

The Engineering Division of the Fleet School at Naden is located at the head of Esquimalt Harbour, not far from Yarrows' shipyard. (E-60695)

# APPRENTICE PLAN

**T**HE NEED for qualified and competent tradesmen in the Royal Canadian Navy is a continuing one. The Technical Apprentice Training Plan is intended to help supply these badly needed men. Basically, the training function is two-fold; to train competent tradesmen and at the same time competent leaders.

The Technical Apprentices (APs) are accommodated in Nelles Block, HMCS *Naden*, the RCN's training establishment at Esquimalt. Instruction takes place in the Technical Apprentice Section of the Engineering Division, Fleet School. Other divisions of the *Naden* Fleet School give instructions in other aspects of training as required.

In April 1951 the Naval Board discussed the increasing difficulty of obtaining technical personnel for the service. It was decided to train tradesmen within the RCN and approval was given to establish an RCN trades school to be called the naval trades training

centre with an Apprenticeship Training Scheme. This scheme would provide apprentices with the trade qualifications normally obtained by the apprentice-trained civilian tradesman.

As part of long-term planning, a permanent establishment was to be located ashore. In the meantime, the

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former *Flamborough Head*, a 10,000-ton maintenance ship, was commissioned as HMCS *Cape Breton* and secured at HMC Dockyard, Halifax, to provide the apprentices with living, workshop and classroom accommodation.

An entry of 100 apprentices was proposed for the first year with a similar number planned for the following year. After new entry training at

HMCS *Cornwallis*, the men were to go to the training centre for two years to acquire basic trade skills. They were then to be selected for the branches for which they were needed or for which they showed aptitude. During the following two years, they would be given branch training in branch schools, at sea and in the Naval Trades Training Centre.

By May 1952 a concentrated recruiting program had been launched for boys between the ages of 16 and 19 years who had completed Grade X. Candidates underwent the normal recruiting process and the candidate was required to write a composite examination paper covering English, mathematics and general science (Grade X level). In addition, a mechanical aptitude test was administered. The selected eligible candidates were interviewed by a selection board under the chairmanship of an officer from the apprentice training staff.

In the fall of 1952 a directive was sent out of the Fleet indicating there was limited space in the scheme for men of any branch who could meet the requirements, providing he was prepared to transfer to the Apprentice Branch.

The length of the initial engagement for apprentices was to be seven years. Graduates were to be qualified to the trade group 3 level and to hold the rank of petty officer second class.

The first entry of 66 ordinary seamen apprentices (OSAPs) commenced training in the *Cape Breton* on February 2, 1953. This initial group was composed of five trades, engineering, shipwright, air, ordnance and electrical. The original figure of 100 entries a year had been reduced because of a combination of limited facilities available and a lack of response by qualified candidates to the recruiting drive. And so the plan progressed; 50 men entered the scheme in 1954 and 1955 as one single entry annually.

By the middle of 1955, it was seen that an annual entry of 50 apprentices would at times saturate the training spaces completely while at other times no difficulty would be encountered.

It was decided that a twice-a-year intake of not more than 30 would meet this condition and this plan was carried out in 1956 and 1957.

Long before the new Combined Technical Training Establishment—later called the Naval Technical School, and now the Engineering Division of the Fleet School—was completed at Esquimalt, plans had been made to transfer training ashore from the *Cape Breton*.

The apprentices were to have separate machine and fitting shops of their own, though it was planned to conduct training in allied trades (welding, etc.) in the CTTE shops. In addition, the trainees were to undergo branch specialist training in the respective specialist training facilities located in the CTTE, viz, engineering shipwright and ordnance. During such training, the apprentices were under the direct administration of the Staff Officer Apprentice Training Division. The electrical and air apprentices were to continue to receive branch specialist training in their respective schools on the East Coast but they also were to be administered by the same officer in *Naden*.

Arrangements were made for administration to come under the control of the Commodore, RCN Barracks, Esquimalt.

The new facilities at *Naden* were opened in 1958 and the first term for

apprentices in the new buildings commenced in July of that year.

By 1958 it had been decided that trades other than engineering and shipwright would not continue in the TATP (the last of the other trades joined in January, 1959, and graduating in April, 1962). Commencing with the latter half of 1958 and carrying on through 1960, the enrolment figures were increased. In 1960, the trade structure was reviewed and altered somewhat and it was decided to revert once more to single annual entries and to stabilize the numbers at 34. Also, future entries were to graduate as leading seamen rather than petty officers second class. Thus it remained until the summer of 1963.



In the Fleet School's boat shop. (E-66965)

In the fall of 1962, the syllabi for engineering and hull apprentices were revised and lesson outlines published. (The syllabi will be dealt with in a later section.)

The last entry to graduate as petty officers second class completed its training in April 1963.

The summer of 1963 saw several changes of policy concerning the TATP. The Apprentice Training Plan Review Committee met in April and as a result of these meetings, recommended in part the following:

- the Apprentice Training Plan be expanded to the maximum capacity of the Technical Apprentice Section, Engineering Division, Fleet School, HMCS *Naden* to assist in overcoming the shortage of ER and HT tradesmen;
- the annual input to apprentice training for ERs be increased to 83;

- the annual input to apprentice training for HTs be increased to 17;

- a bi-annual entry into the Technical Apprentice Section, Engineering Division, HMCS *Naden*, be instituted commencing in July, 1963, with a Fleet entry of 50, and in January, 1964, a civilian entry of 60. These intake figures should be subject to annual review;

- the apprentice entry from the Fleet be increased to 50 a year commencing July, 1963; the upper age limit raised to 21 years; and the existing marriage regulations remain unchanged.

These recommendations have been approved by the Naval Board and are in the process of being implemented.

To prevent too great a shortage of highly trained technicians, the RCN embarked upon the expanded apprentice program to supplement the output of technicians from the trade course in the two Fleet Schools. This is a convenient point at which the present TATP program may be reviewed.

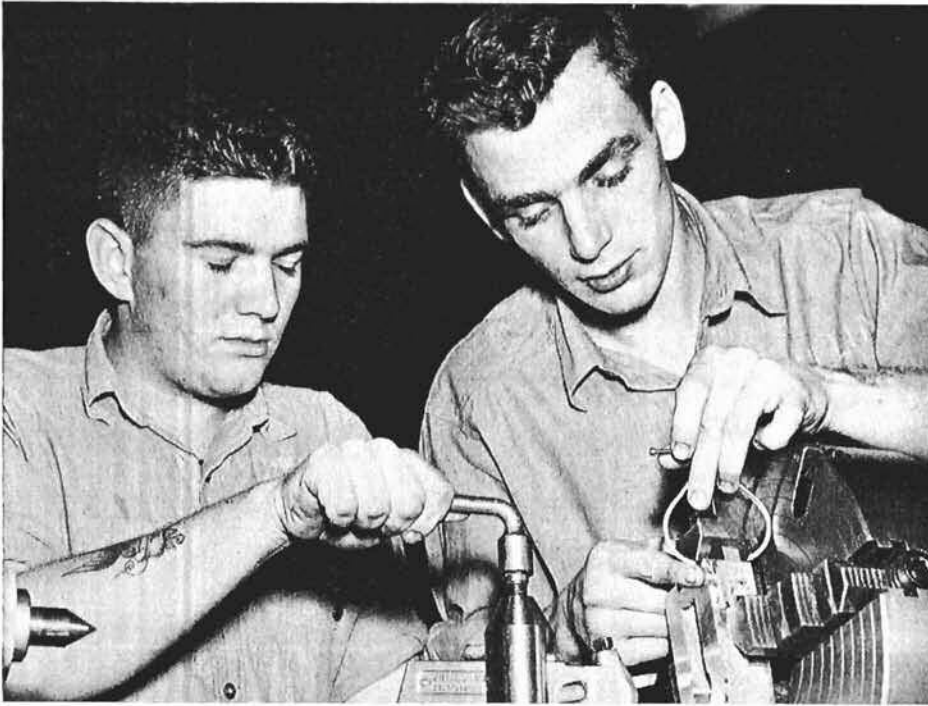
The present requirements can be broken down most conveniently in terms of the two branches currently associated with the TATP.

The engineering technician (ER) must attain a trade standard as a machinist, since he is the major source for the trade requirements of "machinist sub-specialty". Previously, this level of skill was recruited as a direct entry petty officer on successful completion of a trade test. The Navy's new trade structure established in 1960 does not allow for the purely trade specialist, as all trades must now carry the military responsibilities of their rank. In addition, civilian-trained machinists are in short supply and are highly paid. Consequently the service could not attract any appreciable number.

There is insufficient training time or opportunity to produce highly skilled tradesmen from Fleet School trade group courses. It is possible for trade course men with outstanding aptitude to achieve this standard and these were candidates for the machinist sub-specialist courses which commenced in September 1963. Others not so well suited to machinist training all obtain sufficient shop experience to understand the principles of shopwork and repair operations and are thus fully capable of supervising these functions.

Thus there are two sources of the "machinist sub-specialty" and adequate numbers should be available as a result.

The *Hull Technician* (HT) must attain an acceptable standard in carpentry, platework, welding, sheet metal,



A high degree of precision is demanded of technical apprentices under training at the Fleet School in Naden. Two of them are shown at work on a project demanding delicate caliper measurements. (E-59018)

plumbing, blacksmithing, plastic repair, boat-building and painting. These trades were formerly recruited individually as direct-entry petty officers after successfully completing a trade test. The new trade structure and a requirement for efficient employment of manpower, does not allow for such a degree of specialization—obviously a destroyer escort could not carry a petty officer specialist for each of the trades mentioned above. No civilian trade incorporates such a diversity of skills and hull technicians must be trained within the service.

There is also an avenue for advancement of hull mechanics to hull technicians by means of Fleet School trade group courses. This complements the output of HTs from the TATP.

Recruiting methods have not altered appreciably since the first entry was recruited in 1952. A standard questionnaire for screening applicants has been developed by the Apprentice Training Section which consists of a fixed series of questions in each evaluation area, for example:

- Service motivation;
- Apprentice training motivation;
- Leadership potential;
- Appearance and bearing;
- Emotional stability;
- Social relations.

When used in conjunction with test scores, fairly accurate and consistent assessments of the candidates can be made.

Recruiting may be dealt with in two sections, Shore and Fleet entries.

*Shore entries* are processed at the end of a school year and the candidates passing preliminary screenings at the recruiting centres may be selected by Naval Headquarters to appear before the Apprentice Selection Board in July of each year. Those recommended by the board and approved by Naval Headquarters are enrolled as APs and sent to *Cornwallis* for new entry training. They commence apprentice training at *Naden* the following January.

The requirements for shore entries are as described earlier in this article.

*Fleet entries* are obtained from the Fleet and eligible candidates appear before selection boards held in *Stadacona* and *Naden* each summer. These

### A Parting Gift

In a heart-warming gesture former crew members of the decommissioned fleet maintenance vessel HMCS *Cape Breton* distributed some \$2,400 of the ship's fund to half-a-dozen Greater Victoria charitable organizations.

The generosity of the ship's company in donating this money—all of which came out of its personal pocket—to local charities demonstrates the close links which have so happily been forged in Victoria between its residents and the personnel of the Royal Canadian Navy.

The community-at-large will long remember with gratitude the old *Cape Breton's* parting gift.—*The Daily Colonist*, Victoria.

men join the Apprentice Section, *Naden*, in July to commence training. Briefly, the requirements are as follows:

- (a) at least minimum scores in all tests taken by shore entries;
- (b) grade X education;
- (c) be less than 22 years of age;
- (d) agree not to marry until successful completion of the second year of training.

A six-month probationary term is spent at *Naden* and on successful completion of Term I, Fleet entries are re-classified APs and re-engaged for a total of 7 years from entry into the TATP. Future advancements and promotions will be subject to successful completion of training phases.

The course duration is 39 months, made up of six equal terms of 22 weeks and one final one of 15 weeks. The balance of the time is devoted to leave periods. Apprentices are allowed four weeks' leave plus travelling time in the summer and two weeks' special leave at Christmas.

The two main phases of the training may be broken down as follows:

1. common training—Term I—is common to all Apprentices;
2. specialist training—Terms II to VII inclusive—provide specialist training for Engineering and Hull Technicians:

#### ER Syllabus

Topic	Duration (Periods)	% Total time
1. Fitting and Machine Shop.....	2134	41
2. Allied Trades (Welding, etc.).....	252	5
3. Engineering, including		
(a) Theory of equipment		
(b) Bailey Meter controls		
(c) Refrigeration, etc.....	1023	20
4. Academics.....	450	9
5. Miscellaneous, including		
(a) Physical training		
(b) Rank training		
(c) NBCD		
(d) Padre etc.....	530	10
6. Practical Engineering (at sea)....	74	15
Total.....	5136	100

#### HT Syllabus

1. Fitting Shop (Term I).....	512	10
2. Hull Shops, including		
(a) Ship's Carpentry		
(b) Welding		
(c) Sheet Metal		
(d) Plumbing, etc.....	2148	42
3. Hull Theory, including		
(a) Draughting		
(b) Ship Construction		
(c) Administration		
(d) Docking		
(e) Cathodic Protection.....	775	16
4. Academics.....	360	5
5. Miscellaneous, including		
(a) Physical training.		
(b) Rank training		
(c) NBCD		
(d) Padre etc.....	596	12
6. Practical Engineering (at sea)....	744	15
Total.....	5106	100

Term V in its entirety is spent in a sea-going ship of the Esquimalt-based Second Canadian Escort Squadron to provide operating and minor maintenance experience.

During this term, the technical apprentice receives the training necessary to qualify for the Auxilliary Machinery Operator's Certificate.

The table below indicates the steps by which a man progresses from OSAPs and LSER3 to LSHT3.

	Promotion	Advancement
Entering <i>Naden</i> (Apprentice Section).....	OS	APS (ATS)
successful completion of Term I.....	OS	transfer to AP from other branch
Term II.....	AB	AP1
successful completion of Term LV.....	AB	AP2
Term V.....	LS	AP2
successful completion of Term VII.....	LS	TG3

Promotions also depend upon time in rank and exemplary conduct but the table above shows when the man will be qualified professionally.

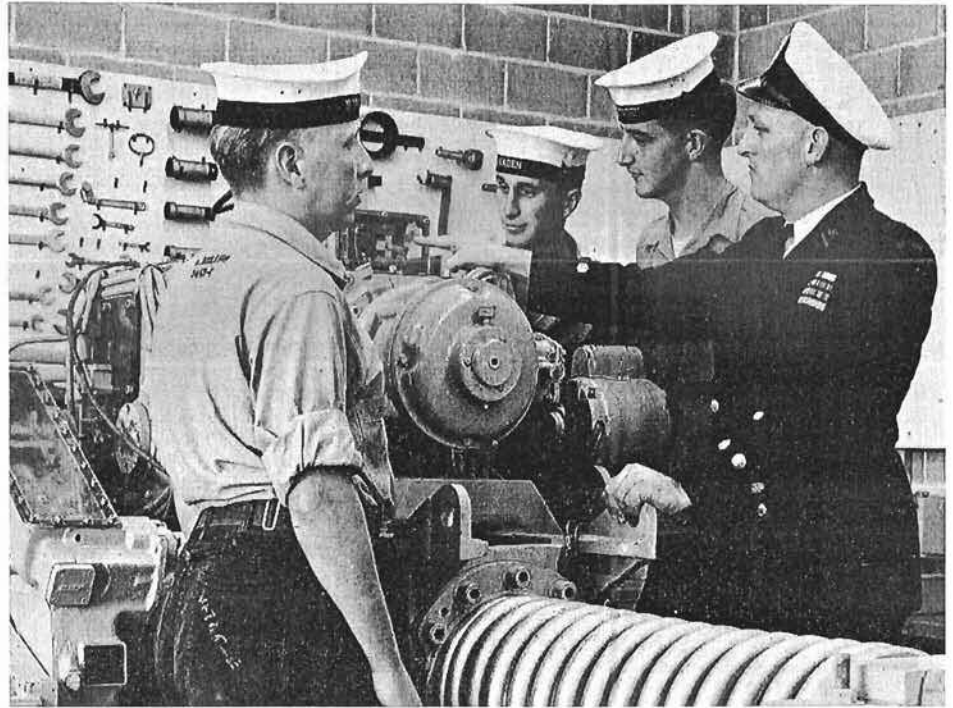
After graduation, the ex-apprentice is transferred to his appropriate branch.

While the object of apprentice training is to provide the Fleet with fully trained tradesmen competent in the technical knowledge of their branch, it is also the object to be certain these men are well grounded in the elements of leadership. The majority of the 39-month period of training is devoted to trade training which leaves little time for leadership training.

In the *Cape Breton* the leadership was encouraged by giving the apprentice progressive responsibility until, in his senior term, he is taking charge of a duty watch.

After the transfer to *Naden*, the degree of responsibility that could be assumed by the senior apprentice was limited and the graduated apprentice lacked the opportunity to be as fully effective as a petty officer. To compensate at least partially for this, lectures on leadership and other rank requirements have been incorporated into the syllabi. It is considered that acceptable requirements for rank are being met in the 39-month course.

Of the 639 young men who have commenced training since 1953, 361 have graduated or are still under training.



Three engineering apprentices lend attention to their chief petty officer instructor's explanation of some complicated naval machinery. (E-46942)

The 278 who have left the scheme have done so either by their own request or because they have failed to reach the required standard. The 278 wastage represents an overall wastage of 43.5 per cent. A wastage figure for entries still under training may only be estimated, but the figure usually quoted is 42 per cent.

It is anticipated that the percentage wastage figure will become less as a direct result of the introduction of improved methods of selection mentioned earlier. Early results from the January, 1963, entry bear this out.

In summary, the requirement for skilled Engineering and Hull Technicians can in part be met by the TATP. The object of the plan may be summarized as follows:

- to produce Engineering Technicians, trade group 3, with a machinist sub-specialty;
- to produce qualified Hull Technicians, trade group 3;
- to produce competent leaders;
- to provide eligible civilians and the more ambitious men of the Fleet with the opportunity to obtain a fine trade training with the

probability of accelerated advancement and promotion to the advantage of both themselves and the service.

Obviously, to achieve the aims and produce up to 83 engineering and 17 hull technicians needed annually requires an adequate response to recruiting. This is where the officers and more senior men in the RCN can help by making certain the younger men are aware of the opportunities offered by the TATP. It should be emphasized that the fleet transferees may come from any branch provided they meet the basic requirements, pass the tests and successfully complete the probationary first term in *Naden*.

The 39-month apprentice course is one which requires much in the way of effort from those under training. Because the course is so intensive, it is, in a sense, an endurance test—well within the capabilities of a person willing to work hard. Any man showing interest in advancing himself professionally by becoming an apprentice, will find a reward for his efforts in the form of accelerated advancements and promotions.

