

INSTALLATION AND COMMISSIONING  
OF AN ELECTROHYDRAULIC  
SHIP STEERING GEAR

By

*Pittalis Nearchos (3M1)*

&

*Iordanou Christos (3M2)*

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## INTRODUCTION

For about 50 years after the introduction of steam propulsion, ships were still being steered by hand. As size and speed increased, the need for power steering led to various devices being tried such as auxiliary steering propellers, swivelling main propellers and jets of water. None of these were found to be practicable and better results were achieved with steam engines or hydraulic rams operating on a rudder. These early mechanisms were started and stopped by hand, the position of the control having no reference to the rudder position.

The problem became acute with the Great Eastern - then much the largest ship yet built - as it was found impossible to steer satisfactorily by hand power. In 1867 a steam steering gear fitted with a hunting gear designed by J. McFarlane Gray - a founder member of the Institute of Marine Engineers - was installed on the Great Eastern. For the first time this gave power steering which could be controlled by a steering wheel, operated in a similar manner to hand steering gear, but with no "kick back" on the handwheel.

The H.T.I. steering gear made by "Donkin" as efficiently operating for some 30 years as part of a small size cargo ship. This ship was considered scrapped in Limassol in 1978. The H.T.I. purchase the unit as scrap machinery.

During the detaching process the workers did not pay enough attention resulting in badly damaging of various parts especially the pistons.

Our work was to repair - maintain and commissioning of the unit within our final project in partial fulfilment of the requirements for the diploma of Technician Engineers, in Mechanical Engineering.

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