

SHIP DEPARTMENT TECHNICAL PUBLICATIONS— NEW LOOK

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Introduction

Starting with the documentation for H.M.S. *Amazon* and *Sheffield*, all publications sponsored by the Ship Department will conform to the standards formulated by the Joint Services Technical Publications Policy Committee. Broadly, these standards lay down physical sizes of paper and binders, etc., and require that each system and equipment publication shall be arranged to present the information in the following eight categories:—

1. Purpose and Planning Information —(What it is for)
2. Operator Information —(How to use it and operator's simple maintenance)
3. Technical Description —(What it is like and how it works)
4. Initial installation and preparation —(How to fit it and how to treat it) for special environments

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| 5. Upkeep Information | —(How to look after it, mend it and check it) |
| 6. Maintenance Schedules | —(Who does what to it and when) |
| 7. Parts Catalogues | —(What spares you can get) |
| 8. Modification Instructions | —(Everybody's afterthoughts). |

Not all publications will need to have all categories of information. Each category can be issued separately should selective distribution be necessary. The publications will be issued without binders; these will be supplied separately as required from OS(NPS). This will enable users to arrange the publications within binders and divider cards to suit their own arrangements. (DCI 237/70 refers).

Upkeep Information

Category 5 will comprise comprehensive documentation covering all aspects of upkeep in accordance with the declared upkeep policy. The upkeep policy is determined at the design stage and defines the anticipated method of repair or overhaul of an item of equipment or an assembly, sub-assembly, or component part of the equipment. The upkeep policy may vary according to its application and/or its ships fitting. This information will be divided into four levels:

Level 1—Ships Staff

Level 2—Ships Staff with Base Maintenance Unit assistance

Level 3—Dockyard or Contractor

Level 4—Specialized Dockyard or Contractor, or the Manufacturer.

Levels 1 and 2 information will be produced as Job Information Cards (JICs), one card detailing how to carry out each task listed in Category 6—Maintenance Schedules, which form part of the E2 Planned Maintenance System. As the amount of upkeep work carried out by ships staff and its periodicity will vary according to complement, spares carried and local conditions, JICs and maintenance schedules may vary between classes of ships.

With the exception of fault finding within operators' capability which will be included in Category 2, all fault finding information including circuit diagrams, etc., with relevant test data will be included in Category 5. Information required with respect to preparation for and removal of equipment will also be in Category 5. The removal procedures and routes for all major repair-by-replacement equipments will be included in a separate publication.

If the Level 4 contractor is the equipment manufacturer, the information required for complete overhaul will not be included in the publication.

Parts Catalogues

It is intended that the Illustrated Parts Catalogue (IPC) will form part of the equipment publication structure and will bear the same BR number with a suffix, but at the moment this is not possible and Category 7 of the publication will cross-refer to the relevant IPC number.

Equipment Publications

With the introduction of standard machinery equipments (SYMES), equipment publications will be written for standard equipments as has been the custom for electrical/electronic equipments. The ship application will if necessary be given in a system book. A typical example of old and new methods is given below.

Old

- 1 HP Air System Handbook
 2 HP air compressor equipment handbook (contains information on starter motor, Protection devices, etc.)

Both publications are special to ship (or class).

Maintenance Schedules and Parts Catalogues (PILs) produced and published separately.

New

- 1 HP air system publication on H.M.S.
 2 Compressor publication
 3 Motor information (as-fitted drawing)
 4 Starter publication
 5 Controls publication
 6 Protection equipment publication.

Only publication 1 is special to the ship. Publications 2, 3, 4, 5 and 6 can be used if necessary in other applications of the assembly/equipment concerned.

Publication 1 contains all the linking information, e.g., the operating instructions.

Each publication contains all the appropriate categories.

Generic Publication Series

A series of generic BRs is being introduced. A BR number will be allocated which will identify the main subject; suffixes to the basic number will be used to identify the breakdown of information under the main subject heading. A typical example for an electrical subject is given below.

BR 6500 MAIN AC POWER SUPPLY SYSTEMS AND EQUIPMENTS

<i>BR No.</i>	<i>Title of System or Equipment Package</i>	<i>Remarks</i>
BR 6500	MAIN AC POWER SUPPLY SYSTEMS AND EQUIPMENTS (General Information)	This publication will primarily be a comprehensive index carried by all ships. It will identify system and equipment books associated with both Types and Classes of ships with respect to Main AC Power Supplies.
BR 6500 (100) Series	MAIN SUPPLY SYSTEMS	Each ship will have its own main supply system handbook which will be written specifically for the ship. It will exceptionally include minor equipments which are not covered in separate equipment packages/handbooks.
BR 6500 (101)	Main Supply System Type 21-01	
BR 6500 (102)	Main Supply System Type 42-01	
BR 6500 (200) Series	MAIN GENERATORS	

<i>BR No.</i>	<i>Title of System or Equipment Package</i>	<i>Remarks</i>
BR 6500 (201)	General Information	This publication will eventually include the information which is at present written in BR 4538 Pt 1. Setting up of the generator with respect to the AVR will be covered in the Main Supply System Handbook.
BR 6500 (202)	75 kW Generator	
BR 6500 (203)	1 mW Generator	
BR 6500 (204)	2½ kW Emergency Generator	
BR 6500 (300) Series	MAIN GENERATOR PROTECTION EQUIPMENT	The Mk 100 AVR (BR 4576) complete with the Mk 20 VP, Mk 21 OVPU, and the Mk 1 RFD will not form part of the BR 6500 generic. The Generator Shut Down Panels will be covered in a separate generic handbook dealing with Teddington Control Equipments
BR 6500 (301)	Reverse Power Relay	
BR 6500 (400) Series	CHANGEOVER SWITCHES	} These handbooks will include protective devices normally fitted within the circuit breakers
BR 6500 (401)	Logic Sensing 300A	
BR 6500 (402)	Watford 50A	
BR 6500 (403)	Watford 125A	
BR 6500 (404)	Watford 200A	
BR 6500 (500) Series	CIRCUIT BREAKERS (Air Break)	} Common to more than one type of equipment
BR 6500 (501)	Sace Type P2C 1600A and 3000A	
BR 6500 (502)	MCCB Type Z630 Series	
BR 6500 (503)	MCCB Type A250	
BR 6500 (504)	MCCB Type A100	} MCCB Cubicles, Standardized Switchgear Units etc.
BR 6500 (600) Series	SEPARATE SWITCHGEAR PROTECTIVE DEVICES	
BR 6500 (700) Series	SUPPLY SYSTEM SWITCHBOARDS	
BR 6500 (701)	Standardized MCCB Cubicles	
BR 6500 (702)	Standardized Switchgear Cubicles	
BR 6500 (703)	Primary and Secondary Control Panels Type 21-01	} The control unit package will include the equipment, its various control facilities and a description of the associated discrepancy switches
BR 6500 (704)	Primary and Secondary Control Panels Type 42-01	
BR 6500 (800) Series	CONTROL UNITS	} The control unit package will include the equipment, its various control facilities and a description of the associated discrepancy switches
BR 6500 (801)	Control Units Type 21-01	
BR 6500 (802)	Control Units Type 42-01	
BR 6500 (900) Series	MINOR ANCILLARY SWITCHGEAR EQUIPMENT	
BR 6500 (901)	Discrepancy Switches	
BR 6500 (902)	Synchronizing Plugs and Sockets	
BR 6500 (903)	Mn Supply Instrumentation	
BR 6500 (904)	Motorized Rheostats	
BR 6500 (905)	CT Protection Units	

Mechanical equipments and systems are, in the main, not suited to generic series numbering since many equipments are not necessarily linked to one particular system, e.g., a Diesel engine may drive an air compressor, a pump, an electric generator or a boat. To assist in filing and retrieval of information, numbers have been allocated in which the basic number identifies the class of equipment and the suffix identifies the individual item within that class, for example:—

6570	Pumps
BR 6570 (001–299)	Lubricating and Hydraulic Oil Pumps (Power driven)
BR 6570 (300–599)	Fuel Pumps (Power driven)
BR 6570 (600–799)	Water Pumps (Power driven)
BR 6570 (800–899)	Miscellaneous Pumps (Power driven)

The adoption of generic BR numbers will eventually reduce the amount of documentation produced and carried in a ship; a ship will only be supplied with that which it needs. The BR number will become meaningful and assist in the filing and retrieval of information.

There are many equipments fitted in Type 21 and 42 Classes which are also fitted in other ships. The existing books are being rewritten and renumbered to conform to Joint Service format and will be supplied to these other ships, who should demand Binders Ref. No. 64 to accommodate them.

Ship Class Publications

In addition to system and equipment publications, three ship class publications will be produced as follows:—

- (a) *Ship Technical Publication*—Basically Category 1 and Category 3 Information for the ship for the use of Headquarters, Command and Heads of Departments within the ship. It will contain information on docking and support services required for refit/maintenance periods and an Index or Information Retrieval System to each Department's Technical Publications.
- (b) *Ships Underwater Noise Characteristics Publication*—Will give details and location of all features likely to influence the ship's underwater noise signature.
- (c) *Equipment Removal Routes and Procedures Publication*—Will give information on the removal procedures for all major repair-by-replacement items fitted. The effect of removal on other systems will also be given.

The publications will be produced initially for first of class with supplements as necessary to cover any differences in follow-on ships.

Presentation of Information

Two new styles of presentation of information are currently being developed: 'pictorial' presentation and presentation in Functionally Identified Maintenance System (FIMS) format. In the former, text is reduced to a minimum and, where possible, produced in the form of amplified annotations on the illustrations. In the latter, the functional description is presented in a series of levels based on a functional diagram with blocked text format and the fault finding is presented in the form of maintenance dependency charts.

Publications are being prepared to the above formats for selected systems and equipments fitted in H.M.S. *Amazon* and *Sheffield*.

Conclusion

The foregoing outlines the many changes that Naval Technical Publications are currently undergoing in an attempt to meet the need for improved documentation of the sophisticated and complex equipment fitted in modern warships, particularly in the necessity to understand the function and maintenance of these equipments. It is hoped that the improvements will be, in the long term, cost-effective and will reduce the updating and amendment task. Detailed specifications are being prepared to cover all aspects of the preparation of D.G. Ships publications. A comprehensive alphabetical and numerical index of existing books sponsored by D.G. Ships is also being prepared. The first part, covering surface ships, is now available as BR 4586.
