

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

N JO 7110.615

Effective Date:
June 3, 2013

Cancellation Date:
August 22, 2013

SUBJ: Approach Clearance

- 1. Purpose of This Notice.** This notice amends procedures contained within Federal Aviation Administration (FAA) Order JO 7110.65, Paragraph 4-8-1, Approach Clearance.
- 2. Audience.** This notice applies to the following Air Traffic Organization (ATO) service units: En Route and Oceanic, Terminal, Mission Support, and System Operations; and all associated air traffic control facilities.
- 3. Where Can I Find This Notice?** This notice is available on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices/ and on the air traffic publications Web site at http://www.faa.gov/air_traffic/publications/.
- 4. Explanation of Changes.** This change provides guidance when the glideslope of an instrument landing system (ILS) is unusable and an aircraft is cleared for a localizer (LOC) approach. All references to the microwave landing system (MLS) approach have been removed. Localizer directional aid (LDA), simplified directional facility (SDF), and ground based augmentation system landing system (GLS) approach examples are added. In addition, this change provides guidance when a controller does not require an aircraft to fly the hold-in-lieu-of procedure turn but requires the aircraft to fly the straight-in approach. Vectoring to a fix along the final approach course prior to the final approach fix (FAF) is permitted. Appropriately-equipped area navigation (RNAV) aircraft may be cleared to the intermediate fix (IF) on conventional and RNAV instrument approach procedures when the IF is identified with an "IF" on the instrument approach procedure. Procedures and graphics are provided for an aircraft on unpublished routes cleared direct to a fix between the IF and FAF. Guidance is provided for when an aircraft will fly a radius to fix (RF) leg, published on an RNAV approach.
- 5. Procedures.** Amend Paragraph 4-8-1, Approach Clearance, to read as follows:

4-8-1. APPROACH CLEARANCE

a. Clear aircraft for "standard" or "special" instrument approach procedures only. To require an aircraft to execute a particular instrument approach procedure, specify in the approach clearance the name of the approach as published on the approach chart. Where more than one procedure is published on a single chart and a specific procedure is to be flown, amend the approach clearance to specify execution of the specific approach to be flown. If only one instrument approach of a particular type is published, the approach needs not be identified by the runway reference. An aircraft conducting an ILS or LDA approach when the glideslope is reported out of service must be advised at the time an approach clearance is issued unless the title of the published approach procedure allows (for example, ILS Rwy 05 or LOC Rwy 05). Standard instrument approach procedures (SIAP) must begin at an initial approach fix (IAF) or an intermediate fix (IF) if there is not an IAF. Where adequate radar coverage exists, radar facilities may vector aircraft to the final approach course, or clear an aircraft to any fix 3 NM or more prior to the FAF along the final approach course in accordance with Paragraph 5-9-1, Vectors to Final Approach Course, and Paragraph 5-9-2, Final Approach Course Interception.

PHRASEOLOGY-

CLEARED (type) APPROACH.

(For a straight in approach- IFR),

CLEARED STRAIGHT IN (type) APPROACH.

(To authorize a pilot to execute his/her choice of instrument approach),

CLEARED APPROACH.

(Where more than one procedure is published on a single chart and a specific procedure is to be flown),

CLEARED (specific procedure to be flown) APPROACH.

(To authorize a pilot to execute an ILS or an LDA approach when the glideslope is out of service),

CLEARED (ILS/LDA) APPROACH, GLIDESLOPE UNUSABLE.

(When the title of the approach procedure contains "or LOC")

CLEARED LOCALIZER APPROACH

EXAMPLE-

"Cleared Approach."

"Cleared V-O-R Approach."

"Cleared V-O-R Runway Three-Six Approach."

"Cleared L-D-A Approach."

"Cleared L-D-A Runway Three-Six Approach."

"Cleared I-L-S Approach."

"Cleared Localizer Approach."

"Cleared Localizer Back Course Runway One-Three Approach."

"Cleared RNAV Z Runway Two-Two Approach."

"Cleared GPS Runway Two Approach."

"Cleared BRANCH ONE Arrival and RNAV Runway One-Three Approach."

"Cleared I-L-S Runway Three-Six Approach, glideslope unusable."

"Cleared S-D-F Approach."

"Cleared G-L-S Approach."

NOTE-

1 & 2. No change

3. *In some cases, the name of the approach, as published, is used to identify the approach, even though a component of the approach aid, other than the localizer on an ILS is inoperative. Where more than one procedure to the same runway is published on a single chart, each must adhere to all final approach guidance contained on that chart, even though each procedure will be treated as a separate entity when authorized by ATC. The use of alphabetical identifiers in the approach name with a letter from the end of the alphabet; for example, X, Y, Z, such as "HI TACAN Z Rwy 6L or HI TACAN Y Rwy 6L," or "RNAV (GPS) Z Rwy 04 or RNAV (GPS) Y Rwy 04," denotes multiple straight-in approaches to the same runway that use the same approach aid. Alphabetical suffixes with a letter from the beginning of the alphabet; for example, A, B, C, denote a procedure that does not meet the criteria for straight-in landing minimums authorization.*

4. *14 CFR Section 91.175(j) requires a pilot to receive a clearance to conduct a procedure turn when vectored to a final approach course or fix, conducting a timed approach, or when the procedure specifies "NO PT."*

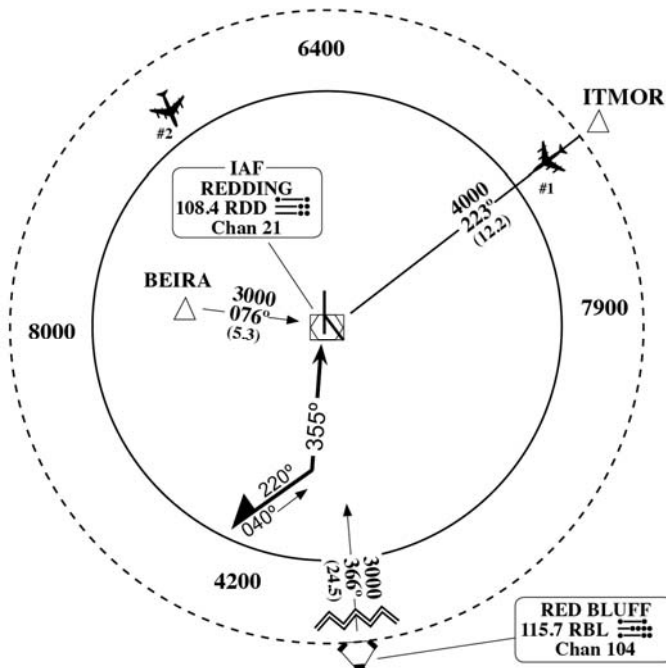
5 & 6. No change.

REFERENCE-

FAAO 8260.3, United States Standard for Terminal Instrument Procedures (TERPS)

b. For aircraft operating on unpublished routes, issue the approach clearance only after the aircraft is:
(See FIG 4-8-1.)

FIG 4-8-1
Approach Clearance Example



1. Established on a segment of a published route or instrument approach procedure, or

EXAMPLE-

Aircraft 1: The aircraft is established on a segment of a published route at 5,000 feet. "Cleared V-O-R Runway Three Four Approach."

2. Assigned an altitude to maintain until the aircraft is established on a segment of a published route or instrument approach procedure.

EXAMPLE-

Aircraft 2: The aircraft is inbound to the VOR on an unpublished direct route at 7,000 feet. The minimum IFR altitude for IFR operations (14 CFR Section 91.177) along this flight path to the VOR is 5,000 feet. "Cross the Redding V-O-R at or above five thousand, cleared V-O-R Runway Three Four Approach."

NOTE-

1. The altitude assigned must assure IFR obstruction clearance from the point at which the approach clearance is issued until established on a segment of a published route or instrument approach procedure.

2. If the altitude assignment is VFR-on-top, it is conceivable that the pilot may elect to remain high until arrival over the final approach fix which may require the pilot to circle to descend so as to cross the final approach fix at an altitude that would permit landing.

c. Except for visual approaches, do not clear an aircraft direct to the FAF unless it is also an IAF, wherein the aircraft is expected to execute the depicted procedure turn or hold-in-lieu of procedure turn.

d. For RNAV-equipped aircraft operating on unpublished routes, issue approach clearance for conventional or RNAV SIAP only after the aircraft is:

1. Established on a heading or course direct to the IAF at an intercept angle not greater than 90 degrees and is assigned an altitude in accordance with b2. Radar monitoring is required for RNAV (RNP) approaches when no procedure turn or hold-in-lieu of procedure turn will be executed.

2. Established on a heading or course direct to the IF at an angle not greater than 90 degrees, provided the following conditions are met:

- (a) Assign an altitude in accordance with b2 that will permit a normal descent to the FAF.

NOTE-

Controllers should expect aircraft to descend at approximately 150-300 feet per nautical mile when applying guidance in subpara d2(a).

- (b) Radar monitoring is provided to the IF.

- (c) The SIAP must identify the intermediate fix with the letters “IF.”

(d) For procedures where an IAF is published, the pilot is advised to expect clearance to the IF at least 5 miles from the fix.

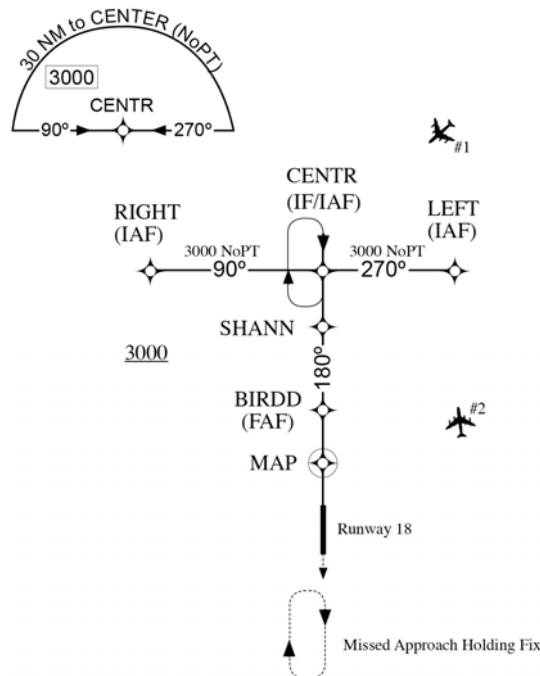
3. Established on a heading or course direct to a fix between the IF and FAF, in accordance with Paragraph 5-9-1, Vectors to Final Approach Course, and Paragraph 5-9-2, Final Approach Course Interception. (See FIG 4-8-2.)

REFERENCE-

FAAO 7110.65, Par 5-6-2, Methods

FAAO 7110.65, Chapter 5, Section 9, Radar Arrivals

FIG 4-8-2
Approach Clearance Example for RNAV Aircraft



EXAMPLE-

Aircraft 1 can be cleared direct to CENTR. The intercept angle at that IAF is 90 degrees or less. The minimum altitude for IFR operations (14 CFR Section 91.177) along the flight path to the IAF is 3,000 feet. If a hold in lieu of procedure turn pattern is depicted and a straight-in area is not defined (for example, “No PT” indicated at the fix), the aircraft must be instructed to conduct a straight-in approach if ATC does not want the pilot to execute a hold-in-lieu procedure turn. “Cleared direct CENTR, maintain at or above three thousand until CENTR, cleared straight-in RNAV Runway One Eight approach.”

Aircraft 2 cannot be cleared direct to CENTR unless the aircraft is allowed to execute the hold-in-lieu-of procedure turn. The intercept angle at that IF/IAF is greater than 90 degrees. The minimum altitude for IFR operations (14 CFR Section 91.177) along the flight path to the IAF is 3,000 feet. “Cleared direct CENTR, maintain at or above three thousand until CENTR, cleared RNAV Runway One Eight approach.” The pilot is expected to proceed direct CENTR and execute the hold-in-lieu of procedure turn.

Aircraft 2 can be cleared direct LEFTT. The intercept angle at that IAF is 90 degrees or less. The minimum altitude for IFR operations (14 CFR Section 91.177) along the flight path to the IAF is 3,000 feet. "Cleared direct LEFTT, maintain at or above three thousand until LEFTT, cleared RNAV One-Eight approach." The pilot does not have to be cleared for a straight-in approach since no hold-in-lieu of procedure turn pattern is depicted at LEFTT.

Aircraft 1 is more than 5 miles from SHANN. SHANN is a step down fix between the IF (CENTR) and the FAF. To clear Aircraft 1 to SHANN, ATC must ensure the intercept angle for the intermediate segment at SHANN is not greater than 30 degrees as described in paragraphs 5-9-2 and must be cleared to an altitude that will allow a normal descent to the FAF "Expect vectors to SHANN for RNAV Runway One-Eight Approach."

REFERENCE-

FAAO JO 7110.65, Chapter 5, Section 9, Radar Arrivals

e. For both RNAV and conventional approaches, intercept angles greater than 90 degrees may be used when a procedure turn, a hold-in-lieu of procedure turn pattern, or arrival holding is depicted and the pilot will execute the procedure. If a procedure turn, hold-in-lieu of procedure turn, or arrival holding pattern is depicted and the angle of intercept is 90 degrees or less, the aircraft must be instructed to conduct a straight-in approach if ATC does not want the pilot to execute a procedure turn or hold-in-lieu of procedure turn. (See FIG 4-8-3.)

PHRASEOLOGY-

CLEARED STRAIGHT-IN (type) APPROACH

NOTE-

1. Restate "cleared straight-in" in the approach clearance even if the pilot was advised earlier to expect a straight-in approach.
2. Some approach charts have an arrival holding pattern depicted at the IAF using a "thin line" holding symbol. It is charted where holding is frequently required prior to starting the approach procedure so that detailed holding instructions are not required. The arrival holding pattern is not authorized unless assigned by ATC.

EXAMPLE-

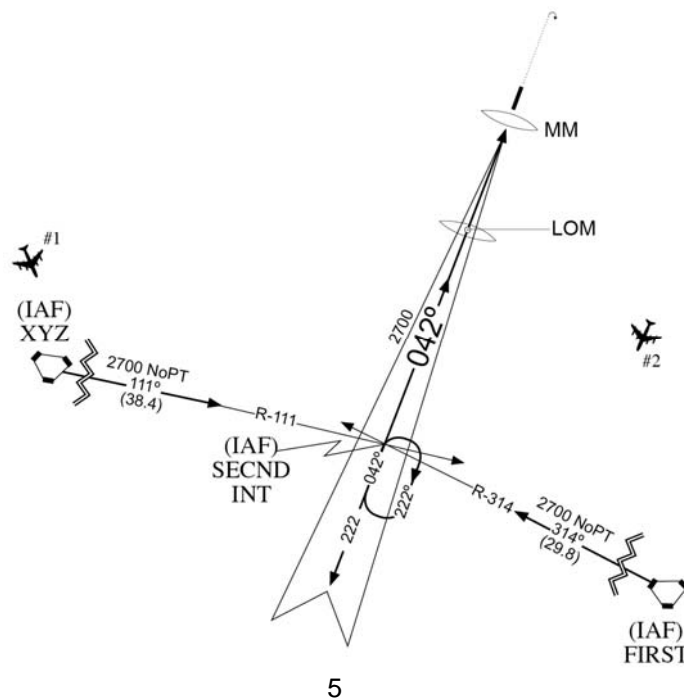
"Cleared direct SECND, maintain at or above three thousand until SECND, cleared straight-in ILS Runway One-Eight approach."

REFERENCE-

AIM, Paragraph 5-4-5, Instrument Approach Procedure Charts

AIM, Paragraph 5-4-9, Procedure Turn and Hold-in-Lieu of Procedure Turn

FIG 4-8-3
Approach Clearance Example for RNAV Aircraft On a Conventional Approach



EXAMPLE-

Aircraft 1 can be cleared direct to XYZ VORTAC, and SECND because the intercept angle is 90 degrees or less.

Aircraft 2 cannot be cleared to XYZ VORTAC because the intercept angle is greater than 90 degrees.

Aircraft 2 can be cleared to SECND if allowed to execute the hold-in-lieu of procedure turn pattern.

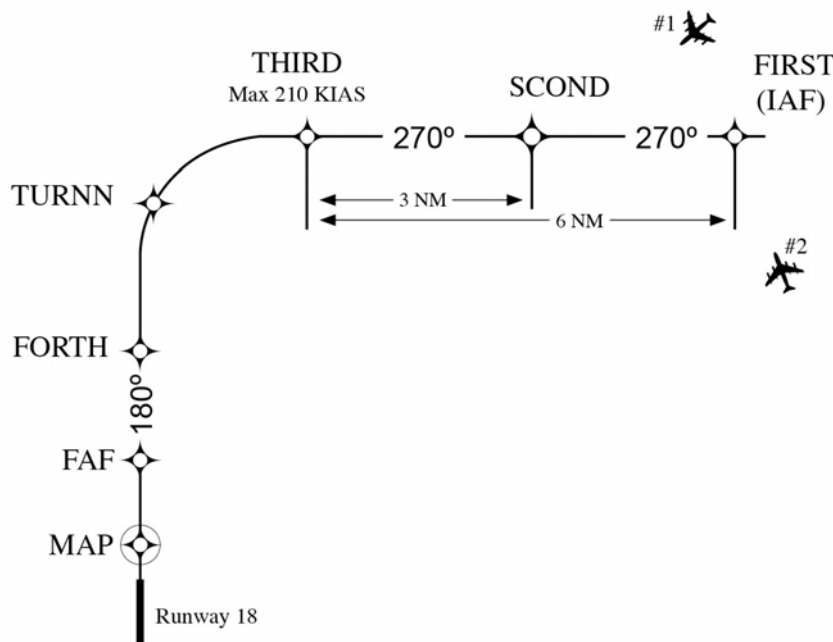
f. Clear RNAV-equipped aircraft conducting RNAV instrument approach procedures that contain radius to fix (RF) legs:

1. Via published transitions, or
2. On a heading or course direct to the IAF/IF when a hold-in-lieu of procedure turn is published and the pilot will execute the procedure, or
3. On a heading or course direct to the IAF/IF, at intercept angles no greater than 90 degrees and the distance to the waypoint beginning the RF leg is 6NM or greater, or
4. With radar monitoring, on a heading or course direct to any waypoint 3 miles or more from the waypoint that begins the RF leg, at an intercept angle not greater than 30 degrees. (See FIG 4-8-4.)

NOTE-

1. RNAV approaches (containing RF legs) that commence at 10,000 feet or above require special procedures that will be site specific and specified in a facility directive.
2. An RF leg is defined as a curved segment indicating a constant radius circular path about a defined turn center that begins at a waypoint. RF legs may have maximum airspeeds charted for procedural containment that must be followed.
3. If an aircraft is vectored off the procedure, expect the aircraft to request a return to an IAF.

FIG 4-8-4
Radius to Fix (RF) and Track to Fix (TF)

**NOTE-**

1. The segment between THIRD and FORTH in FIG 4-8-4 is an RF leg.
2. The straight segments between waypoints in FIG 4-8-4 are TF legs.
3. Aircraft cannot be vectored or cleared direct THIRD because that waypoint begins an RF leg.
4. Aircraft cannot be vectored or cleared to TURNN or vectored to intercept the approach segment at any point between THIRD and FORTH because this is the RF leg.

EXAMPLE -

Aircraft 1 can be cleared to *SCOND* because the distance to *THIRD*, where the RF leg begins is 3NM or greater and the intercept angle will be 30 degrees or less and is radar monitored.

Aircraft 2 can be cleared direct to *FIRST* because the intercept angle is 90 degrees or less and the distance from *FIRST* to *THIRD* is 6NM or greater.

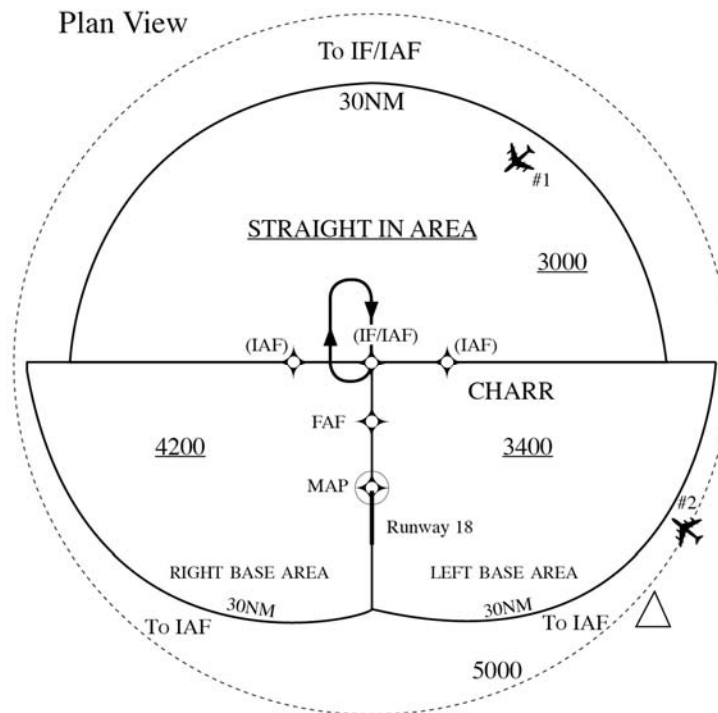
Paragraphs c and d, re-letter to g and h.

- i. Where a terminal arrival area (TAA) has been established to support RNAV approaches, use the procedures under subpara b1 and b2 above. (See FIG 4-8-5.)

EXAMPLE-

- **Aircraft 1:** The aircraft has crossed the TAA boundary and is therefore established on a segment of the approach. "Cleared RNAV Runway One-Eight Approach."
- **Aircraft 2:** The aircraft is inbound to the *CHARR* IAF on an unpublished direct route at 7,000 feet. The minimum IFR altitude for IFR operations (14 CFR Section 91.177) along this flight path to the IAF is 5,000 feet. "Cleared direct *CHARR*, maintain at or above five thousand until entering the TAA, cleared RNAV Runway One-Eight Approach."

FIG 4-8-5
Basic "T" and TAA Design



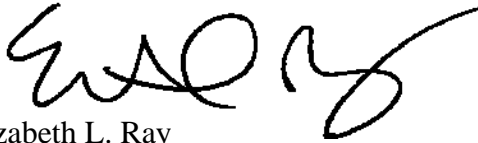
Subparagraphs f thru h, re-letter to j thru l.

6. Distribution. This notice is distributed to the following ATO service units: Terminal, En Route and Oceanic, System Operations, and Mission Support; the Office of ATO Safety and Technical Training; the Air Traffic Safety Oversight Service; the William J. Hughes Technical Center; and the Mike Monroney Aeronautical Center.

7. Background. Confusion exists within the controller and pilot communities concerning approach clearances for RNAV equipped aircraft and when a pilot is required to make a hold-in-lieu of procedure turn when there is a hold-in-lieu pattern depicted at an IF or IAF. Additionally, controllers and pilots are not always clear which fix is the IF or when it is appropriate to clear aircraft to a fix between the IF and

FAF. Lastly, groups representing the airline and business aircraft operators have also requested the method of clearing aircraft to the IF on RNAV or GPS approaches be extended to conventional instrument approach procedures.

This change clarifies and implements these procedures. In addition to the above, changes are being made that take into account new criteria from the Flight Standards Service related to the title of an instrument approach procedure so that ILS approaches can be issued and when the glideslope is out of service, a LOC approach clearance can be issued.



Elizabeth L. Ray
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3/14/13
Date Signed