

1. Record Nr.	UNINA9910458843803321
Autore	Christ Robert D
Titolo	The ROV manual [[electronic resource]] : a user guide to observation-class remotely operated vehicles / / Robert D. Christ and Robert L. Wernli Sr
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Butterworth-Heinemann, 2007
ISBN	1-281-01931-3 9786611019310 0-08-055016-9
Edizione	[1st ed.]
Descrizione fisica	1 online resource (327 p.)
Altri autori (Persone)	WernliRobert L
Disciplina	629.893
Soggetti	Remote submersibles Submersibles Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 303-304) and index.
Nota di contenuto	Front cover; The ROV Manual: A User Guide for Observation-Class Remotely Operated Vehicles; Copyright page; Contents; Foreword; Preface; Acknowledgments; History and dedication; Introduction; Chapter 1 A bit of history; 1.1 Introduction; 1.2 What is an ROV?; 1.3 In the beginning; 1.4 Today's observation-class vehicles; Chapter 2 ROV design; 2.1 Underwater vehicles to ROVs; 2.2 Autonomy plus: 'why the tether?'; 2.3 The ROV; Chapter 3 ROV components; 3.1 Mechanical and electro/mechanical systems; 3.2 Primary subsystems; 3.3 Electrical considerations; 3.4 Control systems Chapter 4 Underwater acoustics and positioning 4.1 Underwater acoustics; 4.2 Acoustic positioning; Chapter 5 Sonar; 5.1 Sonar basics; 5.2 Sonar types and interpretation; 5.3 Sonar techniques; Chapter 6 Oceanography; 6.1 Distribution of water on Earth; 6.2 Properties of water; 6.3 Coastal zone classifications and bottom types; 6.4 Effects of wave pattern upon ROV operation; Chapter 7 Environment and navigation; 7.1 The 3D environment; 7.2 The necessity of achieving objectives through navigation; 7.3 Currents and tether management; Chapter 8 Homeland security; 8.1 Concept of operations

8.2 Tactics, techniques, and procedures (TTPs)8.3 Operating characteristics of ROV size categories; 8.4 Port security needs; 8.5 Underwater environment of ports; 8.6 Navigation accessories; 8.7 Techniques for accomplishing port security tasks; 8.8 Development of TTPs for port security; 8.9 Results of procedures testing by sizes; Chapter 9 Explosive ordnance disposal and mine countermeasures; 9.1 Background; 9.2 EOD applications; 9.3 MCM today; Chapter 10 Public safety diving; 10.1 Public safety diving defined; 10.2 Mission objectives and finding items underwater with the ROV
10.3 When to use the diver/when to use the ROV 10.4 Search theory and electronic search techniques; Chapter 11 Commercial, scientific, and archaeological; 11.1 Video documentation; 11.2 High current operations; 11.3 Operations on or near the bottom; 11.4 Enclosed structure penetrations; 11.5 Aquaculture; 11.6 Documentation and disposition; Chapter 12 Standard operating procedures; 12.1 Overall operational objectives; 12.2 Equipment mobilization; 12.3 Operational considerations; 12.4 Pre-dive operations and checks; 12.5 Specific considerations for operational deployment of ROVs
12.6 Task list and guidelines 12.7 Post-dive procedures; Chapter 13 Servicing and troubleshooting; 13.1 Maintenance; 13.2 Basics of ROV troubleshooting; 13.3 Tools and spares for field work; 13.4 Standard preventative maintenance checklist; 13.5 Operational forms; Chapter 14 Putting it all together; 14.1 Attention to detail; 14.2 Training and personnel qualifications; 14.3 Equipment setup considerations; 14.4 Division of responsibility; 14.5 Boat handling; 14.6 Marking the target (s); 14.7 Methods for navigating to the target; 14.8 Sonar/ROV interaction; Appendix A: Test questions and answers
Bibliography

Sommario/riassunto

Many underwater operations that were once carried out by divers can now be carried out more efficiently and safely with Remotely Operated Vehicles (ROVs). This is the first ROV 'how-to' manual for those involved with smaller observation class ROVs used for surveying, inspection, and research purposes. As ROV technology becomes more efficient and affordable, their use is rapidly spreading to a host of industries, everything from aquaculture to underwater crime scene investigation to commercial diving. The ROV Manual is the first user guide to provide complete training and knowledge on ROV o
