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Stocking Spare Parts for a Small Repair Shop

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STOCKING SPARE PARTS FOR A SMALL

REPAIR SHOP

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by

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Stocking Spare Parts for a Small Repair Shop

Introduction

Several methods of stocking spare parts have proven successful for a wide range of maintenance organizations. The choice of method depends largely on the size of the organization, the amount of work to be handled, and the quantity and complexity of the equipment to be served. While much of the success of any given method is dependent upon strict adherence to the details of the system adopted, the ingredient of experience plays a large part. Therefore, it may be expected that the operation will become smoother as the personnel gain experience. This is especially true of the details of stock levels to be maintained and designation of parts to be stocked.

It is believed that the method recommended in this report will prove highly adequate for the small repair shop by providing a workable system while avoiding the complexities of the more sophisticated methods.

Preliminary Steps

The first basic step in setting up the spare parts program for any shop is to obtain from the manufacturers of the equipment to be serviced all information available on the equipment. This should include: (1) shop repair manuals, (2) recommended spare parts lists, and (3) drawings, sketches, or labeled photographs of parts and subassemblies. (Note: a subassembly is a small unit made up of several parts that is itself a part of the equipment item to be serviced, e.g. a water pump or differential for an automobile). For automotive equipment, well illustrated shop repair manuals are readily available, at least for U.S. products.

The second step involves setting up a filing system for the equipment. A file folder is required for each piece of equipment. On the inside face of each folder the following information should be recorded:

- (1) equipment identification number
(Each piece of equipment must be numbered)
- (2) equipment name and description
- (3) manufacturer and serial number
- (4) cost
- (5) date purchased and purchase order number
- (6) auxilliary items attached to equipment

The following information should be recorded on sheets and placed in the file:

- (1) preventive maintenance schedule (if any)
- (2) lists of spare parts and spare subassemblies to be stocked.

The spare parts lists should be setup as follows:

Equipment _____		No. _____	
Description	Local Part No.	Manufacturers Part No.	Dwg. No. or Shop Manual Page No.

The file folders are completed by adding the information obtained in step 1.

The third basic step consists of determining the anticipated spare parts requirements and usage. This is the most difficult step of all since it requires experience, judgement, and a knowledge of the local conditions. Recommended spare parts lists from the manufacturers will probably prove most useful here as a starter. Undoubtedly changes will

be required as experience is gained. The spare parts requirements decided upon are entered in the spare parts lists described previously.

Identification System

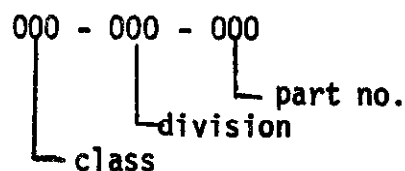
Three types of numbering systems are in general use for identification of spare parts. These are:

- (1) Significant - reserves different ranges of numbers for parts pertaining to given installations; for example;

10000 - 19999 engine parts

20000 - 29999 electrical parts etc.

- (2) classified - employs series of numbers to identify and categorize parts; for example,



class: type of equipment using the part.

division: variation in type, or subassembly.

part no. individual part number as shown on drawing.

- (3) non-significant (sequential) - parts numbered sequentially (1,2,3,4, etc.) without regard to use.

No one system is definitely superior. However, for the small repair shop, the non-significant method is recommended because of its simplicity. With this method each type of part is assigned a number, starting with 1 and proceeding upward, regardless of where the part is used. Duplicate parts (when more than one of a given part are stocked) are, of course, given the same number. This number is then recorded in the spare parts list in the equipment folder under the column "local part number" opposite the appropriate part "description." The part (s) are then tagged with the local part number and stored in appropriately arranged and identified bins.

To clarify one point, we have been mentioning only "parts" so far. For simplicity in a small repair shop operation, it is recommended that "subassemblies" also be treated as "parts" rather than making any attempt to list and keep track of all the parts in each subassembly. In some instances this may result in a slight overlap of stocking of parts but for the size of the operation under consideration this would not be critical.

Stock Control

In order to keep track of the spare parts stock it is necessary to set up an additional filing system. This may be thought of as a parts accounting system. It is suggested that this system be composed of 3" x 5" filing cards set up as follows:

Part No. _____ Equip. No. _____ Bin _____				
Order points: Max _____ Min _____				
Date	on order	Receipts	Disbursement	on hand

One card is filed for each part number and the cards are arranged in order of increasing part numbers. "Order points" are the maximum and minimum quantities of the part to be kept in stock. This, obviously, is another judgement item that will require a decision at the same time the list of parts to be stocked is drawn up. The "minimum" number is the quantity that when reached tells you that it's time to order more of that part. The difference between the "maximum" and minimum" tells you how many you have to order. The "date" column indicates when a transaction has occurred. "On order" and "receipts" designate number on order and number received, opposite the dates these actions occurred. When a part is used

it is tabulated in the "disbursements" column, and the "on hand" column is a running account of the number currently in stock.

The importance of making appropriate entries in the stock cards whenever a part is ordered, received, or withdrawn cannot be over-emphasized. The successful operation of the entire system hinges on careful attention to this detail.

Standard parts

It may turn out that certain standard parts such as bolts, nuts, dowels, cotter pins, etc. will be somewhat overstocked if stocked individually for each equipment item according to the system described above. If this is found to be the case, an optional feature may be added to the system to handle standard parts. This would consist of a file of cards of standard parts arranged similarly to the following example

Bolts-stove-std.-stl.					
		Diameter			
		1/8	3/16	1/4	
Length	1				
	1 1/4				
	1 1/2				
	1 3/4				
	2				
	3 1/4				

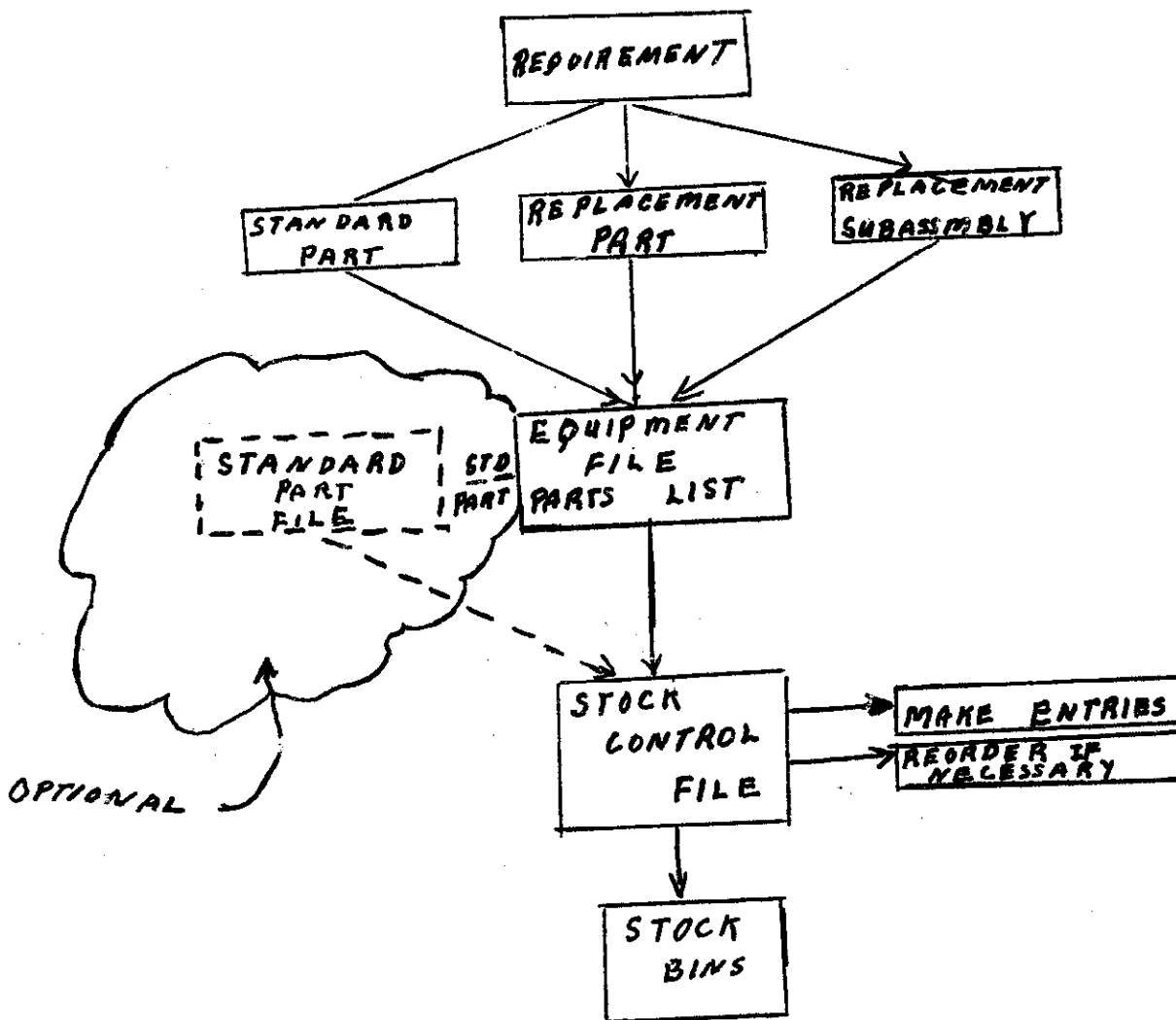
STOCK NUMBERS

If the number of standard parts is relatively small, but still of sufficient magnitude to warrant individual attention, it might prove sufficient to merely store them in well-marked and arranged bins and to employ the "hunt and pick" system. Each standard part should have a part number and a card in the "stock control" files, of course, to maintain proper

stock levels, regardless of which identification method is used.

Summary

A system has been described for stocking spare parts that would prove adequate for a small repair shop operation. A flow diagram summarizing usage and control of the system appears below:



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