

Section 5. Pilot/Controller Roles and Responsibilities

5-5-1. General

- a.** The roles and responsibilities of the pilot and controller for effective participation in the ATC system are contained in several documents. Pilot responsibilities are in the CFRs and the air traffic controllers' are in the FAA Order JO 7110.65, Air Traffic Control, and supplemental FAA directives. Additional and supplemental information for pilots can be found in the current Aeronautical Information Manual ([AIM](#)), Notices to Air Missions, Advisory Circulars and aeronautical charts. Since there are many other excellent publications produced by nongovernment organizations, as well as other government organizations, with various updating cycles, questions concerning the latest or most current material can be resolved by cross-checking with the above mentioned documents.
- b.** The pilot-in-command of an aircraft is directly responsible for, and is the final authority as to the safe operation of that aircraft. In an emergency requiring immediate action, the pilot-in-command may deviate from any rule in the General Subpart A and Flight Rules Subpart B in accordance with 14 CFR section 91.3.
- c.** The air traffic controller is responsible to give first priority to the separation of aircraft and to the issuance of radar safety alerts, second priority to other services that are required, but do not involve separation of aircraft and third priority to additional services to the extent possible.
- d.** In order to maintain a safe and efficient air traffic system, it is necessary that each party fulfill their responsibilities to the fullest.
- e.** The responsibilities of the pilot and the controller intentionally overlap in many areas providing a degree of redundancy. Should one or the other fail in any manner, this overlapping responsibility is expected to compensate, in many cases, for failures that may affect safety.
- f.** The following, while not intended to be all inclusive, is a brief listing of pilot and controller responsibilities for some commonly used procedures or phases of flight. More detailed explanations are contained in other portions of this publication, the appropriate CFRs, ACs and similar publications. The information provided is an overview of the principles involved and is not meant as an interpretation of the rules nor is it intended to extend or diminish responsibilities.

5-5-2. Air Traffic Clearance

a. Pilot.

- 1.** Acknowledges receipt and understanding of an ATC clearance.
- 2.** Reads back any hold short of runway instructions issued by ATC.
- 3.** Requests clarification or amendment, as appropriate, any time a clearance is not fully understood or considered unacceptable from a safety standpoint.

with an emergency, advises ATC as soon as possible and obtains an amended clearance, if deviation is necessary.

NOTE-

A clearance to land means that appropriate separation on the landing runway will be ensured. A landing clearance does not relieve the pilot from compliance with any previously issued altitude crossing restriction.

b. Controller.

1. Issues appropriate clearances for the operation to be conducted, or being conducted, in accordance with established criteria.
2. Assigns altitudes in IFR clearances that are at or above the minimum IFR altitudes in controlled airspace.
3. Ensures acknowledgement by the pilot for issued information, clearances, or instructions.
4. Ensures that readbacks by the pilot of altitude, heading, or other items are correct. If incorrect, distorted, or incomplete, makes corrections as appropriate.

5-5-3. Contact Approach

a. Pilot.

1. Must request a contact approach and makes it in lieu of a standard or special instrument approach.
2. By requesting the contact approach, indicates that the flight is operating clear of clouds, has at least one mile flight visibility, and reasonably expects to continue to the destination airport in those conditions.
3. Assumes responsibility for obstruction clearance while conducting a contact approach.
4. Advises ATC immediately if unable to continue the contact approach or if encounters less than 1 mile flight visibility.
5. Is aware that if radar service is being received, it may be automatically terminated when told to contact the tower.

REFERENCE-

P/CG Term - RADAR SERVICE TERMINATED.

b. Controller.

1. Issues clearance for a contact approach only when requested by the pilot. Does not solicit the use of this procedure.
2. Before issuing the clearance, ascertains that reported ground visibility at destination airport is at least 1 mile.
3. Provides approved separation between the aircraft cleared for a contact approach and other IFR or special VFR aircraft. When using vertical separation, does not assign a fixed

in a climb but not below minimum safe altitudes prescribed in 1-1-1 or section 2-1-1-1.

4. Issues alternative instructions if, in their judgment, weather conditions may make completion of the approach impracticable.

5-5-4. Instrument Approach

a. Pilot.

1. Be aware that the controller issues clearance for approach based only on known traffic.
2. Follows the procedure as shown on the [IAP](#), including all restrictive notations, such as:
 - (a) Procedure not authorized at night;
 - (b) Approach not authorized when local area altimeter not available;
 - (c) Procedure not authorized when control tower not in operation;
 - (d) Procedure not authorized when glide slope not used;
 - (e) Straight-in minimums not authorized at night; etc.
 - (f) Radar required; or
 - (g) The circling minimums published on the instrument approach chart provide adequate obstruction clearance and pilots should not descend below the circling altitude until the aircraft is in a position to make final descent for landing. Sound judgment and knowledge of the pilot's and the aircraft's capabilities are the criteria for determining the exact maneuver in each instance since airport design and the aircraft position, altitude and airspeed must all be considered.

REFERENCE-

AIM, Para 5-4-20, Approach and Landing Minimums.

3. Upon receipt of an approach clearance while on an unpublished route or being radar vectored:
 - (a) Complies with the minimum altitude for IFR; and
 - (b) Maintains the last assigned altitude until established on a segment of a published route or [IAP](#), at which time published altitudes apply.
4. There are currently two temperature limitations that may be published in the notes box of the middle briefing strip on an instrument approach procedure ([IAP](#)). The two published temperature limitations are:
 - (a) A temperature range limitation associated with the use of baro-VNAV that may be published on a United States PBN IAP titled [RNAV \(GPS\)](#) or [RNAV \(RNP\)](#); and/or
 - (b) A Cold Temperature Airport ([CTA](#)) limitation designated by a snowflake ICON and temperature in Celsius (C) that is published on every [IAP](#) for the airfield.
5. Any planned altitude correction for the intermediate and/or missed approach holding segments must be coordinated with ATC. Pilots do not have to advise ATC of a correction in the final segment.

Airports (CTA).

b. Controller.

1. Issues an approach clearance based on known traffic.
2. Issues an IFR approach clearance only after the aircraft is established on a segment of published route or [IAP](#), or assigns an appropriate altitude for the aircraft to maintain until so established.

5-5-5. Missed Approach

a. Pilot.

1. Executes a missed approach when one of the following conditions exist:
 - (a) Arrival at the Missed Approach Point ([MAP](#)) or the Decision Height ([DH](#)) and visual reference to the runway environment is insufficient to complete the landing.
 - (b) Determines that a safe approach or landing is not possible (see subparagraph [5-4-21h](#)).
 - (c) Instructed to do so by ATC.
2. Advises ATC that a missed approach will be made. Include the reason for the missed approach unless the missed approach is initiated by ATC.
3. Complies with the missed approach instructions for the [IAP](#) being executed from the [MAP](#), unless other missed approach instructions are specified by ATC.
4. If executing a missed approach prior to reaching the [MAP](#), fly the lateral navigation path of the instrument procedure to the [MAP](#). Climb to the altitude specified in the missed approach procedure, except when a maximum altitude is specified between the final approach fix ([FAF](#)) and the [MAP](#). In that case, comply with the maximum altitude restriction. Note, this may require a continued descent on the final approach.
5. Cold Temperature Airports (CTA) are designated by a snowflake ICON and temperature in Celsius (C) that are published in the notes box of the middle briefing strip on an instrument approach procedure ([IAP](#)). Pilots should apply a cold temperature correction to the missed approach final holding altitude when the reported temperature is at or below the CTA temperature limitation. Pilots must inform ATC of the correction.

REFERENCE-

AIM, Chapter 7, Section 3, Cold Temperature Barometric Altimeter Errors, Setting Procedures, and Cold Temperature Airports (CTA).

6. Following a missed approach, requests clearance for specific action; i.e., another approach, hold for improved conditions, proceed to an alternate airport, etc.

b. Controller.

execute a procedure other than as depicted on the instrument approach chart.

2. May vector a radar identified aircraft executing a missed approach when operationally advantageous to the pilot or the controller.
3. In response to the pilot's stated intentions, issues a clearance to an alternate airport, to a holding fix, or for reentry into the approach sequence, as traffic conditions permit.

5-5-6. Vectors

a. Pilot.

1. Promptly complies with headings and altitudes assigned to you by the controller.
2. Questions any assigned heading or altitude believed to be incorrect.
3. If operating VFR and compliance with any radar vector or altitude would cause a violation of any CFR, advises ATC and obtains a revised clearance or instructions.

b. Controller.

1. Vectors aircraft in Class A, Class B, Class C, Class D, and Class E airspace:
 - (a) For separation.
 - (b) For noise abatement.
 - (c) To obtain an operational advantage for the pilot or controller.
2. Vectors aircraft in Class A, Class B, Class C, Class D, Class E, and Class G airspace when requested by the pilot.
3. Except where authorized for radar approaches, radar departures, special VFR, or when operating in accordance with vectors below minimum altitude procedures, vector IFR aircraft at or above minimum vectoring altitudes.
4. May vector aircraft off assigned procedures. When published altitude or speed restrictions are included, controllers must assign an altitude, or if necessary, a speed.
5. May vector VFR aircraft, not at an ATC assigned altitude, at any altitude. In these cases, terrain separation is the pilot's responsibility.

5-5-7. Safety Alert

a. Pilot.

1. Initiates appropriate action if a safety alert is received from ATC.
2. Be aware that this service is not always available and that many factors affect the ability of the controller to be aware of a situation in which unsafe proximity to terrain, obstructions, or another aircraft may be developing.

b. Controller.

1. Issues a safety alert if aware an aircraft under their control is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain, obstructions or another aircraft. Types of safety alerts are:

controller aware the aircraft is at an altitude believed to place the aircraft in unsafe proximity to terrain or obstructions.

(b) Aircraft Conflict Alert. Immediately issued to an aircraft under their control if aware of an aircraft not under their control at an altitude believed to place the aircraft in unsafe proximity to each other. With the alert, they offer the pilot an alternative, if feasible.

2. Discontinue further alerts if informed by the pilot action is being taken to correct the situation or that the other aircraft is in sight.

5-5-8. See and Avoid

a. Pilot. When meteorological conditions permit, regardless of type of flight plan or whether or not under control of a radar facility, the pilot is responsible to see and avoid other traffic, terrain, or obstacles.

b. Controller.

1. Provides radar traffic information to radar identified aircraft operating outside positive control airspace on a workload permitting basis.
2. Issues safety alerts to aircraft under their control if aware the aircraft is at an altitude believed to place the aircraft in unsafe proximity to terrain, obstructions, or other aircraft.

5-5-9. Speed Adjustments

a. Pilot.

1. Advises ATC any time cruising airspeed varies plus or minus 5 percent or 10 knots, whichever is greater, from that given in the flight plan.
2. Complies with speed adjustments from ATC unless:

(a) The minimum or maximum safe airspeed for any particular operation is greater or less than the requested airspeed. In such cases, advises ATC.

NOTE-

It is the pilot's responsibility and prerogative to refuse speed adjustments considered excessive or contrary to the aircraft's operating specifications.

(b) Operating at or above 10,000 feet MSL on an ATC assigned SPEED ADJUSTMENT of more than 250 knots IAS and subsequent clearance is received for descent below 10,000 feet MSL. In such cases, pilots are expected to comply with 14 CFR section 91.117(a).

3. When complying with speed adjustment assignments, maintains an indicated airspeed within plus or minus 10 knots or 0.02 Mach number of the specified speed.

b. Controller.

vectoring technique.

2. Adheres to the restrictions published in FAA Order JO 7110.65, Air Traffic Control, as to when speed adjustment procedures may be applied.
3. Avoids speed adjustments requiring alternate decreases and increases.
4. Assigns speed adjustments to a specified IAS (KNOTS)/Mach number or to increase or decrease speed using increments of 5 knots or multiples thereof.
5. Terminates ATC-assigned speed adjustments when no longer required by issuing further instructions to pilots in the following manner:

(a) Advises pilots to “resume normal speed” when the aircraft is on a heading, random routing, charted procedure, or route without published speed restrictions.

(b) Instructs pilots to “comply with speed restrictions” when the aircraft is joining or resuming a charted procedure or route with published speed restrictions.

CAUTION-

The phraseology “Climb via **SID**” requires compliance with all altitude and/or speed restrictions depicted on the procedure.

(c) Instructs pilots to “resume published speed” when aircraft are cleared via a charted instrument flight procedure that contains published speed restrictions.

(d) Advises aircraft to “delete speed restrictions” when ATC assigned or published speed restrictions on a charted procedure are no longer required.

(e) Clears pilots for approach without restating previously issued speed adjustments.

REFERENCE-

Pilot/Controller Glossary Term - Resume Normal Speed.

Pilot/Controller Glossary Term - Resume Published Speed.

6. Gives due consideration to aircraft capabilities to reduce speed while descending.
7. Does not assign speed adjustments to aircraft at or above FL 390 without pilot consent.

5-5-10. Traffic Advisories (Traffic Information)

a. Pilot.

1. Acknowledges receipt of traffic advisories.
2. Informs controller if traffic in sight.
3. Advises ATC if a vector to avoid traffic is desired.
4. Does not expect to receive radar traffic advisories on all traffic. Some aircraft may not appear on the radar display. Be aware that the controller may be occupied with higher priority duties and unable to issue traffic information for a variety of reasons.
5. Advises controller if service is not desired.

b. Controller.

Class E airspace.

2. Provides vectors to assist aircraft to avoid observed traffic when requested by the pilot.
3. Issues traffic information to aircraft in the Class B, Class C, and Class D surface areas for sequencing purposes.
4. Controllers are required to issue traffic advisories to each aircraft operating on intersecting or nonintersecting converging runways where projected flight paths will cross.

5-5-11. Visual Approach

a. Pilot.

1. If a visual approach is not desired, advises ATC.
2. Complies with controller's instructions for vectors toward the airport of intended landing or to a visual position behind a preceding aircraft.
3. The pilot must, at all times, have either the airport or the preceding aircraft in sight. After being cleared for a visual approach, proceed to the airport in a normal manner or follow the preceding aircraft. Remain clear of clouds while conducting a visual approach.
4. If the pilot accepts a visual approach clearance to visually follow a preceding aircraft, you are required to establish a safe landing interval behind the aircraft you were instructed to follow. You are responsible for wake turbulence separation.
5. Advise ATC immediately if the pilot is unable to continue following the preceding aircraft, cannot remain clear of clouds, needs to climb, or loses sight of the airport.
6. In the event of a go-around, the pilot is responsible to maintain terrain and obstruction avoidance until reaching an ATC assigned altitude if issued.
7. Be aware that radar service is automatically terminated, without being advised by ATC, when the pilot is instructed to change to advisory frequency.
8. Be aware that there may be other traffic in the traffic pattern and the landing sequence may differ from the traffic sequence assigned by approach control or [ARTCC](#).

b. Controller.

1. Do not clear an aircraft for a visual approach unless reported weather at the airport is ceiling at or above 1,000 feet and visibility is 3 miles or greater. When weather is not available for the destination airport, inform the pilot and do not initiate a visual approach to that airport unless there is reasonable assurance that descent and flight to the airport can be made visually.
2. Issue visual approach clearance when the pilot reports sighting either the airport or a preceding aircraft which is to be followed.
3. Provide separation except when visual separation is being applied by the pilot.
4. Continue flight following and traffic information until the aircraft has landed or has been instructed to change to advisory frequency.

small aircraft when the preceding aircraft is a D/T/B. Visual separation is provided between super aircraft.

6. When weather is available for the destination airport, do not initiate a vector for a visual approach unless the reported ceiling at the airport is 500 feet or more above the [MVA](#) and visibility is 3 miles or more. If vectoring weather minima are not available but weather at the airport is ceiling at or above 1,000 feet and visibility of 3 miles or greater, visual approaches may still be conducted.

5-5-12. Visual Separation

a. Pilot.

1. Acceptance of instructions to follow another aircraft or to provide visual separation from it is an acknowledgment that the pilot will maneuver the aircraft as necessary to avoid the other aircraft or to maintain in-trail separation. Pilots are responsible to maintain visual separation until flight paths (altitudes and/or courses) diverge.
2. If instructed by ATC to follow another aircraft or to provide visual separation from it, promptly notify the controller if you lose sight of that aircraft, are unable to maintain continued visual contact with it, or cannot accept the responsibility for your own separation for any reason.
3. The pilot also accepts responsibility for wake turbulence separation under these conditions.

b. Controller. Applies visual separation only:

1. Within the terminal area when a controller has both aircraft in sight or by instructing a pilot who sees the other aircraft to maintain visual separation from it.
2. Pilots are responsible to maintain visual separation until flight paths (altitudes and/or courses) diverge.
3. Within en route airspace when aircraft are on opposite courses and one pilot reports having seen the other aircraft and that the aircraft have passed each other.

5-5-13. VFR-on-top

a. Pilot.

1. This clearance must be requested by the pilot on an IFR flight plan, and if approved, allows the pilot the choice (subject to any ATC restrictions) to select an altitude or flight level in lieu of an assigned altitude.

NOTE-

VFR-on-top is not permitted in certain airspace areas, such as Class A airspace, certain restricted areas, etc. Consequently, IFR flights operating VFR-on-top will avoid such airspace.

AIM, Para 4-4-11, IFR Separation Standards.

AIM, Para 5-3-2, Position Reporting.

AIM, Para 5-3-3, Additional Reports.

2. By requesting a VFR-on-top clearance, the pilot assumes the sole responsibility to be vigilant so as to see and avoid other aircraft and to:

(a) Fly at the appropriate VFR altitude as prescribed in 14 CFR section 91.159.

(b) Comply with the VFR visibility and distance from clouds criteria in 14 CFR section 91.155, *Basic VFR Weather Minimums*.

(c) Comply with instrument flight rules that are applicable to this flight; i.e., minimum IFR altitudes, position reporting, radio communications, course to be flown, adherence to ATC clearance, etc.

3. Should advise ATC prior to any altitude change to ensure the exchange of accurate traffic information.

b. Controller.

1. May clear an aircraft to maintain VFR-on-top if the pilot of an aircraft on an IFR flight plan requests the clearance.

2. Informs the pilot of an aircraft cleared to climb to VFR-on-top the reported height of the tops or that no top report is available; issues an alternate clearance if necessary; and once the aircraft reports reaching VFR-on-top, reclears the aircraft to maintain VFR-on-top.

3. Before issuing clearance, ascertain that the aircraft is not in or will not enter Class A airspace.

5-5-14. Instrument Departures

a. Pilot.

1. Prior to departure considers the type of terrain and other obstructions on or in the vicinity of the departure airport.

2. Determines if obstruction avoidance can be maintained visually or that the departure procedure should be followed.

3. Determines whether an obstacle departure procedure (ODP) and/or DP is available for obstruction avoidance. One option may be a Visual Climb Over Airport (VCOA). Pilots must advise ATC as early as possible of the intent to fly the VCOA prior to departure.

4. At airports where IAPs have not been published, hence no published departure procedure, determines what action will be necessary and takes such action that will assure a safe departure.

b. Controller.

takeoff, turn, or initial heading to be flown after takeoff, consistent with published departure procedures (DP) or diverse vector areas (DVA), where applicable.

2. At locations without airport traffic control service but within Class E surface area when necessary to specify direction of takeoff, turn, or initial heading to be flown, obtains pilot's concurrence that the procedure will allow the pilot to comply with local traffic patterns, terrain, and obstruction avoidance.

3. When the initial heading will take the aircraft off an assigned procedure (for example, an RNAV SID with a published lateral path to a waypoint and crossing restrictions from the departure end of runway), the controller will assign an altitude to maintain with the initial heading.

4. Includes established departure procedures as part of the ATC clearance when pilot compliance is necessary to ensure separation.

5. At locations with both SIDs and DVAs, ATC will provide an amended departure clearance to cancel a previously assigned SID and subsequently utilize a DVA or vice versa. The amended clearance will be provided to the pilot in a timely manner so that the pilot may confirm adequate climb performance exists to determine if the amended clearance is acceptable, and brief the changes in advance of entering the runway.

6. At locations with a DVA, ATC is not permitted to utilize a SID and DVA concurrently.

5-5-15. Minimum Fuel Advisory

a. Pilot.

1. Advise ATC of your minimum fuel status when your fuel supply has reached a state where, upon reaching destination, you cannot accept any undue delay.

2. Be aware this is not an emergency situation, but merely an advisory that indicates an emergency situation is possible should any undue delay occur.

3. On initial contact the term “minimum fuel” should be used after stating call sign.

EXAMPLE-

Salt Lake Approach, United 621, “minimum fuel.”

4. Be aware a minimum fuel advisory does not imply a need for traffic priority.

5. If the remaining usable fuel supply suggests the need for traffic priority to ensure a safe landing, you should declare an emergency due to low fuel and report fuel remaining in minutes.

REFERENCE-

P/CG Term - FUEL REMAINING.

b. Controller.

1. When an aircraft declares a state of minimum fuel, relay this information to the facility to whom control jurisdiction is transferred.

a. Pilot.

1. If unable to comply with the requirements of an RNAV or RNP procedure, pilots must advise air traffic control as soon as possible. For example, “N1234, failure of GPS system, unable RNAV, request amended clearance.”
2. Pilots are not authorized to fly a published RNAV or RNP procedure (instrument approach, departure, or arrival procedure) unless it is retrievable by the procedure name from the current aircraft navigation database and conforms to the charted procedure. The system must be able to retrieve the procedure by name from the aircraft navigation database, not just as a manually entered series of waypoints.
3. Whenever possible, RNAV routes (Q- or T-route) should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. However, selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted.
4. Pilots must not change any database waypoint type from a fly-by to fly-over, or vice versa. No other modification of database waypoints or the creation of user-defined waypoints on published RNAV or RNP procedures is permitted, except to:
 - (a) Change altitude and/or airspeed waypoint constraints to comply with an ATC clearance/instruction.
 - (b) Insert a waypoint along the published route to assist in complying with ATC instruction, example, “Descend via the WILMS arrival except cross 30 north of BRUCE at/or below FL 210.” This is limited only to systems that allow along-track waypoint construction.
5. Pilots of FMS-equipped aircraft, who are assigned an RNAV DP or STAR procedure and subsequently receive a change of runway, transition or procedure, must verify that the appropriate changes are loaded and available for navigation.
6. For RNAV 1 DPs and STARs, pilots must use a CDI, flight director and/or autopilot, in lateral navigation mode. Other methods providing an equivalent level of performance may also be acceptable.
7. For RNAV 1 DPs and STARs, pilots of aircraft without GPS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of take-off roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. Other methods providing an equivalent level of performance may also be acceptable.
8. For procedures or routes requiring the use of GPS, if the navigation system does not automatically alert the flight crew of a loss of GPS, the operator must develop procedures to

7. **RNAV** terminal procedures (**RNAV 1** and **RNAV 2**) may be amended by ATIS issuing radar vectors and/or clearances direct to a waypoint. Pilots should avoid premature manual deletion of waypoints from their active “legs” page to allow for rejoining procedures.

10. RAIM Prediction: If TSO-C129 equipment is used to solely satisfy the **RNAV** and RNP requirement, GPS RAIM availability must be confirmed for the intended route of flight (route and time). If RAIM is not available, pilots need an approved alternate means of navigation.

REFERENCE-

*AIM, Para 5-1-16, **RNAV** and RNP Operations.*

11. Definition of “established” for **RNAV and RNP operations.** An aircraft is considered to be established on-course during **RNAV** and RNP operations anytime it is within 1 times the required accuracy for the segment being flown. For example, while operating on a Q-Route (**RNAV 2**), the aircraft is considered to be established on-course when it is within 2 NM of the course centerline.

NOTE-

- 1. Pilots must be aware of how their navigation system operates, along with any AFM limitations, and confirm that the aircraft's lateral deviation display (or map display if being used as an allowed alternate means) is suitable for the accuracy of the segment being flown. Automatic scaling and alerting changes are appropriate for some operations. For example, TSO-C129 systems change within 30 miles of destination and within 2 miles of **FAF** to support approach operations. For some navigation systems and operations, manual selection of scaling will be necessary.*
- 2. Pilots flying **FMS** equipped aircraft with barometric vertical navigation (Baro-VNAV) may descend when the aircraft is established on-course following **FMS** leg transition to the next segment. Leg transition normally occurs at the turn bisector for a fly-by waypoint (reference paragraph 1-2-1 for more on waypoints). When using full automation, pilots should monitor the aircraft to ensure the aircraft is turning at appropriate lead times and descending once established on-course.*
- 3. Pilots flying TSO-C129 navigation system equipped aircraft without full automation should use normal lead points to begin the turn. Pilots may descend when established on-course on the next segment of the approach.*