

Experimental Diving Unit Report  
7-51

INVESTIGATION OF THE FEASIBILITY OF THE  
INSTALLATION AND REMOVAL OF THE CENTER  
CABLE IN THE 25 TON COLLAPSIBLE SALVAGE  
PONTON

PREPARED BY:  
T. N. BLOCKWICK  
LIEUTENANT, USN

18 APRIL 1951

AD 755-588

BUREAU OF SHIPS  
PROJECT NO. NS 185-005  
TEST NO. 2

APPROVED:

H. T. FULTON  
OFFICER IN CHARGE

REFER TO: NObs-53278(694D)  
Ser 694-82 of 5  
March 1951

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## OBJECT

The object of this test is to investigate the general feasibility of removing and installing the center cable on a 25 ton collapsible salvage pontoon.

## PROCEDURE

The pontoon to be tested was manufactured by the Goodyear Tire and Rubber Co., of Akron, Ohio under contract NObs 53278. It is of 25 ton capacity and is made of nylon rubber salvage bag fabric. This pontoon is a modification of a previous model that had a permanent 2" wire cable connecting the top and bottom concentration fitting so that three pontoons could be used in series. This would result in a total lift of 75 tons. However, when used singly or in a cluster at the same level, the heavy center cable made handling of the pontoon difficult. This modified model was made so that it could be used with or without the center cable.

The pontoon arrived without the center cable installed. The cable was installed in the following manner: The cables enclosing the bag were disconnected from the concentration fitting. The top plate was removed by unscrewing the six 5/8" nuts. This necessitated a man entering the inside of the bag. The bottom eye bolt was removed by unscrewing the 2 1/2" retaining nut. Following this the cable was led into the salvage bag by means of a light line. The top button socket that was connected to the cable was secured to the top concentration fitting by means of six 5/8" cap screws. The top eye bolt was then screwed into the button socket. This completed the top connection. The operation was then completed by screwing the original lower eye bolt into the lower button socket and reconnecting the enclosing cables to the concentration fittings.

The 2" center cable was removed in the following manner: The bottom and top enclosing cables were unshackled from the concentration fittings as necessary. The six 5/8" cap screws were unscrewed from the top button socket. The top eye bolt was then unscrewed from the button socket. The lower end of the cable was disconnected by merely unscrewing the bottom eye bolt from the lower button socket. The cable was then removed. The top plate was then put in place and drawn tight. The original eye bolt on the bottom was put in place and drawn tight. The original eye bolt on the bottom was put in place by replacing the bronze bushing and screwing on the 2 1/2" retaining nut. The enclosing cables were then replaced.

## RESULTS AND DISCUSSION

The installation of the center cable was performed in slightly less than two hours with three men being used. This time could be cut down 30 minutes or more if this operation were done frequently. In addition some of the rubber gaskets were glued to the bag erroneously. This also necessitated extra work.

The removal of the center cable required about one hour. Three men were also used in this operation. The removal was considerably easier than the installation because it involved less fitting together.

In both of these operations the mechanical components worked easily and fitted well. At first it was thought that it would be possible to work without removing some of the enclosing cables, but this proved erroneous. It was found that much work and effort was eliminated by the removal of nearly all of the enclosing cables in the installation of the center cable. In the removal of the cable only a few of the enclosing cables needed to be removed.

It is believed that the removal and installation of the center cable is entirely feasible. This would provide for greater flexibility in the use of these pontoons with a minimum of labor.

No tests were performed to determine the strength of any of the mechanical components and all conclusions are based from a procedural standpoint.

## CONCLUSIONS

The installation and removal of the center cable is practical in that it involves the use of three men for a period of two and one hours respectively.

## RECOMMENDATIONS

It is recommended that this type of removeable cable be adopted for use with the 25 ton salvage pontoon.

It is recommended that this pontoon be made available for field use or tests.



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