

US DEPARTMENT of TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

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 depiction attached.

Arrival Name	Number	STAR Computer Code	Superseded Number	Dated	Effective Date
KRATR RNAV	TWO	KRATR.KRATR2	ONE	17 OCT 2013	25 JUNE 2015

Transition Name	Transition Computer Codes	From FIX/NAVAID	To FIX/NAVAID	Mag Course	Distance	MEA	MOCA	MAA	Crossing Altitudes / Fixes
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TRANSITION ROUTES:

BUWZO	BUWZO.KRATR2	BUWZO	BUWZO						
			HELNS	164.00	41.73	11000	8500		AT/ABOVE 11000
			KRATR	185.20	10.75	10000			BETWEEN 10000 AND 13000
HELNS	HELNS.KRATR2	HELNS	HELNS						AT/ABOVE 11000
			KRATR	185.20	10.75	10000			BETWEEN 10000 AND 13000

ARRIVAL ROUTE DESCRIPTION:

FROM KRATR ON TRACK 184.61/10.19 TO CROSS HYKER BETWEEN 7000 AND 9000 (MEA 7000), THENCE...

LANDING RWY 10L/R: FROM HYKER ON TRACK 205.50/12.19 TO CROSS VOODU AT 5000 AND AT 210 KIAS (MEA 5000/MOCA 3700), THEN ON TRACK 214.31/3.10 TO DOUHH (MEA 5000/MOCA 2700), THEN ON TRACK 277.92/3.31 TO NNU TT (MEA 5000/MOCA 2500), THEN ON TRACK 278.00. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

LANDING RWY 21: FROM HYKER ON TRACK 185.53/11.81 TO CROSS BATYL AT 7000 AND AT 210 KIAS (MEA 7000/MOCA 3600), THEN ON TRACK 160.00. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

LANDING RWY 28L/R: FROM HYKER ON TRACK 151.45/6.20 TO CROSS LIQWD AT 6000 (MEA 6000/MOCA 4400), THEN ON TRACK 151.48/13.06 TO CROSS SSSUN AT 210 KIAS (MEA 6000/MOCA 4400), THEN ON TRACK 109.19/6.50 TO SHYNE (MEA 6000/MOCA 3600), THEN ON TRACK 108.00 EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

PROCEDURAL DATA NOTES:

NOTE: RADAR REQUIRED.

NOTE: RNAV 1.

NOTE: DME/DME/IRU OR GPS REQUIRED.

NOTE: HELNS TRANSITION: ATC ASSIGNED ONLY

NOTE: TURBOJET AIRCRAFT DESCEND VIA MACH NUMBER UNTIL INTERCEPTING 280K. MAINTAIN 280K UNTIL SLOWED BY THE STAR.

FIXES AND/OR HOLDING PATTERNS:

CHART BTG VORTAC, CHART SEA VORTAC, CHART HOLDING AT HELNS (HOLD NE, LT, 185.20 INBOUND, 10 NM LEGS).

COMMUNICATIONS:

PDX ATIS, PDX APP CON, PDX TWR, PDX GND CON

AIRPORTS SERVED:

PORTLAND INTL, PORTLAND, OR



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LOST COMMUNICATIONS PROCEDURE:

LANDING RWY 10L/R: AT NNUTT, TURN LEFT DIRECT TO BUXOM AND EXECUTE ILS RWY 10L APPROACH.
LANDING RWY 21: AT BATYL TURN LEFT DIRECT TO CREAK AND EXECUTE LOC/DME RWY 21 APPROACH.
LANDING RWY 28L/R: AT SHYNE, TURN RIGHT DIRECT TO NACIY AND EXECUTE ILS RWY 28R APPROACH.

REMARKS:**ADDITIONAL FLIGHT DATA:**

DME/DME ASSESSMENT: SAT (RNP 2.0). REFERENCE
MAGNETIC VARIATION = KPDY 16E/2010
CHART SEA R-161 AT BUWZO



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CHANGES:

1. ADDED: RWY 21 TRANSITION AND ASSOCIATED LOST COMMUNICATIONS INSTRUCTIONS.
2. ADDED: CHARTED HOLDING AT HELNS WP.
3. ADDED: SEA VORTAC AND 161° RADIAL INDICATING TRACK TO BUWZO.
4. ADDED: NOTE FOR TURBOJET AIRCRAFT SPEED.
5. CHANGED: ALTITUDE AT KRATR FROM AT/ABOVE 11000 AT/BELOW 13000 TO BETWEEN 10000 AND 13000
6. CHANGED: LOCATION OF LIQWD WP (SHOWN AS LIQWD)MOVED, CHANGE ALTITUDE RESTRICTION FROM AT 5000 TO AT 6000.
7. CHANGED: SPEED RESTRICTION OF 210 KIAS MOVED FROM PREVIOUS LIQWD LOCATION TO SSSUN.
8. CHANGED: RWY TRANSITION ENDS FROM VM TO FM - REFERENCE NAVAID = HLN/16E
9. DELETED: 4000' RESTRICTION AT NNUTT WP.

REASONS:

- 1 - 4. REQUESTED BY ATC.
- 5 - 9. REQUESTED BY ATC AND INDUSTRY.



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STAR (DATA RECORD)

Arrival Name KRATR RNAV		Number TWO		STAR Computer Code KRATR.KRATR2		Superseded Number ONE		Dated 17 OCT 2013		Effective Date 25 JUNE 2015	
FIX/NAVAID		LAT/LONG		C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
En Route Transition											
BUWZO		465708.19N / 1221834.62W		Y		IF					BUWZO.KRATR2
HELNS		461525.10N / 1221834.58W		Y	FB	TF	180.00	41.73	AT/ABOVE 11000		
KRATR		460523.57N / 1222409.90W		Y	FB	TF	201.20	10.75	10000B13000		
En Route Transition											
HELNS		461525.10N / 1221834.58W		Y		IF			AT/ABOVE 11000		HELNS.KRATR2
KRATR		460523.57N / 1222409.90W		Y	FB	TF	201.20	10.75	10000B13000		
Common Route											
KRATR		460523.57N / 1222409.90W		Y		IF			10000B13000		KRATR.KRATR2
HYKER		455551.24N / 1222918.23W		Y	FB	TF	200.61	10.19	7000B9000		
Runway Transition											
HYKER		455551.24N / 1222918.23W		Y		IF			7000B9000		
VOODU		454642.84N / 1224050.82W		Y	FB	TF	221.50	12.19	AT 5000	AT 210K	
DOUHH		454443.96N / 1224415.32W		Y	FB	TF	230.31	03.10			
NNUTT		454604.32N / 1224834.49W		Y	FO	TF	293.92	03.31			
KPDX:RWY 10B						FM	294.00				RECOMMENDED NAVAID: HLN
Runway Transition											
HYKER		455551.24N / 1222918.23W		Y		IF			7000B9000		
BATYL		454452.04N / 1223529.61W		Y	FO	TF	201.53	11.81	AT 7000	AT 210K	
KPDX:RWY 21						FM	176.00				RECOMMENDED NAVAID: HLN

QUALITY

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CHECKED



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STAR (DATA RECORD)

Arrival Name KRATR RNAV		Number TWO		STAR Computer Code KRATR.KRATR2			Superseded Number ONE		Dated 17 OCT 2013	Effective Date 25 JUNE 2015	
FIX/NAVAID		LAT/LONG		C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
Runway Transition											
HYKER		455551.24N / 1222918.23W		Y		IF			7000B9000		
LIQWD		454948.20N / 1222722.66W		Y	FB	TF	167.45	06.20	AT 6000		
SSSUN		453703.52N / 1222320.64W		Y	FB	TF	167.48	13.06		AT 210K	
SHYNE		453318.57N / 1221547.07W		Y	FO	TF	125.19	06.50			
KPDX:RWY 28B						FM	124.00				RECOMMENDED NAVAID: HLN



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Federal Aviation Administration**

STAR (Data Record)

ARINC PACKET - 424-18 - STAR

[illegible][illegible][illegible][illegible]

QUALITY
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CHECKED

(11) Arrival Name KRATR RNAV	(12) Number TWO	(13) STAR Computer Code KRATR.KRATR2	(14) Superseded Nr. ONE	(15) Dated 17 OCT 2013	(16) Effective Date 25 JUNE 2015
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STAR (Data Record)

SUSAP KPDXX1EKRATR26RW21	010HYKERK1PC0E	IF			B 090000700018000
SUSAP KPDXX1EKRATR26RW21	020BATYLK1PC0EY	TF			07000 210
SUSAP KPDXX1EKRATR26RW21	030BATYLK1PC0EE	FM HLN K1	251244621600	D	
SUSAP KPDXX1EKRATR26RW28B	010HYKERK1PC0E	IF			B 090000700018000
SUSAP KPDXX1EKRATR26RW28B	020LIQWDK1PC0E	TF			06000
SUSAP KPDXX1EKRATR26RW28B	030SSSUNK1PC0E	TF			210
SUSAP KPDXX1EKRATR26RW28B	040SHYNEK1PC0EY	TF			
SUSAP KPDXX1EKRATR26RW28B	050SHYNEK1PC0EE	FM HLN K1	249443491080	D	

	1	2	3	4	5	6	7	8	9	0	1	2	3
RUNWAY	1234567890123456789012345678901234567890123456789012345678901234567890123456789012												

SUSAP KPDXX1GRW10L	0098251030	N45354128W122354419+0000											
SUSAP KPDXX1GRW10R	0110001030	N45354253W122371730+0000											
SUSAP KPDXX1GRW21	0060002090	N45353861W122360085-0100											
SUSAP KPDXX1GRW28L	0110002830	N45344985W122350205+0000											
SUSAP KPDXX1GRW28R	0098252830	N45350294W122340584+0000											

QUALITY
15
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(11)
Arrival Name
KRATR RNAV

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Superseded Nr.
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(16)
Effective Date
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STAR (Data Record)

ARINC SUMMARY - 424-18 - STAR

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG (TRUE)	DISTANCE	ALTITUDE	SPEED
	BUWZO	BUWZO	010		IF		FB					
	BUWZO	HELNS	020		TF		FB				AA 11000	
	BUWZO	KRATR	030		TF		FB				BT 1300010000	
	HELNS	HELNS	010		IF		FB				AA 11000	
	HELNS	KRATR	020		TF		FB				BT 1300010000	
		KRATR	010		IF		FB				BT 1300010000	
		HYKER	020		TF		FB				BT 0900007000	
	RW10B	HYKER	010		IF		FB				BT 0900007000	
	RW10B	VOODU	020		TF		FB				AT 05000	AT 210
	RW10B	DOUHH	030		TF		FB					
	RW10B	NNUTT	040		TF		FO					
	RW10B	NNUTT	050		FM		FB		278.0()			
	RW21	HYKER	010		IF		FB				BT 0900007000	
	RW21	BATYL	020		TF		FO				AT 07000	AT 210
	RW21	BATYL	030		FM		FB		160.0()			
	RW28B	HYKER	010		IF		FB				BT 0900007000	
	RW28B	LIQWD	020		TF		FB				AT 06000	
	RW28B	SSSUN	030		TF		FB					AT 210
	RW28B	SHYNE	040		TF		FO					
	RW28B	SHYNE	050		FM		FB		108.0()			

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	HLN	N463624.56	W1115712.51	N4636.409	W11157.209
	BATYL	N454452.04	W1223529.61	N4544.867	W12235.494
	BUWZO	N465708.19	W1221834.62	N4657.137	W12218.577
	DOUHH	N454443.96	W1224415.32	N4544.733	W12244.255
	HELNS	N461525.10	W1221834.58	N4615.418	W12218.576
	HYKER	N455551.24	W1222918.23	N4555.854	W12229.304
	KRATR	N460523.57	W1222409.90	N4605.393	W12224.165
	LIQWD	N454948.20	W1222722.66	N4549.803	W12227.378
	NNUTT	N454604.32	W1224834.49	N4546.072	W12248.575
	SHYNE	N453318.57	W1221547.07	N4533.310	W12215.785
	SSSUN	N453703.52	W1222320.64	N4537.059	W12223.344
	VOODU	N454642.84	W1224050.82	N4546.714	W12240.847
	RW10L	N453541.28	W1223544.19	N4535.688	W12235.737
	RW10R	N453542.53	W1223717.30	N4535.709	W12237.288
	RW21	N453538.61	W1223600.85	N4535.644	W12236.014

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	RW28L	N453449.85	W1223502.05	N4534.831	W12235.034
	RW28R	N453502.94	W1223405.84	N4535.049	W12234.097
RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH		
	RW10L	00030	49		
	RW10R	00023	53		
	RW21	00026	32		
	RW28L	00023	55		
	RW28R	00031	54		

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