

Development and testing of a heavy-duty work ROV for 10000 foot service

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This paper appears in: OCEANS '88. 'A Partnership of Marine Interests'. Proceedings

Publication Date: 31 Oct-2 Nov 1988

On page(s): 1647 vol.4-

Meeting Date: 10/31/1988 - 11/02/1988

Location: Baltimore, MD, USA

References Cited: 0

INSPEC Accession Number: 3399247

Digital Object Identifier: 10.1109/OCEANS.1988.23802

Posted online: 2002-08-06 16:00:33.0

Abstract

Summary form only given. The depth capability of the entire Gemini ROV (remotely operated vehicle) system has been upgraded for 10000 feet, bringing the Gemini into the vanguard of deep-ocean commercial ROV systems. The Gemini development used advanced submersible-technology designs, including a fiber-optic umbilical cable, dual spatially correspondent heavy-duty manipulators, and an air-transportable aluminium handling system. The authors describe the engineering development and systems integration. Specific areas of discussion include telemetry system design and integration for this great depth, cable design, power system engineering, vehicle sensor and manipulators/tools specification and integration, and handling system design. Sea testing is also addressed, with a focus on operational problems and solutions when working in 10000-ft depths