TARGET TIPS

Providing new ideas and helpful information about Unmanned Ground / Surface Targets

November 2012 • Vol I, Issue I

Create a Cost-Effective Towed Target

Four steps enable the use of simple towed targets during training operations

Cost-effective Towed Target Unmanned moving land targets provide aviators the opportunity to engage upon realistic moving targets during training exercises.

Numerous ranges want to leverage the value and use of moving land targets by having the unmanned vehicle tow an inexpensive target that can be destroyed.

This allows the more expensive unmanned vehicle to be reused multiple times, extending its lifespan and value to the range.

Towed targets exist in a variety of configurations, but three primary designs are the most prevalent:

- Dragged targets are the most cost-effective.
- Sled targets utilize rails or skis to facilitate movement.
- Wheeled targets are the most adaptable to a variety of operations.

This article provides details on how to construct a cost-effective dragged target.

A towed target crafted out of used tires provides a cost-effective solution to range operators.

Step 1: Identify and procure six (6) used tires. These tires can be well-worn and no longer street legal. Lay the tires on the ground in the form of a triangle with the tires touching each other (see image, above). For best results, the tires should be as close to the same size as possible. If the tires are different sizes, put the smaller tires on the inside of the triangle and the larger ones on the points. This will help stabilize the structure.

Step 2: Using a white marker or paint, mark the sidewall of each tire where it meets another tire. Using a ¾" standard drill bit, drill a hole in the center of the tread pattern where the mark was made on the sidewall.

Step 3: ½-13 hex head bolts (grade isn't too important) to connect the tires with a 2 inch O.D., ½ inch I.D. fender washer on the inside of each tire, a ½" I.D. lock washer after the bolt head and a ½-13 nut on the end after the latter fender washer.

Step 4: Now that the triangular

continued on Page 2

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

Kairos Autonomi
508 West 8360 South
Sandy, Utah 84070
801.255.2950
contact@kairosautonomi.com
www.kairosautonomi.com

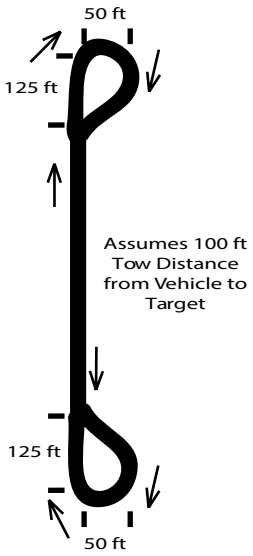
continued from Page1

towed target is assembled, determine which point of the triangle will be the front. Drill a hole through the center of the tread pattern at that point. Insert a ¼-20 with an inside diameter of ¾" eye bolt through a 1 ½" fender washer

then through the tire at the tread with another 1 ½" fender washer with a lock washer before the ¼-20 nut is tightened.

The attachment decided on was 3/16" Aircraft Grade Wire Cable from Harbor Freight. It has a working capacity of 3960 pounds. This cable should last quite a few towing rounds, provided there is decent accuracy by the pilot. Depending on the course route will depend on the length of cable. The

calculation for length is based on the target staying at the initiation of the U-turn. This is done so that there is enough room between the new target and the vehicle. Hopefully enough room to not blow the vehicle up. With this measurement the cable is cut with about an extra foot for use with wire rope thimble and cable clamps at each end for smoothness and the end soldered so the cable would not fray. One end of the thimble cable went through the eye bolt in the tire that was deemed the front of the target, with three cable clamps on approximately 2" apart.



Kairos Autonomi Hires Director of Targets Programs

Kairos Autonomi recently hired Walter Chandler Griffin as the Director of Targets Programs.

Griffin has years of professional practice in Unmanned Ground Targets. He has managed operational services for unmanned system applications and provided custom designs and manufacturing of complex prototypes for civil and military use. In addition, Griffin has overseen the design, success, manufacture, and operation of over 120 Unmanned Ground Targets (UGT) systems for special weapons and training scenarios.

Prior to coming to Kairos Autonomi, Griffin was the Chief Technology Officer (CTO) for Coastal Defense, Inc. and Nomad Worldwide, LLC. Griffin attended Valdosta State University, where he received a Bachelor of Science in Biology, Chemistry and Physics.

UPCOMING EVENTS

I/ITSEC-3250
Orlando, FL
December 3-6, 2012
Booth#3135

Unmanned Systems at IDEX
February 17-21, 2013
Adnec, Abu Dhabi, United Arba Emirates

AUVSI Unmanned Systems North America 2013
Walter E. Washington Convention Center
Washington, D.C.
August 12-15, 2013
Booth #1907

QUICK LINKS

-Kairos Autonomi Website
-Kairos Autonomi GSA Schedule
-Kairos News
-Kairos Autonomi Blog

Kairos Autonomi
508 West 8360 South
Sandy, Utah 84070
801.255.2950
contact@kairosautonomi.com
www.kairosautonomi.com