

SPARE GEAR

A SOLUTION TO THE SHIP PROBLEM

BY

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This article is intended for those who, after reading the article on Spare Gear in the last *Journal*, consider that the ship problem was posed but the solution not sufficiently propounded. It explains, in some detail, a few of the ideas used for the setting-up of the *Yarmouth* Accounting System, applicable to ships which have not been supplied with rationalized outfits of on-board spares, spares allowance lists and ledgers, or hold their own spares outfits rationalized and re-stowed.

List of Parts Identification Lists

As explained in the previous article, the Parts Identification Lists form the cornerstone of the system. Therefore it is most important that a complete list of applicable PILs is made for the ship, or department within a ship, to be covered. Unfortunately there is no such list or index available on a class or ship basis inside or outside the Ministry of Defence. The Index of Parts Identification Lists, Adrefno 001-970999, is an index of PILs, by groups of equipments, giving the class or ship applicability. Thus an index of PILs for a particular ship has to be compiled by extracting from the Index those PILs which are applicable. However, be warned, the Index of Parts Identification Lists is not completely accurate. This is because full and accurate Ship Equipment Lists are not yet available for all ships. Also it will be found that some of the PILs in the Index have already been superseded and will have a different Adrefno and alphabetical number. Others will not be recorded as applicable to ships which will be found to be fitted with the equipment. Further information can be gleaned if the ship has been issued with an Equipment List. Finally D.G. Ships Spare Gear Group can assist by confirming that the list of PILs prepared does in fact cover the latest editions of the PILs for the equipment in the ship. When a final list has been drawn up for a particular ship a demand should be raised on SPDC(UK) for those PILs not already held on board.

Indexing of Parts Identification Lists

The essence of a Ship's index of PILs is to provide rapid acquisition of any PIL by any rating. The bases can be:

- (a) By maintenance schedule order of equipments
- (b) By alphabetical order of equipments
- (c) By D787J order of equipments
- (d) By Adrefno order of PILs
- (e) By alphabetical order of PILs.

The overriding requirements is a system which does not require the use of further arbitrary figures or letters to be written on the PILs and that PILs for new equipments not in the D787J may readily be inserted. As each PIL has both an Adrefno and an alphabetical number printed on the cover it is convenient to use either of these. The Adrefno of a PIL is a nine-figure number while the alphabetical number is much shorter and thus easier to remember.

It is therefore suggested that the index of the PILs on board should be in alphabetical-number order and that the PILs are stowed likewise.

To cater for those equipments with more than one relevant PIL it may be necessary to compile a subsidiary index based on the equipment's maintenance schedule number. This will depend very much on the range of equipments in individual ships.

PREPARING A SET OF S.151b PAGES

For Equipments with a PIL

A set of S. 151b pages for any equipment with a PIL consists of pages typed or written, one for each item of spare gear, from all the PILs applicable to that equipment, and stowed in Adrefno order (JNE Vol. 16, No. 2, p. 323 refers). To prepare a set of pages the following action is necessary:

- (a) *Cross-reference from D.787J page and line to PIL page and line*—This is generally easily done by comparison with the maker's part number. However, it sometimes proves more difficult and sound technical common sense is required. When the appropriate line in the PIL is located mark the D.787J page, line and allowance alongside in pencil. At the same time record the Adrefno in column 1 of the D.787J or some other suitable column.
- (b) *Checking the PIL*—At this stage it is advisable for an officer or senior rating to carry out the following checks:
 - (i) To ensure that all likely items of spare gear have been included. If such items as springs, ball or roller bearings have been missed, or if it is thought prudent to carry any additional items, the quantity should be inserted alongside the item in the PIL.
 - (ii) To ensure that Adrefnos are available throughout the PIL. If Admiralty Catalogue Numbers (Adcatnos) have been listed it is advisable to enquire from SPDC(UK) for the correct Adrefno. This is explained later.
- (c) *Typing S.151b pages from PIL page and line*—S.151b pages are preferably typed, as shown in FIG. 1, using the information available in the PIL. This should require no more skill than the ability to type accurately. If they are written then neatness is important. It can be seen that suitable rubber stamps will ease the task. However, it has been found that exceptions have to be made to the general layout to make the system easier to compile and simpler to manage, e.g.,
 - (i) Naval stores and Class Group 5,000- items by their very nature are common stock items and appear in many places in the D.787J and in the full range of PILs. The S.151b pages for these items should not bear any reference to the D.787J or the PIL page and line.
 - (ii) The allowance or minimum stock of any item should be reduced to that necessary to carry out maintenance routines on all equipments fitted with the item and/or to refit the equipment which requires the greatest number of the item. The formula used for this reduction (normally referred to as 'rationalization') is:

$$\frac{\left(\text{The total population of the item throughout the ship} \right) + \left(\text{The greatest number fitted in any one equipment} \right)}{2}$$

D.787. Page: 326 Line: 14 P.I.L. Line: 41		MINIMUM STOCK 2	Notes	PATTERN		DESCRIPTION				Denom.	TOTAL	PRICE (FOR NON-SERVICE PROVISIONS ONLY)
				929-393924		BEARING RINGS: 1st stage, standard						
				EXEC.	ENG.	ELECT.	GUN.	T.A.S.	S.S.	TOTAL	EMERG.	
STORE ROOM 4C	RACK No.	BOX No. 19		CE54								
DATE	VOUCHER NUMBER	RECEIVED	ISSUED	REMAINS	STOCK-TAKING & DUES RECORD	DATE	VOUCHER NUMBER	RECEIVED	ISSUED	REMAINS	STOCK-TAKING & DUES RECORD	
—	—		BT. FORWARD		—	—	—		BT. FORWARD		—	
PROVING COLUMN:—				CARRIED FORWARD	—	PROVING COLUMN:—				CARRIED FORWARD	—	

FIG. 1

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Notes			PATTERN		DESCRIPTION				Denom.	TOTAL	PRICE (FOR NON-SERVICE PROVISIONS ONLY)
D.787. Page: 326 Line: 14 P.I.L. Line:			MINIMUM STOCK		BEARING RINGS: 1st stage, standard 163854/779/C						
			2		EXEC.	ENG.	ELECT.	GUN.	T.A.S.	S.S.	
STORE ROOM	RACK No.	BOX No.	MAIN EXTRACTION PUMP (MAINTENANCE SCHEDULE No.)								
5NA2	AI										
DATE	VOUCHER NUMBER	RECEIVED	ISSUED	REMAINS	STOCK-TAKING & DUES RECORD	DATE	VOUCHER NUMBER	RECEIVED	ISSUED	REMAINS	STOCK-TAKING & DUES RECORD
—	—		BT. FORWARD		—	—	—		BT. FORWARD		—
PROVING COLUMN:—				CARRIED FORWARD	—	PROVING COLUMN:—				CARRIED FORWARD	—

FIG. 2

- (d) *Placing the S.151b pages in order*—It is advisable to shuffle the pages into D.787J page and line order for no other reason than to ensure that every item has been correctly transcribed from the D.787J.

For Equipments Without a PIL

A set of S.151b pages for any equipment for which no PIL has been published must be prepared direct from the D.787J and stowed in D.787J page and line order (JNE Vol. 16, No. 2, p. 322 refers). The pages are typed as shown in FIG. 2.

MUSTERING STOCK HELD

For Equipments With a PIL

This is the first time there is any necessity to handle the spare gear held on board. Its stowage is generally obtained from the D.787J column. This stowage will be for all the items of spare gear for the equipment for which there may be several applicable PILs. S.151b pages should have been raised as above. The principle of this muster is as follows:

- (a) To ensure that each item found is identified with its appropriate S.151b page
- (b) To label each item with the correct Adrefno as indicated on the S.151b page
- (c) To restow the items so that all similar Adref Class numbers (i.e., Makers') are together. The reason for this is obvious when normal mustering is undertaken
- (d) To raise necessary S.151b pages for items found over and above that allowed by D.787J
- (e) To demand items to bring up to minimum allowance (JNE Vol. 16, No. 2, p. 325).

The above are all self-explanatory except for the stowing according to Adref Class number. This relies on the ability to assess the eventual volume that will be required by each Adref Class. This can be estimated if the maker's range of spares is taken into account. For example, Weir's (929-) range is generally vast while both G. Angus (151-) and Super Oil Seals (833-) have limited application and their products are of a small nature. Therefore 929- items are given a large box or cabinet stowage while 151- and 833- will each be stowed in a box no larger than a shoe box. A number of these small boxes may then be stowed in a larger cabinet containing adjacent Adref Class numbers. Once again there are exceptions to cover the common stock items.

Naval stores and 5000- items are treated by sub-dividing into groups of naval stores (those below 0300/ and those above 0300/) and Class Groups 5000, such as 5305-, 5310-, 5315- and 5330-.

Stowages are indicated—in pencil—on the S.151b pages.

For Equipments Without a PIL

It will be found essential either to record the full description of the equipment by name on each and every item of spare gear as well as the S.151b pages or to use the Maintenance Schedule number as shown in FIG. 2. The maintenance schedule number must then be written on each item of spare gear so that the appropriate group of S.151b pages may be located during normal mustering. In all other respects the procedure is the same as above.

Building Up the S.151b Ledger System

As soon as the stock has been mustered and outstanding items demanded

H.M.S.

Date.....

IDENTIFICATION OF SPARE GEAR

Appropriate PIL.....

It is requested that further information may be given to identify the following:—

<i>Maker's Part No.* Adrefno*</i>	<i>Description</i>	<i>Equivalent Adrefno</i>	<i>PIL with page and line</i>

*Delete as necessary

Sgd.

Marine Engineer Officer.

Distribution:

- 1. SPDC(UK) copy
- 2. H.M.S..... copy (to be returned)
- 3. File

FIG. 3

there is no requirement to hold the sets of S.151b pages by equipments. The pages are then placed in Adrefno order or maintenance schedule number order and inserted in binders (S.1066). Once this has been done the accounting system is ready to be used for those equipments which have been cross-referenced regardless of those yet to be done.

HOW TO RAISE A QUERY WITH SPDC(UK)

The Reasons for Raising a Query

The following are the normal reasons for raising a query sheet. (See FIG. 3.)

- (a) Supersession of Adcatno by Adrefno
- (b) Supersession of Adrefno
- (c) Allocation of Adrefno to maker's part number.

Supersession of Adcatno by Adrefno

Many PILs were published before the change of the system of identification from the Admiralty Catalogue Number to the Admiralty Reference Number. Generally this involves a substitution of a maker's class number for the two-letter reference; e.g., ED 393468 would become 929-393468. However, the letters ED are not always 929- but refer to the main contractor for each equipment. It is therefore prudent to obtain the correct Adrefno from SPDC(UK).

Supersession of Adrefno

When mustering, an item of spare gear may be found with an Adrefno which cannot be found in the applicable PIL. Probably this item will have been supplied recently and bears an Adrefno which has superseded an Adrefno in the PIL. SPDC(UK) are able to supply all equivalent Adrefnos for any one Adrefno. When the superseded Adrefno is obtained from SPDC, two S.151b pages should be raised for reasons given in JNE Vol. 16, No. 2, p. 322.

Allocation of Adrefno to Maker's Part Number

There are many equipments which have not been given the PIL treatment but Adrefnos have been allocated to spares which are issued through SPDC. If an Adrefno is found on an item of spare gear for one of these equipments it must be written in the D.787J, column 1, and the S.151b page inserted in the Adrefno section of the ledger.

The Query Sheet

The query sheet, shown in FIG. 3, is easily prepared on board. It is important to maintain flexibility of use to cater for the various types of queries. It is raised in triplicate, copies 1 and 2 being sent to SPDC(UK) and copy 3 retained as a record. Copy 1 is noted with the answers and returned by the SPDC. This then replaces copy 3 in the file after the appropriate action has been taken.
