

# Sealing Solutions

## APPLICATIONS IN INDUSTRY

### PROBLEM: Protecting Control Panel Switches on Off-Road Articulating Boom



#### Subject: Environmental sealing boots

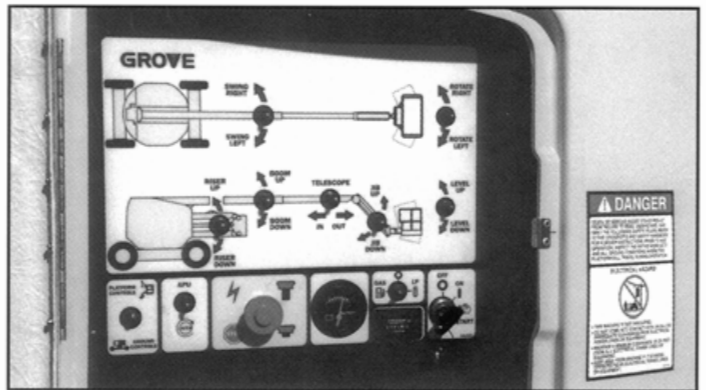


Half Toggle Boot  
N-1030B



Push Button Boot  
N-3040

**Situation:** Grove Industrial Products Group, Shady Grove, PA, probably the first off-road equipment manufacturer to introduce a true rough-terrain articulating boom in the mid 1980s. Now its newest unit, the A60J (articulating boom, 60-foot platform height, and jib-fitted) is a third generation product which replaces previous models. Performance, serviceability, and dependability are customer priorities. Grove has made an extra effort to make the AJ60J as service and user friendly as possible. Central to service and operational friendliness is a SuperFlex Bus control system supplied by OEM Controls. The digital multiplex control system manages all



switching, safety interlocks, and valve functions. It also provides on-board diagnostics for fast troubleshooting. Superflex control allows quick adjustment of function parameters. Two operator panels have layouts that are consistent with all new Grove products for easy function recognition and operation. Together the panels have a total of nineteen toggle switches and one push-button switch – all of which are exposed to the environment and must be protected from harmful contaminants such as dust, water and lubricants.

**Solution:** Grove selected the APM P/N N-1030B half-toggle switch Hexseal® boot for the manual toggle switches, and N-3040 full push-button boots for its horn switch. Both are fabricated of silicone rubber with a molded-in mounting-nut. In addition to protecting the switch mechanism, the APM boots' unique perimeter sealing rib seals the panel cutouts in which the switches are mounted...thus protecting behind-panel electronics from leakage. Temperature range specification is from -94° F to +400° F. These boots offer excellent tactile feel; more than adequate for a gloved hand. ■

*To obtain further information on this subject, ask for catalog HEX-200, free samples available on request.*

We owe special thanks to Lift Equipment magazine for allowing the use of their May 2001 issue photography and article "Stylish and Productive ...High marks for a New Generation Articulating Boom" as a reference.

## APM HEXSEAL® Sealing Specialists

44 Honeck Street, Englewood, NJ 07631-9917 • Tel (201) 569-5700 • Fax (201) 569-4106 • [www.apmhexseal.com](http://www.apmhexseal.com)