

HARDWARE/TOOL LIST FOR NCOP FIELD WORK

Subsurface Underwater Buoyancy Systems (SUBS)

A2- Hardware

4 bolts 1/4" x 1"
31 bolts 1/4" x 1 1/4"
13 bolts 1/4" x 1 1/2"
6 bolts 1/4" x 2" (tails)
104 flat washers 1/4"
52 lock washers 1/4"
2 bolts 3/8" x 3/4" with flat washers and nuts
1 bolt 1/2" x 1.5" for Anode

B3-Hardware

ALL STAINLESS AISI 316
25 bolts 1/4" with nuts
50 flat washers 1/4"
25 lock washers 1/4"

A2 – Anode – knob 3/4"
B3 - Anode – Donut 7/8" diameter

TOOLS

7/16" Combo Wrenches
7/16" Deep socket and ratchet
9/16" Combo Wrenches
3/4" Combo Wrench (A2 anode)
Awl 1/4" shaft (8 per unit)
5/32" Allen key (B3 anode)
Drill with 7/16" nut driver

Bottom Mounts

ES2-Hardware – not complete

-875 Release magnet
-spare parts kit
- 200m of deployment line

TOOLS

-Standard socket set with sockets to 3/4"
-Standard wrenches to 3/4"
-Standard Allen wrenches
-flat head and Phillips screw drivers

- Tie wraps
 - Strap wrenches
-

TRBM- Hardware

3/8" nuts (gimbal)

Fiber nuts

Strong back (7/16" for 867-A)

- Line JIG – 5 " rubber bands for bundles

-8242 release with release link

-peck & hale release

-bridels for the 8242 release

-Tie wraps (>14 inches)

-spare parts kit

Release shackle

Turnbuckle

Pivot Arm

Catch bar with roller

Ring spacers

Locking pins

-200m of spectra deployment line

Winch grease for pivot arm

4 zinc anodes 2" x 3" x 1/2 (51 x 76 x 13 mm) – corner of base

(4) 1/4-20 x 1" bolts – type 316 stainless

1 zinc anode 2" x 6" x 1/2" (51 x x153 x 13 mm) – cross base of pod pan

(1) 1/4-20 x 1" bolts – type 316 stainless

TOOLS

1 1/4" deep socket

3/8" socket for gimbal

3/8" ratchet for deep socket

-Standard socket set (1 1/4" Deep socket)

-Standard wrenches

-Standard allen wrenches

-flat head and phillips screw drivers

-Rubber mallet

-pry bar

-snatch blocks

-torque wrench

Acoustic Release's

ORE – Coastal Acoustic Release Transponder

Spare and Replacement Parts for CART:

End cap O-Rings 4 each 184411 (2-154)
Bushing O-Ring 1 each 184128 (2-116)
Shaft O-Ring 1 each 24800-B2011 (2-011)
Purge Port O-Rings 2 each 24800-B2008 (2-008)
Release Link B980276 (includes release lever bushing)
Welded Alkaline Battery Pack B32174-002

Spare and Replacement Parts for Tandem assembly:

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ASSEMBLY</u>
C980226	CART, BRIDGE, DUAL, TANDEM	1.000
C980228	CART, H-BAR DUAL, TANDEM	1.000
B980227	CART, BASE STANDOFF	4.000
18540X	STUD, 316SS, 1/4-20 X 3/4	2.000
A977110	ANODE, ZINC, AM200, AMT, AMTR	2.000
192430	WASHER, NYLON, 1/4"	2.000
174211	WASHER, FLAT, 5/16, 316SS	4.000
184136	NUT, NYLOK, 5/16-18	4.000
B980276	ASSY, RELEASE LINK, CART	2.000
190411	WASHER, FLAT, 316SS, 3/8"	2.000
190314	NUT, NYLOCK, 316SS, 3/8-16	2.000
190519	SHACKEL, FORGED, GALV, 5/16"	2.000
190616	CHAIN, 5/16 COLD GALV PROOF COI	2.000
190713	LINK, OBLONG, 1/2 FORGED	1.000
A980223	WASHER, SHOULDER, MODIFIED	2.000
19090X	WASHER, SHOULDER, NYLON, .378 ID	4.000

TOOLS

Soft mallet
1/4" 3/8", 5/16" wrenches
1/2 " deep socket
adjustable wrench
Deck Unit

BENTHOS – 867-A- hardware

Battery pack Part No C-867-4

3 – 6-32 nuts w/ lock washers for battery plate

O-rings – Part No 0204-242 (2-242, 70 durometer, Buna-N material)

5/16" D type shackle

Guide pins

Strong back

TOOLS

7/16" (11mm) socket wrench or nut driver

5/16 wrench

Strap wrench

1/4" roll pins (replace benthos battery)

1/4" Philips screwdriver

RDI - ADCP

111 Goop

dummy plugs

New Battery, rubber bands

PC Cards

Desiccant bag, humidity card

o-rings

transducer paint

Communication cable with power supply

USB-serial adapter for those computers w/o serial ports

TOOLS

13 mm wrench

10 mm wrench

MISC TOOL BAG STUFF

111 Goop
Allen set
Rubber mallets
Awls
Box cutter, Razor blades
Wire cutters
Wire strippers
Hammer
Screw driver sets
Sharpie PENS
Zip ties (all sizes)
WD40 (this can not be shipped AIR FRIEGHT)
Adjustable wrenches
Electrical tape
Duct tape
Flash light
Power inverter
Rope
Extension cords
Measure tape
Impact drill w/ bits and adapter
Pliers set
Volt meter

Battery List

ADCP – Use for only 1 deployment 42 VDC
CART – up to 2 years (Battery pack 9v/12v welded alkaline)
867-A – up to 2 years (13.5 -14 V new, 11 V cut off)
ARGOS
Pingers – up to 2 years with lithium 9V - 6 per unit