

Lufthansa Systems FlightNav

General Navigation Data Information

Issue 2/2012

03. February 2012

Multiple Approach Coding

Lufthansa Systems FlightNav codes all approach procedures according official state source. This includes the so called multiple approaches, an example would be ILS **Z** RW26 and ILS **Y** RW26. The Lido FMS database onboard the airplane may not contain such multiple approaches, due to the fact that not all FMS systems are able to handle the additional character used for the multiple approaches. For such systems, usually one approach is selected as the primary approach and packed in the database while the others will be excluded. This selection or filtering of the primary approach is either done by Lufthansa Systems in the ARINC 424 files, or at the FMS data packer side when packing the FMS database.

Currently, the selection criteria are very simple:

- If a Z, Y, X or W is found, the highest letter will be selected
- Else, the lowest number/letter will be selected: 1-9, A-V

As experience has shown, this logic does not necessarily cover the operational needs, some reasons might be:

- For RNAV approaches, the "Z" approach might require use of SBAS (LPV) or might be an RNP approach
- The "-1" approach is based on a teardrop transition but the "-2" has ARC transitions which are generally used (example in Mexico)

From cycle 1204, effective 05-APR-2012, following changes will be implemented:

- LPV only approaches will be ignored during determination of the primary approach
- RNAV (GNSS) approaches might be higher prioritized than RNAV (RNP) approaches
- In certain countries, the -2 approach will be selected instead of -1, e.g. in Mexico
- Category C procedures will be chosen over Category A or B

For FMS systems that are capable of storing Multiple Approach Identifiers, there will be no changes to the packed database. Attached are two examples. Example one explains the change from the RNAV(RNP) approach as primary to the RNAV(GPS) without a LPV mandate. Example two explains the change in Mexico. Example three shows a case of the Aircraft Category selection (in EPWR).

Please contact us in case of any questions or comments.

Lufthansa Systems FlightNav Inc.
FMS Navdata Customer Support
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February 3rd, 2012

APP CRS 259°	Rwy Idg THRE	7000
	Apt Elev 5537	

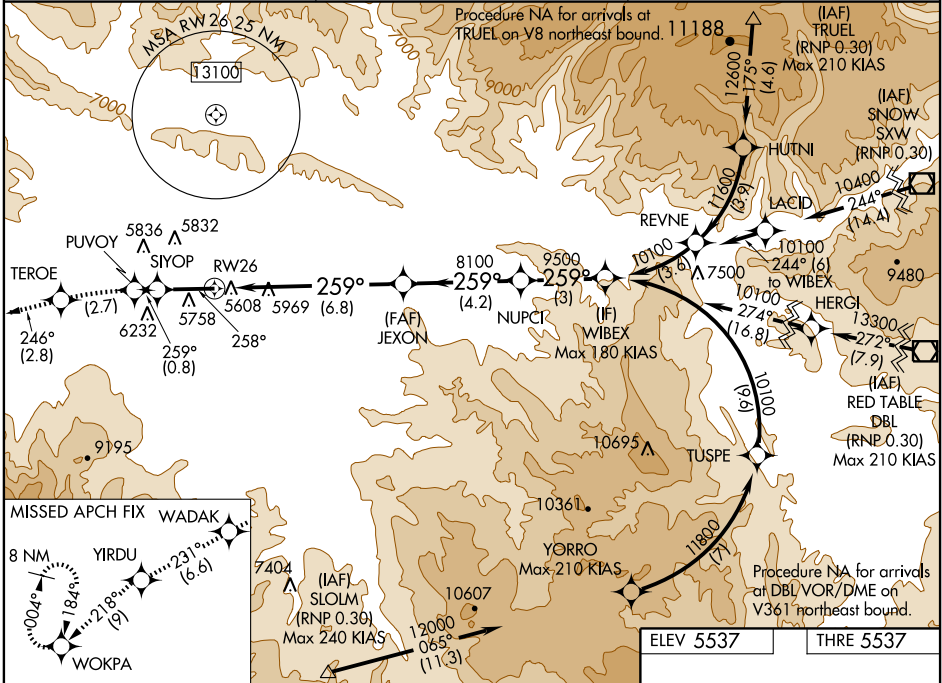
RNAV (RNP) Z RWY 26

RIFLE/GARFIELD COUNTY RGNL (RIL)

⚠ *Missed approach requires minimum climb of 398 feet per NM to 9100. When VGSI inoperative, procedure NA at night. RF required. GPS required. Missed approach requires RNP less than 1.0. For uncompensated Baro-VNAV systems, procedure NA below -24°C (-11°F) or above 38°C (100°F).

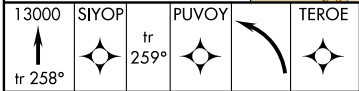
ODALS
 MISSED APPROACH: Climb to 13000 on track 258° to SIYOP and track 259° to PUVOY left turn to TEROE and track 246° to WADAK and track 231° to YIRDU and track 218° to WOKPA and hold, continue climb-in-hold to 13000.

ASOS 135.275	DENVER CENTER 134.5 327.8	UNICOM 122.8 (CTAF)
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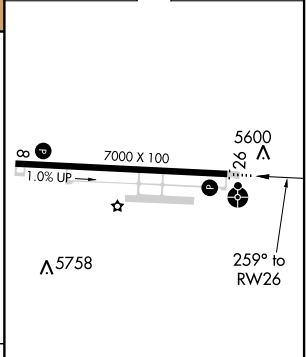
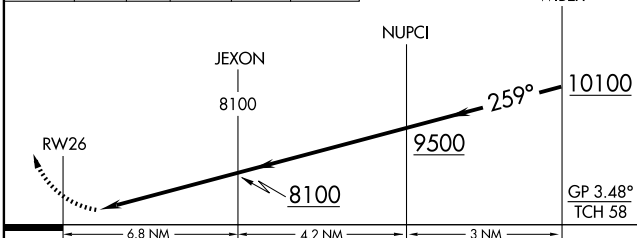


SW-1, 09 FEB 2012 to 08 MAR 2012

SW-1, 09 FEB 2012 to 08 MAR 2012



ELEV 5537	THRE 5537
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CATEGORY	A	B	C	D
RNP 0.10 DA*	5955-1	418 (500-1)		NA
RNP 0.30 DA	6387-2½	850 (900-2½)		NA

AUTHORIZATION REQUIRED

MIRL Rwy 8-26
REIL Rws 8 and 26

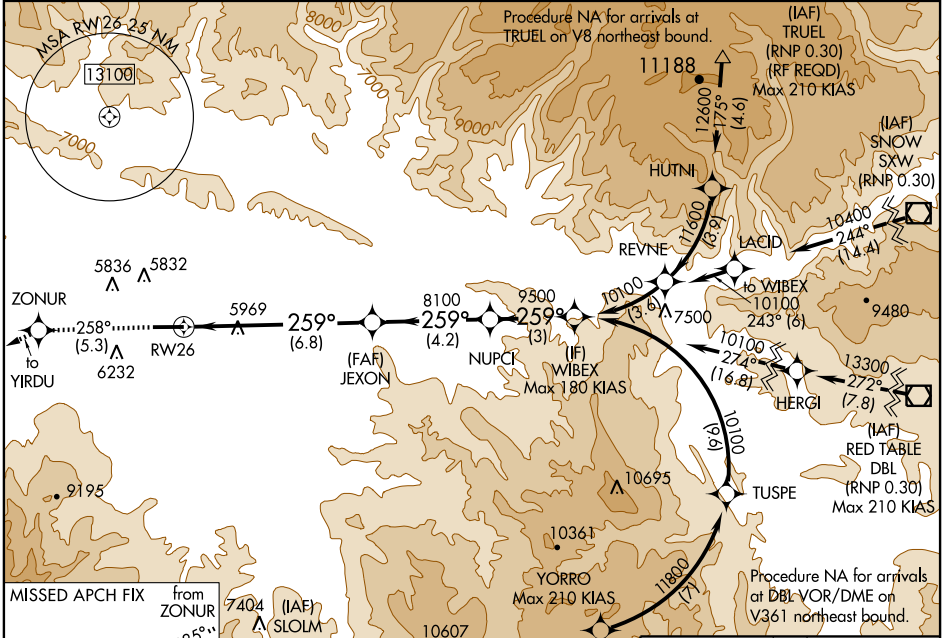
APP CRS	Rwy Idg	7000
259°	TDZE	5537
	Apt Elev	5537

RNAV (RNP) Y RWY 26

RIFLE/GARFIELD COUNTY RGNL (R.I.L.)

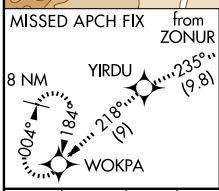
<p>▼ When VGSI inoperative, procedure NA at night.</p> <p>▲ For uncompensated Baro-VNAV systems, procedure NA below -24°C (-11°F) or above 38°C (100°F). GPS required.</p>	ODALS	<p>MISSED APPROACH: Climb to 13000 on track 258° to ZONUR and track 235° to YIRDU and track 218° to WOKPA and hold, continue climb-in-hold to 13000.</p>

ASOS 135.275	DENVER CENTER 134.5 327.8	UNICOM 122.8 (CTAF) 0
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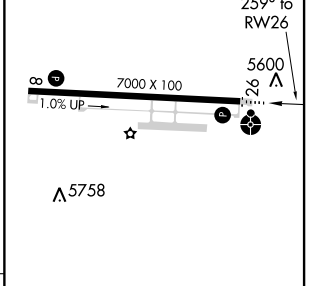
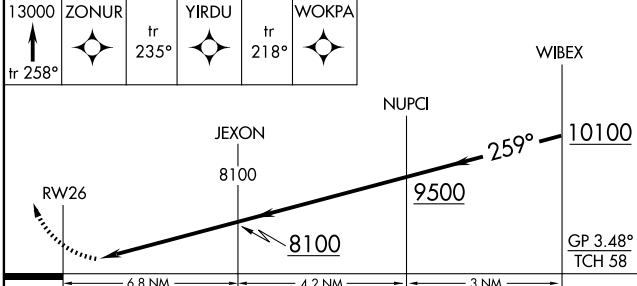


SW-1, 09 FEB 2012 to 08 MAR 2012

SW-1, 09 FEB 2012 to 08 MAR 2012



ELEV 5537	TDZE 5537
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CATEGORY	A	B	C	D
RNP 0.30 DA	6387-2½		850 (900-2½)	NA

AUTHORIZATION REQUIRED

MIRL Rwy 8-26 0

REIL Rwys 8 and 26 0

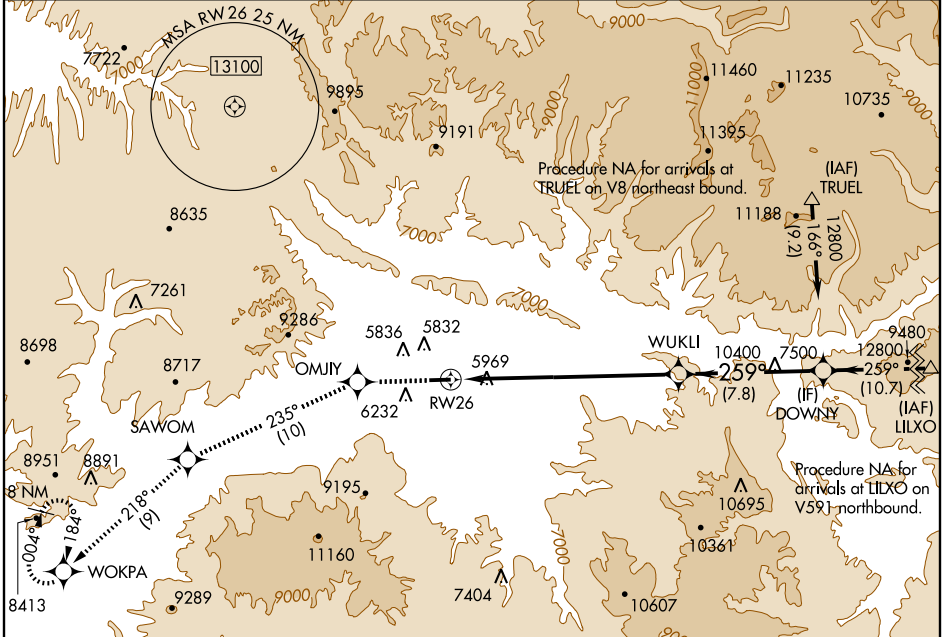
WAAS CH 93708 W26A	APP CRS 259°	Rwy Idg TDZE Apt Elev	7000 5537 5537
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RNAV (GPS) X RWY 26

RIFLE/GARFIELD COUNTY RGNL (RIL)

▽ DME/DME RNP- 0.3 NA.	△ Visibility reduction by helicopters NA.	ODALS 	MISSED APPROACH: Climb to 13000 direct OMJIY and on track 235° to SAWOM and on track 218° to WOKPA and hold, continue climb-in-hold to 13000.
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ASOS 135.275	DENVER CENTER 134.5 327.8	UNICOM 122.8 (CTAF)
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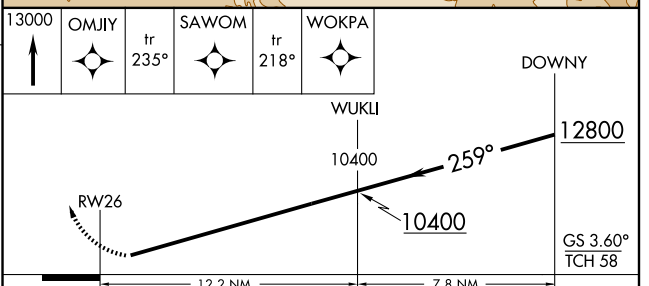
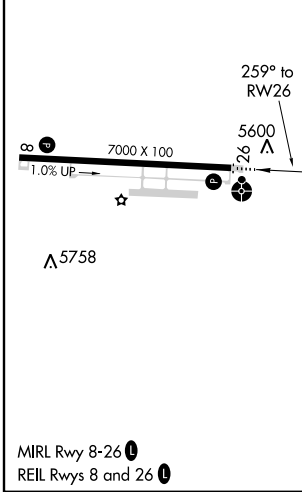


SW-1, 09 FEB 2012 to 08 MAR 2012

SW-1, 09 FEB 2012 to 08 MAR 2012

ELEV 5537	TDZE 5537
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Missed approach obstructions require a minimum climb gradient of 290 ft/NM to 9600 feet; if unable to meet climb gradient, see RNAV (GPS) W RWY 26.



CATEGORY	A	B	C	D
LPV DA	6300-2¼		763 (800-2¼)	NA

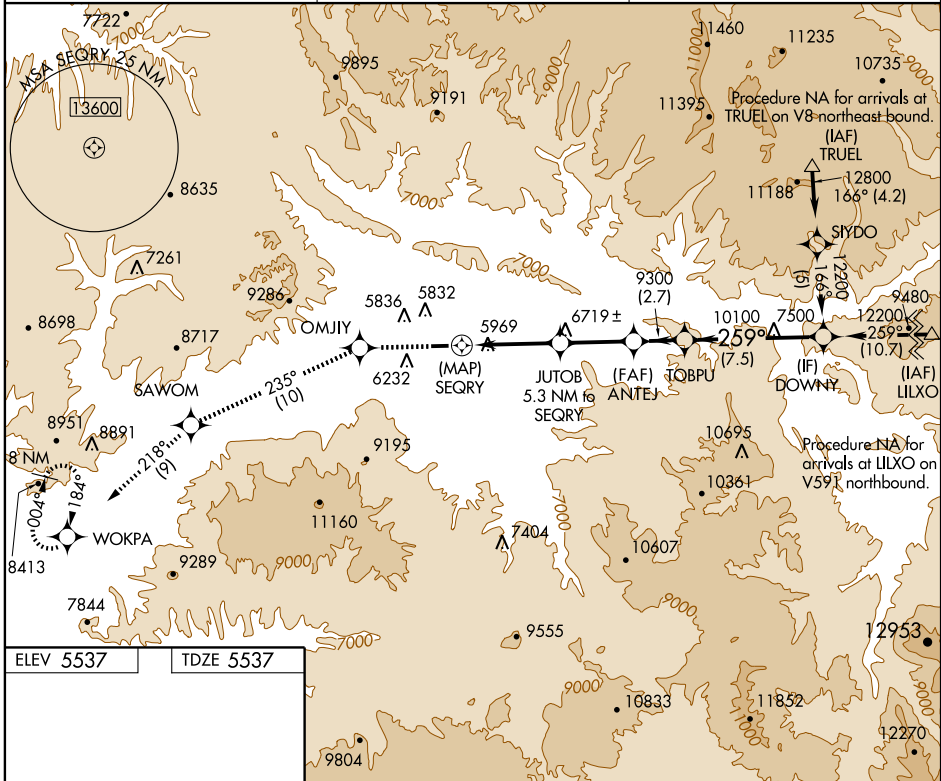
APP CRS	Rwy Idg	7000
259°	TDZE	5537
	Apt Elev	5537

RNAV (GPS) W RWY 26

RIFLE/GARFIELD COUNTY RGNL (RIFL)

DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Circling not authorized at night south of Rwy 8-26. Inoperative table does not apply.	ODALS	MISSED APPROACH: Climb to 13000 direct OMJY and on track 235° to SAWOM and on track 218° to WOKPA and hold, continue climb-in-hold to 13000.
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ASOS 135.275	DENVER CENTER 134.5 327.8	UNICOM 122.8 (CTAF)
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SW-1, 09 FEB 2012 to 08 MAR 2012

SW-1, 09 FEB 2012 to 08 MAR 2012

ELEV 5537	TDZE 5537
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MIRL Rwy 8-26

REIL Rws 8 and 26

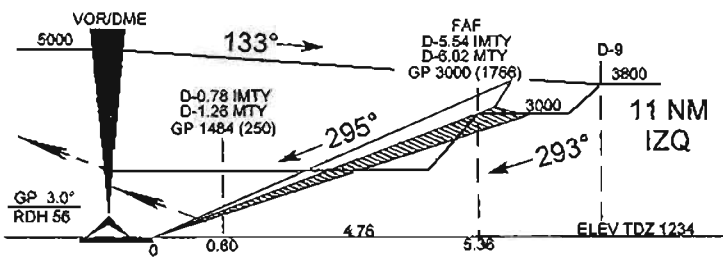
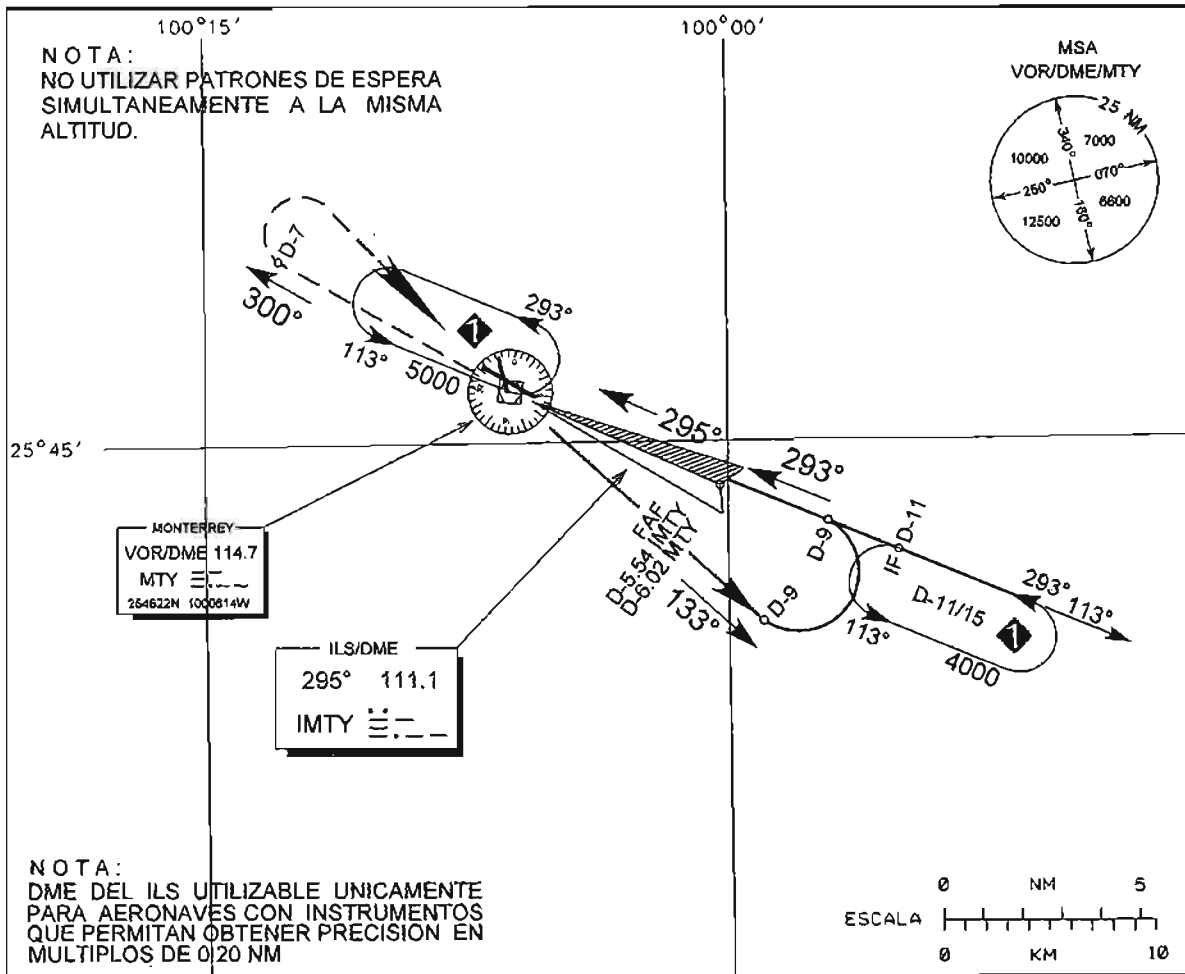
13000	OMJY	tr 235°	SAWOM	tr 218°	WOKPA	TOBPU	DOWNNY	
			JUTOB 3.7 NM to SEQR	ANTEJ 5.3 NM to SEQR				
			SEQR	TCH 58	9300	10100	12200	
					7760		Procedure Turn NA	
			0.5	3.7 NM	1.6 NM	4 NM	2.7 NM	7.5 NM
CATEGORY	A		B		C		D	
LNAV MDA	7180-1¼ 1643 (1700-1¼)		7180-1½ 1643 (1700-1½)		7180-3 1643 (1700-3)		NA	
CIRCLING	7180-1¼ 1643 (1700-1¼)		7180-1½ 1643 (1700-1½)		7180-3 1643 (1700-3)		NA	

CARTA DE APROXIMACION
POR INSTRUMENTOS

ATIS 127.7
TWR 118.1
APP 119.75
ARR 120.4

ELEV AD 1276
VAR 7° E

MONTERREY
ILS/DME 1 PISTA 29
SIN GP LOC 111.1



APROXIMACION FRUSTRADA

ASCIENDA EN RADIAL 300° HASTA D-7,
EFECTUE VIRAJE DE GOTA A LA
DERECHA DENTRO DE 10 NM HACIA
EL VOR/DME/MTY HASTA LA ALTITUD
MINIMA DE ESPERA.

CATEGORIA	DIRECTO PISTA 29				CIRCULANDO					
	DA 1484 (DH) (250)		MDA (MDH) 1600 (324)		CAT		MDA(MDH)			
	COMPLETO	SIN ALS	COMPLETO	SIN ALS	A	1820 (544) - 1 (1600 m)			B	
A					C	1820 (544) - 1 1/2 (2400 m)			D	
B	1/2	3/4	1/2	1		1860 (584) - 2 (3200 m)				
C	(800 m)	(1200 m)	(800 m)	(1600 m)						
D										
NO REGULARES	DA (DH) 1534 (300)	3/4 (1200 m)	1 (1600 m)	3/4 (1200 m)	1 1/4 (2000 m)					
VELOCIDAD KTS			60	80	100	120	140	160	180	200
GP 3.0°			318	425	531	637	743	849	955	1061
FAF AL THR 5.36			5:22	4:01	3:13	2:41	2:18	2:01	1:47	1:36

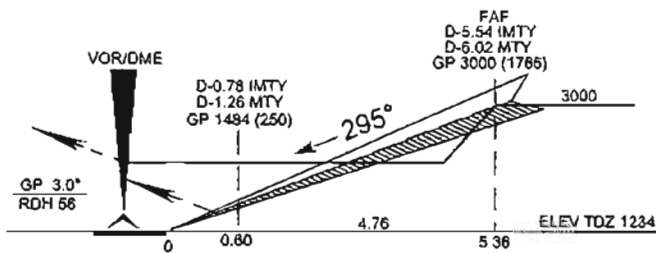
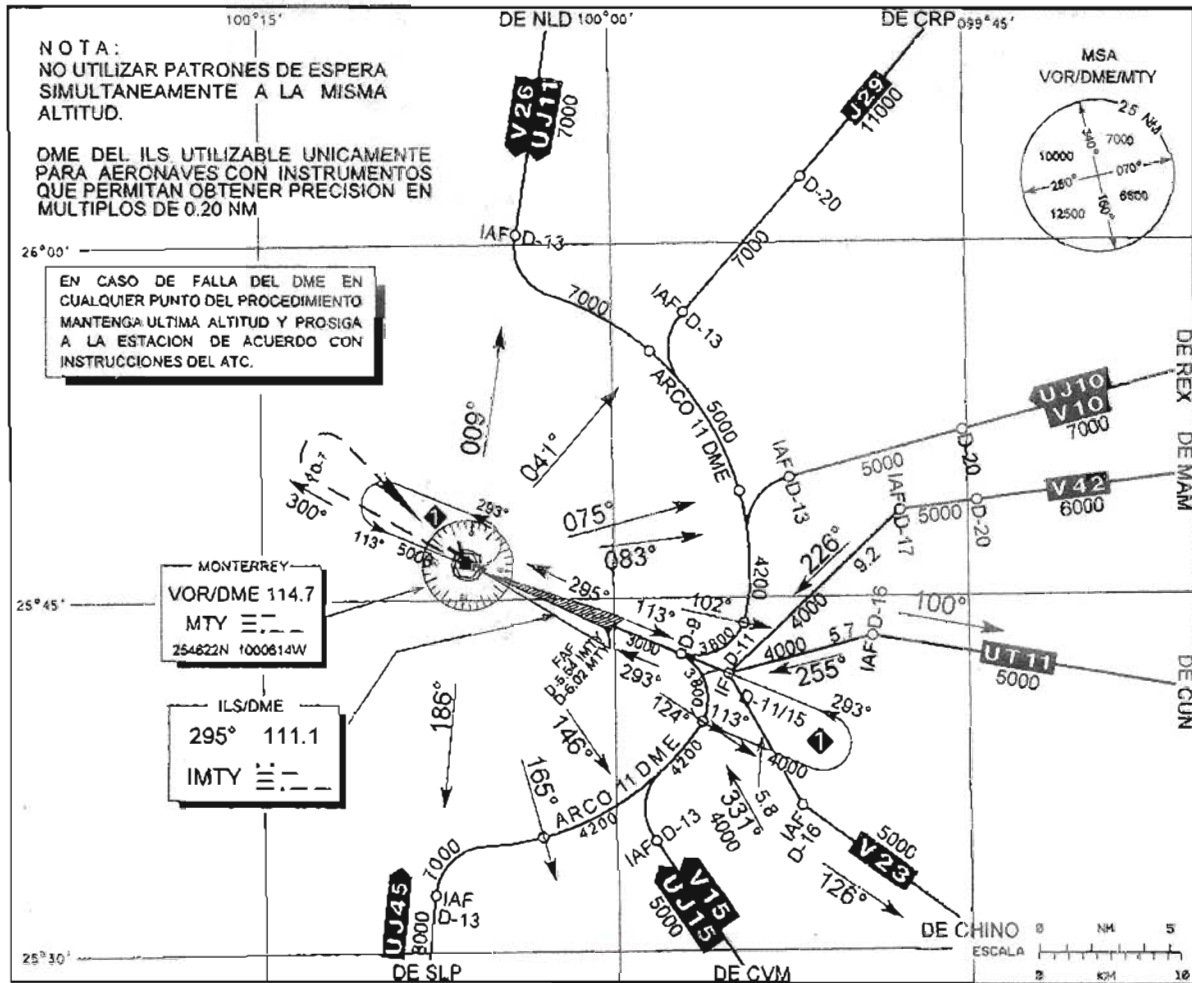
CAMBIOS: ELEV, RADIAL, ALT

CARTA DE APROXIMACION
POR INSTRUMENTOS

ATIS 127.7
TWR 118.1
APP 119.75
ARR 120.4

ELEV AD 1276
VAR 7° E

MONTERREY
ILS/DME 2 PISTA 29
SIN GP LOC 111.1



APROXIMACION FRUSTRADA

ASCIENDA EN RADIAL-300° HASTA D-7,
EFECTUE VIRAJE DE GOTA A LA
DERECHA DENTRO DE 10 NM HACIA
EL VOR/DME/MTY HASTA LA ALTITUD
MINIMA DE ESPERA.

CAT	DIRECTO PISTA 29				CIRCULANDO							
	DA 1484 (DH) (250)		MDA (MDH) 1600 (324)		MDA(MDH)							
	ILS	LOC (SIN GP)										
	COMPLETO	SIN ALS	COMPLETO	SIN ALS								
A					A	1820 (544) - 1 (1600 m)						
B	1/2	3/4	1/2	1	B	1820 (544) - 1 1/2 (2400 m)						
C	(800 m)	(1200 m)	(800 m)	(1600 m)	C	1860 (584) - 2 (3200 m)						
D					D							
NO REGULARES	DA (DH) 1534 (300)	3/4 (1200 m)	1 (1600 m)	3/4 (1200 m)	1 1/4 (2000 m)							
VELOCIDAD KTS					60	80	100	120	140	160	180	200
GP 3.0°					318	425	531	637	743	849	955	1061
FAF AL THR 5.36					5:22	4:01	3:13	2:41	2:18	2:01	1:47	1:36

CAMBIOS: ELEV, RADIAL, AWY UJ15E

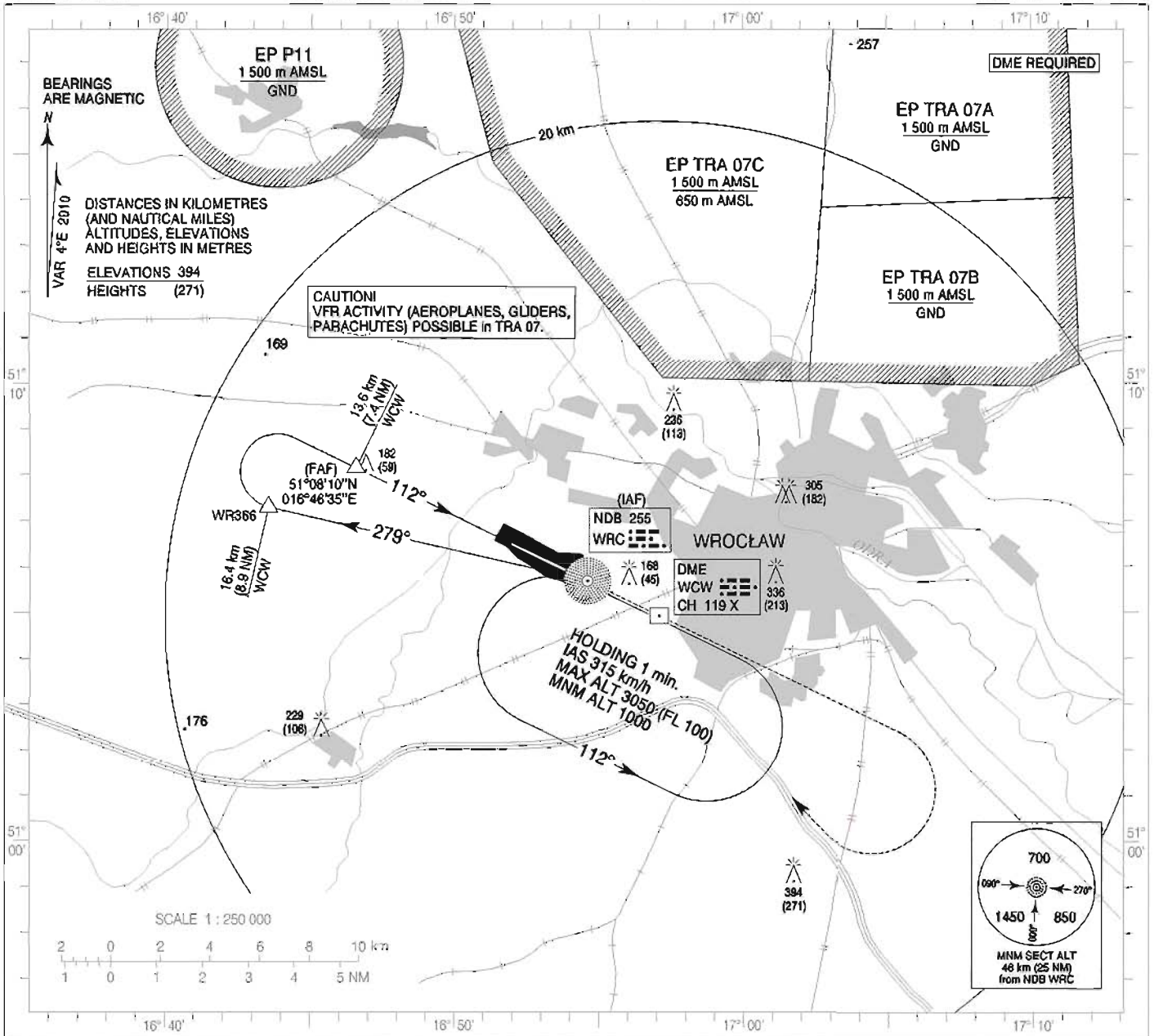
**INSTRUMENT
APPROACH
CHART - ICAO**

AERODROME ELEV 123 m
THR RWY 11 ELEV 123 m
HEIGHTS RELATED TO AD ELEV

TWR 127.225

**WROCLAW / Strachowice
NDB z
RWY 11 (CAT A/B)**

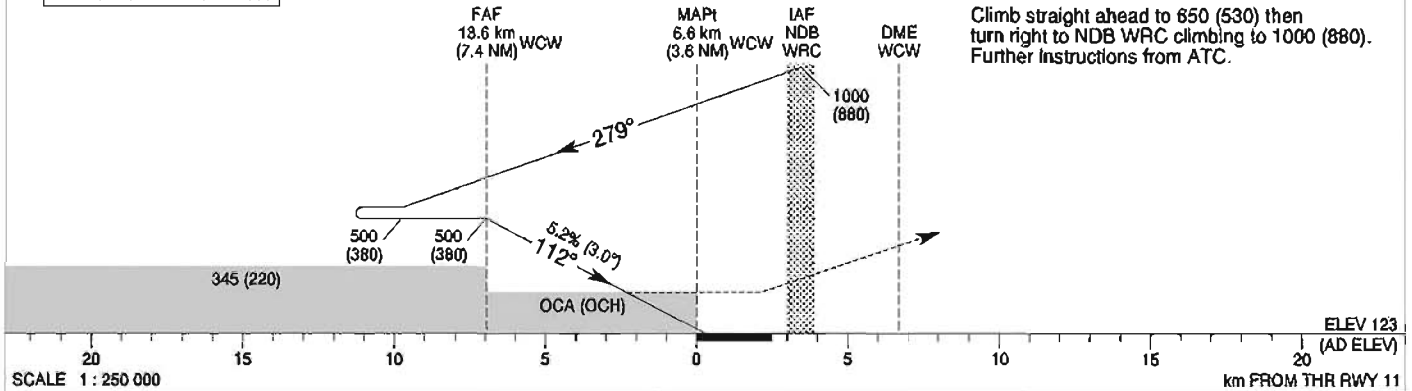
Correction: EP P11 added. Obstacles. FAF altitude and height changed. Circling. Table on the reverse. Editorial changes.



TRANSITION ALTITUDE 2000

MISSED APPROACH

Climb straight ahead to 650 (530) then turn right to NDB WRC climbing to 1000 (880). Further instructions from ATC.



Cat. of ACFT	OCA (OCH)				Speed	Distance FAF - MAPI 7.0 km (3.8 NM)							
	A	B	C	D		km / h	100	125	150	175	200	225	250
Straight - in	260 (135)	260 (135)	See separate chart		Time	min : s	4 : 10	3 : 20	2 : 47	2 : 23	2 : 05	1 : 51	1 : 40
					Rate of descent	m / s	1.4	1.8	2.2	2.5	2.9	3.3	3.6
					Final approach distance / altitude (height)								
Circling*	260 (135)	275 (150)			Distance	12 km (6.5 NM)		10 km (5.4 NM)					
					Altitude (height)	415 (295)		315 (190)					

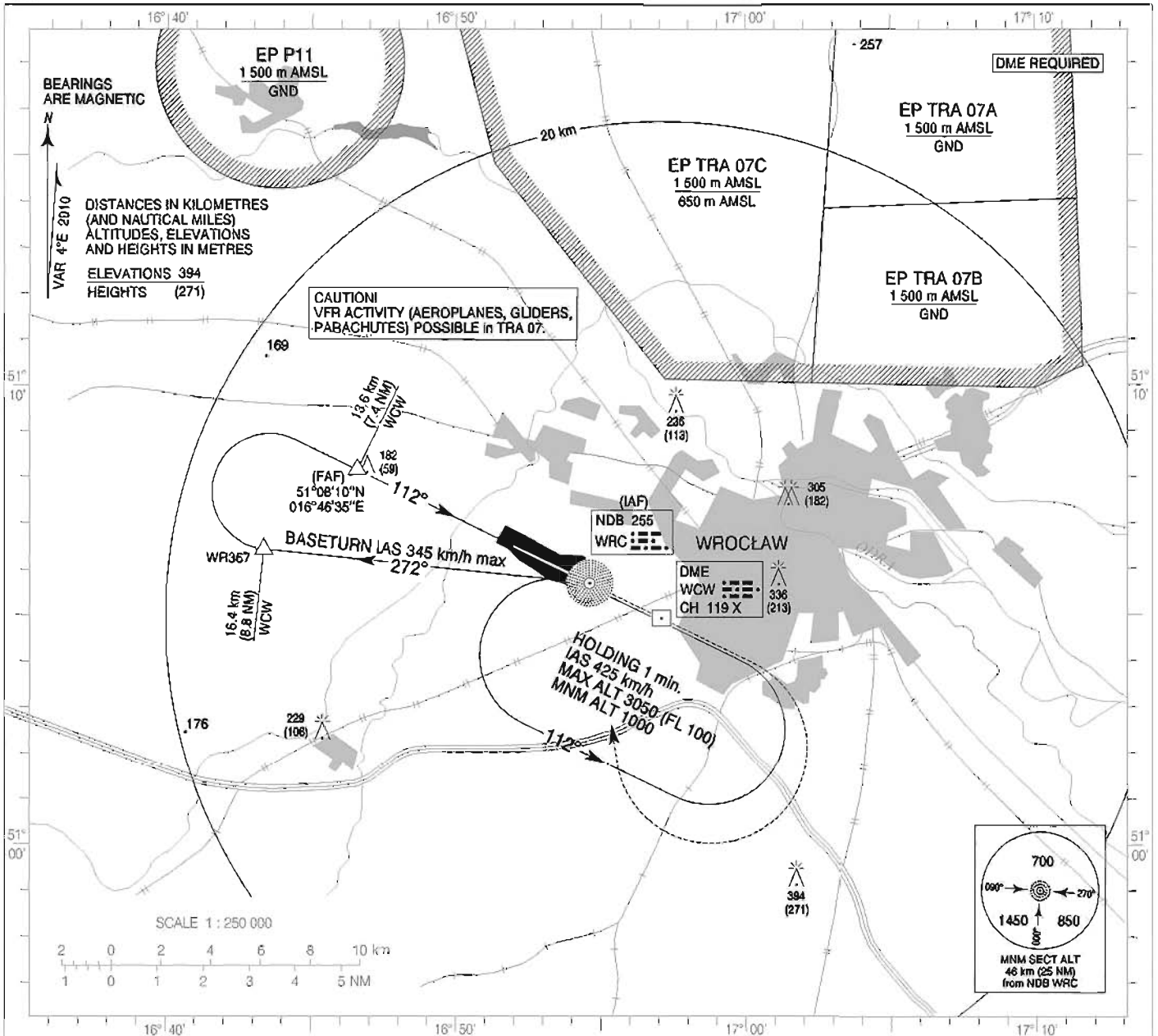
**INSTRUMENT
APPROACH
CHART - ICAO**

AERODROME ELEV 123 m
THR RWY 11 ELEV 123 m
HEIGHTS RELATED TO AD ELEV

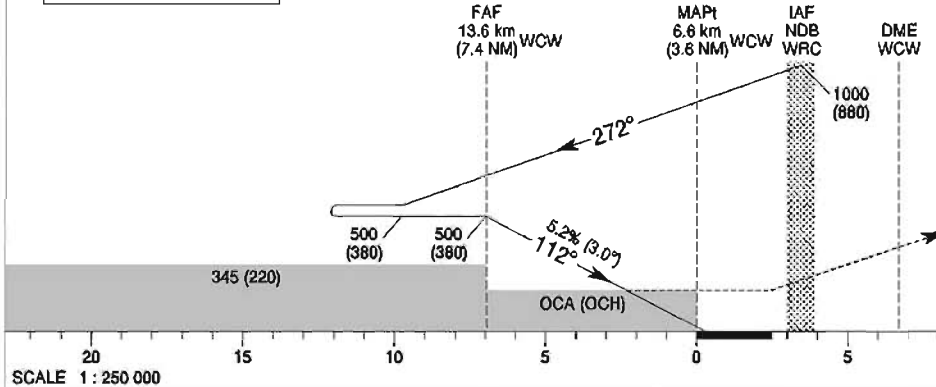
TWR 127.225

**WROCLAW / Strachowice
NDB y
RWY 11 (CAT C/D)**

Correction: EP P11 added. Obstacles. FAF altitude and height changed. Circling. Table on the reverse. Editorial changes.



TRANSITION ALTITUDE 2000



MISSED APPROACH

Climb straight ahead to 470 (350) then turn right to NDB WRC climbing to 1000 (880). Further instructions from ATC. Turn limited to 345 km/h IAS max.



OCA (OCH)		Distance FAF - MAPt 7.0 km (3.8 NM)											
Cat. of ACFT	A	B	C	D	Speed	km / h	200	225	250	275	300	325	350
	Straight - in	See separate chart				Time	min : s	2 : 05	1 : 51	1 : 40	1 : 31	1 : 23	1 : 17
				Rate of descent	m / s	2.9	3.3	3.6	4.0	4.3	4.7	5.1	
Circling*					Final approach distance / altitude (height)								
					Distance		12 km (6.5 NM)	10 km (5.4 NM)					
					Altitude (height)		415 (295)	315 (190)					