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Custom Gearbox Powers Intelligent Lifting Device

GAM solution for Gorbel® G-Force® costs less than competitive off-the-shelf products

Project Objectives:

After a successful initial collaboration, Gorbel Inc. challenged GAM Gear to develop a gearbox for its new line of G-Force Intelligent Lifting Devices (ILDs) that would fit tight space constraints, provide the necessary torque in three capacities to handle loads up to 660 lbs. and cost less than the components they have used in the past.

The co-development project between the two companies, which began as a cost-reduction initiative, ultimately had two main drivers, says Jeff McNeil, Gorbel director of marketing. “We wanted to double our highest capacity from 330 lbs. to 660 lbs. and we wanted to use standardized components in all three capacities.”

The Co-development Process:

New York-based Gorbel’s patented G-Force technology provides more precise, controllable action than traditional hoists while being more responsive than air balancers. Standard hoists feature a pendant with up and down buttons. G-Force devices sense hand movement and speed and automatically react accordingly. Other features, such as “virtual limits,” can be programmed into the lifting devices via custom software to integrate them with a customer’s specific application.

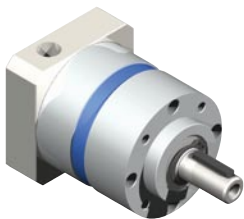
GAM was brought in early in the redesign and, working closely with Gorbel’s product development engineers, designed a custom gearbox solely for use in G-Force ILDs. Both rotating and mating components were looked at with a view to eliminating anything that was functionally unnecessary.

The Successful Results:

In the final design, the gearbox provides the required torque to the lift through a rotating housing that acts like a powerful driven pulley. “The GAM components allowed us to achieve our goal of doubling capacity while using standardized components across the line,” McNeil states. Functionally, McNeil adds, the G-Force devices provide fast, precise servo-controlled lifting without any valve changes. With lightweight jobs, the product competes against manual lifting and workers won’t use it if it slows them down. At higher capacities – engine assemblies, for example – G-Force lifts may be required to place 400 to 500 lb. pieces together very precisely. “You can’t risk damaging expensive parts or causing a crushing injury to an operator’s hand,” McNeil notes.



Gorbel G-Force
Lifting Device



Standard EPL-W
Gearbox



Custom EPL Gearbox
for Gorbel