Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 05/23/2012	Task #: 20080111189632040 01	Request #: 20080111189632
Procedure: RNAV (GPS) RWY 16 L AMDT 0-C		Airport ID: KHEF	Airport: MANASSAS RGNL/HARRY P DAVIS FL		Reimbursable #:
City: MANASSAS	ST: VA	GPS #:		Estimated Chart Date: 01/10/2013	FICO #: 1093211
Fac ID:	Fac. Type: LPV	Specialist: STEVE BRUMMETT			

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	05/10/2012	09/19/2012	DONALD SMITH	
QA:	09/19/2012	09/19/2012	SCOTT BEARD	
Liaison:	09/19/2012		Sparlin	RESUBMIT 9/19/12 - REQUEST POSSIBLE TABLE TOP REVIEW

Procedure Comments: ENROUTE **Remark Type:** INFORMATION

MANASSAS, VA MANASSAS RGNL/HARRY P DAVIS FLD (HEF) RNAV (GPS) RWY 16L, ORIG-C ENROUTE-YES FC: 11.13.12 PUB: 1.10.13

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): ARMEL (AML) VOME, REV 7; CASANOVA (CSN) VTAC, REV 15; CESAD, REV 1; CIDIT, REV 1; GIGEY, REV 1; MANNE-INT, REV 8; PITIY, REV 1.

CONTACT: DON SMITH/MARLON ROBINSON-AJV-352 LEADS, 405.954.1036 / 405.954.3636.

WASHINGTON D.C.

AL-5326 (FAA)

FIG

WAAS CH 70302 W16A	APP CRS 161°	Rwy ldg 5700 TDZE 192 Apt Elev 192

RNAV (GPS) RWY 16L

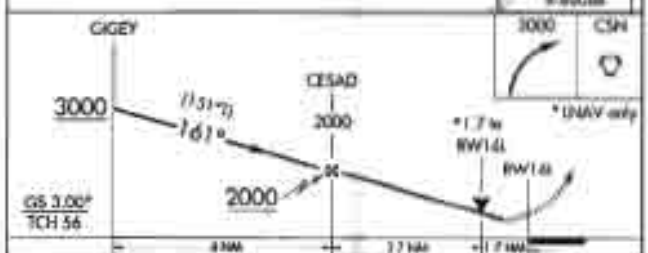
MANASSAS RGNL / HARRY P. DAVIS FIELD (HEF)

When VGSI inop, Circling Rwy 34L/34R NA at night. For uncompensated Baro/VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 43°C (110°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. For inoperative MALSR, increase LPV all Cats visibility to ¾, LNAV/VNAV all Cats visibility to 1 ¼ and LNAV visibility Cats A/B to 1 mile.

MALSR

MISSED APPROACH: Climb to 600 then Climbing right turn to 3000 direct CSN VORTAC and hold.

ATIS	POTOMAC APP CON	MANASSAS TOWER *	GND CON	POTOMAC CLNC DEL
125.175	124.65 306.925	133.1 (CTAF) 360.75	121.8	120.2



CATEGORY	A	B	C	D
LPV DA	490-¾ 298 (300-¾)			
LNAV/VNAV DA	720-1⅛ 528 (600-1⅛)			
LNAV MDA	780-¾ 588 (600-¾)	780-1⅛ 588 (600-1⅛)		
CIRCLING	780-1 588 (600-1)	780-1¼ 588 (600-1¼)	780-2 588 (600-2)	

WASHINGTON D.C.

Orig-C FIG

MANASSAS RGNL / HARRY P. DAVIS FIELD (HEF)

38°43'N - 77°51'W

RNAV (GPS) RWY 16L

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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

FROM	TO	COURSE AND DISTANCE	ALTITUDE
AML VOR/DME	PITIY (FB)	279.92 / 3.68	3000
CSN VORTAC	CIDIT (FB)	036.43 / 14.14	3000
CIDIT (IAF)	GIGEY (FB)	070.48 / 5.00	3000
MANNE (IAF)	GIGEY (FB)	171.00 / 7.01	3000
PITIY (IAF)	GIGEY (FB)	250.60 / 5.00	3000
GIGEY (IF)	CESAD (FB)	160.54 / 6.00	2000
CESAD (FAF)	RW16L (MAP) (FO)	160.57 / 5.41	
(SEE FORM 8260-10)			

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW16L

CLIMB TO 600 THEN CLIMBING RIGHT TURN TO 3000 DIRECT CSN VORTAC AND HOLD.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT GIGEY
3. FAC: 160.58 FAF: CESAD DIST FAF TO MAP: 5.41 THLD: 5.41
4. MIN. ALT: GIGEY 3000, CESAD 2000
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2000 GS ALT AT: CESAD 2000 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 56.0 34:1 IS NOT CLEAR
8. MSA FROM: RW16L 3400

ADDITIONAL FLIGHT DATA:
HOLD SW, LT, 027.00 INBOUND.
FAS OBST: 530 AAO 374649N/0773413W
CHART R6608A, B, & C.
DISTANCE TO THLD FROM 298 HATH: 0.76 NM.
CHART VDP AT 1.67 MILES TO RW16L*
*LNAV ONLY.
WAAS CHANNEL # 70302
REFERENCE PATH ID: W16A
LTP HAE: 26.6 M

MAG VAR: 10W EPOCH YEAR: 2000

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	490	3/4	298	490	3/4	298	490	3/4	298	490	3/4	298			
LNAV/VNAV DA	720	1 3/8	528	720	1 3/8	528	720	1 3/8	528	720	1 3/8	528			
LNAV MDA	780	3/4	588	780	3/4	588	780	1 1/4	588	780	1 1/4	588			
CIRCLING	780	1	588	780	1	588	780	1 3/4	588	780	2	588			

NOTES:
CHART NOTE: CIRCLING TO RWY 34L NA AT NIGHT.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -15C (5F) OR ABOVE 42C (107F).
CHART NOTE: DME/DME RNP-0.3 NA.
CHART NOTE: FOR INOPERATIVE MALSR, INCREASE LPV ALL CATS VISIBILITY TO 7/8, LNAV/VNAV ALL CATS
(SEE FORM 8260-10)

QUALITY CHECKED

CITY AND STATE	ELEVATION: 192 THRE: 192	FACILITY IDENTIFIER: RNAV	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
WASHINGTON, DC	AIRPORT NAME: MANASSAS RGNL/HARRY P. DAVIS FIELD		RNAV (GPS) RWY 16L, ORIG-C	AMDT: ORIG-B
				DATED 07/31/2008

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
[X] YES [ ] NO		ROUTINE

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[ ]	[ ]	[ ]	[ ]	[X]	[X]	[X] ZDC, IAD APP CON, HEF ATCT, HEF AMGR, VA DEP OF AVIATION

FLIGHT CHECKED BY		
NAME: CURT ELISON DRAPER	FIFO FIOG	DATE: 10/10/2012
DEVELOPED BY		
NAME: STEVE BRUMMETT	FIFO AJV-352	DATE: 06/25/2012
APPROVED BY		
NAME: DARRYEL ADAMS MANAGER	FIFO AJV-352	DATE:

CHANGES

1. REMOVED ARMEL VORTAC AND REPLACED WITH ARMEL VOR/DME.
2. ADDED FAS DATA INFORMATION.
3. ADDED NOTE CIRCLING TO RWY 34L NA AT NIGHT.
4, ADDED INOP NOTES FOR LPV, LNAV/VNAV AND LNAV.
5. INCREASED LPV VISIBILITY FROM 1/2 TO 3/4, LNAV/VNAV VISIBILITY FROM 1 1/4 TO 1 3/8 AND LNAV VISIBILITY CATS A/B FROM 1/2 TO 3/4 CAT C FROM 1 TO 1 1/4.
6.REMOVED FIX JENPO FROM MISSED APPROACH.
7. CHANGED 34:1 IS CLEAR TO 34:1 IS NOT CLEAR.
8. RAISED LNAV MDA FROM 640 TO 780.
9. VDP MOVED FROM 1.2 NM TO 1.7 NM.
10. CHANGED AIRPORT CITY AND STATE FROM MANASSAS VA TO WASHINGTON D.C.
11. CHANGED FAS OBSTACLE FROM 516 TOWER TO 530 AAO.
12. ADDED NOTE HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.

REASONS:

1. FACILITY TYPE CHANGED.
2. FAS DATA REQUIRED.
3. UNLIT 20:1 PENETRATIONS.
4. NEW VISIBILITY REQUIREMENTS.
5. NEW OBSTACLE DATA WITH 34:1 PENETRATION.
6. NO LONGER REQUIRED IN CRITERIA.
7. 34:1 PENETRATORS.
8, 9, P-NOTAM 9888, PERMANENT TOWER 516 MSL 384730.57N/0773351.03W (AC-2C).
10. PER AIRPORT MGR AND EST FPT.
11. ADDED 200 FT AAO ON HIGHEST TERRAIN OUTSIDE OF 20,000 FT.
12. PER MEMO DATED 8/27/12 PARTIAL IMPLEMENTATION OF 8260.19E CHG 2.

PDF EDIT: ADDED "(FAF)" TO TERMINAL ROUTE CESAD TO RW16L "FROM" COLUMN. DELETED "NA" FROM LINE 1 PT. ADDED "600" TO TERMINAL ROUTE RW16L TO 600 MSL ALTITUDE COLUMN. TERMINAL ROUTE 600 MSL TO CSN VORTAC CHANGED ALTITUDE COLUMN FROM 600 TO 3000. ARINC SEGMENT 060CSN DELETED 020 FROM COLUMN 45-47. ARINC MISSED APPROACH CSN 060 DELETED 2.0 FROM RNP COLUMN. 8260-9 PART B #2 LOCATION ADDED KHEF AND #3 ADDED 24 TO HOURS OF OPERATION.
SEE 8260-10

QUALITY CHECKED 4

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 aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
RW16L (MAP)	600 MSL	160.57	600
600 MSL	CSN VORTAC (FO)		3000

NOTES, (CONT.):
VISIBILITY TO 1 3/4 AND LNAV CATS A/B TO 1 MILE.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVAL AT AML VOR/DME ON V4-92 SOUTHEAST BOUND.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVAL AT MANNE ON V4-92 NORTHWEST BOUND.
CHART NOTE: HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.

QUALITY 4

CITY AND STATE	ELEVATION: 192 THRE: 192	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
WASHINGTON, DC	AIRPORT NAME: MANASSAS RGNL/HARRY P. DAVIS FIELD	RNAV	RNAV (GPS) RWY 16L, ORIG-C	AMDT: ORIG-B
				DATED: 07/31/2008

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
☐	☐	☐	☐	☐	☐	☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

REASONS CONT.

09/18/2012: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 06/25/2012 ADDED P-NOTAM REASONS TO REASONS #8 ON REASONS FOR CHANGE 8 & 9.

11/15/12: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 6/25/12.
1. CHANGED NOTE FROM "WHEN VGSI INOP, CIRCLING RWY 34L/34R NA AT NIGHT" TO "CIRCLING TO RWY 34L NA AT NIGHT".
2. CHANGED NOTE FROM "VISIBILITY REDUCTION BY HELICOPTERS NA AT NIGHT" TO "HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
3. CHANGED "CHANGES" #3 FROM "ADDED WHEN VGSI INOP NOTE FOR RWY 34L AND 34R" TO "ADDED NOTE CIRCLING TO RWY 34L NA AT NIGHT".
4. ADDED CHANGES/REASONS #12.

4

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 aiport 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	KHEF
RUNWAY	RW16L
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W16A
LTP/FTP LATITUDE	384339.7200N
LTP/FTP LONGITUDE	0773107.5860W
LTP/FTP ELLIPSOIDAL HEIGHT	+00266
FPAP LATITUDE	384222.0100N
FPAP LONGITUDE	0773011.7300W
THRESHOLD CROSSING HEIGHT (TCH)	00056.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0864
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	59CD4606

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K6
LTP ORTHOMETRIC HEIGHT	+00586
FPAP ORTHOMETRIC HEIGHT	+00586

QUALITY CHECKED

CITY AND STATE	ELEVATION: 192 THRE: 192	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
WASHINGTON, DC	AIRPORT NAME: MANASSAS RGNL/HARRY P. DAVIS FIELD	RNAV	RNAV (GPS) RWY 16L, ORIG-C	AMDT: ORIG-B
				DATED: 07/31/2008

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
☐	☐	☐	☐	☐	☐	☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **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.

ARINC PACKET - 424-18 - RNAV (GPS)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        AML   K6011350VDL  N38560455W077280010    N38560455W077280010W0080002971     NARARMEL
        SUSAD        CSN   K6011630VTH  N38382833W077515580    N38382833W077515580W0060004422     NARCASANOVA

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   CESAD K60    W     N38482299W077343152                      W0105     NAR           CESAD
        SUSAEAENRT   CIDIT K60    W     N38510876W077435227                      W0104     NAR           CIDIT
        SUSAEAENRT   GIGEY K60    W     N38533658W077381789                      W0104     NAR           GIGEY
        SUSAEAENRT   MANNE K60    C   L N39001440W077411317                      W0104     NAR           MANNE
        SUSAEAENRT   PITIY K60    W     N38560413W077324313                      W0105     NAR           PITIY

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHEFK6AHEF     0     062YHN38431570W077305440W010000192         1800018000C    MNAR    MANASSAS RGNL/HARRY P. DAVIS F

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHEFK6FR16L  AAML   010AML  K6D 0V       IF                                                18000                 A JS
        SUSAP KHEFK6FR16L  AAML   020PITIYK6EA0E  A 020TF                    27990037    + 03000                                A JS
        SUSAP KHEFK6FR16L  AAML   030GIGEYK6EA0EE B 010TF                    25060050    + 03000                                A JS
        SUSAP KHEFK6FR16L  ACSN   010CSN  K6D 0V       IF                                                18000                 A JS
        SUSAP KHEFK6FR16L  ACSN   020CIDITK6EA0E  A 020TF                    03640141    + 03000                                A JS
        SUSAP KHEFK6FR16L  ACSN   030GIGEYK6EA0EE B 010TF                    07050050    + 03000                                A JS
        SUSAP KHEFK6FR16L  AMANNE 010MANNEK6EA0E  A    IF                                                18000                 A JS
        SUSAP KHEFK6FR16L  AMANNE 020GIGEYK6EA0EE B 010TF                    17100070    + 03000                                A JS
        SUSAP KHEFK6FR16L  R      010GIGEYK6EA0E  I    IF                                 + 03000     18000                 A JS
        SUSAP KHEFK6FR16L  R      020CESADK6EA1E  F 051TF                    16050060    + 02000                 RW16L K6PGA JS
        SUSAP KHEFK6FR16L  R      020CESADK6EA2WALPV       ALNAV/VNAV ALNAV                                                      JS
        SUSAP KHEFK6FR16L  R      030RW16LK6PG0GY M 031TF                    16060054      00248             -300            A JS
        SUSAP KHEFK6FR16L  R      040         0  M     CA                    1606        + 00600                                A JS
        SUSAP KHEFK6FR16L  R      050CSN  K6D 0VY  R   DF                                 + 03000                                A JS
        SUSAP KHEFK6FR16L  R      060CSN  K6D 0VE  L   HM                    02700040    + 03000                                A JS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHEFK6GRW16L   0062001606 N38433972W077310759-0200    +0026600192000058100I
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 192 THRE: 192	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
WASHINGTON, DC	AIRPORT NAME: **MANASSAS RGNL/HARRY P. DAVIS FIELD**	**RNAV**	**RNAV (GPS) RWY 16L, ORIG-C**	AMDT: **ORIG-B**
				DATED: **07/31/2008**

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

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.

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
PP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        --------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHEFK6PR16L  RW16L001 0000W16A0N3843397200W07731075860+002660300N3842220100W0773011730010675086400056 0F40050059CD4606
        SUSAP KHEFK6PR16L  RW16L002E      +00586+00586LPV       70302
```

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        --------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHEFK6SRW16LK6PG               0   18018003425                                                                        M
```

CITY AND STATE	ELEVATION: 192 THRE: 192	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
WASHINGTON, DC	AIRPORT NAME: MANASSAS RGNL/HARRY P. DAVIS FIELD	RNAV	RNAV (GPS) RWY 16L, ORIG-C	AMDT: ORIG-B
				DATED: 07/31/2008

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

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.

ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	AML	AML	010		IF		FB					
	AML	PITIY	020	IAF	TF		FB	2.0	279.9(269.9T)	003.7	AA 03000	
	AML	GIGEY	030		TF		FB	1.0	250.6(240.6T)	005.0	AA 03000	
	CSN	CSN	010		IF		FB					
	CSN	CIDIT	020	IAF	TF		FB	2.0	036.4(026.4T)	014.1	AA 03000	
	CSN	GIGEY	030		TF		FB	1.0	070.5(060.5T)	005.0	AA 03000	
	MANNE	MANNE	010	IAF	IF		FB					
	MANNE	GIGEY	020		TF		FB	1.0	171.0(161.0T)	007.0	AA 03000	
		GIGEY	010	FACF	IF		FB				AA 03000	
		CESAD	020	FAF	TF		FB	0.5	160.5(150.5T)	006.0	AA 02000	
		RW16L	030	MAP	TF		FO	0.3	160.6(150.6T)	005.4	AT 00248	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		160.6(150.6T)		AA 00600	
	CSN	050		DF	R	FO				AA 03000	
	CSN	060		HM	L	FO		027.0(017.0T)	004.0	AA 03000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	AML	N385604.55	W0772800.10	N3856.076	W07728.002
	CSN	N383828.33	W0775155.80	N3838.472	W07751.930
	CESAD	N384822.99	W0773431.52	N3848.383	W07734.525
	CIDIT	N385108.76	W0774352.27	N3851.146	W07743.871
	GIGEY	N385336.58	W0773817.89	N3853.610	W07738.298
	MANNE	N390014.40	W0774113.17	N3900.240	W07741.220
	PITIY	N385604.13	W0773243.13	N3856.069	W07732.719
	RW16L	N384339.72	W0773107.59	N3843.662	W07731.127

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW16L	00192	58

QUALITY CHECKED

CITY AND STATE	ELEVATION: 192 THRE: 192	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
WASHINGTON, DC	AIRPORT NAME: MANASSAS RGNL/HARRY P. DAVIS FIELD	RNAV	RNAV (GPS) RWY 16L, ORIG-C	AMDT: ORIG-B
				DATED: 07/31/2008

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	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	AML VOR/DME	PITIY	1. 200' AAO	385918.00N/0773421.00W	650 (4E)	2000	AT350	3000
			2. TERRAIN	385918.00N/0773421.00W	450 (500)		AS1500	2000
FEEDER	CSN VORTAC	CIDIT	3. TREE	384733.00N/0775021.00W	1455 (4E)	2000	MT-455	3000
			4. TERRAIN	384733.00N/0775021.00W	1355 (1400)		AS1500	2900
INITIAL	CIDIT	GIGEY	5. AAO	385255.00N/0774154.00W	1569 (4E)	1000	AT431	3000
			6. TERRAIN	385255.00N/0774154.00W	1369 (1400)		AS1500	2900
INITIAL	MANNE	GIGEY	7. TOWER (51-000113)	385445.00N/0774005.00W	1499 (1D)	1000	AT501	3000
			8. TERRAIN	385336.00N/0774051.00W	1269 (1300)		AS1500	2800
INITIAL	PITIY	GIGEY	7. TOWER (51-000113)	385445.00N/0774005.00W	1499 (1D)	1000	AT501	3000
			8. TERRAIN	385336.00N/0774051.00W	1269 (1300)		AS1500	2800
INTERMEDIATE	GIGEY	CESAD	9. AAO	385336.00N/0774051.00W	1467 (2C)	500		2000
			10. TERRAIN	385218.00N/0774015.00W	568 (600)		AS1000	1600
FINAL: LPV	CESAD	RW16L	11. TREE (KHEFT2323)	384403.75N/0773129.28W	276 (1A)	34:1		490/298
FINAL: LNAV/VNAV	CESAD	RW16L	12. TREE (KHEFT0959)	384421.84N/0773230.28W	347 (1A)	PDA		720/528
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA / DA / RW16L	CSN VORTAC				ASC		3000
			14. TOWER (51-020140)	384329.50N/0773207.79W	342 (2C)	1000		1400
ELEV:	279/559/680		15. TERRAIN	384403.13N/0773236.69W	880 (900)		AS1500	2400
			16. TREE (KHEFT0883)	384409.13N/0773236.69W	402 (1A)	300	SI	780
			17. TREE (KHEFT1147)	384350.25N/0773307.19W	407 (1B)	300	SI	780
			18. TREE (KHEFT1376)	384351.40N/0773319.09W	434 (1B)	300	SI	780
			20. COMM TWR	384246.33N/0772738.05W	461 (1B)	300		780

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL
CATEGORY A	1.3 NM	350	588
CATEGORY B	1.5 NM	450	588
CATEGORY C	1.7 NM	450	588
CATEGORY D	2.3 NM	550	588
CATEGORY E	4.5 NM	550	

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW16L

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	AAO	310/ 27.4	2385 (4E)	3400					

CITY AND STATE	ELEVATION: 192 AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
WASHINGTON, DC	MANASSAS RGNL/HARRY P. DAVIS FIELD	RNAV	RNAV (GPS) RWY 16L, ORIG-C	AEA

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
IAD APP CON ZDC ARTCC HEF TOWER	N W S / F A A / A / C — OTHER: AWOS-3	SOURCE: KHEF DISTANCE: HOURS REMOTE OPERATION: 24
SATISFACTORY ON: X V H F, X U H F, H F	LOCATION: KHEF	ADJUSTMENT: 0

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN:	CAT 1
		CAT 3

5. APPROACH & RUNWAY LIGHTING	
	ALS
	(S) SALS
X	MALSR 16L (PCL)
X	HIRL 16L (PCL), 34R (PCL)
X	MIRL 34L (PCL), 16R (PCL)
X	REIL 16L (PCL), 34L (PCL), 16R (PCL), 34R (PCL)
	TDZ
	C/LINE
X	OTHER (SPECIFY) PAPI-2L 34L, 16R PAPI-4L 16L, 34R

6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	PIR-G 16L
	INSTRUMENT	NPI-G 34L, 16R, 34R
7. RUNWAY VISUAL RANGE	APPROACH	
	MIDFIELD	
	ROLL OUT	

8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 192.3
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 56.0

9. FINAL APPROACH COURSE AIMING	X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY: STEVE BRUMMETT	DATE: 06/25/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-352

PART C - REMARKS:

ISA DEVIATION USED: -30C (-22F)

NO ADDITIONAL AIRSPACE REQUIRED.

ISA DEVIATION USED -30 NO WEATHER HISTORY
LNAV/VNAV: SURFACE= 23.4:1
LPV SURFACE= 34:1

VISIBILITY REDUCTION BELOW 3/4 MILE NA 34:1 PENETRATIONS.

BACKUP ALTIMETER NOT REQUIRED - AIRPORT HAS REDUNDANT ALTIMETER SOURCES.

ORDER 8260.3, VOLUME 1, "VISUAL PORTION OF FINAL" PENETRATIONS:
20:1 RWY 34L:
206 TREE (KHEFT1551) 384256.24N/0773050.11W (0.71)

34:1 RWY 16L:
275 TREE (KHEFT2372) 384404.81N/0773127.72W (0.54)
274 TREE (KHEFT2337) 384403.80N/0773129.51W (0.11)
276 TREE (KHEFT2323) 384403.75N/0773129.28W (2.51)
274 TREE (KHEFT2283) 384403.07N/0773130.03W (1.41)
269 TREE (KHEFT2000) 384401.02N/0773130.45W (1.24)
265 TREE (KHEFT1844) 384401.11N/0773127.10W (0.84)
243 TREE (KHEFT1686) 384352.38N/0773124.81W (4.08)

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FINAL: LNAV	CESAD	RW16L	13. AAO	374649.47N/0773412.98W	530 (2C)	250		780

3. MISSED APPROACH								
	MAP:							
	ELEV:							

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT.							
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL					
CATEGORY B	1.5 NM		450						
CATEGORY C	1.7 NM		450						
CATEGORY D	2.3 NM		550						
CATEGORY E	4.5 NM		550						

5. MINIMUM SAFE ALTITUDES PRIMARY NAVAID:

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
WASHINGTON, DC	ELEVATION: 192 AIRPORT NAME: MANASSAS RGNL/HARRY P. DAVIS FIELD	RNAV	RNAV (GPS) RWY 16L, ORIG-C	AEA

PART B - SUPPLEMENTAL DATA

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 OPTN:	CAT 1	
		CAT 3	

5. APPROACH & RUNWAY LIGHTING		**ALS**
		(S) SALS
		MALS
		HIRL
		MIRL
		REIL
		TDZ
		C/LINE
		OTHER (SPECIFY)

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:

PART C - REMARKS:

RADIO FIX AND HOLDING DATA RECORD

NAME: ARMEL VOR/DME **STATE:** VA **COUNTRY:** US

LATITUDE/LONGITUDE: 385604.55N/0772800.10W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	ARMEL	AML	VOR/DME	L							17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	230	AAO	385254.90N/0774153.80W	1569	6C

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	LAZIR (RNAV)			KDCA	WASHINGTON	DC (US)
DP	NATIONAL			KDCA	WASHINGTON	DC (US)
DP	CAPITAL			KIAD	WASHINGTON	DC (US)
DP	STOIC (RNAV)			KIAD	WASHINGTON	DC (US)
DP	PALEO			KBWI	BALTIMORE	MD (US)
DP	ARSENAL			KHEF	MANASSAS	VA (US)
DP	TRIXY			KMRB	MARTINSBURG	WV (US)
EN ROUTE	J149					(US)
EN ROUTE	J213					(US)
EN ROUTE	J220					(US)
EN ROUTE	J227					(US)
EN ROUTE	V4					(US)
EN ROUTE	V92					(US)
IAP	COPTER ILS OR LOC RWY 1			KDCA	WASHINGTON	DC (US)
IAP	ILS RWY 1			KDCA	WASHINGTON	DC (US)
IAP	ILS RWY 1 (CAT II)			KDCA	WASHINGTON	DC (US)
IAP	ILS RWY 1 (SA CAT 1)			KDCA	WASHINGTON	DC (US)
IAP	RNAV (RNP) RWY 19			KDCA	WASHINGTON	DC (US)
IAP	VOR RWY 1			KDCA	WASHINGTON	DC (US)
IAP	VOR/DME OR GPS RWY 15			KDCA	WASHINGTON	DC (US)
IAP	CONVERGING ILS RWY 12			KIAD	WASHINGTON	DC (US)
IAP	CONVERGING ILS RWY 19C			KIAD	WASHINGTON	DC (US)
IAP	CONVERGING ILS RWY 19L			KIAD	WASHINGTON	DC (US)
IAP	CONVERGING ILS RWY 19R			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC RWY 01R			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC RWY 19L			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 01C			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 01L			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 12			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 19C			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 19R			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 01C (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 01L (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 01R (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19C (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19C (CAT III)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19L (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19R (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19R (CAT III)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 1L (CAT III)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 1R (CAT III)			KIAD	WASHINGTON	DC (US)
IAP	VOR/DME OR TACAN RWY 12			KIAD	WASHINGTON	DC (US)
IAP	VOR-A			K2W5	INDIAN HEAD	MD (US)
IAP	ILS OR LOC RWY 32			KDAA	FORT BELVOIR	VA (US)
IAP	NDB RWY 32			KDAA	FORT BELVOIR	VA (US)
IAP	RNAV (GPS) RWY 14			KDAA	FORT BELVOIR	VA (US)
IAP	ILS OR LOC RWY 16L			KHEF	MANASSAS	VA (US)
IAP	RNAV (GPS) RWY 16L			KHEF	MANASSAS	VA (US)
IAP	RNAV (GPS) RWY 16R			KHEF	MANASSAS	VA (US)
IAP	VOR RWY 15			KHWY	WARRENTON	VA (US)
STAR	NUMMY			KDCA	WASHINGTON	DC (US)
STAR	COATT			KIAD	WASHINGTON	DC (US)
STAR	DELRO			KIAD	WASHINGTON	DC (US)
STAR	DOCCS			KIAD	WASHINGTON	DC (US)
STAR	PHILIPSBURG			KIAD	WASHINGTON	DC (US)
STAR	ROYIL			KIAD	WASHINGTON	DC (US)
STAR	SELINSGROVE			KIAD	WASHINGTON	DC (US)

QUALITY 2 CHECKED

STAR	SMYRNA	KDOV	DOVER	DE (US)
STAR	NOTTINGHAM	KBWI	BALTIMORE	MD (US)
STAR	WESTMINSTER	KBWI	BALTIMORE	MD (US)
STAR	NUMMY	KADW	CAMP SPRINGS	MD (US)
STAR	GEMNI	KDTW	DETROIT	MI (US)
STAR	DYLIN	KEWR	NEWARK	NJ (US)
STAR	NUMMY	KDAA	FORT BELVOIR	VA (US)
STAR	DOCCS	KJYO	LEESBURG	VA (US)

REQUIRED CHARTING: DP, STAR, MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 07/26/2012

REASON FOR REVISION:
1. UPDATED FIX NAME FROM ARMEL VORTAC TO ARMEL VOR/DME (SEE NFDD 012).
2. DELETED PAT 1.
3. ADDED UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.
4. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 02/14/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

APPROVED BY: **DATE:** 06/13/2012 **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZDC
ATC FACILITY: POTOMAC APP CON
OTHER:

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CASANOVA VORTAC **STATE:** VA **COUNTRY:** US

LATITUDE/LONGITUDE: 383828.33N/0775155.80W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	CASANOVA	CSN	VORTAC	H							45000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	SW	CSN	VORTAC	207.00	027.00	L	1-1 1/2		3000	17000	4	16
2	NW	CSN	VORTAC	299.00	119.00	R	1-1 1/2		2800	17000	4	16
3	N	CSN	VORTAC	003.51	183.51	L	1-1 1/2		2900	17000	4	16
4	SW		WP	207.00	027.00	L		4	3000	8000	5	9
5	NE	CSN	VORTAC	052.09	232.09	R	1		4000	6000	4	5

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	265	AAO	384536.00N/0781018.00W	3025	4E
1	200	AAO	384536.00N/0781018.00W	3025	4E
2	200	AAO	383924.00N/0770339.00W	1309	4E
3	200	AAO	384733.00N/0775021.00W	1579	2C
3	310	AAO	385017.20N/0775648.10W	1770	6A
4	200	AAO	384300.00N/0775309.00W	1080	4E
4	310	AAO	384718.31N/0775044.15W	1537	2A
5	200	TOWER (51-000111)	384402.38N/0775009.97W	1384	2C

REASON FOR NONSTANDARD HOLDING:
PAT 4 FOR SEPARATION
PAT 1 FOR SEPARATION
PAT 3 TO AVOID HIGH TERRAIN WEST

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 4100

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
3	LOC RWY 4	KCJR	CULPEPER	VA (US)
3	VOR-A	KCJR	CULPEPER	VA (US)
3	NDB RWY 4	KCJR	CULPEPER	VA (US)
4	RNAV (GPS) RWY 33	KHWY	WARRENTON	VA (US)

REMARKS:
HOLDING PATTERNS 1, 2 AND 3 HIGHER ALTITUDES REQUESTED BY ATC.
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	CAPITAL			KIAD	WASHINGTON	DC (US)
DP	SWABY			KNHK	PATUXENT RIVER	MD (US)
DP	ARSENAL			KHEF	MANASSAS	VA (US)
EN ROUTE	J48					(US)
EN ROUTE	J8-147					(US)
EN ROUTE	V128					(US)
EN ROUTE	V140					(US)
EN ROUTE	V286					(US)
EN ROUTE	V453					(US)
IAP	CONVERGING ILS RWY 12			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC RWY 1R			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 12			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 19C		5	KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 19R			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 1C			KIAD	WASHINGTON	DC (US)
IAP	ILS OR LOC/DME RWY 1L			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19C (CAT II)		5	KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19C (CAT III)		5	KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19R (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 19R (CAT III)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 1C (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 1L (CAT II)			KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 1L (CAT III)			KIAD	WASHINGTON	DC (US)

QUALITY CHECKED 1

IAP	ILS RWY 1R (CAT II)		KIAD	WASHINGTON	DC (US)
IAP	ILS RWY 1R (CAT III)		KIAD	WASHINGTON	DC (US)
IAP	RNAV (GPS) RWY 1L		KIAD	WASHINGTON	DC (US)
IAP	RNAV (GPS) Y RWY 19C	4	KIAD	WASHINGTON	DC (US)
IAP	RNAV (GPS) Y RWY 1R		KIAD	WASHINGTON	DC (US)
IAP	RNAV (RNP) Z RWY 1C		KIAD	WASHINGTON	DC (US)
IAP	RNAV (RNP) Z RWY 1R		KIAD	WASHINGTON	DC (US)
IAP	VOR/DME OR TACAN RWY 12		KIAD	WASHINGTON	DC (US)
IAP	LOC RWY 4	3	KCJR	CULPEPER	VA (US)
IAP	NDB RWY 4	3	KCJR	CULPEPER	VA (US)
IAP	RNAV (GPS) RWY 22		KCJR	CULPEPER	VA (US)
IAP	RNAV (GPS) RWY 4		KCJR	CULPEPER	VA (US)
IAP	VOR-A	3	KCJR	CULPEPER	VA (US)
IAP	ILS OR LOC RWY 16L	1	KHEF	MANASSAS	VA (US)
IAP	RNAV (GPS) RWY 16L	4	KHEF	MANASSAS	VA (US)
IAP	RNAV (GPS) RWY 16R	4	KHEF	MANASSAS	VA (US)
IAP	RNAV (GPS) RWY 34R	4	KHEF	MANASSAS	VA (US)
IAP	LOC/DME RWY 15	1	KHWY	WARRENTON	VA (US)
IAP	RNAV (GPS) RWY 15	4	KHWY	WARRENTON	VA (US)
IAP	RNAV (GPS) RWY 33	4	KHWY	WARRENTON	VA (US)
IAP	VOR RWY 15	2	KHWY	WARRENTON	VA (US)
IAP	ILS OR LOC RWY 32		KOKV	WINCHESTER	VA (US)
STAR	ELDEE		KDCA	WASHINGTON	DC (US)
STAR	NUMMY		KDCA	WASHINGTON	DC (US)
STAR	ROYIL		KDCA	WASHINGTON	DC (US)
STAR	SHNON		KDCA	WASHINGTON	DC (US)
STAR	SMYRNA		KDOV	DOVER	DE (US)
STAR	NOTTINGHAM		KBWI	BALTIMORE	MD (US)
STAR	RAVNN		KBWI	BALTIMORE	MD (US)
STAR	RAVNN		KMTN	BALTIMORE	MD (US)
STAR	IRONS		KADW	CAMP SPRINGS	MD (US)
STAR	NOTTINGHAM		KDMW	WESTMINSTER	MD (US)
STAR	CASANOVA		KJYO	LEESBURG	VA (US)
STAR	COATT		KJYO	LEESBURG	VA (US)
STAR	COATT		KHEF	MANASSAS	VA (US)
STAR	ROYIL		KHEF	MANASSAS	VA (US)

REQUIRED CHARTING: DP, STAR, MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 15 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
UPDATE FIX USE.
REIDENTIFIED FAC 1, CSN VORTAC ACTIVE DATA, AS PREVIOUSLY WAS IN HISTORY STATUS.
REMOVED WP FROM FIX TYPE.
FACILITY MOVED 4.12 FT. WITH UPDATED LAT/LONG.

09/17/2012: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 07/03/2012: CHANGED HOLDING PATTERN 1 TO WHAT IT HAS BEEN FOR SEVERAL YEARS (ACCEDENTALLY CHANGED FROM 027 INBOUND TO 207).

DEVELOPED BY: **DATE:** 07/03/2012 **OFFICE:** AJV-352 **NAME:** STEVE BRUMMETT

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZDC
ATC FACILITY: PCT TRACON
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CESAD **STATE:** VA **COUNTRY:** US

LATITUDE/LONGITUDE: 384822.99N/0773431.52W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 16L			KHEF	MANASSAS	VA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
REMOVED FAC 1.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 06/15/2012 **OFFICE:** AJV-352 **NAME:** STEVE BRUMMETT

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZDC
ATC FACILITY: IAD / HEF
OTHER:

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CIDIT **STATE:** VA **COUNTRY:** US

LATITUDE/LONGITUDE: 385108.76N/0774352.27W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 16L			KHEF	MANASSAS	VA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
REMOVED FAC 1.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 06/15/2012 **OFFICE:** AJV-352 **NAME:** STEVE BRUMMETT

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZDC
ATC FACILITY: IAD / HEF
OTHER:

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: GIGEY **STATE:** VA **COUNTRY:** US

LATITUDE/LONGITUDE: 385336.58N/0773817.89W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 16L			KHEF	MANASSAS	VA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
REMOVED FAC 1.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 06/15/2012 **OFFICE:** AJV-352 **NAME:** STEVE BRUMMETT

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZDC
ATC FACILITY: IAD / HEF
OTHER:

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: MANNE **STATE:** VA **COUNTRY:** US

LATITUDE/LONGITUDE: 390014.40N/0774113.17W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	ARMEL	AML	VORTAC	L	300.05	292.05	11.12	11.12		3000	17500
2	CASANOVA	CSN	VORTAC	H	027.00	021.00		23.30		3000	17500

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	NW	AML	VORTAC	300.05	120.05	L	1		5000	14000	5	10
2	NW		WP	300.81	120.81	L		4	5000	14000	7	12

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	390204.30N/0775538.30W	2140	4E
2	200	AAO	390204.30N/0775538.30W	2140	4E

REASON FOR NONSTANDARD HOLDING:
PAT 1 ATC
PAT 2 ATC REQUEST

HOLDING RESTRICTIONS:
PAT 1 CHART 210K ICON
PAT 2 CHART 210K ICON
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETE.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V4-92	1				(US)
IAP	ILS OR LOC RWY 16L	1, 2		KHEF	MANASSAS	VA (US)
IAP	RNAV (GPS) RWY 16L			KHEF	MANASSAS	VA (US)
IAP	RNAV (GPS) RWY 16R			KHEF	MANASSAS	VA (US)

REQUIRED CHARTING: STAR, IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 8 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
REMOVED FAC 3.
FIX USE UPDATED.
UPDATED HOLDING RESTRICTION.
ADDED PRECIPITOUS TERRAIN EVAL.
ADDED DIST FROM FAC.

DEVELOPED BY: **DATE:** 06/15/2012 **OFFICE:** AJV-352 **NAME:** STEVE BRUMMETT

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZDC
ATC FACILITY: IAD APP CON
OTHER: POTOMIC TRACON

QUALITY 2 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: PITIY **STATE:** VA **COUNTRY:** US

LATITUDE/LONGITUDE: 385604.13N/0773243.13W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 16L			KHEF	MANASSAS	VA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:
REMOVED FAC 1.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 06/15/2012 **OFFICE:** AJV-352 **NAME:** STEVE BRUMMETT

APPROVED BY: **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZDC
ATC FACILITY: IAD / HEF
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: JENPO **STATE:** VA **COUNTRY:** US

LATITUDE/LONGITUDE: 384229.07N/0773016.80W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** CANCEL

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	KHEF R16L					150.61	1.35				17500

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	MANASSAS RGNL/HARRY P DAVIS FL - RNAV (GPS) RWY 16L			KHEF	MANASSAS	VA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 09/04/2003

DEVELOPED BY: **DATE:** 02/04/2003 **OFFICE:** AVN-140 **NAME:** JIMMIE CONEY

APPROVED BY: **DATE:** **OFFICE:** AVN-140 **NAME:** CAREN SYCH

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: NYC
ARTCC: ZDC
ATC FACILITY: IAD / HEF
OTHER:

QUALITY CHECKED