

Damage Control Tools & Kits



Lesson Topic 1.2



Enabling Objectives

★ *Discuss* the assignment of damage control Repair Party personnel

🕒 *Match* Damage Control duties and responsibilities with damage control tools and kits required

Storage of Damage Control Tools and Kits



- ⌘ Tools, kits and equipment should be stored within the repair station's area
- ⌘ All tools and kits required in the repair Locker needs to be in accordance with the New AELs on the www.dcfp.navy.mil website.
- ⌘ The area of responsibility includes the repair locker, station and passageways
- ⌘ Equipment used for the same function should be stored together

Storage of Damage Control Tools and Kits



⌘ Priority for equipment stowage

- ☑ Stored in reverse order "First out, last in"
- ☑ Pilferable equipment stored in the repair locker
- ☑ "Immediate use", equipment stored in the passageways adjoining the repair locker

Damage Control Kits

- ⌘ Purpose, to provide damage control parties the tools and supplies necessary to repair damage
- ⌘ Typical DC kits found in a repair station are:
 - ☑ Monitoring
 - ☑ Investigator
 - ☑ Pipe patching, banding
 - ☑ Shoring



Damage Control Kits



⌘ Investigator Kit

Two investigators will be assigned as a minimum per repair station

⌘ Pipe Patching Kit

Two members will be assigned as a minimum per repair station

Damage Control Kits



⌘ Shoring materials/shoring tool kit

☑ Three members will be assigned as a minimum per repair station

⌘ Plugging Kit

☑ Three members will be assigned as a minimum per repair station

Damage Control Kits

⌘ Procurement

- ☑ Refer to Coordinated Shipboard Allowance List, (COSAL)
- ☑ Allowance Equipage List (AEL)
- ☑ Allowance Parts Lists (APL)




Miscellaneous Equipment

⌘ Portable Exothermic Cutting Unit, (PECU)



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- ☑ Portable, self contained unit used for rapid cutting
- ☑ Cuts at approximately 10,000 degrees Fahrenheit through steel, aluminum, stainless steel, cast iron, insulated wiring, and piping

Miscellaneous Equipment



⌘ Components, (Fleet Pack)

- ☑ Case, aluminum

- ☑ Cutting rod storage

⌘ Oxygen cylinder

- ☑ 48 cubic FT capacity at 2265 psi

- ☑ Non-shattering spun steel

⌘ Oxygen regulator

- ☑ Preset at 60 psi

Miscellaneous Equipment



⌘ Battery/charger assembly

- ☑ Charger, recharges battery, uses 120 volts AC

⌘ Cutting rods

- ☑ Carbon steel sheet metal, rolled to form a hollow tube
- ☑ 1/4 inch and 3/8 inch sizes

Miscellaneous Equipment



⌘ Safety precautions

- ☑ Never let oil or grease near oxygen cylinders, valves, regulators, hoses, or fittings
- ☑ Remove all flammable materials
- ☑ Goggles with #5 shade lens or darker
- ☑ Ear plugs or muffs
- ☑ Leather welding jacket/gloves
- ☑ Fire watch with protective equipment

Portable Electric All Purpose Rescue Set (PEARS)



Portable Electric All Purpose Rescue Set (PEARS)



The Portable Electric All Purpose Rescue Set (PEARS) is being outfitted on new construction ships and is authorized to replace the PHARS as NAVSEA funds are available.

The handheld Portable Electric All Purpose Rescue Set (PEARS) requires no hydraulic fluids or fuel powered engines as a power source so therefore produces no gasoline or engine fumes produced that would have to be vented from the ship's interior compartment. Damage control teams can take the versatile, stand alone PEARS deep below decks into the ship's interior for rapid response action and personnel rescue with freedom of movement (no trailing hydraulic lines or pump to run for power).

Portable Electric All Purpose Rescue Set (PEARS)

The PEARS is used for emergency access and personnel rescue during damage control and rescue and assistance operations when the use of flame producing equipment may not be appropriate. It has the following applications:

- Remote rescue for cutting, spreading and lifting debris
- Aircraft rescue
- Confined-space rescue
- Portable shoring

Portable Electric All Purpose Rescue Set (PEARS)



- ⌘ The PEARS delivers power using aerospace gear technology; the gearbox output torque is 72,000 inch-pounds.
- ⌘ A heavy-duty 12-volt DC electric motor powered by a separate non-spill portable
- ⌘ 12-volt battery power pack drives the PEARS.
- ⌘ A spare portable 12-volt battery pack is included with each set.
- ⌘ The P-16 blades were designed for attachment to the access tool for any of these functions: spreading, crushing or cutting operations on board ships.

Portable Electric All Purpose Rescue Set (PEARS)



⌘ The handheld tool can be changed from a power spreader to curve-cutter or straight blade in a matter of seconds by switching the attachment which is secured with ball-detent pins.

⌘ The unit is integrated with a complete range of rescue tools which include the P-16 Power Kit, Sawzall Extrication Kit (reciprocating saw) with metal/wood cutting blades, 5 torch blades, 1 ax blade, and an adapter for the Power Hawk 12-volt battery cables.

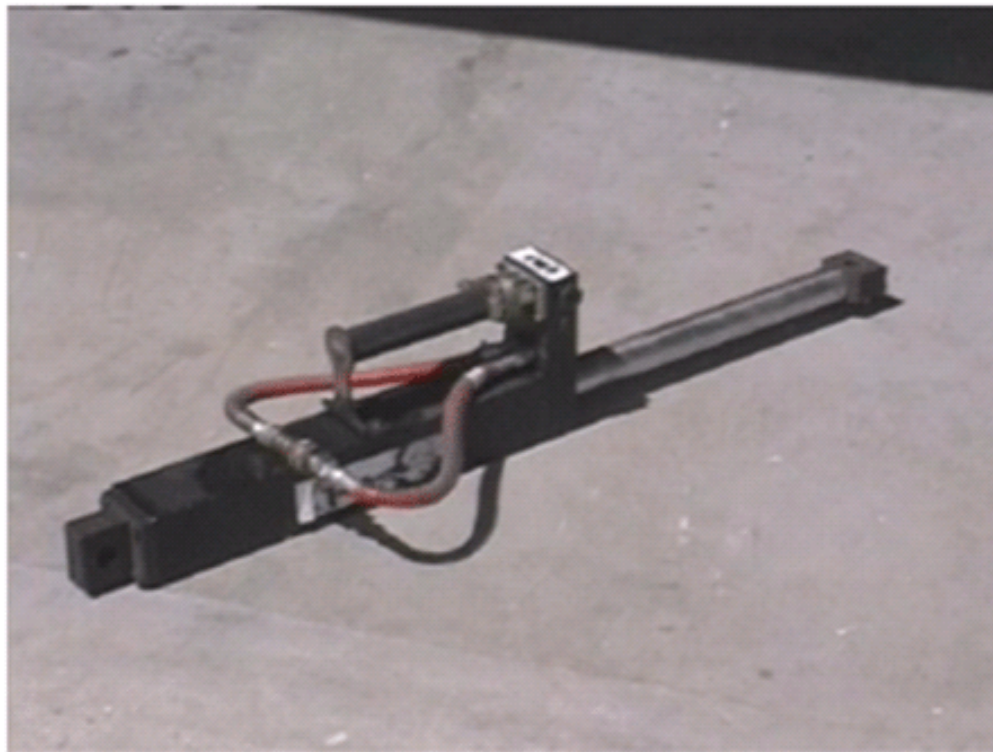
⌘ The P-16 Power Kit includes other equipment not shown above such as mechanical rams, extensions, and adapters that spread to move material and hold working loads for shoring operations. for the case and 18 pounds for the Sawzall. Total weight is approximately 317.4 pounds.

Portable Hydraulic Access Rescue System (PHARS)

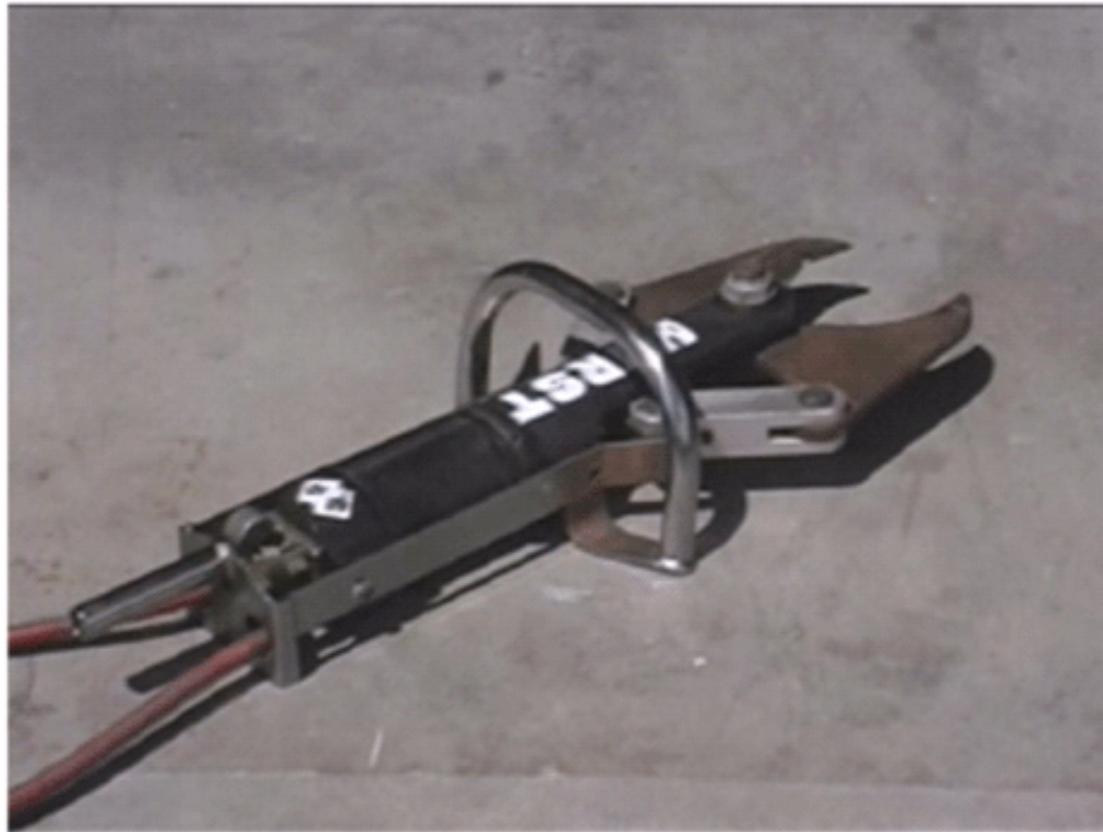
- Portable Hydraulic Access Rescue System (PHARS)
 - Used for emergency access and personnel rescue
 - Used on watertight doors, hatches, and bulkheads
 - Used by the accessman



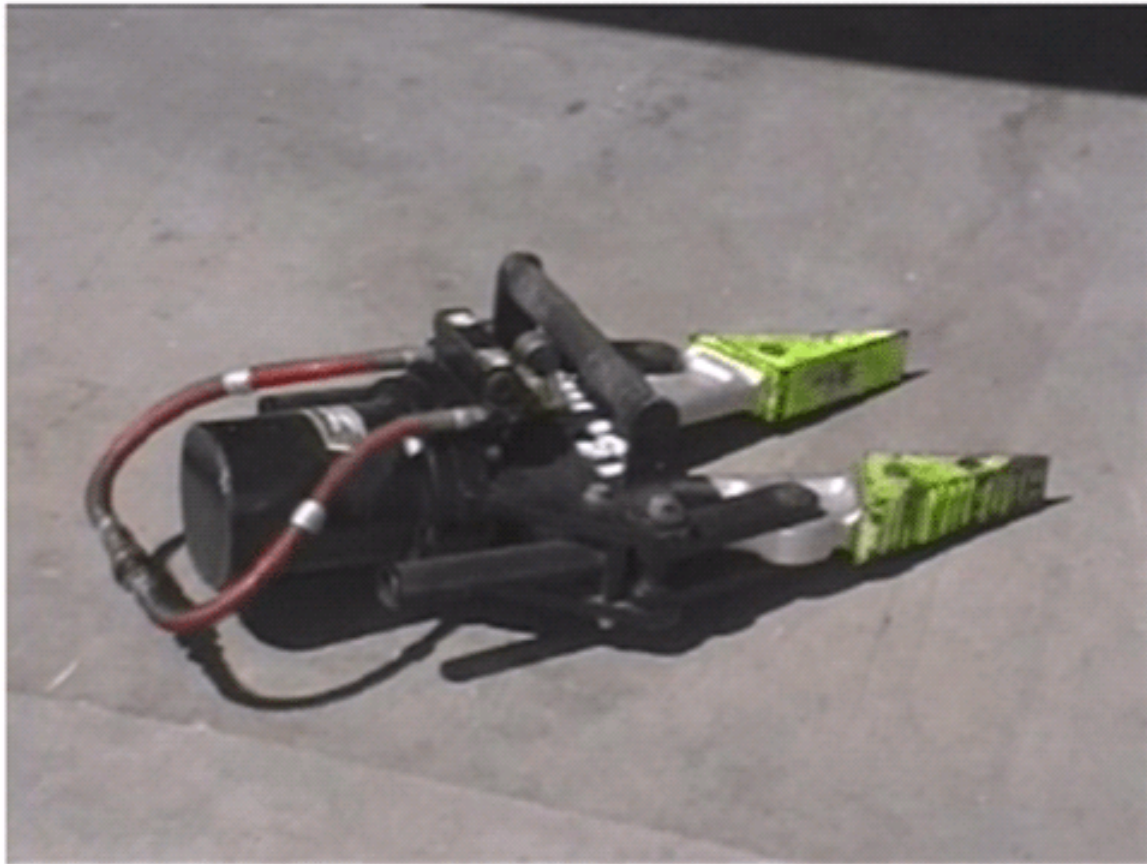
PHARS ram



PHARS cutter



PHARS spreader



DAMAGE CONTROL GENERATOR



DAMAGE CONTROL GENERATOR



Portable DC Generator is available to run in an emergency situation with many of the portable tools and equipment found in a Damage Control Repair Station (DCRS). Tests were run to ensure that all the possible portable tools and equipment that would run with the generator.

DC personnel are encouraged to practice using the generator in training and preparation for a casualty situation.

Summary and review



⌘ Storage of Damage Control Tools and Kits

⌘ Damage Control Kits

☒ Investigator, pipe patching, shoring, plugging and electrical kits

⌘ Miscellaneous Equipment

☒ PECU,

☒ PEARS

☒ PHARS

☒ DC GENERATOR