

## NEED & CUSTOMER REQUIREMENT

**Need:** Rotary-wing aircraft transmission systems comprise up to 11 percent of the aircraft empty weight. Newer, more advanced materials and designs are required to achieve significant gains in power/weight ratio, durability, reliability, and maintainability.

**Operational Gap:** Weight of components composed of traditional materials has already been optimized. Alternative materials are being sought to improve weight savings without sacrificing performance.

**Customer Specifications:** The final component must meet requirements for weight reduction, cost, hot/wet mechanical properties, RTM processibility, fatigue resistance and chemical resistance.

**Technology Description:** The bowl is a carbon/epoxy composite and is secondary bonded to the aluminum components. A 26% weight savings is achieved.

## SPONSORSHIP of original SBIR Topic

**SYSCOM:**  
NAVAIR

**PEO/PMA/FNC:**  
PMA 275

**Acquisition Sponsor:**  
Naval Air Warfare Center

**TPOC (COTR):**  
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## TECHNOLOGY DEVELOPMENT MILESTONES (SBIR)

Milestone	TRL	Risk	Measure of Success	TRL Date
Fabricate prelim prototypes	3	Low	Produce Prototypes	Dec 2006
Testing of preliminary prototypes	3	Moderate	Pass Tests	Jan 2007
Fabricate prototypes	3	Moderate	Produce Prototypes	2007
Prototype Testing & Qualification	5	Moderate	Qualification	2008

**Open contracts:** N68335-04-C-0274

## TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

*The company is looking for transition opportunities and program dollars for the following applications and targeted activities:*

>> Bell/Boeing V-22 Osprey

>> Bell/Augusta BA609

>> Sikorsky CH-53

TRL	Required Test and Demos	Target Date	\$ Needed
4	Lab Tests	2007	SBIR Funded
6	Bench Tests	2008	TBD
8	Flight Tests	TBD	TBD
8	Qualification	TBD	TBD