Chapter 5

Pressure Hulls and Canisters

Chapter 5: **Pressure Hulls and Canisters**

Stories From Real Life: *Squalus* and *Thresher*

Chapter Outline

Chapter Learning Outcomes

- Calculate the magnitude of the hydrostatic pressure-related forces acting on various parts of an underwater vehicle at any depth, in either freshwater or saltwater.
- Recommend effective shapes, sizes, and materials for pressure-resistant and leak-resistant hulls and canisters.
- Describe specific techniques for getting rotating propeller shafts, camera images, or wires through the walls of these containers.
- Describe relatively low-cost and easy-to-build yet effective designs for pressure canisters that can be used for small, unmanned vehicles diving to maximum depths of about 100 meters (approx. 325 ft).

***Figure 5.1.cover: Hydrostatic-Testing* Deep Worker 2000**

Southwest Research Institute prepares Deep Marine Technology's Deep Worker 2000 *submersible for a hydrostatic pressure test. SwRI operates ocean simulation chambers with diameters up to 90 inches and pressures to 30,000 psi.*

Image courtesy Southwest Research Institute and Deep Marine Technology, Inc.