Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: STAR	Date Open: 03/09/2012	Task #: 20091008228381	Request #: 20091008228381
Procedure: STAR MASHH (RNAV) ONE MEMPHIS TN KMEM		Airport ID: KMEM	Airport: MEMPHIS INTL		Reimbursable #:
City: MEMPHIS	ST: TN	GPS #:		Estimated Chart Date: 07/26/2012	FICO #:
Fac ID:	Fac. Type: Proc D	Specialist: PETER GUIMOND			

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	01/30/2012	05/07/2012	JAMES DUBOIS	
QA:	05/07/2012	05/07/2012	STEVEN SZUKALA	
Liaison:	05/07/2012		Alfonso	DME/DME

DME / DME

PL

ESV REQUEST INCLUDED

Procedure Comments: ENROUTE

Remark Type: INFORMATION

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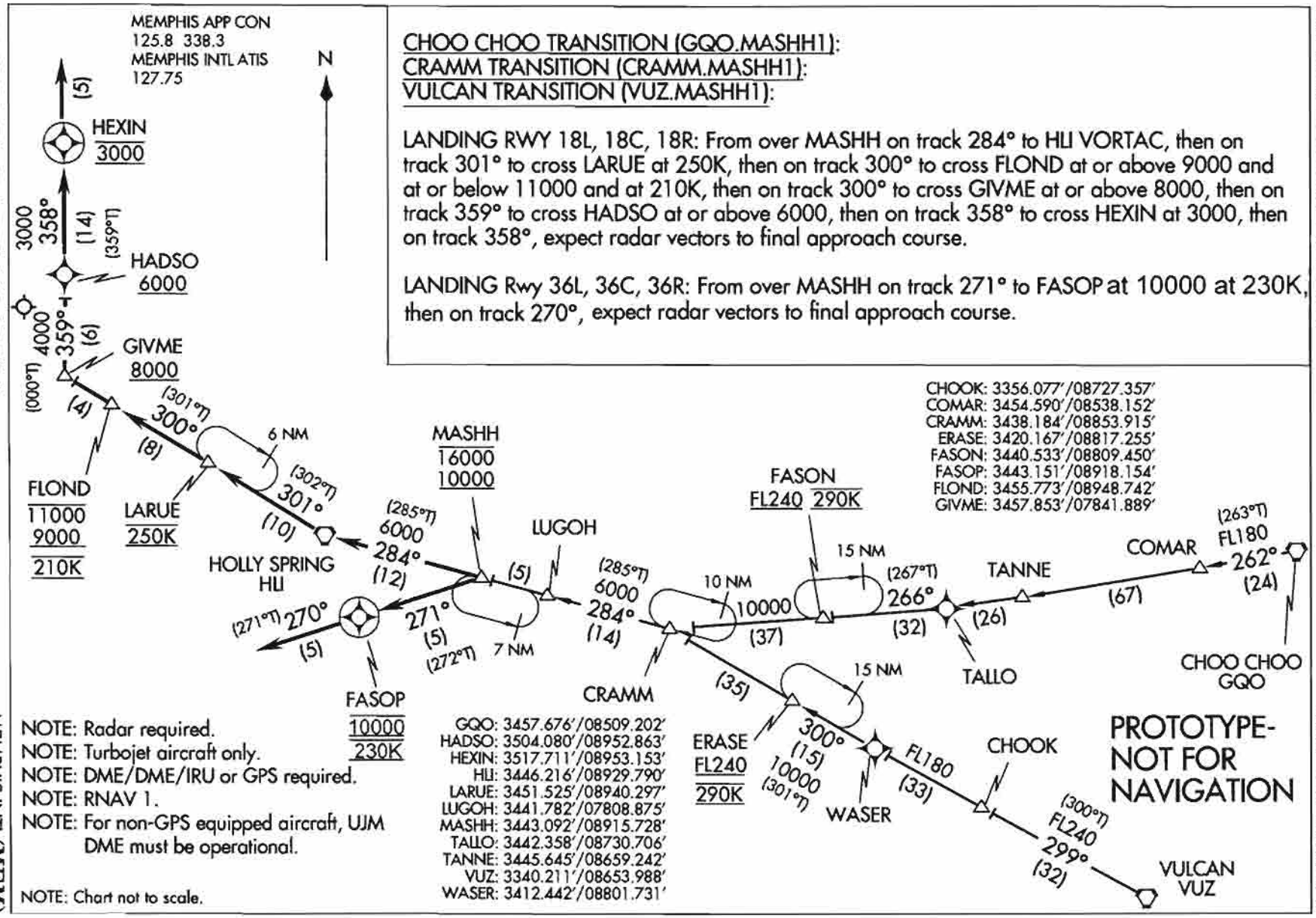
MEMPHIS, TN MEMPHIS INTL (KMEM) MASHH ONE (RNAV) (STAR) ENROUTE-YES FC: 5.29.12 PUB: 7.26.12

ATTACHED FORMS: ESV REPORTS; 7100-4; 8260-2(S). CHOOK-INT, REV 3; COMAR-INT, REV 5; CRAMM-INT, REV 4; ERASE-INT, ORIG; FASON-INT, ORIG; FASOP, ORIG; FLOND-INT, ORIG; GIVME-INT, ORIG; HADSO, ORIG; HEXIN, ORIG; LARUE-INT, REV 5; LUGOH-INT, ORIG; MASHH-INT, ORIG; TALLO, ORIG; TANNE-INT, REV 9; VULCAN (VUZ) VTAC, REV 12; WASER, ORIG; (INFO ONLY) CHOO CHOO (GQO) VTAC, REV 5; HOLLY SPRINGS (HLI) VTAC, REV 13

CONTACT: DON SMITH, AJV-352 LEAD, 405.954.1036.



CHOO CHOO TRANSITION (GQO.MASHH1):
CRAMM TRANSITION (CRAMM.MASHH1):
VULCAN TRANSITION (VUZ.MASHH1):

LANDING RWY 18L, 18C, 18R: From over MASHH on track 284° to HLI VORTAC, then on track 301° to cross LARUE at 250K, then on track 300° to cross FLOND at or above 9000 and at or below 11000 and at 210K, then on track 300° to cross GIVME at or above 8000, then on track 359° to cross HADSO at or above 6000, then on track 358° to cross HEXIN at 3000, then on track 358°, expect radar vectors to final approach course.

LANDING Rwy 36L, 36C, 36R: From over MASHH on track 271° to FASOP at 10000 at 230K, then on track 270°, expect radar vectors to final approach course.

NOTE: Radar required.
NOTE: Turbojet aircraft only.
NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.
NOTE: For non-GPS equipped aircraft, UJM DME must be operational.

NOTE: Chart not to scale.

(MASHH.MASHH1) FIG
MASHH ONE ARRIVAL (RNAV)
MEMPHIS INTL (MEM)
MEMPHIS, TENNESSEE

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : GQE	City : GILMORE	Ident : GQE	State : AR
Type/Class : DME	Frequency : M1164	Reference No.: 11075815	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 780927-020	106	196	62	32	190

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/13/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 780927-020	106	196	62	32	190	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 780927-020	106	196	62	32	190	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 780927-020	106	196				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : HLI	City : HOLLY SPRINGS	Ident : HLI	State : MS
Type/Class : TACR	Frequency : M1158	Reference No.: 11075789	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 701415-013	243	285	96	85	190

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-013	243	285	96	85	190	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/12/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-013	243	285	96	85	190	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-013	243	285				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : HLI	City : HOLLY SPRINGS	Ident : HLI	State : MS
Type/Class : TACR	Frequency : M1158	Reference No.: 11075790	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 701415-014	321	337	75	75	190

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-014	321	337	75	75	190	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/12/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-014	321	337	75	75	190	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-014	321	337				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : HOLLY SPRINGS	City : HOLLY SPRINGS	Ident : HLI	State : MS
Type/Class : TACR	Frequency : M1158	Reference No.: 11075791	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 701415-015	287	325	51	25	180

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-015	287	325	51	25	180	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/12/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-015	287	325	51	25	180	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701415-015	287	325				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : OTB	City : TUPELO	Ident : OTB	State : MS
Type/Class : DME	Frequency : M996	Reference No.: 11075885	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 892132-015	287	294	71	32	150

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRRIZ HOTRD JERLE PLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/19/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-015	287	294	71	32	150	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-015	287	294	71	32	150	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/20/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-015	287	294				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : OTB	City : TUPELO	Ident : OTB	State : MS
Type/Class : DME	Frequency : M996	Reference No.: 11075886	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 892132-016	341	33	64	100	230

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRRIZ HOTRD JERLE PLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/19/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-016	341	33	64	100	120	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENRestricted. COCHANNEL INTERFERENCE MAX ALT FL=120

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/20/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-016	341	33	64	100	120	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENRestricted. COCHANNEL INTERFERENCE MAX ALT FL=120

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/20/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-016	341	33	64	100	120	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENRestricted. COCHANNEL INTERFERENCE MAX ALT FL=120

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/20/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-016	341	33	64	100	120	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENRestricted. COCHANNEL INTERFERENCE MAX ALT FL=120

Signature: CHRISTEIN THOMAS	Routing Symbol:				Date: 07/20/2011	
Expanded Service Volume Data: (FIFO)						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-016	341	33				
Requirement/Remarks:						
Signature:		Routing Symbol:			Date:	

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : OTB	City : TUPELO	Ident : OTB	State : MS
Type/Class : DME	Frequency : M996	Reference No.: 11075887	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 892132-017	308	7	62	35	210

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRRIZ HOTRD JERLE PLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/19/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-017	308	7	62	35	120	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENRestricted. COCHANNEL INTERFERENCE MAX ALT FL=120

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/20/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-017	308	7	62	35	120	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENRestricted. COCHANNEL INTERFERENCE MAX ALT FL=120

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/20/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-017	308	7	62	35	120	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENRestricted. COCHANNEL INTERFERENCE MAX ALT FL=120

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/20/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-017	308	7	62	35	120	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENRestricted. COCHANNEL INTERFERENCE MAX ALT FL=120

Signature: CHRISTEIN THOMAS		Routing Symbol:			Date: 07/20/2011	
Expanded Service Volume Data: (FIFO)						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 892132-017	308	7				
Requirement/Remarks:						
Signature:		Routing Symbol:			Date:	

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : DYR	City : DYERSBURG	Ident : DYR	State : TN
Type/Class : TACR	Frequency : M1202	Reference No.: 11075795	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 704252-011	217	300	58	42	230

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS		
Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-011	217	300	58	42	230	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.		
Signature: Cassella Charles	Routing Symbol:	Date: 07/12/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-011	217	300	58	42	230	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.		
Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-011	217	300				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : DYR	City : DYERSBURG	Ident : DYR	State : TN
Type/Class : TACR	Frequency : M1202	Reference No.: 11075796	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 704252-012	220	242	79	50	210

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-012	220	242	79	50	210	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/12/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-012	220	242	79	50	210	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-012	220	242				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : DYR	City : DYERSBURG	Ident : DYR	State : TN
Type/Class : TACR	Frequency : M1202	Reference No.: 11075797	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 704252-013	185	198	62	32	180

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-013	185	198	62	32	180	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/12/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-013	185	198	62	32	180	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-013	185	198				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : DYR	City : DYERSBURG	Ident : DYR	State : TN
Type/Class : TACR	Frequency : M1202	Reference No.: 11075798	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 704252-014	177	207	72	45	160

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-014	177	207	72	45	160	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/12/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-014	177	207	72	45	160	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704252-014	177	207				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : MARVELL	City : WEST HELENA	Ident : UJM	State : AR
Type/Class : DME	Frequency : M994	Reference No.: 11075888	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 960996-021	14	89	60	35	180

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRRIZ HOTRD JERLE PLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/19/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 960996-021	14	89	60	35	180	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 960996-021	14	89	60	35	180	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 960996-021	14	89				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : MARVELL	City : WEST HELENA	Ident : UJM	State : AR
Type/Class : DME	Frequency : M994	Reference No.: 11075889	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 960996-022	49	69	59	30	170

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRRIZ HOTRD JERLE PLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/19/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 960996-022	49	69	59	30	170	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 960996-022	49	69	59	30	170	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 960996-022	49	69				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : HAB	City : HAMILTON	Ident : HAB	State : AL
Type/Class : TACR	Frequency : M1002	Reference No.: 11075808	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 701833-011	313	356	73	100	210

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701833-011	313	356	73	100	210	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701833-011	313	356	73	100	150	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GERestricted. COCHANNEL INTERFERENCE FROM MWA MAX ALT FL=150

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701833-011	313	356	73	100	150	RESTRICT

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GERestricted. COCHANNEL INTERFERENCE FROM MWA MAX ALT FL=150

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 701833-011	313	356				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : MSL	City : MUSCLE SHOALS	Ident : MSL	State : AL
Type/Class : TACR	Frequency : M1199	Reference No.: 11075809	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 704237-019	235	280	90	75	210

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704237-019	235	280	90	75	210	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704237-019	235	280	90	75	210	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704237-019	235	280				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : MSL	City : MUSCLE SHOALS	Ident : MSL	State : AL
Type/Class : TACR	Frequency : M1199	Reference No.: 11075810	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 704237-020	295	349	82	120	210

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704237-020	295	349	82	120	210	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704237-020	295	349	82	120	210	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704237-020	295	349				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : JACKS CREEK	City : JACKS CREEK	Ident : JKS	State : TN
Type/Class : DME	Frequency : M992	Reference No.: 11075881	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 703973-007	234	243	73	48	180

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRRIZ HOTRD JERLE PLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/19/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 703973-007	234	243	73	48	180	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 703973-007	234	243	73	48	180	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 703973-007	234	243				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : JACKS CREEK	City : JACKS CREEK	Ident : JKS	State : TN
Type/Class : DME	Frequency : M992	Reference No.: 11075882	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 703973-008	174	233	84	62	190

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRRIZ HOTRD JERLE PLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/19/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 703973-008	174	233	84	62	190	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 703973-008	174	233	84	62	190	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKNG BINKY CASLN CHLDR CRSON DUCKZ GENApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/19/2011

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 703973-008	174	233				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : MEI	City : MERIDIAN	Ident : MEI	State : MS
Type/Class : TACR	Frequency : M1204	Reference No.: 11075807	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 698222-012	300	313	109	120	250

Requirement: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GENEH GMBUD GOETZ GRIZZ HOTRD JERLE JTEEE OLEMS PIEPI SELPH RNAV SIDS

Signature: MILLER JERRY	Routing Symbol: AJV-E2	Date: 07/12/2011

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 698222-012	300	313	109	120	250	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

Signature: Cassella Charles	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 698222-012	300	313	109	120	250	APPROVE

Requirement/Remarks: DME DME COVERAGE FOR AUTMN AZONE BBKING BINKY CASLN CHLDR CRSON DUCKZ GEApproved. Pend. Flight Chk/Inspect @ the req. dist. and MIN ALT.

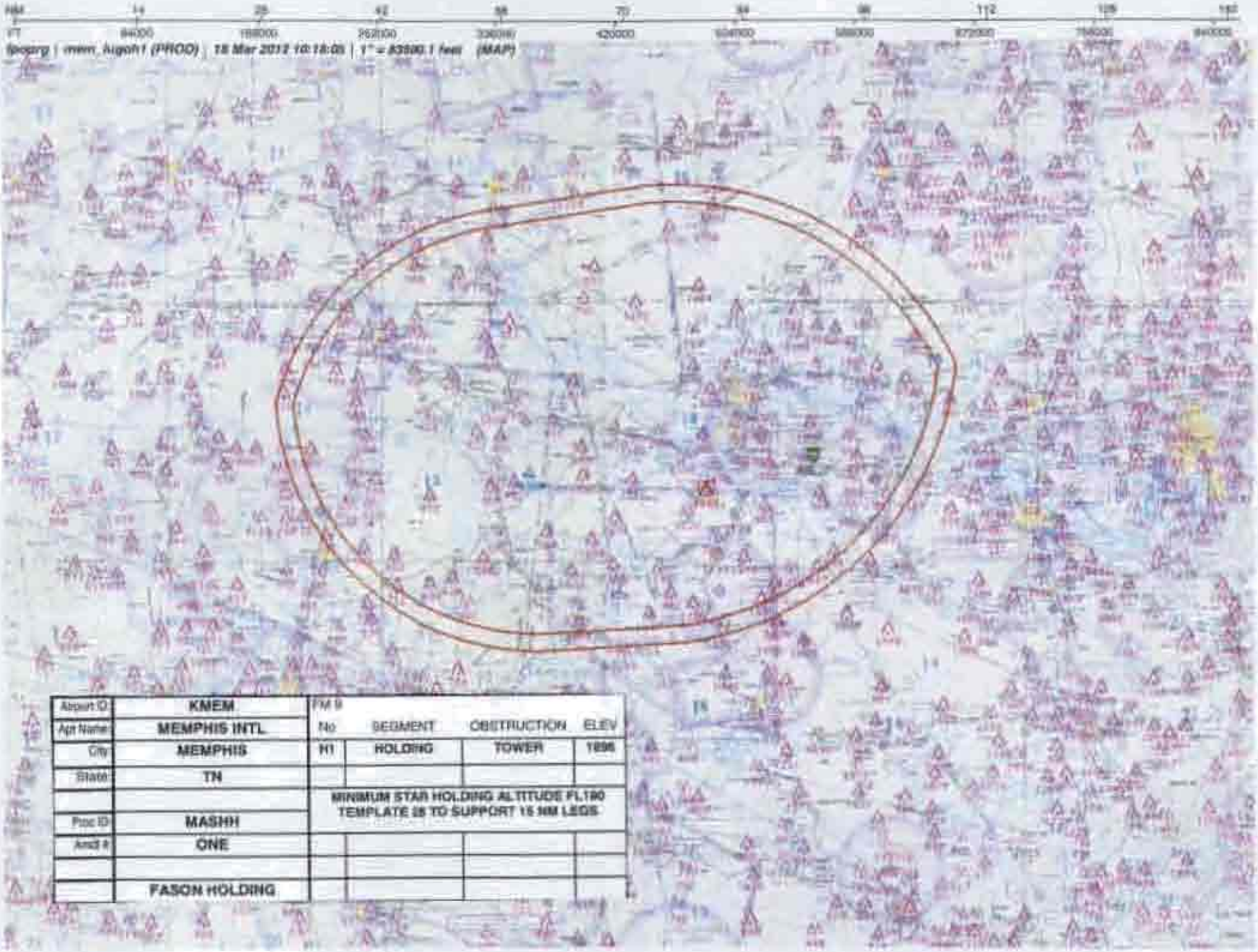
Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 07/13/2011

Expanded Service Volume Data: (FIFO)

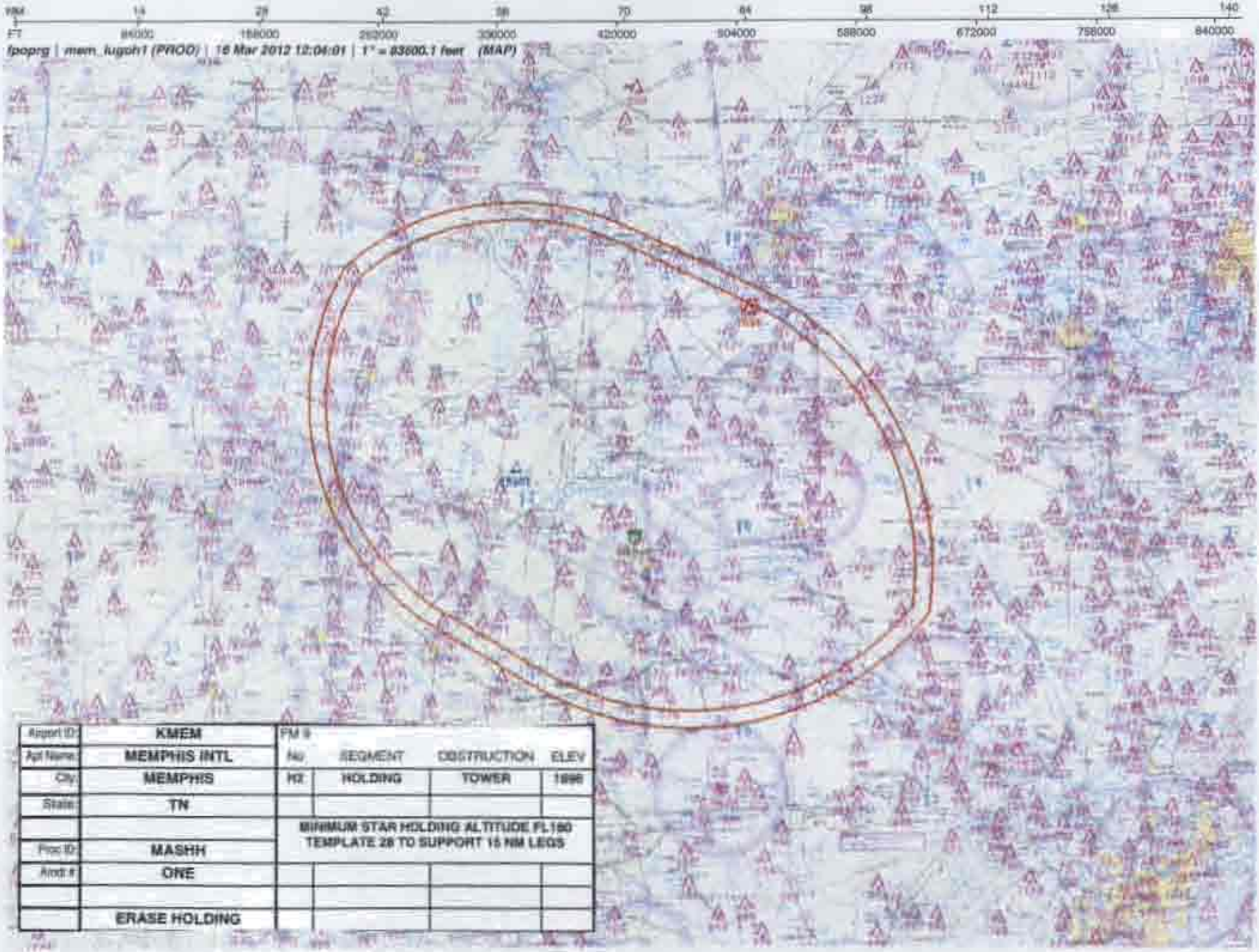
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 698222-012	300	313				

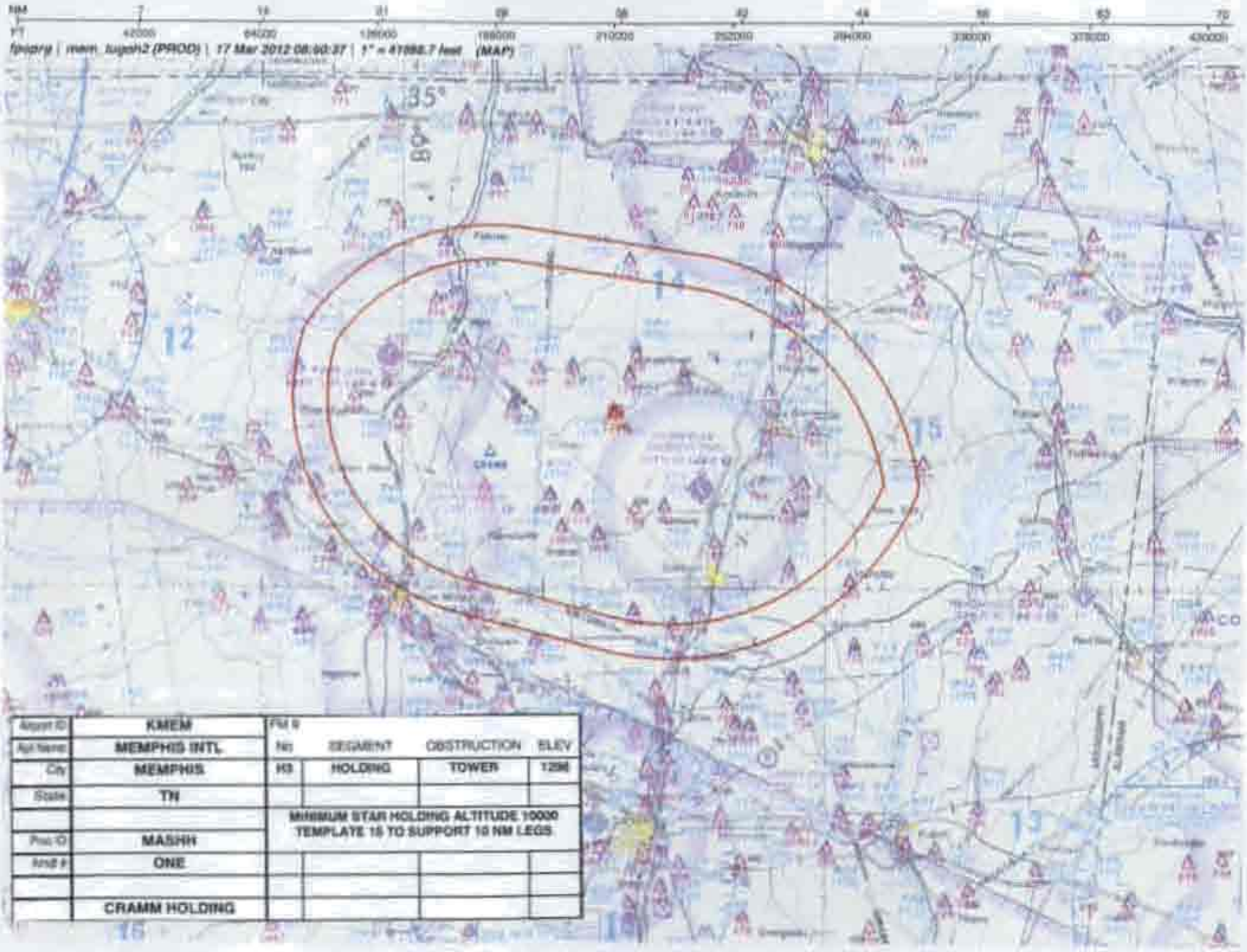
Requirement/Remarks:

Signature:	Routing Symbol:	Date:

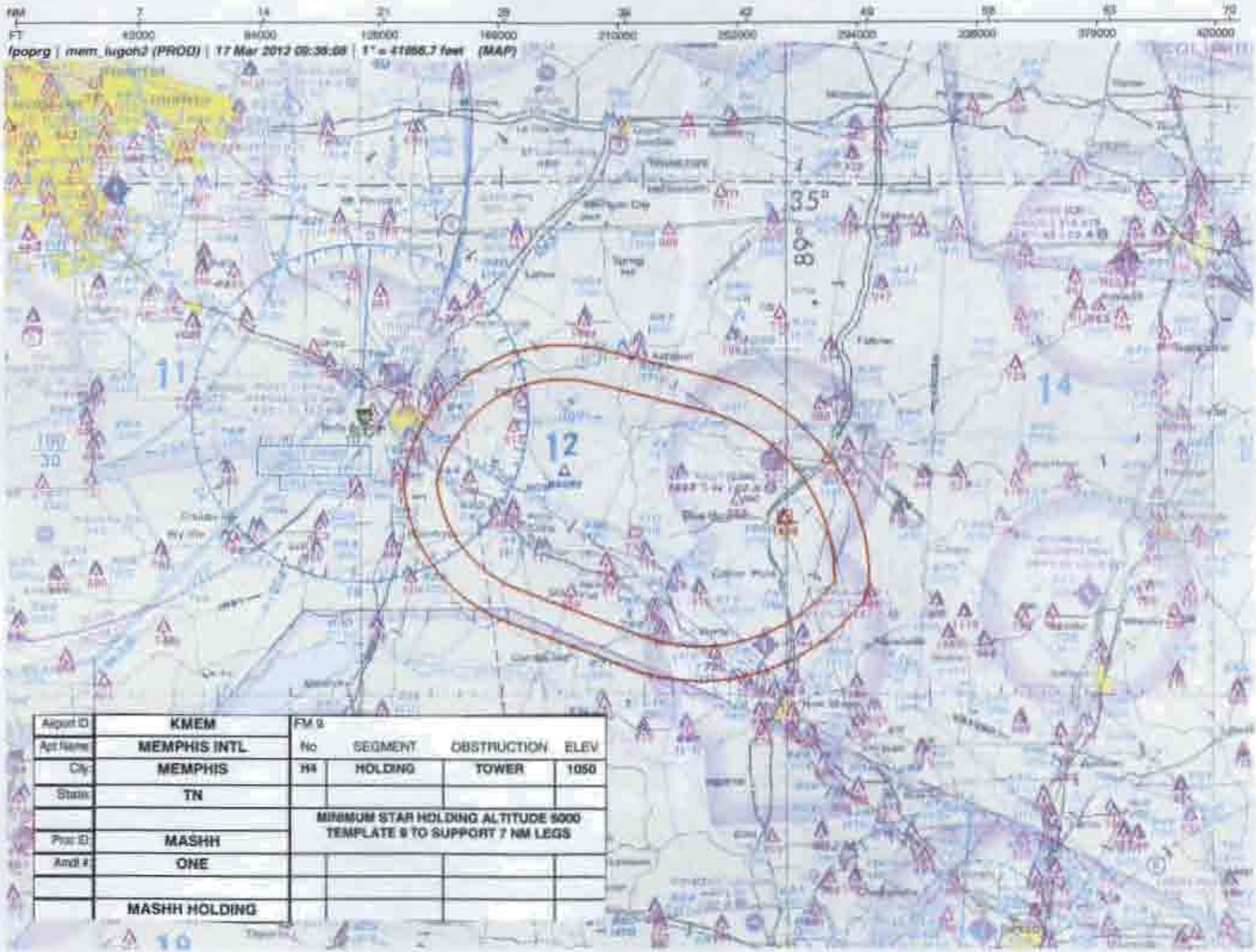


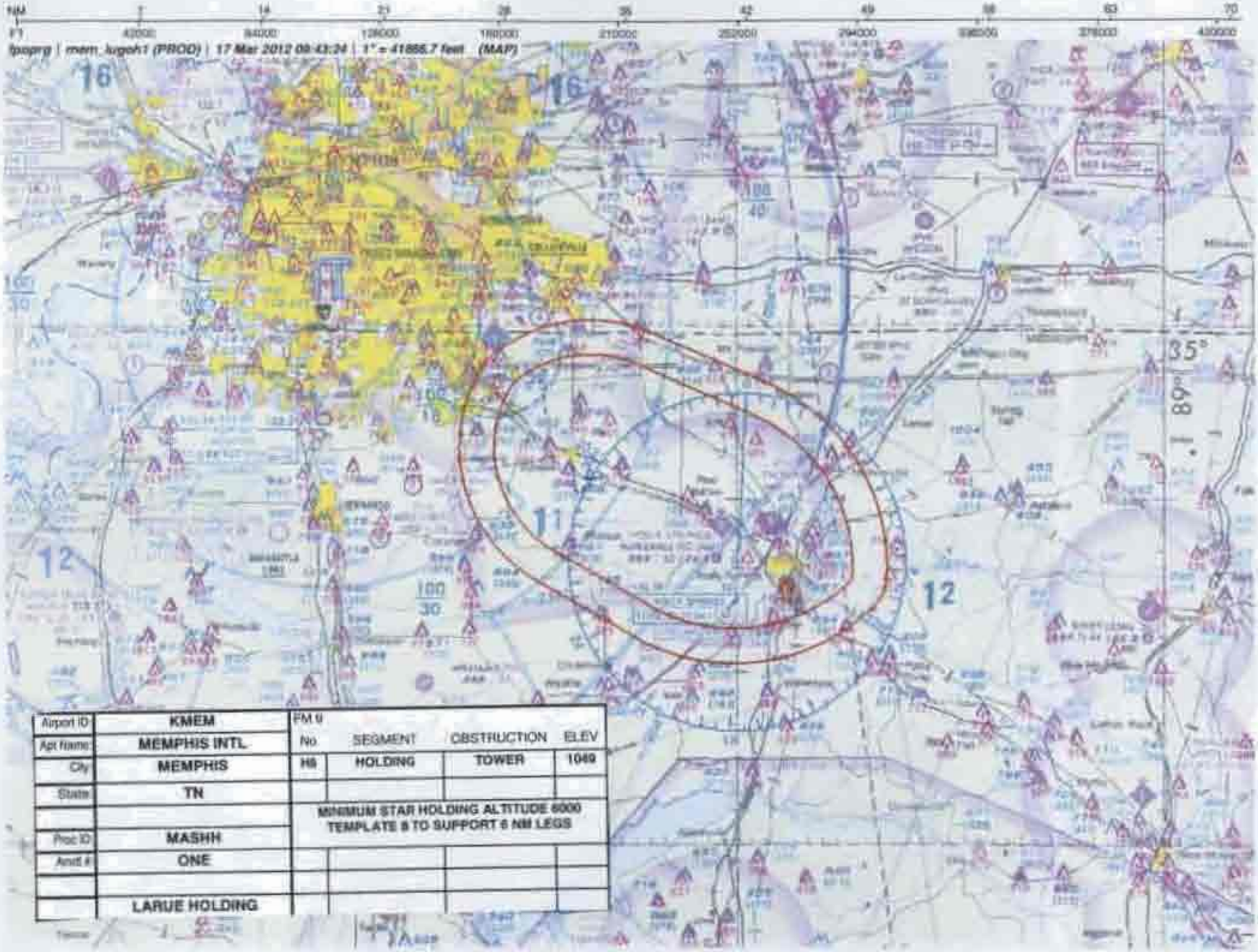
NM 14 28 42 56 70 84 98 112 126 140
FT 84000 168000 252000 336000 420000 504000 588000 672000 756000 840000
fpoprg | mem_lugoh1 (PROD) | 18 Mar 2012 10:18:05 | 1" = 83590.1 feet (MAP)
Airport ID: KMEM
Apt Name: MEMPHIS INTL
City: MEMPHIS
State: TN
Proc ID: MASHH
Amdt #: ONE
FASON HOLDING
FM 9
No SEGMENT OBSTRUCTION ELEV
H1 HOLDING TOWER 1896
MINIMUM STAR HOLDING ALTITUDE FL190
TEMPLATE 28 TO SUPPORT 15 NM LEGS


NM 14 28 42 56 70 84 98 112 126 140
FT 84000 168000 252000 336000 420000 504000 588000 672000 756000 840000
fpoprg | mem_lugoh1 (PROD) | 16 Mar 2012 12:04:01 | 1" = 83600.1 feet (MAP)
Airport ID: KMEM
Apt Name: MEMPHIS INTL
City: MEMPHIS
State: TN
Proc ID: MASHH
Anno #: ONE
ERASE HOLDING
FM #
No SEGMENT OBSTRUCTION ELEV
NO HOLDING TOWER 1998
MINIMUM STAR HOLDING ALTITUDE FL190
TEMPLATE 28 TO SUPPORT 15 NM LEGS



Airport ID	KMEM	FIX ID			
Apt Name	MEMPHIS INTL	NO	SEGMENT	OBSTRUCTION	ELEV
City	MEMPHIS	H3	HOLDING	TOWER	1298
State	TN				
		MINIMUM STAR HOLDING ALTITUDE 10000 TEMPLATE 15 TO SUPPORT 10 NM LEGS			
Proc ID	MASHH				
Amd #	ONE				
	CRAMM HOLDING				


NM 7 14 21 28 35 42 49 56 63 70
FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000
fpoprg | mem_lugoh2 (PROD) | 17 Mar 2012 09:38:08 | 1" = 41866.7 feet (MAP)
35°
89°
11
12
14
30
10
Airport ID KMEM
Apt Name MEMPHIS INTL
City MEMPHIS
State TN
Proc ID MASHH
Amdt # ONE
MASHH HOLDING
FM 9
No SEGMENT OBSTRUCTION ELEV
H4 HOLDING TOWER 1050
MINIMUM STAR HOLDING ALTITUDE 5000
TEMPLATE 9 TO SUPPORT 7 NM LEGS



Airport ID	KMEM	FMU			
Apt Name	MEMPHIS INTL	No	SEGMENT	OBSTRUCTION	ELEV
City	MEMPHIS	HB	HOLDING	TOWER	1049
State	TN				
		MINIMUM STAR HOLDING ALTITUDE 6000 TEMPLATE 8 TO SUPPORT 6 NM LEGS			
Proc ID	MASHH				
Amdt #	ONE				
	LARUE HOLDING				

US Department of Transportation
Federal Aviation Administration

STAR - Standard Terminal Arrival

1. Bearings, headings, courses and radials are listed to the nearest hundredth (e.g. 360.00)
2. Distances are in nautical miles to nearest hundredth (e.g. 00.00)
3. Altitudes are minimum altitudes unless otherwise indicated

(1) Transition Routes

(a) Transition Name	(b) Transition Computer Codes	(c) From RNAV WP/ FIX/NAVAID	(d) To RNAV WP/ FIX/NAVAID	(e) Mag Course/ Distance	(f) MEA	(g) MOCA	(h) MAA	(i) Crossing Altitudes / Fixes
CHOO CHOO	GQO.MASHH1	GQO VORTAC	COMAR	261.76/24.00	FL180			
		COMAR	TANNE	261.77/67.35	FL180			
		TANNE	TALLO	261.94/26.14	FL180			
		TALLO	FASON	265.92/32.00	FL180			AT/ABOVE FL240
		FASON	CRAMM	265.55/36.76	10000			
		CRAMM	LUGOH	284.34/13.65	6000			
		LUGOH	MASHH	284.19/5.00	6000			AT/ABOVE 10000, AT/BELOW 16000
CRAMM	CRAMM.MASHH1	CRAMM	LUGOH	284.34/13.65	6000			
		LUGOH	MASHH	284.19/5.00	6000			AT/ABOVE 10000, AT/BELOW 16000
VULCAN	VUZ.MASHH1	VUZ VORTAC	CHOOK	298.82/32.00	FL240			
		CHOOK	WASER	298.93/32.90	FL180			
		WASER	ERASE	300.01/15.00	10000			AT/ABOVE FL240
		ERASE	CRAMM	299.86/35.24	10000			
		CRAMM	LUGOH	284.34/13.65	10000			
		LUGOH	MASHH	284.19/5.00	6000			AT/ABOVE 10000, AT/BELOW 16000

(2) Arrival Route Description:
LANDING RWY 18C/18L/18R: FROM OVER MASHH ON TRACK 284.13/12.00 NM TO HLI VORTAC (MEA 6000), THEN ON TRACK 300.54/10.15 NM TO CROSS LARUE AT 250 KIAS (MEA 6000), THEN ON TRACK 300.45/8.14 NM TO CROSS FLOND AT OR ABOVE 9000 AND AT OR BELOW 11000 AND AT 210 KIAS (MEA 6000), THEN ON TRACK 300.37/3.99 NM TO CROSS GIVME AT OR ABOVE 8000 (MEA 6000), THEN ON TRACK 359.20/6.22 NM TO CROSS HADSO AT OR ABOVE 6000 (MEA 4000), THEN ON TRACK 358.00/13.61 NM TO CROSS HEXIN AT 3000 (MEA 3000), THEN ON TRACK 358.00, EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.
(CONTINUED IN BLOCK 16)

(3) Procedural Data Notes:
NOTE: RADAR REQUIRED. **NOTE:** TURBOJET AIRCRAFT ONLY. **NOTE:** DME/DME/IRU OR GPS REQUIRED. **NOTE:** RNAV 1. **NOTE:** FOR NON-GPS EQUIPPED AIRCRAFT, UJM DME MUST BE OPERATIONAL. **CHART:** CROSS ERASE AND FASON AT 290 KIAS.

(4) Fixes and/or Holding Patterns:
CHART HOLDING PATTERNS: FASON (HOLD E, RT, 265.92 INBOUND, 15 NM LEGS); CRAMM (HOLD E, RT, 284.34 INBOUND, 10 NM LEGS); ERASE (HOLD SE, RT, 300.01 INBOUND, 15 NM LEGS); MASHH (HOLD E, LT, 284.19 INBOUND, 7 NM LEGS); LARUE (HOLD SE, RT, 300.54 INBOUND, 6 NM LEGS).

(5) Communications: CHART: MEMPHIS APPROACH CONTROL 125.8, 338.3; MEMPHIS INTL ATIS.

(6) Arrival Name	(7) Number	(8) STAR Computer Code	(9) Superseded Nr.	(10) Dated	(11) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

(12) Airports Served			
Airport Name	MEMPHIS INTL	**City/State**	MEMPHIS, TN
Airport Name		**City/State**	
Airport Name		**City/State**	
Airport Name		**City/State**	
Airport Name		**City/State**	
Airport Name		**City/State**	

(13) Lost Communications Procedure:

(14) Remarks:

MEA(S) ARE BASED ON MINIMUM DME/DME/IRU COVERAGE.

(15) Additional Flight Data:

REFERENCE MAGNETIC VARIATION: KMEM 01E/2000
DME/DME ASSESSMENT: SAT (RNP 2.0)

(6) Arrival Name	(7) Number	(8) STAR Computer Code	(9) Superseded Nr.	(10) Dated	(11) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

(16) Continuation:

(2) ARRIVAL ROUTE DESCRIPTION (CONTINUED):

LANDING RWY 36C/36L/36R: FROM OVER MASHH ON TRACK 270.70/2.00 NM TO CROSS FASOP AT 10000 AT 230 KIAS (MEA 6000), THEN ON TRACK 270.24, EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

(17) Changes:
ORIGINAL

(18) Reasons for Changes:
EASTERN FPT REQUEST

	Name *(Typed and Signed)*, Title and Organization		DATE
Developed By	JOHN HENSLEY, OPERATIONS SUPPORT MANAGER, MEMPHIS ARTCC		01/19/2012
Approved	**NFPO**	DARRYEL ADAMS, MANAGER, AJV-352	QUALITY CHECKED
	Reg. ATD		

(6) Arrival Name	(7) Number	(8) STAR Computer Code	(9) Superseded Nr.	(10) Dated	(11) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

US Department of Transportation
Federal Aviation Administration

RNAV STAR (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG	(6) TC	(7) DIST	(8) ALTITUDE	(9) SPEED	(10) REMARKS
En Route Transition									
GQO VORTAC	345740.54N / 0850912.14W	Y		IF					GQO.MASHH1
COMAR	345435.37N / 0853809.10W	Y	FB	TF	262.76	24.00			
TANNE	344538.68N / 0865914.53W	Y	FB	TF	262.77	67.35			
TALLO	344221.47N / 0873042.38W	Y	FB	TF	262.94	26.14			
FASON	344031.98N / 0880926.98W	Y	FB	TF	266.92	32.00	AT/ABOVE FL240	AT 290K	
CRAMM	343811.05N / 0885354.88W	Y	FB	TF	266.55	36.76			
LUGOH	344146.93N / 0890952.48W	Y	FB	TF	285.34	13.65			
MASHH	344305.51N / 0891543.70W	Y	FB	TF	285.19	5.00	AT/ABOVE 10000, AT/BELOW 16000		
En Route Transition									
CRAMM	343811.05N / 0885354.88W	Y		IF					CRAMM.MASHH1
LUGOH	344146.93N / 0890952.48W	Y	FB	TF	285.34	13.65			
MASHH	344305.51N / 0891543.70W	Y	FB	TF	285.19	5.00	AT/ABOVE 10000, AT/BELOW 16000		

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

US Department of Transportation
Federal Aviation Administration

RNAV STAR (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG	(6) TC	(7) DIST	(8) ALTITUDE	(9) SPEED	(10) REMARKS
En Route Transition									
VUZ VORTAC	334012.67N / 0865359.28W	Y		IF					VUZ.MASHH1
CHOOK	335604.62N / 0872721.41W	Y	FB	TF	299.82	32.00			
WASER	341226.54N / 0880143.83W	Y	FB	TF	299.93	32.90			
ERASE	342010.02N / 0881715.32W	Y	FB	TF	301.01	15.00	AT/ABOVE FL240	AT 290K	
CRAMM	343811.05N / 0885354.88W	Y	FB	TF	300.86	35.24			
LUGOH	344146.93N / 0890952.48W	Y	FB	TF	285.34	13.65			
MASHH	344305.51N / 0891543.70W	Y	FB	TF	285.19	5.00	AT/ABOVE 10000, AT/BELOW 16000		
Runway Transition									
MASHH	344305.51N / 0891543.70W	Y		IF					MASHH.MASHH1
HLI VORTAC	344612.95N / 0892947.39W	Y	FB	TF	285.13	12.00			
LARUE	345131.48N / 0894017.81W	Y	FB	TF	301.54	10.15		AT 250K	
FLOND	345546.38N / 0894844.51W	Y	FB	TF	301.45	8.14	AT/ABOVE 9000, AT/BELOW 11000	AT 210K	
GIVME	345751.18N / 0895253.32W	Y	FB	TF	301.37	3.99	AT/ABOVE 8000		
HADSO	350404.77N / 0895251.77W	Y	FB	TF	000.20	6.22	AT/ABOVE 6000		

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

US Department of Transportation
Federal Aviation Administration

RNAV STAR (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG	(6) TC	(7) DIST	(8) ALTITUDE	(9) SPEED	(10) REMARKS
HEXIN	351742.66N / 0895309.20W	Y	FO	TF	359.00	13.61	AT 3000		
RWY 18C, 18L, 18R.				FM	359.00				
Runway Transition									
MASHH	344305.51N / 0891543.70W	Y		IF					MASHH.MASHH1
FASOP	344309.05N / 0891809.21W	Y	FO	TF	271.70	2.00	AT 10000	AT 230K	
RWY 36C, 36L, 36R.				FM	271.24				
									QUALITY CHECKED

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

ARINC PACKET - 424-18 - STAR

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAD        GQO   K7011580VTHA N34574054W085091214    N34574054W085091214E0010010152     NARCHOO CHOO
        SUSAD        HLI   K7011240VTL  N34461288W089294747    N34461288W089294747E0030006241     NARHOLLY SPRINGS
        SUSAD        MEM   K7011750VTHW N35005442W089585955    N35005442W089585955E0010003602     NARMEMPHIS
        SUSAD        VUZ   K7011440VTHA N33401248W086535941    N33401248W086535941E0020007432     NARVULCAN

                1         2         3         4         5         6         7         8         9         0         1         2         3
WP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   CHOOK K70    C   L N33560462W087272141                    W0025     NAR          CHOOK
        SUSAEAENRT   COMAR K70    C   L N34543537W085380910                    W0040     NAR          COMAR
        SUSAEAENRT   CRAMM K70    C   H N34381105W088535488                    W0016     NAR          CRAMM
        SUSAEAENRT   ERASE K70    C     N34201002W088171532                    W0020     NAR          ERASE
        SUSAEAENRT   FASON K70    C     N34403198W088092698                    W0021     NAR          FASON
        SUSAEAENRT   FASOP K70    W     N34430905W089180921                    W0013     NAR          FASOP
        SUSAEAENRT   FLOND K70    C     N34554638W089484451                    W0009     NAR          FLOND
        SUSAEAENRT   GIVME K70    C     N34575118W089525332                    W0009     NAR          GIVME
        SUSAEAENRT   HADSO K70    W     N35040477W089525177                    W0009     NAR          HADSO
        SUSAEAENRT   HEXIN K70    W     N35174266W089530920                    W0009     NAR          HEXIN
        SUSAEAENRT   LARUE K70    C     N34513148W089401781                    W0010     NAR          LARUE
        SUSAEAENRT   LUGOH K70    C     N34414693W089095248                    W0014     NAR          LUGOH
        SUSAEAENRT   MASHH K70    C     N34430551W089154370                    W0013     NAR          MASHH
        SUSAEAENRT   TALLO K70    W     N34422147W087304238                    W0026     NAR          TALLO
        SUSAEAENRT   TANNE K70    C   L N34453868W086591453                    W0030     NAR          TANNE
        SUSAEAENRT   WASER K70    W     N34122654W088014383                    W0022     NAR          WASER

                1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMEMK7AMEM     0     111YHN35023270W089583600E001000341        1800018000C    MNAR    MEMPHIS INTL

                1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMEMK7EMASHH14CRAMM 010CRAMMK7EA0E  H    IF                                          18000
        SUSAP KMEMK7EMASHH14CRAMM 020LUGOHK7EA0E    010TF                  28430137
        SUSAP KMEMK7EMASHH14CRAMM 030MASHHK7EA0EE H 010TF                  28420050    B 1600010000
        SUSAP KMEMK7EMASHH14GQO   010GQO  K7D 0V       IF                                          18000
```

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

```
SUSAP KMEMK7EMASHH14GQO   020COMARK7EA0E    010TF                    26180240
SUSAP KMEMK7EMASHH14GQO   030TANNEK7EA0E    010TF                    26180674
SUSAP KMEMK7EMASHH14GQO   040TALLOK7EA0E    010TF                    26190261
SUSAP KMEMK7EMASHH14GQO   050FASONK7EA0E  H 010TF                    26590320    + FL240          290
SUSAP KMEMK7EMASHH14GQO   060CRAMMK7EA0E  H 010TF                    26560368
SUSAP KMEMK7EMASHH14GQO   070LUGOHK7EA0E    010TF                    28430137
SUSAP KMEMK7EMASHH14GQO   080MASHHK7EA0EE H 010TF                    28420050    B 1600010000
SUSAP KMEMK7EMASHH14VUZ   010VUZ  K7D 0V      IF                                                18000
SUSAP KMEMK7EMASHH14VUZ   020CHOOKK7EA0E    010TF                    29880320
SUSAP KMEMK7EMASHH14VUZ   030WASERK7EA0E    010TF                    29890329
SUSAP KMEMK7EMASHH14VUZ   040ERASEK7EA0E  H 010TF                    30000150    + FL240          290
SUSAP KMEMK7EMASHH14VUZ   050CRAMMK7EA0E  H 010TF                    29990352
SUSAP KMEMK7EMASHH14VUZ   060LUGOHK7EA0E    010TF                    28430137
SUSAP KMEMK7EMASHH14VUZ   070MASHHK7EA0EE H 010TF                    28420050    B 1600010000
SUSAP KMEMK7EMASHH16RW18B 010MASHHK7EA0E  H    IF                                                18000
SUSAP KMEMK7EMASHH16RW18B 020HLI  K7D 0V    010TF                    28410120
SUSAP KMEMK7EMASHH16RW18B 030LARUEK7EA0E  H 010TF                    30050102                      250
SUSAP KMEMK7EMASHH16RW18B 040FLONDK7EA0E    010TF                    30050081    B 1100009000      210
SUSAP KMEMK7EMASHH16RW18B 050GIVMEK7EA0E    010TF                    30040040    + 08000
SUSAP KMEMK7EMASHH16RW18B 060HADSOK7EA0E    010TF                    35920062    + 06000
SUSAP KMEMK7EMASHH16RW18B 070HEXINK7EA0EY   010TF                    35800136      03000
SUSAP KMEMK7EMASHH16RW18B 080HEXINK7EA0EE      FM MEM K7      014901743580    D     03000
SUSAP KMEMK7EMASHH16RW36B 010MASHHK7EA0E  H    IF                                                18000
SUSAP KMEMK7EMASHH16RW36B 020FASOPK7EA0EY   010TF                    27070020      10000          230
SUSAP KMEMK7EMASHH16RW36B 030FASOPK7EA0EE      FM MEM K7      116603802702    D     10000          230

                1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
SUSAP KMEMK7GRW18C   0111201780 N35031654W089583421+0600    +0055100271000054150IISDU1
SUSAP KMEMK7GRW18L   0090001780 N35025574W089582263+0600    +0057200278000060150IIEXS1
SUSAP KMEMK7GRW18R   0093201780 N35025816W089591479+0300    +0060100288000052150IIOOI1
SUSAP KMEMK7GRW36C   0111203580 N35012658W089583190-0600    +0076500341000060150IITSE3
SUSAP KMEMK7GRW36L   0093203580 N35012598W089591281-0300    +0070300321000059150IIOHN3
SUSAP KMEMK7GRW36R   0090003580 N35012674W089582075-0600    +0074600335000058150IIMYO3
```

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

US Department of Transportation
Federal Aviation Administration

STAR (Data Record)

ARINC SUMMARY - 424-18 - STAR

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	CRAMM	CRAMM	010		IF		FB					
	CRAMM	LUGOH	020		TF		FB	1.0	284.3()	013.7		
	CRAMM	MASHH	030		TF		FB	1.0	284.2()	005.0	BT 1600010000	
	GQO	GQO	010		IF		FB					
	GQO	COMAR	020		TF		FB	1.0	261.8()	024.0		
	GQO	TANNE	030		TF		FB	1.0	261.8()	067.4		
	GQO	TALLO	040		TF		FB	1.0	261.9()	026.1		
	GQO	FASON	050		TF		FB	1.0	265.9()	032.0	AA FL240	AT 290
	GQO	CRAMM	060		TF		FB	1.0	265.6()	036.8		
	GQO	LUGOH	070		TF		FB	1.0	284.3()	013.7		
	GQO	MASHH	080		TF		FB	1.0	284.2()	005.0	BT 1600010000	
	VUZ	VUZ	010		IF		FB					
	VUZ	CHOOK	020		TF		FB	1.0	298.8()	032.0		
	VUZ	WASER	030		TF		FB	1.0	298.9()	032.9		
	VUZ	ERASE	040		TF		FB	1.0	300.0()	015.0	AA FL240	AT 290
	VUZ	CRAMM	050		TF		FB	1.0	299.9()	035.2		
	VUZ	LUGOH	060		TF		FB	1.0	284.3()	013.7		
	VUZ	MASHH	070		TF		FB	1.0	284.2()	005.0	BT 1600010000	
	RW18B	MASHH	010		IF		FB					
	RW18B	HLI	020		TF		FB	1.0	284.1()	012.0		
	RW18B	LARUE	030		TF		FB	1.0	300.5()	010.2		AT 250
	RW18B	FLOND	040		TF		FB	1.0	300.5()	008.1	BT 1100009000	AT 210
	RW18B	GIVME	050		TF		FB	1.0	300.4()	004.0	AA 08000	
	RW18B	HADSO	060		TF		FB	1.0	359.2()	006.2	AA 06000	
	RW18B	HEXIN	070		TF		FO	1.0	358.0()	013.6	AT 03000	
	RW18B	HEXIN	080		FM		FB		358.0()		AT 03000	
	RW36B	MASHH	010		IF		FB					
	RW36B	FASOP	020		TF		FO	1.0	270.7()	002.0	AT 10000	AT 230
	RW36B	FASOP	030		FM		FB		270.2()		AT 10000	AT 230

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	GQO	N345740.54	W0850912.14	N3457.676	W08509.202
	HLI	N344612.88	W0892947.47	N3446.215	W08929.791
	MEM	N350054.42	W0895859.55	N3500.907	W08958.993
	VUZ	N334012.48	W0865359.41	N3340.208	W08653.990
	CHOOK	N335604.62	W0872721.41	N3356.077	W08727.357
	COMAR	N345435.37	W0853809.10	N3454.590	W08538.152

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

FAA Form 7100-3 (9/02)

CRAMM	N343811.05	W0885354.88	N3438.184	W08853.915
ERASE	N342010.02	W0881715.32	N3420.167	W08817.255
FASON	N344031.98	W0880926.98	N3440.533	W08809.450
FASOP	N344309.05	W0891809.21	N3443.151	W08918.154
FLOND	N345546.38	W0894844.51	N3455.773	W08948.742
GIVME	N345751.18	W0895253.32	N3457.853	W08952.889
HADSO	N350404.77	W0895251.77	N3504.080	W08952.863
HEXIN	N351742.66	W0895309.20	N3517.711	W08953.153
LARUE	N345131.48	W0894017.81	N3451.525	W08940.297
LUGOH	N344146.93	W0890952.48	N3441.782	W08909.875
MASHH	N344305.51	W0891543.70	N3443.092	W08915.728
TALLO	N344221.47	W0873042.38	N3442.358	W08730.706
TANNE	N344538.68	W0865914.53	N3445.645	W08659.242
WASER	N341226.54	W0880143.83	N3412.442	W08801.731
RW18C	N350316.54	W0895834.21	N3503.276	W08958.570
RW18L	N350255.74	W0895822.63	N3502.929	W08958.377
RW18R	N350258.16	W0895914.79	N3502.969	W08959.247
RW36C	N350126.58	W0895831.90	N3501.443	W08958.532
RW36L	N350125.98	W0895912.81	N3501.433	W08959.214
RW36R	N350126.74	W0895820.75	N3501.446	W08958.346

RUNWAY DATA

RWY	THRESHOLD ELEVATION	TCH
RW18C	00271	54
RW18L	00278	60
RW18R	00288	52
RW36C	00341	60
RW36L	00321	59
RW36R	00335	58

(11) Arrival Name	(12) Number	(13) STAR Computer Code	(14) Superseded Nr.	(15) Dated	(16) Effective Date
MASHH RNAV	ONE	MASHH.MASHH1	NONE		

RADIO FIX AND HOLDING DATA RECORD

NAME: CHOOK **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 335604.62N/0872721.41W **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	VULCAN	VUZ	VORTAC	H	297.82	299.82	32.00	32.00		2000	17500
2	MUSCLE SHOALS	MSL	VORTAC	L	176.80	177.80		46.29		2600	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
MSL	VORTAC	R-177	47	2500	17500

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

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	SE	VUZ	VORTAC	298.00	298.00	R	1-1 1/2		3000	17500	6	18

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	340015.00N/0873215.00W	1011	4E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
VULCAN (FAC 1) AND MUSCLE SHOALS (FAC 2) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V159	1, 2				(US)
IAP	ILS/DME RWY 27	1, 2	1	KJFX	JASPER	AL (US)
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3 **DATE OF REVISION:** 07/26/2012

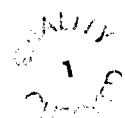
REASON FOR REVISION:
1. ADDED WP TO FIX TYPE.
2. ADDED DIST FROM FAC TO FAC 1 AND 2.
3. INCREASED FAC 2 MRA FROM 2500 TO 2600.
4. ADDED STAR TO REQUIRED CHARTING.
5. CHANGED PAT 1 CONTROLLING OBSTACLE FROM 996 MSL TOWER TO 1011 MSL AAO.
6. INCREASED PAT 1 MINIMUM HOLDING ALTITUDE FROM 2600 TO 3000.
7. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:



RADIO FIX AND HOLDING DATA RECORD

NAME: COMAR **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 345435.37N/0853809.10W **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	CHOO CHOO	GQO	VORTAC	H	261.76	262.76	24.00	24.00		4000	17500
2	ROME	RMG	VORTAC	H	329.38	330.38	51.56	51.56		4000	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
RMG	VORTAC	R-329	52	4000	17500

HOLDING: **HOLDING TYPE OF ACTION:** CANCEL

REMARKS:
ROME (FAC 2) AND CHOO CHOO (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V54	1, 2				(US)
IAP	RNAV (GPS) RWY 20			K9A5	LAFAYETTE	GA (US)
IAP	ILS OR LOC RWY 20	1, 2		KCHA	CHATTANOOGA	TN (US)
IAP	RNAV (GPS) RWY 20			KCHA	CHATTANOOGA	TN (US)
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5 **DATE OF REVISION:** 07/26/2012

REASON FOR REVISION:
1. ADDED STAR TO REQUIRED CHARTING.
2. DELETED HOLDING PAT 1.
3. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: CHA APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: CRAMM **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 343811.05N/0885354.88W **TYPE:** WP, 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	HOLLY SPRINGS	HLI	VORTAC	L	102.00	105.00	30.65	30.65		4000	24000
2	HAMILTON	HAB	VORTAC	L	299.02	301.02	51.24	51.24		4000	24000
3	MUSCLE SHOALS	MSL	VORTAC	L	265.93	266.93	69.76	69.76		10000	24000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
HLI	VORTAC	R-102	31	18000	24000
HAB	VORTAC	R-299	52	4000	24000
MSL	VORTAC	R-266	70	10000	41000

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

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	E	HLI	VORTAC	102.00	282.00	R		10	4000	24000	15	21
2	E		WP	104.34	284.34	R		10	10000	24000	15	20

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (28-000524)	344000.00N/0884505.00W	1296	4D
2	230	TOWER (28-000524)	344000.00N/0884505.00W	1296	4D

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
HOLLY SPRINGS (FAC 1) USED TO ESTABLISH FIX COORDINATES
HOLDING PAT 1 AND 2: 15 NM LEG LENGTHS REQUESTED BY ATC.
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	Q32					(US)
STAR	LUGOH	1, 2, 3	1	KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)		2	KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR, CONTROLLER, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 4 **DATE OF REVISION:** 07/26/2012

REASON FOR REVISION:
1. DELETED INT FROM FIX TYPE.
2. DELETED FAC 2 (OTB) AND FAC 3 (GAGLE).
3. ADDED NEW FAC 2 (HAB) AND FAC 3 (MSL) TO SUPPORT LUGOH STAR.
4. POPULATED ESV DATA.
5. AMENDED PAT 1 FROM TIMED HOLDING TO 10 NM LEGS.
7. AMENDED PAT 2 MIN HOLDING ALTITUDE FROM 6000 TO 10000.
8. AMENDED PAT 2 DME LENGTH FROM 4 NM LEGS TO 10 NM LEGS.
9. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 03/08/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: ERASE **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 342010.02N/0881715.32W **TYPE:** WP, DME

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

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	HAMILTON	HAB	VORTAC	L	299.02	301.02	16.00	16.00		13000	45000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
HAB	VORTAC	R-299	16	18000	45000

HOLDING: **HOLDING TYPE OF ACTION:** ESTABLISH

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	SE		WP	120.01	300.01	R		15	18000	45000	28	30

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
HOLDING PAT 1: 15 NM LEG LENGTHS REQUESTED BY ATC.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	LUGOH	1		KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)		1	KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR, CONTROLLER

COMPULSORY REPORTING POINT: NO

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

REASON FOR REVISION:
06/08/2012: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 03/07/2012.
DELETED PAT 1 DUE TO UNSAT FLIGHT INSPECTION. PAT 2 RENUMBERED PAT 1.

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: FASON **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 344031.98N/0880926.98W **TYPE:** WP, DME

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

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	MUSCLE SHOALS	MSL	VORTAC	L	265.93	266.93	33.00	33.00		18000	45000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
MSL	VORTAC	R-266	33	18000	45000

HOLDING: **HOLDING TYPE OF ACTION:** ESTABLISH

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	E	MSL	VORTAC	265.93	265.93	R		15	18000	45000	28	31
2	E		WP	085.92	265.92	R		15	18000	45000	28	30

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PAT 1 AND 2: 15 NM LEG LENGTHS REQUESTED BY ATC.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	LUGOH	1	1	KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)		2	KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR, CONTROLLER

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: FASOP **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 344309.05N/0891809.21W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: FLOND **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 345546.38N/0894844.51W **TYPE:** WP, DME

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

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	MEMPHIS	MEM	VORTAC	H	120.27	121.27	9.86	9.86		3000	17500

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	LUGOH	1		KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: GIVME **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 345751.18N/0895253.32W **TYPE:** WP. DME

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

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	MEMPHIS	MEM	VORTAC	H	120.27	121.27	5.87	5.87		3000	17500

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	LUGOH	1		KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: HADSO **STATE:** TN **COUNTRY:** US

LATITUDE/LONGITUDE: 350404.77N/0895251.77W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: HEXIN **STATE:** TN **COUNTRY:** US

LATITUDE/LONGITUDE: 351742.66N/0895309.20W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: LARUE **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 345131.48N/0894017.81W **TYPE:** WP, RADAR, 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	MEMPHIS	MEM	VORTAC	H	120.27	121.27	18.00	18.00		3000	17500
2	HOLLY SPRINGS	HLI	VORTAC	L	298.54	301.54	10.15	10.15		5000	17500

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

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	SE	HLI	VORTAC	298.54	298.54	R	1		5000	10000	5	9
2	SE		WP	120.54	300.54	R		6	6000	14000	8	11
3	SE	MEM	VORTAC	120.27	300.27	R		6	3000	14000	8	11

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	344742.00N/0892845.00W	801	4E
1	310	TOWER (28-001410)	344434.00N/0892630.00W	1049	5E
2	200	TOWER (28-001410)	344434.00N/0892630.00W	1049	5E
3	200	TOWER (28-001410)	344434.00N/0892630.00W	1049	5E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	ILS OR LOC RWY 18L	KMEM	MEMPHIS	TN (US)
1	ILS OR LOC RWY 36R	KMEM	MEMPHIS	TN (US)
1	ILS RWY 36R (CAT II)	KMEM	MEMPHIS	TN (US)
1	ILS RWY 36 (CAT III)	KMEM	MEMPHIS	TN (US)

REMARKS:
MEMPHIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
HOLDING PAT 2 AND 3: 6 NM LEGS REQUESTED BY ATC.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 18L	2	1	KMEM	MEMPHIS	TN (US)
IAP	ILS OR LOC RWY 36R	2	1	KMEM	MEMPHIS	TN (US)
IAP	ILS RWY 36 (CAT III)	2	1	KMEM	MEMPHIS	TN (US)
IAP	ILS RWY 36R (CAT II)	2	1	KMEM	MEMPHIS	TN (US)
STAR	LUGOH	1	3	KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)		2	KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5 **DATE OF REVISION:** 07/26/2012

REASON FOR REVISION:
1. REMOVED INT FROM FIX TYPE.
2. DELETED FAC 2 (UJM) AND FAC 4 (MEM R36R).
3. RENUMBERED CURRENT FAC 3 (HLI) TO FAC 2.
4. AMENDED FAC 1 AND FAC 2 MAA FROM 10000 TO 17500.
5. ADDED DIST FROM FAC TO FAC 1 AND FAC 2.
6. ADDED PAT 3.
7. AMENDED PAT PAT 2 MAX HOLDING ALTITUDE FROM 10000 TO 14000.
8. AMENDED PAT 2 FROM 7 NM LEGS TO 6 NM LEGS.
9. AMENDED PAT 1 MIN HOLDING ALTITUDE FROM 3000 TO 5000.
9. AMENDED PAT 1 CONTROLLING OBSTACLE AIRSPEED FROM 230 KIAS TO 200 KIAS AND AMENDED CONTROLLING OBSTACLE FROM 1049 TOWER TO 801 AAO.
10. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 03/08/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: LUGOH **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 344146.93N/0890952.48W **TYPE:** WP, DME

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

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	HOLLY SPRINGS	HLI	VORTAC	L	102.00	105.00	17.00	17.00		4000	17500
2	TUPELO	OTB	VOR/DME	L	323.33	327.33	33.66	33.66		4000	17500

REMARKS:
HOLLY SPRINGS (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	LUGOH	1, 2		KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/07/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: MASHH **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 344305.51N/0891543.70W **TYPE:** WP, DME

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

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	HOLLY SPRINGS	HLI	VORTAC	L	102.00	105.00	12.00	12.00		3000	17500

HOLDING: **HOLDING TYPE OF ACTION:** ESTABLISH

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	E	HLI	VORTAC	102.00	282.00	L		7	3000	17000	9	16
2	E		WP	104.19	284.19	L		7	6000	17000	9	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (28-000260)	343956.40N/0890018.40W	1050	1A
2	230	TOWER (28-000260)	343956.40N/0890018.40W	1050	1A

REASON FOR NONSTANDARD HOLDING:
PAT 1 ATC REQUEST. 7 NM LEG LENGTHS REQUESTED BY ATC.
PAT 2 ATC REQUEST. 7 NM LEG LENGTHS REQUESTED BY ATC.

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	LUGOH	1	1	KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)		2	KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/08/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: TALLO **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 344221.47N/0873042.38W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: TANNE **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 344538.68N/0865914.53W **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	ROCKET	RQZ	VORTAC	L	260.97	262.97	17.61	17.61		2900	17500
2	DECATUR	DCU	VOR/DME	L	341.65	340.65		7.14		2400	17500
3	MUSCLE SHOALS	MSL	VORTAC	L	081.48	082.48	25.14	25.14		2400	17500

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

REMARKS:
DECATUR (FAC 2) AND ROCKET (FAC 1) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V54	1, 2, 3				(US)
IAP	RNAV (GPS) RWY 18			K5M0	HARTSELLE	AL (US)
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 9 **DATE OF REVISION:** 07/26/2012

REASON FOR REVISION:
1. ADDED DME TO FIX TYPE.
2. DELETED JUPES AS FAC 3.
3. ADDED MSL VORTAC AS FAC 3.
4. INCREASED FAC 1 MRA FROM 2400 TO 2900
5. ADDED DIST FROM FAC TO FAC 1 AND FAC 2.
6. ADDED STAR TO REQUIRED CHARTING.
7. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: HSV APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: VULCAN VORTAC **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 334012.67N/0865359.28W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

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	VULCAN	VUZ	VORTAC	H							45000

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

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	VUZ	VORTAC	231.00	051.00	R	1-1 1/2		3000	24000	4	19
2	NE		WP	049.00	229.00	R		7	3000	10000	9	12
3	SW	VUZ	VORTAC	230.00	050.00	R	1		3000	10000	4	9
4	NE	VUZ	VORTAC	046.00	226.00	R	1		3000	10000	4	9

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (01-001564)	334114.00N/0864922.00W	1082	2C
2	265	AAO	335145.00N/0865206.00W	1241	4E
3	200	TOWER (01-001564)	334114.00N/0864922.00W	1082	2C
4	200	TOWER (01-001564)	334114.00N/0864922.00W	1082	2C

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BIRMINGHAM			KBHM	BIRMINGHAM	AL (US)
DP	HUNTSVILLE			KHSV	HUNTSVILLE	AL (US)
DP	GEETK (RNAV)			KATL	ATLANTA	GA (US)
DP	JACKSON			KJAN	JACKSON	MS (US)
DP	CHATTANOOGA			KCHA	CHATTANOOGA	TN (US)
DP	KNOXVILLE			KTYS	KNOXVILLE	TN (US)
DP	MEMPHIS			KMEM	MEMPHIS	TN (US)
DP	TITAN			KBNA	NASHVILLE	TN (US)
EN ROUTE	J14					(US)
EN ROUTE	J151					(US)
EN ROUTE	J22					(US)
EN ROUTE	J31					(US)
EN ROUTE	J39					(US)
EN ROUTE	J41					(US)
EN ROUTE	J52					(US)
EN ROUTE	J69					(US)
EN ROUTE	Q30					(US)
EN ROUTE	V115					(US)
EN ROUTE	V159					(US)
EN ROUTE	V168					(US)
EN ROUTE	V18		1			(US)
EN ROUTE	V209					(US)
EN ROUTE	V278					(US)
EN ROUTE	V417		1			(US)
EN ROUTE	V49					(US)
EN ROUTE	V521					(US)
EN ROUTE	V7					(US)
IAP	VOR-A			KEET	ALABASTER	AL (US)
IAP	ILS OR LOC RWY 5			KANB	ANNISTON	AL (US)
IAP	NDB RWY 5			KANB	ANNISTON	AL (US)
IAP	ILS OR LOC RWY 5		3	KEKY	BESSEMER	AL (US)
IAP	RNAV (GPS) RWY 23			KEKY	BESSEMER	AL (US)
IAP	VOR RWY 5			KEKY	BESSEMER	AL (US)
IAP	ILS OR LOC RWY 6		4	KBHM	BIRMINGHAM	AL (US)
IAP	ILS OR LOC/DME RWY 24		4	KBHM	BIRMINGHAM	AL (US)
IAP	ILS RWY 6 (CAT II)		4	KBHM	BIRMINGHAM	AL (US)
IAP	LOC RWY 18			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) RWY 18			KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) RWY 36		2	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (GPS) Y RWY 24		2	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 24		2	KBHM	BIRMINGHAM	AL (US)
IAP	RNAV (RNP) Z RWY 6		2	KBHM	BIRMINGHAM	AL (US)
IAP	ILS OR LOC/DME RWY 24			KGAD	GADSDEN	AL (US)
IAP	RNAV (GPS) RWY 6			KGAD	GADSDEN	AL (US)
IAP	ILS OR LOC RWY 18L			KHSV	HUNTSVILLE	AL (US)
IAP	ILS OR LOC/DME RWY 27			KJFX	JASPER	AL (US)

IAP	VOR/DME-A	KJFX	JASPER	AL (US)
IAP	RNAV (GPS) RWY 5	K20A	ONEONTA	AL (US)
IAP	ILS OR LOC/DME RWY 3	KASN	TALLADEGA	AL (US)
IAP	RNAV (GPS) RWY 3	KASN	TALLADEGA	AL (US)
STAR	LA GRANGE	KATL	ATLANTA	GA (US)
STAR	ROME	KATL	ATLANTA	GA (US)
STAR	LUGOH	KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)	KMEM	MEMPHIS	TN (US)
STAR	GRAHAM	KMBT	MURFREESBORO	TN (US)
STAR	GRAHAM	KBNA	NASHVILLE	TN (US)
STAR	GRAHAM	KJWN	NASHVILLE	TN (US)
STAR	GRAHAM	KMQY	SMYRNA	TN (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 12 **DATE OF REVISION:** 07/26/2012

REASON FOR REVISION:
1. DELETED PAT 5.
2. AMENDED PAT 2 CONTROLLING OBSTACLE FROM 1370 MSL AAO TO 1241 MSL AAO. NO CHANGE TO MIN HOLDING ALTITUDE (3000).
3. UPDATED FIX USE.

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: BHM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WASER **STATE:** AL **COUNTRY:** US

LATITUDE/LONGITUDE: 341226.54N/0880143.83W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)

REQUIRED CHARTING: STAR

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 03/09/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: CHOO CHOO VORTAC **STATE:** TN **COUNTRY:** US

LATITUDE/LONGITUDE: 345740.54N/0850912.14W **TYPE:**

INFO ONLY

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	CHOO CHOO	GQO	VORTAC	H							45000

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

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	SE	GQO	VORTAC	152.00	332.00	R	1		3100	10000	4	9

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	200' AAO	345750.90N/0851512.50W	1586	6A
1	310	TOWER (13-001346)	345557.00N/0845832.00W	2049	5D

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 18000

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	ILS OR LOC RWY 20	KCHA	CHATTANOOGA	TN (US)
1	ILS RWY 20 (CAT II)	KCHA	CHATTANOOGA	TN (US)

REMARKS:
PRECIPITIOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BIRMINGHAM			KBHM	BIRMINGHAM	AL (US)
DP	HUNTSVILLE			KHSV	HUNTSVILLE	AL (US)
DP	CADIT (RNAV)			KATL	ATLANTA	GA (US)
DP	COKEM (RNAV)			KATL	ATLANTA	GA (US)
DP	NUGGT (RNAV)			KATL	ATLANTA	GA (US)
DP	SUMMT (RNAV)			KATL	ATLANTA	GA (US)
DP	UZOVO			KRMG	ROME	GA (US)
DP	BOBCAT			KVUJ	ALBEMARLE	NC (US)
DP	BOBCAT			KCLT	CHARLOTTE	NC (US)
DP	BOBCAT			KJQF	CONCORD	NC (US)
DP	BOBCAT			KAKH	GASTONIA	NC (US)
DP	BOBCAT			KIPJ	LINCOLNTON	NC (US)
DP	BOBCAT			KEQY	MONROE	NC (US)
DP	BOBCAT			KRUQ	SALISBURY	NC (US)
DP	BOBCAT			KLKR	LANCASTER	SC (US)
DP	BOBCAT			KUZA	ROCK HILL	SC (US)
DP	CHATTANOOGA			KCHA	CHATTANOOGA	TN (US)
DP	KNOXVILLE			KTYS	KNOXVILLE	TN (US)
DP	TITAN (OBSTACLE)			KBNA	NASHVILLE	TN (US)
EN ROUTE	V5					(US)
EN ROUTE	V67					SD (US)
EN ROUTE	J118					TN (US)
EN ROUTE	V115					TN (US)
EN ROUTE	V209					TN (US)
EN ROUTE	V243					TN (US)
EN ROUTE	V333					TN (US)
EN ROUTE	V54					TN (US)
IAP	LOC RWY 35			KCZL	CALHOUN	GA (US)
IAP	ILS OR LOC RWY 14			KDNN	DALTON	GA (US)
IAP	RNAV (GPS) RWY 20			K9A5	LAFAYETTE	GA (US)
IAP	ILS OR LOC RWY 2			KCHA	CHATTANOOGA	TN (US)
IAP	ILS OR LOC RWY 20		1	KCHA	CHATTANOOGA	TN (US)
IAP	ILS RWY 20 (CAT II)		1	KCHA	CHATTANOOGA	TN (US)
IAP	RNAV (GPS) RWY 15			KCHA	CHATTANOOGA	TN (US)
IAP	RNAV (GPS) RWY 20			KCHA	CHATTANOOGA	TN (US)
IAP	RNAV (GPS) RWY 33			KCHA	CHATTANOOGA	TN (US)
IAP	VOR RWY 33			KCHA	CHATTANOOGA	TN (US)
IAP	NDB RWY 3			KHDI	CLEVELAND	TN (US)
IAP	NDB RWY 4			KAPT	JASPER	TN (US)
IAP	RNAV (GPS) RWY 4			KAPT	JASPER	TN (US)
STAR	WENDO (RNAV)			KBHM	BIRMINGHAM	AL (US)
STAR	ROME			KATL	ATLANTA	GA (US)
STAR	BUNNI			KCVC	ATLANTA	GA (US)
STAR	BUNNI			KFTY	ATLANTA	GA (US)
STAR	BUNNI			KPDK	ATLANTA	GA (US)

STAR	BUNNI	KPUJ	ATLANTA	GA (US)
STAR	BUNNI	KRYY	ATLANTA	GA (US)
STAR	BUNNI	KVPC	CARTERSVILLE	GA (US)
STAR	BUNNI	KLZU	LAWRENCEVILLE	GA (US)
STAR	BUNNI	KMGE	MARIETTA	GA (US)
STAR	JAKIE (RNAV)	KCVG	COVINGTON	KY (US)
STAR	LUGOH	KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)	KMEM	MEMPHIS	TN (US)
STAR	MONAA (RNAV)	KMEM	MEMPHIS	TN (US)
STAR	VOLLS	KBNA	NASHVILLE	TN (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5 **DATE OF REVISION:** 01/13/2011

REASON FOR REVISION:
UPDATED FIX USE
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 18000 NOTE MOVED TO HOLDING RESTRICTION AREA
PRECIPITIOUS TERRAIN EVALUATION COMPLETED NOTE ADDED
UPDATED 310 HOLDING PATTERN OBSTACLE INFORMATION
REMOVED ILS RWY 20 CLIMB IN HOLD REQUIREMENT

DEVELOPED BY: **DATE:** 06/25/2010 **OFFICE:** AVN-110 **NAME:** PETER GETZ (NICHOLE HEISE)

APPROVED BY: **DATE:** 10/22/2010 **OFFICE:** AVN-110 **NAME:** GEORGE DAVIS

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZTL
ATC FACILITY: CHA APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: HOLLY SPRINGS VORTAC **STATE:** MS **COUNTRY:** US

LATITUDE/LONGITUDE: 344612.95N/0892947.39W **TYPE:**

INFO ONLY

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

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	HOLLY SPRINGS	HLI	VORTAC	L							17500

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

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	E	HLI	VORTAC	112.00	292.00	R	1		2500	14000	4	10
2	E		WP	112.00	292.00	R		4	2500	14000	5	10

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (28-001410)	344434.00N/0892630.00W	1049	5E
2	200	TOWER (28-001410)	344434.00N/0892630.00W	1049	5E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PRIOR COORDINATION REQUIRED WITH CONTROLLING AGENCY FOR HOLDING OVER COLUMBUS MOA.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	HUNTSVILLE			KHSV	HUNTSVILLE	AL (US)
DP	MEMPHIS			KMEM	MEMPHIS	TN (US)
EN ROUTE	V11					(US)
EN ROUTE	V159					(US)
EN ROUTE	V16					(US)
EN ROUTE	V535					(US)
EN ROUTE	V54					(US)
EN ROUTE	V94					(US)
IAP	LOC/DME RWY 19			KPMU	BATESVILLE	MS (US)
IAP	RNAV (GPS) RWY 19			KPMU	BATESVILLE	MS (US)
IAP	VOR/DME OR GPS RWY 18			KM41	HOLLY SPRINGS	MS (US)
IAP	ILS OR LOC RWY 18		1	KOLV	OLIVE BRANCH	MS (US)
IAP	LOC/DME RWY 36		1	KOLV	OLIVE BRANCH	MS (US)
IAP	RNAV (GPS) RWY 36		2	KOLV	OLIVE BRANCH	MS (US)
IAP	LOC RWY 09			KUOX	OXFORD	MS (US)
IAP	VOR/DME OR GPS-A			KUOX	OXFORD	MS (US)
IAP	VOR/DME-A			K25M	RIPLEY	MS (US)
IAP	ILS OR LOC RWY 36			KTUP	TUPELO	MS (US)
IAP	ILS OR LOC RWY 09			KMEM	MEMPHIS	TN (US)
IAP	ILS OR LOC RWY 18C			KMEM	MEMPHIS	TN (US)
IAP	ILS OR LOC RWY 18L			KMEM	MEMPHIS	TN (US)
IAP	ILS OR LOC RWY 27			KMEM	MEMPHIS	TN (US)
IAP	ILS OR LOC RWY 36C			KMEM	MEMPHIS	TN (US)
IAP	ILS OR LOC RWY 36R			KMEM	MEMPHIS	TN (US)
IAP	ILS RWY 36C (CAT II)			KMEM	MEMPHIS	TN (US)
IAP	ILS RWY 36C (CAT III)			KMEM	MEMPHIS	TN (US)
IAP	ILS RWY 36R (CAT II)			KMEM	MEMPHIS	TN (US)
IAP	ILS RWY 36R (CAT III)			KMEM	MEMPHIS	TN (US)
IAP	RNAV (GPS) RWY 27			KMEM	MEMPHIS	TN (US)
IAP	RNAV (GPS) RWY 36C			KMEM	MEMPHIS	TN (US)
IAP	RNAV (GPS) RWY 36L			KMEM	MEMPHIS	TN (US)
IAP	RNAV (GPS) RWY 36R			KMEM	MEMPHIS	TN (US)
IAP	NDB RWY 19			KFYE	SOMERVILLE	TN (US)
STAR	LUGOH			KMEM	MEMPHIS	TN (US)
STAR	MARVELL			KMEM	MEMPHIS	TN (US)
STAR	MASHH (RNAV)			KMEM	MEMPHIS	TN (US)
STAR	WLDER			KMEM	MEMPHIS	TN (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 13 **DATE OF REVISION:** 03/10/2011

REASON FOR REVISION:

HOLDING PATTERN 2 LEG LENGTH CHANGED FROM 1 MINUTE TO 4 DME.
UPDATED HOLDING PATTERN 1 AND 2 CONTROLLING OBSTACLES.
UPDATED FIX USE.
MOVED NOTE "HOLDING LIMITED TO ESTABLISHED PATTERNS" FROM REMARKS TO HOLDING RESTRICTIONS.
ADDED NOTE "PRECIPITOUS TERRAIN EVALUATION COMPLETED.
UPDATED SIGNATURE BLOCKS.

DEVELOPED BY:	**DATE:** 06/08/2010	**OFFICE:** AVN-110	**NAME:** JILL OLSON
APPROVED BY:	**DATE:** 12/10/2010	**OFFICE:** AVN-110	**NAME:** GEORGE DAVIS
	SIGNATURE:		

DISTRIBUTION:
NFDC
FPO: EST
ARTCC: ZME
ATC FACILITY: MEM APP CON
OTHER:

Name:	MILLERJ
Project Name:	MEM MASHH1 GQO HEXIN 20120125
Software:	RNAV-Pro™
Version:	2.35
Date/Time:	1/25/2012 11:48:40 AM
Input File:	MASHH1 GQO HEXIN 20...
Databases:	AVNIS Date: 08/26/2011
	NFD Date: 07/02/2009
	DTED® (MAX) Date: 2002

Results Summary:

Flyability	✓
DME/DME	✓
Radars	✓
Comms	?
TERPS	?

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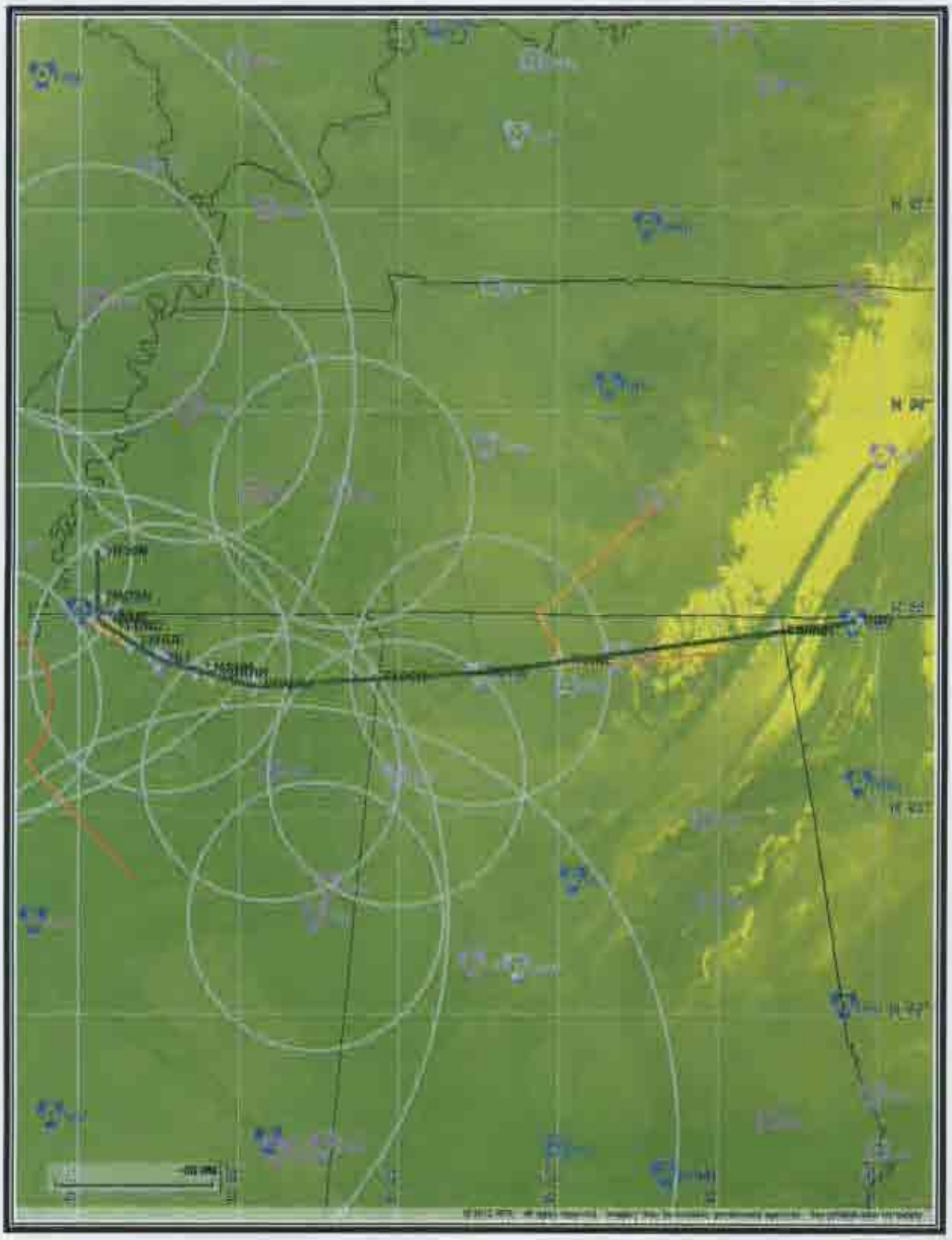


Flight Plan

Return To Summary

Name	Type	Lat/Lon	Alt [Ft]	VNAV Mode	IAS [Kts]	Turn Type	Leg Type
GQO	WP	N 34° 57' 40.54" W 85° 9' 12.14"	18000.0	Step	300.0	Fly By	TF
COMAR	WP	N 34° 54' 35.37" W 85° 38' 9.10"	18000.0	Step	300.0	Fly By	TF
TANNE	WP	N 34° 45' 38.68" W 86° 59' 14.53"	18000.0	Step	300.0	Fly By	TF
TALLO	WP	N 34° 42' 21.47" W 87° 30' 42.38"	18000.0	Step	300.0	Fly By	TF
FASON	WP	N 34° 40' 31.98" W 88° 9' 26.98"	18000.0	Step	300.0	Fly By	TF
CRAMM	WP	N 34° 38' 11.05" W 88° 53' 54.88"	10000.0	Step	250.0	Fly By	TF
LUGOH	WP	N 34° 41' 46.93" W 89° 9' 52.48"	6000.0	Step	250.0	Fly By	TF
MASHH	WP	N 34° 43' 5.51" W 89° 15' 43.70"	6000.0	Step	210.0	Fly By	TF
HLI	WP	N 34° 46' 12.95" W 89° 29' 47.39"	6000.0	Step	210.0	Fly By	TF
LARUE	WP	N 34° 51' 31.48" W 89° 40' 17.81"	6000.0	Step	180.0	Fly By	TF
FLOND	WP	N 34° 55' 50.90" W 89° 48' 41.19"	6000.0	Step	180.0	Fly By	TF
GIVME	WP	N 34° 58' 4.25" W 89° 52' 44.12"	6000.0	Step	180.0	Fly By	TF
HADSO	WP	N 35° 4' 4.77" W 89° 52' 51.77"	4000.0	Step	180.0	Fly By	TF
HEXIN	WP	N 35° 17' 42.66" W 89° 53' 9.20"	3000.0	Step	180.0	Fly Over	TF

Flyability

Return To Summary

Settings:

Flight Type: Arrival/Approach
Aircraft Category: Cat D
Climb Gradient: *None assigned*
Ground Speeds:

Table:

200.0 Kts up to **11000.0 Ft.**
240.0 Kts up to **18000.0 Ft.**
260.0 Kts up to **24000.0 Ft.**
340.0 Kts up to **99900.0 Ft.**

Wind Settings: *None assigned*
Descent During a Turn: Allowed
VNAV Mode: Flight Plan

Entire track is fly-able

DME/DME

Return To Summary

Settings:

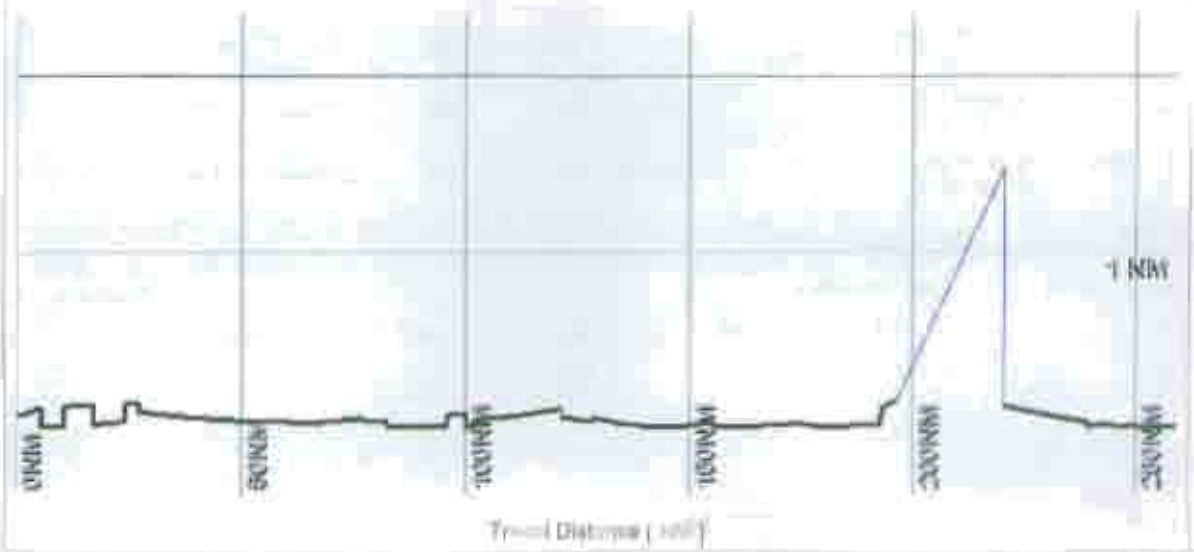
RNP: 2.0
Flight Mode: Manual
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Inertial Drift: Enabled
Initial Drift: 0.558 NM
INS Drift Rate: 8.000 NM/Hour
Range Mode: OSV
Co-Frequencies: Evaluated
RNP Edges: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , TACAN , and User
DME Include Angles: 30 to 150
Critical DMEs: Allowed
DoD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Flight Check DMEs: Selected
Higher Altitudes: Evaluated
Near Maximum Altitude: Evaluated

Total Number of DMEs Used: 18

Maximum DME Error: 1.342 NM

1 Critical DME was found.

Available DMEs: ATL, ODF, RMG, VXV, GQO, BNA, VUZ, DCU, RQZ, MSL, HAB, MEM, OTB, JKS, HLI, GQE, UJM, DYR



DME/DME (Continued.)

Return To Summary

DMEs Used

#	Name	Lat/Lon	Range	Source	Critical	Err. [NM]	Status	Time	Distance
1	ODF	N 34° 41' 45.14" W 83° 17' 51.56"	H	Database	NO	1.342	Enabled	1.3 %	1.4 %
2	RMG	N 34° 9' 45.22" W 85° 7' 9.83"	H	Database	NO	1.342	Enabled	13.3 %	14.8 %
3	ATL	N 33° 37' 42.68" W 84° 26' 6.26"	H	Database	NO	1.342	Enabled	0.7 %	0.7 %
4	VXV	N 35° 54' 17.42" W 83° 53' 41.02"	H	Database	NO	1.342	Enabled	2.9 %	3.3 %
5	GQO	N 34° 57' 40.54" W 85° 9' 12.14"	H	Database	NO	1.342	Enabled	13.0 %	14.5 %
6	BNA	N 36° 8' 13.06" W 86° 41' 5.18"	H	Database	NO	1.342	Enabled	21.1 %	23.5 %
7	VUZ	N 33° 40' 12.67" W 86° 53' 59.28"	H	Database	NO	1.342	Enabled	16.7 %	18.6 %
8	DCU	N 34° 38' 53.94" W 86° 56' 22.29"	L	Database	NO	1.342	Enabled	10.1 %	11.3 %
9	MSL	N 34° 42' 24.68" W 87° 29' 29.70"	L + ESV	User	NO	1.342	Enabled	23.9 %	23.7 %
10	RQZ	N 34° 47' 50.06" W 86° 38' 1.85"	L	Database	NO	1.342	Enabled	5.7 %	6.4 %
11	HAB	N 34° 11' 55.57" W 88° 0' 41.83"	L + ESV	User	NO	1.342	Enabled	12.1 %	13.3 %
12	OTB	N 34° 13' 25.88" W 88° 47' 50.44"	L + ESV	User	NO	1.382	Enabled	7.1 %	6.1 %
13	JKS	N 35° 35' 56.36" W 88° 21' 31.96"	L + ESV	User	NO	1.342	Enabled	10.7 %	9.7 %
14	HLI	N 34° 46' 12.95" W 89° 29' 47.39"	L + ESV	User	NO	1.441	Enabled	8.5 %	7.3 %
15	GQE	N 35° 20' 49.31" W 90° 28' 41.37"	L + ESV	User	NO	1.342	Enabled	13.5 %	11.6 %
16	UJM	N 34° 34' 30.16" W 90° 40' 27.84"	L + ESV	User	YES	2.100	Enabled	10.3 %	8.8 %
17	DYR	N 36° 1' 6.78" W 89° 19' 3.69"	L + ESV	User	NO	1.342	Enabled	1.3 %	1.1 %
18	MEM	N 35° 0' 54.42" W 89° 58' 59.55"	H	Database	NO	1.342	Enabled	6.1 %	5.2 %

Flight Check DME Selection

Distance [NM]	Selected DMEs					Alternate
0.0	ODF	RMG	ATL	VXV	GQO	
10.1	BNA	RMG	ATL	VXV	GQO	

DME/DME (Continued.)

Return To Summary

Flight Check DME Selection (Continued.)

Distance [NM]	Selected DMEs					Alternate
24.0	BNA	RMG	VUZ	DCU	GQO	RQZ
74.5	BNA	MSL	VUZ	RQZ	GQO	DCU
91.2	DCU	MSL	VUZ	RQZ	GQO	BNA
101.3	DCU	MSL	VUZ	RQZ	BNA	
117.1	DCU	MSL	VUZ	HAB	BNA	
139.3	MEM	MSL	VUZ	HAB		
149.5	MEM	MSL	JKS	HAB	OTB	VUZ
175.6	OTB	MSL	JKS	HLI		
185.7	OTB	MSL	JKS	HLI		
199.8	OTB	HLI				
204.8	OTB	HLI	MEM	GQE		
216.4	UJM	HLI	MEM	GQE		
227.0	UJM	HLI	MEM	GQE		
235.1	UJM	HLI	MEM	GQE		
238.3	UJM	HLI	MEM	GQE	DYR	
245.0	UJM	HLI	MEM	GQE		

Inertial Drift Segments

#	Start Location	End Location	Length [NM]
1	N 34° 42' 9.83" W 87° 34' 56.02"	N 34° 42' 9.13" W 87° 35' 11.76"	0.2
	VOR: DCU	Available from N 34° 42' 9.83" W 87° 34' 56.02" to N 34° 42' 9.13" W 87° 35' 11.76"	
	VOR: HAB	Available from N 34° 42' 9.83" W 87° 34' 56.02" to N 34° 42' 9.13" W 87° 35' 11.76"	
	VOR: MSL	Available from N 34° 42' 9.83" W 87° 34' 56.02" to N 34° 42' 9.13" W 87° 35' 11.76"	
2	N 34° 40' 48.59" W 89° 5' 32.92"	N 34° 47' 53.27" W 89° 33' 6.05"	23.9
	VOR: HLI	Available from N 34° 40' 48.59" W 89° 5' 32.92" to N 34° 47' 53.27" W 89° 33' 6.05"	
	VOR: OTB	Available from N 34° 40' 48.59" W 89° 5' 32.92" to N 34° 43' 52.89" W 89° 19' 16.30"	
	VOR: MEM	Available from N 34° 43' 2.43" W 89° 15' 29.85" to N 34° 47' 53.27" W 89° 33' 6.05"	

DME/DME (Continued.)

Return To Summary

User DMEs

#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
1	SQS	N 33° 27' 49.90" W 90° 16' 38.40"	H	125.0	114.70	SQS	Not Used
		ESV: Bearing [True]: 303.0° to 350.0° Bearing [Mag]: 300.0° to 347.0°			Arc Distance: Out to 77.0 NM Altitude: 6500.0 to 23000.0 Ft.		
2	GQE	N 35° 20' 49.31" W 90° 28' 41.37"	L	211.0	113.00	GQE	Used
		ESV: Bearing [True]: 110.0° to 200.0° Bearing [Mag]: 106.0° to 196.0°			Arc Distance: Out to 62.0 NM Altitude: 3200.0 to 19000.0 Ft.		
3	HLI	N 34° 46' 12.95" W 89° 29' 47.39"	L	636.0	112.40	HLI	Used
		ESV: Bearing [True]: 246.0° to 288.0° Bearing [Mag]: 243.0° to 285.0°			Arc Distance: Out to 96.0 NM Altitude: 8500.0 to 19000.0 Ft.		
		ESV: Bearing [True]: 324.0° to 340.0° Bearing [Mag]: 321.0° to 337.0°			Arc Distance: Out to 75.0 NM Altitude: 7500.0 to 19000.0 Ft.		
		ESV: Bearing [True]: 290.0° to 328.0° Bearing [Mag]: 287.0° to 325.0°			Arc Distance: Out to 51.0 NM Altitude: 2500.0 to 18000.0 Ft.		
4	OTB	N 34° 13' 25.88" W 88° 47' 50.44"	L	363.7	109.80	OTB	Used
		ESV: Bearing [True]: 291.0° to 298.0° Bearing [Mag]: 287.0° to 294.0°			Arc Distance: Out to 71.0 NM Altitude: 3200.0 to 15000.0 Ft.		
		ESV: Bearing [True]: 345.0° to 37.0° Bearing [Mag]: 341.0° to 33.0°			Arc Distance: Out to 64.0 NM Altitude: 10000.0 to 12000.0 Ft.		
		ESV: Bearing [True]: 312.0° to 11.0° Bearing [Mag]: 308.0° to 7.0°			Arc Distance: Out to 62.0 NM Altitude: 3500.0 to 12000.0 Ft.		
5	DYR	N 36° 1' 6.78" W 89° 19' 3.69"	L	388.7	116.80	DYR	Used
		ESV: Bearing [True]: 220.0° to 303.0° Bearing [Mag]: 217.0° to 300.0°			Arc Distance: Out to 58.0 NM Altitude: 4200.0 to 23000.0 Ft.		
		ESV: Bearing [True]: 223.0° to 245.0° Bearing [Mag]: 220.0° to 242.0°			Arc Distance: Out to 79.0 NM Altitude: 5000.0 to 21000.0 Ft.		
		ESV: Bearing [True]: 186.0° to 201.0° Bearing [Mag]: 185.0° to 198.0°			Arc Distance: Out to 62.0 NM Altitude: 3200.0 to 18000.0 Ft.		
		ESV: Bearing [True]: 180.0° to 210.0° Bearing [Mag]: 177.0° to 207.0°			Arc Distance: Out to 72.0 NM Altitude: 4500.0 to 16000.0 Ft.		
6	ARG	N 36° 6' 35.95" W 90° 57' 13.23"	H	260.0	114.50	ARG	Not Used
		ESV: Bearing [True]: 115.0° to 168.0° Bearing [Mag]: 111.0° to 164.0°			Arc Distance: Out to 69.0 NM Altitude: 4500.0 to 19000.0 Ft.		

DME/DME (Continued.)

Return To Summary

User DMEs (Continued.)

#	Name	Lat/Lon	Range	Elevation (Ft)	Frequency	Replaces:	Status
7	UJM	N 34° 34' 30.16" W 90° 40' 27.84"	L	240.8	109.60	UJM	Used
	Restriction:	Bearing [True]: 351.0° to 136.0° Bearing [Mag]: 350.0° to 135.0°		Distance: Beyond 25.0 NM Altitude: Below 2600.0 Ft.			
	ESV:	Bearing [True]: 15.0° to 90.0° Bearing [Mag]: 14.0° to 89.0°		Arc Distance: Out to 60.0 NM Altitude: 3500.0 to 18000.0 Ft.			
	ESV:	Bearing [True]: 50.0° to 70.0° Bearing [Mag]: 49.0° to 69.0°		Arc Distance: Out to 59.0 NM Altitude: 3000.0 to 17000.0 Ft.			
8	IGB	N 33° 29' 7.75" W 88° 30' 48.93"	L	240.1	116.20	IGB	Not Used
	ESV:	Bearing [True]: 265.0° to 301.0° Bearing [Mag]: 261.0° to 297.0°		Arc Distance: Out to 96.0 NM Altitude: 8500.0 to 23000.0 Ft.			
	ESV:	Bearing [True]: 260.0° to 319.0° Bearing [Mag]: 256.0° to 315.0°		Arc Distance: Out to 98.0 NM Altitude: 8500.0 to 23000.0 Ft.			
9	MEI	N 32° 22' 42.43" W 88° 46' 15.31"	H	578.1	117.00	MEI	Not Used
	ESV:	Bearing [True]: 305.0° to 316.0° Bearing [Mag]: 300.0° to 313.0°		Arc Distance: Out to 109.0 NM Altitude: 12000.0 to 25000.0 Ft.			
10	HAB	N 34° 11' 55.57" W 88° 0' 41.83"	L	802.1	110.40	HAB	Used
	ESV:	Bearing [True]: 315.0° to 358.0° Bearing [Mag]: 313.0° to 356.0°		Arc Distance: Out to 73.0 NM Altitude: 10000.0 to 15000.0 Ft.			
11	MSL	N 34° 42' 24.68" W 87° 29' 29.70"	L	579.7	116.50	MSL	Used
	Restriction:	Bearing [True]: 47.0° to 85.0° Bearing [Mag]: 46.0° to 84.0°		Distance: Beyond 25.0 NM Altitude: Below 2000.0 Ft.			
	ESV:	Bearing [True]: 238.0° to 281.0° Bearing [Mag]: 235.0° to 280.0°		Arc Distance: Out to 90.0 NM Altitude: 7500.0 to 21000.0 Ft.			
	ESV:	Bearing [True]: 296.0° to 350.0° Bearing [Mag]: 295.0° to 349.0°		Arc Distance: Out to 82.0 NM Altitude: 12000.0 to 21000.0 Ft.			
12	JKS	N 35° 35' 56.36" W 88° 21' 31.96"	L	630.0	109.40	JKS	Used
	ESV:	Bearing [True]: 236.0° to 245.0° Bearing [Mag]: 234.0° to 243.0°		Arc Distance: Out to 73.0 NM Altitude: 4800.0 to 18000.0 Ft.			
	ESV:	Bearing [True]: 176.0° to 235.0° Bearing [Mag]: 174.0° to 233.0°		Arc Distance: Out to 84.0 NM Altitude: 6200.0 to 19000.0 Ft.			

DME/DME (Continued.)

Return To Summary

User DMEs (Continued.)

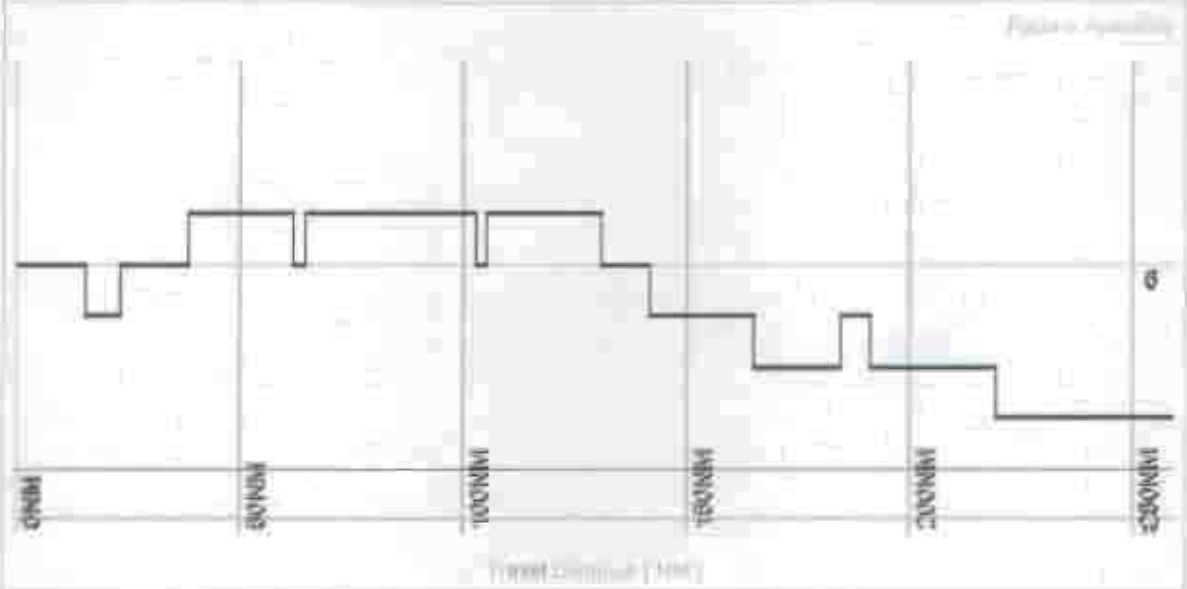
#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
13	MAW	N 36° 33' 18.41" W 89° 54' 41.12"	L	280.0	111.20	MAW	Not Used

ESV:	Bearing [True] Bearing [Mag]	187.0° to 207.0° 184.0° to 204.0°	Arc Distance: Out to 86.0 NM Altitude: 4000.0 to 16000.0 Ft.
ESV:	Bearing [True] Bearing [Mag]	146.0° to 183.0° 143.0° to 180.0°	Arc Distance: Out to 59.0 NM Altitude: 7000.0 to 23000.0 Ft.

Radar Analysis

Return To Summary

Settings: **Radar Types:** ARSR and ASR



Name:	MILLERJ
Project Name:	MEM MASHH1 VUZ TO FASOP 20120125
Software:	RNAV-Pro™
Version:	2.35
Date/Time:	1/25/2012 11:21:03 AM
Input File:	MASHH1 VUZ FASOP 201
Databases:	AVNIS Date: 08/25/2011
	NFD Date: 07/02/2009
	DTED® (MAX) Date: 2002

Results Summary:

Flyability	✓ **Please Check Flyability Results**
DME/DME	✓
Radars	✓
Comms	?
TERPS	?

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Flight Plan

Return To Summary

Name	Type	Lat/Lon	Alt [Ft]	VNAV Mode	IAS [Kts]	Turn Type	Leg Type
VUZ	WP	N 33° 40' 12.67" W 86° 53' 59.28"	24000.0	Step	300.0	Fly By	TF
CHOOK	WP	N 33° 56' 4.62" W 87° 27' 21.41"	24000.0	Step	300.0	Fly By	TF
WASER	WP	N 34° 12' 26.54" W 88° 1' 43.83"	18000.0	Step	250.0	Fly By	TF
ERASE	WP	N 34° 20' 10.02" W 88° 17' 15.32"	10000.0	Step	250.0	Fly By	TF
CRAMM	WP	N 34° 38' 11.05" W 88° 53' 54.88"	10000.0	Step	210.0	Fly By	TF
LUGOH	WP	N 34° 41' 46.93" W 89° 9' 52.48"	10000.0	Step	210.0	Fly By	TF
MASHH	WP	N 34° 43' 5.51" W 89° 15' 43.70"	6000.0	Step	180.0	Fly By	TF
FASOP	WP	N 34° 43' 9.05" W 89° 18' 9.21"	6000.0	Step	180.0	Fly Over	TF

Flyability

Return To Summary

Settings:

Flight Type: Arrival/Approach
Aircraft Category: Cat D
Climb Gradient: *None assigned*
Ground Speeds:

Table

200.0 Kts up to **11000.0 Ft.**
240.0 Kts up to **18000.0 Ft.**
260.0 Kts up to **24000.0 Ft.**
340.0 Kts up to **99900.0 Ft.**

Wind Settings: *None assigned*
Descent During a Turn: Allowed
VNAV Mode: Flight Plan

ALTITUDE at Fly-By WP ERASE too high

ALTITUDE at Fly-By WP MASHH too high

DME/DME

Return To Summary

Settings:

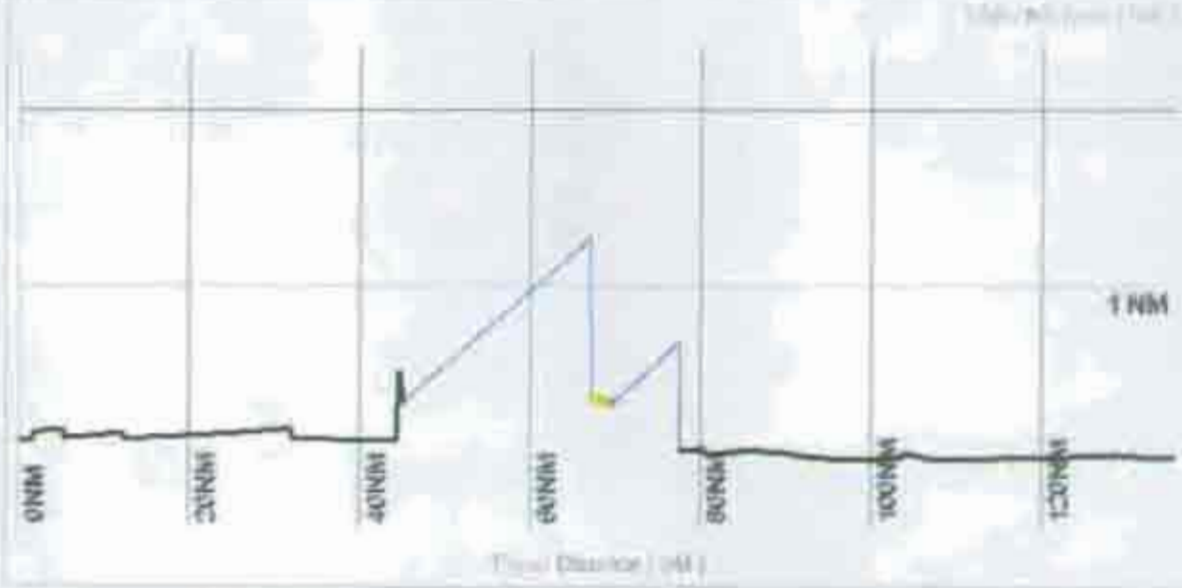
RNP: 2.0
Flight Mode: Manual
Line of Sight (DTED Level 0 Max): Evaluated
DME Restrictions: Evaluated
Inertial Drift: Enabled
Initial Drift: 0.556 NM
INS Drift Rate: 8.000 NM/Hour
Range Mode: OSV
Co-Frequencies: Evaluated
RNP Edges: Evaluated
Min DME Range: 3.0 NM
Allowed Gap Length: 4.0 NM
DME Types: VOR/DME , VORTAC , TACAN , and User
DME Include Angles: 30 to 150
Critical DMEs: Allowed
DoD Facilities: Not included
Foreign Facilities: Not included
Low & Terminal DMEs: Included
Flight Check DMEs: Selected
Higher Altitudes: Evaluated
Near Maximum Altitude: Evaluated

Total Number of DMEs Used: 12

Maximum DME Error: 1.201 NM

No Critical DMEs were found

Available DMEs: MEI, ATL, GQO, JYU, LGC, MGM, RMG, VUZ, MEM, HAB, OTB, MSL, JKS, HLI



DME/DME (Continued.)

Return To Summary

DMEs Used

#	Name	Lat/Lon	Range	Source	Critical	Err. [NM]	Status	Time	Distance
1	MGM	N 32° 13' 20.22" W 86° 19' 11.03"	H	Database	NO	1.201	Enabled	4.6 %	6.3 %
2	RMG	N 34° 9' 45.22" W 85° 7' 9.83"	H	Database	NO	1.201	Enabled	14.8 %	20.8 %
3	ATL	N 33° 37' 42.68" W 84° 26' 6.26"	H	Database	NO	1.201	Enabled	1.9 %	2.6 %
4	JYU	N 32° 20' 40.58" W 86° 59' 28.56"	H	Database	NO	1.064	Enabled	12.8 %	17.8 %
5	MEI	N 32° 22' 42.43" W 88° 48' 15.31"	H + ESV	User	NO	1.201	Enabled	6.3 %	9.2 %
6	VUZ	N 33° 40' 12.67" W 86° 53' 59.26"	H	Database	NO	1.681	Enabled	6.3 %	9.2 %
7	HAB	N 34° 11' 55.57" W 88° 0' 41.83"	L + ESV	User	NO	1.656	Enabled	17.0 %	14.7 %
8	MEM	N 35° 0' 54.42" W 89° 58' 59.55"	H	Database	NO	1.201	Enabled	0.3 %	0.3 %
9	OTB	N 34° 13' 25.68" W 88° 47' 50.44"	L + ESV	User	NO	1.550	Enabled	31.6 %	26.5 %
10	MSL	N 34° 42' 24.68" W 87° 29' 29.70"	L + ESV	User	NO	1.201	Enabled	14.3 %	12.1 %
11	JKS	N 35° 35' 56.36" W 88° 21' 31.96"	L + ESV	User	NO	1.201	Enabled	29.0 %	24.0 %
12	HLI	N 34° 46' 12.95" W 89° 29' 47.39"	L + ESV	User	NO	1.201	Enabled	14.8 %	12.2 %

Flight Check DME Selection

Distance [NM]	Selected DMEs					Alternate
0.0	MGM	RMG	JYU	ATL	LGC	MEI
31.9	MEM	VUZ	JYU	MEI	HAB	RMG
64.8	HAB	VUZ	MSL	OTB		
79.9	HAB	JKS	MSL	OTB	HLI	
114.7	HLI	JKS	MSL	OTB		
128.7	HLI	JKS	MSL	OTB		
133.4	HLI	JKS	MEM	OTB		

DME/DME (Continued.)

Return To Summary

Inertial Drift Segments

#	Start Location	End Location	Length [NM]
1	N 34° 2' 44.32" W 87° 41' 17.12"	N 34° 13' 32.23" W 88° 3' 56.00"	21.7
	VOR: HAB	Available from N 34° 2' 44.32" W 87° 41' 17.12" to N 34° 13' 32.23" W 88° 3' 56.00"	
	VOR: MSL	Available from N 34° 4' 23.57" W 87° 44' 45.32" to N 34° 12' 14.57" W 88° 1' 18.44"	
	VOR: CBM	Available from N 34° 10' 7.94" W 87° 56' 50.56" to N 34° 13' 32.23" W 88° 3' 56.00"	
	VOR: OTB	Available from N 34° 11' 29.52" W 87° 59' 43.07" to N 34° 13' 32.23" W 88° 3' 56.00"	
2	N 34° 14' 54.77" W 88° 6' 41.42"	N 34° 18' 55.80" W 88° 14' 45.82"	7.8
	VOR: CBM	Available from N 34° 14' 54.77" W 88° 6' 41.42" to N 34° 15' 27.77" W 88° 7' 47.81"	
	VOR: HAB	Available from N 34° 14' 54.77" W 88° 6' 41.42" to N 34° 18' 55.80" W 88° 14' 45.82"	
	VOR: OTB	Available from N 34° 14' 54.77" W 88° 6' 41.42" to N 34° 18' 55.80" W 88° 14' 45.82"	
3	N 34° 43' 8.37" W 89° 17' 42.45"	N 34° 43' 8.98" W 89° 18' 6.70"	0.3
	VOR: HLI	Available from N 34° 43' 8.37" W 89° 17' 42.45" to N 34° 43' 8.98" W 89° 18' 6.70"	
	VOR: MEM	Available from N 34° 43' 8.37" W 89° 17' 42.45" to N 34° 43' 8.98" W 89° 18' 6.70"	
	VOR: OTB	Available from N 34° 43' 8.37" W 89° 17' 42.45" to N 34° 43' 8.98" W 89° 18' 6.70"	

User DMEs

#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
1	SQS	N 33° 27' 49.90" W 90° 16' 38.40"	H	125.0	114.70	SQS	Not Used
	ESV:	Bearing [True]: 303.0° to 350.0° Bearing [Mag]: 300.0° to 347.0°		Arc Distance: Out to 77.0 NM Altitude: 6500.0 to 23000.0 Ft.			

DME/DME (Continued.)

Return To Summary

User DMEs (Continued.)

#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
2	GQE	N 35° 20' 49.31" W 90° 28' 41.37"	L	211.0	113.00	GQE	Not Used
		ESV: Bearing [True]: 110.0° to 200.0° Bearing [Mag]: 106.0° to 196.0°			Arc Distance: Out to 62.0 NM Altitude: 3200.0 to 19000.0 Ft.		
3	HLI	N 34° 46' 12.95" W 89° 29' 47.39"	L	630.0	112.40	HLI	Used
		ESV: Bearing [True]: 246.0° to 288.0° Bearing [Mag]: 243.0° to 285.0°			Arc Distance: Out to 96.0 NM Altitude: 8500.0 to 19000.0 Ft.		
		ESV: Bearing [True]: 324.0° to 340.0° Bearing [Mag]: 321.0° to 337.0°			Arc Distance: Out to 75.0 NM Altitude: 7500.0 to 19000.0 Ft.		
		ESV: Bearing [True]: 290.0° to 328.0° Bearing [Mag]: 287.0° to 325.0°			Arc Distance: Out to 51.0 NM Altitude: 2500.0 to 18000.0 Ft.		
4	OTB	N 34° 13' 25.86" W 88° 47' 50.44"	L	363.7	109.80	OTB	Used
		ESV: Bearing [True]: 291.0° to 298.0° Bearing [Mag]: 287.0° to 294.0°			Arc Distance: Out to 71.0 NM Altitude: 3200.0 to 15000.0 Ft.		
		ESV: Bearing [True]: 345.0° to 37.0° Bearing [Mag]: 341.0° to 33.0°			Arc Distance: Out to 64.0 NM Altitude: 10000.0 to 12000.0 Ft.		
		ESV: Bearing [True]: 312.0° to 11.0° Bearing [Mag]: 308.0° to 7.0°			Arc Distance: Out to 62.0 NM Altitude: 3500.0 to 12000.0 Ft.		
5	DYR	N 36° 1' 6.78" W 89° 19' 3.69"	L	388.7	116.80	DYR	Not Used
		ESV: Bearing [True]: 220.0° to 303.0° Bearing [Mag]: 217.0° to 300.0°			Arc Distance: Out to 58.0 NM Altitude: 4200.0 to 23000.0 Ft.		
		ESV: Bearing [True]: 223.0° to 245.0° Bearing [Mag]: 220.0° to 242.0°			Arc Distance: Out to 79.0 NM Altitude: 5000.0 to 21000.0 Ft.		
		ESV: Bearing [True]: 188.0° to 201.0° Bearing [Mag]: 185.0° to 198.0°			Arc Distance: Out to 62.0 NM Altitude: 3200.0 to 18000.0 Ft.		
		ESV: Bearing [True]: 180.0° to 210.0° Bearing [Mag]: 177.0° to 207.0°			Arc Distance: Out to 72.0 NM Altitude: 4500.0 to 16000.0 Ft.		
6	ARG	N 36° 6' 35.95" W 90° 57' 13.23"	H	260.0	114.50	ARG	Not Used
		ESV: Bearing [True]: 115.0° to 168.0° Bearing [Mag]: 111.0° to 164.0°			Arc Distance: Out to 69.0 NM Altitude: 4500.0 to 19000.0 Ft.		

DME/DME (Continued.)

Return To Summary

User DMEs (Continued.)

#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
7	UJM	N 34° 34' 30.16" W 90° 40' 27.84"	L	240.6	109.60	UJM	Not Used
	Restriction:	Bearing [True]: 351.0° to 136.0° Bearing [Mag]: 350.0° to 135.0°			Distance: Beyond 25.0 NM Altitude: Below 2800.0 Ft.		
	ESV:	Bearing [True]: 15.0° to 90.0° Bearing [Mag]: 14.0° to 89.0°			Arc Distance: Out to 60.0 NM Altitude: 3500.0 to 18000.0 Ft.		
	ESV:	Bearing [True]: 50.0° to 70.0° Bearing [Mag]: 49.0° to 69.0°			Arc Distance: Out to 59.0 NM Altitude: 3000.0 to 17000.0 Ft.		
8	IGB	N 33° 29' 7.75" W 88° 30' 48.93"	L	240.1	116.20	IGB	Not Used
	ESV:	Bearing [True]: 265.0° to 301.0° Bearing [Mag]: 261.0° to 297.0°			Arc Distance: Out to 96.0 NM Altitude: 8500.0 to 23000.0 Ft.		
	ESV:	Bearing [True]: 260.0° to 319.0° Bearing [Mag]: 256.0° to 315.0°			Arc Distance: Out to 98.0 NM Altitude: 8500.0 to 23000.0 Ft.		
9	MEI	N 32° 22' 42.43" W 88° 48' 15.31"	H	578.1	117.00	MEI	Used
	ESV:	Bearing [True]: 305.0° to 318.0° Bearing [Mag]: 300.0° to 313.0°			Arc Distance: Out to 109.0 NM Altitude: 12000.0 to 25000.0 Ft.		
10	HAB	N 34° 11' 55.57" W 88° 0' 41.83"	L	602.1	110.40	HAB	Used
	ESV:	Bearing [True]: 315.0° to 358.0° Bearing [Mag]: 313.0° to 356.0°			Arc Distance: Out to 73.0 NM Altitude: 10000.0 to 15000.0 Ft.		
11	MSL	N 34° 42' 24.68" W 87° 29' 29.70"	L	579.7	116.50	MSL	Used
	Restriction:	Bearing [True]: 47.0° to 85.0° Bearing [Mag]: 46.0° to 84.0°			Distance: Beyond 25.0 NM Altitude: Below 2000.0 Ft.		
	ESV:	Bearing [True]: 236.0° to 281.0° Bearing [Mag]: 235.0° to 280.0°			Arc Distance: Out to 90.0 NM Altitude: 7500.0 to 21000.0 Ft.		
	ESV:	Bearing [True]: 296.0° to 350.0° Bearing [Mag]: 295.0° to 349.0°			Arc Distance: Out to 82.0 NM Altitude: 12000.0 to 21000.0 Ft.		
12	JKS	N 35° 35' 56.36" W 88° 21' 31.96"	L	630.0	109.40	JKS	Used
	ESV:	Bearing [True]: 236.0° to 245.0° Bearing [Mag]: 234.0° to 243.0°			Arc Distance: Out to 73.0 NM Altitude: 4800.0 to 18000.0 Ft.		
	ESV:	Bearing [True]: 176.0° to 235.0° Bearing [Mag]: 174.0° to 233.0°			Arc Distance: Out to 84.0 NM Altitude: 6200.0 to 19000.0 Ft.		

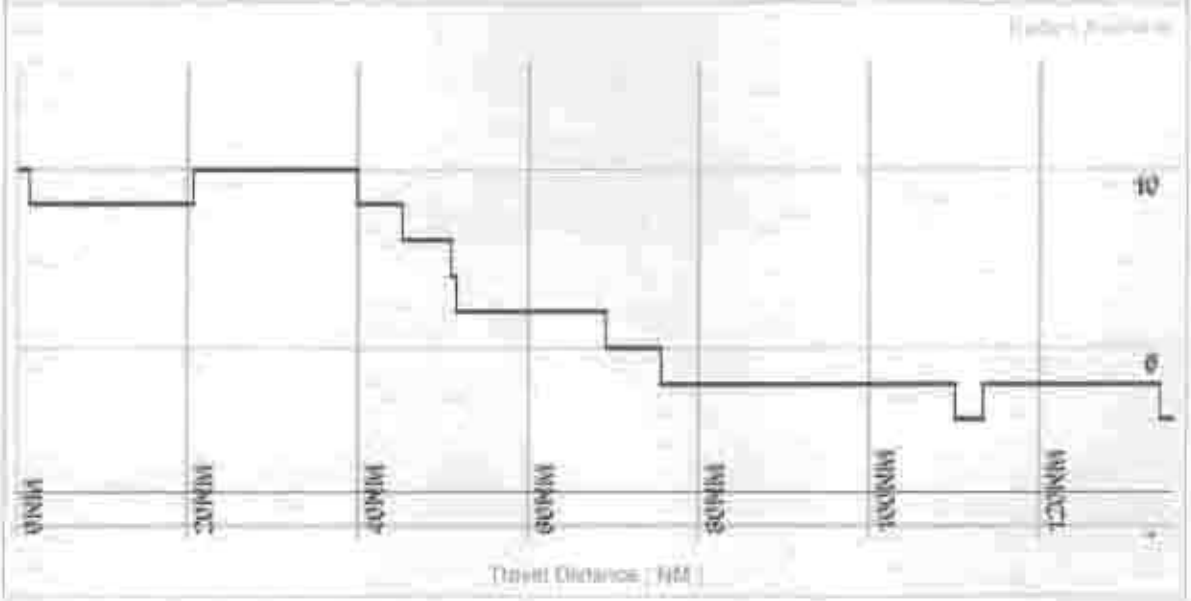
DME/DME (Continued.)

Return To Summary

User DMEs (Continued.)

#	Name	Lat/Lon	Range	Elevation [Ft]	Frequency	Replaces:	Status
13	MAW	N 36° 33' 18.41" W 89° 54' 41.12"	L	280.0	111.20	MAW	Not Used
		ESV:	Bearing [True]: 187.0° to 207.0° Bearing [Mag]: 184.0° to 204.0°		Arc Distance: Out to 86.0 NM Altitude: 4000.0 to 16000.0 Ft.		
		ESV:	Bearing [True]: 146.0° to 183.0° Bearing [Mag]: 143.0° to 180.0°		Arc Distance: Out to 59.0 NM Altitude: 7000.0 to 23000.0 Ft.		

Radar Analysis

Return To Summary

Settings: **Radar Types:** ARSR and ASR