

## F-35B High Show Narration

In between performers start playing

**1.\*Jorge Quintero - “300 Violin Orchestra” ±120 sec 0:00**

### AIRSHOW NARRATOR:

Once cleared for takeoff play

**2.\*ACDC - “Hells Bells” ± 120 sec 0:00**

*[As the jet is taking the runway]*

Good afternoon ladies and gentlemen! At this time, the Third Marine Aircraft Wing, Marine Aircraft Group 11, and VMFAT-502 out of San Diego, California take great pleasure in presenting the F-35B Lightning II, the world’s first short-takeoff, vertical landing, or “STOVL” stealth fighter. In front of you now, the F-35B is positioning for a short takeoff. Today’s flight demonstration will consist of both the conventional and short takeoff and vertical landing modes of flight. The demonstration pilot is Major Craig Norris, callsign “Brembo,” from Naples, Florida. He has been flying the F-35B since February of 2018.

*[After takeoff as the jet turns away from the crowd]*

The F-35 is a multi-role aircraft produced by Lockheed Martin and is a result of a multi-service, multi-national effort currently spanning three US Services and nine partner nations. The F-35 family of aircraft is currently flown by the United States Marine Corps, the United States Navy, and the United States Air Force, as well as the air forces and navies of the United Kingdom, Australia, Italy, Israel, Japan, Norway, and the Netherlands.

**3.\*Thin Lizzy - “The Boys are Back in Town” ±80 sec 0:00**

From the (left/right), the pilot is now setting up for a Minimum Radius Turn, demonstrating the tight turn radius of the F-35 while in full afterburner.

*[During the turn as the jet is 90deg away from crowd]*

The Lightning’s low observable stealth allows it to safely enter areas without being seen by radars that legacy fighters cannot evade. Out of the turn, the pilot will pull straight into the vertical and perform a high alpha loop, showcasing the F-35’s ability to maneuver from a high speed, high g turn across the ground into a very tight slow speed loop in the vertical.

*[As the jet is pointed away from crowd for reposition]*

The pilot is now setting up for the high-speed pass from the (left/right). The Lightning is capable of flight in excess of Mach 1 at altitudes in excess of 40,000 feet. The fly-by-wire

flight control system of the F-35 provides extreme agility while reducing pilot workload across the flight envelope.

#### **4.\*One Republic - “I Ain’t Worried” ±75 sec 0:00**

Get your video cameras out now as the F-35 will be approaching the sound barrier, demonstrating its ability to go supersonic.....ladies and gentlemen, the F-35B Lightning II!

*[As the jet begins the climb away for the reposition]*

The combination of the stealth features, the Lightning's active electronically scanned array radar technology, and the aircraft's ability to carry weapons internally means the F-35 can engage targets at long ranges without detection.

#### **5.\*DNCE - “Cake by the Ocean” ±70 sec 0:00**

The F-35 is now setting up for a high speed climb from the (left/right). As the F-35B approaches show center, the pilot will execute a high G pull into the vertical, followed by a 360 degree aileron roll.

#### **6.\*The Spencer Davis Group - “Gimme Some Lovin’” ±80 sec 0:00**

*[During spiral descent reposition]*

The F-35 Joint Strike Fighter is the result of a Department of Defense program to provide a next generation strike aircraft weapon system for the Marine Corps, Navy, Air Force, and our allies. In addition to its impressive STOVL capabilities, the F-35B is designed to be capable of carrying a wide array of the most advanced precision guided air to surface munitions, air to air missiles, and a missionized 25mm cannon.

From the (left/right), the F-35 is preparing to execute the Square Loop maneuver. This is a demanding maneuver that contains the most dangerous pull of the routine, as the jet goes into the vertical nose high, pulls inverted over the top, and then goes pure nose low at maximum afterburner prior to squaring off the bottom of the loop.

Make sure to notice as the airplane pauses on all four sides of the square!

#### **7.\*Billy Squier - “The Stroke” ±120 sec 0:00**

*[During reposition for the Slow Speed pass]*

The F-35 possesses the most powerful and comprehensive integrated sensor package of any fighter aircraft in history. Its next-generation avionics and sensor fusion give the pilot real-time access to battlefield information with 360-degree coverage. Advanced electronic warfare capabilities enable the F-35 to locate and track enemy forces, jam radio frequencies and disrupt attacks with unparalleled precision.

The F-35 is capable of advanced handling in the slow speed regime based upon sophisticated 5th generation control laws. The power of the F-35 engine can provide enough thrust to maintain the aircraft in level flight at very low airspeeds. Watch the horizontal tails work hard as the aircraft maintains altitude with the nose pointed high into the sky.

Get those cameras ready! From the (left/right), the F-35B Lightning II executing the Slow Speed High Angle of Attack pass!

*[In the climbout]*

The pilot has now selected maximum afterburner displaying the raw power of the F-35B's engine in a vertical climb.

As the F-35 approaches pure nose high, watch as the pilot commands full aft stick and the jet performs a high angle of attack pull into the nose low inverted followed by a roll upright to complete the Half Cuban Eight!

#### **8.\*The Weeknd - "Blinding Lights" ±70 sec 0:00**

*[As the jet is pointed away from the crowd for the reposition]*

As the pilot sets up to execute the Tactical Pitch from the (left/right), the F-35 will demonstrate its extreme maneuvering capability by rapidly repositioning the nose of the aircraft through 120 degrees of turn. As the F-35 approaches, you will notice how the aircraft almost appears to drift through the sky demonstrating the jet's ability to rapidly change its energy vector.

The pilot will then climb away after the Tactical Pitch to demonstrate the aircraft's ability to accelerate into the vertical after rapidly changing the aircraft's nose position.

#### **9.\*Chubby Checker - "The Twist" ±90 sec 0:00**

*[As the jet is climbing away for the reposition]*

The F-35 is designed to replace multiple strike and fighter aircraft inventories including U.S. Air Force A-10s and F-16s, U.S. Navy F/A-18s, and U.S. Marine Corps AV-8Bs, F/A-18s, and EA-6Bs. The F-35 is capable of conducting extreme maneuvers in the vertical with the advanced 5th generation flight control laws only seen with the F-22 Raptor and the F-35B Lightning II.

From the right, the pilot will demonstrate the 5th generation advanced flight control laws as he prepares to execute the Pedal Turn. Watch as the F-35 uses a high g pull to pure nose high followed by an inverted pull to enter the pedal turn. The pilot will display how he can rapidly rate the nose around in any direction as the aircraft looks as if it is falling through the sky.

#### **10.\*Harry Styles - "Golden" ±90 sec 0:15 (Starts 15 seconds into song)**

*[During recovery away from crowd]*

As the pilot levels off from the extremely dynamic Pedal Turn, he will immediately convert the aircraft into STOVL mode to return back in front of the crowd in a hover. You will notice several doors opening on the aircraft. The large door on the top of the aircraft just behind the canopy is the upper lift fan door. This is the “intake” for the horizontally mounted forward lift fan. Opposite this door on the bottom of the aircraft you can see the lower lift fan doors which are the “exhaust” for the lift fan. You will also see the doors at the rear of the aircraft which open to allow the main engine exhaust nozzle to rotate down.

**11.\*DJ Khaled - “All I Do is Win” ±75 sec 0:00**

The entire weight of the aircraft will be supported by the thrust from the lift fan, main engine, and roll control nozzles, generating up to 40,000 pounds of thrust. This capability to conduct vertical landing operations is what allows the F-35B to operate from amphibious ships and provides additional flexibility for operations in austere environments. Once stabilized in the hover, the pilot will show the smooth handling characteristics of the F-35B in the STOVL flight regime with a sideward translation, followed by a 270 degree pirouette while translating down the runway in the opposite direction from which he came.

**12.\*Coldplay “A Sky Full of Stars” ±90 sec 0:00**

~~*[Once translated completely aft and at a stop]*~~

The pilot will now set up for a “Vertical Landing” bringing the F-35B to a hover over the landing pad and then descend down for a touching down vertically.

**12.\*Blink-182 - “San Diego” ±120 sec 0:30 (Starts 30 seconds into song)**

*[After Landing]*

We would like to acknowledge the hard work and dedication of all the Marines and Sailors of VMFAT-502, without whom, this demonstration would not be possible.

*[While taxiing clear]*

Ladies and gentlemen, this concludes the aerial demonstration of the F-35B Lighting II. VMFAT-502 along with the Third Marine Aircraft Wing and Marine Aircraft Group 11 hope you have enjoyed this presentation of the future of United States Marine Corps strike fighter aviation.