

**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.  
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<u>Arrival Name</u>	<u>Number</u>	<u>STAR Computer Code</u>	<u>Superseded Number</u>	<u>Dated</u>	<u>Effective Date</u>
TSHNR (RNAV)	<b>THREE</b>	SOYAR.TSHNR3	<b>TWO</b>	<b>09/18/2014</b>	

**TRANSITION ROUTES:**

Transition Name	Transition Computer Code	From FIX/NAVAID	To FIX/NAVAID	Course	Distance	MEA	MOCA	MAA	Crossing Altitude/Fixes
CHEROKEE	CKW.TSHNR3	CKW VOR/DME	CKW VOR/DME						
			JLONG	116.72	33.00	FL210			
			BKAYY	117.16	40.92	FL210			AT/ABOVE FL270
			SOYAR	117.55	15.26	FL210			AT/ABOVE FL230
OPPEE	OPPEE.TSHNR3	OPPEE	OPPEE						
			HNMAN	154.01	20.68	15000	14000		AT/ABOVE FL270
			SOYAR	148.64	15.28	15000	12300		AT/ABOVE FL230

**ARRIVAL ROUTE DESCRIPTION:**

FROM OVER SOYAR ON TRACK 117.79/15.40 NM TO CROSS MOLTN AT OR ABOVE FL190 (MEA 15000/MOCA 13300), THEN ON TRACK 117.97/14.40 NM TO CROSS WOOKY AT OR ABOVE 17000 (MEA 14000/ MOCA 13300), THEN ON TRACK 117.69/11.45 NM TO CROSS RAMMS AT OR ABOVE 17000 AND AT OR BELOW FL190 AND AT 250 KIAS (MEA 13000), THEN ON TRACK 102.34/10.97 NM TO CROSS BSAFE AT OR BELOW 16000 (MEA 11000/MOCA 9900), THEN ON TRACK 102.57/6.00 NM TO CROSS BDUNN AT OR ABOVE 14000 AND AT OR BELOW 15000 AND AT 210 KIAS (MEA 7400), THEN ON TRACK 101.28/7.00 NM TO CROSS TSHNR AT 13000 AND AT 210 KIAS (MEA 7400). EXPECT ILS OR VISUAL APPROACH AS ASSIGNED BY ATC.

**PROCEDURAL DATA NOTES:**

NOTE: RADAR REQUIRED.  
NOTE: RNAV 1.  
NOTE: DME/DME/IRU OR GPS REQUIRED.  
NOTE: TURBOJET AIRCRAFT ONLY.  
NOTE: EXPECT RUNWAY ASSIGNMENT ON INITIAL CONTACT WITH DENVER TRACON.  
NOTE: THE CORRESPONDING RNAV STAR IS MOLTN. EXPECT MOLTN WHEN DENVER IS LANDING NORTH.  
NOTE: DESCEND VIA MACH NUMBER UNTIL TRANSITION TO 280 KIAS. MAINTAIN 280 KIAS UNTIL SLOWED BY THE STAR OR ASSIGNED BY ATC.  
NOTE: AIRCRAFT LANDING FNL/FTG/GXY, EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

**FIXES AND/OR HOLDING PATTERNS:**

CHART HOLDING AT JLONG (HOLD NW, LT, 116.72 INBOUND, 15 NM LEGS.) CHART HOLDING AT BKAYY (HOLD NW, RT, 117.55 INBOUND, 15 NM LEGS.) CHART HOLDING AT OPPEE (HOLD NW, RT, 154.01 INBOUND, 15 NM LEGS.) CHART HOLDING AT MOLTN (HOLD NW, RT, 117.79 INBOUND, 15 NM LEGS.) CHART HOLDING AT WOOKY (HOLD NW, RT, 117.97 INBOUND, 10 NM LEGS.) CHART WAVDI.

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**COMMUNICATIONS:**

DEN APP CON, DEN INTL ATIS ARR, FTG ATIS, FTG TWR, FNL CTAF, GXY CTAF

**AIRPORTS SERVED:**

AIRPORT NAME	CITY	STATE
DENVER INTL	DENVER	CO
FRONT RANGE	DENVER	CO
NORTHERN COLORADO RGNL	FORT COLLINS/LOVELAND	CO
GREELEY-WELD COUNTY	GREELEY	CO

**LOST COMMUNICATIONS PREFERENCES:**

IN THE EVENT OF LOST COMMUNICATIONS PRIOR TO RUNWAY ASSIGNMENT: AIRCRAFT LANDING DEN EXECUTE THE ILS RWY 16R; AIRCRAFT LANDING FTG EXECUTE THE ILS RWY 26; AIRCRAFT LANDING FNL EXECUTE THE ILS RWY 33; AIRCRAFT LANDING GXY PROCEED DIRECT WAVDI FOR THE ILS RWY 35.

**REMARKS:**

ABBREVIATED AMDT; DOES NOT SATISFY PERIODIC REVIEW REQUIREMENTS.

**ADDITIONAL FLIGHT DATA:**

DME/DME ASSESSMENT: SAT (RNP 2.0).  
REFERENCE MAGNETIC VARIATION; KDEN 8E/2015

**FLIGHT INSPECTED BY:**

FLIGHT INSPECTION REVIEW NOT REQUIRED-PROCESSED IAW  
AIRCRAFT OPERATIONS GROUP (AJW-333) MEMO, DEC 22, 2017.

**ORGANIZATION:**

AJW-333

**DATE:**

Flight Inspected Signature:

*Digitally signed by*  
**DONALD H LANIER**  
Jul 20, 2018

**DEVELOPED BY:**

LONNIE EVERHART (LOIS LEGAKO)

04/17/18

Developed By Signature:

*Digitally signed by*  
**DONALD H LANIER**  
Jul 20, 2018

**APPROVED BY:**

LONNIE EVERHART

AJV-5400

Approved By Signature:

*Digitally signed by*  
**DONALD H LANIER**  
Jul 20, 2018

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**CHANGES:**

- 1. CHANGED FORT COLLINS-LOVELAND MUNI TO NORTHERN COLORADO RGNL UNDER AIRPORTS SERVED.

**REASONS:**

- 1. AIRPORT NAME CHANGE.

08/03/2018: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 07/20/2018.

- 1. CORRECTED HOLDING DME LEG LENGTH AT FIX WOOKY FROM 15 TO 10.



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Title:



**FEDERAL AVIATION ADMINISTRATION  
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STAR (DATA RECORD)**

Arrival Name	Number	STAR Computer Code	Superseded Number	Dated	Effective Date
TSHNR (RNAV)	THREE	SOYAR.TSHNR3	TWO	09/18/2014	

FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
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En Route Transition

CKW VOR/DME	414520.55N / 1073455.14W	Y		IF					CKW.TSHNR3
JLONG	412626.48N / 1065851.18W	Y	FB	TF	124.72	33.00			
BKAYY	410243.37N / 1061438.05W	Y	FB	TF	125.16	40.92	AT/ABOVE FL270		
SOYAR	405349.38N / 1055815.38W	Y	FB	TF	125.55	15.26	AT/ABOVE FL230		

En Route Transition

OPPEE	412733.07N / 1061442.09W	Y		IF					OPPEE.TSHNR3
HNMAN	410751.91N / 1060614.84W	Y	FB	TF	162.01		AT/ABOVE FL270		
SOYAR	405349.38N / 1055815.38W	Y	FB	TF	156.64		AT/ABOVE FL230		

Common Route

SOYAR	405349.38N / 1055815.38W	Y		IF			AT/ABOVE FL230		SOYAR.TSHNR3
MOLTN	404447.37N / 1054149.16W	Y	FB	TF	125.79	15.40	AT/ABOVE FL190		
WOOKY	403618.52N / 1052631.15W	Y	FB	TF	125.97	14.40	AT/ABOVE 17000		

QUALITY  
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CHECKED

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RAMMS	402936.78N / 1051419.72W	Y	FB	TF	125.69	11.45	17000BFL190	AT 250K	
BSAFE	402547.07N / 1050051.52W	Y	FB	TF	110.34	10.97	AT/BELOW 16000		
BDUNN	402340.23N / 1045330.32W	Y	FB	TF	110.57	06.00	14000B15000	AT 210K	
TSHNR	402121.13N / 1044451.74W	Y	FB	TF	109.28	07.00	AT 13000	AT 210K	

QUALITY  
14  
CHECKED