

RNAV - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.33				Bearings, headings, courses, 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 in feet RVR.											
TERMINAL ROUTES										MISSED APPROACH					
FROM		TO		COURSE AND DISTANCE				ALTITUDE		LPV: DA LNAV/VNAV: DA LNAV: RW20 CLIMB TO 2000 DIRECT CASEE AND HOLD. ADDITIONAL FLIGHT DATA: HOLD SW, RT, 023.42 INBOUND. FAS OBST: 401 AAO 373600N/0771915W. CHART HANOVER CO AIRPORT (KOFF). DISTANCE TO THLD FROM 296 HAT: 0.78 NM. CHART VDP AT 1.46 NM TO RW20* *LNAV ONLY. WAAS CHANNEL # 69320 REFERENCE PATH ID: W20A CHART CIRCLING ICON. LTP HAE: 17.1 M					
HPW VORTAC		BAYLY (TF) (FB) (RNP 2.00)		013.92 / 19.78				2000							
FAK VORTAC		TRUIT (TF) (FB) (RNP 2.00)		066.54 / 21.21				2000							
BAYLY (IAF)		IMASE (TF) (FB) (RNP 1.00)		291.11 / 9.00				2000							
TRUIT (IAF)		IMASE (TF) (FB) (RNP 1.00)		113.89 / 9.00				2000							
EPICS (IAF)		IMASE (TF) (FB) (RNP 1.00)		195.16 / 6.01				2000							
(SEE FORM 8260-10)															
1. PT _____ SIDE OF COURSE _____ OUTBOUND _____ FT WITHIN _____ MILES OF _____ (IAF) 2. PROFILE STARTS AT IMASE 3. FAC: <u>203.49</u> FAF: <u>FOBON</u> DIST FAF TO MAP: <u>5.61</u> THLD: <u>5.61</u> 4. MIN. ALT: <u>IMASE 2000, FOBON 2000</u> 5. DIST TO THLD FROM OM: _____ MM: _____ IM: _____ 150 HAT: _____ 100 HAT: _____ GS ANT: _____ 6. MIN GS INCPT: <u>2000</u> GS ALT AT: <u>FOBON 2000</u> OM: _____ MM: _____ IM: _____ 7. GS ANGLE: <u>3.00</u> TCH: <u>49.0</u> 20:1 IS CLEAR 34:1 IS NOT CLEAR 8. MSA FROM: <u>RW20 2600</u>										MAG VAR: 10W EPOCH YEAR: 2020					
MINIMUMS															
TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT								ALTERNATE: N A		STANDARD					
CATEGORY =====>		A		B		C		D		E					
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
LPV DA	464	7/8	296	464	7/8	296	464	7/8	296	464	7/8	296			
LNAV/VNAV DA	603	1 1/2	435	603	1 1/2	435	603	1 1/2	435	603	1 1/2	435			
LNAV MDA	680	1	512	680	1	512	680	1 3/8	512	680	1 3/8	512			
CIRCLING	680	1	512	680	1	512	700	1 1/2	532	720	2	552			
NOTES: CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -11C (13F) OR ABOVE 54C (130F). CHART NOTE: RWY 20 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED. CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT EPICS ON V376 NORTHBOUND. CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVAL ON HPW VORTAC AIRWAY RADIALS 323 CW 025. (CONTINUED ON PAGE 2)															
CITY AND STATE		ELEVATION: 168 TDZE: 168				FACILITY IDENTIFIER: RNAV		PROCEDURE NO./AMDT NO./EFFECTIVE DATE:				SUP:			
RICHMOND, VA		AIRPORT NAME: RICHMOND INTL						RNAV (GPS) Z RWY 20, AMDT 2C				AMDT: 2B			
												DATED 05/28/2015			

QUALITY
4
CHECKED

ALL AFFECTED PROCEDURES REVIEWED? <div><input type="checkbox"/> YES</div> <div><input type="checkbox"/> NO</div>		COORDINATES OF FACILITIES		REQUIRED EFFECTIVE DATE	
ROUTINE					
COORDINATED WITH:					
A4A	ALPA	AOPA	APA	HAI	NBAA
<div><input checked="" type="checkbox"/></div>	<div><input checked="" type="checkbox"/></div>	<div><input checked="" type="checkbox"/></div>	<div><input checked="" type="checkbox"/></div>	<div><input type="checkbox"/></div>	<div><input checked="" type="checkbox"/></div>
OTHER (specify) ZDC, POTOMAC APP CON, VA DOT, ARPT MGR, KRIC ATCT					
FLIGHT CHECKED BY					
NAME:		JORGEMALCUN		ALLANWILL	
				May 22, 2018	
				FIOG	
				DATE:	
				04/26/2018	
DEVELOPED BY					
NAME:		MIKEMELSSSEN		FIFO	
		MIKEMELSSSEN		AJV-5412	
		Feb 27, 2018		DATE:	
				10/19/2017	
APPROVED BY					
NAME:		GEORGE DAVIS		MANAGER	
		ALLANWILL		AJV-5410	
		May 22, 2018		DATE:	
CHANGES:					
1. ADDED 1 DEGREE TO ALL MAGNETIC COURSES. 2. CRC REMAINDER CHANGED FROM E70419BD TO 69640322. 3. LNAV/VNAV DA CHANGED FROM 605 TO 606. 4. LNAV HAT CHANGED FROM 513 TO 512. 5. CIRCLING CAT A/B HAA CHANGED FROM 513 TO 512. 6. CHANGED FROM: "CHART NOTE: HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED" TO: "CHART NOTE: RWY 20 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED" - 7. LPV DA/HAT CHANGED FROM 447/280 TO 464/297. 8. ADDED "20:1 IS CLEAR" TO LINE 7 IN PROFILE. 9. REMOVED CHART NOTE: DME/DME RNP-0.3 NA; ADDED PBN REQUIREMENTS NOTE: RNP APCH.					
REASONS:					
1. KRIC MAG VAR CHANGED FROM 9W/1985 TO 10W/2020 (MAG VAR ALREADY CHANGED; THIS IS UPDATING THE PROCEDURE). 2. LTP LATITUDE/LONGITUDE CHANGED FROM 373059.4705N/0771927.6795W TO 373059.4670N/0771927.6775W. 3. AIRPORT ELEVATION CHANGED FROM 167 TO 168. 4. TDZE CHANGED FROM 167 TO 168. 5. AIRPORT ELEVATION CHANGED FROM 167 TO 168. 6. IAW 8260.19H PARA 8-6-11K(3) - SPECIFY RUNWAY. 7. NEW CONTROLLING OBSTACLE. 8. IAW 8260.19H PARA 8-6-7G(3) WHICH STATES THAT 20:1 IS CLEAR HAS TO BE SPECIFIED FOR RNAV PROCEDURES WHEN IT IS CLEAR. 9. IAW MEMORANDUM 257 DATED 9/12/2017 IMPLEMENTATION OF FAA ORDER 8260.19H FLIGHT PROCEDURES AND AIRSPACE. 05/21/18: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 05/01/18. 1. CHANGED FROM "CHART HANOVER CO AIRPORT (KOFR)" TO "CHART HANOVER CO AIRPORT (KOPF)" IN ADDITIONAL FLIGHT DATA.					



US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
RNAV - STANDARD
INSTRUMENT APPROACH PROCEDURE - TITLE 14 CFR PART 97.33

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TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
IMASE (IF)	FOBON (TF) (FB) (RNP 1.00)	203.50 / 4.89	2000
FOBON (FAF)	RW20 (MAP) (TF) (FO) (RNP 0.30)	203.49 / 5.61	
RW20 (MAP)	464 MSL (CA)	203.49	
464 MSL	CASEE (DF) (FO) (RNP 1.00)		2000

NOTES, (CONT.):

CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVAL ON FAK VORTAC AIRWAY RADIALS 338 CW 100.

PBN REQUIREMENTS NOTE: RNP APCH.

QUALITY
4
CHECKED

CITY AND STATE

RICHMOND, VA

ELEVATION: 168

TDZE: 168

AIRPORT NAME:

RICHMOND INTL

FACILITY
IDENTIFIER:
RNAV

PROCEDURE NO./AMDT NO./EFFECTIVE DATE:

RNAV (GPS) Z RWY 20, AMDT 2C

SUP:

AMDT: 2B

DATED: 05/28/2015

ALL AFFECTED PROCEDURES REVIEWED? <input type="checkbox"/> YES <input type="checkbox"/> NO		COORDINATES OF FACILITIES		REQUIRED EFFECTIVE DATE	
COORDINATED WITH: A4A ALPA APA AOPA HAI NBAA OTHER (specify) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____					
FLIGHT CHECKED BY					
NAME:				FIFO	DATE:
DEVELOPED BY					
NAME:				FIFO	DATE:
APPROVED BY					
NAME:				FIFO	DATE:
CHANGES:					
REASONS:					

**RNAV STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICE - FAR PART 97.33**

Bearings, headings, courses, 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 in feet RVR.

FAS DATA BLOCK INFORMATION**DATA FIELD****DATA**

OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KRIC
RUNWAY	RW20
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	Z
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W20A
LTP/FTP LATITUDE	373059.4670N
LTP/FTP LONGITUDE	0771927.6775W
LTP/FTP ELLIPSOIDAL HEIGHT	+00171
FPAP LATITUDE	372932.7200N
FPAP LONGITUDE	0771953.7600W
THRESHOLD CROSSING HEIGHT (TCH)	00049.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0736
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0

CRC REMAINDER

69640322

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K6
LTP ORTHOMETRIC HEIGHT	+00504
FPAP ORTHOMETRIC HEIGHT	+00504

QUALITY
4
CHECKED

CITY AND STATE RICHMOND, VA	ELEVATION: 168 TDZE: 168 AIRPORT NAME: RICHMOND INTL	FACILITY IDENTIFIER: RNAV	PROCEDURE NO./AMDT NO./EFFECTIVE DATE: RNAV (GPS) Z RWY 20, AMDT 2C	SUP:
				AMDT: 2B
				DATED: 05/28/2015

ALL AFFECTED PROCEDURES REVIEWED? <div><input type="checkbox"/> YES</div> <div><input type="checkbox"/> NO</div>		COORDINATES OF FACILITIES		REQUIRED EFFECTIVE DATE	
COORDINATED WITH: <div><div>A4A<div></div></div><div>ALPA<div></div></div><div>APA<div></div></div><div>AOPA<div></div></div><div>HAI<div></div></div><div>NBAA<div></div></div><div>OTHER (specify)<div></div></div></div>					
FLIGHT CHECKED BY					
NAME:				FIFO	DATE:
DEVELOPED BY					
NAME:				FIFO	DATE:
APPROVED BY					
NAME:				FIFO	DATE:
CHANGES:					
REASONS:					

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD											
PART - A OBSTRUCTION DATA											
1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.			
FEEDER	HPW VORTAC	BAYLY	1. T-L TWR (51-000530)	371901.41N/0770543.32W	429 (4D)	1000	AT571	2000			
			2. TERRAIN	374036.00N/0770400.00W	217 (200)		AS1500	1700			
FEEDER	FAK VORTAC	TRUIT	3. TOWER (51-000200)	373213.00N/0775051.00W	795 (4D)	1000		1800			
			4. TERRAIN	373209.00N/0775051.00W	489 (500)		AS1500	2000			
INITIAL	BAYLY	IMASE	5. TOWER (51-020240)	373753.35N/0771120.61W	575 (1A)	1000	AT425	2000			
			2. TERRAIN	374036.00N/0770400.00W	217 (200)		AS1500	1700			
INITIAL	TRUIT	IMASE	6. TOWER (51-020344)	374254.40N/0772154.00W	644 (1A)	1000	AT356	2000			
			7. TERRAIN	374318.00N/0772818.00W	226 (200)		AS1500	1700			
INITIAL	EPICS	IMASE	8. TOWER (51-001056)	374431.77N/0771514.15W	991 (3C)	1000		2000			
			9. TERRAIN	374654.00N/0771336.00W	243 (200)		AS1500	1700			
INTERMEDIATE	IMASE	FOBON	10. TOWER (51-001122)	373912.00N/0771830.00W	477 (5D)	500	DG1023	2000			
			11. TERRAIN	373812.00N/0771745.00W	207 (200)		AS1500	1700			
FINAL: LPV	FOBON	RW20	12. TREE (51-059261)	373129.85N/0771913.81W	255 (1A)	34:1	MA46	464/296			
FINAL: LNAV/VNAV	FOBON	RW20	13. TOWER (51-001567)	373155.55N/0771932.65W	321 (1A)	22.98:1		603/435			
2. PROCEDURE TURN											
3. MISSED APPROACH	MAP:	DA / DA / RW20	CASEE	12. TREE (51-059261)	373129.85N/0771913.81W	255 (1A)	ASC	2000			
				15. TOWER (51-000871)	372021.54N/0772432.52W	611 (1A)	1000	1700			
	ELEV:	245/442/580		16. TERRAIN	372042.00N/0772427.00W	197 (200)		AS1500	1700		
4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT.									
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	512	17. ATCT (51-020221)	373048.22N/0771957.22W	349 (1A)	300	SI	680
CATEGORY B	1.5 NM		450		512	17. ATCT (51-020221)	373048.22N/0771957.22W	349 (1A)	300	SI	680
CATEGORY C	1.7 NM		450		532	38. ANT (51-058521)	373140.65N/0772247.77W	385 (1B)	300		700
CATEGORY D	2.3 NM		550		552	19. AAO	373356.48N/0772142.34W	400 (2C)	300	HAA	720
CATEGORY E	4.5 NM		550								
5. MINIMUM SAFE ALTITUDES											
PRIMARY NAVAID: RW20											
SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A		
360-360	TWR (51-002454)	279/13.2	1587 (1A)	2600						<div style="color: green; font-weight: bold;">QUALITY</div> <div style="color: green; font-weight: bold; font-size: 2em;">4</div> <div style="color: green; font-weight: bold;">CHECKED</div>	
CITY AND STATE		ELEVATION: 168		FACILITY		PROCEDURE AND AMENDMENT NO:		REGION			
RICHMOND, VA		AIRPORT NAME: RICHMOND INTL		RNAV		RNAV (GPS) Z RWY 20, AMDT 2C		AEA			

PART B - SUPPLEMENTAL DATA										<div>PART C - REMARKS:</div> <div>PRECIPITOUS TERRAIN EVALUATION COMPLETED.</div> <div>KRIC ASOS ON WMSCR, SECONDARY WEATHER SOURCE NOT REQUIRED DUE TO MULTIPLE 24 HOUR WEATHER.</div> <div>VGSI DATA: 3.00/TCH 49.</div> <div>CRITICAL TEMPERATURES: CRITICAL LOW :-11C (+13F) CRITICAL HIGH :+54C (+130F) ACT :-11C APT ISA :+14.67C</div> <div>CRITICAL TEMPERATURE REMARKS AVERAGE COLD TEMPERATURE DERIVED FROM 5-YEAR HISTORY (2008-2012). CRITICAL LOW TEMPERATURE BASED ON ACT. DESCENT RATE (FPM): STANDARD TEMP 956 HIGH TEMP 1116.</div> <div>ORDER 8260.3, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED. CAT A: 1.30NM CAT B: 1.81NM CAT C: 2.84NM CAT D: 3.71NM</div> <div>NO ADDITIONAL AIRSPACE REQUIRED.</div> <div>100' VEGETATION USED PER FPT.</div> <div>OBS # 14 IPDS DTED ACCURACY USED</div> <div>LPV SLOPE: 34:1 LNAV/VNAV SLOPE: 22.98:1</div> <div>TEMPERATURE LIMITS, DELTA ISA LOW, AND DESCENT VALUES DERIVED FROM AFS-400 CALCULATOR IAW WITH MEMO DATED MARCH 1, 2013.</div> <div>NO TAA DEVELOPED PER ATC.</div> <div>LPV, LNAV/VNAV, AND LNAV INTERMEDIATE SEGMENT HAVE SAME CONTROLLING OBSTACLE AND HIGH TERRAIN.</div> <div>QUALITY 4 CHECKED</div>																			
1. COMMUNICATIONS WITH:				2. WEATHER SERVICE				3. ALTIMETER SETTING																					
ZDC ARTCC RIC TOWER RIC APP CON						N W S		OTHER: ASOS												SOURCE:KRIC									
						F A A														DISTANCE:									
						A / C														HOURS REMOTE OPERATION: 0/YES									
SATISFACTORY ON:																													
X		V H F		X		U H F														H F		LOCATION: KRIC				ADJUSTMENT: 0			
4. MONITOR STATUS		PRIMARY NAVAID:																											
		MONITOR POINT:																											
		HRS OPTN:		CAT 1																									
				CAT 3																									
5. APPROACH & RUNWAY LIGHTING		X		ALSF-2 34																									
				(S) SALS																									
		X		MALSR 02, 16																									
		X		HIRL 02, 07, 16, 20, 25, 34																									
				MIRL																									
		X		REIL 20																									
		X		TDZ 34																									
		X		C/L 16, 34																									
		X		OTHER (SPECIFY) PAPI-4L 02, 16, 20, 34																									
6. RUNWAY MARKINGS				BASIC																									
				ALL WEATHER PIR-G 02, 16, 20, 34																									
				INSTRUMENT NPI-G 07, 25																									
7. RUNWAY VISUAL RANGE				APPROACH 16, 25, 34																									
				MIDFIELD 16, 34																									
				ROLL OUT 07, 16, 34																									
8. GLIDE PATH				GP ANGLE: 3.00										ELEV RWY THRESHOLD:165.3															
				DISTANCE FROM RWY:										ELEV GP ANTENNA:															
														THRESHOLD CROSSING HEIGHT:49.0															
9. FINAL APPROACH COURSE AIMING						X		RUNWAY THRESHOLD												FT. FROM THRESHOLD									
						X		ON CENTERLINE												FT. FROM CENTERLINE									
10. WAIVERS: NONE																													
PART D - PREPARED BY: MIKE MELSSEN														DATE: 10/19/2017															
TITLE: AERONAUTICAL INFORMATION SPECIALIST														OFFICE: AJV-5412															

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD		
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PART - A OBSTRUCTION DATA

[illegible]

PART B - SUPPLEMENTAL DATA										PART C - REMARKS:	
1. COMMUNICATIONS WITH:				2. WEATHER SERVICE			3. ALTIMETER SETTING				
SATISFACTORY ON:					N W S	OTHER:		SOURCE:			
					F A A			DISTANCE:			
					A / C			HOURS REMOTE OPERATION:			
	V H F		U H F		H F	LOCATION:			ADJUSTMENT:		
4. MONITOR STATUS		PRIMARY NAVAID:									
		MONITOR POINT:									
		HRS	CAT 1								
		OPTN:	CAT 3								
5. APPROACH & RUNWAY LIGHTING			ALS								
			(S) SALS								
			MALS								
			HIRL								
			MIRL								
			REIL								
			TDZ								
			C/LINE								
6. RUNWAY MARKINGS		BASIC									
		ALL WEATHER									
		INSTRUMENT									
7. RUNWAY VISUAL RANGE		APPROACH									
		MIDFIELD									
		ROLL OUT									
8. GLIDE PATH		GP ANGLE:				ELEV RWY THRESHOLD:					
		DISTANCE FROM RWY:				ELEV GP ANTENNA:					
						THRESHOLD CROSSING HEIGHT:					
9. FINAL APPROACH COURSE AIMING				RUNWAY THRESHOLD					FT. FROM THRESHOLD		
				ON CENTERLINE					FT. FROM CENTERLINE		
10. WAIVERS:											
PART D - PREPARED BY:										DATE:	
TITLE:										OFFICE:	