The “Austin” Bomb Sight

by Ken Austin

Introduction:

This is the “Austin” bomb sight. The following document will show you how to install and use this sight.

I decided to make this sight because I wasn't satisfied with the existing bomb sights for CFSII. Those sights were often complicated to use, not very accurate, or used gauges or equipment from modern aircraft. This sight is simple to operate (once installed), uses mostly gauges of the time period, and can be calibrated to your aircraft. There are two things that need to be stated right off:

1. THIS SIGHT IS FOR CFSII ONLY!
2. INSTALLIATION REQUIRES EDITING THE “PANEL.CFG” FILE! IF YOUR NOT COMFORTABLE WITH DOING THAT STOP NOW!

Credits:

The gauges used are standard CFSII gauges with the exception of the auto pilot and Icon, which are from the Concorde. I don't know who did those, so if you know contact me and I'll add it here. The background for the panel is from the bomb sight for the AR-234 done by Lobo Da Silva. All I have really done is add the sight reticle and changed the way it operates within the panel.cfg file.

Versions:

There are four versions of the bomb sight included in this package, the US-Army, US-Navy, German, and Japanese versions. The reason for separate Army and Navy versions is that CFSII has many of the Army aircraft using miles per hour, not knots, for airspeed. I don't know if this is correct or not, but that is the way the gauges read. If you want to use knots in Army aircraft, just use the Navy version. Each version has the gauges, and markings, from that country.

Installation:

Installation of this sight requires editing the panel.cfg file for the aircraft your using it on. If your not comfortable with this, **do not** attempt this installation! As with any installation, the first step is to **back up** all the files in the \panel directory for the aircraft. I recommend backing up all the files so you will be sure you don't loose any file. Now follow these steps:

1. Unzip the files from the appropriate panel file into the \panel folder of the aircraft your adding the sight to.
2. Unzip the "gauges.zip" file into the \gauges folder of CFSII. I did not set the directories on the zips so make sure your extracting into the correct folder.
3. Using wordpad or some other plain text editor, open the panel.cfg file and then open the austin-panel.txt file with another copy of the same editor so you can cut and paste between the two. It is also helpful if you have a picture of the panel your working on to look at. Many times this will be a .jpg file in the panel directory.
4. When editing any of these files, be sure that you save the file in **text** format. Also check to see if the editor may have added the .txt extension onto the file name when you saved. If it did, you have to remove the .txt.
5. In the "austin-??.txt" file, highlight the bold section of the last line under [Window Titles]. Use CTL + c keys to copy that section (or use file pulldown and copy).
6. In the panel.cfg file, place your cursor on the line below the last entry of the [Window Titles] section and press the CTL + v keys to insert (or use file insert). From here on I won't give the keys, I'll just say "cut" and "paste". Do not change any other lines in this section unless there is already a line for a bomb sight. If so you must delete that line.
7. In the panel.cfg file look to see if there is a section marked [VIEWS]. If this section does not exist you must cut the entire section, including the label, and paste it below the [Windows Titles] section.
8. If the [VIEWS] section does exist, look for any lines that start with VIEW_UP, delete them by replacing them with the lines from the Austin_???.txt file. Paste over the old line, or delete the old line and then paste the new one in. Be very careful here and make sure you replace only lines starting with VIEW_UP.
9. This next edit is a little tricky so go slow. In the Austin_???.txt file, cut the line that starts with gauge33, and paste it at the bottom of the [Window00] section of the panel.cfg file. Now look closely at this section of the file, if there is another line that starts with "gauge33", you must change the number of the added line to a number

higher than the last number used in the file. It doesn't have to be the next number in sequence, just a higher number. The last several lines should look something like this:

```
gauge25=f4f4_wildcat!Magnetic-Compass,  104,646,80,79
gauge26=f4f4_wildcat!Flaps-Lever,  21,733,67,31
gauge27=f4f4_wildcat!Landing-Gear-Position-Indicator,  112,733,67,31
gauge33=concorde!GPS-Display-Toggle, 365,445
```

10. Now the hard part, those two numbers at the end of the line are the location of the upper left corner of the icon on your panel. My numbers probably won't work so heres what you do. If your panel has any other icons one it, like the engine controls, find the line for that icon and use it's numbers to position the new icon by subtracting 20 from the first number to move it left, or adding 20 to move it right. Here is an example:

```
gauge14=f4f4_wildcat!Icon-Engine-Controls,  345, 445 ,20,19
gauge33=concorde!GPS-Display-Toggle, 365,445
```

Note that you don't need the last two numbers unless you want to change the size of the icon.

The icon should look like this:  If you use another icon, the window number changes!

11. The last step is is to cut and paste the entire [Fixed Window38] section from the Austin-???.txt file to the panel.cfg file. This should go between the last current [window] section and the next type of section that does not start with [window]. Note that if there was already a bomb sight, you don't need to delete it unless it also uses the fixed window38 name. Once you deleted it's line in the windows titles section, it will not show up.
12. Be sure to save the edited panel.cfg file! If this procedure doesn't work for you, maybe this isn't the bomb site for you. I don't know how to do this any other way.

Operation:

I've tried to make the operation of this sight, once installed, as easy as possible. If used correctly, it can be very accurate. Note: Speeds are all given in IAS, if your using the TAS option the speeds will be wrong!

1. Clicking on the  icon will bring up the bombsight. Hit any window view key (I use the “hat” on my joy stick) to return to the cockpit view, or right click the window and click on cockpit view.
2. The speed and altitude marked on the panel are the setting used to calibrate this sight. Try to match that speed and altitude exactly unless you recalibrate the sight.
3. Use the auto pilot to hold the altitude and heading, and adjust you speed with the throttle. If your plane does not have an auto pilot on the main panel, the one on the bomb sight will still work! Make sure the numbers in the auto pilot heading indicator match your heading before engaging the auto pilot, or you will veer off line!

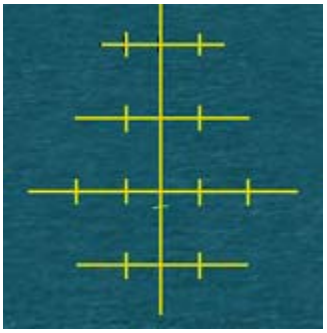
4. Be sure you have lined up the target as well as possible as far out as possible.
5. The zoom keys, [and], can be used, but zoom must be set right when you drop your bombs. I zoom out ([key) to help get aligned on the target. To get the correct zoom for bombing, zoom all the way out (hit [several times) then zoom in one time (hit] once). That will be the correct zoom.
6. Drop you bombs as the target intersects the point where the two longest lines cross.
7. You can use the auto pilot heading indicator to adjust your alignment by clicking on the left or right side of the box, but you should not adjust more than one click after the target nears the top of the reticle or you will still be turning at the drop point and will miss the target.

Calibration:

All versions of the Austin sight are calibrated to the altitude and speed shown on the sight. In the case of the Japanese sight, the speed is slow because it is calibrated for the "Kate" bomber. I have used 10000 ft or 3000 meters as the altitude as the best compromise. The speeds shown are indicated airspeed, not true airspeed, because that is what their indicators would have actually shown. To calibrate your sight to a different speed/altitude or zoom, do the following:

1. Before starting, you must edit the CFSII config file so that the "cheat" bomb sight will show. To do this, open the CFS2.CFG file located in the main CFSII directory using wordpad or some other text editor (see installation section notes on editing files).
2. At the bottom of the file, add the following:
   [CHEATS]
   BOMB_TRAINER=1
3. Save the CFS2.CFG file and make sure your editing didn't add the .txt on the end.
4. Open CFSII and use free flight to start flying the aircraft the bomb sight is in. I use the "exact location option so I can start at the altitude I want to be at.
5. Turn on the auto pilot and set the altitude and airspeed to the values you want to use.
6. Set the zoom to the zoom factor you want to use (there is no readout for this). Once everything is stable, note where the "cheat" bomb sight marker is

Cheat bomb sight



Aligned on sight line

7. If the marker is not on the center line (left pict), something is wrong, normally your not holding your heading steady. Once everything is aligned, note how far from the aim point (where the two longest lines cross) the marker is. The distance between lines represents about 5 degrees at 10000 feet. Close CFSII!
8. Now open the panel.cfg file for the aircraft in wordpad and look for the lines you added to the [VIEW] section. The line you want looks something like this:
   VIEW_UP_DIR=45.0, 0.0, 0.0
   but the numbers may be different.
9. Look at the first number (45.0 above) and add or subtract from that number to move the sight. subtracting moves the cheat marker up, adding moves it down. As I said, the space between lines is about 5 degrees at 10000 ft, but you will need to use trial and error to get your sight calibrated.
10. Repeat steps 4 through 9 as many times as needed until you have the cheat marker aligned exactly at the aim point (it may actually disappear under the reticle!). If your trying to calibrate for a different zoom, or higher altitude, you may loose track of the cheat marker and have to zoom out to find it again. If you have to use a number that is much less than 45, your accuracy may suffer.

Conclusion:

If you haven't gotten too confused, and everything worked right, you should have an accurate and reliable bomb sight.