### 10.3 AUXILIARY CASE WITH OXYGEN CYLINDERS

**94-134-044**

#### AUXILIARY CASE WITH OXYGEN CYLINDERS

**94-134-044**

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<td>Oxygen cylinder</td>
<td>94-206-001</td>
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<td>Auxiliary carrying case</td>
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### SPARE PARTS PACKAGE

#### 94-463-041

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<td>1 ea. Spare parts box</td>
<td>94-134-036</td>
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<td>2</td>
<td>1 ea. Striker handle, RH</td>
<td>94-370-168</td>
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<td>1 ea. Battery assembly</td>
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<td>1 ea. Torch shield</td>
<td>94-777-109</td>
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<td>6</td>
<td>3 ea. Striker bars</td>
<td>96-070-031</td>
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<td>7</td>
<td>2 ea. Spark arrestors</td>
<td>94-305-009</td>
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<td>8</td>
<td>10 ea. Washers</td>
<td>94-940-109</td>
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<td>1 ea. 3/8&quot; collet chuck</td>
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<td>1 ea. 3/8&quot; collet nut</td>
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<td>1 ea. Technical manual</td>
<td>89-250-902</td>
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<td>1 ea. Harness assembly</td>
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- [ ] A. EXCELLENT
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- [ ] C. FAIR
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- [ ] E. COMPLETE
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NAVSEA 9086/10 (REV. 6-85) S/N 0116-LF-090-8651  
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2. VOL. PART 1
3. TITLE Operating, Maintenance Instructions and Parts List
4. REV. DATE OR TM CH. DATE 30 May 1989
5. SYSTEM/EQUIPMENT Exothermic Cutting Unit
6. IDENTIFICATION/NOEMLATURE (MK/MOD/AN) PECU
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   - B. GOOD
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**NAVSEA 9008/10 (REV. 6-85) S/N 0116-LF-090-8651**
(REPLACES 4-84 EDITION & NAVSEA 4160/1 - DESTROY STOCK)
PROCEDURE (Cont...)

1. Test PE CU Installed Battery.
   a. Place CHARGER/CUT/TEST switch in TEST position. Observe
      RECHARGE/GOOD meter. Pointer should indicate well into green
      area. If pointer does not indicate well into green, 1/4 to
      1/2, proceed to step 2.f. If reading is less than 11.6 VDC,
      proceed to step 2. and charge installed battery.

2. Charge Installed Battery.

   WARNING: Lead acid battery will produce hydrogen gas during
   charging operations. Charge only in a well ventilated
   space and post "NO SMOKING" and "BATTERY ON CHARGE" sign
   in space.

   NOTE 2: Battery should not be left on charger for more than
   16 continuous hours. Battery may require additional charging
   if unable to ignite a rod.

   NOTE 3: Battery will gradually lose its charge over a period of
   time. To ensure peak performance when needed, place battery
   on charge 4 to 6 hours per week while inactive.
   a. Connect charging cord (supplied with PE CU) to charger, and
   b. then to a 120 volt AC outlet.

   NOTE 4: If needle indicates in or near red recharge area, charging
   time will be longer than 4 to 6 hours required.
   a. Place CHARGER/CUT/TEST switch in CHARGE position and charge
   battery for 4 to 6 hours or until battery is fully charged.

   NOTE 5: RECHARGE/GOOD meter reading shows relative output of
   charger, not state of battery, when CHARGER/CUT/TEST
   switch is placed in CHARGE position.
   a. After battery has been fully charged, place
   CHARGER/CUT/TEST switch in TEST position, if indicated
   reading is higher than reading in step 1.a., omit steps 2.f.
   through 2.g.
   b. Place CHARGER/CUT/TEST switch in CUT position.
   c. Disconnect charging cord first from 120 volt AC outlet
   and then from charger. Restow cord on PE CU.

   NOTE 6: Multimeter reading on a recently charged battery may be
   as high as 13.6 VDC, approximately 30 minutes after
   unplugging charger; retest battery. Readings should be
   between 12.6 to 12.8 VDC.
   a. Test battery using multimeter as follows:
      1) Place POSITIVE lead in TORCH connection.
      2) Place NEGATIVE lead in STRIKER connection.
      3) Meter should be between 12.6 to 12.8 VDC.
   b. If reading is less than 11.6 VDC notify work center
   supervisor and recharge battery.

   CAUTION: Store PE CU in an upright position. Secure properly to
   avoid tipping or dropping.
PROCEDURE (Cont)

WARNING: Do not store PECU and/or spare cylinders in a confined
space where ambient temperature exceeds 125°F Fahrenheit.
Do not store cylinders where they may form a part of an
electrical circuit.

h. Stow PECU.
SHIPS SYSTEM

WORKING SPACES 660
SUBSYSTEM Damage Control Stations 6641
MRC CODE 6641 0-6

SYSTEM

EQUIPMENT Portable Exothermic Cutting Unit (PECU)

RATES DC/IPH/ "MN/MN3/EN3"

TOTAL MH 2.0

MAINTENANCE REQUIREMENT DESCRIPTION
1. Test and inspect PECU.

SAFETY PRECAUTIONS
2. Oil or grease in presence of oxygen under pressure ignites violently. Never direct jet toward any oily or greasy surfaces. Do not handle cylinders, valves, regulators, or any part of PECU with oily hands or oily gloves, or allow any part of PECU to contact oil or grease.
3. Do not let battery leads touch. Insulate each lead as it is removed.
4. Do not store PECU and/or spare cylinders in a confined space where ambient temperature exceeds 125°F Fahrenheit. Do not store cylinders where they may form a part of an electric circuit.

TOOLS, PARTS, MATERIALS, TEST EQUIPMENT

MATERIALS
1. [1620] Insulating varnish, electrical, Hazardous Material, Group 1
2. [1624] Tape, insulation, electrical, MIL-I-24391

MISCELLANEOUS
1. [1365] Technical manuals/drawings (Exothermic cutting unit, portable (PECU) ARCAIR, Operating Instructions, Maintenance Instructions and Parts List) (NSN 0510-LP-343-1700)
2. [2000] MRC(s) (W-4, R-47)

NOTE: Numbers in brackets can be referenced to Standard PMS Materials Identification Guide (SPMIG) for stock number identification.

PROCEDURE

NOTE 1: Consult PECU operating instructions supplied with PECU for operating procedures and component diagrams.

NOTE 2: This procedure ensures that battery has maintained its charge and enables operators to practice cutting.

WARNING: Oil or grease in presence of oxygen under pressure ignites violently. Never direct jet toward any oily or greasy surfaces. Do not handle cylinders, valves, regulators, or any part of PECU with oily hands or oily gloves, or allow any part of PECU to contact oil or grease.

NOTE 3: Ensure installed battery has been fully charged before it is replaced.

NOTE 4: Battery pack is attached to PECU with 2 screws and 2 spacers. Spacer is held in place by screw and will fall out of place when screw is removed.

d. Remove battery assembly from PECU.

CAUTION: Battery connections are energized. Exercise extreme caution while removing battery leads.

e. Disassemble PECU battery pack assembly by removing 6 screws holding case together.

WARNING: Do not let battery leads touch. Insulate each lead as it is removed.

f. Remove nut and washer holding each battery lead (one at a time).
g. Remove protective cover from spare battery in spare parts kit and place it on battery removed in step 1.d.
h. Install spare battery into PECU battery pack assembly. Ensure uninsulated leads do not touch. Place positive lead on bottom post and secure with washer and nut. Place negative lead on top post and secure with washer and nut. Tighten both nuts.
i. Seal battery lead and post connections with varnish.
j. Reassemble PECU battery pack assembly. Do not overtighten screws.
k. Test operate touch by igniting 1 rod in a well ventilated area.
l. Charge newly installed battery in accordance with MRC W-4.

CAUTION: Stow PECU in an upright position. Secure properly to avoid tipping or dropping.

WARNING: Do not store PECU and/or spare cylinders in a confined space where ambient temperature exceeds 125°F Fahrenheit. Do not store cylinders where they may form a part of an electric circuit.
PROCEDURE (Contd)

NOTE 5: Ensure collet nut is loose to prevent damage to internal washer.

m. Stow PECU.

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Hazardous Material Disposal Instructions

a. Comply with own ship/station procedure for handling/disposal of hazardous materials/waste identified in the Tools, Parts, Material, Test Equipment block. General shipboard disposal procedures follow:

Group 1: Containerize waste in original container, if possible, or use standard container as listed in the Naval Ships' Technical Manual, S9086-T8-STM-000/CK-593 R2 Chapter 593, Pollution Control. Store in accordance with NSTM 670. Mark, label, or tag the container with the specific contents and any information on the contaminants. This information must also be provided on the DD Form 1348-1 at the time of offloading.
**SHIP SYSTEM**

**SUBSYSTEM**

**MARC CODE**

| Working Spaces | Damage Control Stations | 6641 | R-47 |

**SYSTEM**

**EQUIPMENT**

| Portable Exothermic Cutting Unit (PECU) | 6641 |

**MAINTENANCE REQUIREMENT DESCRIPTION**

1. Clean and inspect PECU.

**SAFETY PRECAUTIONS**

1. Forces afloat comply with NAVOSH Program Manual for Forces Afloat, NAVNAVINST 5100.19 Series.
2. Oil or grease in presence of oxygen under pressure ignites violently. Never direct jet toward any oily or greasy surfaces. Do not handle cylinders, valves, regulators, or any part of PECU with oily hands or oily gloves, or allow any part of PECU to contact oil or grease.
4. Do not let arc or cutting flame touch cylinders, cylinder safety devices, valve, regulator, or hose.
5. Do not store PECU and/or spare cylinders in a confined space where ambient temperature exceeds 125°F Fahrenheit. Do not store cylinders where they may form a part of an electrical circuit.

**TOOLS, PARTS, MATERIALS, TEST EQUIPMENT**

<table>
<thead>
<tr>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. [0294] Cloth, cleaning</td>
</tr>
<tr>
<td>3. [1198] Screwdriver, flat tip, 6&quot;, general purpose</td>
</tr>
<tr>
<td>3. [3433] Wrench, box and open end, combination, 7/16&quot;, 5&quot;</td>
</tr>
<tr>
<td>3. Wrench set, supplied with PECU</td>
</tr>
</tbody>
</table>

**MISCELLANEOUS**

| 1. [2000] MRC(s) (W-4) |
| 2. Exothermic cutting unit, Portable (PECU) ARC AIR, Operating Instructions, Maintenance Instructions and Parts List, [NSN 0910-01-343-1700] |
| 3. Standard shipboard cutting welding combination pressure and regulator gage |

**DISTRIBUTION STATEMENT**

Distribution authorized to DOD components and DOD contractors only; critical technology; June 1993. Other requests for this document shall be referred to Naval Sea Systems Command (SEA 04TD). Destroy by any method that will prevent disclosure of contents or reconstruction of the document.

**LOCATION**

Equipment Guide List Recommended

**DATE**

June 1993
CAUTION: Cylinder valve and safety device may have or develop leakage or other unsatisfactory conditions for which one should inspect. Cylinder must not be detached from unit. If replacement cylinder is being installed, it is best to perform steps 1.0 and 1.1. before attachment to unit. Steps 1.0 and 1.1. are not necessary for depleted cylinder that is to be replaced.

NOTE 5: If battery assembly was subjected to use in harsh conditions (muddy, dirty water, or salt water), then follow steps 1.1.(2) through 1.1.(4). If not, continue to step 1.k.
(2) Remove cover/top half of case and look for dirt and/or water.
(3) If battery assembly is wet or dirty, flush with clean fresh water and dry with a lint-free cloth. Replace damaged or worn parts.
(4) Reassemble battery assembly.

k. Connect striker to battery assembly (black cam-lock connector to black female connection), and connect torch to battery connection (red cam-lock connector to red female connection).

NOTE 6: Standard shipboard cutting-welding combination pressure and regulator gage will be used as test gage.

CAUTION: Ensure oxygen valve on cylinder is shut.

1. Using wrench set supplied with PECU, remove oxygen regulator and install test gage; tighten fitting firmly. Test all oxygen connections for tightness.

WARNING: Never bleed oxygen into confined spaces. Limit bleeding time to 10 seconds.

m. Open oxygen cylinder valve slowly, observe pressure until maximum psi is indicated on gage. Close cylinder valve. If pressure reading is less than 1500 psi, replace oxygen cylinder.

n. Using wrench set supplied with PECU, crack open oxygen test gage connection slightly to bleed off pressure. Remove test gage.

NOTE 7: If steps 1.1.(2) through 1.1.(4) were performed, at least 1 rod must be ignited to ensure proper operation of PECU.

WARNING: Do not let arc or cutting flame touch cylinders, cylinder safety devices, valve, regulator, or hose.

v. In a safe, well ventilated area ignite at least 1 rod.

w. Verify that sufficient rods and oxygen cylinders are available.

x. Charge battery in accordance with MRC M-4.

CAUTION: Store PECU in an upright position. Secure properly to avoid tipping or dropping.

WARNING: Do not store PECU and/or spare cylinders in a confined space where ambient temperature exceeds 125° Fahrenheit. Do not store cylinders where they may form a part of an electrical circuit.

y. Store PECU.

NOTE 8: Ensure collet nut is loose to prevent damage to internal washer.

y. Store PECU.
Method 3: Discharge overboard outside of 12 nm of U.S. shore. Instructions on discharge in foreign water should be requested from Shipboard Hazardous Waste Coordinator. If material is an acid or alkali, follow neutralization instructions in Naval Ships' Technical Manual (NSTM) 59086-T6-STM-010/CH-593, Pollution Control. Store packaging and containers for reuse or dispose as solid waste, in accordance with NSTM, Chapter 593.