

# Things That Go Bump On the Flight

Phase of Flight	Noises	Sensations
<b>Entering Aircraft</b>	<ul style="list-style-type: none"> <li>• Air conditioning</li> <li>• Jet engine sound from Aux. Power Unit</li> <li>• Whine from hydraulic pumps</li> </ul>	None
<b>Engine Start</b>	<ul style="list-style-type: none"> <li>• Air conditioning noise stops</li> <li>• Jet engine noise begins to rise in pitch</li> </ul>	Vibration in seats near engines
<b>Pushback</b>	Engines starting	Rearward motion, perhaps jerky
<b>Power Back</b> (Aircraft backs up using reverse thrust)	Very loud engine noise	Rearward motion
<b>Taxi</b>	<ul style="list-style-type: none"> <li>• Engine noise varies, sometimes loud</li> <li>• Sound of flap motors in seats near wings</li> </ul>	<ul style="list-style-type: none"> <li>• Forward motion</li> <li>• Possible bumps</li> <li>• Abrupt turns and stops</li> </ul>
<b>Takeoff</b>	<ul style="list-style-type: none"> <li>• Engine noise very loud which decreases as speed builds up.</li> <li>• Air noise begins (rushing sound), bangs from nose wheel as strut bottoms out, and as wheel goes over recessed runway lights.</li> <li>• Jet engine sound from Aux. Power Unit</li> <li>• Whine from Hydraulic pumps</li> </ul>	<ul style="list-style-type: none"> <li>• Forward motion, with a powerful acceleration if aircraft is light in weight</li> <li>• Bumps in runway</li> <li>• Bumps going over runway lights</li> </ul>
<b>Rotation</b>	<ul style="list-style-type: none"> <li>• Possible bang sound from nose wheel as strut extends</li> </ul>	<ul style="list-style-type: none"> <li>• Nose goes up</li> <li>• Seat seems to tilt back</li> </ul>
<b>Liftoff</b>	<ul style="list-style-type: none"> <li>• Runway bump noises stop</li> <li>• Air noise increases</li> </ul>	<ul style="list-style-type: none"> <li>• Possible vibration as tires spin down</li> <li>• Increase in deck angle</li> </ul>
<b>Landing Gear Retraction</b>	<ul style="list-style-type: none"> <li>• Seats over wing may experience loud bumps as gear doors open and wheels retract</li> <li>• Air noise may increase while gear doors are open</li> </ul>	<ul style="list-style-type: none"> <li>• Vibrations and thuds as wheels retract</li> </ul>
<b>Wing Flap Retraction</b>	<ul style="list-style-type: none"> <li>• Possible whining sound in wing area as flap motors actuate</li> <li>• Air noise increases as speed increases</li> </ul>	<ul style="list-style-type: none"> <li>• Possible slight sinking sensation as aircraft accelerates</li> <li>• Less vibration after flaps are retracted.</li> </ul>
<b>Departure Maneuvering</b>	<ul style="list-style-type: none"> <li>• No special noises</li> <li>• Engine noises may vary as thrust settings are changed for maneuvers</li> </ul>	<ul style="list-style-type: none"> <li>• Low altitude turns may cause tilting sensations</li> <li>• Pitch (deck angle) may change for level offs</li> <li>• If thrust is reduced, possible deceleration effect.</li> </ul>
<b>Enroute Climb</b>	<ul style="list-style-type: none"> <li>• As speed increases, most of the noise becomes air noise</li> <li>• Engines heard only in seats near them</li> <li>• About 5 minutes into the flight, air noise will</li> </ul>	<ul style="list-style-type: none"> <li>• Generally, enroute maneuvering is very gentle</li> <li>• If you are looking out the window you will see the banking for turns</li> </ul>

	increase as aircraft reaches 10,000 feet and accelerates to full climb speed.	<ul style="list-style-type: none"> <li>• Light turbulence will produce a “rough road” effect</li> </ul>
<b>Cruise</b>	<ul style="list-style-type: none"> <li>• Air noise</li> </ul>	<ul style="list-style-type: none"> <li>• Probably few to none</li> <li>• Gentle turns</li> </ul>
<b>Descent</b>	<ul style="list-style-type: none"> <li>• Engine thrust is reduced for people sitting next to the engines</li> <li>• On some aircrafts, the air condition noise changes as thrust is reduced</li> </ul>	<ul style="list-style-type: none"> <li>• Possible slight downward deck angle depending on the steepness of descent.</li> <li>• Gentle turns</li> </ul>
<b>Initial Approach</b>	<ul style="list-style-type: none"> <li>• As aircraft descends below 10,000 feet speed is reduced and air noise diminishes substantially.</li> <li>• If temporary level off is necessary engine noise will increase</li> </ul>	<ul style="list-style-type: none"> <li>• On some aircrafts thrust changes produce acceleration and deceleration effects.</li> <li>• Deck angle changes for level offs.</li> </ul>
<b>Flap Extension</b>	<ul style="list-style-type: none"> <li>• Air noise decreases as speed decreases</li> <li>• Possible whine near wings as flap motors actuate</li> <li>• As flaps extend, air noise becomes deeper in pitch.</li> </ul>	<ul style="list-style-type: none"> <li>• Possible lifting sensation as flaps extend</li> <li>• Ride, even in smooth air becomes a little rough due to flap effects on airflow</li> </ul>
<b>Landing Gear Extension</b>	<ul style="list-style-type: none"> <li>• Air noise increases as gear doors open</li> <li>• Some thuds and bangs as wheels extend, lock and doors close.</li> </ul>	<ul style="list-style-type: none"> <li>• Some bumps and thuds</li> <li>• Maneuvering at low speeds generally seems more intense than during cruise</li> <li>• Possible tilting sensation with larger bank angles</li> </ul>
<b>Final Approach</b>	<ul style="list-style-type: none"> <li>• Engine noise will vary as thrust is altered to maintain approach speed</li> </ul>	<ul style="list-style-type: none"> <li>• For the first time you will feel the pilot handling the aircraft by banking and changing deck angles rapidly to maintain the exact glide path.</li> </ul>
<b>Flare</b>	<ul style="list-style-type: none"> <li>• Engine noise will vary as thrust is altered to maintain approach speed</li> </ul>	<ul style="list-style-type: none"> <li>• Deck angle will increase as pilot reduces descent rate for touchdown</li> </ul>
<b>Touchdown</b>	<ul style="list-style-type: none"> <li>• Engine thrust and noise reduce abruptly</li> <li>• If landing is firm, possible noise of touchdown such as a loud thud</li> </ul>	<ul style="list-style-type: none"> <li>• Depending on the type of landing anything from a skipping squeak to a full scale thud</li> <li>• Possible sideways motion as pilot tracks runway center line</li> <li>• Seat seems to tilt back</li> </ul>
<b>Landing Rollout</b>	<ul style="list-style-type: none"> <li>• Engine noise increase rapidly as thrust is reversed</li> <li>• Runway noises again</li> <li>• Bangs and bumps</li> </ul>	<ul style="list-style-type: none"> <li>• Depending on the length of the runway either a mild or a major breaking effect</li> <li>• Runway bumps and bangs</li> <li>• Seat seems to tilt back</li> </ul>
<b>Taxi In</b>	<ul style="list-style-type: none"> <li>• Normal taxi noises</li> <li>• Engine thrust varies</li> <li>• One or more engines may be shut off altogether to save fuel</li> </ul>	<ul style="list-style-type: none"> <li>• Turns and stops</li> <li>• May be abrupt</li> </ul>

	<ul style="list-style-type: none"><li>• Flaps retract</li></ul>	
<b>Arrival at Gate</b>	<ul style="list-style-type: none"><li>• Engines shut down</li><li>• Noise decreases in pitch and stops completely</li><li>• Sound of APU and air conditioning remain</li><li>• Engine thrust varies</li><li>• One or more engines may be shut off all together to save fuel</li><li>• Flaps retract</li></ul>	<ul style="list-style-type: none"><li>• None after final stop</li></ul>