Troops to Task

User Guide and Documentation

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# Purpose and Intent

The intent of the Troops to Task (henceforth referred to as T2T) and its purpose is to be able to get a visual representation of the Platoon’s or Unit’s tasking availability. Platoon T2T’s are updated at the lowest level and aggregated into the Master T2T which is used to update the DA6 so that duties can be assigned accurately.

Using this “Bottom-Up” method, any errors can be corrected at the lowest level and subsequently be corrected at every level above. Also, dividing the T2T’s between platoons prevents issues associated with a single point of failure.

**Master T2T**

**DA6**

**Platoon T2T**

The Platoon T2T’s are linked to Platoon sheets in the Master, which allows easy aggregation of all data in order to quickly and accurately update the DA6.

The Troops to Task generator allows easy generation of a “Default Format” Troops to Task for Platoons to use.

# Generalized Design

All Troops to Task contain the following 2 pages: a “Troops to Task” sheet, and a “Holidays” sheet.

## The “Troops to Task” Sheet

The Troops to Task sheet contains all the data needed for tasking requirements. Columns are individual days and rows and individual SM’s.

**Merged cells are not used on this sheet.** Any merged cells will disrupt the transfer of data from one sheet to the next. (Example: Master sheet will not accurately reflect Platoon sheet if Platoon sheet has merged cells.)

### How to Use:

To use the sheet, simply input the status of the SM into the corresponding day columns.

(L) Leave, (P) Pass, (Y) TDY, (T) Training, (D) Duty, (X or EX) Exempt from Duty

These status identifiers must be inputted for every day that the SM will have that status. For example: If an SM is taking leave for 5 days, all 5 days need to contain an “L” to reflect Leave.

**To extend the calendar dates at the top:** Select the last day in the row and drag the corner to the desired day to autofill all days. The days at the top are full dates such as 1/2/2019, but are formatted to only show the day which would be 2. Autofill allows for quick extension of the provided “calendar” on the Troops to task sheet.

### Adding and Removing SM’s on the Troops to Task

There is a custom function created for adding entries to the Troops to Task, which is discussed in the Code section of this document.

By pressing Control + Shift + A, a user form will appear. Enter the SM’s last name, first name, and select their rank before clicking “Add SM to Troops to Task.” The new entry will be inserted alphabetically by last name.

**To remove an SM from the troops to task**: Simply select and delete the entire row that the SM is on by right-clicking the row number to the far left of the worksheet.

## The “Holidays” Sheet

On this sheet, there is a table that contains Training Holidays and Days Of No Scheduled Activity (DONSAs) which can be updated and/or added to as necessary. This table is used to update columns that will be counted as non-workdays on the Troops to Task sheet.

There is also an area that has conditional formatting applied. This area controls the conditional formatting for the Troops to Task sheet, and all changes to conditional formatting must be made here or else they will not be permanently applied to the T2T sheet.

“Why?” you ask, the answer is: every time the workbook is opened, a macro runs which copies the conditional formatting from this area on the holidays sheet, and applies it to the entire Troops to Task area in order to “smooth out” any fragmentation that occurs from copying and pasting data on the Troops to Task worksheet. Copying and pasting data on the troops to task worksheet is permitted, but it causes “fragmentation” to occur where excel “cuts out” those cells that were copied and “reapplies” conditional formatting to the pasted area. This can be a problem as a new rule is created each time, which can result in slow workbook speeds due to the same rules being applied tens or even hundreds of times. This is an intrinsic problem with the Excel Application itself, and the deletion and re-application of all conditional formatting rules is the best workaround.

## Conditional Formatting

Included in the document are some complex conditional formatting rules. For more information about conditional formatting rules see: [Complex Conditional Formatting with Formulas in Excel](https://exceljet.net/conditional-formatting-with-formulas)

All conditional formatting rules MUST be applied to the area on the Holidays sheet in order to be applied to the Troops to Task. Any rules applied to the Troops to Task and not the Holidays Page will be removed once you reopen the document. This area is standard across all T2Ts and is as follows: “=$J$3:$L$150”

# The Code

## ApplyCFRules (Workbook\_Open)

Every time the document opens, it checks to see if the Troops to Task sheet exists, and if it does then it figures out the size of the troops to task by the following methods:

* Finds the row number of the final name in the Name column (D)
* Finds the column number of the final date in the date row (Row 2)

Once the row and column are found, a range is set using E3, the first blank cell of the troops to task, and the address (in “row, column” format) of the last cell in the troops to task, which is calculated dynamically. This range is then passed to the ApplyCFRules function. This function takes a given range and applies the conditional formatting rules found on the “Holidays” Sheet (or “Start Page” Sheet if in the T2T Generator) and applies it to the Troops to Task range.

**All applicable conditional formatting needs to be applied to the “Holidays” or “Start Page” sheet in order to be applied to the Troops to Task. If a conditional format is applied to the Troops to Task and not also applied to the “Holidays” or “Start Page” sheet, it will not be saved and will be deleted the next time the document is closed.**

## Add User (AddUserForm.Show)

This macro summons a user form that takes user data (Last, First, Rank) and uses it to insert a new person onto the Troops to Task in the proper location.

To add a new SM to the Troops to Task:

1. Press Ctrl + Shift + A on any sheet to open the Add User form.
2. Input the data of the SM that needs to be added.
3. Click “Add SM to T2T” and the SM will be inserted in the correct alphabetical order.

But how does it work?

The Troops to Task should be sorted alphabetically be default, so adding a new entry should be as easy as finding the name that the entry should come BEFORE. To do this, there is a VBA function called StrComp() which compares text strings and returns one of three values:

* 1 is greater than, meaning the new name comes AFTER the name currently selected.
* 0 is equal to, meaning the two strings are the same
* -1 is less than, meaning the name comes BEFORE the name currently selected.

To insert a name, the new name must be inserted on the first row that returns a -1, and this is because when a row is inserted it shifts all other rows DOWN including the data that was on the row before the insert. With that in mind:

* The macro uses StrComp() to compare the name of the SM to the names within the range to determine where to insert it alphabetically.
* The name is inserted and all rows below are shifted down, including the row that used to be in that spot. Conditional formatting is automatically applied by Excel.