运行管理通告

关于 Flysmart 使用的注意事项
Flysmart with Airbus Notice Summary

飞行部、航务部：

FD&FDT:

使用 Flysmart 时请关注下列特别事项：

Please pay attention to the Notice when using Flysmart.

1. 使用Flysmart之前必须检查EFB version，确认与PIB中公司通告所述的版本一致。如果不一致，请与EFB设备管理员联系进行更新，或者在管理员的指导下通过连接公网服务器更新。如下图所示：

    Please check the EFB version with company NOTAM before using Flysmart. If the version is inconsistent, please contact EFB administrator and update to the latest version.

```
PUB 0054/20  B) 2020-08-07 08:37        C) 2020-08-13 00:00
CQH          E) EFB二期版本信息如下:
             国内航图: 2020-08.V1
             手册版本: 100 & 99
             公司航图: 66 & 65
             公司航线: 72 & 71
             Flysmart版本: Cycle2009 & Cycle2008-1  (ZWAK, ZSZS, RJAH, ZGSZ, ZPJH)
```

Flysmart+ Manager
EFB Version: Cycle2009

2. PIB中以附件形式提供的临时起飞/着陆性能表的优先级高于

   Flysmart中的计算结果。

   The priority of the temporary take-off/landing performance chart in the

   PIB is greater than the Flysmart computation results.

3. 如果某机场的机场名位置显示"ACOFF"，实际运行可根据实际起

   飞重量选择AC ON或AC OFF。

   In the case of airport name with "ACOFF", please choose AC ON or

   AC OFF to take off based on actual takeoff weight.

4. 备注栏不再备注非全跑道长度，使用时请参考Flysmart中图表化显

   示跑道长度。原则上机组不更改跑道长度数据。如下图所示：

   Please check the runway intersection distance in the Flysmart with

   tabulated runway data. Basically, changing runway distance is not

   allowed.
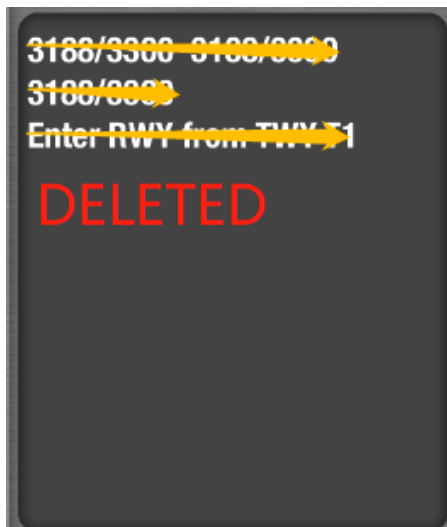
5. 国内有单发程序的跑道，改平加速高度及减推力/加速高度将会显示在备注栏；单发图将不再上传到Flysmart，只在春秋EFB中显示。如下图所示：

For domestic airport with EOSID chart, the ENG OUT ACC ALT and THR RED/ACC ALT are shown in the comments table while the EOSID chart is shown in the Spring EFB.

6. 目前使用的Flysmart提供双发爬升梯度计算功能，机组可按需使用（不用于实际运行），使用时需输入跑道公布梯度及爬升目标高度，如下图所示。详阅附件《Introduction to Flysmart+ AECG》。

The AECG can be calculated with Flysmart, please refer to the attached <Introduction to Flysmart+ AECG>.

7. 为了避免EFB设备的IOS系统与Flysmart软件不兼容导致计算数据出错，EFB设备的IOS系统及Flysmart软件版本均不允许私自更新。

To avoid computation errors and the incompatibility between IOS system and Flysmart Apps, updating the IOS system and Flysmart Apps is not allowed.

8. Flysmart中Loadsheet模块、OLB模块、以及Takeoff模块中All Engine Climb Gradient功能不用于正式运行。

Loadsheet and OLB module and All Engine Climb Gradient in Takeoff module are not for operation.

9. 运行管理通告OMC-2016-40已失效。

OMC-2016-40 is invalid.

附件：《Introduction to Flysmart+ AECG》

<div align="right">

航务部

2020 年 8 月 14 日

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关于 **FlySmart+**新增功能的简介

Introduction to FlySmart+ AECG

由于空客 FlySmart 软件版本升级，公司相应软件已升级到新版本 FlySmart+，新增起飞双发爬升梯度计算功能。**（该功能仅供飞行机组参考）**

The FlySmart has been updated to new version FlySmart+, All Engine Climb Gradient (AECG) computation with FlySmart+ is available. **(For reference only)**

1、Takeoff 模块新增计算起飞双发爬升梯度功能，计算结果包含以下信息：

（1）全发爬升梯度的计算参数；

（2）最小平均爬升梯度列表；

（3）点击"GRAPH"，显示飞机全发起飞的爬升剖面图，通过该剖面图，可以检验飞机全发起飞的实际飞行轨迹是否穿透输入的SID爬升梯度限制。水平轴表示水平飞行距离（单位：海里），垂直轴表示气压高度（单位：英尺）。

1. AECG computation with FlySmart+ is available, the all engine gradient results contains three parts:

(1) The input value of the all engine gradient data;

(2) A table with the all engine gradient results;

(3) A "GRAPH" button is available in order to display the aircraft trajectory and/or to verify if the aircraft trajectory does not cross a published plan related to the constraint(s). The horizontal axis is for the horizontal distance in nautical miles and the vertical axis is for the Altitude in feet.

2、根据以下两种不同的计算条件设置，FlySmart+ 输出两种不同的结果：

（1）不设置起飞跑道的AECG限制；

（2）设置起飞跑道的 AECG 限制，参考 SIDs 要求。（最多可设置 10 组）。

2. We can differentiate two main cases, for which FlySmart+ does not display the same results.

(1) First case is when there is no AECG constraint defined the runway.

(2) Second case is when at least one AECG constraint is defined for the runway. (Max: 10 constraints)

2.1 不设置起飞跑道的 AECG 限制：No AECG Constraint.

计算起飞跑道的时候，未输入任何AECG限制值，FlySmart+ 输出以下信息：

（1）起飞全发爬升梯度信息页面：以绿色字体显示起飞至目标高度平均最小爬升梯度（%）、（ft/nm)和最小爬升率（ft/min)；

（2）"GRAPH"中显示：蓝色的全发起飞轨迹曲线；

（3）"GRAPH"中显示：3.3 %、5% 、10%三条白色标称梯度剖面。

If no constraint is defined for the runway, FlySmart+ will provide the following information:

(1) The Minimum Average Climb Gradient (%), the Minimum Average Climb Gradient (ft/nm) and the Minimum Average Climb Speed (ft/min) are displayed in green color in the all engine gradient results page.

(2) The trajectory of the aircraft in blue color in the graphical results.

(3) Plans related to a gradient value of 3.3 %, 5% and 10% in the graph results in white dashes.

点击"GRAPH"后可以图形化展示：

Click on "GRAPH" to display aircraft trajectory.
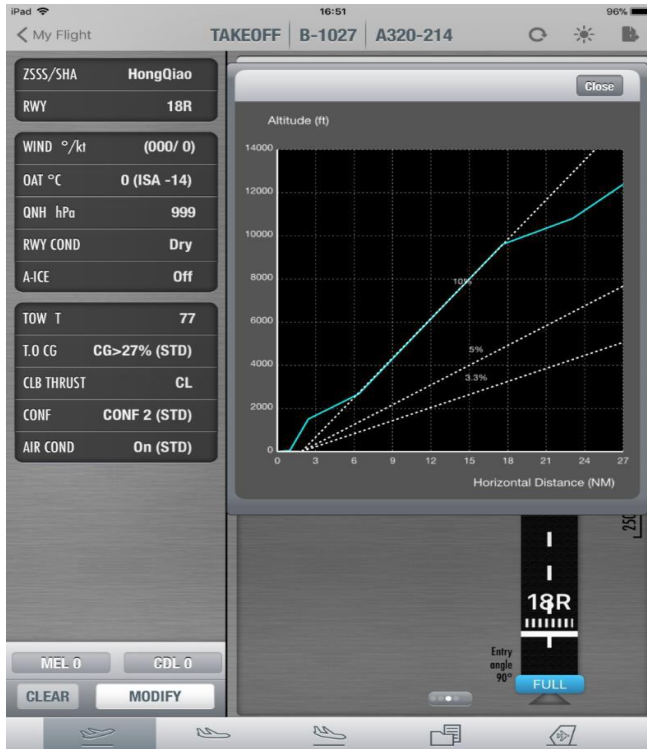
2.2 设置起飞跑道的 AECG 限制：With AECG Constraints.

如果起飞跑道 SIDs 有爬升梯度限制，可以通过输入相应参数进行设置：

If there are defined constraints for the SIDs, please refer to the following steps:

① 选择起飞跑道，点击"Modify All Engine Data"进入编辑界面：

Select the RWY and click on "Modify All Engine Data"

② 点击"+"进入添加界面：

Click on "+".

③ 输入爬升梯度和高度：

Input Gradient and Target Altitude.

④ 点击"Done"返回计算界面，点击"COMPUTE"，得到计算结果。

Click on "Done", then click on "COMPUTE".

2.2.1 当飞机全发起飞爬升轨迹没有穿透输入的限制梯度剖面，**并且**到目标高度的平均全发爬升梯度高于输入的限制梯度的时候，FlySmart+ 输出以下信息：

(1) 起飞全发爬升梯度信息页面：以绿色字体显示起飞至目标高度的平均最小爬升梯度（%）、（ft/nm）和最小爬升率（ft/min）；

(2) "GRAPH"中显示：蓝色的全发起飞轨迹曲线；

(3) "GRAPH"中显示：白色的限制梯度剖面，起飞至目标高度为输入的限制梯度，目标高度以后为标称梯度3.3%。

2.2.1 If the aircraft trajectory does not cross the published plan related to the constraint(s) **AND** if an average gradient to target altitude is above the related gradient of the constraint(s) that is defined, FlySmart+ will provide the following information:

(1) The Minimum Average Climb Gradient (%), the Minimum Average Climb Gradient (ft/nm) and the Minimum Average Climb Speed (ft/min) are displayed in green color in the all engine gradient results page.
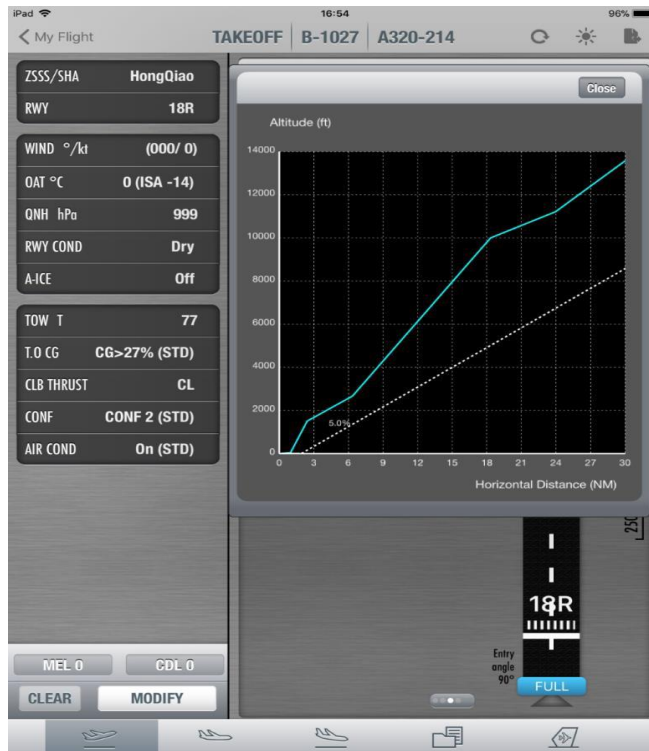
(2) Trajectory of the aircraft in blue color in the graphical results.

(3) Published plans in white dashes lines, and if needed, the published plans are completed with the minimum regulatory gradient (3.3%) from the target altitude.

点击"GRAPH"后可以图形化展示：

Click on "GRAPH" to display aircraft trajectory.

2.2.2 当飞机全发爬升轨迹穿透限制的梯度剖面，或者至目标高度的平均爬升梯度低于输入的限制梯度，FlySmart+ 输出以下信息：

(1) 在起飞性能计算结果第一页提示一条琥珀色的告警 "CHECK ALL ENG GRADIENT"；

(2) 起飞全发爬升梯度信息页面：以琥珀色字体显示起飞至目标高度的平均最小爬升梯度（%）、（ft/nm）以及最小爬升率（ft/min）；

(3) "GRAPH"图示：蓝色的全发起飞轨迹曲线；

(4) "GRAPH"图示：白色的限制梯度剖面，起飞至目标高度为设置的限制梯度，目标高度以后为标称的梯度 3.3%。

2.2.2 If the aircraft trajectory crosses the published plan related to the constraint(s), OR if an average gradient to target altitude is below the defined constraint gradient to the target altitude, FlySmart+ will provide the following information:

(1) A warning message "CHECK ALL ENG GRADIENT" that is displayed in amber and in capital letters on the first results page.

(2) The outputs of AECG that lead to cross the published plan or the output gradient that is below to the defined constraint gradient are displayed in amber color in the

all engine gradient results page.

(3) The trajectory of the aircraft in blue color in the graphical results.

(4) Published plans in white dashes lines, and if needed, the published plans are completed with the minimum regulation gradient (3.3%) from the target altitude.
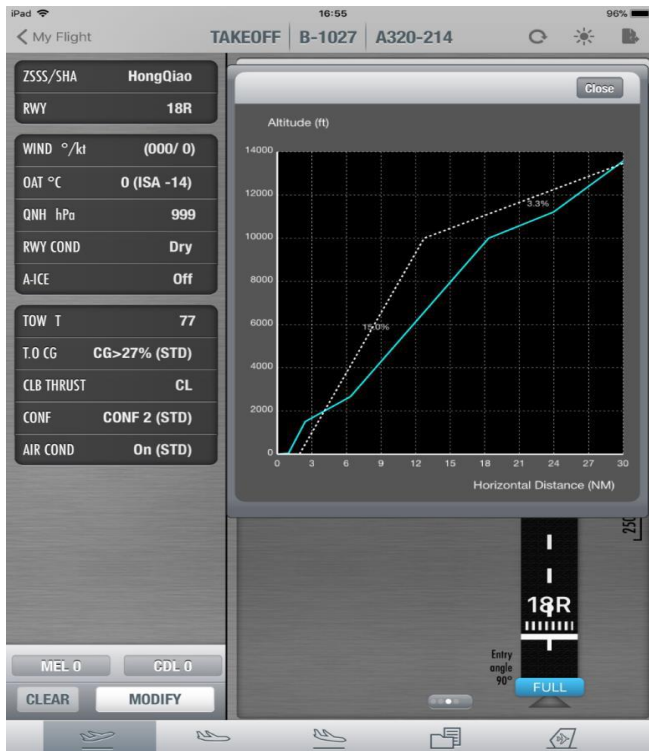

2.2.3 只有当飞机全发起飞爬升轨迹穿透输入的任一限制梯度剖面时，起飞全发爬升梯度信息页面提示一条琥珀色告警"FLIGHT PATH CROSSES PUBLISHED PLAN"。

2.2.3 A warning message "FLIGHT PATH CROSSES PUBLISHED PLAN" that is displayed in amber in the all engine gradient results page only if the aircraft trajectory crosses the published plan related to one of the constraint(s).

点击"GRAPH"后图形化展示结果为：

Click on "GRAPH".

注意：根据空客提示，有两种异常情况，告警信息"FLIGHT PATH CROSSES PUBLISHED PLAN"与显示的图表不匹配，请以"GRAPH"为准，空客会在新版本改进。

（1） 到目标高度的平均爬升梯度高于输入的限制梯度，且飞机轨迹未穿透限制的梯度剖面；

（2） 到目标高度的平均爬升梯度低于输入的限制梯度，且飞机轨迹未穿透限制的梯度剖面。

NOTE: According to Airbus, there are two abnormal outputs, warning message "FLIGHT PATH CROSSES PUBLISHED PLAN" is not consistent with the graphical output. The "GRAPH" is valid while the message is erroneous. Airbus will fix the bug next version.

（1） The average gradient to target altitude is above defined constraint gradient, AND aircraft trajectory does not cross the published plan;

（2） The average gradient to target altitude is below defined constraint gradient, AND aircraft trajectory does not cross the published plan.

2.3 更改双发减推力/加速高：

2.3 Modify THR RED/ACC.

双发减推力/加速高度默认值：跑道入口标高+1500ft。修改界面：

The default THR RED/ACC are 1500ft above RWY THR, and are adjustable in the "Modify All Engine Data".

结果界面：

Output:

使用 Flysmart+ 时有任何问题，请与航务部技术支援处联系。

联系电话：021-62684284

Contact us if you have any questions.

Tel: 021-62684284

航务部技术支援处

2020 年 5 月 5 日

Operation Technology Support

May 5, 2020