



Product

Engine Housings & Guardex™ FBA Couplings

Application

Boom Lifts

Highlights

- Custom-engineered Class 30 gray iron housing features exceptional vibration dampening characteristics
- Guardex™ FBA drive coupling consists of a steel flywheel flange, heat treated steel hub, rubber vibration dampers and specially designed fasteners

A major scissor and boom lift OEM was experiencing hydraulic pump failures on their articulated boom lifts in the field. It was determined that the failures were the result of engine vibration transmitted to the pump through an aluminum pump mount engine housing that mates the engine to the pump. The pump manufacturer would not warranty their pumps due to the damaging vibration.

Based on previous project work, the OEM contacted Guardian for an engine housing solution that would eliminate the vibration problem. Guardian engineers knew from experience that a cast iron housing would provide superior vibration dampening results compared to aluminum or steel housings (which the customer had tested previously). The Guardian team worked with the customer's engineers and tested three Class 30 gray iron housing solutions, each with different thicknesses, lengths, and weights. Ultimately, one of the housings provided a performance level that met the pump manufacturer's warranty requirements.

With thousands of boom lifts in service, Guardian was able to ramp up production to support the OEMs extensive engine housing field replacement program, allowing them to avoid replacement of the more expensive hydraulic pumps in the field.

While working through the housing vibration problem, Guardian provided a coupling solution as well. The Guardex FBA (Flywheel Blind Assembly) drive coupling was selected for long-life performance. The coupling mounts directly to the engine flywheel, providing power to the pump. The FBA coupling is a proven, torsionally-soft hydraulic pump drive used worldwide in gas/diesel engine applications.

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