

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.33**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT</u> GRAND FORKS INTL	<u>AIRPORT ID</u> KGFK	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 9L	<u>ORIGINAL/AMENDMENT</u> 1A	<u>CITY</u> GRAND FORKS	<u>STATE</u> ND	
<u>AIRPORT ELEVATION</u> 845	<u>TDZE</u> 843	<u>SUPERSEDED</u> RNAV (GPS) RWY 9L	<u>ORIGINAL/AMENDMENT</u> 1	<u>DATED</u> 03/12/2009	<u>MAG VAR</u> 6E	<u>EPOCH YEAR</u> 1985
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u>	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>		

TERMINAL ROUTES

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
GFK VOR/DME		DUCEV		TF	FO	1.00	263.25	11.29	4000
UNIZY	IAF	DUCEV	NOPT	TF	FB	1.00	022.59	27.99	4000
BISCA	IAF	DUCEV	NOPT	TF	FB	1.00	109.48	6.13	4000
DUCEV	IF/IAF	ARIDE		TF	FB	1.00	083.78	6.29	2500
ARIDE	FAF	BALEE/1.70 NM TO RW09L		TF	FB	0.30	083.90	3.32	
BALEE/1.70 NM TO RW09L		RW09L	MAP	TF	FO	0.30	083.90	1.70	
RW09L	MAP	1093 MSL		CA			083.90		
1093 MSL		URBAH		DF	FO	1.00			2800

MISSED APPROACH

MAP:

LPV: DA
LNAV/VNAV: DA
LNAV: RW09L

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 2800 DIRECT URBAH AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT SIDE OF COURSE OUTBOUND FT WITHIN MILES OF (IAF)

2. HOLD W DUCEV, RT, 083.78 INBOUND, 4000 FT. IN LIEU OF PT (IAF), MAX 6000.

3. FAC: 083.90 FAF: ARIDE DIST FAF TO MAP: 5.02 DIST FAF TO THLD: 5.02

4. MIN ALT: DUCEV 4000, ARIDE 2500, BALEE/1.70 NM TO RW09L 1400*

5. DIST TO THLD FROM OM: MM: IM: 150 HAT: 250 HAT: 0.67 GS ANT:

6. MIN GP INCPT: 2500 GP ALT AT FAF : ARIDE 2500 OM: MM: IM:

7. GP ANGLE: 3.00 34:1: IS CLEAR 20:1: IS CLEAR TCH: 38.7

8. MSA FROM: RW09L 3300

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: BARO-VNAV AND VDP NA WHEN USING CROOKSTON ALTIMETER SETTING.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -16°C OR ABOVE 54°C.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT GFK VOR/DME ON V55 NORTHEAST BOUND.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CROOKSTON ALTIMETER SETTING AND INCREASE ALL DA 62 FEET AND ALL MDA 80 FEET, INCREASE LNAV CAT C VISIBILITY 3/8 SM, CAT D VISIBILITY 1/8 SM AND CIRCLING CAT C 1/4 SM.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON.
CHART VDP AT 1.06 NM TO RW09L*
*LNAV ONLY
WAAS CHANNEL #58104
REFERENCE PATH ID: W09A
CHART FAS OBST: 959 TREE 475745N/0971153W.
HOLD E, RT, 264.21 INBOUND
LTP HAE: 229.7 M

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ STANDARD - NA WHEN LOCAL WEATHER NOT AVAILABLE.

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
LPV DA	1093	1	250	1093	1	250	1093	1	250	1093	1	250			
LNAV/VNAV DA	1238	1 1/2	395	1238	1 1/2	395	1238	1 1/2	395	1238	1 1/2	395			
LNAV MDA	1220	1	377	1220	1	377	1220	1	377	1220	1 1/4	377			
CIRCLING	1260	1	415	1300	1	455	1400	1 1/2	555	1400	2	555			

QUALITY
16
CHECKED

CHANGES - REASONS

1. ADDED PBN REQUIREMENT NOTE: RNP APPROACH - PER 8260.19H, PARA. 8-6-8B(1).
2. REMOVED NOTE "DME/DME RNP-0.3 NA" - PER 8260.19H, PARA. 1-1-5F(14).
3. CHANGED NOTE FROM 'FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -16C (4F) TO 47C (116F)' TO 'FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -16C TO 54C' - PER 8260.19H, PARA. 8-6-9S.
4. CHANGED BACK-UP ALTIMETER NOTE FROM 'WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CROOKSTON ALTIMETER SETTING AND INCREASE ALL DA 62 FEET AND ALL MDA 80 FEET, INCREASE LNAV/VNAV ALL CATS AND LNAV CAT C/D VISIBILITY 1/4 MILE' TO 'WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CROOKSTON ALTIMETER SETTING AND INCREASE ALL DA 62 FEET AND ALL MDA 80 FEET, INCREASE LNAV CAT C VISIBILITY 3/8 SM, CAT D VISIBILITY 1/8 SM AND CIRCLING CAT C 1/4 SM' - PER 8260.3D CH. 3 VISIBILITY TABLES.
5. CHANGED PLANVIEW NOTE FROM 'PROCEDURE NA FOR ARRIVALS AT GFK VOR/DME VIA V55 NORTHEAST BOUND' TO 'PROCEDURE NA FOR ARRIVALS AT GFK VOR/DME ON V55 NORTHEAST BOUND' - PER 8260.19H PARA. 8-2-5E.
6. CHARTED CIRCLING ICON AND MATCHED CIRCLING MINIMUMS TO THE FLIGHT CHECKED RNAV (GPS) RWY 17R - NEW CIRCLING CRITERIA APPLIED.
7. LINE 7: ADDED 20:1 IS CLEAR - NO 20:1 PENETRATIONS FOUND.
8. FAS DATA: CHANGED LTP/FTP LAT/LONG FROM 475708.6100N/0971105.7200W TO 475708.6135N/0971105.7175W - PER AIRNAV DATA PULL.
9. FAS DATA: CHANGED FPAP LAT/LONG FROM 475708.6000N/0970853.1700W TO 475708.6075N/0970853.1665W - TARGETS RESULT FROM CHANGE IN LTP LAT/LONG.
10. FAS DATA: CRC REMAINDER CHANGED FROM 5703E703 TO C3492732 - RESULT OF COORDINATES CHANGES LISTED ABOVE.

COORDINATED WITH:

A4A☒ALPA☒AOPA☒APA☒HAI☐NBAA☒OTHER: ZMP, GFK APP CON, ATCT, ARPT MGR

FLIGHT CHECKED BY	Digitally signed by	OFFICE	DATE	
	DAVID DANNER	FICO	2/5/20	
	Feb 10, 2020	Digitally signed by		
	RALPH DUMAR	OFFICE	DATE	
	Dec 10, 2019	AJV-A422	11/15/2019	
DEVELOPED BY		OFFICE	DATE	TITLE
RALPH DUMAR		AJV-A420		MANAGER
APPROVED BY	Digitally signed by			
MARLON ROBINSON	DAVID DANNER			
	Feb 10, 2020			



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KGFK
RUNWAY	RW09L
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W09A
LTP/FTP LATITUDE	475708.6135N
LTP/FTP LONGITUDE	0971105.7175W
LTP/FTP ELLIPSOIDAL HEIGHT	+02297
FPAP LATITUDE	475708.6075N
FPAP LONGITUDE	0970853.1665W
THRESHOLD CROSSING HEIGHT (TCH)	00038.7
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1472
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	C3492732

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+02565
FPAP ORTHOMETRIC HEIGHT	+02565



FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

AIRPORT	AIRPORT ID	PROCEDURE NAME	AMDT NO.	CITY	STATE	AIRPORT ELEVATION	FACILITY
GRAND FORKS INTL	KGFK	RNAV (GPS) RWY 9L	1A	GRAND FORKS	ND	845	RNAV

PART A: OBSTRUCTION DATA SEGMENTS

FEEDER

FROM
GFK VOR/DME

TO
DUCEV

<u>RNP</u>	<u>DISTANCE</u> 11.29	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>					
<u>OBSTRUCTION</u>	<u>COORDINATES</u>		<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
1.AAO	475315.00N/0972748.00W		1224	164	98	4E	1000				AT1776	4000
2.TERRAIN	475315.00N/0972748.00W		1024 (1000)								AS1500	2500

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

INITIAL

FROM
UNIZY

TO
DUCEV

<u>RNP</u>	<u>DISTANCE</u> 27.99	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>					
<u>OBSTRUCTION</u>	<u>COORDINATES</u>		<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
3.TOWER (38-000283)	473338.00N/0975251.00W		1795	500	50	4D	1000				AT1205	4000
4.TERRAIN	473430.00N/0975257.00W		1536 (1500)								AS1500	3000

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



FACILITY
RNAV

HMASRF CENTER FIX/DISTANCEHMASRF CENTER FIX/DISTANCE

QUALITY
16
CHECKED

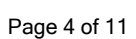
FACILITY
RNAV

RF CENTER FIX/DISTANCERF CENTER FIX/DISTANCE

QUALITY
16
CHECKED

FACILITY
RNAV

SEGMENT REMARKS:



HOLD-IN-LIEU OF PT

FROM
DUCEV

TO
P-5

RNP	DISTANCE	PAT P-5	MAP	HAT			HMAS					
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
5.TOWER (38-000608)	475621.96N/0973325.31W		1474	250	50	5D	1000				AT1526	4000
10.TERRAIN	475509.00N/0974333.00W		1175 (1200)								AS1500	2700

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

MISSED APPROACH : LPV

FROM
DA

TO
URBAH

RNP	DISTANCE	PAT	MAP	HAT			HMAS 905					
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
								ASC				2800
11.TOWER (27-000979)	475752.17N/0970146.82W		1337	20	3	1A	1000					2400
12.TERRAIN	475648.00N/0971030.00W		843 (800)								AS1500	2300

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



AIRPORT

GRAND FORKS INTL

AIRPORT ID

KGFK

PROCEDURE NAME

RNAV (GPS) RWY 9L

AMDT NO.

1A

CITY

GRAND FORKS

STATE

ND

AIRPORT ELEVATION

845

FACILITY

RNAV

CIRCLING

☐ ALL CATS

☒ CAT A

☒ CAT B

☒ CAT C

☒ CAT D

☐ CAT E

☐ NOT AUTHORIZED

OBSTRUCTION	COORDINATES	RADIUS	HAA	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
CATEGORY A											
13.CONTROL_TOWER (38-022326)	475655.94N/0971025.81W	1.30	415	956	20	3	1A	300			1260
CATEGORY B											
14.TOWER (38-022999)	475509.52N/0970747.56W	1.83	455	995	20	3	1A	300			1300
CATEGORY C											
15.TOWER (38-006051)	475544.00N/0970517.00W	2.89	555	1034	250	50	4D	300		AC50	1400
CATEGORY D											
15.TOWER (38-006051)	475544.00N/0970517.00W	3.77	555	1034	250	50	4D	300		AC50	1400

CIRCLING REMARKS:

MSA

CENTER

RW09L

RADIUS

25

SECTOR	OBSTRUCTION	COORDINATES	BEARING	DISTANCE	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
360-360	TOWER (38-000626)	475739.63N/0975206.93W	265	27.6	2226	20	3	1A	1000			3300

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:

#8 LNAV/VNAV FINAL OBSTACLE 959 TREE IS 85' INTO SECONDARY. FULL ROC APPLIED TO MAINTAIN CURRENT MINIMA.
8 OBSTACLE IMPORTED FROM KGFK VOR RWY 17R 6/15/2000.

TAA NOT DEVELOPED PER ATC REQUEST.

APPROACH OVER THE TOP OF GRAND FORKS AFB COORDINATED WITH SMSGT PHILLIP DAVIS.
AIR TRAFFIC AT GRAND FORKS AFB REQUIRES 4000' AT THE IF/IAF TO DECONFLICT FROM TRAFFIC PATTERNS.

QUALITY
16
CHECKED

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PART B: SUPPLEMENTAL DATA

COMMUNICATIONS WITH
ZMP ARTCC, GFK TOWER, GFK APP CON

<u>WX SERVICE</u> ASOS	<u>LOCATION</u> KGFK	<u>HRS OPERATION</u> 24	<u>ALTIMETER SOURCE</u> KGFK	<u>DISTANCE</u> 0	<u>SERVICE-A</u> Y	<u>ADJUSTMENTS</u> 0
<u>BACK-UP WX SERVICE</u> AWOS	<u>LOCATION</u> KCKN	<u>HRS OPERATION</u> 24	<u>ALTIMETER SOURCE</u> KCKN	<u>DISTANCE</u> 23.185	<u>SERVICE-A</u> Y	<u>ADJUSTMENTS</u> 61.2

WX REMARKS:

PRIMARY NAVAID	MONITOR POINT	HRS OPERATION	CAT			
APPROACH AND RUNWAY LIGHTING SYSTEM		RUNWAY MARKINGS	RUNWAY VISUAL RANGE			
RW09R - MIRL, PAPI-2L						
RW27L - MIRL, PAPI-2L						
RW09L - MIRL (PCL), PAPI-4L (PCL)		BSC-G				
RW17L - MIRL, PAPI-4L		BSC-G				
RW27R - MIRL (PCL), REIL (PCL), PAPI-4L (PCL)		BSC-G				
RW35R - MIRL, PAPI-4L		BSC-G				
RW17R - HIRL (PCL), REIL (PCL), PAPI-4L		PIR-G	ROLL OUT			
RW35L - MALSR (PCL), HIRL (PCL), PAPI-4L		PIR-G	APPROACH			
GLIDESLOPE ANGLE 3.00	ELEV RWY THRESHOLD 841.4	TCH 38.7	ELEV GS ANTENNA	DISTANCE FROM RWY	VGSI ANGLE 3.00	TCH 38.5

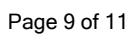
FINAL APPROACH COURSE AIMING

RUNWAY THRESHOLD	<input checked="" type="checkbox"/>	FT FROM THRESHOLD	DISPLACED THRESHOLD DISTANCE
ON CENTERLINE	<input checked="" type="checkbox"/>	FT FROM CENTERLINE	



APT ISA
+13.33C

ORDER 8260.3, VOLUME 1, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED.



<u>AIRPORT</u> GRAND FORKS INTL	<u>AIRPORT ID</u> KGFK	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 9L	<u>AMDT NO.</u> 1A	<u>CITY</u> GRAND FORKS	<u>STATE</u> ND	<u>AIRPORT ELEVATION</u> 845	<u>FACILITY</u> RNAV
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PART D: AIRSPACE

DOCKET #

ALL DISTANCES TO 1/100NM; ELEVATION TO NEAREST 100 FEET; COORDINATES TO 1/100 SECOND; DEG TO 1/100 DEGREE

DISTANCE FROM	THLD	TO 1000FT POINT	3.20
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.70
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	089.90
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	900
DISTANCE FROM	THLD	TO 1500FT POINT	4.82
WIDTH OF	FINAL	SEGMENT AT 1500FT POINT	2.00
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1500FT POINT	089.90
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1500FT POINT	900

THRESHOLD
COORDINATES
(IF STR-IN)

475708.61N/0971105.72W

ARP COORDINATES

475650.20N/0971025.60W

RUNWAY APCH END
AND DIST FURTHEST
FROM ARP

RUNWAY 27R DISTANCE 0.90 NM

FAF
COORDINATES

475708.32N/0971833.52W

FIX NAME
COORDINATES

REMARKS

NO ADDITIONAL AIRSPACE REQUIRED
BALEE: 475708.56N/0971337.46W

QUALITY
16
CHECKED

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AIRPORT
GRAND FORKS INTL

AIRPORT ID
KGFK

PROCEDURE NAME
RNAV (GPS) RWY 9L

AMDT NO.
1A

CITY
GRAND FORKS

STATE
ND

AIRPORT ELEVATION
845

FACILITY
RNAV

PART E: PREPARED BY

NAME
RALPH DUMAR

OFFICE
AJV-A422

DATE
11/15/2019

TITLE
AERONAUTICAL INFORMATION SPECIALIST

