

WINNER

Weight Constraints Lead to Magnesium as Alloy of Choice for Aristo Cast Aerial Engine Gear Box

Reducing weight is often the name of the game, especially in military applications, and investment casting's almost endless choice in alloys provides a variety of options.

Light-weight magnesium was front and center in a casting from Aristo Cast, Inc. which took the aircraft engine components award in the Investment Casting Institute's casting contest, conducted in conjunction with the 12th World Conference on Investment Casting.



Over the past seven years, Aristo Cast, Inc. has developed a niche market by providing castings in light-

weight magnesium. The customer's engineering staff had originally designed the gear box in aluminum, but due to

weight constraints, required the unit had to be made of magnesium.

The two prototype castings which comprise the upper and lower gear box are 5"x6"x5" and 6'x6'x2" respectively.

The gear box contains bosses, cast-in holes, and thick-to-thin walls, which are all standard fare for investment castings. And because magnesium was the required material, there was virtually no other viable alternative for the prototype.