

DEDICATED TO HELPING BUSINESS ACHIEVE ITS HIGHEST GOALS.



## NBAA NOISE ABATEMENT PROGRAM

Quiet Flying Is Good Business

Founded in 1967, the NBAA Noise Abatement Program promotes safe, standardized and uncomplicated operating procedures that are effective in reducing noise exposure.

[www.nbaa.org/quietflying](http://www.nbaa.org/quietflying)

# NBAA NOISE ABATEMENT PROGRAM

## Quiet Flying Is Good Business

NBAA has long believed that quiet flying is good business. NBAA's Noise Abatement Program has been in existence since 1967, establishing objectives and operating procedures that have served the business aviation community well and have proven to be effective in reducing aircraft noise impacts and subsequently, community opposition to business aviation.

NBAA's updated Noise Abatement Program was developed with modern aircraft performance and air traffic control (ATC) requirements in mind. With this revision, NBAA continues to provide operators with guidance to reduce noise impacts that is suited to the current operating environment, as well as new tools for aircraft operators and airports to address the noise concerns of adjacent communities.

The updated program includes:

- Noise abatement best practices for flight crews.
- Updates to NBAA's "close-in" noise abatement departure procedure and approach and landing procedures.
- Noise abatement guidance for other aviation stakeholders, including airports and air traffic control facilities.

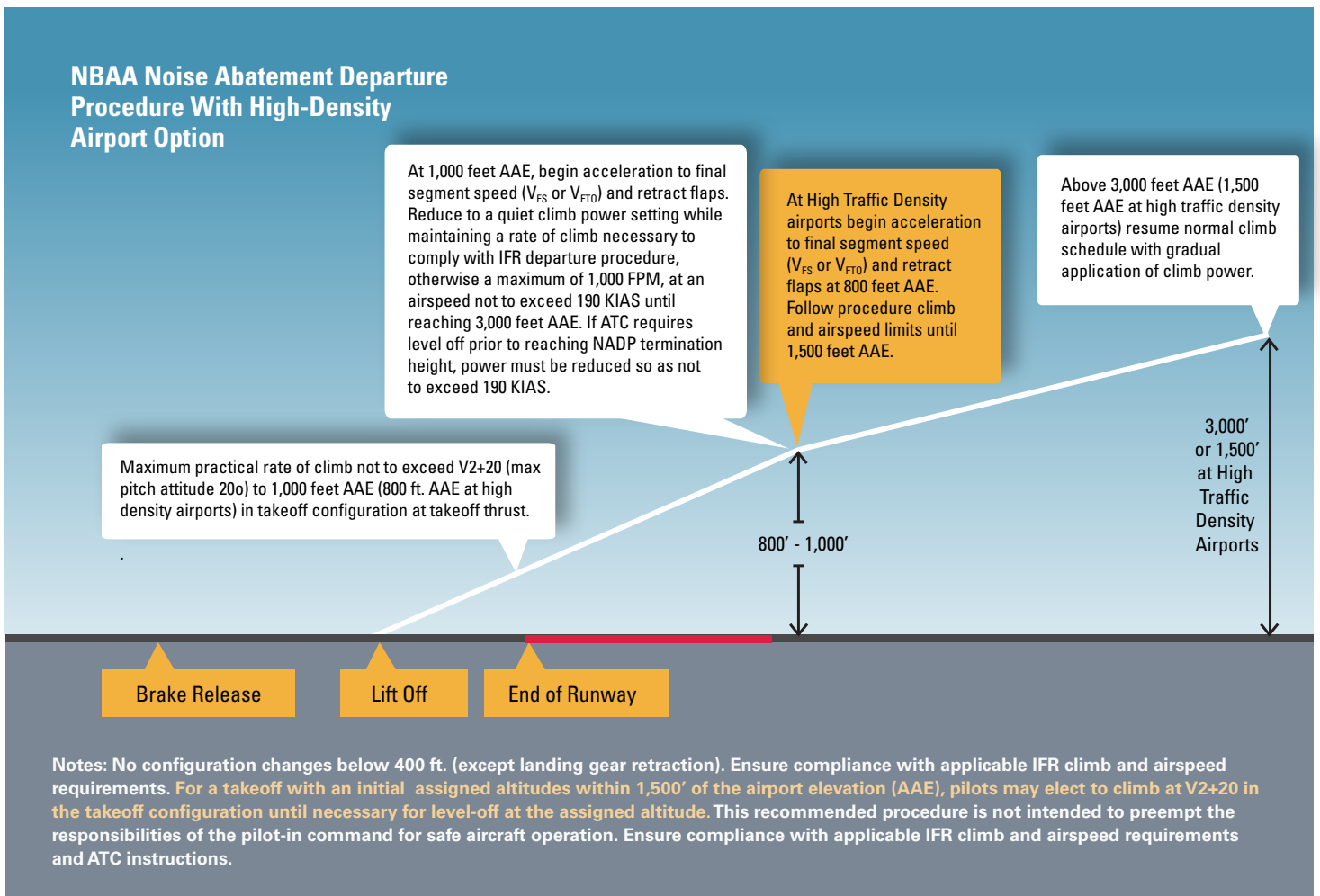
## NOISE ABATEMENT BEST PRACTICES FOR FLIGHT CREWS

Pilots should always be mindful of noise impacts at airports. Even the "quietest" modern aircraft may disturb those that live near the airport. Care should be taken to minimize the aircraft's noise profile whenever possible by utilizing noise abatement best practices at *all* airports, especially during night-time and early-morning hours when aircraft operations may be especially disturbing.

- During the flight-planning process, flight crews should familiarize themselves with the airport's noise abatement policies and any applicable noise abatement procedures (NAPs) for the airport they will be using. These may include:
  - Preferential runway use
  - Preferential approach and departure paths
  - Preferred terminal arrival and departure procedures for noise abatement
  - Other noise-related policies (maximum noise limits, curfews, usage of reverse thrust, engine run-up policies, etc.)
- Contact the airport's Noise Management or Operations department for more information on local noise policies and procedures.
- When available, pilots should utilize their company's recommended departure/arrival NAPs or those recommended by the aircraft manufacturer for their specific aircraft.
- Flight safety and ATC instructions and procedures always have priority over any NAP. NAPs should be executed in the safest manner possible and within all FAA-mandated operating requirements.
- Proper pre-departure and pre-arrival crew briefings are essential to ensuring the safe and effective execution of NAPs.
- When airport or aircraft-specific procedures are unavailable, NBAA provides recommended noise abatement procedures suitable for any aircraft type and airport operating environment (see below).

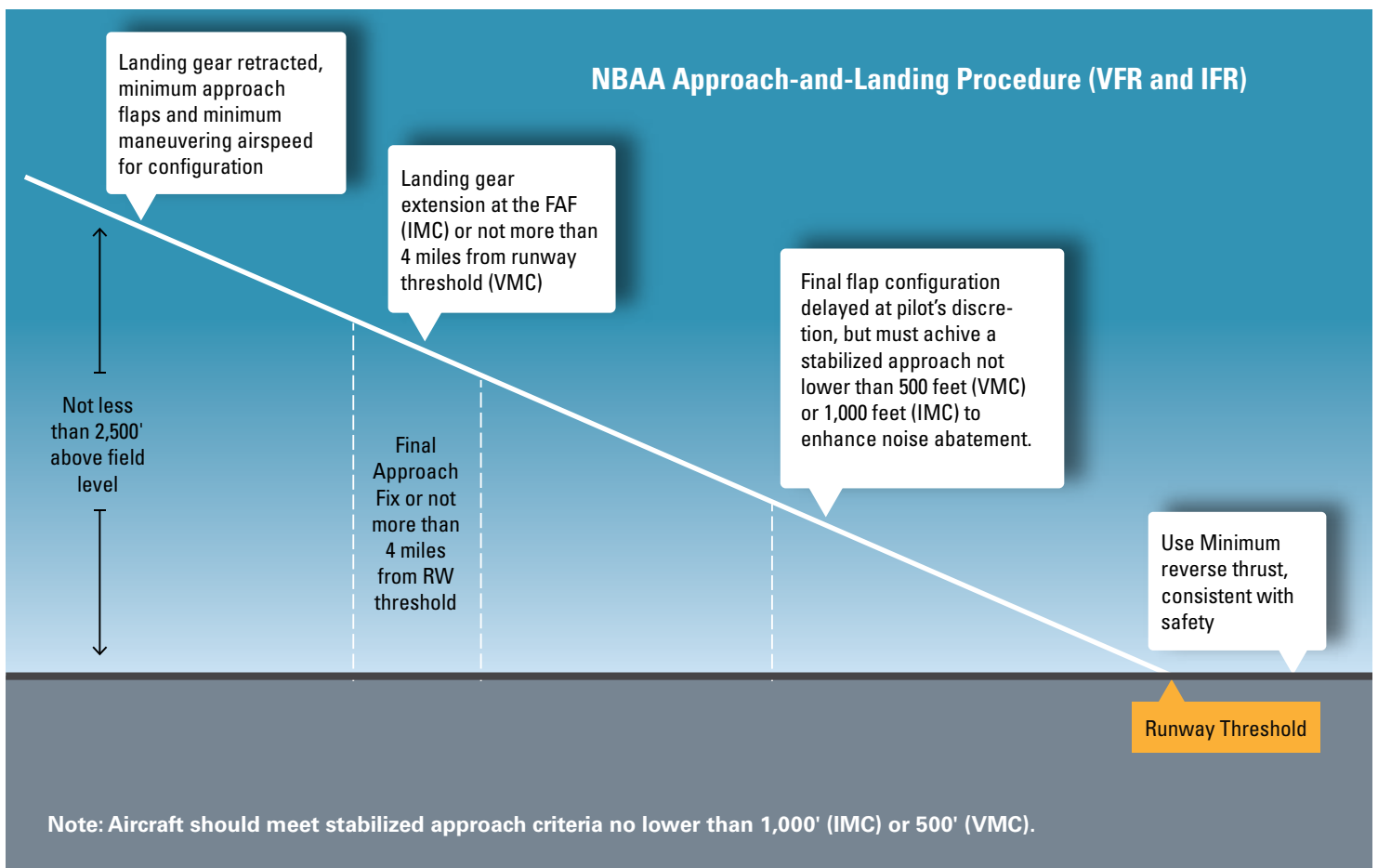
## NBAA-RECOMMENDED NOISE ABATEMENT DEPARTURE PROCEDURE WITH HIGH-DENSITY AIRPORT OPTION

1. Climb at maximum practical rate not to exceed  $V_2+20$  KIAS (maximum pitch, attitude 20 degrees) to 1,000 feet AAE (800 ft. AAE at high-density-traffic airports) in takeoff configuration at takeoff thrust.
2. Between 800 and 1,000 feet AAE, begin acceleration to final segment speed (VFS or VFTO) and retract flaps. Reduce to a quiet climb power setting while maintaining a rate of climb necessary to comply with IFR departure procedure, otherwise a maximum of 1,000 FPM at an airspeed not to exceed 190 KIAS, until reaching 3,000 feet AAE or 1,500 feet AAE at high-density-traffic airports. If ATC requires level off prior to reaching NADP termination height, power must be reduced so as not to exceed 190 KIAS.
3. Above 3,000 feet AAE (1,500 feet at high-density airports) resume normal climb schedule with gradual application of climb power.
4. Ensure compliance with applicable IFR climb and airspeed requirements at all times.



## NBAA-RECOMMENDED APPROACH AND LANDING PROCEDURE (VFR AND IFR)

1. Inbound flight path should not require more than a 25 degree bank angle to follow noise abatement track.
2. Observe all airspeed limitations and ATC instructions.
3. Initial inbound altitude for noise abatement areas will be a descending path from 2,500 feet AGL or higher. Maintain minimum maneuvering airspeed with gear retracted and minimum approach flap setting.
4. During IMC, extend landing gear at the final approach fix (FAF), or during VMC no more than 4 miles from runway threshold.
5. Final landing flap configuration should be delayed at the pilot's discretion; however, the pilot must achieve a stabilized approach not lower than 500 feet during VMC or 1,000 feet during IMC. The aircraft should in full landing configuration and at final approach speed by 500 feet AGL to ensure a stable approach.
6. During landing, use minimum reverse thrust consistent with safety for runway conditions and available length.



## COLLABORATION, EDUCATION AND OUTREACH

Effective aircraft noise management requires a collaborative effort between aircraft operators, ATC and airport operators. Minimizing noise impacts is in the best interest of all stakeholders.

### Aircraft Operators

- The noise abatement best practices recommended by NBAA are suggested as a national standard for business aircraft operators. They are intended for use at any airport and for any aircraft. They should be used when airport-specific or aircraft-specific procedures are unavailable.
- NBAA members should engage their local airport, particularly with regard to noise issues. Where necessary, support should be provided to assist airport management in adopting procedures which meet the objectives of the NBAA Noise Abatement Program as they relate to operational safety and usability. Every effort should be made to tailor procedures to the specifics of each airport in order to provide the maximum noise reduction consistent with safe and efficient operations.
- When applicable, pilots are encouraged to provide feedback on local NAPs to ATC, the airport operator and local pilot groups.
- Pilot training for business aircraft should include the importance of noise abatement and noise abatement procedures in all types of ratings and ATR flight checks.

### Airports

- Specific information should be developed by airport management and made available to pilots and controllers through publication of easily attainable flight manuals, NOTAMS, AIMS, letters to airmen, ATIS messages, charts and explanatory pamphlets. This information should include:
  - Approach and departure paths over least noise-sensitive areas
  - Preferential runway usages, if applicable
  - Use of NBAA's noise abatement best practices
  - General map showing surrounding area and marking places of specific sensitivity, such as residential areas, schools and hospitals
- Airports should provide communities with data to demonstrate current and historic airport noise levels and highlight continued efforts by the airport and aviation industry to minimize noise impacts.
- Airport approach and takeoff paths should be designated on all official zoning maps. This should be done for all airports, existing or proposed, in order that land-use zoning, development and real estate activity are conducted with full awareness of the confines of such areas. Additionally, the land use permitted in these areas should be specified in zoning regulations and building codes in order to protect inhabitants.
- Airport management should investigate the optimal use of visual and electronic approach aids, which can aid noise abatement procedures at an airport. Improvements in both approach aids and runway facilities encourage aircraft to approach over the least noise-sensitive areas.
- Jet aircraft run-up areas should be developed for least noise disturbances to airport tenants and local communities. Blast fences, ground run-up enclosures, etc., should be provided and used where necessary.

- Airport management should evaluate the airport’s natural terrain and consider ways in which improvements to landscaping might improve noise conditions around the airport.
- Airport management should post signs in pilot information centers, as well as at conspicuous places along airfield entry points (e.g., walk-through and drive-through gates), the taxiways or runway areas, giving the pilots a last reminder that they are in a noise-sensitive area calling for use of noise abatement procedures.
- Airport management should develop education programs to inform pilots and air traffic controllers as to the need for and procedures associated with noise abatement and good community relations. A more thorough understanding by the pilots and the controllers as to what the procedures are, as well as the reasons behind them, is the key to success.
- Preferential runway use systems that are safe and do not unnecessarily restrict the flow of air traffic should be established at all airports having a need for them.

### **Air Traffic Control**

- The airport and ATC management should conduct a procedures review to recommend and implement new airport noise awareness programs. The recommendations should add a statement such as “use noise abatement procedures” to all ATC clearances issued by control tower operators.
- Control tower operators should be permitted to give any needed special attention to jet aircraft that may, for purposes of noise abatement, be required to land or takeoff using a different runway than the one in use by smaller aircraft.
- Control tower operators should develop procedures that will separate high-performance aircraft from low-performance aircraft as much as possible.
- The air traffic control procedures should keep aircraft more than 3,000 feet AGL over noise-sensitive areas to the extent that this can be accomplished without excessive derogation of air traffic flow.
- It is recommended that high-performance aircraft within reasonable operating limits and consistent with noise abatement policies remain at the highest possible altitude as long as possible when arriving and climb to the requested altitude filed by the pilot as soon as possible after departing.
- SIDs should include references to the use of noise abatement procedures.

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### **About NBAA**

Founded in 1947 and based in Washington, DC, the National Business Aviation Association (NBAA) is the leading organization for companies that rely on general aviation aircraft to help make their businesses more efficient, productive and successful. Contact NBAA at (800) FYI-NBAA or [info@nbaa.org](mailto:info@nbaa.org). Not a Member? Join today by visiting [www.nbaa.org/join](http://www.nbaa.org/join).

Released in 2015, this updated NBAA Noise Abatement Program was developed in conjunction with industry experts on NBAA’s Access Committee. Learn more about the NBAA Access Committee at [www.nbaa.org/committees/access](http://www.nbaa.org/committees/access).