

U.S. NAVY :

ENGINEERING SPECIALISTS

General

There is no Engineering branch in the U.S. Navy as we understand the term. The Officers of the Navy are divided into :

- (a) Officers of the Line ;
- (b) Officers of the Staff.

Under (a) are included those officers who command ships and executive officers generally, and also those qualified to design, construct and repair, carry out engineering duties, torpedo duties, gunnery and signal duties, etc.

Under (b) are included the Supply Corps, Chaplain Corps, Medical Corps, Dental Corps and Civil Engineering Corps.

A U.S.N. Line Officer is, in theory, able to take over any job in the Fleet, and he will, in fact, serve both on the bridge and in the engine room in the course of his career. All regular line officers come from the same training establishment—the U.S. Naval Academy at Annapolis, and their training there is on the broadest basis, comprising engineering construction, gunnery and torpedo, as well as the basic duties of a seagoing executive officer. The need for greater specialisation among Line officers has not, however, been overlooked and the supply of technical specialists is provided for in two ways, firstly, by post graduate specialisation, and secondly, by assigning a limited number of Line officers to engineering duties only.

Post Graduate Specialisation

A number of officers in general service take two years post graduate specialist courses, but the successful completion of such a course does not mean that an officer will follow his speciality throughout the rest of his career.

These courses cover marine engineering, ship and hull construction, mechanical engineering, Diesel naval engineering (design), naval engineering (operating), electrical, radio, aeronautical and ordnance engineering. In respect of the last two subjects, the Bureau of Ordnance and the Bureau of Aeronautics have extensive specialist courses within their own organisation ; an officer specialising in ordnance for example can choose gun design, torpedoes, armour, explosives, etc., within that general field.

Strategy and tactics are studied at the Naval War College for officers of Lt. Commander and above. Junior officers may take correspondence courses in the same subjects.

Electrical engineering is stressed in the courses for all officers.

The system of limited specialisation is found to work well in practice mainly due to the fact that officers go to sea from Annapolis at a later age than ours do. They have been given a sound scientific education which enables them to assimilate more or less readily any job which they may have to undertake. It may be said that the system tends to produce "jacks of all trades and masters of none" and that the inclusion of technical duties during the service of all officers prevents a proper study of tactics and strategy. The advantages on the other hand are an absence of jealousy or lack of sympathy between officers doing particular jobs. Further, an interchange of duties tends to prevent stagnation and lack of interest, keeps officers on their toes, and promotes good team work. On the whole, as far as the U.S. Navy is concerned, the advantages probably outweigh

the disadvantages as it suits their national characteristics. It may be said that the average U.S. citizen is far more mechanically minded from his youth up than is an Englishman.

Officers for Engineering Duties Only (E.D.O.)

A limited number of Line officers are assigned to specialist training and unlike the post graduate specialists, are by law restricted to engineering duties only. Even these, however, perform "Line" duties on occasion and their earlier training as general Line officers is not forgotten.

"Engineering Duties Only" comprises a wide field, embracing construction engineering, ordnance, wireless, aeronautical engineering, meteorology, and cryptology. The E.D.O.s are in fact no more than Line officers with a speciality that they follow more or less continuously throughout their career. They do not form a separate staff corps and it has been made sufficiently clear that they remain Line officers. Until 1940, however, there was a separate Naval Construction Corps, but its members are now merged with the E.D.Os. into Line officers.

Those assigned to the "E.D.O." List are selected⁽¹⁾ after about three years at sea. They take courses of instruction generally at the Massachusetts Institute of Technology and it may be added that those selected are generally from the top of their class, although this is not a prerequisite. In addition to his basic training, an E.D.O. may of course take post graduate courses in his speciality later in his career.

There are at present a total of 117 engineers on the E.D.O. list, 200 ex-constructors, 4 nicknamed "congeiners" (officers who have completed a combined Naval Architecture and Engineering course) and also 12 officers who are finishing up such a course and who will be added to the E.D.O. list shortly. This makes a total of 333 officers in the engineering duties only category. This list and the field from which selections are made, are likely to be expanded in the near future and will undoubtedly include officers of the rank of Commander.

Engineer Specialist Appointments

It is very rare that even the Engineer Officer of a ship is an E.D.O. as they cannot be spared for this purpose. In any event, after reaching the rank of Commander, an E.D.O. will not go to sea except at his own request, and then only as a fleet or squadron engineer officer. Normally, the Engineer Officer of a ship is a general Line officer whose next appointment may well be a command or any other executive duty.

E.D.Os. then, are mostly assigned to shore appointments and they are eligible for any shore duty assignable to other Line officers of their rank. In theory therefore, an E.D.O. can become the Commandant of a Navy Yard (our Admiral Superintendent), but it is understood only Line officers have received such appointments to date. Other assignments open to E.D.Os. are such jobs as Industrial Manager (really the Head of the Dockyard), planning and production officers in the Navy Yards, or appointments to the technical bureaux in the Navy Department. To explain such appointments more fully, an outline of the Bureaux concerned may be in order.

The Bureau of Ships was formed in 1940 as an amalgamation of the former Bureau of Construction and Repair and the Bureau of Engineering. The Bureau of Ships deals with matters pertaining to development, design, repair, building and equipment of ships, and may be described as a combination of D.N.C., E. in C., D.E.E., D.S.D. and D. of D. at the Admiralty.

The other technical bureaux are the Bureau of Ordnance, the Bureau of Aeronautics and the Bureau of Yards and Docks (*).

The Bureau of Ordnance combines the duties of our D.N.O. and D.T.M., but turret and shell-room machinery, and design and supply of the revolving structure of a turret is dealt with by the Bureau of Ships. The title "Bureau of Aeronautics" is self explanatory and the Bureau deals with all aspects of Naval aviation.

In these departments, the key men are likely to be E.D.Os. and in the Bureau of Ships, the Chief of the Bureau, the Assistant Chief, the Head of the Maintenance Branch (corresponding to our D. of D.) the Heads of the Design Division, Shipbuilding Division, etc., are all E.D.Os. The key positions in the sections are filled by E.D.Os. but junior jobs in these departments, although of a quite specialised nature, are filled by general "Line" officers doing a routine turn of duty ashore and who are not specialists except in so far as they may have done a post graduate course. The turn over of such appointments is fairly rapid and serves to emphasise the point that officers are given the widest experience possible and that an assignment to the E.D.O. List is the only promise of a full time specialist career offered to U.S. Naval Officers.

(1) E.D.Os. are obtained by selection and there are invariably more volunteers than vacancies.

(2) Personnel for the Civil Engineering Corps are obtained both from graduates of the Naval Academy and from technical civilian universities. They are commissioned officers of the Navy restricted to duties involving maintenance of navy yards, docks, buildings, land transportation, etc. The Chief of this Corps is a Rear Admiral who is head of the Bureau of Yards and Docks. In each Navy Yard there are representatives of this Corps who function under the Industrial Manager.

Officers of the Staff instead of wearing a star above the stripes on their uniform have distinguishing insignia for the different Corps.

This article is an abstract of a report forwarded by an Engineer Officer on the Staff of B.A.D., Washington.
