Materials**
- Stainless Steel.

**Body Sizes**
- -04 to -20
- Additional body sizes available upon request (-01 equivalent to 1/16”)

**Fluid Types**
- Hydraulic, coolant, fuel, lube oil, pneumatic.

**Optional Visual Key**
- Laser engraved number/symbol to verify connection with proper mating half.

**Rotation Lock Sleeve**
- Mechanical sleeve detent that helps maintain the locked position during vibration or axial contact.

**Indication Ring**
- Visual indication of a proper connection.

**End Fitting Angle**
- Integrated 90° elbow end connect available upon request.

**End Fitting Specification**
- Including but not limited to AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc.
- Male or Female.
- Alternate specifications or custom ends available upon request.

**LP SERIES**

**Operating Pressure Range (OP)**
- -04 to -16: Vacuum to 1,000psi
- -20 to -24: Vacuum to 600psi

**Proof Pressure**
- 1.5x OP

**Burst Pressure**
- 2.5x OP

**Dry Break**
- Zero-leakage with low air inclusion.

**Materials**
- Aluminum or Hybrid (aluminum/stainless).

**Body Sizes**
- -04 to -24
- Additional body sizes available upon request (-01 equivalent to 1/16”)

**Fluid Types**
- Hydraulic, coolant, fuel, lube oil, pneumatic.

**Optional Visual Key**
- Laser engraved number/symbol to verify connection with proper mating half.

**Rotation Lock Sleeve**
- Mechanical sleeve detent that helps maintain the locked position during vibration or axial contact.

**Indication Ring**
- Visual indication of a proper connection.

**End Fitting Angle**
- Integrated 90° elbow end connect available upon request.

**End Fitting Specification**
- Including but not limited to AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc.
- Male or Female.
- Alternate specifications or custom ends available upon request.

*Battlefield International reserves the right to make changes in design or specifications without notice. Consult the factory for current performance data.*
**LT SERIES**

Dry Break
Zero-leakage with low air inclusion.

Materials
Aluminum.

Body Sizes
-04 to -16
(-01 equivalent to 1/16”)

Fluid Types
Hydraulic, coolant, fuel, lube oil, pneumatic.

Optional Mechanical Key
- Thread pitch angle
- Thread starts
- Direction of thread (R/L)

Optional Visual Key
Laser engraved number/symbol to verify connection with proper mating half.

End Fitting Angle
45°, 90° or any unique angle
(ie. 11°, 62°, 86°)

End Fitting Specification
Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Soldered Flange etc. Male or Female. Alternate specifications or custom ends available upon request.

**HT SERIES**

Operating Pressure Range (OP)
Vacuum to 4,000psi

Proof Pressure
1.5x OP

Burst Pressure
2.5x OP

Dry Break
Zero-leakage with low air inclusion.

Materials
SS, Aluminum, Titanium upon customer request. Pressure rating may change upon material choice.

Body Sizes
-04 to -16
Additional body sizes available upon request.
(-01 equivalent to 1/16”)

Fluid Types
Refrigerant, Hydraulic, coolant, fuel, lube oil, pneumatic.

Optional Mechanical Key
- Thread pitch angle
- Thread starts
- Direction of thread (R/L)

Optional Visual Key
Laser engraved number/symbol to verify connection with proper mating half.

End Fitting Angle
45°, 90° or any unique angle
(ie. 11°, 62°, 86°)

End Fitting Specification
Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Soldered Flange etc. Male or Female. Alternate specifications or custom ends available upon request.

**HT SERIES**

Operating Pressure Range (OP)
Vacuum to 1,000psi

Proof Pressure
1.5x OP

Burst Pressure
2.5x OP

Dry Break
Zero-leakage with low air inclusion.

Materials
Aluminum.

Body Sizes
-04 to -16
(-01 equivalent to 1/16”)

Fluid Types
Refrigerant, Hydraulic, coolant, fuel, lube oil, pneumatic.

Optional Mechanical Key
- Thread pitch angle
- Thread starts
- Direction of thread (R/L)

Optional Visual Key
Laser engraved number/symbol to verify connection with proper mating half.

End Fitting Angle
45°, 90° or any unique angle
(ie. 11°, 62°, 86°)

End Fitting Specification
Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Soldered Flange etc. Male or Female. Alternate specifications or custom ends available upon request.

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HF SERIES

Operating Pressure Range (OP)
- Vacuum to 75psi
- Proof Pressure: 100psi
- Burst Pressure: 140psi

Dry Break
Zero-leakage with low air inclusion.

Materials
Aluminum.

Body Sizes
-48
Additional body sizes available upon request. (-01 equivalent to 1/16")

Fluid Types
Hydraulic, coolant, fuel, lube oil, pneumatic.

Optional Visual Key
Laser engraved number/symbol to verify connection with proper mating half.

Optional Mechanical Key
- Thread slot size
- Thread start

End Fitting Angle
45°, 90° or any unique angle (e.g., 11°, 62°, 86°)

End Fitting Specification
Including but not limited to:
- AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc.
- Male or Female.
- Alternate specifications or custom ends available upon request.

Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.

CP SERIES

Operating Pressure Range (OP)
- -04 to -16: Vacuum to 1,000psi
- -20 to -24: Vacuum to 600psi
- Proof Pressure: 1.5x OP
- Burst Pressure: 2.5x OP

Dry Break
Zero-leakage with low air inclusion.

Materials
Aluminum or Hybrid (aluminum/ss).

Body Sizes
-04 to -24
(-01 equivalent to 1/16")

Fluid Types
Hydraulic, coolant, fuel, lube oil, pneumatic.

Optional Visual Key
Laser engraved number/symbol to verify connection with proper mating half.

Optional Mechanical Key
- Thread slot size
- Thread start

End Fitting Angle
45°, 90° or any unique angle (e.g., 11°, 62°, 86°)

End Fitting Specification
Including but not limited to:
- AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc.
- Male or Female.
- Alternate specifications or custom ends available upon request.

Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.

BAYONET QUICK DISCONNECT

IN DEVELOPMENT

PUSH-PULL CONNECT UNDER PRESSURE QUICK DISCONNECT

Rotation Lock Sleeve
Mechanical sleeve detent that helps maintain the locked position during vibration or axial contact.

Indication Ring
Visual indication of a proper connection.

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.
ET SERIES

Operating Pressure Range (OP)  Vacuum to 150psi

Proof Pressure  1.5x OP

Burst Pressure  2.5x OP

Dry Break  Zero-leakage with ultra low air inclusion.

Materials  Aluminum or Hybrid (aluminum/steel).

Body Sizes  -04 to -20

(Additional body sizes available upon request. (-01 equivalent to 1/16")

Fluid Types  Hydraulic, coolant, fuel, lube oil, pneumatic.

Optional Visual Key  Colour key and/or optional laser engraved number/symbol to verify connection with proper mating half.

Rotation Lock Sleeve  Mechanical sleeve detent that helps maintain the locked position during vibration or axial contact.

Indication Ring  Visual indication of a proper connection.

End Fitting Specification  Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc. Male or Female.

Alternate specifications or custom ends available upon request.

End Fitting Angle  90° elbow connection available upon request.

EL SERIES

Operating Pressure Range (OP)  Vacuum to 150psi

Proof Pressure  3x OP

Burst Pressure  5x OP

Materials  Aluminum, brass.

Body Sizes  -04 to -06

(-01 equivalent to 1/16")

Fluid Types  Hydraulic, coolant, fuel, lube oil, pneumatic.

Optional Visual Key  Laser engraved number/symbol to verify connection with proper mating half.

End Fitting Specification  Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc. Male or Female.

Alternate specifications or custom ends available upon request.

End Fitting Angle  45°, 90° or any unique angle. (ie. 11°, 62°, 86°)

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.
DL SERIES

- **Dry Break**: Zero-leakage with low air inclusion.
- **Flush Face**: Easy to clean in dirty environments.
- **Body Sizes**: -02 to -08 (-01 equivalent to 1/16”)
- **Fluid Types**: Hydraulic, coolant, fuel, lube oil, pneumatic.
- **Materials**: Aluminum, brass.
- **Operating Pressure Range (OP)**: Vacuum to 150psi
- **Proof Pressure**: 1.5x OP
- **Burst Pressure**: 2.5x OP
- **Optional Visual Key**: Laser engraved number/symbol to verify connection with proper mating half.
- **End Fitting Angle**: 45°, 90° or any unique angle (i.e., 11°, 62°, 86°)
- **End Fitting Specification**: Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolts and Flange etc. Male or Female. Alternate specifications or custom ends available upon request.

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.*

VL SERIES

- **Dry Break**: Zero-leakage with low air inclusion.
- **Body Sizes**: -05 (-01 equivalent to 1/16”)
- **Fluid Types**: Oil
- **Materials**: Aluminum, brass, stainless steel.
- **Operating Pressure Range (OP)**: Vacuum to 25psi
- **Burst Pressure**: 75psi
- **End Fitting Angle**: 45°, 90° or any unique angle (i.e., 11°, 62°, 86°)
- **End Fitting Specification**: Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolts and Flange etc. Male or Female. Alternate specifications or custom ends available upon request.

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.*
VALVES

MC SERIES
STYLE: Full-flow, high efficiency
PRESSURE: Vacuum to 1,000psi
(*ultra low cracking pressure*)
PAGE 19

HC SERIES
STYLE: Full-flow, high efficiency
PRESSURE: Vacuum to 5,000psi
PAGE 20

HR SERIES
STYLE: Compact relief valve, precise cracking pressures
PRESSURE: Vacuum to 5,000psi
PAGE 21

LR SERIES
STYLE: Compact relief valve, precise cracking pressures
PRESSURE: Vacuum to 1,000psi
PAGE 22

DV SERIES
Lightweight, high performance aluminum ball-valve.
PAGE 23

MC SERIES
STYLE: Full-flow, high efficiency
PRESSURE: Vacuum to 150psi
PAGE 18

FW SERIES
STYLE: Super efficient, high-flow
PRESSURE: Vacuum to 150psi
PAGE 24

FILTERS

MC SERIES
STYLE: Full-flow, high efficiency
PRESSURE: Vacuum to 1,000psi
(*ultra low cracking pressure*)
PAGE 19

LC SERIES
STYLE: Full-flow, high efficiency
PRESSURE: Vacuum to 1,000psi
PAGE 20

HC SERIES
STYLE: Full-flow, high efficiency
PRESSURE: Vacuum to 5,000psi
PAGE 21

HR SERIES
STYLE: Compact relief valve, precise cracking pressures
PRESSURE: Vacuum to 5,000psi
PAGE 22

LR SERIES
STYLE: Compact relief valve, precise cracking pressures
PRESSURE: Vacuum to 1,000psi
PAGE 22

DV SERIES
Lightweight, high performance aluminum ball-valve.
PAGE 23

MC SERIES
STYLE: Full-flow, high efficiency
PRESSURE: Vacuum to 150psi
PAGE 18

FW SERIES
STYLE: Super efficient, high-flow
PRESSURE: Vacuum to 150psi
PAGE 24
**LC SERIES**

**Materials**
Aluminum, stainless steel.

**Body Sizes**
-04 to -20
Additional body sizes available upon request. (-01 equivalent to 1/16")

**Fluid Types**
Hydraulic, coolant, fuel, lube oil, pneumatic.

**Sealing**
Elastomer soft seat or Metal to metal seal.

**End Fitting Specification**
Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc. Male or Female. Alternate specifications or custom ends available upon request.

**Operating Pressure Range (OP)**
Vacuum to 5,000psi

**Proof Pressure**
1.5x OP

**Burst Pressure**
2.5x OP

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.

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**HC SERIES**

**Materials**
Stainless steel.

**Body Sizes**
-04 to -20
Alternate body sizes available upon request. (-01 equivalent to 1/16")

**Fluid Types**
Hydraulic, coolant, fuel, lube oil, pneumatic.

**Sealing**
Elastomer soft seat or Metal to metal seal.

**End Fitting Specification**
Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc. Male or Female. Alternate specifications or custom ends available upon request.

**Operating Pressure Range (OP)**
Vacuum to 5,000psi

**Proof Pressure**
1.5x OP

**Burst Pressure**
2.5x OP

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.
**HR Series**

- **Materials**: Stainless steel.
- **Body Sizes**: -04 to -20 (-01 equivalent to 1/16”)
- **Fluid Types**: Hydraulic, coolant, fuel, lube oil, pneumatic.

**End Fitting Specification**

- Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc.
- Male or Female.
- Alternate specifications or custom ends available upon request.

**Sealing**

- Elastomer soft seat or Metal to metal seal.

**Relief Valve**

- **Operating Pressure Range (OP)**: Vacuum to 5,000 psi
- **Proof Pressure**: 1.5x OP
- **Burst Pressure**: 2.5x OP

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.*

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**LR Series**

- **Materials**: Aluminum, stainless steel.
- **Body Sizes**: -04 to -20 (-01 equivalent to 1/16”)
- **Fluid Types**: Hydraulic, coolant, fuel, lube oil, pneumatic.

**End Fitting Specification**

- Including but not limited to: AN, ORB, ORFS, Metric, Beaded Tube, NPT, Bolted Flange etc.
- Male or Female.
- Alternate specifications or custom ends available upon request.

**Sealing**

- Elastomer soft seat or Metal to metal seal.

**Relief Valve**

- **Operating Pressure Range (OP)**: Vacuum to 1,000 psi
- **Proof Pressure**: 1.5x OP
- **Burst Pressure**: 2.5x OP

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.*
DV SERIES

- **Materials**
  - Aluminum or Hybrid (aluminum/steel).

- **Body Sizes**
  - -06 to -08 (-01 equivalent to 1/16")

- **Fluid Types**
  - Hydraulic, coolant, fuel, lube oil, pneumatic.

- **Sealing**
  - PTFE.

- **Operating Pressure Range (OP)**
  - Vacuum to 1000 psi

- **Proof Pressure**
  - 1.5x OP

- **Burst Pressure**
  - 2.5x OP

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.*

FW SERIES

- **Materials**
  - Aluminum or PEEK.

- **Body Sizes**
  - -02 to -06 (-01 equivalent to 1/16")

- **Filter Mesh Sizes**
  - 5μm, 10μm, 20μm, 40μm, 75μm, 100μm, 200μm.

- **Operating Pressure Range (OP)**
  - Vacuum to 150 psi

- **Proof Pressure**
  - 400 psi

- **End Fitting Angle**
  - 45°, 90° or any unique angle (i.e., 11°, 62°, 86°)

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.*
**SS SERIES**
Our line of Servo Savers are designed to protect your UAV servos in the event of a jam. A built-in clutch system prevents your servos from burning out.

**CA SERIES**
The world standard UAV control linkage. Extreme environment control rod assemblies.

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**SS SERIES**
Standard Break-out Torque
- 130-160 in-oz
- 240-290 in-oz

Break-out torque can be customized to meet your application.

**Materials**
Aluminum

**Weight**
As low as 9g.

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**SERVO SAVERS & ROD LINKS**
Compact, lightweight and reliable, our servo savers are uniquely designed to replace the servo armature and add a critically important mechanical breakaway “clutch” feature to your control assembly.

Designed specifically for operational environments where servos could be forced into an “over torque” condition, commonly experienced during net retrievals, deep stall landings, improper handling and extreme flight conditions. With the ability to reset (engage/disengage) mid-flight, the servo saver is a key asset to any UAV platform.

*Battlefield International reserves the right to make changes to product specifications at any time. Consult the factory for current performance data.*
R/C Hobby control linkage and push rod assembly products were not designed for use in the extreme environments and altitudes required of today’s premium UAS/UAV platforms.  

In the early days of design however, R/C links were the only solutions available to UAV engineers and were initially installed in most small-to-medium sized unmanned products.  Standard R/C hobby products have brass balls that must swivel within polymer rod eyes and do not cycle consistently in the extreme temperature swings UAV’s must endure.  The differing coefficient of thermal expansion between R/C-standard brass or nickel plated brass balls and the mating polymer rod eyes result in inconsistent fit as well as friction issues at altitude.

The general quality of off the shelf hobby products have proven catastrophic when integrated into UAV platforms.  After the loss of UAS/UAV platforms were traced back to R/C flap control and throttle control linkages, Battlefield International Inc. was contacted to pursue a design that would minimize/eliminate swivel friction changes at extreme temperatures that was affecting flight altitude and in some cases, permanently damaging the servos.  Our UAV Control Rod Linkage is now the standard in the UAV industry and is integrated into most small to medium sized unmanned aircraft available today.

The UAV Control Rod Linkage is a hybrid configuration that integrates strictly controlled R/C raw materials with Battlefield designed and produced critical components.  Our approach has resulted in a fully tested and theater-proven solution that can be relied upon.
UAV engine oil’s required for today’s UAV programs can gas out at altitude. This can lead to cavitation and oil pump ineffectiveness leading to catastrophic engine failure.

Our Deaerator provides the perfect solution for treating the oil before filling the aircraft’s oil tank. Battlefield’s deaerator gasses out the oil on the ground through the carefully specified combination of heat and vacuum ensuring maximum effectiveness.

For specification details you need only contact us.
**IO SERIES**

**MINIATURE COUPLINGS**

Designed specifically for modular UAV fluid systems, these compact, light-weight couplings are machined to match your systems nominal flow diameter to reduce pressure drop and increase efficiency.

Available in a variety of colors and end fitting specifications, the IO series is the perfect solution to transition your platform to a modular design.

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**ADAPTERS**

Custom is our standard. Provide us with a simple napkin sketch, drawing or your design parameters and we will quickly follow up and present you with a concept solution for your review. Customer approved designs will be added to our line of COTS (commercial-off-the-shelf) adaptors and made readily available to the global market.

We are Controlled Goods Certified enabling us to support projects involving unique product design or technologies requiring export control.
BATTLEFIELD PEN

Our goal, develop a promotional item that was produced in-house on our own equipment using aircraft grade materials.

Available to UAV and MLV engineering and procurement staff at no cost or obligation.

Uses an actual EnduroLink EL01 fuel coupler sleeve latching system to enable ink cartridge retraction.

FOR MORE DETAILS
WWW.BATTLEFIELD.BIZ

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FOR MORE DETAILS
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Designed and Manufactured in Canada.