

## **Rotor Clip Announces Ring-A-Majig Contest Winners**

Three teams from East Carolina University, Greenville, North Carolina, were recently crowned the winners of the 2016 Rotor Clip "Ring-A-Majig" contest, challenging students pursuing technical courses of study to use retaining rings (non-traditional fasteners) in original product designs.

The contest was held in affiliation with ATMAE<<http://www.atmae.org/>>, the Association of Technology, Management and Applied Engineering.

The winners were as follows: First Place, East Carolina University-M1A2Abrams Tank Tin Toy (Team members, James Powell, Joshua Adams, Josh Katsikis, Owais Siddiqui); Second Place, East Carolina University-Robot Torsen Differential (Team members, Andrew DiMeglio, Joshua Stevens, Connor Jones); Third Place--East Carolina University-Line Beam Engine (Team members, Jonathan Camden, Lawson Hawkins, Brian Pridgen. (Professor Ranjeet Agarawala served as advisor for all there ECU teams).

Cash prizes will be awarded as follows: 1st place: \$750(USD) to each team member; 2nd place: \$500(USD) to each team member; 3rd place: \$250(USD) to each team member.

Rotor Clip<<http://www.rotorclip.com>> is a U.S. manufacturer of retaining rings, wave springs and self-tightening hose clamps serving the global automotive, distribution and general industrial markets. Through its affiliation with ATMAE, the company's goal is to support education in STEM (Science, Technology, Engineering and Math) through programs that expose students to "real world" situations and encourage them to pursue careers in manufacturing.

The "Ring-A-Majig" contest challenged students to create product designs incorporating at least 10 retaining rings as fasteners in the way each was intended to be used. They were given a choice of 24 standard, tapered inch types<[https://www.rotorclip.com/tapered\\_section\\_retaining\\_rings.php](https://www.rotorclip.com/tapered_section_retaining_rings.php)> displayed on the Rotor Clip web site. There were five required retaining rings that featured special characteristics like reducing vibration and gripping a shaft/bore without a groove.

The resulting device had to display motion or movement (manual or powered) like a ticking clock or a working toy.

Four degreed mechanical engineers from Rotor Clip served as judges for the contest. They viewed the five finalist's presentations and selected the top three winners. They included Jeff Finkernagel, Jay Nossen, Dave Marvuglio and Mike Zielinski.

Their selections were based on the following criteria: originality and creativity; application of sound engineering principles as they apply to retaining rings; complexity and functionality of the design; quality of the design presentation.

According to the judges, the three winning teams presented well thought-out, functional

designs and proper use of the rings they chose.

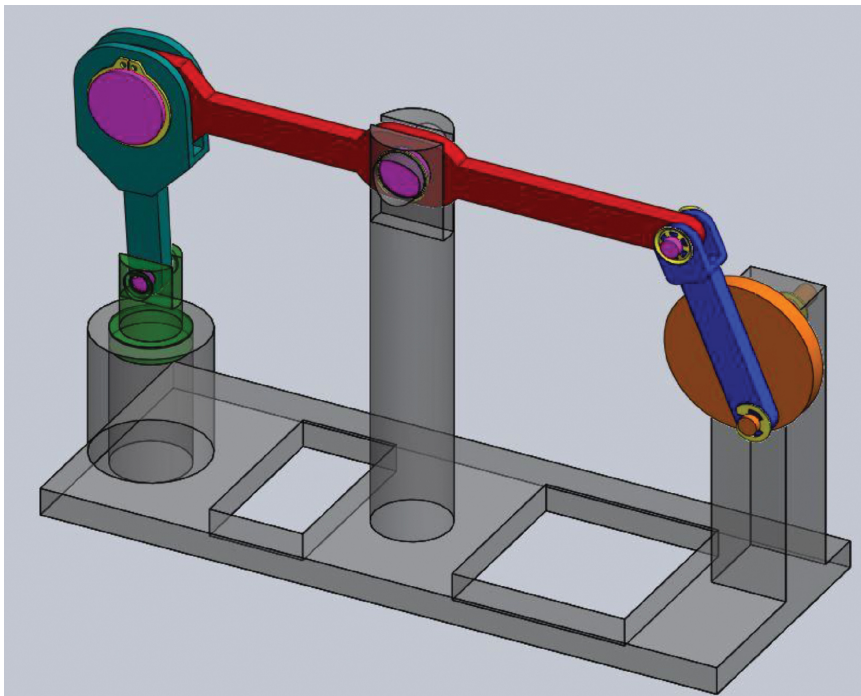
"The rings were used as designed," noted Jeff Finkernagel. "Their ideas were well developed to go from design to production."

"It came down to presentation," noted Jay Nossen. The teams were able to demonstrate how the "ring selections were driven by the application."

Mike Zielinski noted how the winning design, a tin tank toy, wisely took into account appearance by selecting a round, TX ring which "complemented the visual style of the wheel."

The selection of the rings for the tank toy were "appropriate and ingenious," according to judge, Dave Marvuglio. The use of retaining rings for the robot torsen differential, the second place winner, was "thorough and thoughtful." He particularly liked the design of the line beam engine, the third place winner, "for educational purposes."

Rotor Clip also announced that it will be holding a 2017 "Ring-A-Majig" contest. Details will be released in early fall.



**Drawing:** Rotor Clip "Ring-A-Majig" contest winner (third place)--"Line Beam Engine" submitted by the team from East Carolina University, College of Engineering and Technology (Brian Pridgen, Tyler Camden, Lawson Hawkins). This design is an educational model of how a line beam engine functions kinematically transferring rotational movement to linear movement. It is held together completely by retaining rings.

