



# *Flight Log Maker 5*

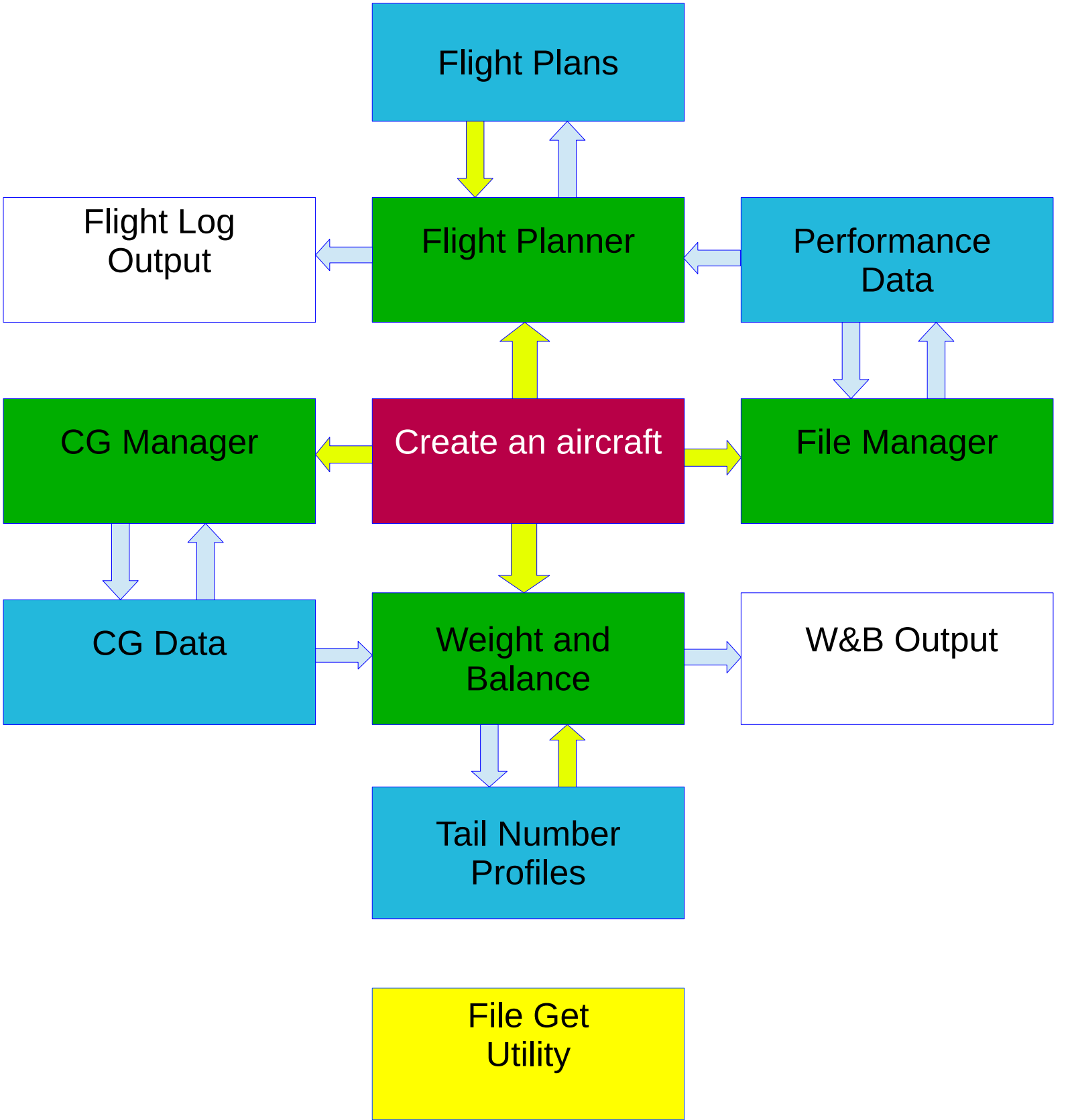
V 5.2

# Flight Log Maker 5

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Flight Log Maker 5.0 Layout



## Aircraft included with Flight Log Maker 5



Cessna 152



Cessna 172



Cessna 172 RG



Cessna 182



Cessna 210 M



Beechcraft A36



Piper Warrior II



Piper Arrow III



Cirrus SR20



Cessna 310 Q

# About the User Programs

## Flight Planner

The flight planner is the main program for planning flights. Start the program by typing FLM5 and pressing <enter>. The program will load and the first thing to do is to select an aircraft from the list of aircraft that have been created.

You will see list boxes for power, altitude, take off airport temperature, cruise altitude temperature, barometric pressure, printer output, and taxi fuel. Set the list boxes to the appropriate settings. An information push button and a help push button are available also.

If you have not created your aircraft yet, you will have to run the NEW\_AC.EXE program and fill out a form that tells the other utilities what file names to create and open for the new aircraft. The CREATE AN AIRCRAFT section will explain more on how to do this.

The “Continue” push button will take you to the next page where you can fill out or retrieve previously saved flight plan routing and airport information.

# About the User Programs

## Flight Planner

Flight Log Maker Version 5.2 TAB=Select Fields ESC=Quit

Performance Data Page

Help About

Aircraft Information File:  
Find  
Read Aircraft File

| Power |     | Crz Alt | Temps F/C |        |
|-------|-----|---------|-----------|--------|
| Rpm   | Mp  |         | Dep       | Crz    |
| 2100↑ | 0↑  | 2000↑   | 50/10↑    | 30/-1↑ |
| 2200  | 16  | 3000    | 60/16     | 40/ 4  |
| 2300  | 17  | 4000    | 70/21     | 50/10  |
| 2400↓ | 18↓ | 5000↓   | 80/27↓    | 60/16↓ |

Wet Rate 0.00 \$/HR Dry Rate 0.00 \$/HR Fuel Cost 0.00 \$/Gallon

29.90↑  
29.91  
29.92  
29.93  
29.94↓

LPT1↑  
LPT2  
COM1↓

1.4↑  
1.5  
1.6↓

500↑  
600  
700↓

Departure Airport Altimeter  
Printer Port  
Start,Taxi,Take-Off Fuel  
Descent Rate

Exit Continue -->

Type name of the aircraft information file..must have ".air" extension

After you find or type in the name of the aircraft information file, press the “read aircraft file” push button to load its contents into the flight planner. If loaded successfully, the aircraft name will appear at the bottom of the page and will also specify whether or not the aircraft is high performance (constant speed propeller and uses a manifold pressure) or regular performance (fixed pitch propeller, no manifold pressure) . Make sure you set the correct power setting for your aircraft. If you want to exit the program, you can use the ESC key or the exit push button from any of the pages in the flight planner.

# About the User Programs

## Flight Planner

When typing in a name by hand, be sure the filename has the .air extension at the end. (example: C182.AIR)

**Flight Log Maker V5.0.0** ESC=Quit TAB=Select Fields

**Navigational Data Page**

**Next** **Back** **Help** **Clear**

| Segment Name | Crs | NM | Wind Dir | Wind Spd | Departure | Arrival     |
|--------------|-----|----|----------|----------|-----------|-------------|
|              | 0   | 0  | 0        | 0        | 0         | Elevation 0 |
|              | 0   | 0  | 0        | 0        |           |             |
|              | 0   | 0  | 0        | 0        |           |             |
|              | 0   | 0  | 0        | 0        |           |             |
|              | 0   | 0  | 0        | 0        |           |             |
|              | 0   | 0  | 0        | 0        |           |             |
|              | 0   | 0  | 0        | 0        |           |             |
|              | 0   | 0  | 0        | 0        |           |             |
|              | 0   | 0  | 0        | 0        |           |             |
|              | 0   | 0  | 0        | 0        |           |             |

**Frequencies**

| Frequency | Value |
|-----------|-------|
| ATIS      | 0.000 |
| AWOS      | 0.000 |
| Ground    | 0.000 |
| CTAF      | 0.000 |
| Dep/App   | 0.000 |
| Clrc Del  | 0.000 |
| FSS       | 0.000 |
| Unicom    | 0.000 |

Input the Usable fuel on board ---> 0

**Get Trip** **Load Trip** **Save Trip**

Load a previously saved trip

The page above is where you will get or create a new flight plan. You can also place the airport data here too. You should always use the elevation entry fields. They are used for calculations in the Flight plan. If you want to get a previously saved flight plan, click on the “Get Trip” push button. You will be given a list of saved flight plans to choose from. After choosing the flight plan, you will be returned to this page and to “load” the flight plan, press “Load Trip” push button.

# About the User Programs

## Flight Planner

A pop-up window will indicate the name of the flight plan loaded and will give the most recent date and time this file was updated. Be sure to update your flight plan if needed. You can also save the flight plan here or on the next page. The clear button at the top of the page will clear all of the flight plan fields. To reload it just click on the “Load Trip” push button again.

```
Flight Log Maker File Search                                version 2
Select file and press LOAD key to use or...
Double click on a file to use
```

DIR: ???????

COUIGQ  
CRGPNS  
GQCOU  
INDMSN  
MKECPS  
MKERHI  
MSNIND  
OKCMEM  
RHIMKE  
<..

LOAD

CANCEL

# Flight Planner

Trip IGQCOU is Loaded...  
Press any key to write IGQCOU to NAV page!  
Last update: Sun Dec 23 12:31:52 2012

Don't forget to enter the fuel on board before calculating. The flight plan will not calculate until sufficient fuel is entered.

# About the User Programs

## Flight Planner

On the flight log results page there are buttons for saving the calculated flight log, saving navigation information, printing directly to a printer, starting the weight and balance program, and push buttons labeled “New”, and “Back”. “Back” takes you back to the navigation page, and “New” returns you to the performance page. Also displayed is the segment information. “NM” is the segment nautical miles, “RD” is the remaining distance after the segment is flown, “MC” is the magnetic course. You have to know your magnetic variation when entering this in the navigation page.

| Flight Log Maker V5.0.0                                             |      |       |      |          |           |          |      |     |      |     |           | ESC=Quit | TAB=Select Fields |
|---------------------------------------------------------------------|------|-------|------|----------|-----------|----------|------|-----|------|-----|-----------|----------|-------------------|
| Flight Log Results Page                                             |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| New                                                                 | Back | Print | CALC | Save Log | Wt. & Bal | Save Nav | Quit |     |      |     |           |          |                   |
| SEGMENT                                                             | NM   | RD    | MC   | WD       | WS        | WC       | MH   | GS  | ETE  | ETR | FUEL REQD |          |                   |
| KIGQ D PNT 109.6                                                    | 69   | 206   | 231  | 30       | 18        | +        | 2    | 233 | 118  | :41 | 1:44      | 4.85     |                   |
| PNT V116 PIA 115.2                                                  | 49   | 157   | 257  | 40       | 25        | +        | 7    | 264 | 121  | :24 | 1:19      | 2.67     |                   |
| PIA V116 UIN 113.6                                                  | 85   | 72    | 230  | 40       | 25        | +        | 1    | 231 | 126  | :40 | :39       | 4.45     |                   |
| UIN V63 HLV 114.2                                                   | 59   | 13    | 217  | 80       | 18        | -        | 5    | 212 | 115  | :30 | :08       | 3.38     |                   |
| HLV D KCOU 110.2                                                    | 13   |       | 189  | 160      | 12        | -        | 3    | 186 | 91   | :08 | :00       | 0.94     |                   |
| TOTALS ->>                                                          | 275  |       |      |          |           |          |      | 119 | 2:25 |     | 24.40     |          |                   |
| Aircraft for this flight: CESSNA 172                                |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| ATMOSPHERIC DATA: Take off file: N172PF.DAT Cruise file: N172PF.DAT |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| 15 is standard temperature (celcius): for takeoff                   |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| 6 actual degrees above/within/below standard: for takeoff           |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| 1396 density altitude: at departure airport                         |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| 7 is standard temperature (celcius): for cruise                     |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| 3 actual degrees above/within/below standard: for cruise            |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| 4390 density altitude: at cruise altitude of 4000 feet MSL          |      |       |      |          |           |          |      |     |      |     |           |          |                   |
| Calculate the flight log                                            |      |       |      |          |           |          |      |     |      |     |           |          |                   |

# About the User Programs

## Flight Planner

“WD” is the wind direction, “WS” is the wind speed. Note: select your winds from the winds aloft charts that are closest to the route segment. “WC” is the wind correction to add or subtract. “MH” is the magnetic heading (corrected for the wind). “GS” is the ground speed for the leg. Ground speeds are averaged at the bottom of the segments. Totals are given for mileage, flight time, and fuel. ETR is the time remaining after the leg is flown and fuel required is shown for each leg. Note: the first leg also adds in the fuel required for the climb segment so it will show a slightly higher amount than just fuel required for the segment. A note about the print, and save push buttons. They only work if you first press calculate. Every time you come back to the flight log results page, you will have to calculate first before those buttons will work.

```
Flight Log Maker V5.0.0          ESC=Quit  TAB=Select Fields
----- Flight Log Results Page -----
-----DEPART DATA-----
  75  recommended departure climb speed
 610  departure rate of climb
-----CRUISE DATA-----
  74  at cruise climb speed
 515  at cruise rate of climb
 102  at cruise true airspeed
  6.6 at cruise fuel consumption
2300  at cruise Rpm
-----CLIMB/DESCENT DATA-----
Required climb distance ->  9.0 NM using rate of climb average
Required descent distance ->  9.4 NM using a 500 FPM descent rate
Fuel includes a 1 hr reserve...

Calculate the flight log
```

# About the User Programs

## Flight Planner

Other information listed below the flight segments include atmospheric, departure, and cruise data. The temperatures listed are in Celsius. When viewing the temperatures above or below standard they are color coded for the purpose of showing what atmospheric envelope you are in. More about the atmospheric envelopes in the file manager section. Density altitude for take off elevation and cruise are shown. Moving further down the page, you will see the performance at takeoff and at cruise. Knowing your ( $V_y$ ) speed at cruise can be important if climbing in an area of high terrain.

Power setting is shown and may not be what you selected. The program will try and use your power setting to open the performance data needed. If there is no data for that power setting, the program will get the default power setting for the altitude being flown, then will retry opening the performance file based on selected atmospheric conditions being flown. Usually this second attempt is successful. If not, the default data for that altitude will be used. In any case, your new power setting will be displayed. If you would rather use something else, you can input another power setting and try again.

The text color of the file represents the atmospheric window being used. If default data is used, it will say so. At the bottom of the page you will be reminded that the program has also added 1 hour of cruise fuel at the cruise rate for reserve.

# About the User Programs

## File Manager

The file manager is used to create and place data in performance files that were defined by the “create aircraft” program. Start the file manager by typing “FM\_NEW” and pressing <enter>. After the program starts, you will see the same entry field for loading the aircraft information file as in the flight planner. Use the “FIND” push button to select from one of the aircraft information files and press “load”. Press the “Read Aircraft File” push button to load the file information to the file manager. You should see the aircraft name “loaded” appear. Select the Atmospheric conditions, set the power, and select the altitude. Select “get data”. Make any changes and select “save data”. When retrieving or saving, make sure MP (manifold pressure) is properly set. If no controllable propeller, Then leave MP set to 0.

Performance File Manager v2 ESC=Quit TAB=Select Fields

Performance Data Entry

Exit

Aircraft File:

Find

Read Aircraft File

GET DATA

SAVE DATA

FILE

ABOVE

NORMAL

BELOW

DEFAULT

RPM

2000

2100

2200

2300

2400

2500

2600

2700

MP

0

16

17

18

19

20

21

22

ALT

2000

3000

4000

5000

6000

7000

8000

9000

TAS [ 0 ] ROC [ 0 ]

BHP [ 0 ] GPH [ 0.0 ] U<sub>y</sub> [ 0 ]

8 characters Maximum plus ".air" Select "Read" to read an existing file

# About the User Programs

## File Manager

Note: You will not be able to get anything until you have saved at least one record to the file. I also suggest that you use the templates that are supplied with the program. Record your calculations to the template first. Then use the file manager to load them.

There are 4 performance records to be saved for each of your aircraft. They correspond to the 3 atmospheric windows (above, below, normal ) in relation to standard atmospheric conditions, plus a "default" file. The default file will contain fail safe information, should no information be found in your other files. Some POH's change from standard to non standard at 20 degrees C, and others at 20 degrees F. Either one is acceptable.

| Performance File Manager v2   |             | ESC=Quit   |           | TAB=Select Fields |                       |
|-------------------------------|-------------|------------|-----------|-------------------|-----------------------|
| <b>Performance Data Entry</b> |             |            |           |                   |                       |
| <b>Exit</b>                   | <b>FILE</b> | <b>RPM</b> | <b>MP</b> | <b>ALT</b>        |                       |
| Aircraft                      | ABOVE       | 2000       | 0         | 2000              | Record #: 14 Saved... |
| File:                         | NORMAL      | 2100       | 16        | 3000              | N172PF.DAT            |
| C172.AIR                      | BELOW       | 2200       | 17        | 4000              | Temperature:          |
|                               | DEFAULT     | 2300       | 18        | 5000              | NORMAL                |
|                               |             | 2400       | 19        | 6000              | File Type:            |
| <b>Find</b>                   |             | 2500       | 20        | 7000              | REGULAR               |
| <b>Read Aircraft File</b>     |             | 2600       | 21        | 8000              | True Airspeed:        |
|                               |             | 2700       | 22        | 9000              | 103                   |
| <b>GET DATA</b>               |             |            |           | <b>SAVE DATA</b>  | Fuel Consumption:     |
|                               |             |            |           |                   | 6.8                   |
|                               |             |            |           |                   | Rate of Climb:        |
|                               |             |            |           |                   | 560                   |
|                               |             |            |           |                   | Climb Speed (Vy):     |
|                               |             |            |           |                   | 75                    |
|                               |             |            |           |                   | Brake Horspower:      |
|                               |             |            |           |                   | 60                    |
|                               |             |            |           |                   | Rpm MP Alt            |
|                               |             |            |           |                   | 2300 / 0 / 3000       |
| TAS [103] ROC [560]           |             |            |           |                   |                       |
| BHP [60] GPH [6.8] Vy [75]    |             |            |           |                   |                       |
| Loaded: CESSNA 172            |             |            |           |                   |                       |
| This aircraft is regular.     |             |            |           |                   |                       |

8 characters Maximum plus ".air" Select "Read" to read an existing file

# About the User Programs

## File Manager

To build the 3 atmospheric files follow these guidelines:  
For temperatures equal to or more than (ISA +20°C), the “above” file is created. For data representing temperatures equal to or colder than (ISA -20°C), the “below” file will be created. You can substitute Fahrenheit for Celcius if your POH is different. Any temperature in between, you use the normal performance data.

Note: After creating the 3 atmospheric files, the “default” file can now be created. The “default” file will contain information from the 3 atmospheric files. To create the “default” file do the following: Use a power setting that is common to the “above” and “below” files for each altitude. Begin entry with 2000 FT MSL and work your way up to 12000FT MSL using the supplied template. For fuel, use the fuel consumption that was used in the “below” standard conditions file and use the true airspeed, (Vy) rate of climb, and BHP (brake horsepower) from the “above” standard file. Note: At the very minimum, data must be placed in the “default” file for the aircraft to work.

These are conservative values because the when the default file, is used, atmospheric conditions are no longer considered. They are only used to retrieve the proper atmospheric file.

There is only one power setting for each altitude in the default file.

# File Manager

This is the template used for recording information from the Pilot operating handbook.

# About the User Programs

## CG Manager

Flight Log Maker: CG File Manager      ESC = Quit      TAB = Select Fields

CG Data Entry

Aircraft  
File: **C172.AIR**      **EXIT**

**Find**

**Read Aircraft File**

Loaded: CESSNA 172

Normal Envelope

| Forw. CG | Rear CG | Min. wt. | Max. wt. |
|----------|---------|----------|----------|
| [ 35.0]  | [ 47.3] | [1500]   | [2400]   |

Utility Envelope

| Forw. CG | Rear CG | Min. wt. | Max. wt. |
|----------|---------|----------|----------|
| [ 35.0]  | [ 40.5] | [1500]   | [2100]   |

**GET INFO**      **SAVE INFO**

Selected Weight

1500↑  
1525  
1550  
1575  
1600  
1625  
1650  
1675↓

Aircraft CG file  
WBC172.CGD 22  
weight: 1650

Max. weight 2400  
Min. weight 1500

Forward CG: 35.0  
Rear CG: 47.3

-----

Utility Category  
Forward CG 35.0  
Rear CG 40.5

Weights  
Max. Min.  
2100 / 1500

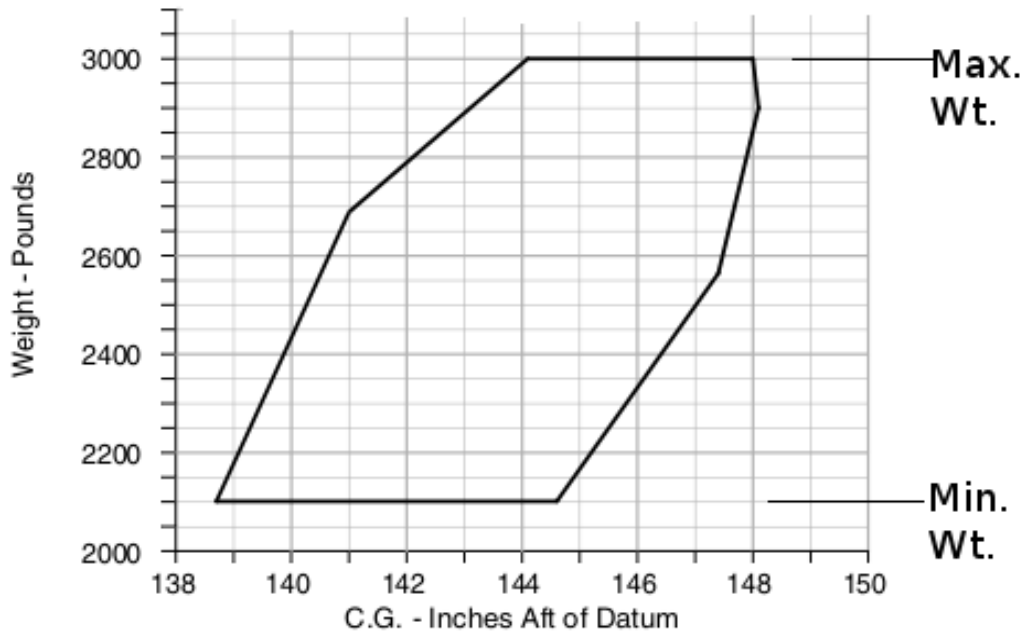
Record saved....

8 characters Maximum plus ".air" Select "Read" to read an existing file

The CG manager can be opened from the flight planner or by typing in "CGMAN" and pressing <enter> from the command Line. To load an aircraft to work with, press the "Find" push button, select an aircraft, the press the "Read Aircraft File" push button. The loaded aircraft will appear as in the picture Above. To create the CG envelope you must start with the minimum weight of the aircraft CG envelope and move up the envelope at 25 LB increments. At each increment, note the forward and rearward CG locations (be sure to note if the location is in the utility category if your aircraft allows). Select the weight from the list box and press the "Save Info" button. For each location, you will input the aircraft minimum and maximum weights. That way everything can be found in a single record. Note: the weights listed in the list box are the only weights to be used. The minimum and maximum weights are those found at the bottom and top of the CG window.

# About the User Programs

## CG Manager



**Figure 6-6**  
**Center of Gravity Limits**

Information Manual  
June 2007

Note: When creating an aircraft with the aircraft create program (NEW\_AC.EXE), make sure that all of the required fields are filled out. If any of the fields are left out The file manager and CG manager programs will not Know how to create the file for storing the information.

# About the User Programs

## Create an aircraft

The “create an aircraft” program is started by typing in NEW\_AC.EXE. Start by typing in a descriptive name for your aircraft. You can look at some of the included files by typing in one of the “.air” files that are included and pressing the “read” key. “Read” will load the airplane information into the edit fields. A special feature of the program prevents the filenames from being saved if any 1 file of a specific aircraft has been created by the either of the file managers.

Flight Log Maker 5      TAB=Select Fields      ESC=Quit

Aircraft Information Panel

Aircraft Name

Above Standard Data File       Performance Tags  
Complex/High Performance

Below Standard Data File       Not Complex/High Performance

Normal/Standard Data File

Default Data File

Weight and Balance Center of Gravity Data File

Aircraft  
File:

Find    Read    Save    Manage CG files

Performance File Manager

Quit

Type in the Name of the Aircraft

You can use any name for the data files but I suggest using a format similar to what is here. Fill out each of the fields and make sure to select “controllable propeller” if aircraft has a constant speed propeller and manifold pressure control. The “not complex” button will clear it.

# About the User Programs

## Create an aircraft

The aircraft create panel is where you name all of the files to be used with the aircraft you are creating. You can make changes to this information as long as none of the data files were actually written to. If you write information to any of the performance or CG files, the aircraft information cannot be changed any more unless you do the following. First, rename any files that you want to save to a temporary name, then make the changes in the aircraft information file, and save it. Last, rename the temporary data file to match the proper filename listed in the aircraft information file. When naming the files, performance files should end in “.dat” and the center of gravity file should end in “.cgd”.

Aircraft Information Panel

Aircraft Name

CESSNA 172 RG

( ) Controllable Propeller?

Above Standard Data File

A172RGPF.DAT

Not Complex

Below Standard Data File

B172RGPF.DAT

A Filename already in use!

Norm

Defa

Weig

File A172RGPF.DAT is already in use.  
You must change one of the performance file names.  
to something else. Once the files are created by the  
file manager program, you cannot create a new structure  
with a file name that has already been created.

Manage CG files

Aircraft Info Filename

C172RG.AIR

Performance File Manager

Save

Read

Quit

To create a new file name for use - it cannot already exist.

# About the User Programs

## Weight and Balance

The weight and balance program can be started from the flight planner log page or by typing WB and <enter>. The program allows the pilot to create weight and balance profiles for aircraft identified by only their registration number. To create a new profile, start by selecting an aircraft information file. You can type it in or use the “FIND” push button and select from the list available. Do this step first, then press “Load aircraft information file” to load into the weight and balance program. You should see “loaded:” and the name of the aircraft at the bottom of the window. Now, type the name of the aircraft registration number in the field provided and fill in the empty weight and arm. Go down the list of entry fields and fill in all data appropriate to your airplane. After the data fields are filled out, select the “Create/Edit Association” push button. The aircraft profile is now associated to the aircraft type defined by the aircraft information file. This causes the airplane to only use the CG information contained in the CG file associated to that type.

# About the User Programs

## Weight and Balance

Weight & Balance Version 3.1      TAB=Select Fields      ESC=Quit  
Use "Find AIF and Read AIF" to find and load an existing file

|                         | Weight   | Arm     |                                                                                           |
|-------------------------|----------|---------|-------------------------------------------------------------------------------------------|
| Basic empty weight----  | [1173.0] | [ 32.0] | Tail number: N25227                                                                       |
| Forw. Baggage/Oil----   | [ 0.0]   | [ 0.0]  | Find                                                                                      |
| Pilots seat-----        | [ 150.0] | [ 44.0] | Help                                                                                      |
| Front Passenger seat--> | [ 150.0] | [ 44.0] | GrabData                                                                                  |
| Fuel (Main Tanks)----   | [ 120.0] | [ 46.0] | Calc                                                                                      |
| Fuel (Aux. Tanks)----   | [ 0.0]   | [ 0.0]  | Aircraft Information File:                                                                |
| Rear seats-----         | [ 0.0]   | [ 0.0]  | C152.AIR                                                                                  |
| Rear seats-----         | [ 0.0]   | [ 0.0]  | Save                                                                                      |
| Rear Baggage-----       | [ 0.0]   | [ 0.0]  | Find                                                                                      |
| Rear Baggage-----       | [ 0.0]   | [ 0.0]  | Create/edit Association                                                                   |
| Taxi/run-up fuel----    | [ -6.0]  | [ 46.0] | Read Aircraft file                                                                        |
| Fuel burn-----          | [ -72.0] | [ 46.0] | To print your W & B: send results.wbl to notepad or other word processor and select print |
| Fuel burn-----          | [ 0.0]   | [ 0.0]  |                                                                                           |

Loaded: CESSNA 152      Exit

This picture shows the aircraft information file, Piper Warrior II loaded and the users airplane, N25227 profile loaded into the entry fields. The next page shows what is displayed after the user associates N25227 to a Cessna 152 aircraft type. N25227 will always use the CG information defined by the Cessna 152 aircraft information file.

# About the User Programs

## Weight and Balance

Weight & Balance Version 3.1      TAB=Select Fields      ESC=Quit  
You have created a new or have changed the existing association

|                       | Weight                                                                                                                                                                                                    | Arm     | Tail number: N25227 | Help                                     |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------|------------------------------------------|
| Basic empty weight--- | [1173.0]                                                                                                                                                                                                  | [32.0]  | Find                | GrabData                                 |
| Forw. Baggage/Oil---- | [0.0]                                                                                                                                                                                                     | [0.0]   |                     | Calc                                     |
| Pilots se             | <div>Notice</div> <div>Association newly created or changed!<br/>Your aircraft <b>N25227</b> has been associated with<br/>the CG window for a <b>CESSNA 152</b><br/><br/>Press any key to continue.</div> |         |                     | Save                                     |
| Front Pas             |                                                                                                                                                                                                           |         |                     | edit                                     |
| Fuel (Mai             |                                                                                                                                                                                                           |         |                     | tion                                     |
| Fuel (Aux             |                                                                                                                                                                                                           |         |                     |                                          |
| Rear seat             |                                                                                                                                                                                                           |         |                     | other<br>word processor and select print |
| Rear seat             |                                                                                                                                                                                                           |         |                     |                                          |
| Rear Bagg             |                                                                                                                                                                                                           |         |                     |                                          |
| Taxi/run-up fuel----- | [ -6.0]                                                                                                                                                                                                   | [ 46.0] | (-)                 | Exit                                     |
| Fuel burn-----        | [ -72.0]                                                                                                                                                                                                  | [ 46.0] | (-)                 |                                          |
| Fuel burn-----        | [ 0.0]                                                                                                                                                                                                    | [ 0.0]  | (-)                 |                                          |
| Loaded: CESSNA 152    |                                                                                                                                                                                                           |         |                     |                                          |

If the CG data has already been created by using the CGMAN program, then the aircraft is ready for weight and balance calculations, otherwise you will have to create the WB data for this aircraft type. To do that, read the CG Manager program information in this handbook. The CG manager program can be started from the flight planner, create aircraft utility, or by typing in CGMAN and pressing <enter> from the flight log maker folder. Note: Once you have associated your airplane to an aircraft type, you won't be required to associate it any more. Just load the aircraft information file, then load your airplane with the "GrabData" push button.

# About the User Programs

## Weight and Balance

This example includes the trip burn fuel so the display shows the take off and landing weight and balance. If you only show a taxi burn, then the takeoff only weight and balance is shown. A file called "results.wbl" will display the take off AND landing CG. Print the "results.wbl" file to get a hard copy of your calculation. All utility category information will be displayed if within the CG window for the given weight. If you want to save the information contained in the "results.wbl" file, please rename the file before another calculation or it will get written over when you do the next calculation.

Weight & Balance Version 3.1      TAB=Select Fields      ESC=Quit

**Weight is beyond limits for either or both normal or utility categories**

|                    | Data Window         |      |      |                    |      |      |
|--------------------|---------------------|------|------|--------------------|------|------|
| Basic empty weight | CG Data: WBC152.CGD |      |      | Gross WT: 1675     |      |      |
| Forw. Baggage/Oil- | Take off weight     |      |      | Landing weight     |      |      |
| Pilots seat-----   | 1587                |      |      | 1515               |      |      |
| Front Passenger se | Normal Catagory     |      |      | Normal Catagory    |      |      |
| Fuel (Main Tanks)- | F                   | CG   | R    | F                  | CG   | R    |
| Fuel (Aux. Tanks)- | ↓                   | ↓    | ↓    | ↓                  | ↓    | ↓    |
| Rear seats-----    | 32.1                | 35.2 | 36.5 | 31.9               | 34.7 | 36.5 |
| Rear seats-----    | Utility Catagory    |      |      | Utility Catagory   |      |      |
| Rear Baggage-----  | You are beyond the  |      |      | You are beyond the |      |      |
| Rear Baggage-----  | UTILITY WEIGHT      |      |      | UTILITY WEIGHT     |      |      |
| Taxi/run-up fuel-- | limits              |      |      | limits             |      |      |
| Fuel burn-----     | for this aircraft!  |      |      | for this aircraft! |      |      |
| Fuel burn-----     |                     |      |      |                    |      |      |

Loaded: CESSNA 152

Help  
GrabData  
Calc  
Save  
Edit  
Print  
Exit

# About the User Data

## Performance Data

Performance data is the foundation for the flight log maker flight planner. The data is made up of information retrieved from the pilots operating handbook. Items extracted for use in the data include the true airspeed, fuel consumption (burn rate per hour), climb speed (Vy), brake horsepower (BHP), rate of climb (for the specific altitude), and power setting(s) that the data is based on. For take off, I get the Vy speed and rate of climb. For cruise, I get all of the other data. Default data is obtained from the performance record information from the “above” (ISA), and “below” (ISA) files for a given altitude. True airspeed, rate of climb, and BHP will come from the “above” file AND the common power setting between these two files. Fuel consumption will come from the “below” file (taken from the common altitude and power setting).

For example, you will note that for the Cessna 172 @ 4000' and 2400 RPM the values are as follows:

| TAS(knots) | FUEL(gal./hr.) | Climb Rate(ft/m) | Vy(knots) | BHP(%) |
|------------|----------------|------------------|-----------|--------|
| 107        | 7.0            | 450              | 74        | 62     |
| 109        | 7.8            | 590              | 74        | 69     |
| 107        | 7.8            | 450              | 74        | 62     |

The first line is from the “above” file, the second is from the “below” file and the third is the “default” data that is obtained from the two files. These numbers can be changed by the user if it is desired to use more (or less) conservative values for default.

# About the User Data

## CG Data

The aircraft center of gravity data is found by marking the CG window at the forward and aft limits. If a utility window is part of the CG, then the forward and aft limits of the utility portion of the window are noted as well. By moving up at 25 LB increments as shown in the aircraft weight list box and recording the forward and aft CG limits of the CG(s), the CG window is “copied” to the CG file. Weight is recorded in pounds and the forward and aft limits are in inches “aft” the datum. Note: to have all of the required information in each record of the file, the minimum and maximum weights for normal and utility (if applicable) are recorded with each weight increment.

# About the User Data

## Flight Log Output

Flight Log Maker Log

Time Off \_\_\_\_:\_\_\_\_

Tue Jan 01 15:11:56 2013

Aircraft: CESSNA 172

Cruise TAS 108 Power: 65% RPM: 2400 MP: 0 FOB: 40.0

Altitude: 4000 Note: (altitude may be approximate)

Fuel: (1 hour reserve included in the fuel required)

| Segment             | NM  | RD  | MC  | WD  | WS | WC  | MH  | GS  | ETE  | ETR  | FUEL REQD |
|---------------------|-----|-----|-----|-----|----|-----|-----|-----|------|------|-----------|
| KMSN V177 JVL 114.3 | 29  | 258 | 161 | 120 | 16 | - 6 | 155 | 95  | :23  | 2:43 | 3.2       |
| JVL V177 JOT 112.3  | 70  | 188 | 147 | 120 | 16 | - 4 | 143 | 93  | :45  | 1:58 | 5.5       |
| JOT V429 RBS 116.8  | 58  | 130 | 171 | 160 | 22 | - 2 | 169 | 86  | :40  | 1:17 | 4.9       |
| RBS V429 CMI 110.0  | 33  | 97  | 187 | 160 | 22 | - 5 | 182 | 88  | :22  | :55  | 2.7       |
| CMI V434 VHP 116.3  | 89  | 8   | 95  | 180 | 12 | + 5 | 100 | 106 | :50  | :04  | 6.1       |
| VHP D KIND          | 8   | 0   | 145 | 180 | 7  | + 2 | 147 | 102 | :04  | :00  | 0.6       |
| Totals ->>          | 287 |     |     |     |    |     |     | 95  | 3:06 |      | 31.9      |

|                                  | Frequencies: | Departure    | Arrival      |
|----------------------------------|--------------|--------------|--------------|
| Atmospheric Conditions           |              | Unic 122.950 | ATIS 134.250 |
| Standard Temperature (c):Takeoff | 15           | ATIS 124.650 | App 119.050  |
| Degrees +/- Standard: Takeoff    | 11           | Grd 121.900  | CTAF 120.900 |
| Density Altitude: Takeoff        | 2284         | CTAF 119.300 | Grd 121.900  |
| Standard Temperature (c):Cruise  | 7            | Dep 126.850  | Fss 122.550  |
| Degrees +/- Standard: Cruise     | 3            | Fss 122.600  | Unic 122.950 |
| Density Altitude: Cruise         | 4381         |              |              |

Clearance Delivery:

121.62

Flight Service:

1-800-992-7433

Performance Information

Departure/Arrival ATIS

|                               |      |             |               |               |
|-------------------------------|------|-------------|---------------|---------------|
| (Vy) Speed for departure      | 75   | Information | _____         | _____         |
| At Departure Rate Of Climb    | 610  | WdWs        | _____ / _____ | _____ / _____ |
| Distance Required For Climb   | 5.6  | Visibility  | _____         | _____         |
| (Vy) Speed at 4000 feet       | 74   | Clouds      | _____         | _____         |
| At Cruise Rate of Climb       | 515  | TmpDp       | _____ / _____ | _____ / _____ |
| Distance Required For Descent | 10.9 | Altimeter   | _____         | _____         |
| Cruise Fuel Consumption       | 7.3  |             |               |               |

Notes:

## About the User Data

### Flight Plans

The flight plan output is formatted in mono space text so that it can be sent to almost any program for output. You can do a direct print with the flight planner but by importing to a text editor/word processor, you will have the ability to change the font, output to “.pdf” or whatever else you prefer. Maybe you would like to create more space for writing the ATIS information. Remember to save the LOG so that this file gets created. If you already had a file saved by the same name, the flight planner will remind you that you are about to overwrite the previous file of the same name.

The weight and balance information can be printed by Printing the “results.wbl” file which will be located in the Flight log maker folder.

Note: it is best to use a mono type font so that all of the decimal points stay lined up.

# About the User Data

## Tail Number Profiles

For now, the weight and balance utility has the capability to save two locations for rear seats, baggage, and fuel. When saving a tail number profile, the weight and balance utility will need at minimum, the basic empty weight and the empty aircraft CG arm. Otherwise, the profile will not be saved.

If your aircraft uses a CG location for oil, because there is nowhere to write this information, use the forward baggage area as a substitute and list it there.

Note: to save a tail number profile for the first time, you must use the “Create/Edit Association” push button. After you have done this, you can save any information to the profile by selecting the “Save” push button but make sure the proper aircraft information file is loaded or else the “save” operation will notify you that the profile and association do not match!

# About the User Data

## W&B Output

Flight Log Maker Weight and Balance v2      Aircraft: "N38988"  
Type: PIPER WARRIOR II

|                  | Weight | Arm   | Moment   |                         |
|------------------|--------|-------|----------|-------------------------|
| B.E.W            | 1469.0 | 85.7  | 125893.3 |                         |
| Pilot seat       | 155.0  | 80.5  | 12477.5  |                         |
| Rear seat        | 10.0   | 118.1 | 1181.0   |                         |
| Zero fuel weight | 1634.0 | 85.4  | 139551.8 |                         |
| Main fuel area   | 288.0  | 95.0  | 27360.0  |                         |
| Takeoff Weight   | 1913.0 | 86.8  | 166056.8 | Taxi fuel<br>calculated |

Take off CG is within normal CG limits  
Take off CG is within the Utility CG limits

|                       |        |      |          |
|-----------------------|--------|------|----------|
| Start, taxi fuel used | -9.0   | 95.0 | -855.0   |
| Main fuel used        | -120.0 | 95.0 | -11400.0 |
| Aux. fuel used        | 0.0    | 0.0  | 0.0      |
| Landing               | 1793.0 | 86.3 | 154656.8 |

Landing CG is within normal CG limits  
Landing CG is within the Utility CG limits

The weight and balance information is saved to a file called "results.wbl" every time you press the "Calculate" push button. If no fuel burn is input, the take off weight and balance is displayed and when fuel burn is input, both the take off AND landing CG will be displayed.

Note: if you are doing weight and balance calculations for more than one aircraft, rename and save the results.wbl file first, otherwise the information will be written over.

## Other information



### File Get Utility

To get information from the aircraft information files, tail number profiles, and saved flight plans, a utility is used to create information for the various programs. The file get utility serves this purpose. The program operation is automatic.



# ***Flight Log Maker 5***