Renumbering a runway in FS9/FSX/P3D using Airport Inspector and Editor (AIE)

From time to time, runway identifiers are changed following an update of the airport reference magnetic variation. Here are the simple steps required for updating your scenery BGL files using <u>Airport Inspector and</u> <u>Editor</u> (AIE) providing a number of advantages as follows:

- Compatibility with any sim version from FS9 to P3Dv6
- No need to deccompile/recompile BGL files,
- Simple 3 steps process using a single application,
- Automatic renumbering of associated taxi signs when they exist,
- Automatic renumbering of ILSs, associated approaches and waypoints.

Step 1

After launching AIE, use the **Select Data menu** and load the BGL file that contains the airport for which you want to change runway identifiers. Options are:

- either Analyze single BGL file if you already know which BGL file contains the airport data,

- or Analyze BGL folder if you only know in which folder search must be performed,

| ₩. | 床 Airport Inspector and Editor - 🗆 🗙 | | | | | | | | | | |
|-------|---|------------------------------|--------------|------------|----------------|---------------|------------|---------|---|--|--|
| Sele | ct Data | Nav Data | Apt/Rwy Data | Nav Editor | Airport Editor | Runway Editor | AIRAC Data | Options | ? | | |
| | Analyz Analyz | e single BGL e BGL folder | file | | | | | | | | |
| | Load N | lagdec.bgl f | ile (UNSET) | | | | | | | | |
| | Exit | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| First | First Select Data (file/folder containing airport data) | | | | | | | | | | |

Step 2

After BGL data have been loaded, check that the required airport is present in the selection by going to the "Apt/Rwy Data-Display Runway Data" menu. If it is not, it means the BGL selection was not appropriate.

| 床 Airport Ir | spector and | Editor [APX481] | 70.BGL] - P3D | V5 | | | | | _ | × |
|--------------|-------------|-----------------|---------------|--|---------------|------------|---------|---|---|---|
| Select Data | Nav Data | Apt/Rwy Data | Nav Editor | Airport Editor | Runway Editor | AIRAC Data | Options | ? | | |
| | | Display/E | ort Airport | name/city data | | | | | | |
| | | Display R | unway Data | la contraction of the second s | | | | | | |
| | | Runway II | S-Marker cal | culators | | | | | | |
| | | Export Ru | nway Data (.t | xt) | | | | | | |
| | | Export wp | NavAPT (PM | DG) | | | | | | |
| | | Closed ru | nway list | | | | | | | |
| | | Primary/S | econdary inv | ersions | | | | | | |
| | | Runway D | iscrepancy A | nalysis | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| l | | | | | | | | | | |

| 🗁 Runway Data | 2 | _ | |
|---|--|--|--|
| Airport LEBL Runway BGL runway data Ed. runway data Lat (center) N41 17 58.51 Long (center) E00 Length (ft) 10990 Width (ft) 197 At (Image: Constraint of the state of t | 07L/25R 02 05 08.88 (ft) 14 NA run 0 | RWY Database LEBL (02/3 LEBL (07L LEBL (07R LECH (067/3 LECN (18/3 LEOA (13/3 LEOA (13/3 LEOA (02/3 LEDA (06L, LEPA (06R, LERS (07/3 LESB (05/3) | (12) (25) (25) (25) (25) (25) (24) (24) (24) (24) (24) (25) (23) |
| Associated BGL ILS: QAA | | Search | |
| Double click on runway list for additional data | | | |

Step 3

Renumber runways using the Runway Editor – Runway Id Editor menu entering

| 床 Airport Ir | spector and | Editor [APX4817 | 0.BGL] - P3D | V5 | | | | | _ | × |
|--------------|-------------|-----------------|--------------|----------------|---------------|----------------|---------|------|---|---|
| Select Data | Nav Data | Apt/Rwy Data | Nav Editor | Airport Editor | Runway Editor | AIRAC Data | Options | ? | - | |
| | | | | | Runway Id | Editor | N | | | |
| | | | | | Runway Li | ghts | ର୍ମ | rl+L | | |
| | | | | | Runway VA | ASI(s) | Ct | rl+P | | |
| | | | | | Runway m | arkings | Ctr | I+M | | |
| | | | | | Runway su | ırface | | | | |
| | | | | | Delete run | way taxi signs | | | | |
| | | | | | Delete run | way extension | s | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Runway Identifier Editor |
|--|
| Airport ICAO identifier LEBL |
| Old Runway identifier 07L 💌 |
| New Runway identifier 06L |
| Change Id Cancel |
| Select the current primary runway ld (normally 01 to 18, optionally L, R, C, W) and the new identifier to be set |

After the Change Id button is pressed, a <u>backup confirmation of the original BGL file will be issued</u>. Also, a warning for ILS name change to be performed may be displayed (see optional step)

Process must be repeated for each runway to be renumbered (here 07L to 06L then 07R to 06R)

Step 4 (optional)

In case one or several ILSs are associated to the renumbered runways, an additional step is required so as ILS names are correctly displayed (other ILSs parameters are automatically adjusted and do not need any specific action).

1- Display the ILS Data using the NavData-Display ILS Data menu

| 🗁 ILS data | – 🗆 X |
|--|--|
| ILS Data Identifier BCA Name CAT III ILS/DME 25R Frequency 109.50 MV E0.0 V BC | ILS Database (12) |
| Localizer Lat N41 17 31.89 Long E002 03 51.11 Alt TCRS 245.54 Range 27.00 Width 3.34 Rwy TCRS: 245.54 TH-LOC TCRS: 245.59 Sim MV: NA Sim MCRS: NA Map MCRS: 245.55 | LEBL (BCA) LEBL (BLE) LEBL (BLT) LEBL (BLW) LEBL (QAA) LECH (ICN) |
| Glide slope Lat N41 18 19.80 Long E002 05 59.10 Alt 14 Pitch 3.00 Range 27.00 | LEDA (ILL) LEGE (IGN) LEPA (IPAL) LEPA (PAA) |
| Lat N41 18 19.80 Long E002 05 59.10 Alt 14 Range 27.00 Associated airport: LEBL [24R] BGL container: APX48170.BGL [0602] BGL pointer: 0x3CD9C | LERS (IRS) |
| | |

2- In the ILS Database list on the right, double click on each ILS that has to be renamed. [Here we are only concerned with BCA, BLE, BLW and QAA]
Disregard the One-Time information that doesn't apply here

Disregard the One-Time information that doesn't apply here.

In the ILS Edition window that opens (see below), the ILS name should already be corrected. If not:

- To be conservative, check the "Do not update/create associated scenery objects" so as associated ILS objects are not relocated (normally they won't),
- Double click the name label and correct the ILS name,
- Then click the Commit changes button.

Repeat this procedure for all affected ILSs

[Note: you may also wish to change the ILS magnetic variation (MV) since it probably changed, the reason why runways were renumbered]

| ILS Edition |
|---|
| |
| Airport LEBL 24R Identifier BCA |
| Cat III - LS - I gs I dme I bc |
| Name CAT III ILS/DME 24R |
| LOC frequency, true course and mag var |
| Freq 109.50 Course 245.54 MV 0.0 |
| Localizer coordinates |
| Lat N41 17 31.89 Long E002 03 51.11 |
| Beam width 3.34 Auto Range 27.0 |
| Glide transmitter 3.00 |
| Lat N41 18 19.80 Long E002 05 59.10 |
| - DME |
| Lat N41 18 19.80 Long E002 05 59.10 |
| Set 0 DME reading at threshold |
| Calculation options (from AIRAC data) |
| Align LOC O From OTH (From TH |
| Raw AIRAC coordinates |
| Get from AIRAC Copy from calculator |
| Commit changes Original Cancel |
| Do not update/create associated scenery objects |
| SCO objects 🔽 LOC 🔽 TR 🔽 GS See |
| LOC transmitter C Right C Left 1300 ft |
| |

Work completed..

Latest version of AIE here

NOTE: Technically, renumbering a runway in a scenery BGL is a rather complex procedure requiring changes in several sections:

- Airport record: runway designators, start positions, taxiway paths, approaches
- Airport summary record
- Waypoint section
- Scenery objects (associated taxi sign record)
- Nav section (ILSs)

If length of some text records change (e.g 06 ->06L) a full rebuilt and reindexing of BGL file sections is usually required, maintaining WORD or DWORD alignments.