



## Environmental Mitigation for MLT and UGT vehicles

Unmanned Vehicles Configured to Reduce Impact on Native Environment



*When an unmanned vehicle is disabled on a range, it may be important for the environmental impact to be minimized.*

**U**nmanned ground and surface targets are an invaluable resource to enhance current training regimens. Aircrew training, weapons test processes, ground force training (JTAC, TACP), ISR sensor assets, and communications are pressured in the training environment due to the dynamic nature of the moving targets. However, with the increased utilization of these vehicles in targeting environs we have seen an elevated impact on our environment.

In an effort to minimize any en-

vironmental impact while maintaining a high proficiency and reliability in the target vehicles, Kairos Autonomi has created an option for environmental mitigation. This option does not entirely remove environmental impacts, but the long-term effects in a localized area can be dramatically reduced. Decreasing overall fluid levels in the vehicle minimizes seepage into groundwater resources. And, by utilizing biodegradable lubricants and antifreeze, the long-term effects of those lubricants are also abated.

The Environmental Mitigation package includes:

- Minimize gasoline to 5 gallons
- Gear oil, transfer case oil, transmission fluid, and motor oils replaced with biodegradable fluids
- A/C system Freon removed or replaced
- Antifreeze replaced with biodegradable fluid or water

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### How Can You Benefit from this Newsletter?

Kairos Autonomi continues to grow its presence in the Unmanned Ground Targets community. As our employees interact with range personnel, we are discovering best practices and unique innovations from which other ranges could benefit.

In an effort to collocate these ideas into a single

source and distribute them among all of our customers, we will be publishing these Target Tips periodically.

We welcome your input, comments, suggestions and ideas as we seek to deliver not only the best moving land targets, but also the best customer service in support of your efforts.

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- Interior plastics and upholstery removed and/or minimized
- Windows can be masked with vinyl to minimize the distribution of broken glass
- Reduce fire potential by isolating and protecting high amperage cables

Optionally, Kairos Autonomi can also provide real-time range clearance mediation of disabled targets through the use of unmanned heavy equipment, such as bulldozers or front-end loaders.

Kairos Autonomi believes in protecting our environment. Our environmental mitigation option is one way to maintain high levels of training proficiency while limiting impact.



*Biodegradable fluids such as the oil pictured above can be used to mitigate the environmental impacts.*

## KAIROS AUTONOMI ANNOUNCES UPGRADE OPTION FOR LEGACY PRONTO4 KITS

Kairos Autonomi is pleased to announce that existing customers can now trade-in their existing Pronto4 Series 2 or 3 and be upgraded to the latest version of the kit, the Pronto4 Series 4. The upgrade option offers significant savings over the purchase of a new kit.

"We have installed the Pronto4 Robotic Appliqué Kit on more full-size vehicles and vessels than any other robotic company in the world," said Troy Takach, President and CEO of Kairos Autonomi. "We want to provide our customers with every opportunity to utilize the latest Pronto4 features and enhancements." The Pronto4 Series 4 kit is comprised of the following modules:

- A computer module with pre-installed software. The Pronto4 runs on Windows 7, and can be configured to dual boot into Linux
- A services module that has serial, USB and Ethernet connections
- Utility bays that house a variety

of utility modules, including:

- 10, 15, 20, 30, 100, 200 and 300 RPM intelligent motor modules
- Standard PWM RC servo module (1-2 ms)
- Multi-function module (OBD-II, PoE, Video)
- CANbus module
- Power and distribution modules
- 3rd party developer module (kits available)
- Vehicle Integration Module (VIM) for powering on the Pronto4 and toggling between manual and unmanned mode

Vehicles and vessels outfitted with the Pronto4 become an operate-by-wire platform, with standard tele-operation and supervised autonomy capabilities. Users can also integrate supplementary software and sensors for additional autonomous capabilities. For more information, contact via the contact information to the right.

## UPCOMING EVENTS

### AUVSI Unmanned Systems North America 2013

Walter E. Washington Convention Center  
Washington, D.C.  
August 12-15, 2013  
Booth #1907

### DSEI

ExCeL

London, England  
September 10-13, 2013

### 135th NGAUS General Conference & Exhibition

Hawaii Convention Center  
Honolulu, HI  
Sept. 20-23, 2013

### Robo Business

Santa Clara Convention Center & Hyatt Hotel  
Santa Clara, CA  
October 23-25, 2013  
Booth #319

## QUICK LINKS

**-Kairos Autonomi Website**

**-Kairos Autonomi GSA Schedule**

**-Kairos Autonomi Blog**

**- Kairos News**

**- Kairos YouTube**

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