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DEVELOPMENT OF A DDG-2 CLASS MAINTENANCE-CRITICAL EQUIPMENT LIST

FEBRUARY 1978

Prepared for DIRECTOR, CRUISER DESTROYER SHIP LOGISTIC DIVISION NAVAL SEA SYSTEMS COMMAND WASHINGTON, D.C. under Contract N00024-78+C-4062

ARINC RESEARCH CORPORATION



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February 1978

Prepared for

Director, Cruiser Destroyer Ship Logistic Division Naval Sea Systems Command Washington, D.C.

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SUMMARY

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This report presents the results of an analysis performed by ARINC Research Corporation to identify Maintenance-Critical Equipments of the DDG-2 Class. A Maintenance-Critical Equipment is one that has been a significant maintenance burden to the ships of the class. The objective of the study was to establish areas of concentration for future engineering efforts in the Destroyer Engineered Operating Cycle (DDEOC) Program.

Information for the analysis was obtained from Forces Afloat maintenance experience reported in the Maintenance Data System (MDS), Casualty Reports (CASREPs), and Regular Overhaul (ROH) data.

The study results identified 183 equipments of the DDG-2 Class as maintenance-critical. Of this total, two equipments were highlighted as being the most significant contributors to the overall maintenance burden of the class. They are the Main Propulsion Boiler and the AN/SPG-51 Radar. These equipments were reported as requiring Forces Afloat maintenance, CASREPs, and ROH work far in excess of other DDG-2 Class equipments.

ARINC Research Corporation recommends that the results of the study be used to identify ship systems for in-depth analysis; further, that a preliminary review and analysis be performed to determine whether the AN/SPG-51 radar presents problems that may require long-term development fixes. Analysis of the 1200 PSI Propulsion Boilers should be undertaken only after consultation with PMS-301, which has conducted numerous studies of these equipments. However, the impact of the DDG-2 modernization program on the future status of these equipments should be determined prior to the in-depth analyses. The findings will affect the nature of the engineering analyses to be conducted in the DDEOC Program.

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CHAPTER ONE

INTRODUCTION

This report presents listings of DDG-2 Class ships' equipments that have been a significant maintenance burden. The listings are based on analyses of maintenance data and are intended to be used as a guide for engineering activity conducted for this class in the Destroyer Engineered Operating Cycle (DDEOC) Program. This report has been prepared for the Naval Sea Systems Command DDEOC Program Office (NAVSEA 934X) under Contract N00024-78-C-4062.

The goal of the DDEOC Program is to effect an early improvement in the material condition of ships, at an acceptable cost, while maintaining or increasing the ships' operational capability during an extended operating cycle. In support of this goal, a Maintenance-Critical Equipment List is developed for each ship class in the DDEOC Program. The list is based on the following information:

- Forces Afloat maintenance burdens in terms of maintenance actions, man-hours, and material cost
- Maintenance attention during past overhauls
- · Casualty Reports (CASREP) frequency

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The DDG-2 Class Maintenance-Critical Equipment List is a listing of the identified equipments for the entire ship, ranked by total experienced maintenance burden. Development of the listing did not include analysis of the reasons why equipments are significant maintenance burdens. The reasons will be investigated in subsequent DDEOC engineering studies. The Maintenance-Critical Equipment listing indicates priorities for these analyses.

Chapter Two of this report documents the approach used in the identification of the Maintenance-Critical Equipments of the DDG-2 Class; Chapter Three summarizes the results; and Chapter Four presents the conclusions and recommendations. The appendixes to this report provide information on the observed maintenance burdens of the DDG-2 Class Maintenance-Critical Equipments.

CHAPTER TWO

APPROACH

2.1 OVERVIEW

The analytical process used to develop the DDG-2 Class Maintenance-Critical Equipments List involved two steps: (1) identification of equipments that were the most significant contributors to the Navy's maintenance burden for that class and (2) ranking of the equipments in the order of the highest maintenance burden experienced. As a basis for these steps, documented maintenance history data were compiled from several sources: Forces Afloat maintenance experience, as reported in the Maintenance Data System (MDS); CASREP information; and data from past regular overhauls (ROH) of DDG-2 Class ships. These data were used in the analytical process.

Data analysis was conducted at the equipment/component level where Allowance Parts List (APL) numbers are assigned.

2.2 DATA COLLECTION AND COMPILATION

The starting point for the analysis was the compilation of a data base to provide information on the maintenance history for ships of the DDG-2 Class. The data base consisted of four key elements: (1) MDS data, (2) CASREP narrative summaries, (3) a summary of the Ship Alteration and Repair Packages (SARPs) of fifteen DDG-2 Class overhauls, and (4) the DDG-2 Class Proposed Repair Profile.*

2.2.1 MDS Data

MDS maintenance transaction data for the period January 1970 through September 1977 were acquired in Generation IV format on computer tape from the Maintenance Support Office (MSO). The data were sorted into APL number

*DDG-2 Class Proposed Repair Profile, prepared by PERA (CRUDES), July 1977.

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sequence after being edited for validity and screened for repair applicability (i.e., only corrective maintenance actions were considered). The resultant data, consisting of approximately 2,225,000 records, represented the DDG-2 Class MDS data file.

2.2.2 CASREP Data

Summaries of all DDG-2 Class CASREPs reported from January 1974 through September 1977 were received from MSO. The summaries for each individual ship in the class were reviewed and integrated into a class CASREP data file. The file contained 6,301 separate CASREPs.

2.2.3 ROH Data

The DDG-2 Class Proposed Report Profile identifies the repair items that are recommended for inclusion in the PERA (CRUDES) DDG-2 Class Routine Repair Ship Alteration and Repair Package (SARP). The Repair Profile was developed by PERA (CRUDES) by analyzing recent SARPs and identifying repetitive repairs planned for accomplishment during overhauls of ships of the class. For the DDG-2 Class Proposed Repair Profile, a repetitive repair is described as a specifically defined repair (such as an equipment Class B overhaul*) that could be identified as having occurred in at least 8 of the 15 overhauls of ships in the class. The information for the DDG-2 Class Proposed Repair Profile was derived from an analysis of the SARPs prepared for the ship overhauls identified in Table 1. The DDG-2 Class Proposed Repair Profile was received from PERA (CRUDES) and was used in the development of the Maintenance-Critical Equipment List.

Table	1. DDG-2 CLASS OVERHAUL S PREPARE THE REPAIR PRO	
Hull	Ship Name	Overhaul Year
DDG-2	USS CHARLES F. ADAMS	FY 75
DDG-4	USS LAWRENCE	FY 76
DDG-5	USS CLAUDE V. RICKETTS	FY 74
DDG-6	USS BARNEY	FY 74
DDG-8	USS HENRY B. WILSON	FY 76
DDG-9	USS TOWERS	FY 73
DDG-10	USS SAMPSON	FY 76
DDG-11	USS SELLERS	FY 74
DDG-16	USS JOSEPH STRAUSS	FY 75
DDG-18	USS SEMMES	FY 74
DDG-19	USS TATTWALL	FY 76
DDG-20	USS GOLDSBOROUGH	FY 74
DDG-21	USS COCHRANE	FY 74
DDG-22	USS BENJAMIN STODDERT	FY 76
DDG-23	USS RICHARD E. BYRD	FY 76

*Work that requires such overhaul as will restore the operating and performance characteristics of a system, subsystem, or component to its original design and technical specifications. The work sheets used to prepare the DDG-2 Class Proposed Repair Profile were also a part of the DDG-2 Class data base. The work sheets itemized, by Ship's Work Breakdown Structure (SWBS) number, each repair action item and highlighted the repetitious repairs performed during the DDG-2 Class overhauls.

2.3 DATA ANALYSIS

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2.3.1 Identification of Maintenance-Critical Equipments

The identification of the Maintenance-Critical Equipments was accomplished by using Maintenance Data System (MDS) data, CASREP data, and the DDG-2 Class Proposed Repair Profile.

2.3.1.1 MDS Data Analysis

Maintenance-Critical Equipments were identified from the MDS data base using APL numbers. The APL numbers were used because they readily relate to an equipment or component. Four indicators of maintenance burden were analyzed from the MDS data:

- 1. Ship's Force parts dollars
- 2. Ship's Force man-hours
- 3. Intermediate Maintenance Activity (IMA) man-hours
- 4. Ship's Force labor transactions

Ship's Force parts dollars were used for an indication of maintenance parts costs. The Ship's Force man-hours and IMA man-hours were used because they show the Forces Afloat effort required to maintain an equipment. The number of Ship's Force labor transactions was used because it indicates the total number of instances in which manpower was expended on an equipment.

These four categories represent the full range of maintenance that different types of equipments require. For example, some equipments are modular in composition and their maintenance requires wholesale replacement of parts. The net result is a high parts cost and, conceivably, a relatively low manpower expenditure. Other equipments require high manpower expenditures, but little or no parts cost (e.g., a leaking valve bonnet that needs to be lapped). Some equipments can be repaired only at an IMA facility and other equipments, while not requiring large amounts of parts dollars or manpower, require maintenance attention often enough to be a burden.

In the total maintenance reported against an APL-numbered equipment, if any of the four indicators of maintenance burden was significant in relation to the entire class data base, the equipment was designated Maintenance-Critical. One-tenth of one percent of the data base total for the indicator was the significance threshold (e.g., \$77,070,000 spent for repair parts by the class during the data period makes the significance threshold for parts expenditure \$77,070). If an equipment (represented by an APL number) had \$77,070 in parts cost reported against it, the equipment was included in the Maintenance-Critical Equipment List. Significance thresholds for the DDG-2 Class are shown in Table 2.

Forces Afloat Maintenance Indicator	DDG-2 Class Expenditure*	Maintenance- Critical Significance Threshold
Ship's Force Parts Dollars	\$77,069,817	\$77,070
Ship's Force Man-Hours	3,712,409	3,712
IMA Man-Hours	1,777,888	1,778
Ship's Force Labor Transactions	491,795	492

2.3.1.2 CASREP Data

CASREPs were used as a data source for identifying maintenance burdens because the maintenance necessary to correct a CASREP represents that which is required by a ship to fulfill its operational commitments. Information regarding the effect of a maintenance requirement on a ship mission is not contained in the MDS. The maintenance burden equipments were identified by determining the equipments that have had a significant number of CASREPs reported across the class. Maintenance-Critical Equipments were identified from reported CASREPs, using APL numbers as identifiers. The reporting of one CASREP by at least four ships within the class in the data period (January 1974 through December 1977) was considered significant. Any equipment identified by an APL number having at least one CASREP reported against it by at least four ships was selected as a Maintenance-Critical Equipment.

2.3.1.3 Overhaul Data Analysis

Maintenance-Critical Equipments were identified from the DDG-2 Class Proposed Repair Profile prepared by PERA (CRUDES). If the repair of an equipment was included in the Repair Profile, the equipment was selected as a Maintenance-Critical Equipment. Repeated industrial maintenance during overhaul was considered to be an indicator of maintenance burden since it indicated equipments that required repair/refurbishment because of material condition or because it was "insurance" work necessary to support the operating period. Maintenance during ROH was used because some equipments are repaired only in the shipyard.

2.3.2 Maintenance-Critical Equipment Ranking

After the Maintenance-Critical Equipments were identified, they were ranked in accordance with the maintenance burden experienced. This was done to compare the relative maintenance burdens between equipments that may be maintained differently. For example, it is of interest to know how the maintenance burden imposed by a main feed pump compares to that of a Gun Fire Control System or a Surface Search Radar. This information is useful in allocating and scheduling resources to analyze the effectiveness of existing maintenance practices and in identifying areas of concentration for Baseline Overhaul.

The ranking of the Maintenance-Critical Equipments was accomplished by identifying the class population of each Maintenance-Critical Equipment, identifying the total equipment maintenance burdens, and ranking the Maintenance-Critical Equipments by maintenance burden.

2.3.2.1 Identification of Equipment Population

Identification of Maintenance-Critical Equipments through the MDS and CASREP was accomplished by determining equipment APL numbers against which significant maintenance was reported. However, identification of only the APL numbers presents two problems associated with configurations.

One problem is that the same APL designator may not be universally used across the entire class because of different manufacturers of the same equipment type. To account for this, a complete set of lead APL numbers was identified for each Maintenance-Critical Equipment. This was accomplished by preparing a configuration matrix, for each Maintenance-Critical Equipment, that identified the lead APL numbers utilized within the class. For example, there are three lead APL numbers for the main feed pumps of the DDG-2 Class.

To determine the APL numbers necessary to prepare the configuration matrix, the Surface Ship Type Commander's (TYCOM) COSAL for both the Atlantic and Pacific Fleets was researched to identify similar equipments used to fulfill the same function (e.g., main feed pump). TYCOM COSAL information, as of June 1977, was used for this research.

Another problem to be considered was that for each equipment represented by a lead APL number, there may be a subcomponent with its own APL numbers (ancillary APL numbers). Therefore, the ancillary APL numbers had to be identified. This identification was accomplished by reviewing the list for each lead APL number that represented a Maintenance-Critical Equipment and extracting the ancillary APL numbers. When this identification effort was completed, a complete class population was available for each Maintenance-Critical Equipment.

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2.3.2.2 Identification of Equipment Maintenance Burdens

When the complete listing of lead and ancillary APLs for each Maintenance-Critical Equipment was prepared, total maintenance burdens were determined from each of the maintenance data sources (MDS, CASREP, and ROH).

A total equipment maintenance burden was calculated for each of the four MDS indicators (Ship's Force parts dollars, Ship's Force manhours, Ship's Force labor transactions, and IMA man-hours). To obtain for each equipment a single factor that provides an indication of the magnitude of the MDS maintenance burden imposed on the Forces Afloat, a term called the MDS Factor was computed. Ratios for each of the four MDS indicators to the indicator's class total were calculated for each equipment. The sum of the four ratios is the MDS factor. Expressed symbolically,

$$(MDS)_{i} = \frac{(PC)_{i}}{(PC)_{T}} + \frac{(SFMH)_{i}}{(SFMH)_{T}} + \frac{(IMAMH)_{i}}{(IMAMH)_{T}} + \frac{(SFLT)_{i}}{(SFLT)_{T}} \times 100$$

where

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(MDS) i		MDS Factor for i th equipment
(PC) i	=	Total parts costs for i th equipment
(PC)	=	Total parts costs for class
(SFMH) i	=	Total Ship's Force man-hours expended for i th equipment
(SFMH) T	=	Total Ship's Force man-hours expended for class
(IMAMH)	-	Total Ship's IMA Force man-hours expended for i th equipment
(IMAMH) T	=	Total Ship's IMA Force man-hours expended for class
(SFLT)	=	Total Ship's Force labor transactions for ith equipment
(SFLT)	=	Total Ship's Force labor transactions for class

To calculate the CASREP burden, the number of CASREPs for each identified Maintenance-Critical Equipment (reported against all lead and ancillary APLs for the DDG-2 Class) was extracted from the CASREP data file. The resultant total represented the CASREP burden for the equipment.

ROH burdens were calculated from the work sheets used to prepare the ROH Repair Profile. These work sheets itemized all the work planned for accomplishment during the fifteen DDG-2 Class ship overhauls. The work sheets were reviewed to determine if an equipment was subjected to maintenance during each of the fifteen ship overhauls. The percentage of times that the equipment received significant maintenance in the fifteen overhauls represented the ROH burden.

2.3.2.3 Ranking of Maintenance-Critical Equipments by Maintenance Burden

After the maintenance burdens were calculated for each Maintenance-Critical Equipment, the equipments were ranked within each of the three data sources. The MDS ranking was made by descending MDS factors; the CASREP ranking was made by descending CASREP frequency; and the ROH frequency ranking was made by descending percentage.

The rankings were done to order the equipments by highest to lowest burden in each data source. Each equipment was assigned a relative standing in each category.

A final ranking was made by using the ranking in each of the three individual reported maintenance sources. The relative standings of the equipments from each of the three sources were summed. The resultant sum was the Maintenance Burden Factor for the equipment. Expressed symbolically,

$$MBF_i = RMDS_i + RC_i + RO_i$$

where

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Since the equipment with the lowest Maintenance Burden Factor (MBF) represented the highest maintenance burden, the Maintenance-Critical Equipments were ranked by ascending Maintenance Burden Factors, as illustrated in Table 3. The method used to rank the Maintenance-Critical Equipments was developed to permit equal weighting of the three data sources (MDS data, CASREP data, and ROH data). However, the contribution of overhaul frequency to the MBF can be influenced by a small sample size of overhauls, particularly for the highest-ranked (i.e., lowest-MBF) equipments.

Table 3. EXAMPLE OF RANKING BY ASCENDING MAINTENANCE BURDEN FACTOR (MBF)											
Rank	Equipment	MDS Factor Rank	CASREP Frequency Rank	ROH Frequency Rank	MBF						
1	Equipment 1	1	4	2	7						
2	Equipment 2	9	2	1	12						
3	Equipment 3	16	1	5	22						
4	Equipment 4	4	9	10	23						
5	Equipment 5	15	6	12	33						

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CHAPTER THREE

RESULTS

3.1 DDG-2 CLASS MAINTENANCE-CRITICAL EQUIPMENTS

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As a result of the review and analysis of the various maintenance and maintenance-related data, 183 equipments in the DDG-2 Class were identified as being maintenance-critical. Appendix A lists each of the identified critical equipments, in Ship's Work Breakdown Structure (SWBS) order. Included in this listing is a notation of the significant data source indicator or combination of indicators (MDS, CASREP, or ROH data) that caused the equipment to be identified as maintenance-critical. Further review of this listing can provide guidance for subsequent engineering analyses. [The Line Shaft Bearing Assembly (SWBS 241) was identified by the MDS data as a Maintenance-Critical Equipment because of the high expenditure of Ship's Force man-hours. Any detailed analysis of the maintenance history of the Line Shaft Bearing Assembly should first examine the causes for such expenditures].

There were 46 equipments in the listing identified by all three data sources as maintenance-critical; 50 were identified by two sources and 87 were identified by a single source. The MDS was the source for identifying the most Maintenance-Critical Equipments, although nearly two-thirds of the equipments were identified from CASREPs. Table 4 summarizes the sources of identification of Maintenance-Critical Equipments for the DDG-2 Class.

Table 4. SOURCES OF DDG-2 CLASS MAINTENANCE-CRITICAL EQUIPMENT CONFIGURATION								
Data Source	Number of Maintenance- Critical Equipments Identified							
MDS Only	37							
CASREP Only	29							
Repair Profile Only	21							
MDS and CASREP	34							
MDS and Repair Profile	10							
CASKEP and Repair Profile	6							
MDS, CASREP, and Repair Profile	46							
Total	183							

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3.2 RANKING OF MAINTENANCE-CRITICAL EQUIPMENTS BY MAINTENANCE BURDEN

The results of the ranking of the DDG-2 Class Maintenance-Critical Equipments are presented in Appendixes B and C. Appendix B lists the equipments in MBF rank order; Appendix C lists the equipments in SWBS order. Each listing includes:

- Equipment nomenclature
- SWBS number
- MBF rank, as defined in Section 2.3.2.3
- MDS Factor, as defined in Section 2.3.2.2
- Number of reported CASREPs against the equipment
- Frequency of overhaul, as defined in Section 2.3.2.2

The data for the last three items were computed for each Maintenance-Critical Equipment identified, regardless of the source(s) that established it as a Maintenance-Critical Equipment.

The number one and number two MBF-ranked equipments (Main Propulsion Boilers and AN/SPG-51 Radar) stand out among all the others in the analysis. Each of these equipments met all the MDS indicator thresholds and the CASREP and ROH criteria. In addition, each equipment had MDS burdens nearly three times greater than any other equipment. The Main Propulsion Boilers experienced significantly more CASREPs than any other equipment.

Appendix D lists the Maintenance-Critical Equipments in Maintenance Data System (MDS) factor order. The listing indicates the comparative burden of each equipment in terms of reported Forces Afloat maintenance. The appendix also lists each equipment's CASREP and overhaul burden and its rank within each of these categories.

3.3 IMPACT OF MAINTENANCE-CRITICAL EQUIPMENTS ON CLASS MAINTENANCE BURDEN

The DDG-2 Class Maintenance-Critical Equipments identified by this analysis represent a sizable portion of the reported total maintenance burden of this class. The 183 Maintenance-Critical Equipments account for 71 percent of all the CASREPs reported by the class, 79 percent of the Ship's Force parts dollars, 72 percent of the Ship's Force corrective maintenance man-hours, 64 percent of the IMA corrective maintenance man-hours, and 62 percent of the corrective maintenance labor actions. Although depot data were not available for determining the percentage of total overhaul manhours and material costs experienced historically by the Maintenance-Critical Equipments, it is apparent the identified equipments are collectively a considerable contributor to past DDG-2 Class overhaul work packages.

CHAPTER FOUR

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CONCLUSIONS AND RECOMMENDATIONS

The analysis presented in this report resulted in the identification of 183 equipments of the DDG-2 Class that have been significant contributors to the maintenance burden of ships of the class. These equipments have been the cause for the expenditure of a sizable portion of the Ship's Force corrective maintenance resources, as reported in the MDS. The equipments have also been the source of 71 percent of the CASREPs reported by the class. The significant contributors, insofar as Forces Afloat maintenance and CASREP activity are concerned, are the Main Propulsion Boilers and the AN/SPG-51 Radar.

This study provides the initial guidance for beginning the in-depth analysis required in the DDEOC Program. Use of the study results will direct analytical efforts to areas where significant advances can be realized in developing engineering maintenance strategies for equipments that historically have been the sources of maintenance problems. However, the impact of the DDG-2 modernization program on the future status of these equipments should be determined prior to in-depth analyses. The findings will affect the nature of the engineering analyses to be conducted in the DDEOC Program.

Because of the high maintenance burden associated with the AN/SPG-51 Radar, it is recommended that a preliminary review and analysis should be conducted for identifying potential problems that may require long-term development fixes. Analysis of the 1200 PSI Propulsion Boilers should be undertaken only after consultation with PMS-301, which has conducted numerous studies of these equipments.

APPENDIX A

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SOURCE OF IDENTIFICATION OF DDG-2 CLASS MAINTENANCE-CRITICAL EQUIPMENTS

		APPENDI	* *				
	SOURCE OF IDENTIFICATION DDG-2	CLASS H	AINTENANC	E CRITICAL	EQUIPMENT I	IST	
		,		r Exceeded tor Thres	Four or		
SWBS	Equipment/Component Nomenclature		Ind	icator	More	ROH Repair Profile Items	
		Part \$	SF Mhrs	IMA Mhrs	Labor Tans		
221	Main Boilers	x	x	x	×	×	x
221	Burners and Registers	x					x
221	Soot Blowers				a second		x
221	ACC/FWC System						x
221	Boiler Safety Valve						x
231	HP/LP Turbine		x	×	x	×	Constanting
241	Line Shaft Bearing Assy.		x		Sile and	1.2	- And Solid
245	Propeller Assy.	x	-			x	
251	Forced Draft Blower	x	x	x	x	x	x
253	Boiler Main Steam Stop Valve					x	1.1.1.1
253	Main Engine Guarding Valve			x		-	
253	Main Steam 5" (1200 psi) Gate Valve		x	x	x	x	
253	Main Steam 2.5" (1200 psi) Gate Valve			x			
254	Main Condenser		x	x	x		x
254	Auxiliary Condenser			×			
254	Propulsion Gland Exhauster					x	
254	Auxiliary Gland Exhauster			x		x	×
255	Main Feed Pump	x	x	x	x	x	x
255	Main Condensate Pump	x	x	x	x	x	x
255	Main Feed Booster Pump	x	x	×	x	x	x
255	Auxiliary Condensate Pump	x					x
255	Deaerating Feed Tank		x	x	x	x	
256	Main Circulating Pump		x		x	x	x
256	Auxiliary Circulating Pump		×	x	x		x
261	Fuel Oil Service Pump	x	x	x	x	x	x
261	Fuel Oil Duplex Strainer		x			x	x
261	Port Fuel Oil Service Pump					x	
262	Main Lube Oil Standby Pump	x	×	x	x	x	x
262	Lube Oil Purifier	x	x		x	x	x
262	Lube Oil Duplex Strainer			x			
311	Ship Service Turbine Generator	x	x	x	x	x	
312	Emergency Diesel Generator		x	x	×	x	
314	60 kW 400 Hz MG Set			x	1.54	x	x
314	30 kW 400 Hz MG Set		x			x	
324	IC Switchboard				x		
324	Ship Service Switchboard				x		
342	Emergency Diesel SW Booster Pump			×			
415	AN/USC-30() Data Comm. System			1.5.5		x	
421	Navigation Chronometer	1.121-1		x	x	1	
421	Binoculars	at is		x	x		
423	AN/SRN~6() TACAN	x			x	x	×
423	AN/URN-20() TACAN	x	x			x	
423	AN/URD-4() Radio Direction Finder	×	x			x	x
424	AN/UQN-1() Fathometer			1.1.1		x	x
426	Mk 19 Gyro Compass	x	x	x	x	x	x
426	Underwater Log	×		×		x	x

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SMBS	Equipment/Component Nomenclature		DS Indica	Four or	ROH Repair		
SWBS	Equipment/Component Nomenciature			dicator		More CASREPs	Profile Items
		Part \$	SF Mhrs	IMA Mhrs	Labor Txns		
426	NC-2 Plotter	x				×	×
426	DRT						x
426	DRAI					x	
432	Dial Telephone Switchboard	x	×	x	x	x	x
432	Telephone Set (Type F)	1		1	x	1.1	
434	16 mm Sound Movie Projector	1		×	x		
437	Salinity Indicating Ckt.	x					x
437	Wind Speed and Direction Transmitter		1.13.0			x	x
439	AN/UNO-7() Recorder Reproducer			1.1		x	
441	AM-3007()/URT RF Amplifier					x	
441	AM-3924()/URT RF Amplifier					x	
441	AN/PRC-41() Transceiver	x					
441	AN/SRA-17() Antenna Group						x
441	AN/SRA-22() Antenna Coupler	x					
441	AN/SRA-33() Antenna Coupler	-		1.23		x	x
441	AN/SRC-20() Transceiver	×	×		x	x	x
441	AN/SRC-21() Transceiver	x	x	1	×	x	x
441	AN/SRR-19() Radio Receiver						x
441	AN/URA-38() Antenna Coupler Group					x	
441	AN/URC-9() Transceiver	×	×	1.	×	x	x
441	AN/URC-32() Transceiver	×			x	x	
441	AN/URC-80(V) Transceiver					×	and the second second
441	AN/URG-10() Frequency Standard					x	
441	AN/URR-27() Receiver						x
441	AN/URT-7() Transmitter				a delay	x	x
441	AN/URT-23(V) Transmitter	×		1.610.5		×	
441	AN/WRR-3() Poceiver						x
441	AN/WRT-2() Transmitter	×	×	x	x	×	
441	CU-937/UR Tuner		1.11		1.1.1.1.1	x	
441	R-390()/URR Receiver			×	x	1.2	x
441	R-1051()/URR Receiver	×			x	x	x
445	AN/UGC-25() TTY			×	x		
445	AN/URA-17() Converter-Comparator		x				
446	KWR-37/TSEC					x	
446	TSEC/KY-8					x	
450	AN/SPA-4() Indicator	×	x	×	x		
450	AN/SPA-25() Indicator Group	×		x		x	x
450	AN/SPA-33() Indicator	×	x		x		
450	AN/SPA-34() Indicator Group	×	×		×		
450	AN/SPA-41() Indicator Group	x				x	
450	AN/SPA-66() Radar Indicator			1.1.1		x	
450	AN/SPA-74() Indicator Group	x				x	
451	AN/SPS-10() Surface Search Radar				x	x	
		x	×				×
451	AS-936()/SPS-10() Antenna						× .
452	AN/SPS-29() 2D Air Search Radar	×	×		×	x	
452	AN/SPS-37() 2D Air Search Radar	×	×		×	×	

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	API	ENDIX A	- (contin	ued) r Exceeded				
				tor Thresh	Four or			
SWBS	Equipment/Component Nomenclature		In	dicator		More CASREPs	ROH Repair Profile Items	
		Part \$	SF Mhrs	IMA Mhrs	Labor Txns	CASREPS		
452	AN/SPS-40() 2D Air Search Radar	×				x		
453	AN/SPS-39() 3D Air Search Radar	x	x		×	x	×	
453	AN/SPA-72() Antenna Group	x	x			x		
455	AN/UFA-24() Decoder		x					
455	AN/UPX-1() Radar Recognition Set					x	•	
455	AN/UPX-11() Interrogator Set		×				1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	
455	AN/UPX-23() Interrogator Set					x		
455	RT-859()/APX-72 Transceiver					x		
463	AN/SQS~23() Sonar Set	x	x	×	x	x		
463	AN/SQQ-23() Sonar Set	x				x		
463	PU-485()/SQ MG Set	x						
471	AN/SLD-1() Direction Finder Set					x		
471	AN/SLA-12() Antenna Group					x		
471	AN/ULQ-6() Countermeasures Set	x	x		x	x	×	
472	AN/SLA-10() Video Blanker						×	
472	AN/WLA-3() Amplifier Group	x				x	×	
472	AN/WLR-1() ECM Receiving Set	x			1.8	x	x	
472	AS-571()/SLR DF Antenna		1	1.11		1	x	
472	AS-616()/SLR DF Antenna						×	
472	AS-899()/SLR DF Antenna	1				x	x	
473	T-Mk 6 Fanfare Winch	×					and the second second	
		1			1.	x	1.1-11-11-11	
475	Degaussing Power Supply				Sec. 1	x	1.1.1.1.1.1.1.1	
475	Degaussing Coil MG Set		6.20		Set Sugar	×		
475	Degaussing Switchboart					×	x	
481	AN/SPG-53() Radar Set	×	x		×	x	x	
481	Mk 68 Gun Director	×	x	x	x		1	
481	Mk 75 Rangefinder					X	1	
481	Mk 16 Stable Element	×	x		×	x	x	
481	Mk 2 Mod 3 Director Drive	×	x		×	X	1.3	
481	Mk 47 Computer	x	x	1	×	x	x	
482	AN/SPG-51() Radar Set	×	x	×	x	x	x	
482	Mk 73 Tartar Missile Director	×	×		x	x	x	
482	Mk 152 Digital Computer	×	×		x	×		
482	Mk 72 Signal Data Converter	×	×		x	×		
482	Weapons Direction Equipment	x	×		×	x	x	
482	Mk 24 Target Designation Transmitter	×	x	x	×		Constant -	
482	AN/SPM-15() Test Set	x						
482	Mk 5 Low Light Level TV	x	1.1.1	1.5		×		
482	Nk 474 Test Set	×				×	x	
483	Mk 38 Attack Console	x	x	199	×	x		
483	Mk 53 Attack Console	x	×		×	×		
483	Mk 78 Position Indicator		1 5			x		
483	Mk 43 PCS Relay Transmitter	x				×		
489	Mk 14 PC Switchboard						x	
491	AN/PSM-4() Multimeter			1 martin	×			
491	AN/USM-115() Range Calibration Set				×			
	Luna			1	L			

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APPENDIX A - (continued)

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		,		r Exceeded tor Thresh			
SWBS	Equipment/Component Nomenclature			dicator		Four or More	ROH Repair Profile Items
		Part \$	SF Mhrs	IMA Mhrs	Labor Txns	CASPEPS	FIGHTIE ICEMS
491	AN/USM-117() Oscilloscope			x	x		
491	AN/USM-207() Digital Counter			1	x		
491	AN/USM-281() Oscilloscope			×	x		
491	CCUH-803-B() Voltmeter				x		
512	2-Speed Ventilation Fan	1		×		x	
514	A/C Plant		x	×	x	x	x
514	A/C Chilled Water Pump						x
514	A/C SW Circ. Pump		x	x			x
516	Refrigeration Plant		x	×	x		x
521	Fire Pump	x	x	x	x	x	x
524	Auxiliary Machinery Cooling Pump	2015	x	x	x	x	x
529	F.O. and Bilge Stripping Pump		x	×		x	x
531	Distilling Plant		x	x	x		x
531	Distiller Feed Pump		x	x	x		x
531	Distillate Pump						x
531	Salt Water Heater Drain Pump						x
531	Overboard Brine Pump			1			x
533	Fresh Water Priming Pump						x
533	Fresh Water Pump						x
534	Fresh Water Drain Pump		x	x	x		
534	1500-600 psi Steam Reducing Valve		x	x	x	x	
534	600-150 psi Steam Reducing Valve			×	×		
534	1200-12 psi Augmenting Steam Valve		x				
534	Aux. Steam 3" (1200 psi) Gate Valve			×		x	
534	Aux. Steam 2" (1200 psi) Gate Valve		1.1.1.1.1	x			
534	Aux. Steam 1.5" (1200 psi) Gate Valve			×			
536	Radar/Sonar Cooling Water Pump			×			
551	HP Air Compressor	×	×	×	x	x	x
551	HP Air Flasks			1000			x
551	LP Air Compressor	x	x	×	x	x	
551	LP Air Dehydrator			1.		x	
561	Steering Gear		×	×	x	x	
581	Anchor Windlass						x
583	Boat Davit					x	
583	Personnel Boat		×	×		x	x
583	Motor Whaleboat					×	
655	Laundry Dryer		-			×	
711	Nk 42 5"/54 Cal Gun Mount	×	×	x	×	x	
721	Mk 11 GM Launcher	×	×	x	x	x	
721	Mk 13 GM Launcher	×	×	x	x	×	
721	Mk 3 Signal Comparator	×				x	×
721	Mk 7 Carriage (ASROC)		×		x	X	x
721	Mk 7 Guide (ASROC)	×	×	×	x	×	×
722	ASHOC Loader Crane					x	x
751	Nk 32 Torpedo Tube	×	×	×	×	x	x
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APPENDIX B

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DDG-2 CLASS MAINTENANCE-CRITICAL EQUIPMENT LIST MAINTENANCE BURDEN FACTOR (MBF) ORDER

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APPENCIX P

UDG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST

PAINTENANCE BURDEN FACTOR CADER

		Ter	501	NO. OF	CVE PHAUL
TUIPHENT NOMENCLATURE	SMAS	RANK	FACTOR	CA SREP TS	FRE QUENCY (S)
VAIN COLLERS	221	1	18.398	416	100.00
4 1/5P 3-511 1 RAJAK SET	482	2	22.084	250	66.69
ANT'S FEEL PUMP	255		5.393	168	63.33
FJACED DULET BL JAFA	152	•	3.586	111	100.00
ALLA FEET BOUSTER PUMP	255	\$	3.019	66	100.00
WE 19 GVEC COMPASS	426	\$	2.955	100	EE. E9
FIRE DUNC	521	1	4.263	133	86.67
4K 73 726748 #1551LE DIRECTOR	482		000°E	58	66.69
TAVSPS-53() RADAP SET	184	•	3.666	11	80.00
41/5P5-391) 30 AIR SEARCH RADAR	£\$\$	9	6.145	117	13.33
THE 42 5 /54 CAL GUN 43UMT	111	=	1.139	116	66 .67
4114 CONDENSATE PUMP	255	12	1.683	36	EE. E9
4K 47 COMPUTER	185	12	1.965	37	63.33
AV/URD-40 1 FADIC CIRECTION FINDER	423	*	o£9.	57	86.67
LUSAC-201 1 TRANSCEIVER	111	15	1.934	36	80-00
FJEL JIL SEFVICE PUWP	261	91	2.149	65	60.67
HP 212 CONDRESSOP	155	11	1.053	38	80-00
1.1.5F5-LOI I SURFACE SEAPCH RADAR	15+	18	1.009	38	80.00
LIC PLANT	514	19	2.688	32	13.33
	1.	20	2.172	32	13.33
	E94	21	3.106	39	60.00
4'I/UL 0-61 1 COUNTERMEASURES SET	114	22	1.622	14	60.00
HOLL PURAINE	231	23	2.293	44	60.00
	121	42	4.352	66	10.01
TATA STEAM FILZCE PSII SATE VALVE	253	25	.704	38	83.00
DISTILLING PLANT	162	26	1.784	11	65.69
44 152 CIGITAL COMPUTER	482	27	1.355	13	00-09
AEAPONS [IS ECTION EQUIPMENT	284	28	3.007	14	53.33
SATE SEAVICE TURBINE GENERATOP	311	52	2.732	109	46.67
AK 16 STARLE ELEMENT	184	8	-512	32	93.33
PERSONNEL BUAT	583	31	1.577	20	66.67
ALTA LUBE OIL STANCAY PUMP	262	32	1.224	27	66.67
** 13 GH LAUACHER	121	8	2.787	48	10.04
** 32 TOFPEDC TUBE	151	34	1.922	11	80.00
UTIDERMATER LCG	+26	35	.455	35	55.59
14/5P4-251 1 1A01C4TJP 54CUP	450	36	148.	20	13.33
	155	36	2.135	16	00.04
USAL TELEPTONE SWITCHOAPE	+32	38	1.305	٥	55.53
-CC/FAC SYSTEM	221	39	1.273	29	60.00

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APPENCIX P

DDG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST

PAINTENANCE BURCEN FACTOR CROER

EJUIPFENT NOMENCLATURE ** AB GUN DIRECTOR ** 7 GUICE (ASPGC) BOILER SAFETV VALVE ANYSRC-21() TRANSCE IVER ANYSRC-21() TRANSCE IVER ANYSRC-40() 20 AIR SEARCH RADAR ENFERING GEAF ANYJORC-91) TRANSCE IVER ANYJORC-91) TRANSCE IVER ANYJORC-91) TRANSCE IVER ANYJORC-91) TRANSCE IVER ANYSPS-794) 20 AIR SEARCH RADAR ANYSPS-794) 20 AIR SEARCH RADAR	SHRS	RANK	FACTOR	CA SREPTS	FREQUENCY (3)
YK AB GUN DIRECTOR WK 7 GUILE (AS9-JC) BOILER SAFETY VALVE BOILER SAFETY VALVE STEERING GEAF AN/SPSC-401 J TRANSGEIVER ENKEGENCY DIESEL GENERATOR WK 38 ATTACK CONSULF AV/URC-91 J TRANSGEIVER LUBE JLL PUKIFIER AV/URC-91 J TRANSGEIVER LUBE JLL PUKIFIER AN/SPSC-991 J 20 AIR SERCH RADAR MY/SPSC-991 J 20 AIR SERCH RADAR MY/SPSC-991 J 20 AIR SERCH RADAR AN/SPSC-991 J 20 AIR SERCH RADAR MY/SPSC-991 J 20 AIR SERCH RADAR AV/SPSC-991 J 20 AIR SERCH RADAR					
MX 7 GUTE (AS)CO BOILER SAFETY VALVE SAVSRC-211) TRANSCE IVER STEFFING GEAF ENVSPS-401) ZU AIR SEARCH RADAR ENVSPS-401) ZU AIR SEARCH RADAR EMERGENCY DIESEL GENERATOR WY/UGC-91) TRANSCEIVER AV/UGC-91) ZU AIR SEARCH RADAR AV/SPS-794) ZU AIR SEARCH RADAR	107		71.1.1	11	00-00
MY FOULD TAYOUT SOLLE SAFETY VALVE AN/SRC-21() TRANSCEIVER STEERING GEAF ENSPS-40() 2D AIR SEARCH RADAR ENSPS-40() 2D AIR SEARCH RADAR ENSPS-40() 2D AIR SEARCH RADAR MY JUGC 91() TPANSCEIVER AN/USC 91() TPANSCEIVER AN/SPS-79() 2D AIR SEARCH RADAR MY 72 SIGNL DITA CONVERTER MW 72 SIGNL DITA CONVERTER MW 72 SIGNL DITA CONVERTER MW 72 SIGNL DITA CONVERTER MUXILIARY MACHINERY COOLING PUMP 4JTCR MMAL FEGAT	100	2 9			
BOILER SAFT VALVE MAYSAC-ZI() TRANSGEIVER STEERLG GEAR ANYSPS-40() ZU AIR SEARCH RADAR ENTSEGENCY DIESEL GENERATOR ANYUNG-9() TPANSCEIVER ANYUNG-9() TPANSCEIVER ANYUNG-9() TPANSCEIVER ANYSPS-79() ZU AIR SEARCH RADAR ANYSPS-79() ZU AIR SEARCH RADAR	121	?:	100.		
AN/SRC-21() TRANSCEIVER STEERING CEAF EN/SPC-40() 2U AIR SEARCH RADAR EN/SPC-40() 2U AIR SEARCH RADAR ENEGENCY DIESEL GENERATOR ** 38 ATTACK CONSULF ** 38 ATTACK CONVERTER *** 72 SIGMAL DATA CONVERTER *** 72 SIGMAL DATA CONVERTER **********************************	221	64	.720	16	80.00
STEERING GEAF EWISPS-401 J 2D AIR SEARCH RADAR EWISPS-401 J 2D AIR SEARCH RADAR WK 3B ATTACK CONSULF WK 3B ATTACK CONSULF ANUKC-91 J TANSCEIVER ANUKC-91 J TANSCEIVER ANVSPS-791 J 2D AIR SEARCH RADAR WV/SPS-791 J 2D AIR SEARCH RADAR AV/SPS-791 J 2D AIR SEARCH RADAR WV 72 SIGNAL DATA COVERTER WK 72 SIGNAL DATA COVERTER WM 72 SIGNAL DATA COVERTER WM 72 SIGNAL DATA COVERTER WV 72 SIGNAL DATA COVERTER WV 72 SIGNAL DATA COVERTER WV 72 SIGNAL DATA COVERTER	1++	**	149.	19	80.00
ANYSPS-401) 2D AIR SEARCH RADAR EWEKGENCY DIESEL GENERATOR WX 38 ATTACK CONSUL AV/UGC-91) TPANSCEIVER LUBE JL PURIFIER AAIN CIRCULATING PUYP AAIN CIRCULATING PUYP ANYSPS-791) 2D AIR SEARCH RADAR WX 72 SIGMAL DATA CONVERTER AUXILIARY MACHINERY COOLING PUMP 4JTOR WHAL EGGAT	561	45	.816	10	86.67
EWERGENCY DIESEL GENERATOR W 38 ATTACK CONSULF W JUGC-91 TPANSCEIVE9 LUBE JIL PURFFIEP AAIN CIRCULATING PU49 AN/SPS-794 1 20 AIN SEACH RADAR W 72 SIGMAL DATA CONVERTER W 72 SIGMAL DATA CONVERTER W 72 SIGMAL DATA CONVERTER W 13TOR WHALFBOAT	155	46	2.629	61	20.00
W 34 W 47			1.243	36	44.67
AV/UGC-91 T PANSCEIVER AV/UGC-91 T PANSCEIVER LUBB JL PURIFIER AAIN CIRCULATING PUYP AN/SPS-791 J 20 AIR SEARCH RADAR AN/SPS-791 J 20 AIR SEARCH RADAR AV/SPS-791 J 20 AIR	310			::	
44/UGC-9() TPANSCEIVE® 1046 JIL PURIFIE® 4110 Circulating Puyp AN/SPS-79() 20 aim Search Radar My 72 Signal Data Converte My 72 Signal Data Converte My 72 Signal Data Converte My 72 Machinepy Cooling Pump	483	84	764-1	31	00.04
LUBE DIL PUKIFIEP Aain Circulating Puyp Aain Ses-79() 20 aim Search Radar An'Ses-79() 20 aim Search Radar An'Sestand Data Converter Auxiliary Machinepy Cooling Pump MJTCR MMalfegat	144	49	1.236	28	53.33
441N CIRCULATING PU4P AN/SP5-79(1 20 AIR SEARCH RADAR MY 72 SIGAL DATA CONVERTER Auxiliary Machinepy Cooling Pump 43708 MMALEGGT	262	50	.480	35	60.67
AN/SPS-791 I 2D AIR SEARCH RADAR Mr 72 Signal Data Converter Juxiliary Machinery Cooling Pump 40708 Mmalfeodi	256	15	.726	14	66.67
MK 72 SIGNAL DATA CONVERTER Auxiliary machinery cooling pump WJTCR whalfboat	452	25	\$16.	39	33.33
AUXILIARY MACHINERY COOLING PUMP 43TOR WHALEGOAT	482	25	3.680	69	00.
TCP WHAL FECAT	524	52	016.	25	53.33
	583	25	509	61	73.33
WE 7 CASE LAGE LAGADEL	121	25	149	4	11.33
SEELCEDATION OLANT	515		740		80.00
ACTANTAR IL	551	e.	228	20	1 00-00
BUAT DAVIT	583		111.	29	53.33
30Kh 400H7 MG. SET	314	69	523	14	46.67
60Kh 400HZ MG SET	314	61	114.	27	60.00
	426	61	.485	26	53.33
AN/MLR-L() ECM RECEIVING SET	472	63	.292	14	60.00
	254	49	.519	31	53.33
AN/URT-23(V) TRANSMITTER	1++	65	.832	46	13.33
SALINITY INDICATING CKT	437	60	929.	•	66.67
WIND SPEEL AND DIRECTION TRANSMITTER	437	61	.375	15	66.67
AUXILIAHY CIFCULATING PUMP	256	68	+18.	9	00.09
AN/UGN-11 1 FATHOMETER	424	63	.336	15	60.67
2-SPEED VENTILATION -AN	512	20	.813	21	20.67
WK 3 SIGNEL COMPANATOR	721	11	007.	16	60.00
STOT BLOKEKS	221	12	.456	2	53.33
FRESH WATER DRAIN PUMP	534	72	.637	8	00.00
4K 24 TAFGET DESIGNATION TRANSMITTER	482	14	1.286	2	63.00
WK 53 ATTACK CONSOLE	483	15	.629	13	53.33
BUILER MAIN STEAM STOP VALVE	253	16	.185	10	53.33
AW/SLA-121) ANTENNA GROUP	114	11	.312	35	53.33
MK 474 TEST SET	482	11	.224	19	00.67
IC SHITCHEGARD	324	19	.459	e	86.67
ASPEC LOLDER CPANE	122	62	.265	6	80.00

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PAINTENANCE BURCEN FACTOR ORDER

T NITO - CAT NOW CHEL & TUDE	1	MBF	#US	TASOFDTS	FRECUENCY (1)
COLINERCLA TURE	2010	-	LACION	C	
MATA CONCENSES	254	19	.688	2	19.99
AUSPA-411 I INDICATIO CROUP	450	81	.558	14	40.67
	165	83	.552	2	13.33
LAVART-20 1 TRANSMITTER	144	48	1.338	13	13.33
FILT TH AND ATLEF STRIPPING PLAP	529	85	646.	8	66.67
ANTSPS-171 1 20 410 SFARCH RADAP	452	86	.710	25	13.33
MATN STEAM 2.5" (1200PSI) GATE VALVE	253	87	.351	4	80.00
ANZIEC-321 1 THANSCEIVES	144	67	.878	17	26.67
WK 2 400 3 DIRECTOR OR LVE	184	68	164.	19	55.55
AV/SLA-101 1 VIDED BLANKER	472	05	801.	8	65.59
AS-8991 J/SLR DF ANTENNA	472	16	.199	1	86.67
FRESH WATER PRIMING DUMP	533	15	.476	•	10.00
44/UP11-201 1 TACAN	423	65	.648	15	26.67
AUXILIARY CONDENSATE PUNP	255	45	129.	•	£6.42
BURNERS AND FEGISTERS	221	55	.611	-	66.67
AN/UGC-251 1 TTY	445	55	.150	1	00.00
PORT FUEL CIL SEGVICE DUMP	261	15	.362	20	33.33
ANISPA-721 J ANTENNA GAJUP	453	85	.102	•	26.67
FUEL DIL DUPLEX STRAINEY	261	65	.363	11	53.33
DEGAUSSING SWITCHBOARD	415	100	.350	19	33.33
AW/SE4-33() ANTENNA COUPLER	1++	101	.130	18	00.09
LUX STEAN 3" (1200PSI) GATE VALVE	534	102	665*	14	26.67
AN/UND-71) RECORCER REPRODUCER	439	103	.229	10	60.00
DVEPBJARD BAINE PLMP	163	103	.221	•	00.00
JEAGHATING FEFD TANK	255	105	· 800	80 .	19.33
DKAI	426	105	.213	11	00.00
AN/UPX-23() INTERNOGATOR SET	455	101	•179	30	40.00
AN/509-231 1 SONAR SET	463	101	.343	;	00.
AN/HLA-31 1 AMPLIFIER GROUP	472	107	101.	13	60.00
R-3901 J/UK- RECEIVER	1++	110	.372	1	10.00
ANISPL-THI I REDAR INDICATOR	450	111	105.	14	26.07
Dat	426	112	.134	•	60.09
A/C CHILLED MATER PUMP	514	113	.427	2	53.33
1200-600 PSI STEAM REDUCING VALVE	\$34	114	643	6	33.33
PRUPELLOF ASSY	245	115	.474	12	20.00
SWISRA-191 1 RADIO RECEIVER	144	116	.212	*	10.00
45-5711 1/SLF OF ANTENNA	472	117	060.	e	86.67
45-6161 1/SLF DF ANTENNA	472	118	160.	1	55.23
600-150 PSI STEAM REDUCING VALVE	534	119	. 700	2	33.33
AM /1131-71 1 TU ANSMITTED	144	1 20	143		

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APPENCIX B

DDG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST

MAINTENANCE BUFCEN FACTOR ORCER

FRU PAENT NOMENCLATURE AN/SP1-4() [NU[CATOR S4ESH MATER PURS S4IP SEPVICE SWITCHBJARD AN/SP1-34() [ND]CATJR GROUP	SHAS	RANK	FACTOR	
AVISEL-41 I INCICATOR 44VISEL-41 I INCICATOR 54ESH WATER PUMP 54IP SEAVICE SWITCHBJARD 4VISEL-341 I INDICATOR GROUP				
AVISEL-41 INCICATOR FLESH WATER PUMO S4IP SEAVICE SWITCHPJARD AVISPL-341 INDICATJR GROUP	-			
SAESH WATER PURP SHIP SEAVICE SWITCHEJARD AV/SA-34() INDICATIR GROUP	450	131	.675	
SHIP SERVICE SWITCHDARD AVSPA-340 1 INDICAT & GROUP	115	122	260	-
AVISPA-34() INDICATIR GROUP				•••
	150	124		
	2.5			
ALL SA LINC PUMP	410	61	007.	
DEGAUSSING POWER SUPPLY	475	1:0	051.	15
EMERGENCY DIFSEL SH 3005TFR PUMP	342	121	.362	5
AV/SP4-331 INJICATOR	450	128	.128	2
AN/WRW-3() FECEIVES	144	129	.172	1
K.R-37/75FC		130	-230	
ANCINA MINI ACC	Sal	130	920	
Tri count cet itvoc ci				
	163	121	141	••
	160		101.	
AUX STEAM 2"ILLOUPSIT GATE VALVE	934		074.	• •
TSEC/KY-F	446	125	082.	9
PRUPUL SICH GLAND EXHAUSTER	254	136	.222	9
WK 5 LOW LIGHT LEVEL TV	482	137	.222	15
LIME SHAFT BEAKING ASSY	241	138	.465	•
154M SOUND WEVIE PROJECTOP	434	134	155.	•
44/UR3-271 J RECEIVER	1++	140	.119	•
21/SP4-66() 24044 INDICATOR	450	140	.129	61
44 78 PISITIC'N INDICATOR	483	142	•058	6
T-WK 6 FELFE WINCH	473	143	.338	
JEGAUSSING COIL NG SET	\$15	6+1	.103	1
MK 43 FCS RELAY TRANSMITTER	483	E+I	.199	1
HP AIR FLASKS	155	146	000.	•
24/US4-1171 1 650 TLL 350 OPE	164	147	062.	•
24-34241 1/URT AF AMPLIFIER	1++	148	.088	26
AM-30371 1/UKT AF AMPLIFIER	1++	149	.106	20
AN/UH4-361 I ANTENNA COUPLES GROUP	1++	149	.085	11
1200-12 PSI AUGMENTINS STEAM VALVE	534	151	.221	
** 14 FC SWITCH534R0	484	152	-015	0
AS-93ul 1/SPS-101 1 ANTENNA	. 451	153	000-	•
LUGE JIL DUPLEX STRAINER	262	154	.217	•
ANVUSC-301 J CATA COMM SYSTEM	415	154	.012	26
MILN ENGINE GULADING VALVE	253	156	.243	5
BUX IL I LAY CONDENSER	254	156	616.	
ANJUPA-IL I FACAR RECOGNITION SET	455	158	.192	12
SALT WATER HEATER DRAIN PUMP	531	159	.092	•
AN/UPA-171) CUNVERTER-CUMPARATOR	5++	160	.316	•

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DDG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST

PAINTENANCE BURDEN FACTOR CRCER

EUIPAENT NOMENCLATURE	SmBS	MBF RANK	MOS FACTOR	ND. OF CASREPTS	CVERHAUL FRECUENCY (\$)
NAV IGATICN CHACNOMETER	125	141	.550	0	6.67
LAUNDAY CAYER	655	161	•036	•	66.66
AN/SPW-151] TEST SET	482	163	106.	0	66.66
AN/US4-2071 1 DIGITAL CJUNTER	165	164	. 500	1	8.
AV/PS4-4() MULTIMETER	165	165	.531	•	8
/US4-2011 1 05C1LL35C0PE	165	166	-517	•	8.
24/PRC-411 1 TRANSCEIVER	17.	167	.258	I	26.67
ISEA-171 J ANTENNA GHJUP	133	167	.121	•	53.33
WE 75 MANGEFINDER	185	169	.123	•	13.33
AUX STEAM 1.5" (1200PSI) GATE VALVE	534	170	+11.	•	20.00
	£93	Int	.328	2	00.
/UPA-111 1 INTERROGATUR SET	455	172	.327	2	8
ALCAR / SOMAR CUOLING WATER PUPP	536	173	.298	1	6.67
CJ-937/UF TUNER	1++	174	-077	1	6.67
CCUH-803-EL 1 VOLTMETER	164	175	• 369	•	8.
JURG-101 1 FREQUENCY STANDARD	111	176	640*	ŝ	13.33
/SLU-II I DIRECTION FINCER SET	11.4	111	.033	•	6.67
AUSH-1151 J RANGE CALIBEATION SET	165	111	.342	•	8.
AN/URC-BOLVI TPANSCEIVER	111	179	900.	•	6.67
-8591 1/APX-72 TRANSCEIVER	455	611	-022	1	00.
ISRA-221 I ANTENNA COUPLER	144	181	.260	0	6.67
3 INCCUL & S	+21	182	.284	•	8
ALLER - 241 1 LECTORE	455	143	-186	•	00.

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DDG-2 CLASS MAINTENANCE-CRITICAL EQUIPMENT LIST SWBS ORDER

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		Ner	SOM	NO. OF	OVERHAUL
E JU IPHENT NOVENCLATURE	SHIBS	RANK	FACTOR	CA SREPTS	FREQUENCY (
AAIN BOILERS	221	1	18.398	¢16	100.00
ALANERS AND FECTOTERS	166	50	114		14.41
	199	2	0000		60.94
ACC/FWC SYSTEM	221	67	1.273	62	60.00
BOILER SAFETY VALVE	221	63	.720	16	00.08
HP/LP TUGEINE	231	53	2.293	46	60.00
LINE SHEFT SEARING ASSY	192	138	.465	۰	6.67
940PELLOF 455Y	245	115	414	12	20.00
FJACED OF AFT BL JUFA	251		3.586	117	100-00
1.30	253	76	.185	10	69.33
44 IN ENGINE GUARDING VALVE	253	156	243		20.00
41 N STEAP S" (1200 PSI) GATE VALVE	253	25	104	34	80.00
1 GATE	253	53	.351	4	80.00
MAIN CONDENSER	254	81	-688	•	60-67
AUTILIARY CONDENSER	254	156	-319		20.00
PAUPON SILA GLAND EXMAUSTER	254	136			11.31
AUXILIARY GLAND EXHAUSTER	254	49	-519	31	53.33
WAIN FEET PUMP	255		5.393	168	55.59
MAIN CONDENSATE PUMP	255	12	1.683	38	93.33
411N FEET BOCSTER PUMP	255	5	3.019	99	100-00
AUX IL TARY CONDENSATE PUMP	255	76	.627	s	53.33
DEAFALTING FEED TANK	255	105	.800	60	13.33
AA IN CIRCULATING PUMP	256	15	.126	*1	60.67
NUXILIARY CIFCULATING PUMP	256	68	-814	ه	60.00
FUEL DIL SERVICE PUMP	192	16	2.149	65	60.67
PUEL DIL CUPLEX STRAINER	261	66	.383	11	55.53
THE FUEL CIL SERVICE PUMP	261	16	.362	20	££.£Ę
11 LUSE DIL STANDBY PUMP	262	32	1.224	27	60.67
LUBE UIL PURIFIER	262	50	.480	35	66.67
LUBE DIL LUPLEX STRAINER	262	154	.217	•	40.67
SHIP SERVICE TURBINE GENEPATON	311	29	2.732	109	10.67
ENER	312	15	1.240	36	40.67
0JAH 403HZ 46 SET	314	61	114.	27	60.00
3.4K 400H2 46 SET	314	99	.523	1.4	10.04
IC Swirchecafd	324	61	.459	e	60.67
SHIP SEPVICE SHITCHETARD	324	123	.618	.0	13.33
EREPGUNCY CIESEL SH 3003TFH PUMP	342	127	.362	5	00.04
	415	154	-012	26	.00
	421	161	.550	0	10.0

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COG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST

SHIPS NOPK BREAKCOWN STRUCTURE DRDER

E JUIDMENT NOMENCLATURE	SMBS	AAM	FACTOR	CASREPTS	FRE CUENCY (5)
11/584-61 1 T1CAN	423	\$	£07.	8,	60.00
AN/URY-201 J TACAN	423	65	849.	15	26.67
TAVURD-41 1 FADIO DIRECTION FINDER	423	+1	.936	57	86.67
AN/UGN-11 1 FETHOMETER	+2+	69	.336	15	66.67
IN 19 GVAC CUMPASS	426	\$	2.955	100	93.33
UNDERWATER LCG	424	35	\$54.	35	69.33
VC-2 PLOTTER	426	13	.685	26	53.33
Dat	424	112	•13•	•	80.00
JAAI	426	105	.213	11	60.00
DIAL TELEPHONE SWITCHHOAPU	432	38	1.305	•	66.69
TELEPHONE SET (TYPE F)	432	132	.466	1	46.67
16MM SOUND MEVIE PROJECTOR	434	139	166.	•	6.67
SAL INITY INDICATING CKT	437	¢6	676.	*	66.67
ALNO SPEED AND DIRECTION TRANSMITTER	437	61	.375	15	66.67
AN/UND-7() RECORDER REPRODUCER	439	103	•229	01	60.00
4-30071 1/LAT PF AMPLIFIER	144	149	.106	20	00.
4-39241 1/UFT RF AMPLIFIER	1++	148	.068	26	8.
W/PPC-411 1 TRANSCEIVER	1**	167	•258	-	20.07
WISRA-171 ANTENNA GROUP	144	167	.121	•	53.33
AV/SAA-221 1 ANTENNA COUPLER	1.	181	.260		6.67
W/SRA-331 ANTENNA COUPLER	111	101	•130	18	60.00
VISRC-201) TRANSCEIVER	111	15	1.934	36	80.00
W/SRC-211 TRANSCEIVER	111	**	1.0.	61	60.00
N/Sap-191 1 4A010 RECEIVEP	3	116	-212	•!	66.67
		149	580.	11	13.33
-	144	Ş !	1.236	28	53.33
AN/UHC-32() TRANSCEIVER		18	.878	12	26.67
VI TPANSCEIVE	144	6/1	900.	3	6.67
	144	176	640.	2	13.33
-	111	140	611.		00.00
MU/URT-71 TRANSMITTER	1++	120	.142	2	66.67
2	1++	65	.832	••	13.33
-	1++	129	.172	1	13.33
AW/WRT-21] TAANSWITTEP	111	*8	1.338	13	11.33
CU-931/UR TURER.	144	114	.077	1	0.67
4-3901 I/URA ALCEIVER	1++	110	.372	1	66.67
A-1051(1/URE RECEIVER	1++	20	2.172	32	13.33
AN/UGC-251 1 177	445	56	.750	1	00.04
AW/UFA-171 J CONVERTER-COMPARATCR	544	160	.316	0	33.33

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DDG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST

APPENCIX C

SHIPS MORK BREAKCOWN STRUCTURE ORDER

COUTPHENT NOMENCLATURE	Swes	16F AANK	MDS FACTOR	NO. OF CASREPTS	•
TSECART-B	446	511	.280	9	
ANTSPL-41 1 INDICATOR	450	121	.675	2	
AVISP1-251 1 INDICATOR GROUP	450	36	1+8.	20	
AV/SPA-331 1 INDICATOR	450	128	.728	2	
I INDICATOR	450	124	+69*	5	
-	450	18	.558	1	
AN/SP4-661] RAJAR INDICATOR	450	0+1	621.	61	
-	+50	111	10+.	:	
AN/SPS-ICI) SURFACE SEARCH RADAR	154	81	1.009	38	
25-4361 1/5PS-101 1 ANTENNA	155	153	000.	0	
AN/SPS-251 1 20 418 SEARCH RADAP	452	25	\$15.	39	
I ZO ALA SEARCH	452	98	.110	25	
AN/SPS-40() 20 ATA SEARCH RADAP	452	44	2.629	62	
AN/SP3-391 30 AIP SEARCH RAUAR	£54	10	6.145	111	
ANISP1-721 1 ANTENNA GAOUP	655	86	.762	•	
AV/UP4-24() DECODEP	455	163	.186	•	
1 1	\$55	158	261.	12	
-	455	112	.327	2	
AW/UP4-231 I INTERROGATOR SET	455	101	.179	30	
AT-859(1/2PX-72 TRANSCEIVER	*55	119	.022	1	
AV/SQS-231) SOMAR SET	463	21	3.106	39	
	£95	101	.343	:	
PU-485(1/53 46 SET	463	171	926.	2	
AWISLO-IG I CIRECTION FINDER SET	11.5	111	EE0.	•	
	124	"	.312	35	
ANULO-61) COUNTERMEASURES SET	12.5	22	1.622	**	
-	212	05	.108	8	
Ξ	412	101	101.	13	
-	572	63	262.	14	
1/ SLF DF A	214	111	060.	M	
•	472	118	160.	1	
45-8991 1/SLF OF ANTENNA	472	16	661.	-	
T-MK & FAMFAFE MINCH	624	[+]	.338	F	
	515	126	.150	15	
0	415	143	.103	-	
JEGAUSSING SHITCHBGARD	51.5	100	.350	61	
24/5PG-531 1 HAUAF SET	185	6	3.666	11	
HE 63 GUN DIRECTOR	184	•	1.134	=	
	105	169	.123	•	
WK IS STABLE ELEMENT	181	30	.512	32	

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	SHIPS NOFK BREAKCOWN STRUCTURE DRUGA	DWN STRUCTURE	ORDEA		
		181	\$0\$	ND. OF	CVERHAUL
EULIPAENT NUMENCLATURE	SHBS	RANK	FACTOR	CA SREP TS	FRECUENCY (\$)
× 2 400 3 DIFECTOR DAIVE	185	69	164.	19	11.13
	184	12	1.965	37	93.33
AWSPG-51() RADAP SET	482	2	22.084	250	93.33
** 73 TAFTAP MISSILE DIRECTOR	482		3.000	54	53.33
K 152 DIGITAL COMPUTER	(8)	12	1.355	5	60.00
A 72 SIGNAL DATA CONVERTER	3		3-680		00
PEADING DID SCT TIN FOUT DAFA T	201		700-6	5	IL'IL
W 34 TAGGET DESTENATION TRANSMITTED	201		1.744		00.04
CON-161 1 TECT CET	201		101		
	201				
	200		****		
	784	-			10.00
	483	9	1.492	37	40.00
	483	15	629.	13	EE'ES
WK 76 POSIFICN INDICATOR	483	142	950.	•	40.00
WK 43 FCS RELAY TRANSMITTER	483	143	.199	1	26.67
	484	152	-015	•	66.67
AN/PSM-41 1 MULTIMETER	164	165	165.	•	00.
AN/US4-115() PANCE CALINEATICN SET	165	111	342	•	
AN/US4-1171 1 05C ILLUSCOPE	165	147	.130	•	00.
AN/US4-2076) DIGITAL COUNTER	164	164	.500	1	00-
AV/US4-2016 1 CSC 14435COPE	164	166	-517	0	00.
CCUM-403-81 1 VJLTMETER	165	175	.369	•	8.
2-SPEED VENTILATION FAM	512	8	619.	21	26.67
A/C PLANT	\$15	61	2.688	32	13.33
A/C CHILLED WATER PUNP	514	113	124.	5	53.33
A/C SW CIRC FUMP	514	125	.288	2	00.00
REFRIGERATION PLANT	516	15	0+1.	•	80.00
FIRE PUMP	521	1	4.263	133	86.67
UXILIARY MACHINERY COOLING PUMP	524	52	016.	25	51.13
FUEL GIL AND BILGE STRIPPING PUMP	529	85	.3+9	¢	66.67
DISTILLING PLANT	531	26	1.784	11	65.69
DISTILLEP FEED PUMP	531	63	.552	2	55.67
DISTILLATE PUMP	531	133	181.	1	66.67
SALT AATEF HEATEP DEALN PUMP	531	651	260.	0	60.00
JVEF BJAQD BP INE PUMP	162	103	.227	3	80.00
FRESH WETTH PAIMING PUMP	533	15	.476		66.67
FRESH WATER PUMP	533	122	.240	1	66.67
FRESH WATER CPAIN PUMP	534	12	.637		60.00
1200-000 PSI STEAM REDUCING VALVE	534	114	544.	•	33.33
a the part of a provide the set	111	110	1001		11 11

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DUG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST

SHIPS NORK BREAKCONN STRUCTURE ORDER

EDUTPYENT NUMENCLATURE	5 # 85	NBF AAK	4DS F 4C TOR	ND. OF CASREPTS	CVERMAUL FREQUENCY (5)
1200-12 PST AUGHENTING STEAP VALVE	\$34	151	.221	•	33.33
ALL CLEAN 3" LIDDOPSII CATE VALVE	534	102	665"	•1	26.67
THE CLEAN 2"(12300511 GATE VALVE	534	134	.420	5	26.67
ALK STEAN 1.5"(1200951) GT VALVE	534	170	.174		20.00
PADALY SONAR COTI ING AATEN PUMP	536	173	862.	1	6.67
ND ALA COMPRESSING	551	11	1.053	38	00.00
WP ETE RASKS	551	146	000-	0	13.33
I D ALE FLEDRES COR	551	36	2.135	10	00-00
I D ATT DEWYRATION	551	85	.228	20	100.00
CTECEINC CLAE	195	45	.816	01	86.67
	281	130	.229	2	00.00
TIME TANK	583	5	111.	29	53.33
DEDCIMAL ADAT	583	15	1.577	20	60.67
MUTUE HURI CANAT	583		605.	19	66.61
I AIN DUY (BYER	655	161	•036	9	33.33
WE AD STISS CAL GUN YOUNT	711	п	7.139	116	66.67
AN 11 CM I AUNCHER	721		4.392	66	46.67
ME 12 CM I AIRCHER	721	53	7.87.2	84	46.67
	144	12	00**	16	60.00
WE 7 LADE LACE LA SENCI	121	25	169.	•1	13.33
A T CUTTE LEGATI	121	9	.887	16	13.33
ACTOR I TABLE CPANE	122	52	.265	6	60.00
	121	34	1 023	11	80.00
AK 32 TOWFELL TUFE			774.1		

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DDG-2 CLASS MAINTENANCE-CRITICAL EQUIPMENT LIST MAINTENANCE BURDEN SOURCE RANKING

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APPENDIX D

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Section 1

DUG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST

MAINTENANCE BURGEN SOURCE RANKING

INTENANCE DATA SYSTEM BURDEN ORGERI

	MAINTENANCE DATA SYSTEM BURDEN ORDER	ATA SYSTEM	BURDEN ORGE	8				
		.84	*CS	SOM	NO. 0F	CA SREPT	CVERHAUL	CVHL
SCULUMENT WEYENCLATURE	SMBS	PANK	FACTOR	RANK	CA SREPTS	RENK	FREC (\$)	ANK
AN/SPG-SLI I AAFAP SET	482	2	22.084	1	250	2	63.33	5
VAIN BOTLEOS	177		18.398	~	410	I	100.00	1
* 42 5"154 CAL GUN MOUNT	111	14.	7.139	•	116	1	66.67	6.4
ANIS PS-391) 36 419 SEARCH RADAR	£54	10	6.145	*	117	•	73.33	39
SAUC C334 VIAN	255	e	5.393	•	168	m	93.33	2
WK 11 GM LALNCHER	121	24	266.4	•	66	10	40.67	Eu1
FIPE PUMP	521	1	4.263	~	133	•	86.67	61
AK 72 SIGNAL DATA CONVENTER	485	52	3.680	10	69	15	00.	167
AN/SPG-531 1 RADAR SET	185	6	3.666	•	11	12	80.00	25
FURCED DRAFT BLOWER	142		3.586	01	111	5	100.00	-
AV/SOS-231 1 SONAR SET	£93	21	3.106	п	39	52	60.00	10
VAIN FEED BOUSTER PUMP	255	\$	3.019	12	99	16	100.00	-
AEAPONS PIRECTION EQUIPAENT	482	28	3.007	13	1.5	22	53.33	16
* 73 THATEP VISSILE DIRECTOR	485		3.000	14	58	18	93.33	•
HK 19 GVIL COMPASS	424	2	2.955	15	100	5	93.33	5
MK 13 GM LAUNCHER	121	33	2.787	16	84	20	40.67	103
SHIP SEAVICE TURBINE GENERATOR	311	29	2:132	11	139	æ	46.67	103
	+15	61	2.688	81	32	42	13.33	39
AN/SPS-431 1 20 414 SEARCH RADAP	452	44	2.629	61	62	11	20.00	142
HPALP TUKETWE	231	č3	2.293	20	•	26	¢0.00	10
R-13511 1/UFP RECEIVEP	1++	20	2.172	21	32	*2	13.33	39
FUEL OIL SEFVICE PUMP	261	16	2.149	22	\$9	=	66.67	6.
LP ALA CUMPKESSCR	155	36	2.135	23	16	EI	40.00	111
# 47 COMPUTER	185	12	1.965	*	37	35	93.33	5
AN/SRC-201) TEANSCEIVER		15	1.934	52	8	35	80.00	52
1 32 TOPPELO TUBE	151	34	1.922	92	=	15	90.00	52
JIST ILL ING PLANT	165	56	1.784	12	=:	15	63.33	•
	552	12	1.083	87	38	16	61.13	•
WULLO-OF & COUNTERMEASURES SET		22	220-1	62	2		PC. 00	2
PERSONNEL BLAT	585	11	110-1	2:	2	20	10.00	64
* 38 ATTACK CONSCLE	£ ? \$	48	264-1	31	37	35	40.00	III
* 152 DIGITAL COMPUTER	495	21	1.355	32	1.5	22	00.00	22
WINHT-24 1 TRANSMITTER	1++	84	826.1	33	13	48	13.33	148
THE TELEPHINE SHITCHBOAPD	432	36	1.305	**	•	.13	61.33	\$
** 24 TARGET DESIGNATION TRANSMITTER	485	14	1.286	35	2	**	60.00	10
SUCY FMC SYSTEM	177	39	1.273	36	59	14	00.00	22
STEPGENCY DIESEL GENERATOR	312	15	1.240	37	36	35	40.67	103
	3	64	1.236	38	28	54	53.33	16
" I' LUBE CIL STANDEY PUMP	202	32	1.224	66	12	20	66.67	6.
A DE CUN DIPECTUR	184	40	1.134	•	H	15	80.00	52

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		APPENDIK D					PAGE	5 CF >
	DDG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST	NANCE CRIT	ICAL EQUIPME	NT LIST				
	MAINTENANCE	BURCEN SO	MAINTENANCE BURCEN SOURCE RANK ING					
	IMAINTENANCE DATA SYSTEM BURDEN ORDER	AT & SYSTEM	EURDEN ORDE	2				
SQUEAVENT N'AENCLATURE	SMBS	NBF PANK	FACTOR	ANK	NO. OF CASREPTS	CA SREPT RANK	CVERHAUL FREC (\$)	CVHL
HP AIA COMPRESSOR	155	11	1.053	1,	36	31	eo. 00	25
AWIS S-131 I SUFFACE SEARCH FLOAR	155	81	600-1	24	36	31	80.00	25
WISPS-291 J 2C AIR SEARCH RADAR	255	52	516.	\$	39	52	33.33	118
TANK SOUND VOVIE PROJECTOR	*25	26	130	13	0	241	19.95	16
ANUSO-41 FACIO DIRECTION FINDER	423	1	-936	; ;	15	51	86.67	61
	169	66	.929	14	*	131	66.67	6.
W 7 GUIDE (ASACC)	121	3	188.	;	18	59	13.33	39
AVJSC-321) TRAISCEIVES	1.	81		•	21	88	26.67	191
AVAIST-23LVI TRANSATTER	141		229.	22	83		11.11	148
STEEPIng Get	195	\$.816	52	2		86.67	61
AUXILIARY CIFCULATING PUMP	256	68	.814	53	9	113	60.00	2
2-SPEED VENTILATION FAN	512	20	.813	54	21	51	26.67	161
DESERATING FLED TANK	255	105	.800	55	80	103	13.33	148
ANJSH-1170 DISCILLUSC PC	165	141	051.	25	•••	200	8	167
W/J6C-25(1 117	593	50	051.			551	00.04	101
REFRIGEDATION PLANT	516	52	044.	65	••	113	80.00	25
ANISPA-331 1 INCICATOR	450	128	.728	60	2	144	20.00	142
MAIN CIFCULATING FUMP	256	15	.726	19	4	52	06.67	64
BUILT SAFFIT VELVE	122	÷ 4	021.	29	9 0	27	80.00	52
AN/SPS-371) 2C AIH SEARCH PADAH	264	86	014.		22		13.33	148
WATN STEAM S" (1200 PSI) GATE VALVE	253	25	+01.	65	38	31	80.00	25
AN/SRN-61 TACAN	63	9	.703	99	44	20	60°00	20
ANYCRA-341 1 INDICATOR SECURE	450 450	611	001.	19	~ `	144	33.33	119
ALA CLUDENSER	254	18	.688	0.0	• •	114	13.33	
46-2 PL JTTER	426	19	•685	10	26	52	53.33	16
ANSPA-41 1 INDICATOR	450	121	.675	11	2	144	33.33	118
4K 7 Cuav 1466 (456 3C)	121	25	•657	12	1	52	13.33	66
ANDAT-COLITATEN		55	840.	2:	5		26.67	161
FRESH WATER THAN PUMP	465	::	110.	22	. «		0.00	22
AK 53 ATTACH CONSOLE	403	22	.629	16	1		53.33	2.5
AUXILIAFY CONDENSATE PUAP	255	*6	+53°	11	. 9	113	53.33	16
SHIP SEPUICE SHITCHBUARD	324	123	.618	78	•	113	13.33	148
SUPPERS AND 4 EGISTEPS	221	55	119.	61	1	155	00.67	67
24/3PA-411 1 MUICATOR 5400P	450	18	•558	80	•1	52	40.67	Iua

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			CVHL	39	159	167	103	16	167	s 0	167	131	911	6.9	10		142	103	661			118	16	131	151	2 5	• • •	64	167	118	111	118	5.4	167	167	64	167	131	101
			CVERHAUL FREG (S)	13.33	10.01	00.	46.67	53.33		93.33	00.	26.67	33.33	66.67	00.09	66.67	20.00	19.04	10.0	00.01	93.33	33.33	53.33	26.67	26.67	51.33	00.67	66.67	00.	33.33	00.04	11.33	66.67	.00	00.	66.67	00.	26.67	00.
			CA SREPT RANK	144	166	166	22	5.5	166	23		52	5	39	50	131	86	155	E11	144	36	56	124	124	52	215	14	155	166	56	124	101	103	28	166	74	144	136	144
			NO. OF CASREPTS	2	0	•	14	31	•	32			19	35	27	+	12		•••	• •	35		\$	2	1:	11	15	1	0	20	•••	• •		**	0	15	2	•	2
17 1151		-	ANAS	81	82	83	*8	85	86	87		00	16	26	66	16	66	96	16		100	101	102	103	101	104	101	108	109	110	110	111	*11	115	116	117	117	117	120
ICAL EQUIPMEN	MAINTENANCE BURCEN SOUPCE RANKING	BURDEN ORDER	HCS FACTOR	.552	.550	165.	.523	515.	115.	-512	40C*	564.	16.	084.	114.	414.	414.	.466	.465	454	554.	644.	154.	.420	104-	004. EBE.	.375	576.	.365	.362	.362	1050	546.	646.	.342	.338	.328	.338	.327
ANCE CRITI	BURCEN SOU	ITA SYSTEM	PARK	83	101	165	09	64	166	90	74	102	68	50	19	16	115	132	138	22	35	114	113	134	==	200	67	110	175	16	121	001	85	101	177	69	171	143	172
306 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST	MAINTENANCE	IMAINTENANCE DATA SYSTEM BURDEN DADER	S#65	165	124	164	314	254	164	185	194	534	184	262	314	533	542	432	142	122	120	534	\$15	534	121	172	131	1**	164	261	542	415	555	403	165	424	403	614	455
			EQUIPHENT MENCLATURE	JISTILLE® FEED PUMP	NAVIGATION CHRONOMETER	AW/PSM-41) MULTIMETER	30K4 40042 VG SET	JUXIL LARY OL AND EXHAUSTER	34/US4-2411 1 050 ILL0500FE	HE IS STARLE ELEMENT	AUDICH WHALCTURI AMANGH-2071 I DIGITAL CHINTED	AUX STEAN 3" (12000 ST 1 GATE VALVE	WK 2 400 3 CIRECTOR DRIVE	LUBE DIL PURIFIER	60K4 403H2 PG SET	FRESH MATES DE INING PUMP		TELEDHONE SET LITADE FI	LINE SHAFT HEAFING ASSY			1200-600 PSI STEAM PEDUCING VALVE	A/C CHILLED WATER DUMP	MUX STEAM 2"(1200PSTI GATE VALVE	AN/SPA-74() HADAF INCICATOR	THE STUTAL CUTANAION	AIND SPEED AND DIRECTION TRANSMITTER	2-3901 JUNE RECEIVER	COH-303- cf) VCLTMETER	PIRT FUEL DIL SERVICE PUNP	THEREENCY DIFSEL SH BOUSTER PUMP	THE SIGHT CAST LEUNSTITUTION OF THE T	FUEL DIL AVE ALLGE STR [PP ING PUMP	21/500-231) SGAR SET	ALLISH-ILST I RANGE CALIBRATION SET	W/JON-LI] FATHOMETER	DU-4951 1/5. 40 SET	T-MA D FANFICE .INCH	W/JPX-III) INTERACGATJP SET

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	DUG 2 CLASS MAINTENANCE CRITICAL EQUIPMENT LIST	NANCE CRIT	ICAL EQUIPMEN	IT LIST				
	PAINT ENANCE	BURCEN SOL	MAINTENANCE BURCEN SOURCE RANK ING					
	(MAIATENANCE DATA SYSTEM EURDEN URDER	IATA SYSTEM	BURDEN URDE					
EQUI PHENT NOMENCLATURE	SBMS	RANK	MOS	WDS RANK	NU. OF CASREPTS	CA SREPT RANK	CVERHAUL FREG (S)	CVHL
Constant in the server	Ĭ				•			14.7
	-0	120	616.	171	•	135	00.02	741
ANJON ALINI LUNVENIEK-CURVANA TUN		100		122	2 2	100	51.13	110
• •		141	100	126		144	11.11	118
~	536	173	852.	125	· -	155	6.67	159
AWALR-II I ECH RECEIVING SET	412	63	262.	126	1.	22	60.00	10
A/C SW CIRC PUMP	515	125	.288	127	2	144	00.00	22
al NOCUL AR S	421	182	•58*	128		166	8	101
TSEU/KY-8		135	.280	671	• •	511	55.33	118
ASPOC LUADES CRAME	202	2	592.	111		56	80.00	25
ANSHA-22() ANTENNA COUPLER	144	181	.260	132	. 0	166	6.67	159
FRESH MATER PUMP	533	122	.260	132	1	155	66.67	6.4
AN/PAC-41() TRANSCEIVEO	1**	167	.258	134	1	155	26.67	131
MAIN ENGINE GUAFDING VALVE	253	156	543	135	5	124	20.00	142
AMP-31/15EC	0 **	OFT	DES.	136	25	2	20.01	191
ANGULT I TELEVICEN AFTRUDUEN	101 102	1 30	477.	101	2~	144	00.00	22
LP 416 DE HV DE 470R	551	28	.228	139	20	56	100.00	-
OV ER UJAP J BF INE PUMP	165	103	.227	140		136	80.00	25
MK 474 TEST SET	482	11	.224	141	61	63	66.67	64
PROPULSION GLAND EXHALSTER	254	136	-222	142	æ .	51	33.33	118
TK 5 LOW LIGHT LEVEL TV 1201-12 DS1 SUGMENTING STEAM VALVE	784	151	122.	142	4		13.33	841
	426	105	.213	145	'n	16	60.00	22
AN/SRR-191 1 PACIO RECEIVER	1++	116	.212	146	*	131	66.67	64
AS-8991 J/SLA DF ANTENNA	472	16	561.	141	~ '	108	86.67	61
IN 45 FUS KELAT INANSHITTER	455	158	651.	141	- 1	105	10.02	151
ANUPA-24 DECODER	455	183	.186	150		166		167
BUILER MAIN STEAM STOP VALVE	253	76	.185	151	10	36	93.33	5
JISTILLATE FUMP	165	133	181.	152		155	66.67	6.5
-V/JPX-23() INTEXRUGATOR SET	404 407	101	611.	153	õ.		00.04	III
	11	021		155	•-	151	73. 33	741
	(1)	101	141	156			00-00	101
SECAUSSING POWER SUPPLY	475	126	.150	151	15	14	40.00	III
24/JRT-71) TRANSMITTER	1**	120	.142	158	\$	124	66.67	64
24.1	426	112	+E1.	159	+	131	80.00	25
TALA-331 1 ANTENNA COUPLER	1++	101	061.	160	16	65	00.00	10

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			UNH	RANK	148	148	16	10	•	167	111	\$	10	19	167	148	159	111	148	118	159	107	65	167	159	64	39	
			CVERHAUL	FREC (%)	13.33	13.33	53.33	00.00	93.33	00.	40.00	93.33	00.00	86.67	00.	13.33	6.67	40.00	13.33	33.33	6.67	00.	66.67	00.	6.67	00.67	73.33	
			CA SREPT	RAKK	63	113	166	136	103	56	106	155	166	136	52	11	106	56	124	113	E11	106	166	52	113	166	168	
			40. OF	CA SREPTS	61	•	•	e	80	50	1	1	•	e	26	11		•	5	•	9	-	•	97	•	0	•	
ור נוגד		-	NDS	RANK	191	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	171	178	179	180	181	182	182	
ICAL EQUIPMEN	MAINTENANCE BURDEN SOURCE RANKING	BURDEN ORDER	MOS	FACTOR	521.	.123	.121	611.	901.	•100	.103	160.	-092	060"	990-	-085	110.	85C.	640.	.036	.013	-022	510.	-012	900.	000.	000.	
VANCE CPIT	BURDEN SO	AT & SYSTEM	MBF	PANK	140	169	167	140	06	149	143	118	159	117	148	149	174	142	176	191	177	179	152	154	179	153	146	
DUG 2 CLASS PAINTENANCE CRITICAL EQUIPMENT LIST	MAI NTENANCE	MAINTENANCE DATA SYSTEM BURDEN ORDEN		SWBS	450	481	1**	1++	£12	1++	415	472	531	472	1**	1*	1**	643	1++	655	114	\$49	684	415	14	451	155	
				EQUIPMENT NOMENCLATURE	ANISPA-661 RACAP INDICATOP	W 75 PANGEFINDER	ANISGA-17() ANTENNA GROUP	AN/URR-27() RECEIVEP	AN/SLA-131 1 VICED BLANKER	AM-30071 1/UHT RF AMPLIFIER	DEGAUSSING COIL NG SET	45-6161 1/54 DF ANTENNA	SALT MATER HEATER DRAIN PUMP	45-5711 1/5LF DF ANTENNS	AM-39241 JUWT PF AMPLIFIER	ANIJEA-341 1 ANTENNA COUPLER GROUP	CU-937/US TUNER	WE TE POSITION INCICATOR	AN/JED-LJI 1 FREQUENCY STANDAPU		AN/SLU-11 DIRECTION FINDER SET	41-8594 1/2PX-72 TRANSCEIVER	MK 14 FC SWITCHBOARD	AN/USC-3JE I DATA COMM SYSTEM	AN/JEC-BJLVI TEAN SCE IVER	AS-936(1/5PS-10() ANTENNA	PO 412 FLASKS	

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