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INSTRUCTIONS FOR THE FAMA EQUIPMENT WEIGHT & CUBE CALCULATOR

This program was developed by Jim Martin with the support of Eastern Kentucky University under a grant provided by the Fire Apparatus Manufacturers Association. It is intended for free use by the fire service, in developing safer fire apparatus. Copies of this program can be downloaded free of charge from the FAMA website at www.fama.org.

Purpose:

To calculate the weight and volume of equipment carried on fire apparatus

Data Entry:

When using this program it will be necessary to have a list of desired equipment accessible. If you wish to determine the weight and volume of equipment by compartment it will be necessary to plan the layout of equipment in advance. The weight and cube spreadsheet is created in MS Excel and requires that program to run. Open the program in Excel.

In Column A of the worksheet titled "Master Equipment List" enter the quantity of each type of equipment to be carried on the apparatus. It is imperative that you complete this column if you desire to obtain the equipment weight and volume. This column is the only column in the program that must be completed.

In Column B you may enter the compartment where each piece of equipment will be stored. This column will be used to calculate the weight and volume of equipment by compartment. Assign the compartments a numerical value between 1 and 25.

In Column D you may enter the equipment code used by your department. In Column J you may enter a "yes" or "no", depending if this item is required by NFPA. In Column K and L you may enter the quantity of new or previously used equipment. In Column M you may enter the manufacturer of the specific piece(s) of equipment. In Column N you may enter the model of the piece(s) of equipment. In column O you may enter the date that the piece(s) of equipment was purchased. Finally, in Column P you may enter the cost of each piece of equipment. The spreadsheet will then use this information to determine the total cost of that type or equipment, as well as all of the equipment carried on the apparatus.

Information Retrieval:

The spreadsheet will use the data you have entered to calculate an estimate of the weight and volume of the equipment carried on the specific apparatus. Column G will display the total volume occupied by each type of equipment. Column I will display the total weight of each type of equipment. Column Q will display the total cost of each type of equipment. Moving to the bottom of the sheet, Cell C580 will display the total weight of all equipment carried on the apparatus. Cell C581 will display the total volume of all equipment carried on the apparatus. Cell C582 will display the total cost of all equipment carried on the apparatus.

To determine the weight and volume by compartment click on the "Master Compartment Summary" tab at the bottom of the screen. The program will automatically enter the values from the first spreadsheet into the appropriate columns from E through CA. You may view what equipment is contained in each compartment along with its weight and volume by scrolling down these columns. The total weight for each column may be obtained from Column B or Row 578 for each respective compartment. Likewise, the total volume for each compartment may be obtained from Column C or Row 578 for each respective compartment.



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FAMA CALCULATOR INSTRUCTIONS CONTINUED ...

Engine, Aerial, and Rescue Worksheets

The spreadsheet has been subdivided into apparatus specific worksheets that will limit the equipment displayed to that which is typically carried on the given type of apparatus. These worksheets may be accessed using the tabs at the bottom of the screen. These tabs are titled “Engine Equipment List”, “Engine Compartment Summary”, “Aerial Equipment List”, “Aerial Compartment Summary”, “Rescue Equipment List”, and “Rescue Compartment Summary”. These worksheets operate in the same manner as the “Master” worksheet. Use the instructions for the worksheet titled “Master Equipment List” listed above to use these worksheets. The “Compartment Summary” worksheets operate in the same manner as the “Master Compartment Summary”. Use the instructions for “Master Compartment Summary” provided above to use these worksheets. It should be noted that the cell references in the instructions will differ from those in the apparatus worksheets, but the layout and operation is the same.

Conclusion:

Using this program you will be able to determine the total weight, volume, and cost of the equipment carried on the apparatus, as well as the weight and volume of equipment carried in each compartment.

Note: All the values used for this program are generic and do not take into account variances in weight and volume from manufacturer to manufacturer. The user should take this into considerations when making equipment related decisions using the information provided by this program.