

APDO DESIGN STRATEGY

EGBP – RNP RWY08

In order to mitigate as much as possible the impact to the Nympsfield gliding site, the approach procedure has been designed using a straight-in structure aligned with the runway centreline and a single initial waypoint (ICAR1) acting as IAF/IF.

The intermediate segment has to be intercepted at a minimum altitude of 2500 ft AMSL (requirement coming from ATC feedback) and it intercepts the final segment at an altitude of 2000 ft AMSL. The length of the segment has taken into account maximum track change of 110° at the IAF/IF and the 2 NM straight segment prior to the FAF.

The final approach segment (FAS) is designed with a descent gradient (GPA) of 3.0° (5.24%) and a standard TCH of 50 ft (15.24 m), which is harmonized with the current APAPI. FAF is set at 2000 ft AMSL, which means a total FAS length of 4.8 NM for the given GPA and TCH.

The MAPt (LNAV) is placed over THR08. The missed approach consists of an initial straight-in segment (aligned with final and RWY centreline) in order to gain altitude with the aircraft stabilised. At 4.8 NM from the MAPt two consecutive 90° right turns (respecting the MSD consumed by each manoeuvre) redirect the aircraft towards the south-west. Another 90° right turn joins the missed approach with the initial approach waypoint (ICAR1). No holding patterns are proposed

It should be noted that the initial approach turn is restricted to MAX IAS of 200 KT and the speed of the missed approach procedure is restricted to MAX IAS of 185 KT until U turn is completed.

Minimum sector altitudes (MSA) are below the IAF/IF altitude. Hence the connection between the en-route structure and the IAF can be easily established. Highest MSA (NW sector) is coincident with IAF altitude.

EGBP – RNP RWY26

The approach towards THR26 is designed using a T-bar structure layout, which has been decided based on the outcomes of the consultation process launched by Cotswold airport (Kemble). Northern and southern initial approach segments (5 NM) can be intercepted at minimum altitude of 2500 ft AMSL (requirement coming from ATC feedback).

They connect with the intermediate segment (minimum altitude of the intermediate fix is 2400 ft AMSL), which allows intercepting the final segment at an altitude of 1800 ft AMSL. The length of the intermediate segment has taken into account maximum track change of 90° at the IAF/IF and the 2 NM straight segment prior to the FAF. It is the shortest

feasible distance in order to avoid affecting as much as possible with RAF Fairford and RAF Brize Norton.

The final approach segment (FAS) is designed with a descent gradient (GPA) of 3.0° (5.24%) and a standard TCH of 50 ft (15.24 m), which is harmonized with the current APAPI. FAF is set at 1800 ft AMSL, which means a total FAS length of 4.2 NM for the given GPA and TCH.

The MAPt (LNAV) is placed over THR26. The missed approach consists of an initial straight-in segment (aligned with final and RWY centreline) in order to gain altitude with the aircraft stabilised. At 7.5 NM from the MAPt (to avoid overflying the restricted area EG R105 below 2000 ft AMSL) two consecutive 90° right turns redirect the aircraft towards the north-east, joining the missed approach with the initial approach waypoint (ICAR4). No holding patterns are proposed

It should be noted that the initial approach turns are restricted to MAX IAS of 200 KT and the speed of the missed approach procedure is restricted to MAX IAS of 185 KT until U turn is completed.

Terminal arrival altitudes (TAA) to ICAR2 (straight-in area), ICAR3 (right base area) and ICAR4 (left base area) are below the IAF altitudes. Hence the connection between the en-route structure and the IAFs can be easily established.

Title EGBP RNP RWY08 Coding Tables
 ID KEMBLE-CT-EGBP_RNPRWY08
 Version 1.0
 SW Version 3.2.1
 Date 13/07/20
 Project KEMBLE
 Distribution XXXXXXXXXX

EGBP Approach RNP RWY08 Coding Tables

Document Approval

Role	Name and signature (if applicable)	Date
Prepared by	XXXXXXXXXX	13/07/20
Reviewed by	XXXXXXXXXX	13/07/20
Approved by	XXXXXXXXXX	13/07/20

Change log

Version	Change description	Date
0.1	First version before GV	18/05/20
0.2	Version after ECA GV#1	11/06/20
0.3	Turn direction indicated at turning point	10/07/20
1.0	First consolidated version	13/07/20

Instrument Approach Procedure Coding Tables

Procedure Name: EGBP - RNP RWY08

Version: 1.0

Kemble RNP RWY08 - Instrument Approach Procedure via ICAR1										
Designator	Sequence Number	Path Terminator	Waypoint Name	Fly-over	Course / Track °M (°T)	Turn Direction	Level Constraint	Speed Constraint	Co-ordinates	Remarks and Distance to MAPt
R08	001	IF	ICAR1	-	-	-	<u>2500</u>	200	513828.20N 0021837.23W	IF / 9.2NM
R08	002	TF	BP08F	-	81° (80.22°)	-	2000	185	513912.80N 0021139.51W	FAF / 4.8NM
R08	003	TF	RW08	Y	81° (80.31°)	-	-	185	514000.60N 0020407.12W	MAPt
R08	004	TF	BPM01	-	81° (80.41°)	RIGHT	-	185	514048.29N 0015630.90W	-
R08	005	TF	BPM02	-	171° (170.51°)	RIGHT	-	185	513552.77N 0015511.54W	-
R08	006	TF	BPM03	-	261° (260.52°)	RIGHT	-	200	513332.70N 0021717.68W	-
R08	007	TF	ICAR1	-	351° (350.49°)	-	2500	200	513828.20N 0021837.23W	-

Input data

Operation Type	0
SBAS Provider	1 (EGNOS)
Airport Identifier	EGBP
Runway	08
Runway Letter	0 (None)
Approach Performance Designator	0
Route Indicator	
Reference Path Data Selector	0
Reference Path Identifier	E08A
LTP/FTP Latitude	514000.6020N
LTP/FTP Longitude	0020407.1170W
LTP/FTP Ellipsoidal Height (metres)	180.8
FPAP Latitude	514010.1830N
Delta FPAP Latitude (seconds)	9.5810
FPAP Longitude	0020235.8625W
Delta FPAP Longitude (seconds)	91.2545
Threshold Crossing Height	50.0
TCH Units Selector	0 (feet)
Glidepath Angle (degrees)	3.00
Course Width (metres)	105.00
Length Offset (metres)	0
HAL (metres)	40.0
VAL (metres)	50.0

Output data

Data Block	10 10 02 07 05 08 00 00 01 38 30 05 B4 49 2C 16 66 BB 1C FF 10 1B DA 4A 00 ED C8 02 F4 01 2C 01 64 00 C8 FA 96 AF 48 F3
Calculated CRC Value	96AF48F3

Required Additional Data

ICAO Code	EG
LTP/FTP Orthometric Height (metres)	132.1

Title EGBP RNP RWY26 Coding Tables
 ID KEMBLE-CT-EGBP_RNPRWY26
 Version 1.0
 SW Version 3.2.1
 Date 13/07/20
 Project KEMBLE
 Distribution XXXXXXXXXX

EGBP Approach RNP RWY26 Coding Tables

Document Approval

Role	Name and signature (if applicable)	Date
Prepared by	XXXXXXXXXX	13/07/20
Reviewed by	XXXXXXXXXX	13/07/20
Approved by	XXXXXXXXXX	13/07/20

Change log

Version	Change description	Date
0.1	First version before GV	19/06/20
0.2	Version after ECA GV#1	10/07/20
1.0	First consolidated version	13/07/20

Instrument Approach Procedure Coding Tables

Procedure Name: EGBP - RNP RWY26

Version: 1.0

Kemble RNP RWY26 - Instrument Approach Procedure via ICAR3										
Designator	Sequence Number	Path Terminator	Waypoint Name	Fly-over	Course / Track °M (°T)	Turn Direction	Level Constraint	Speed Constraint	Co-ordinates	Remarks and Distance to MAPt
R26R	001	IF	ICAR3	-	-	-	<u>2500</u>	200	514624.01N 0015121.88W	IAF
R26R	002	TF	ICAR2	-	171° (170.57°)	RIGHT	<u>2400</u>	200	514128.44N 0015002.92W	IF / 8.0NM
R26R	003	TF	BP26F	-	261° (260.59°)	-	1800	185	514051.06N 0015604.30W	FAF / 4.2NM
R26R	004	TF	RW26	Y	261° (260.51°)	-	-	185	514009.33N 0020243.97W	MAPt
R26R	005	TF	BPM04	-	261° (260.42°)	LEFT	-	185	513853.97N 0021436.35W	-
R26R	006	TF	BPM05	-	171° (170.27°)	LEFT	-	185	513358.65N 0021315.10W	-
R26R	007	TF	ICAR4	-	81° (80.29°)	-	2500	200	513632.84N 0014844.25W	-

Instrument Approach Procedure Coding Tables

Procedure Name: EGBP - RNP RWY26

Version: 1.0

Kemble RNP RWY26 - Instrument Approach Procedure via ICAR2										
Designator	Sequence Number	Path Terminator	Waypoint Name	Fly-over	Course / Track °M (°T)	Turn Direction	Level Constraint	Speed Constraint	Co-ordinates	Remarks and Distance to MAPt
R26C	002	IF	ICAR2	-	-	-	<u>2400</u>	200	514128.44N 0015002.92W	IAF / IF
R26C	003	TF	BP26F	-	261° (260.59°)	-	1800	185	514051.06N 0015604.30W	FAF / 4.2NM
R26C	004	TF	RW26	Y	261° (260.51°)	-	-	185	514009.33N 0020243.97W	MAPt
R26C	005	TF	BPM04	-	261° (260.42°)	LEFT	-	185	513853.97N 0021436.35W	-
R26C	006	TF	BPM05	-	171° (170.27°)	LEFT	-	185	513358.65N 0021315.10W	-
R26C	007	TF	ICAR4	-	81° (80.29°)	-	2500	200	513632.84N 0014844.25W	-

Instrument Approach Procedure Coding Tables

Procedure Name: EGBP - RNP RWY26

Version: 1.0

Kemble RNP RWY26 - Instrument Approach Procedure via ICAR4										
Designator	Sequence Number	Path Terminator	Waypoint Name	Fly-over	Course / Track °M (°T)	Turn Direction	Level Constraint	Speed Constraint	Co-ordinates	Remarks and Distance to MAPt
R26L	001	IF	ICAR4	-	-	-	<u>2500</u>	200	513632.84N 0014844.25W	IAF
R26L	002	TF	ICAR2	-	351° (350.61°)	LEFT	<u>2400</u>	200	514128.44N 0015002.92W	IF / 8.0NM
R26L	003	TF	BP26F	-	261° (260.59°)	-	1800	185	514051.06N 0015604.30W	FAF / 4.2NM
R26L	004	TF	RW26	Y	261° (260.51°)	-	-	185	514009.33N 0020243.97W	MAPt
R26L	005	TF	BPM04	-	261° (260.42°)	LEFT	-	185	513853.97N 0021436.35W	-
R26L	006	TF	BPM05	-	171° (170.27°)	LEFT	-	185	513358.65N 0021315.10W	-
R26L	007	TF	ICAR4	-	81° (80.29°)	-	2500	200	513632.84N 0014844.25W	-

Input data

Operation Type	0
SBAS Provider	1 (EGNOS)
Airport Identifier	EGBP
Runway	26
Runway Letter	0 (None)
Approach Performance Designator	0
Route Indicator	
Reference Path Data Selector	0
Reference Path Identifier	E26A
LTP/FTP Latitude	514009.3325N
LTP/FTP Longitude	0020243.9685W
LTP/FTP Ellipsoidal Height (metres)	174.0
FPAP Latitude	514000.2005N
Delta FPAP Latitude (seconds)	-9.1320
FPAP Longitude	0020410.9355W
Delta FPAP Longitude (seconds)	-86.9670
Threshold Crossing Height	50.0
TCH Units Selector	0 (feet)
Glidepath Angle (degrees)	3.00
Course Width (metres)	105.00
Length Offset (metres)	56
HAL (metres)	40.0
VAL (metres)	50.0

Output data

Data Block	10 10 02 07 05 1A 00 00 01 36 32 05 E9 8D 2C 16 FF 44 1F FF CC 1A A8 B8 FF 92 58 FD F4 01 2C 01 64 07 C8 FA 88 15 4B 69
Calculated CRC Value	88154B69

Required Additional Data

ICAO Code	EG
LTP/FTP Orthometric Height (metres)	125.3