

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STANDARD TERMINAL ARRIVAL (STAR)

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated.
Distances are in nautical miles (NM). Graphic depictions attached.

Arrival Name	Number	STAR Computer Code	Superseded Number	Dated	Effective Date
MALNR (RNAV)	THREE	MALNR.MALNR3	TWO	01/10/2013	

TRANSITION ROUTES:

Transition Name	Transition Computer Codes	From FIX/NAVAID	To FIX/NAVAID	Mag Course	Distance	MEA	MOCA	MAA	Crossing Altitudes / Fixes
FLORENCE	FLO.MALNR3	FLO VORTAC	FLO VORTAC						
		FLO VORTAC	HOGIL	017.85	43.80	11000	2000		
		HOGIL	ETBUY	017.92	09.58	11000	1800		
		ETBUY	MALNR	017.92	20.25	4000	2000		AT/ABOVE 11000
COLLIERS	IRQ.MALNR3	IRQ VORTAC	IRQ VORTAC						
		IRQ VORTAC	PYRES	082.11	32.24	FL190			
		PYRES	JURDI	066.95	99.20	11000	2500		AT FL230
		JURDI	SMIRF	034.50	31.68	11000	2000		AT/BELOW FL210
		SMIRF	MALNR	034.57	16.01	4000	2000		AT/ABOVE 11000
SAVANNAH	SAV.MALNR3	SAV VORTAC	SAV VORTAC						
		SAV VORTAC	PETTO	013.05	54.39	FL190			
		PETTO	JURDI	041.09	119.02	11000	1900		AT FL230
		JURDI	SMIRF	034.50	31.68	11000	2000		AT/BELOW FL210
		SMIRF	MALNR	034.57	16.01	4000	2000		AT/ABOVE 11000
TREAL	TREAL.MALNR3	TREAL	TREAL						
		TREAL	JURDI	047.29	127.42	11000	2100		AT FL230
		JURDI	SMIRF	034.50	31.68	11000	2000		AT/BELOW FL210
		SMIRF	MALNR	034.57	16.01	4000	2000		AT/ABOVE 11000

ARRIVAL ROUTE DESCRIPTION:

FROM MALNR ON TRACK 038.75/4.00 TO CROSS BUZZY BETWEEN 10000 AND 16000 AND AT 250 KIAS, THEN ON TRACK 062.40/6.81 TO RASKL.

LANDING RWY 5L/R: FROM RASKL ON TRACK 066.76/6.97 TO CROSS NEDIE BETWEEN 6000 AND 8000, THEN ON TRACK 068.36/3.07 TO CROSS OTTOS AT 6000 AND AT 230 KIAS. EXPECT RNAV (RNP) APPROACH OR RADAR VECTORS TO FINAL APPROACH COURSE.

LANDING RWY 23L: FROM RASKL ON TRACK 062.66/6.00 TO CROSS WISPY AT OR BELOW 12000, THEN ON TRACK 062.72/16.78 TO CROSS CAKEY AT 8000 AND AT 210 KIAS, THEN ON TRACK 098.30/5.78 TO JODUS, THEN ON TRACK 073.30/4.87 TO KENCH, THEN ON TRACK 054.21/2.87 TO LEZZY, THEN ON TRACK 054.21. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

LANDING RWY 23R: FROM RASKL ON TRACK 062.66/6.00 TO CROSS WISPY AT OR BELOW 12000, THEN ON TRACK 062.72/16.78 TO CROSS CAKEY AT 8000 AND AT 210 KIAS, THEN ON TRACK 018.95/5.70 TO FRETO, THEN ON TRACK 031.94/4.42 TO GLEYS, THEN ON TRACK 054.12/3.00 TO JOLTY, THEN ON TRACK 054.12. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

PROCEDURAL DATA NOTES:

NOTE: RADAR REQUIRED

NOTE: RNAV 1

NOTE: DME/DME/IRU OR GPS REQUIRED

NOTE: TURBOJET AIRCRAFT ONLY



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CHART: CROSS MALNR AT 250 KIAS.

NOTE: FLORENCE TRANSITION ASSIGNED BY ATC ONLY.

NOTE: LANDING NORTHEAST: SELECT RWY 5L. EXPECT TO RECEIVE LANDING DIRECTION FROM WASHINGTON ARTCC; RDU APPROACH WILL ASSIGN LANDING RUNWAY.

NOTE: LANDING SOUTHWEST: SELECT RWY 23R. EXPECT TO RECEIVE LANDING DIRECTION FROM WASHINGTON ARTCC; RDU APPROACH WILL ASSIGN LANDING RUNWAY.

NOTE: LANDING RWY 5L/R: FOR NON-RNP AIRCRAFT, EXPECT RADAR VECTORS TO FINAL APPROACH COURSE AFTER OTTOS.

FIXES AND/OR HOLDING PATTERNS:

CHART HOLDING AT BUZZY: HOLD SW, RT, 062.40 INBOUND, 10 NM LEGS.

COMMUNICATIONS:

RDU ATIS. APP CON.

AIRPORTS SERVED:

RALEIGH-DURHAM INTL, DURHAM, NC (KRDU)

LOST COMMUNICATIONS PROCEDURE:

REMARKS:

ADDITIONAL FLIGHT DATA:

DME/DME ASSESSMENT: NOT CONDUCTED

REFERENCE MAGNETIC VARIATION = KRDU 09W/2020

CHART: 5311, A, B, C.

FLIGHT INSPECTED BY:

JORGE A MALCUN

Name

FICO

Organization

6/20/17

Date

Digitally signed by

CASIMIR L TABAKA

Jun 23, 2017

Signature

DEVELOPED BY:

CHERYL ZBROWSKI, FAA CLT OAPM LEAD, RON MYERS

NATCA CLT OAPM LEAD

Name

CLT METROPLEX

Organization

05/18/2017

Date

Digitally signed by

CASIMIR L TABAKA

Jun 23, 2017

Signature

APPROVED BY:

MARLON J. ROBINSON, MANAGER

Name

AJV-5440

Organization

Date

Digitally signed by

JOHNNIE BAKER

Aug 03, 2017

Signature

CHANGES:

1. AORTA TRANSITION SHORTENED TO BEGIN AT TREAL AND RENAMED TREAL.MALNR3
2. MAGNETIC COURSES UPDATED TO REFLECT 9W MAGNETIC VARIATION.
3. REMOVED MEA'S IN ARRIVAL ROUTE.



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MALNR (RNAV)	THREE	MALNR.MALNR3	TWO	01/10/2013	

REASONS:

1. FMS FUNCTIONALITY.
2. MAGNETIC VARIATION UPDATED FROM 07W TO 09W IAW 2020 MAG VAR TABLE.
3. NO LONGER REQUIRED.

08/02/2017: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 06/23/2017.

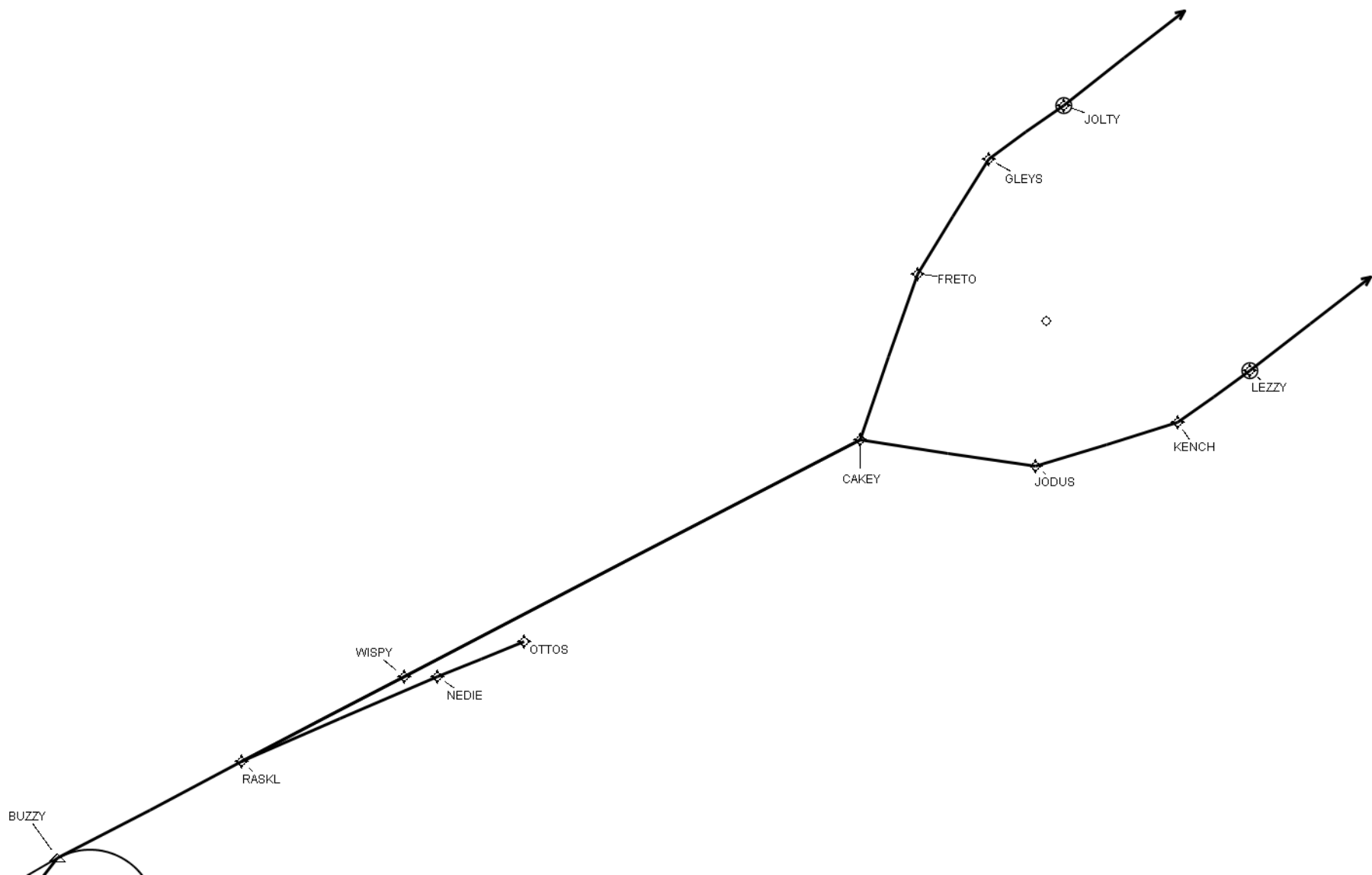
1. CHANGED ARRIVAL DESCRIPTION MAGNETIC HEADINGS FOR RWY'S 23L/23R FROM 052.21/052.12 TO 054.21/054.12 ON 17.1 FORM.
2. CHANGED MAGNETIC HOLDING AT BUZZY FROM 060.40 TO 062.40 TO RETAIN SAME GROUND TRACK.



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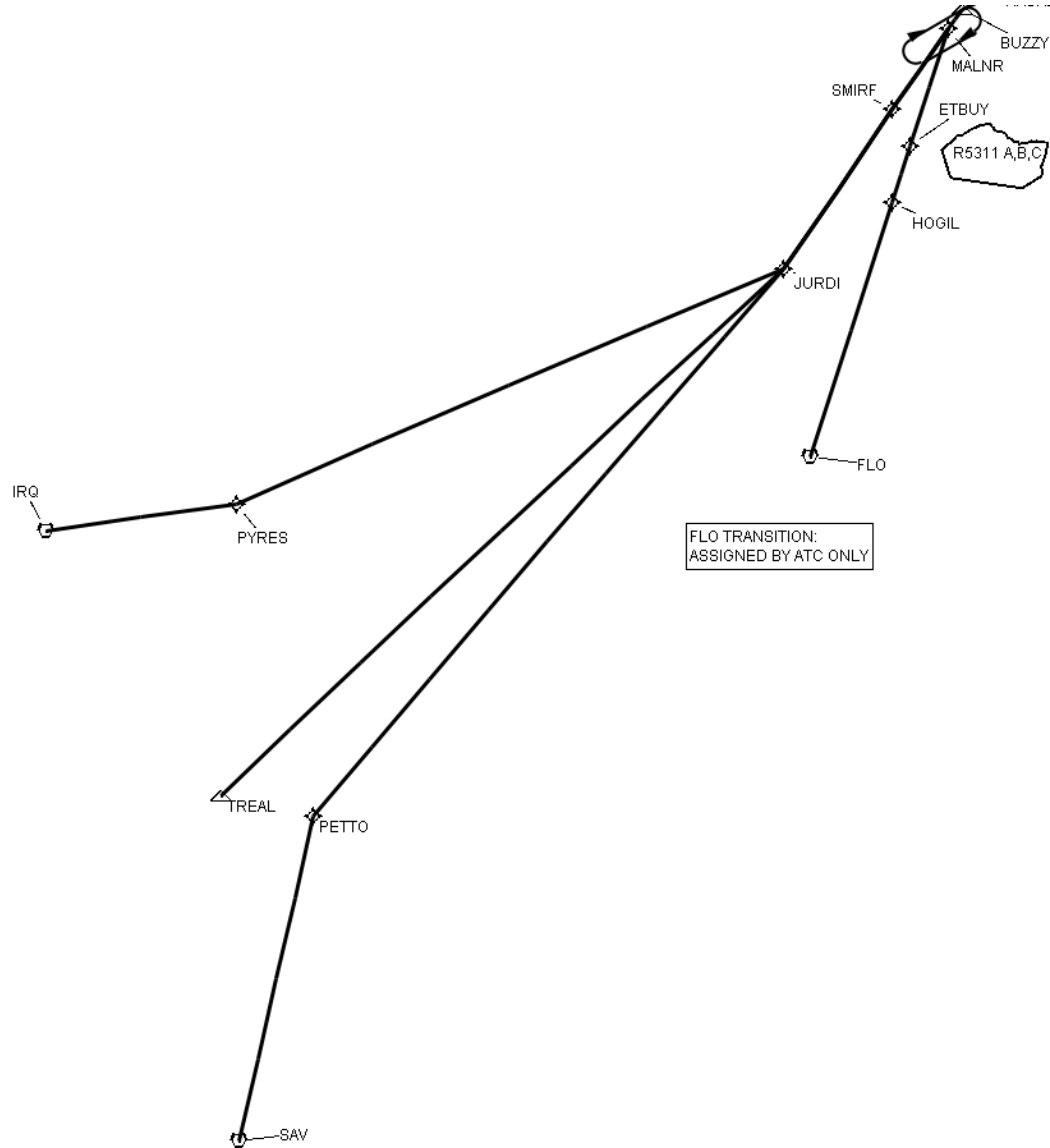
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MALNR (RNAV)	THREE	MALNR.MALNR3	TWO	01/10/2013	
Graphic Depiction 1					



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MALNR (RNAV)	THREE	MALNR.MALNR3	TWO	01/10/2013	
Graphic Depiction 2					



FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STAR (DATA RECORD)

Arrival Name MALNR (RNAV)	Number THREE	STAR Computer Code MALNR.MALNR3		Superseded Number TWO		Dated 01/10/2013		Effective Date	
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
En Route Transition									
FLO VORTAC	341358.69N / 0793925.78W	Y		IF					FLO.MALNR3
HOGIL	345719.40N / 0793113.93W	Y	FB	TF	008.85	43.80			
ETBUY	350648.43N / 0792925.22W	Y	FB	TF	008.92	09.58			
MALNR	352650.47N / 0792534.54W	Y	FB	TF	008.92	20.25	AT/ABOVE 11000	AT 250K	
En Route Transition									
IRQ VORTAC	334226.47N / 0820943.43W	Y		IF					IRQ.MALNR3
PYRES	335143.85N / 0813240.96W	Y	FB	TF	073.11	32.24			
JURDI	344345.68N / 0795040.42W	Y	FB	TF	057.95	99.20	AT FL230		
SMIRF	351223.01N / 0793401.98W	Y	FB	TF	025.50	31.68	AT/BELOW FL210		
MALNR	352650.47N / 0792534.54W	Y	FB	TF	025.57	16.01	AT/ABOVE 11000	AT 250K	
En Route Transition									
SAV VORTAC	320846.56N / 0811156.78W	Y		IF					SAV.MALNR3
PETTO	330308.02N / 0810722.47W	Y	FB	TF	004.05	54.39			
JURDI	344345.68N / 0795040.42W	Y	FB	TF	032.09	119.02	AT FL230		
SMIRF	351223.01N / 0793401.98W	Y	FB	TF	025.50	31.68	AT/BELOW FL210		
MALNR	352650.47N / 0792534.54W	Y	FB	TF	025.57	16.01	AT/ABOVE 11000	AT 250K	
En Route Transition									
TREAL	330410.94N / 0812627.80W	Y		IF					TREAL.MALNR3
JURDI	344345.68N / 0795040.42W	Y	FB	TF	038.29	127.42	AT FL230		
SMIRF	351223.01N / 0793401.98W	Y	FB	TF	025.50	31.68	AT/BELOW FL210		
MALNR	352650.47N / 0792534.54W	Y	FB	TF	025.57	16.01	AT/ABOVE 11000	AT 250K	



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STAR (DATA RECORD)

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FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
Common Route									
MALNR	352650.47N / 0792534.54W	Y		IF			AT/ABOVE 11000	AT 250K	MALNR.MALNR3
BUZZY	353019.14N / 0792308.68W	Y	FB	TF	029.75	04.00	10000B16000	AT 250K	
RASKL	353422.86N / 0791626.75W	Y	FB	TF	053.40	06.81			
Runway Transition									
RASKL	353422.86N / 0791626.75W	Y		IF					
NEDIE	353806.20N / 0790912.59W	Y	FB	TF	057.76	06.97	6000B8000		
OTTOS	353940.18N / 0790558.05W	Y	FB	TF	059.36	03.07	AT 6000	AT 230K	
KRDU:RWY 05L/R									
Runway Transition									
RASKL	353422.86N / 0791626.75W	Y		IF					
WISPY	353756.34N / 0791030.99W	Y	FB	TF	053.66	06.00	AT/BELOW 12000		
CAKEY	354751.76N / 0785353.34W	Y	FB	TF	053.72	16.78	AT 8000	AT 210K	
JODUS	354755.78N / 0784646.96W	Y	FB	TF	089.30	05.78			
KENCH	355002.64N / 0784122.96W	Y	FB	TF	064.30	04.87			
LEZZY	355204.20N / 0783852.50W	Y	FO	TF	045.21	02.87			
KRDU:RWY 23L				FM	045.21		RECOMMENDED NAVAID: ILM VORTAC		
Runway Transition									
RASKL	353422.86N / 0791626.75W	Y		IF					
WISPY	353756.34N / 0791030.99W	Y	FB	TF	053.66	06.00	AT/BELOW 12000		
CAKEY	354751.76N / 0785353.34W	Y	FB	TF	053.72	16.78	AT 8000	AT 210K	
FRETO	355329.07N / 0785240.61W	Y	FB	TF	009.95	05.70			
GLEYS	355733.39N / 0785033.43W	Y	FB	TF	022.94	04.42			
JOLTY	355940.56N / 0784756.24W	Y	FO	TF	045.12	03.00			
KRDU:RWY 23R				FM	045.12		RECOMMENDED NAVAID: ILM VORTAC		