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# Express Tool Delivery Service/Virtual Tool Crib

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13. ABSTRACT (Maximum 200 words)  The Naval Research Laboratory (NRL), in collaboration with the Naval Sea Systems Command (NAVSEA), has developed a plan to further support the needs of the Fleet under the Capital Investment for Labor Initiative-Hand Tools. NRL/NAVSEA proposes to work with the Navy's Shore Immediate Maintenance Agency (SIMA) to enhance distribution of tools to ships force through SIMA's current tool depot system. The outlined plan describes the role of NAVSEA, NRL, and SIMA in development of two conceptual approaches "Express Tool Delivery Service" and "Virtual Tool Crib" to better serve the Fleet at naval bases such as San Diego, California, and Norfolk, Virginia.			
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***“EXPRESS TOOL DELIVERY  
SERVICE  
VIRTUAL TOOL CRIB”***

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# CONTENTS

Introduction.....	1
“Express Tool Delivery” Concept.....	4
“Virtual Tool Crib” Approach .....	4
Training.....	4
Surface Prep Reference—the “Recipe Book” .....	6
Organizational Role.....	6

## **EXPRESS TOOL DELIVERY SERVICE/VIRTUAL TOOL CRIB**

### *Introduction*

In 1998, a memorandum from the Secretary of the Navy addressed concerns over the way business was done within the Fleet, in particular the life and treatment of the sailor & marine in the U.S. Navy. Naval Sea System Command, in response to SECNAV's comments and concerns, has created several initiatives to reduce and/or eliminate numerous labor-intensive duties by introducing new materials, tools, and technologies into the Fleet.

These initiatives, incorporated under the Capital Investment for Labor program, will allow Sailors and Marines more time for training and professional development, thereby creating the opinion and attitude within the Navy that they are viewed as "valued professionals." Under the Capital Investment for Labor umbrella is the initiative entitled *HAND TOOLS*.

The Hand Tools initiative consists of the following major areas/objectives:

- Survey, select and evaluate commercial hand tools for paint removal/surface preparation within the Fleet with weight given to ergonomics & environmental considerations;
- Define by Ship Class a recommended listing of tools for inclusion into the current Class AEL (SHIP-SET);
- Investigate the use of current battery-operated tool technology to meet Navy surface preparation requirements;
- Develop and deploy a conceptual transportable, pierside (or topside) tool crib, to be accessed by Ships Force during availabilities, for Fleet evaluation and implementation.

In response to the tool crib objective, NAVSEA 05M1, in conjunction with the Naval Research Laboratory, has deployed two units—one per coast. These cribs have been located at Naval bases—Naval Amphibious Base-Little Creek and Naval Air Station-North Island—where no SIMA tool facilities reside (FIGS. 1-3).

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*"I'm pressing for us to invest more in treating Sailors and Marines as valued professionals, with time to train, equipped with the tools and supplies to do their jobs in the most efficient way, in decent environments, with enough time to produce work that's worthy of pride – not just to be playing catch-up."*

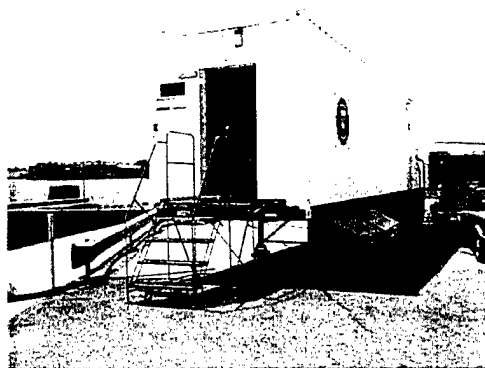
*"It pains me to visit a ship and see Sailors chipping and painting without enough scrapers and proper paint equipment."*

*"My aim is to shift several hundred million dollars into buying tools and equipment that will reduce the number of hours Sailors and Marines work."*

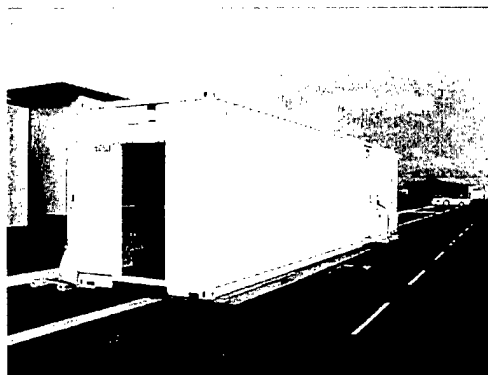
***The Honorable Richard Danzig  
Secretary of the Navy***



**Figure 1** Sailors lining up on the flight deck of the USS STENNIS to check out tools.



**Figure 2** The Tool Crib at Little Creek is poised at Pier 11 to support up to 7 ships ported at the Amphib Base.

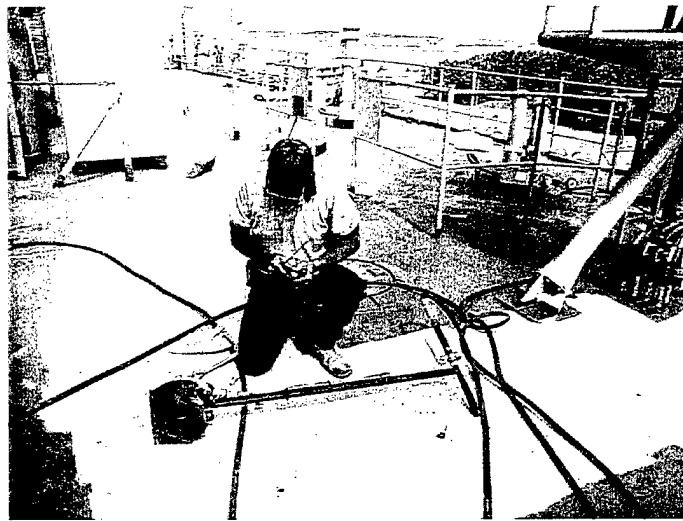


**Figure 3** The USS CONSTELLATION, NAS-North Island, is the first ship/platform to evaluate the concept.

The crib concept, funded by SECNAV's C.I. Labor program, is similar in scope to the SIMA tool efforts; the end result is to provide tools to the Fleet for ship maintenance. The approach

differs, in that the crib concept places access to the tools, as well as necessary consumables and accessories, on or close to the ships—minimizing travel time and increased accessibility by ships force.

The concept also adds a training/guidance aspect by providing trained personnel within the crib to assist ships force in tool selection and usage for the maintenance job-at-hand (FIGS. 4 & 5). Furthermore, with the crib residing on/near the ship, tools may be returned on a daily for necessary physical maintenance to keep the tools at top performance efficiency—this also increases tool life and decreases tool losses, thereby enhancing the investment by SECNAV to improve the sailor’s life.



**Figure 4 Onsite training & PMS is being provided by the Little Creek crib personnel to assist ships force on the USS GUNSTON HALL.**



**Figure 5 A formal training session were arranged for deck personnel on the USS TORTUGA to demonstrate the crib tools and preparation applications.**

### *“Express Tool Delivery” Concept*

To further assist the Fleet, NAVSEA 05M1 proposes an effort to work with the SIMAs at the Naval bases with tool facilities in the development of a tool delivery program. The objective would be to augment the SIMA system by adding the capability to deliver tools directly to the ships on a daily basis, further enhancing the high level of support currently provided by SIMA to the Fleet at locations such as Naval Base-Norfolk and Naval Base-San Diego.

The Concept, being proposed by NAVSEA, consists of linking the SIMA inventory to a web-based ordering process. A ship and/or individual departments would request tools via a “Virtual Tool Crib” through the web or via phone/fax service. These requests would be processed and pulled for delivery to the ship either the next day or on a predetermined date depending upon ship work scheduling and/or inventory availability.

### *“Virtual Tool Crib” Approach*

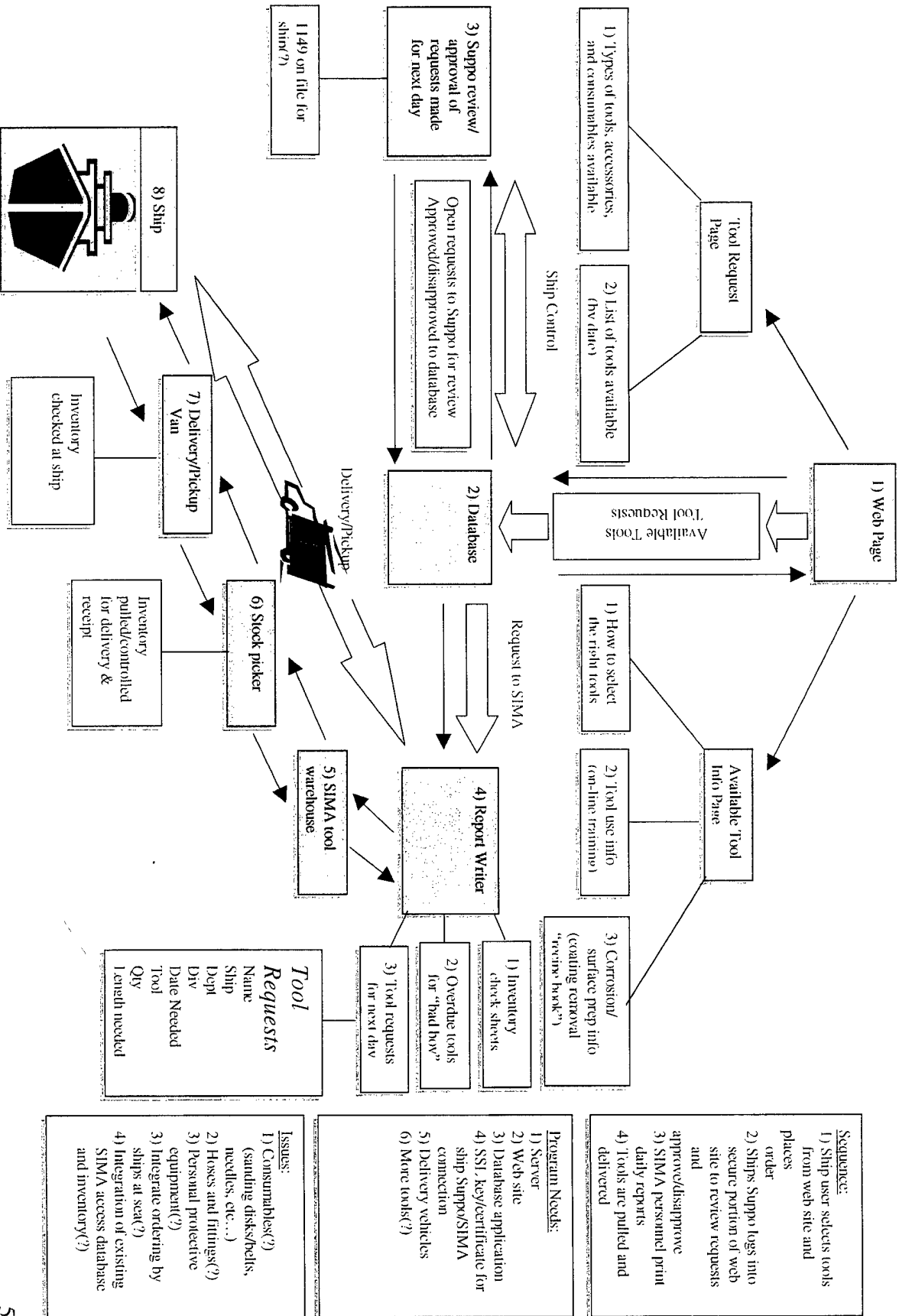
In support of the “Express Tool” concept, NAVSEA 05M1, under the Capital Investment for Labor – Hand Tool Initiative, will develop, in collaboration with SIMA, two methods of tool ordering. The first would be the typical phone/fax ordering service. Second, a web site for access by the ships to review, educate, and order tools will be available—the approach will allow Ships, with the capability, to better plan maintenance efforts and tool requirements by reviewing tool types within the system and the current availability & levels of these tools. Further, Ships heading to port will be able to start planning and scheduling work on the ship and the tools needed to effectively complete the work while at sea through the “Virtual Tool Crib.”

The web site will include information and descriptions specific recipe type flow process to determine the best tool to assist the Ships in the planning process. Information regarding surface preparation requirements will also be incorporated to obtain maximum coating life. Figure 6 schematically demonstrates the implementation of the “Express Tool Delivery” concept.

### *Training*

Based on our experiences from the deployed cribs, training is extremely important for proper surface preparation and coating life. NAVSEA 05M1 proposes to develop/include an on-site training capability. The approach is to provide tool training, including safety and maintenance, both at scheduled group sessions and impromptu ships force training while walking the ships during tool usage.

Figure 6 Using the "Virtual Tool Crib," ships will be able to better plan work efforts.



### Surface Prep Reference—the “Recipe Book”

To further enhance the knowledge base of ships force on proper surface preparation, NAVSEA is developing modules within the “Virtual Tool Crib” system to include:

- Training on tool operation, as well as safety requirements
- A “recipe book” on which tools, in which order, required for removal of the various coating systems within the Fleet
- Optical Standards for proper surface preparation.

The intent of these modules is to assist in the planning of work efforts onboard ship and, foremost, to provide a viable reference to ships force on the best approach to complete the efforts quickly and effectively.

The approach, planned by NAVSEA, for the “recipe book” would allow the ship to enter information regarding the coating system to be removed, the new system being applied, and the underlying material coated. From this information, an approach for surface preparation will be recommended to the ship for this work effort. Initially, the module should be used as a guide and not an absolute, therefore consideration must be given to other factors; such as the location of the area being prepared, surrounding compartments/areas (fuel tanks, etc.), the general environment within the work area, etc.

### Organizational Role

In the collaborative development, as well as initiation, with SIMA of the “Express Tool Delivery Service,” NAVSEA proposes the following organizational responsibilities and contributions:

NAVSEA:

- Development of the “Virtual Tool Crib” website, as well as the linking and/or development of the inventory database;
- Provision of necessary computer hardware for the operation of the website, as well as other administrative equipment (facsimile machines, photographic copier, etc.), if necessary;
- Operation & provision of delivery vehicles, as well as necessary shipment containers;
- Development of an inventory control system for tracking tools, as well as consumable usage, being delivered to & returned from the ship;
- Provision of personnel for operating “Express Tool Delivery Service;”
- Provision of tools to augment SIMA inventory, if required.

SIMA:

- Use of current tool inventory within the SIMA system to support the “Express Tool Delivery Service,” as well as the inventory database;

- Personnel to assist in the pulling inventory for ship delivery, as well as to assist in the PMS on tools upon return from the ships.

FLEET:

- Need for the tools;
- Use of the services, both delivery and training;
- Force to perform the necessary maintenance efforts.