

## CHAPTER 3

# AVIATION SUPPLY

Previous chapters introduced you to some of the purposes for the various levels of maintenance and the associated maintenance reports and publications. This chapter discusses the actions you perform that affect the logistics support (supply) of your activity.

### ORDERING AIRCRAFT REPLACEMENT PARTS

**LEARNING OBJECTIVES:** Identify the purpose and composition of Project/Priority codes. Define the purpose of Force/Activity and Urgency of Need Designators. Describe how the supply department justifies stocking replenishment items.

The information you provide so readily about your car cannot be given as easily about aircraft parts. Therefore, the Navy has shop supervisors and material specialists, Aviation Storekeepers (AKs), available to help you identify components and bits and pieces of components. The AK is the representative of the aviation supply department, and fills a position similar to that of the clerk in the automobile parts store.

Remember how you removed the broken water pump from your car and obtained a replacement for it? The clerk in the parts store ordered the part by filling out a form or even more recently, responding to questions asked by a computer. When you discover a part on an aircraft that needs replacement, you order that part on a Visual Information Display System/Maintenance Action Form (VIDSMAF) or in Naval Aviation Logistics Command Management Information System (NALCOMIS).

When entering data on the VIDS/MAF (a 5-part form), you must use a black ballpoint pen. Press hard so that all copies are readable, and PRINT LEGIBLY. Failure to write clearly cannot only cause receipt of the wrong part, but the AK might order an item that costs thousands of dollars simply because YOU DID NOT WRITE A PART NUMBER CLEARLY. There are many reasons for mistakes. Often: mistakes are as simple as a transposed part number or NSN. The lack of a dash number (-1, -2, -3) can cause supply to put the next higher assembly on order.

When entering a part number, you need to make sure that the part number is 100-percent correct. DO NOT GUESS! You should use the publications available and, if in doubt, ask for help. Not all items for a particular type of aircraft are interchangeable. Some examples of differences are different part numbered items for different models of the same type of aircraft, and different dash numbers in a part number to designate which side (left-hand or right-hand) an item is designed for.

### PROJECT AND PRIORITY CODES

Once your work center determines that a part is required, maintenance control assigns the Project and Priority codes that material control uses to requisition the part.

#### Project Codes

Project codes identify requisitions and related documents that apply to specific projects or programs. They are mandatory on Navy requisitions. Their absence is cause for rejection.

The codes consist of a combination of three codes (alpha/alpha/numeric) constructed from a matrix that relates to the type of activity or weapon, the reason, and the cause/effect (fig. 3-1). Some commonly used Project codes in an organizational maintenance activity are as follows:

- **AK0.** Assigned by organizational maintenance activities only when they requisition material to restore an aircraft to mission capable (MC) status.
- **AK7.** Assigned by organizational maintenance activities when they requisition material to return mission essential subsystems to an operational condition when an aircraft is in a partial mission capable (PMC) status,
- **ZA9.** Forced high-time removal items required for immediate end use on primary mission weapons systems. The aircraft concerned is within days of becoming not mission capable supply (NMCS) or partial mission capable supply (PMCS) due to high time forced removal of the required item (15 days in CONUS and 20 days outside continental limits of the United

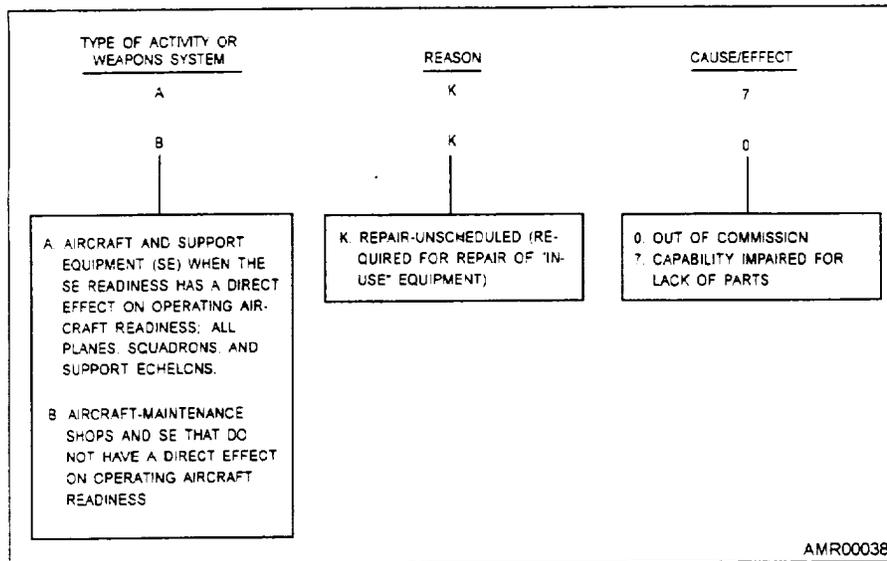


Figure 3-1.—Project code breakdown.

States [OUTUS]). After meeting the established time limit, organizational maintenance activities modify it to AK0 or cancel it.

For a complete listing of Project codes, refer to the *Operating Procedures Manual, MILSTRIP, Military Standard Requisitioning and Issue Procedures. MILSTRAP, Military Standard Transaction Reporting and Accounting Procedures*, NAVSUP Publication 437 (also known as *MILSTRIP/MILSTRAP Manual*), and *Afloat Supply Procedures*, NAVSUP Publication 485.

### Force/Activity Designator (FAD) and Priority

Maintenance control assigns a priority to individual material requisitions according to the military importance and the urgency of need of the item. Most fleet operational activities have a FAD II or III assigned.

Maintenance control in the requisitioning activity determines the urgency-of-need designator (A, B, or C). The requisitioning activity uses the FAD and urgency-of-need to determine the Uniform Material Movement and Issue Priority System (UMMIPS) priority designator (Arabic numeral) (table 3-1).

**NOTE:** Abuse of the priority system weakens the effort that the supply system devotes to units directly involved in combat.

### SUPPLY PROBLEMS AND SOLUTIONS

The discovery of a leaking valve or an inoperable radio will cause a problem for your squadron. Think of the number of people that this one discrepancy will affect. Once the requirement is passed to material control, the AK contacts the aviation support division (ASD) or the supply support center (SSC). If you filled out the VIDS/MAF correctly, you should receive a replacement part. If your squadron or activity has a FAD I designation and the part is available on station, you should have the replacement part within 1 hour.

Almost all items used by the Navy have NSNs. If you give an incorrect part number to material control and the part is not available locally (on the station or ship), the AK will cross-reference the NSN to the wrong item, and the order will not meet your requirements. The most common result of this type of error is additional downtime (nonflyable status) for the aircraft you are trying to repair. When the wrong part arrives at your squadron, you must reorder the part and use the correct part number. Then, you must wait while supply processes the order again. Another situation that might occur when a wrong part number is cross-referenced to an NSN is the awarding of a contract to manufacture parts that are not needed.

When repairing aircraft, your paperwork must be complete and accurate because data from the paperwork provides usage statistics. The supply department uses these statistics to justify the need to stock an item.

**Table 3-1.—Priority Number Chart**

"Force/Activity" Designators	"Urgency-of-Need" Designators		
	A Unable to perform	B Impairs capability	C Routine
I Combat	1	4	11
II Positioned	2	5	12
III Ready	3	6	13
IV Reserve and support	7	9	14
V Others	8	10	15

All personnel in the repair process must take pride in the ability to repair the part, translate what is wrong with the broken part, and obtain the required repair parts. The pride and professionalism this involves will pay off in many ways, especially when a squadron can report that all the aircraft are ready for a mission or commitment. Everyone should strive for ZERO NMCS.

- Q1. State the composition of the Project code.
- Q2. What FAD is assigned to most fleet operating activities?
- Q3. Aircraft repair usage statistics are used by the supply department for what purpose?

**MATERIAL IDENTIFICATION**

**LEARNING OBJECTIVE:** Identify and understand the terminology used in aviation supply.

If all publications and all types of situations were presented here, this training manual (TRAMAN) would be extremely large. Therefore, this chapter

covers the typical research that you and your squadron AK can effectively perform.

**TERMINOLOGY USED IN THE SUPPLY CATALOGING SYSTEM**

Before you can find information, you must understand supply terms. The terms listed below are some common supply terms.

*Alphanumeric sequence.* An alphanumeric sequence begins at the extreme left-hand position of a number and continues from the left to the right, one position at a time, until all digits have been considered. The order of digit precedence for the part number begins at the left and moves to the right. It begins with A, and then the other letters in alphabetic sequence through Z. (The letter O is considered a numeric zero.) After the letter Z, the numbers 0 through 9, in sequence, have precedence. Diagonal lines (/), points (.), and dashes (-) can be used in the second or succeeding positions of the part number. When used, they take precedence over letters and numbers, and come before the other part numbers that have letters or numbers.

The following is a two-column example of part numbers in alphanumeric sequence. Read all part numbers in the left column first, then start at the top of the right column.

<u>Column 1</u>	<u>Column 2</u>
AN515-25	123-1347
AN515A21	123C1121
A506-26	223476
B-24376	23A176
B1234	232176
C.24-60789	23176
C-2467089	33126
C/2460789	33-126
DBC16789	943762
D156789	95672A2
Z-14073	95673-2
Z/24076	992468A3

*Numeric sequence.* The numeric sequence for a part number also begins at the extreme left position and continues from left to right, one position at a time.

*Manufacturer's part number.* The manufacturer assigns this number. It is stamped, etched, or attached to the part or applicable container. All illustrated parts breakdown (IPB) manuals, stock catalogs, and equipment lists use part numbers. The Navy publishes several cross-reference catalogs. These let you cross-reference part numbers to NSNs or NSNs to part numbers. There are two types of part numbers—definitive and nondefinitive.

Definitive part numbers also are called "identifying" part numbers. The identifying part number appears in Navy cross-reference catalogs with only one NSN for both the part number and the Commercial and Government Entity Code (CAGE).

Nondefinitive part numbers cannot be directly related to an applicable NSN without the use of additional information. Thus, the same part number and CAGE together may have two or more applicable NSNs. Some conditions that cause this are the size or color of the item. More identifying data can be obtained from the *Afloat Shopping Guide (ASG)*, which is discussed later in this chapter.

*Commercial and Government Entity Code (CAGE).* The CAGE is a five-digit number the federal

government assigns to activities, such as manufacturer, vendor, or government agencies. It identifies the agent or agency that has design control over an item. CAGE codes are also known as vendor's codes or manufacturer's codes. CAGE codes are important in the identification of material. For example, the same part number may be listed in a cross-reference catalog four or five times with a separate NSN for each part number listed. If the CAGE is known, it is easy to order the correct item. When you know only the name of the manufacturer and need to find the CAGE code for a manufacturer, ask the AK for assistance. A microfiche kept in material control cross-references the name of a manufacturer to the manufacturer's CAGE code. Also, the AK can cross-reference the CAGE code back to the manufacturer's name.

*Description.* In a supply catalog, the description will be at least the noun name. It may also contain the type of alloy or material the part is made of; the outside/inside diameter; type of thread, head, and grip (in the case of screws); the watts, ohms, number and type of terminals (in the case of electronic parts); or the pressure and chemicals that aircraft hoses are made to withstand.

*Repairable.* The inventory manager for a part assigns Material Control codes to each part. Material Control codes D, E, G, H, Q, or X identify mandatory turn-in repairables (MTRs) that must be turned in to the local supply department when they become unserviceable. These components are then repaired (thus the term *repairable*) and returned to the supply system for issue against future requests for the same item.

*Next higher assembly.* The term *next higher assembly* refers to the part, component, or system in which the requisitioned part is used. For example, an electronic circuit board for the repair of a receiver-transmitter is plugged directly into the chassis of the receiver-transmitter. In this case, the receiver-transmitter is the next higher assembly for the circuit board. On the other hand, if the circuit board were made up of several resistors and capacitors, the circuit board would be the next higher assembly for the component parts.

- Q4. What are the two types of part numbers?
- Q5. What is the correct nomenclature for what is commonly referred to as the "manufacturer's code"?
- Q6. What term is used for a part, component, or system in which the requisitioned part is used?

## **MATERIAL NOT IN CATALOG SYSTEMS**

**LEARNING OBJECTIVE:** Describe the publications used by the maintenance technician to order replacement parts.

At times you will need a part that is not subject to the cataloging system and cannot be identified by an NSN. You must describe your requirement for a part not identified by an NSN in terms familiar to the supplier. If you can provide the following information about the part to supply, you will have supplied enough information for supply to requisition the needed part. In most situations, the information required can be found in the illustrated parts breakdown (IPB) or the maintenance instruction manual (MIM).

- Name of the manufacturer of the part or the CAGE code.
- Part number.
- Nomenclature (noun name).
- Description of specific application, including the model aircraft, engine, accessory, or other end assembly where the part is used.
- Source, Maintenance, and Recoverability (SM&R) code and reference, if available. (SM&R and reference are dealt with later in this chapter.)
- The NSN or part number of the next higher assembly.

## **USE OF MAINTENANCE MANUALS**

Maintenance manuals can provide you with useful supply information. Along with repair information, they provide the following additional information:

- A picture of the desired part
- Interchangeability, equipment application, and next higher assemblies
- Bureau numbers of aircraft and serial numbers of equipment on which a part is used
- CAGEs
- The number of times a particular part is used on a component
- Parts kits needed for repair
- Source codes or SM&R codes

- Justification for buying aircraft parts or support equipment (SE) parts

## **ILLUSTRATED PARTS BREAKDOWN (IPB)**

An IPB is prepared by the manufacturer for each model aircraft, engine, accessory, electronic equipment, or other aeronautical equipment purchased for the Naval Air Systems Command (NAVAIR). The IPB helps supply and maintenance personnel identify and order replacement parts for the aircraft or equipment. The IPB shows and lists procurable assemblies and detail parts so you can quickly identify assemblies and their components. Items are arranged in assembly breakdown order, with the illustrations placed as near as possible to their listing.

Slight format variations exist among IPBs. However, each includes an introduction, a table of contents or alphabetical index, a group assembly parts list, and a numerical index.

### **Introduction**

The introduction includes general information and instructions for using the publication. Refer to it before using an unfamiliar IPB. The introduction of a single volume IPB is at the front of the publication. In multivolume IPBs, the introduction is usually in the same volume as the numerical index. The introduction provides the following types of information.

- Table of contents or alphabetical index.
- Listing of supplementary handbooks.
- Procedures on using that particular IPB.
- Definition of columns and terms used in the group assembly parts list section of the IPB.
- Brief explanation and listing of applicable technical directives (TDs) to the IPB.
- Information concerning the arrangement of the numerical index section.
- Explanation of SM&R and "Usable On" codes used in the IPB. This is particularly useful when problems arise with cross-referencing a part number to an NSN.

### **Alphabetical Index or Table of Contents**

The alphabetical index or table of contents shows the breakdown of the publication by sections. It is an

alphabetical listing of assemblies and lists the pages or figure numbers where they are shown.

In some IPBs, especially one-volume IPBs, the alphabetical index is the first part of the publication. The alphabetical index lists the general contents of each volume. Then, each volume has its own alphabetical index that defines the contents of that

particular volume. Figure 3-2 shows a page from the alphabetical index of a landing systems IPB.

As seen in figure 3-2, the alphabetical index lists the main parts of the systems. Figure 3-2 lists the different component breakdowns of the landing gear systems. Beside each item in the index is the figure number of the assembly parts list where that particular

NAVAIR 01-XXXXXX-X-X-X		INDEX
Change 5 - 1 September 1987		Page 1 of 14
ALPHABETICAL INDEX		
ORGANIZATIONAL MAINTENANCE		
ILLUSTRATED PARTS BREAKDOWN		
LANDING SYSTEMS		
This Index supersedes Index, dated 1 April 1986.		
Title	Figure Number	
Nose Landing Gear System .....	027-00	
NLG Actuator .....	033-00	
NLG Aft Door Linkage .....	027-00	
NLG Downlock Actuator .....	032-00	
NLG Drag Brace .....	027-00	
NLG Drag Brace Fairing .....	027-00	
NLG Forward Doors .....	027-00	
NLG Sequencing Control Valve .....	038-00	
NLG Shock Strut .....	027-00	
NLG Timer Valve and Check Valve .....	034-00	
NLG Uplock and Forward Door Actuator .....	030-00	
NLG Uplock Mechanism and Forward Door Linkage .....	027-00	
Nose Strut Position Switch .....	042-00	
Nosewheel .....	046-00	
Nosewheel Steering Damper Unit .....	043-00	
Nosewheel Steering Monitor .....	043-00	
Nosewheel Steering Position Transducer .....	043-00	
Nosewheel Steering Swivel Installation .....	044-00	
Nosewheel Steering System .....	043-00	
Nosewheel Steering Damper Unit .....	043-00	
Nosewheel Steering Monitor .....	043-00	
Nosewheel Steering Position Transducer .....	043-00	
Nosewheel Well Door Installation, Aft, Fuselage Station 276.00 to 292.00 .....	036-00	
Nosewheel Well Hydraulic Lines Installation, Station 213.00 to 292.00 .....	029-00	
Nosewheel Well Installation, Fuselage Station 213.00 to 276.00 .....	035-00	
Open Timer Valve Installation, MLG Outboard Door .....	012-00	
Panel, Landing Gear Control .....	001-00	
Panel, Launch Bar .....	060-00	

AMR00039

Figure 3-2.—IPB alphabetical index.

component appears. For example, the nose landing gear system appears in figure number 027-00.

### Group Assembly Parts List

A group assembly parts list consists of a figure with its associated parts list. The illustration of a particular component is shown broken down into the detailed parts that make up the component. Each item in the illustration is numbered. A listing of parts in the assembly follows each illustration of the assembly. This parts list is in the same order as the part numbers shown in the illustration. The parts list gives the manufacturer's part number of the part, its description, and other information. Figure 3-3 shows a typical IPB illustration. Figure 3-4 shows a listing of parts for the nose landing gear in figure 3-3.

### Use of the IPB When the Part Number Is Not Known

At times, you will need to find a part number for an item that does not have the part number inscribed on it. Suppose you need a bracket assembly. You should be able to identify the following facts:

- What type of aircraft the component you are repairing is from
- The component the bracket was removed from
- The bureau number of the aircraft from which the component was removed

For the purposes of this particular problem, assume that the nose landing gear strut was removed from an aircraft with Bureau Number 158620. If you follow the steps listed below, you can get a replacement part.

1. Obtain the landing gear IPB for the aircraft.
2. Refer to the alphabetical index of the IPB (fig. 3-2).
3. Locate the Nose Landing Gear Shock Strut, figure No. 027-00 (fig. 3-2).
4. Turn to figure 027-00 and look at the IPB illustration (fig. 3-3). Callout 2 of this illustration is for the nose landing gear strut. At this point, you should compare the old strut to the strut shown in the illustration. Select the desired part. In this case, callout 2 of figure 3-3 is the desired part.
5. Refer to the parts listing for the illustration index number 2 (fig. 3-4). This index number establishes the relationship of the part in the illustration and the part in the list. It is for part number 2577818-011E<F, Strut

NLG Shock, and it has a CAGE or manufacturer's code of 55284.

6. Check the Use-On Code column to see if this strut is used on that particular aircraft, Bureau Number 158620.

7. Refer to the Usable-On codes list A at the foot of the list.

8. Have material control cross-reference the part number to its applicable NSN in the Master Cross-Reference List (MCRL) and verify it as a good number in the Management Data List Navy (ML-N).

### IPB Information Elements

The following text is a detailed discussion of the various features found in the group assembly parts list in figure 3-4.

- Title (callout 1 in fig. 3-4). The title is on the first line under description. It describes what major component system is being broken down in the parts list. It is identical to the title in the illustration (fig. 3-3).

- Index number. As stated previously, this number (callout 2 of fig. 3-4) establishes the relationship between parts in the illustration and the corresponding parts list.

- Part number. The part number (callout 3 in fig. 3-4) is the manufacturer's part number. Two other terms also may appear in this position, NO NUMBER and COMMERCIAL. The term no number indicates that the item has no assigned part number, but may have a model or type number that appears in the index. The term *commercial* in this column indicates that the item should be procured from a commercial source.

- Unit per assembly column. Refer to figure 3-4. There are three different types of codes that could appear in this column: 2, showing a specific quantity, shown by callout 4; AR, shown by callout 5; and REF shown by callout 6. Lets examine callouts 4, 5, and 6 in figure 3-4.

In callout 4, the number designates the quantity used on a particular assembly. For example, there are two screws with part number MS27039-1-22.

In callout 5, the abbreviations AR (as required) indicates a specific quantity has not been established for this part. The quantity necessary to achieve a desired result is used.

**NOTE:** When the letters AR appear, no specific quantity is recommended. Sometimes, when

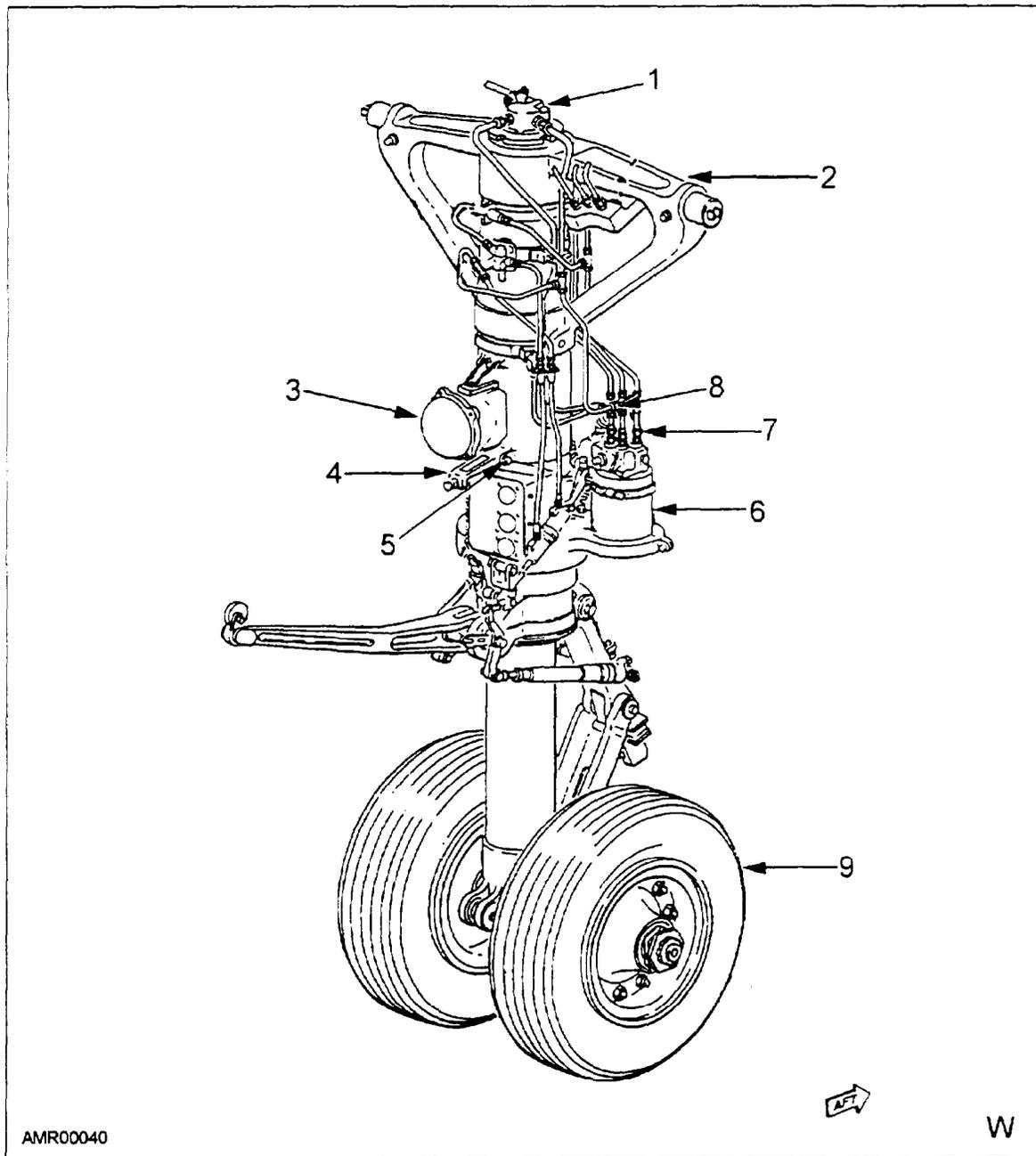


Figure 3-3.—An IPB illustration of a nose landing gear system from a group assembly parts list.

maintenance personnel remove hardware from an item, screws, nuts, or bolts become stripped. This is when you should order the quantity that needs replacing.

In callout 6, the abbreviation *REF* (reference) indicates that the part is listed for reference purposes only. In these cases, the nomenclature in the description column is followed by the notation "**SEE FIG X-XX FOR REQ,**" as shown in callout 7 of figure

3-4. This notation is used to reference an item to another figure for the next higher assembly and required units per assembly.

- **CAGE.** This term (callout 8 in fig. 3-4) is the five-digit Commercial and Government Entity code, commonly known as the manufacturer's code. CAGE code 55284 is the number for the specific manufacturer of this part.

INDEX NO.	PART NUMBER	DESCRIPTION	UNIT USE PER ON ASSY CODE				SM&R CODE
			1	2	3	4	
		① NOSE LANDING GEAR SYSTEM					
②	1 6125	REGULATOR, FLOW /06177/ /GRUMMAN ..... REF SCD A51H9093/ /SEE FIGURE 029-00 FOR NHA/					
	2 2577818 - 011E<F	STRUT, NLG SHOCK /55284/ ..... 1 *A PAOOD /GRUMMAN SCD A51G9000 - 43/ /SEE NAVAIR 03 - 25EA - 56, SWP003 06, FOR DETAIL BREAKDOWN/ /SEE FIGURE 037 - 00 FOR PARTIAL BREAKDOWN/					⑨
③	2577818 - 013A<F >	STRUT, NLG SHOCK /55284/ ..... 1 B PAOOD R /GRUMMAN SCD A51G9000 - 49/ /SEE NAVAIR 03 - 25EA - 56, SWP003 06, FOR DETAIL BREAKDOWN/ /SEE FIGURE 037 - 00 FOR PARTIAL BREAKDOWN/					⑧
3	30 - 0561	LIGHT, FIXED POSITION LANDING TAXI ..... REF /72914/ /GRUMMAN SCD A51A9035/ /SEE NAVAIR 01 - F14AAA - 4 - 9, FIGURE 019 - 00 FOR NHA/					
4	A51G10121 - 21	BRACKET ..... 1 MDOZZ (ATTACHING PARTS)					
5	MS27039 - 1 - 22 MS21042L3	SCREW ..... 2 ④ PAOZZ NUT ..... AR PAOZZ					
6	A51G10021 - 5	STEERING SYSTEM INSTALLATION ..... 1 ⑤ XCOOO NOSEWHEEL /SEE FIGURE 043-00 FOR DETAIL BREAKDOWN/					
7	A51G10561 - 1	FITTING ASSEMBLY /USE UNTIL ..... 2 *C PAOZZ EXHAUSTED/					
8	A51G10561 - 13	FITTING ..... 2 PAOZZ					
9	3 - 1328	WHEEL ASSEMBLY, NLG /97153/ ..... REF /GRUMMAN SCD A51G900R/ /SEE FIGURE 046 - 00 FOR REQ/ /SEE NAVAIR 03 - 25BA - 20, WPO01 001, FOR DETAIL BREAKDOWN/					⑩
		⑩ USABLE ON CODES					
		A 158620 THROUGH 159637 NOT MODIFIED BY AFC 534					
		B 158620 THROUGH 159637 MODIFIED BY AFC 534, 159625 AND SUBSEQUENT					
		C 158620 THROUGH 159874					
		D 158620 THROUGH 162953					

Figure 3-4.—An IPB list of parts corresponding to the IPB illustration in figure 3-3.

• Usable-on code. The Usable-on code (callout 9 of fig. 3-4) designates the bureau number of the aircraft or serial number of the component on which this part can be used. It refers to USABLE-ON CODE for a figure. These codes are listed after the last item of the group assembly parts list. Callout 10 is an example of such a listing.

The line on which callout 9 of figure 3-4 appears is for the Nose Landing Gear Shock Strut, part number 2577818-011E<F. It has a Usable-on code of A. Refer

to the Usable-on codes listing in callout 10. It indicates that this particular nose landing gear strut assembly can be used only on aircraft with bureau numbers of 158620 through 159637.

Q7. What are the two primary technical manuals used by the maintenance technician to order replacement parts?

Q8. What information is contained in the "Introduction" of the IPB?

Q9. What part of the IPB contains information concerning detailed parts that make up a component?

**JOINT SERVICE UNIFORM SOURCE, MAINTENANCE, AND RECOVERABILITY (SM&R) CODES**

**LEARNING OBJECTIVE:** Identify where information can be obtained concerning national stock numbers (NSN), source of supply, and level of maintenance for aircraft components.

A joint service uniform SM&R code is a five- or six-position alphanumeric code (callout 11 of fig. 3-4). These codes identify the source of spares and the levels of maintenance authorized to maintain, repair, overhaul, or dispose of all equipment. This information helps maintenance and supply personnel identify parts. Figure 3-5 shows a breakdown of an SM&R code. This SM&R code has four parts with six positions.

In an SM&R code, the first position indicates the source from which you can acquire the item for replacement.

The second position in the SM&R code identifies either the restrictions on acquiring the item or the level of maintenance required to manufacture or assemble the item.

The third and fourth positions of the SM&R code identify maintenance-level codes. The third position indicates the lowest maintenance level authorized to remove, replace, and use the item. The fourth position indicates the lowest maintenance level authorized to perform complete repair of the item.

The fifth position in the SM&R code indicates the recoverability code. This code tells maintenance and supply personnel the lowest level of maintenance authorized to condemn the item, if necessary.

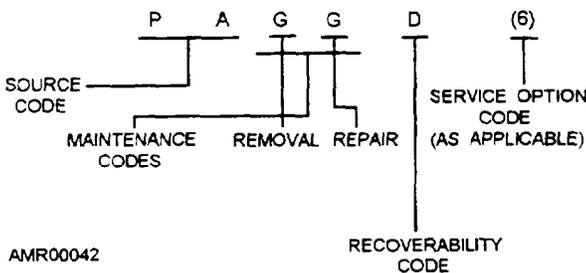


Figure 3-5.—Breakdown of a Source, Maintenance, and Recoverability (SM&R) code.

A sixth position of the SM&R code is the Service Option code. Not all SM&R codes have six positions. This code’s sole use within the Navy is to further define certain conditions not covered by the Maintenance and Recoverability codes (third, fourth, or fifth positions).

The SM&R codes are initially assigned during provisioning conferences, and they change to reflect actual fleet item usage.

Detailed information concerning policies, procedures, definitions, and responsibilities applicable to SM&R codes is available in Navy *Uniform Source, Maintenance and Recoverability (SM&R) Codes*, NAVSUPINST 4423.14, and in *Policies, Procedures, Responsibilities For Assignment and Application of Uniform Source, Maintenance and Recoverability Codes*, NAVAIRINST 4423.3.

**NAVSUP PUBLICATIONS**

The operation of your squadron or AIMD material control center is influenced by the Naval Supply Systems Command (NAVSUP). NAVSUP outlines the procedures that affect your material control center and supply department in manuals, publications, and directives. The NAVSUP publications that you will come in contact with are discussed in the following text.

Master Cross-Reference List (MCRL). The MCRL comes in microfiche. It provides cross-reference information from a reference number (a manufacturer’s part number, a drawing number, or a design control number) to its NSN. Another edition of the MCRL cross-references from NSN to manufacturer’s part number.

Master Repairable Item List (MRIL) (NAVSUP P-4107). The MRIL lists those items of Navy-managed repairable items issued on a one-for-one basis (you must turn in the unserviceable item before you can draw a replacement item from supply). AKs refer to these items as MTRs. If you need to know whether or not to remove a component before ordering it from supply, you should consult the Consolidated Remain In Place List (CRIPL).

Consolidated Remain In Place List (CRIPL-01). At the O-level of maintenance, it is not always possible to remove a component from an aircraft until a replacement is on hand. If this is the case, you should refer to the CRIPL. The CRIPL lists the items that are exempt from the mandatory one-for-one turn-in. An example of an item listed in the CRIPL is the main

landing gear. It is listed as exempt from turn-in until 24 hours after a serviceable component is received from supply. The CRIPL-01 is a microfiche publication. The items listed in it are the only authorized exceptions to the one-for-one turn-in rule.

Individual Component Repair List (ICRL). The ICRL lets intermediate maintenance activity (IMA) personnel determine if they can repair an individual item based on its SM&R code. There are actually two ICRLs. The ICRL-A is an overall statement of the repair capability at a specific IMA. It shows the local repair capability for each item. The ICRL-C is a combined ICRL used by aircraft controlling custodians (ACCs) to monitor and review the standard ICRL programs at the IMAs under their command.

The ICRL-A is in microfiche and is revised quarterly. It lists all the repairables processed by your specific IMA, showing the local repair capability for each item. ICRL items are listed, in sequence, by the nine-digit national item identification number (NUN) assigned to the particular item. The NIIN is part of the NSN. The ICRL-A indicates when you must forward a Scheduled Removal Component Card, OPNAV Form 4790/28A, to the IMA or depot repair activity.

Each component in the ICRL has a Capability code that indicates the degree of repair capability and the reason for lack of repair capability at the IMA. The codes in figure 3-6 give some reasons why an IMA may not repair all the parts of the supported squadron's aircraft.

A1	<u>Check and Test Only</u> Used to identify A-799 or Failure
C1	<u>Full Repair/IMA Disposition</u> Entire range of failures can be entirely repaired with AIMD/IMA (Aircraft Intermediate Maintenance Dept./intermediate Maintenance Activity) facilities and skill levels including test and RFI (ready for issue) certification. This code includes disposition authority at intermediate level. (SM&R code has F, G, or H in fifth position.)
C3	<u>Limited Repair</u> Some types of failures are fully repairable with AIMD/IMA facilities and skills including test and RFI certification, but repair of certain failures is not normally initiated at the intermediate level (repair is limited to external switches, plugs, fittings, corrosion or replacement of some but not all subassemblies, etc.).
X1	<u>Repair Not Authorized</u> This code is the equivalent to BCM-1 and indicates that the intermediate level is not authorized to repair the component (may not be used for Field Level Repairable equipment, e.g., IRD cog items).
X2	<u>Lack of Authorized Equipment/Tools/Facilities</u> This code is the equivalent to BCM-2 and indicates that authorized equipment, tools or facilities are not available. (This code <u>must always</u> be accompanied by a target capability date.)
X3	<u>Lack of Required Technical Skills</u> This code is the equivalent to BCM-3 and indicates that required skills are not available. (This code <u>must always</u> be accompanied by a target capability date.)
X6	<u>Lack of Technical Data</u> This code is the equivalent to BCM-6 and indicates that repair cannot be accomplished due to lack of maintenance manuals, drawings, etc., which describe detailed repair procedures and requirements. (This code <u>must always</u> be accompanied by a target capability date.)
Z1	<u>Consumable Material</u> This code identifies material assigned a SM&R code with ZZ in the fourth and fifth positions or B in the fourth position for which the IMA is capable of performing a servicing function.

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Figure 3-6.—ICRL Capability codes.

Afloat Shopping Guide (ASG). The ASG is one of the most frequently used identification tools in the Navy. It helps maintenance personnel convert a description of an item that does not have a part or reference number to an NSN. Figure 3-7 is a page from an ASG catalog.

Aviation Consolidated Allowance List (AVCAL). The Aviation Consolidated Allowance List is developed and published by the Aviation Supply Office (ASO). The AVCAL lists the items and quantities of aeronautical material authorized to be stocked by an aircraft carrier to support the

**CLASS 5306**

**BOLTS**

**BOLT, ASSEMBLED WASHER**

SQUARE EXTENDED WASHER HEAD. Brass, head plated. Overall dimensions, head height 23/32, width across flats 3/4 in., washer diameter 1-1/8 in.



5/16 - 18 UNC - 2A  
00-025-1012 15/32 lg

**HEXAGON HEAD**

Steel, Flatwasher, head height 15/64, width across flats 1/2 in., washer diameter 1/2 in.

5/16 - 18 UNC - 2A  
00-613-9396 7/8 lg

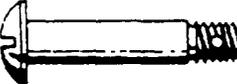
Steel, Spring tension washer, head height 3/32 in., width across flats 1-1/16 in., washer diameter 1-35/64 in.

11/16-11 UNS-2A  
00-953-0262 3-11/32 lg

Steel, Zinc plated, flat external teeth washer, head height 3/16 in., width across flats 1-1/16 in., washer dia 15/32 in.

1/4-20 UNC-2A  
00-208-1601 1/2 lg

**BOLT, CLEVIS**



AIRCRAFT CLEVIS BOLTS, Alloy steel, cadmium plated. Button head, slot drive. Head marked with single or double "X". Air Force-Navy Aeronautical Standard. Fastener length and grip length in in. shown below.

**DRILLED SHANK**

No. 10-32 UNF-3A, AN 23

	Fas Lg/in.	Grip Lg/in.
00-151-1961	19/32	1/4
00-151-1962	21/32	5/16
00-151-1963	23/32	3/8
00-151-1964	25/32	7/16
00-151-1965	27/32	1/2
00-151-1966	29/32	9/16
00-151-1967	31/32	5/8
00-151-1968	1-1/32	11/16
00-151-1969	1-3/32	3/4
00-151-1970	1-5/32	13/16
00-151-2312	2-5/32	1-13/16

1/4-28 UNF-3A, AN 24

00-156-2695	23/32	3/8
00-156-2696	25/32	7/16
00-156-2698	29/32	9/16
00-156-2699	31/32	5/8
00-156-2703	1-7/32	7/8
00-156-2704	1-9/32	15/16
00-151-0523	1-11/32	1
00-151-0524	1-13/32	1-1/16
00-151-0531	1-1/2	17/32
00-151-0533	1-5/8	1-3/8
00-151-0538	2-17/32	2-3/16

5/16-24 UNF-3A, AN 175

00-180-0469	1-19/32	1-1/16
00-180-0471	1-27/32	1-5/16
00-180-0482	3-11/32	2-13/16

**DRILLED HEAD AND SHANK**

5/16-24 UNF-3A, AN 175

	Fas Lg/in.	Grip Lg/in.
00-174-4118	1-3/32	9/16
00-174-4117	1-7/32	11/16
00-151-0330	2-9/32	1-13/16

3/8-24 UNF-3A, AN 176

00-151-2322	2-21/64	1-11/16
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**BOLT, EYE**

AIRCRAFT SHOULDERED TYPE. Applicable Air Force-Navy Aeronautical Standard, shank length and grip length in in. shown below.



Steel, Cadmium Plated

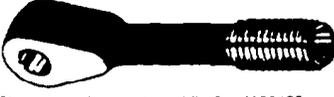
No. 10-32 UNF-3A, AN 42

	Shank Lg/in.	Grip Lg/in.
00-638-2214	15/32	1/16
00-638-2216	17/32	1/8
00-285-2611	1-19/64	57/64

1/4-28 UNF-3A, AN43

00-260-7578	21/32	3/16
-------------	-------	------

AIRCRAFT TURNBUCKLE TYPE. Right hand thread. Shank length, thread length, and eye inside diameter given in inches.



Steel, cadmium plated. Mil Std MS21254

1/4-28 UNF-3A

	Shank Lg/in.	Thd Lg/in.	Eye ID/in.
00-057-7184	1.328	0.625	0.251

Steel, corrosion resisting. Non Mil Std.

No. 10-32 UNF-3A

00-891-3397	0.900	0.900	0.129
00-882-2226	1.250	1.250	0.129

1/4-28 UNF-3A

00-824-9117	1.850	0.500	0.441
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Figure 3-7.—Page from the Afloat Shopping Guide.

maintenance and operations of embarked aircraft. It is tailored for each carrier, and the items listed are selected from all allowance requirement registers and allowance lists (ARRs and ALs) from each type of aircraft embarked. The allowance quantities are based on the ships' demand records. The AVCAL is comprised of seven basic parts; they are titled as follows:

- Part I. AVCAL Index List
- Part II. ARR Gross Item List
- Part III. AVCAL Net List
- Part IV. Part Number to NSN Cross-Reference
- Part V. Requirements List
- Part VI. Excess Material List
- Part VII. Stock Rotatable List

For more detailed information on the AVCAL and the specific parts, refer to *Afloat Supply Procedures*, NAVSUP PUB-485, and FASOINST 4441.15

### CODED NATIONAL STOCK NUMBER

Each Navy item stocked under centralized inventory control has assigned an NSN. The NSN is used for all supply management functions and in all supply publications.

The NSN is a 13-digit number that identifies an item of material in the supply system. It consists of the four-digit federal supply classification (FSC) plus a nine-digit national item identification number (NIIN). The NIIN consists of a two-digit National

Codification Bureau (NCB) code and seven digits that uniquely identify each NSN item in the Federal Supply Distribution System. Additionally, within the Navy supply system, code prefixes and suffixes are used. These prefixes and suffixes are used only within the Navy and not in interservice transactions. So, when you requisition an item from supply in the Navy, you use the coded NSN for that item. Figure 3-8 shows you a complete coded NSN. The parts of this number are discussed in the following text.

**Cognizance Symbol.** The cognizance symbol is a two-character prefix. It identifies the systems command, office, agency, or Navy inventory manager that controls the category of material. The cognizance symbol 7R, shown in figure 3-8, tells you that the item of supply is under the control of the Aviation Supply Office (ASO).

**Material Control Codes.** Material Control codes divide inventories into segments that show similar demand or reparability. Look at figure 3-8 again. Here, Material Control code H tells you that the item is a depot-level repairable. Since the item cannot be repaired locally, it must be shipped to a naval aviation depot (NADEP) or commercial concern for repair.

**Material Condition Codes.** Material Condition codes classify material in terms of readiness for issue and use. They also identify action under way to change the status of material. Condition codes A through S (less I and O) are assigned to Navy material. The Material Condition code F, shown in figure 3-8, tells you that the item of supply is fast moving, in high demand, and used quite often.

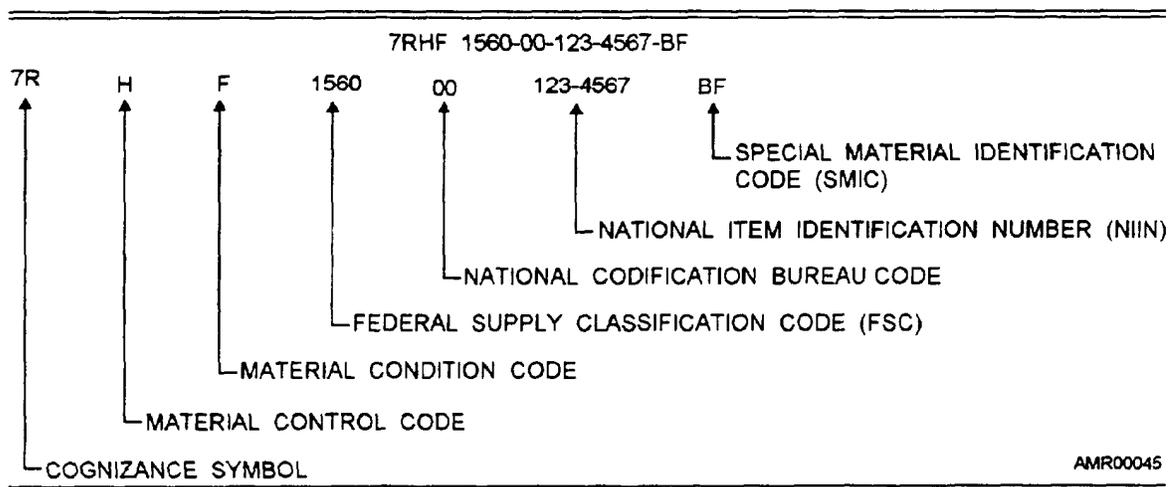


Figure 3-8.—Breakdown of a coded national stock number.

Material Condition codes apply to specific quantities of material held in the supply system. Therefore, you will not find them listed in stock catalogs. You will see Material Condition codes on stock records and on documents that affect stock records.

Special Material Identification Code (SMIC). The SMIC is a two-digit code. It is a suffix of the NSN. ASO uses the SMIC to identify items to aircraft models, engine models, certain commodities, and special projects or programs.

- Q10. *In figure 3-3, what is the SW&R code for the fitting, part number A51G10561-I3, item number 8?*
- Q11. *What position(s) of the SM&R code indicate(s) the source from which you can acquire the item?*
- Q12. *Which NAVSUP publication provides cross-reference information from a reference number to its national stock number (NSN)?*
- Q13. *What NAVSUP publication provides information on exceptions to the one-for-one turn-in rule?*
- Q14. *How often is the ICRL-A revised?*
- Q15. *What is the purpose of the Aviation Consolidated Allowance List (AVCAL)?*
- Q16. *What are the first two-digits of the nine-digit NIIN called?*

## **AIRCRAFT MAINTENANCE MATERIAL READINESS LIST (AMMRL) PROGRAM**

LEARNING OBJECTIVE: Define the purpose of the Aircraft Maintenance Material Readiness List (AMMRL) program.

AMMRL is the title of an overall program that provides the data required for effective management of SE at all levels of aircraft maintenance. This program involves more than 27,000 line items of aircraft/SE maintenance (IMRL items), and 10,000 tailored outfitting list (TOL) items that are used throughout the Navy by aircraft maintenance activities. Two NAVAIR instructions describe the procedures for allowance and inventory control, NAVAIRINST 13650.1 for IMRL items and NAVAIRINST 13630.1 for TOL items. The AMMRL program recognizes the many ship-and-base loading combinations and various requirements for numerous airframe configurations, power plants, and avionics

systems. The objective of this program is to document data and in-use asset information concerning SE that management uses for the following purposes:

- To set allowance requirements for SE at activities performing I-, O-, and D-level maintenance
- To provide standardized accounting and inventory control procedures
- To assist in the redistribution of in-use assets
- To provide a base for budgeting requirements
- To assist in measuring material readiness

## **Terms**

This section contains definitions of terms used within the AMMRL program.

**Support Equipment (SE)**. The equipment required on the ground to make a system, subsystem, or end item of equipment operational in its intended environment. This includes all equipment required to install, launch, arrest (except Navy shipboard and shore-based launching and arresting equipment), guide, control, direct, inspect, and test (including automatic test equipment [ATE] hardware and software). Also included is equipment required to adjust, calibrate, appraise, gauge, measure, assemble, disassemble, handle, transport, safeguard, store, actuate, service, repair, overhaul, maintain, or operate the system, subsystem, end item, or component. This definition of SE applies regardless of the method of development, funding, or procurement.

**Support Equipment Resources Management Information System (SERMIS)**. A collection of technical and cataloging data that identifies each end item of SE required for O- and I-level aircraft maintenance. SERMIS provides the support equipment controlling authority (SECA) with on-line visibility of source, allowance, inventory, and rework data to aid in inventory control. SERMIS is the repository of master data for printing IMRLs. It also provides in-use visibility to ASO, Naval Aviation Maintenance Office (NAVAVNMAINTOFF or NAMO), the Naval Air Engineering Center (NAVAIRENGCEN), and Commander Naval Air Systems Command (COMNAVAIRSYSCOM).

**Individual Material Readiness List (IMRL)**. A consolidated allowance list specifying authorized quantities of aviation SE required by a particular activity to perform its assigned maintenance level

functions. AKs normally maintain the IMRL, which is discussed in more detail later in this chapter.

**Responsibilities**

The following paragraphs contain explanations of the responsibilities of the various commands and activities regarding the AMMRL program. Figure 3-9 illustrates the flow of authority and information from and to these activities.

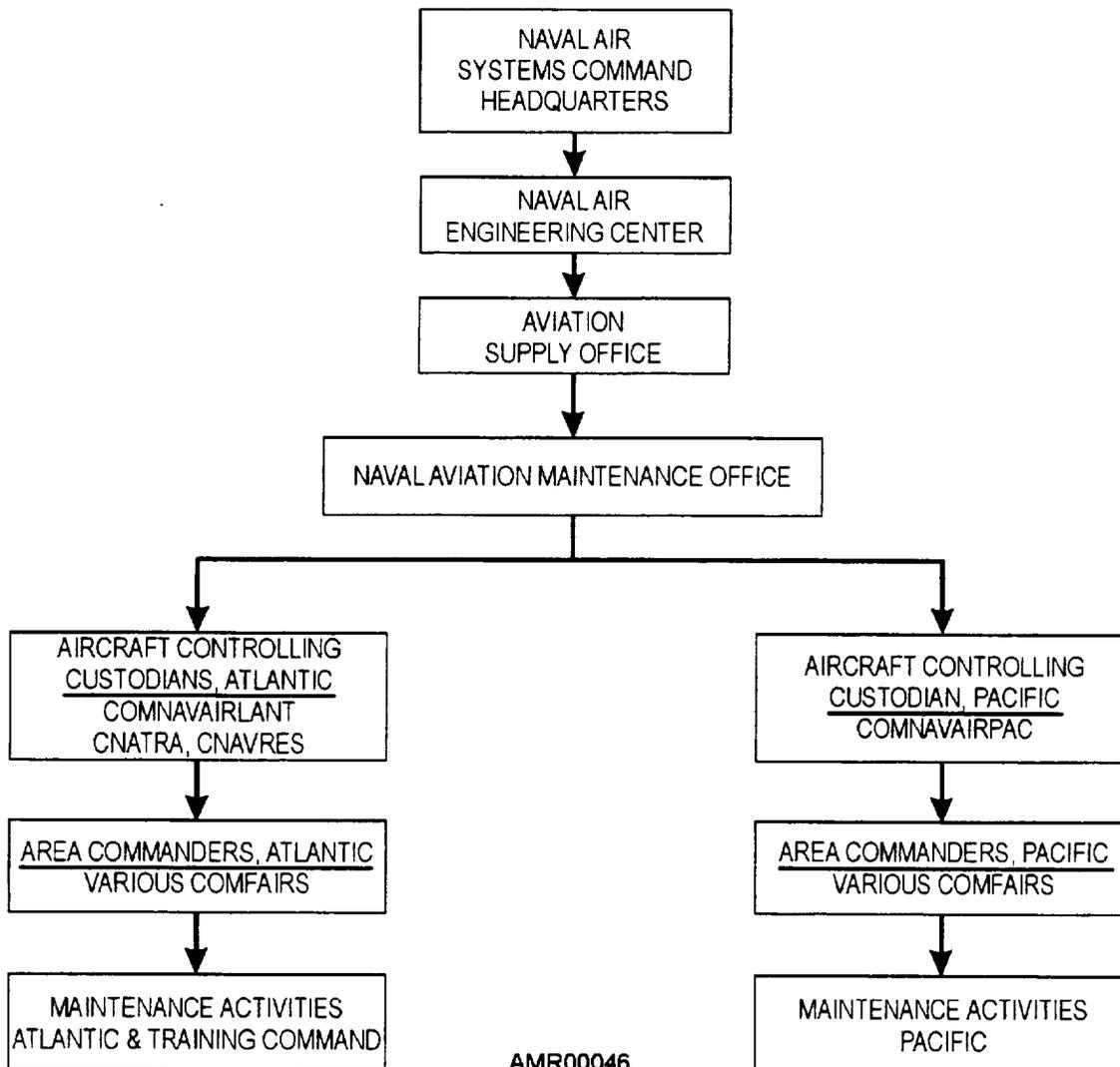
**Naval Air System Command (NAVAIRSYS-COM) Headquarters.** This command exercises overall program management and authority for the AMMRL program. This includes the correlation of the efforts of all activities concerned and for all facets of the program.

**Naval Air Engineering Center (NAVAIRENG-CEN).** This activity is responsible for the approval or disapproval of all SERMIS revisions of SE submitted

by aviation maintenance activities for engineering or funding investigations. It advises all concerned activities of its decisions and forwards all approved revisions to ASO for updating the master SERMIS file.

**Aviation Supply Office (ASO).** The ASO maintains the SERMIS file by establishing and maintaining a SERMIS application guide, which includes SERMIS codes, avionics system number, and standard allowance symbols. The ASO also enters technical revisions in the SERMIS as provided by NAVAIRENGCEN and used in the AMMRL program. The ASO also enters nontechnical revisions according to current supply system data maintenance procedures. The ASO maintains the consolidated accountable SE in-use inventory file as reported by the NAVAIRSYSCOM representatives.

**Naval Aviation Maintenance Office (NAMO).** The NAMO representative manages the AMMRL



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Figure 3-9.—Flow of authority and information from and to activities involved in the AMMRL Program.

program within his/her geographical areas. This representative also makes recommendations to the AMMRL program manager about changes to overall management and operational policies and procedures. They schedule, prepare, and maintain IMRLs for all applicable Navy aircraft maintenance activities; obtain accountable in-use inventory reports from all activities under assigned geographical areas, and forward a quarterly inventory report to the ASO. They also update the SERMIS, various IMRLs, and asset reports regularly or as requested by activities in the chain of command.

**Support Equipment Controlling Authority (SECA).** SECAs are major aviation commands that exercise administrative control of AMMRL program SE end items for allowance and inventory control. The following is a list of designated SECAs:

- Commander, Naval Air Force, Atlantic (COMNAVAIRLANT)
- Commander, Naval Air Force, Pacific (COMNAVAIRPAC)
- Chief of Naval Air Training (CNATRA)
- Commander, Naval Air Reserve Force (COMNAVAIRESFOR)
- Commander, Naval Air Systems Command (COMNAVAIRSYSCOM)
- Naval Air Maintenance Training Group (NAMTRAGRU)

**Commanders, Fleet Air (COMFAIR).** COMFAIRs represent the SECA within their geographical areas of responsibility.

**Aircraft Maintenance Activities.** These activities are responsible for the operation, maintenance, review, and submission of requests for revision of the IMRL. They also hold the annual inventory and ensure that required custody cards are on hand.

- Q17. *What two instructions describe the procedures for allowance and inventory of the AMMRL program?*
018. *How is Naval Air Systems Command (NAVAIRSYSCOM) involved in the AMMRL program?*

## **INDIVIDUAL MATERIAL READINESS LIST (IMRL)**

**LEARNING OBJECTIVE:** Describe the sections of the Individual Material Readiness List (IMRL) and their purposes.

The IMRL is constructed for Navy and Marine Corps aviation maintenance activities by extracting applicable portions of SERMIS data. Physical inventories and IMRL transaction reports are the basis for the on-hand quantity listed in the IMRL. This data determines the material supportability for each IMRL activity. The data is also consolidated to produce functional wing, SECA, and Navywide listings. IMRLs identify material requirements and provide a basis for SE procurement. This information aids in decisions on overall readiness posture, budget forecasts, equipment procurement, and redistribution of assets.

The IMRL serves as the allowance and inventory management list for SE end items. IMRLs identify material requirements and provide a measure of supportability of aviation maintenance by identifying authorized SE allowances and providing inventory data. Inventory records within the SERMIS data base provide information used to determine the total inventory quantities. ASO also uses the IMRL inventory and authorized allowance data to develop the Aviation Consolidated Allowance List (AVCAL) and Shore Based Consolidated Allowance List (SHORECAL) for piece part support of SE end items.

The IMRL has five major sections: employment data, change list, index, main body, and the activity inventory record. An IMRL legend introduces every IMRL. The legend lists all SERMIS data elements printed in the IMRL with the headings as they appear. A general description of the major IMRL sections with an explanation of their contents and related terminology are as follows:

Employment data section. This section gives the activity the list of the employment data used to create that IMRL. This list allows the activity to see the data used to calculate the allowances shown in their IMRL.

Change list section. This section is a listing of all the changes to an activity's IMRL since the printing of the previous IMRL. An update action code shows additions, deletions, or changes that affect an activity.

Index section. This section has six parts or cross-references. The six cross-references are part

number (PN), national item identification number (NIIN), nomenclature, avionics system name, avionics system number, and line item number. The line item number cross-reference is optional, provided only when specifically requested by the user. The cross-references provide a rapid means of identifying and locating the position of an item in the body section. They are the key to proper use of the IMRL. An example of a part number cross-reference listing is shown in figure 3-10.

**IMRL main body.** This section lists all items allowed for the activity, and shows the authorized allowance quantity for each item allowed. Each subsection of the IMRL lists applicable nonavionics, government furnished, aircraft equipment (GFAE) following the last line item number listed in that subsection. Each page in the IMRL main body (fig. 3-11) presents identification data, description data, and land vessel (LV) code, maintenance level data, accountability data, and allowance data. Depending on the type of activity to which the IMRL applies, the main body may have one or more subsections (or support categories of equipment).

Each subsection (or support category) may have two parts, depending on single model application or multimodel applications. Part I contains items that apply to a specific model in an activity's IMRL. Part II contains items that apply to more than one model in an activity's IMRL. The facility subsection contains only part II and defines all applicable work centers.

The page heading format for the IMRL main body (fig. 3-11) is presented both vertically and horizontally. The IMRL legend lists page headings. Each IMRL main body page starts with preparation date, report title, file name, page number, subsection, model, AAI, activity name, and activity reportable code. For multiple applications, "multi" appears as the model.

The column headings identify the type of information contained in each column. These headings and the data element contents of each column are defined in NAVAIRINST 13650.1.

**IMRL Activity Inventory Record.** This record lists all items that are on inventory at the applicable activity on the date this section is prepared. It is reissued in its entirety each month. It provides identification data, management data, inventory status, authorized allowances, and nomenclature for each item (fig. 3-12).

Current procedures provide for IMRL "tailoring," since SERMIS source data does not necessarily reflect peculiarities such as geographic factors or certain operating conditions. Upon receipt of a new IMRL, each activity will review the allowances for accuracy and adequacy for its support requirements. A primary function of tailoring is to eliminate or reduce common or general-type SE quantities by supporting a mix of weapons systems or components. Tailoring also serves to uncover errors in the IMRL that affect not only the particular aircraft mix supported, but also may affect the support of aircraft and systems at other similar activities. The two methods of tailoring an IMRL are IMRL activity tailoring and the SECA tailoring conference.

- **IMRL activity tailoring.** All maintenance activities are responsible for submitting IMRL revision requests (fig. 3-13) as a post-review of tailoring actions. Maintenance activities submit IMRL revision requests following the procedures outlined in NAVAIRINST 13650.1.

- **SECA tailoring conference.** The SECA representative makes on-line tailoring actions as a result of a SECA-held tailoring conference.

*Q19. What are the major sections of the IMRL?*

*Q20. What section of the IMRL lists all of the items allowed for the activity along with allowance quantities?*

*Q21. How often is the IMRL Activity Inventory Record reissued?*

## **MATERIAL REQUIREMENTS**

**LEARNING OBJECTIVE:** Define the purpose of the Material Control work centers and the jobs performed by the personnel assigned.

Whenever a need arises to do a job, the tools, supplies, and equipment that are needed generate material requirements. The supply department fills these requirements.

The material control center (MCC) at the organizational and intermediate levels (O and I levels) of maintenance is the point of contact for material needed by maintenance personnel.

LINE	ITEM NR	NOMENCLATURE
00207		FITTING DRAIN OIL .500-20 UNF-3A
00238		HOSE ASSY - COMPRESSOR WASH RING
00238		HOSE ASSY - COMPRESSOR WASH RING
00238		HOSE ASSY - COMPRESSOR WASH RING
00238		HOSE ASSY - COMPRESSOR WASH RING
00239		PUSHER/PULLER-OUTPUT SHAFT SEAL
00239		SLING - REDUCTION GEAR BOX
00358		OSCILLOSCOPE
00331		TEST SET TACHOMETER
00302		SPECTROM ANALYZER
00284		TESTER, DELTA VP, FILTER F.C.
00328		RESET TOOL
00087		SCREW
00132		PROTECTOR-MAIN ROTOR
00106		BEARING PUSHER
00105		POLE BLADE HANDLING
00105		POLE BLADE HANDLING
00105		POLE BLADE HANDLING
00099		PULLER ASSY, TRANSMI
00195		CHECK/FILL UNIT
00195		CHECK/FILL UNIT
00195		CHECK/FILL UNIT
00024		SUPPORT, ROTOR ADJUS
00146		CART BLADE
00125		WRENCH, SPANNER
00100		WRENCH, PISTON
00124		WRENCH-MAIN GUNION HEAD ASSY
00094		INSTALLER BOLT
00197		PIN PULLER, HORIZONTAL HINGE
00101		SOCKET, WRENCH, FACE
00126		WRENCH, SPANNER
00141		WRENCH, HUB WING, ROTARY
00174		BRACKET, SWEEP
00174		BRACKET, SWEEP
00174		BRACKET, SWEEP
00177		WRENCH-SLEEVE AND SPINDLE
00177		WRENCH SLEEVE & SPINDLE
00082		WRENCH, ROTARY WING, HUB
00082		WRENCH, ROTARY WING, HUB
00178		FIXTURE ASSY-PRE-TRACK TOOL
00130		TOOL REMOVAL
00085		RESTRAINER, HUB ASSY
00085		RESTRAINER, HUB ASSY
00085		RESTRAINER, HUB ASSY

AMD00007

Figure 3-10.—Typical IMRL part number cross-reference index.

PREPARED	20/AUG/92	INDIVIDUAL MATERIAL READINESS LIST										FILENAME	MS01MRS3826	PAGE	4	
LINE	ITEM	NSN DATA	MODEL	QTY	UNIT	ACTIVITY	REPORTABLE	CODE	DESCRIPTION	ACTIVITY	REPORTABLE	CODE	DESCRIPTION	ACTIVITY	REPORTABLE	CODE
NR		CAGE-PN														
18	98130-00-172-2316-A1								0.01 LB	0.0001 CF	PA0ZZ	\$78	TEC:\$1AA			
19	18285-01-01-108-128								0.01 LB	0.0001 CF	PA0ZZ	\$78	TEC:\$1AA			
20	981730-00-878-5412								3.20 LB	0.0700 CF	PA0ZZ	\$325	TEC:NA			
21	984930-00-078-0431								0.01 LB	0.0001 CF	PA0ZZ	\$128	TEC:NA			
22	981920-00-718-8873								0.50 LB	0.0220 CF	PA0ZZ	\$18	TEC:\$1AA			
23	81996 4920HU1-002								0.00 LB	1.0000 CF	PA0ZZ	\$122	TEC:NA			
24	81996 4920HU1-008								10.25 LB	0.0001 CF	PA0ZZ	\$137	TEC:\$1AA			
25	81996 4920HU1-008-1															
26	12839 36000-400															
27	15476 T101400-18476															

Figure 3-11.—Typical IMRL main body.



INDIVIDUAL MATERIAL READINESS LIST REVISION REQUEST			
FROM		REV. REQ. SER. NO.	DATE
TO		VIA	
PART I IMRL/SE IDENTIFICATION DATA			
1. REVISION REQUESTED <input type="checkbox"/> AUTHORIZED ALLOWANCE CHANGE FROM QUANTITY OF _____ TO _____ <span style="float: right;"> <input type="checkbox"/> ADD/DELETE ITEM OF SE  <input type="checkbox"/> OTHER (Describe in Block 15)           </span>			
2. AAI	3. IMRL DATE	4. IMRL SUP. DATE	5. IMRL ITEM NUMBER
6. NOMENCLATURE		7. PSCH	8. PART NUMBER
9. APPLICATION		10. RSH	11. COMPUTED ALLOW
		12. AUTHORIZED ALLOW	13. QUANTITY DEMAND
14. REFERENCES			
15. DESCRIPTION/JUSTIFICATION			
<b>SAMPLE</b>			
SIGNATURE AND TITLE		CODE	TELEPHONE NO. DATE
PART IA SUPPORTING IMA IMRL DATA			
ACTIVITY NAME		16. AAI	17. IMRL DATE
18. COMPUTED ALLOW	19. AUTHORIZED ALLOW.	20. QUANTITY DEMAND	RECOMMENDATION
REMARKS		<input type="checkbox"/> APPROVAL <input type="checkbox"/> DISAPPROVAL (See Remarks)	
SIGNATURE AND TITLE		CODE	TELEPHONE NO. DATE
PART II INTERMEDIATE COMMAND ENDORSEMENT			
FROM		TO	
<input type="checkbox"/> FORWARDED RECOMMENDING APPROVAL <input type="checkbox"/> FORWARDED RECOMMENDING DISAPPROVAL (See Remarks)		APPROVED IMRL REVISION APPLIES TO THE FOLLOWING ACTIVITIES	
REMARKS			
SIGNATURE AND TITLE		CODE	TELEPHONE NO. DATE
PART III SECA DISPOSITION			
FROM		TO (Designing Activity)	
<input type="checkbox"/> DISAPPROVED (See Remarks)		<input type="checkbox"/> IMRL REVISION APPROVED	<input type="checkbox"/> SOURCE DATA REVISION RECOMMENDATION
REMARKS			
SIGNATURE AND TITLE		CODE	TELEPHONE NO. DATE

1. This form is for request

2. The original controlling obtained by the IMRL re

3. Completion

4. Completion

a. Block 1

b. Blocks 2

c. Blocks 3

d. Block 4

e. Block 5

f. Block 6

g. Block 7

h. Block 8

i. Block 9

j. Block 10

k. Blocks 11

l. Blocks 12

m. Block 14 being 3

n. Block 15 if applic mainten times, a require addition

5. Part II is con forwarded to

6. Part III is co disposition

NAVJAG FORM 130301 (REV 6-82)  
 EIGHT (8)

64 8125-1-413-4367  
**FRONT**

Previous editions of this form are obsolete

BACK

AMR00050

Figure 3-13.—IMRL revision request.

## **O-LEVEL MATERIAL CONTROL CENTERS**

While performing maintenance on a squadron aircraft, you find that you must remove a malfunctioning part. The maintenance chief agrees; so, you wrap the unserviceable item in the approved wrapping material or put it in the proper container. You complete all the required information, ensuring accuracy, in NALCOMIS or fill out the VIDS/MAF, making sure that the entries are readable on all five copies. Then, you take the VIDS/MAF to the squadron material control center.

The material control center is your squadron's contact point for parts and material. The material control center passes the requirements to the ASD/SSC of the supply department. The material control center does this in a timely manner to prevent work stoppage. When the parts arrive, your squadron AK ensures that the replacement parts are forwarded to your work center after receipt from supply.

AKs in the material control center perform other duties in addition to filling material requirements. The material control center prepares documents for material required for operational support: for example, indirect material requirements, such as aviation fuel and lube oil, that the squadron uses in the aircraft. The material control center also provides flight clothing and special equipment (such as safety shoes and foul weather jackets). Also, squadron AKs make up requests for material carried in the service market (SERVMART) outlets. Often, they are the "gopher" on SERVMART runs. Squadron AKs ensure that personnel prepare surveys for lost, damaged, or stolen material. They keep maintenance control advised of the overall supply situation and its effect upon the maintenance actions. The material control center also performs accounting and charting of operational target (OPTAR) funding and budgeting. Material control also validates NMCS and PMCS requisitions to make sure that supply is carrying all the outstanding requisitions on their list. Finally, the AK is the individual your supervisor will contact when he or she submits an IMRL change request.

The material control center also prepares and accounts for flight packets. While assigned to a squadron, you may be deployed away from your home base. If aircraft parts fail or if you need to buy gas or oil while deployed, the flight packet prepared by your squadron AK will contain the paperwork to pay for the services you receive, whether the activity that provides

the parts or services is a Navy activity or some other activity. A flight packet has the following items.

- DOD Single Line Item Requisition System, DD Form 1348 (6 part). This DD Form 1348 allows a military activity rendering a service to bill your squadron. The pilot of the aircraft enters what was purchased, the number purchased, and the date. He or she signs the requisition as proof of receipt.

- Purchase Order Invoice Voucher, Standard Form 44. Commercial as well as government activities accept these vouchers in payment for goods and services. There are monetary limits placed on the Standard Form 44s, and if the pilot wishes to exceed this limit, he or she must get permission from his or her commanding officer. The flight packet contains instructions on how to fill out these forms. Because Standard Form 44s can have monetary value, the pilot accounts for each voucher in his or her possession.

- DD 1896 or DD 1897 (identiplate). This identiplate is used to procure jet fuel or aviation gasoline from commercial airports holding Defense Logistics Agency, (DLA) into-plane refueling contracts and most DOD activities.

## **I-LEVEL MATERIAL CONTROL CENTER**

The material control center at the I-level operates like the material control center in a squadron. The difference is in the volume of the parts requisitioned. The volume can be two or three times greater at the I-level than at the O-level. The volume is greater because the I-level maintenance activities repair more than 90 percent of the unserviceable parts turned in by the squadrons.

The aeronautical material screening unit (AMSU) processes components turned in to the ASD/SSC (aviation support division/supply support center) to determine the capability of the intermediate maintenance activity (IMA) to check/test or repair the item. The AMSU makes this determination by using the ICRL. The supply managers at the IMA consult maintenance personnel about ICRL management. They also support local efforts to improve repair capability.

*Q22. What work center is the point-of-contact for parts and material at the organizational maintenance level?*

- Q23. *DD form 1348, Standard Form 44, and an identiplate (DD 1896 or 1897) are all issued as part of what package?*
- Q24. *What level of maintenance orders the greater volume of parts?*
- Q25. *The Individual Component Repair List (ICRL) is used by what work center to determine the repair capability of a component received by supply?*

**AVIATION SUPPORT  
DIVISION/SUPPLY SUPPORT CENTER  
(ASD/SSC)**

LEARNING OBJECTIVE: Define the purpose of an Aviation Support Division/Supply Support Center.

The ASD/SSC of a supply department is the point of contact for maintenance activities requiring direct support. To accomplish this task, the ASD/SSC has two sections—the supply response section (SRS) and the component control section (CCS).

**SUPPLY RESPONSE SECTION  
(SRS)**

The squadron or IMA material control centers refer all material demands directly related to aircraft maintenance to the ASD/SSC. Machines in the SRS connect with the Naval Aviation Logistics Command Management Information System (NALCOMIS), Shipboard Uniform Automated Data Processing System (SUADPS), or Status, Inventory Data Management Systems (SIDMS) telephones or teletype machines. Here, the SRS verifies the requisition for accuracy or makes a referral on the transceiver copy. Then the SRS prepares a requisition and records the document number, as well as the Status and Action codes in a log. Most requirements for components from organizational maintenance are for items carried in the local repair cycle assets (LRCA). Then, the SRS passes those requirements to the CCS. If the item is available in stock or the LCRA, CCS sends the material to the material delivery unit.

**Material Delivery Unit (MDU)**

The MDU receives a document from the stock locator unit (SLU) for the material. Then, the MDU delivers the material to the customer. When the MDU delivers a repairable component, the unserviceable part and appropriate paperwork are exchanged for the

replacement part (unless the CRIPL lists it). If the CRIPL lists the part, the maintenance activity has 24 hours after receipt of the replacement component to furnish the unserviceable part. Then, the driver from the MDU delivers the unserviceable component to AMSU. AMSU checks the ICRL, and, if IMA can repair the part, production control assigns a work priority and work center to the task.

**Pre-expended Bins (PEBs)**

PEBs contain high usage, low cost, maintenance-related materials, such as nuts, bolts, gaskets, O-rings, switches, abrasive, and glues. The PEB shortens the procedures for issuing and accounting for low-cost recurring issues. SRS in supply manages the PEBs. This includes display, labeling, and restocking of the bins. SRS stocks material in the PEBs that have a MINIMUM demand frequency of three per month. SRS also limits the quantity of any item in the PEB to a 30-day supply. If an item costs more than the maximum permitted (\$150), the commanding officer must approve the item for PEB stockage.

Pre-expended bins may be located in the maintenance area. Locating bins in the spaces of a maintenance activity makes high-usage, low-cost items immediately available to maintenance personnel.

How you use the PEB affects the number of items that SRS stocks. If you take 50 bolts for a project that only requires 20 bolts, you may keep another shop from getting the parts that are causing an aircraft to be NMCS. Or, if you show usage one month and none the next of an item in stock, supply may drop the item from the PEB, since the stock of a PEB is based upon use. Supply reviews stock records for the PEB quarterly. If there has been no demand for an item within the previous 12 months, supply will remove the item from the PEB and you will have to order the item.

Before you go to the PEB to draw an item, know what part number you need and check the PEB list. If the part number is on the PEB list, go to the PEB. If the part number is not on the PEB list, order the item through material control. When you use a low-cost item three or more times a month and it is not carried in the PEB, tell your supervisor so he or she can present the item for inclusion in the PEB. To do this, provide your supervisor with the part number and name of the end component on which the item will be installed.

## COMPONENT CONTROL SECTION

The function of the CCS is to manage the LRCA held at the ASD/SSC. These assets consist of all supply assets in the ASD/SSC, whether they are held in the LRCA storage area, at the IMA undergoing work, sitting upon the shelf in AWP status, or being processed for shipment to a designated overhaul point (DOP).

### Local Repair Cycle Asset (LRCA) Storage Unit

The LRCA storage unit receipts, stores, issues, and accounts for all repairable assets under the control of the CCS, including the rotatable pool. The LRCA allowance depends on an activity's maintenance data report (MDR) usage data and average turnaround time (TAT). There are four workload priorities that can be assigned to a LRCA.

**Priority 1** is assigned to support NMCS/PMCS aircraft for requisitions held by supply. Also, priority 1 is assigned to 30-day predeployment requirements.

**Priority 2** is assigned for the repair of critical LRCAs and SE, in addition to organizational maintenance activity (OMA) work stoppage requirements.

**Priority 3** is assigned for the repair of noncritical LRCAs and SE. It covers the repair or manufacture of material for nonfixed allowance stock.

**Priority 4** is assigned for processing salvaged material and nonaeronautical work.

If a squadron submits a requirement for a part and the LRCA has no assets, the CCS will dispatch a driver to your squadron to pick up the failed component. The driver will deliver the part to AMSU as an expeditious repair (EXREP). When the IMA can do the work, IMA inducts the expeditious repair component for overhaul under work priority 1. If IMA can put the part back in ready-for-issue (RFI) condition, the component will be delivered to the squadron immediately. The AMSU looks at similar components in work priority 3 for possible cannibalization to RFI the EXREP component from the squadron. If the component cannot be overhauled by IMA due to lack of repair

parts, the component is sent to the awaiting parts (AWP) unit.

### AWP Unit

The AWP unit receives, stores, and controls all AWP components returned to the ASD/SSC from IMA because repair parts are not available. The AWP unit personnel requisition piece parts and maintain requisition files: registers, and records that are needed to monitor, follow up, expedite, recycle, and report material demand for component repairs.

*Q26. What are the two sections of the Aviation Support Division/Supply Support Center (ASD/SSC)?*

*Q27. If a part is listed in the CRIPL, the maintenance activity has how many hours after receipt of the replacement component to furnish the unserviceable part?*

*Q28. What items are maintained in the pre-expended bins (PEBs)?*

*Q29. How often does supply review stock records for the PEB?*

*Q30. What section of ASD/SSC manages local repair cycle assets?*

*Q31. How many workload priorities can be assigned to a LRCA storage unit?*

*Q32. If a squadron requisitions an NMCS component from supply and, except for the turn-in, the only other part on station is in the IMA for repair, what priority will be assigned to the component received from the squadron?*

## SUMMARY

You should now have an idea of the various jobs that some of the supply personnel perform and how the supply system works, at least locally. More importantly, you should have an understanding of how important it is to accurately document part numbers and stock numbers. Ordering the wrong part not only costs your command money, it causes unnecessary delays in the repair of aircraft. When ordering replacement parts, take time to ensure accuracy and neatness. When in a hurry, that "Z" may look like a "2" or that "5" like an "S." Take your time and don't be part of the problem.

## ANSWERS TO REVIEW QUESTIONS

- A1. *Alpha/alpha/numeric.*
- A2. *FAD II or III*
- A3. *Usage statistics justify stocking replenishment parts.*
- A4. *Definitive and nondefinitive.*
- A5. *Commercial and Government Entity Code (CAGE).*
- A6. *Next higher assembly.*
- A7. *The illustrated parts breakdown (IPB) and the maintenance instruction manual (MIM).*
- A8. *General information and instructions for using the publication.*
- A9. *The group assembly parts list.*
- A10. *PAOZZ.*
- A11. *The first position.*
- A12. *Master Cross-Reference List (MCRL).*
- A13. *Consolidated Remain in Place List (CRIPL).*
- A14. *Quarterly.*
- A15. *AVCAL lists the items and quantities of aeronautical material authorized to be stocked by and aircraft carrier to support the maintenance and operations of embarked aircraft.*
- A16. *The National Codification Bureau (NCB) code.*
- A17. *NAVAIRINST 13650. I for IMRL items and NAVAIRINST 13630. I for TOL items.*
- A18. *NAVAIRSYSCOM exercises overall program management and authority.*
- A19. *Employment data, change list, index, main body, and the activity inventory record.*
- A20. *The IMRL main body.*
- A21. *It is reissued in its entirety each month.*
- A22. *Material control.*
- A23. *A flight packet.*
- A24. *Intermediate level.*
- A25. *Aeronautical material screening unit (AMSU).*
- A26. *Supply Response Section (SRS) and Component Control Section (CCS).*
- A27. *24 hours.*
- A28. *High usage, low-cost, maintenance-related consumable materials that have a minimum demand frequency of three per month.*

- A29. *Quarterly.*
- A30. *Component control section (CCS).*
- A31. *Four.*
- A32. *Priority 1, and the part would be designated "EXREP" or expeditious repair.*