F-35B LEVEL I, II, III, AND NIGHT AIRSHOW DEMONSTRATION PROFILES

USMC F-35B Model Manager

7 April 2020

1. General Information:

a. This document discusses the USMC F-35B Demonstration profiles to be flown by qualified pilots beginning with the 2019 air show season.

b. The 12 Sept 2015 Airshow Demonstration Flight profile is now referred to as the Legacy profile.

c. Pilots qualified to fly demonstrations per the 12 Sept 2015 Airshow Demonstration Flight profile are still permitted to fly the Legacy profile for the 2019/2020 show seasons. Prior to performing the Level II or III profiles, the pilot must complete the syllabus per the Demo T&R 6800 series. The Level I profile can be performed by pilots at the discretion of the individual squadron CO, not requiring the completion of the Demo T&R 6800 series.

d. CLAW Limit pulls are defined as stick full aft and S10 pressed and held to the CLAW limit (maximum AOA allowable). Lift limit pulls are defined as full aft stick which targets-33° AOA. The vertical is defined as 80-90° nose high (NH) or 80-90° nose low (NL). All nose low maneuvers were designed to recover above 500' AGL even in the event of a jet malfunction that restricts the aircraft to only 4Gs, 20° AOA, and MIL power. 4Gs and 20° AOA are available even with an FCS POWER LIMIT Caution.

e. Certain maneuvers require the pilot to transmit airspeed and/or altitude to a Ground Safety Observer (GSO). The GSO confirms parameters are within specifications, monitors the demonstration pilot's flight path and engine performance while visually clearing the demonstration area for traffic. Specific maneuvers will have a specific comm cadence with position, altitude, and airspeed, and will be denoted in the parameter tables with an asterisk (\*); for example, "4000, 200", for the square loop. With at least the PARAMETER LIMITS met, no response is required from the GSO to the pilot. If the PARAMETER LIMITS are not met, "abort, abort, altitude" or "abort, abort, airspeed" is radioed to the pilot at which time the pilot aborts the maneuver. The GSO will direct an abort anytime parameter limits are exceeded.

f. The demonstration profiles are designed to be 11-15 minutes from taking the active runway to exiting the active runway post landing.

# 2. References, restrictions, and regulations:

a. Current F-35B Flight Manual Product Set per ALIS (including Flight Series Data, Pilot's Checklist, and all Safety and Ops Supplements).

- b. All current applicable NAVAIR F-35B Fleet Interim Flight Clearances
- c. Unit's Group On and Off-Site SOPs
- d. STANDARD OPERATING PROCEDURES FOR USMC F-35 FLIGHT OPERATIONS

1

e. MCO P5720.73 MARINE CORPS AVIATION SUPPORT OF THE COMMUNITY RELATIONS PROGRAM MANUAL

f. All FAA and applicable venue governing body restrictions and regulations.

3. <u>Aircraft Configuration</u>, Fuel, Airspeed, and <u>G</u> Requirements: The profile is flown in a TVE-020 or GREATER clean configuration aircraft, with HMOD-008 and HMOD-015, not to exceed 0.95M IAW current <u>G</u> limitations. Fuel load considerations include: divert requirements, temperature, density altitude, and weather/winds. Typical fuel load at takeoff is 10,000 pounds for the high show and 7,500 pounds for the low show.

4. Show Line Restrictions: The F-35B demonstration is flown on both the 500 foot and the 1,500 foot show line, with the majority being flown on the 1,500 foot show line. Maneuvers not conforming to FAA Order 8900.1, Volume 3, Chapter 6, require approval via the FAA AFS-800 Maneuver Package approval process.

5. <u>Airspace and Runway Requirements</u>: Minimum required airspace for the F-35B is 6,000 feet AGL and normally a five-mile radius from show center horizontally. The minimum dimensions of the aerobatic box are 3,000 feet wide, 6,000 feet long, and 7,000 feet AGL. If the FAA has waived a show line to closer than 1,500 feet, the aerobatic box may be less than 3,000 feet wide, provided there is at least 1,200 feet from either the primary or secondary show line. Minimum runway length and width for shows requiring takeoff and landing is 6000 feet x 72 feet, waived by the individual squadron CO to 3000 feet by 72 feet if a suitable CTOL divert field of 6000 feet is available.

6. Weather Requirements: Weather limits for the high show profile are a ceiling of 7,000 feet AGL (can be lowered to 5,000'AGL by omitting the aileron roll during the nose high climb maneuver), three miles ground and five miles in-flight visibility with a defined horizon. Weather limits for the low show profile is 1,500 feet, three miles ground and five miles in-flight visibility with a defined horizon. Cloud clearance required for each maneuver is based on waived airspace (clear of clouds) and require adjustment if using VFR rules. Plan maneuvers to maintain VMC throughout the show sequence.

7. <u>High Density Altitude Considerations</u>: This profile is written for density altitudes ranging between SFC - 4,999' MSL. For 5,000-8,000' MSL density altitudes, adjust PARAMETER LIMITS in accordance with the following: add 1,000' and 25KCAS to any number marked with an asterisk in the TARGET PARAMETERS and PARAMETER LIMITS section for density altitudes.

### 8. Level III - High Show Demonstration Profile:

- a. TSTO
- b. Min Radius Turn into High Alpha Loop
- c. Mach Run/Video Pass
- d. High Speed pass into NH Aileron Roll

- e. Square Loop
- f. Slow Speed Pass into Half Cuban Eight
- g. Tac Pitch
- h. Pedal Turn
- i. Delayed Hover
- j. Rolling Vertical Landing (RVL)
- 9. Level II Low Show Demonstration Profile:
  - a. TSTO
  - b. Min Radius Turn
  - c. Mach Run/Video Pass
  - d. High Speed Aileron Roll (Weapon Bay Door option)
  - e. Inverted to Inverted Roll
  - f. Slow Speed Pass
  - g. Tac Pitch
  - h. STOVL Door Conversion Pass
  - i. Delayed Hover
  - j. RVL

# 10. Level I - Flyover

a. One to four aircraft formation flyover IAW Ref (a).

b. 500'AGL and 350KCAS, or as required by FAA not to exceed .95M and absolute minimum of 200'AGL

c. A section of aircraft can do a slow pass in the landing configuration (CTOL or STOVL) at optimum angle of attack or 150 for STOVL at 500'AGL with a minimum of 200'AGL if authorized by FAA.

## 11. Night Profile:

- a. MAX AB takeoff
- b. High Speed Pass (≤.9M at 1000'AGL minimum)
- c. High Speed Pass (≤.9M at 1000'AGL minimum)
- g. Delayed Hover VL (waveoff for RVL as required)
- h. RVL as required

#### 12. Legacy Profile (IFC Ref C):

- a. MAX AB Takeoff
- b. High Speed Pass
- c. Aileron roll pass
- d. 360 Degree Level Turn
- e. Photo Pass
- f. STOVL Conversion Pass
- g. Delayed Hover
- h. RVL

### 13. Maneuver Descriptions:

a.<u>TSTO</u>: Aircraft lines up 2000 feet prior to show center on the runway and conducts a TSTO. Once airborne, retract the gear and accelerate with a positive rate of climb until passing show center. Execute a climbing turn to 500'AGL away from show center targeting 200-240KCAS while converting out of STOVL. Once in CTOL, continue turn in the same direction and accelerate to target 500' AGL, 500' show line, and 380KCAS.

<u>Abnormal Procedures</u>: If CONV HALT asserts, enter a delta pattern remaining greater than 1NM behind the crowd at a minimum of 2000'AGL or as published by the local show restrictions.

b. <u>Min Radius Turn into High Alpha Loop</u>: Enter on the 500' show line at 500'AGL and 380KCAS. Select MAX AB just prior to show center, roll and pull to maintain 400-425 through the first 180° of turn with a 1.5° NH FPM to make the turn appear level.Utilize G as required on the second 180° of turn to roll out on the 1,500' show line at 500'AGL line utilizing a 1.5° NL FPM. Approaching show center, unload and roll back to wings level, accelerate to target 400KCAS and initiate a CLAW limit pull to vertical NH. At 3,000' AGL and at least 150KCAS, execute a CLAW limit pull through NL to upright and 45°NL, ensuring over the top inverted airspeed of no slower than 75KCAS. Neutralize pitch stick to break the alpha. Regain at least 150KCAS then set 25° nose low. At 1600' AGL, execute a lift limit pull to recover no lower than 500'AGL.

Apex pull comm call required IAW paragraph 1c: "3000, 150"

TARGET PARAMETERS					
Altitude AGL		KCAS Power Setting		Pull	
Entry	500'	350	MAX AB	N/A	
Pull	500'	400	MAX AB	CLAW Limit	
*Apex Pull	>*3000'	>*150	MAX AB	CLAW Limit	
Exit	500'	A/R	MAX AB	A/R	

PARAMETER LIMITS				
Min Altitude AGL KCAS MIN			Power Setting	Pull
Entry 400'		300	MAX AB	N/A

Pull	400'	375	MAX AB	5G
Apex Pull	3000'	150	MAX AB	CLAW Limit
Exit	400'	150	MAX AB	CLAW Limit

Abnormal Procedures: Abort the maneuver if the AB blows out at any time. Throttle modulate if the aircraft accelerates at 7G. If the aircraft descends below 400'AGL or the aircraft will not recovery by the 500' show line, abort the maneuver by climbing and clearing the show line with a MAX AB, lift limit pull.

Abort the High Alpha Loop into a nose high recovery if airspeed decays to below 150KCAS prior to reaching 3,000' AGL in the vertical.

c. <u>Mach Run/Video Pass</u>: Enter from the extended 500' show line centerline, approximately 1.5 miles from show center at .92-.94M in min AB. Upon reaching show center at 500' AGL, roll the aircraft into a level arc using approximately 75-85° of bank targeting the far corner marker. Maintain beyond 500' horizontally from the crowd at all times. Use throttle and AB A/R to maintain .92-.94M. Use of top pedal is permitted to maintain altitude, as required.

Abnormal Procedures: Discontinue AB if .95M is reached. If the aircraft descends below 400'AGL or the aircraft will not recovery by the 500' show line, abort the maneuver by climbing and clearing the show line with a MAX AB, lift limit pull.

d. <u>High Speed Pass into NH Aileron Roll</u>: Enter on the 1500' show line at 500' AGL and 400KCAS. Select MAX AB prior to show center, confirm 150%ETR, and at 450KCAS execute a CLAW limit pull to the vertical NH. Execute a 360° aileron roll into the crowd with pure lateral stick. NLT 3,500' below the waivered airspace or weather ceiling, execute a 180° aileron roll in the opposite direction and begin a CLAW limit pull nose high recovery. Execute a spiraling descent using idle/ speed brake as required to set up for the next maneuver IAW wind/crowd direction restrictions for the slow speed pass and pedal turn.

TARGET PARAMETERS					
Altitude AGL		KCAS	Power Setting	Pull	
Entry	500'	400	A/R	N/A	
Pull	500'	450	MAX AB	CLAW Limit	
Apex Pull	>3000'	>150	MAX AB	CLAW Limit	
Exit	Ceiling-2500'	A/R	IDLE	CLAW Limit	

PARAMETER LIMITS					
Altitude AGL		KCAS MIN/MAX	Power Setting	Pull	
Entry	400'	350 / .95M	A/R	N/A	
Pull	400'	400 / .95M	A/R	5G min	
Apex Pull	3000'	150	MAX AB	CLAW Limit	
Exit	< Ceiling	A/R	A/R	A/R	

<u>Abnormal Procedures</u>: If the AB fails to light before the pull to vertical is initiated, abort the maneuver. If the AB blows out during the vertical climb, or the jet decelerates below 150KCAS prior to 3,000'AGL, abort the maneuver and execute a nose high recovery.

e. <u>Square Loop</u>: Enter on the 1500' show line at 500' AGL and 350KCAS. Select MAX AB just prior to show center, confirm 150%ETR, and at or above 400KCAS execute a CLAW limit pull to the vertical. Maintain vertical climb until 3,500'AGL. Execute a CLAW limit pull to bring the aircraft nose inverted (0-10°NH) at or above 4000'AGL. Utilize forward stick as required to maintain level inverted flight accelerating to 200KCAS, not to exceed 10 seconds. Do not extend the inverted flight in attempts to correct show center positioning and use caution not to enter an insidious inverted descent. Use caution for the "push-pull", negative to positive G physiological effects. At 4000'AGL minimum, at greater than 200KCAS but less than 250KCAS, execute a CLAW limit pull to the vertical NL. Aggressively push to ensure nose tracks in vertical and, if necessary, modulate AB to maintain airspeed no greater than 300KCAS. At 3,000'AGL, execute a CLAW limit pull to return the waterline to the horizon, then continue with a lift limit pull as required to complete the recovery along the 1,500' show line. The final pull to recovery altitude is designed to allow recovery above 1000' AGL minimum, allowing the pilot to adjust the level-off pull as required once a guaranteed recovery is assured.

On top comm call required IAW paragraph 1c: "4000, 200"

TARGET PARAMETERS				
Altitude AGL		KCAS	Power Setting	Pull
Entry	500'	400	MAX AB	CLAW limit
2nd Pull	3500'	200	MAX AB	CLAW limit
*3rd Pull	*4000'	*200	MAX AB	CLAW limit
Recovery	3000'	250	MAX AB	CLAW limit
Exit	1000'	A/R	MAX AB	Lift Limit

PARAMETER LIMITS					
Altitude AGL		KCAS MIN/MAX	Power Setting	Pull	
Entry	400'	375 / 425	MAX AB	5g	
2nd Pull	3000'	150 / N/A	MAX AB	CLAW limit	
3rd Pull	3700'	200 / 250	MAX AB	CLAW limit	
Recovery	2800'	150 / 300	MAX AB	CLAW limit	
Exit	800'	150 / N/A	MAX AB	Lift Limit	

<u>Abnormal Procedures</u>: If the AB fails to light before the pull to vertical is initiated, abort the maneuver. If the AB blows out during the vertical climb, or the jet decelerates below 150KCAS prior to 3,000'AGL, abort the maneuver and execute a nose high recovery. If the AB blows out at any time inverted, the altitude falls below 3700'AGL, or the airspeed is outside of the 200-250KCAS window, abort and roll wings level. Once 90°NL, do not delay any recovery below 2,800'AGL and utilize a lift limit pull to minimize altitude loss in the recovery if required. If FCS degrades during any portion, abort the maneuver and recover to wings level. If FCS degrades NL, do not delay the MAX AB recovery.

f. <u>Slow Speed Pass into Half-Cuban Eight</u>: Stabilize the aircraft at 500' AGL, 27-32°AOA, and ETR to maintain level flight approximately .6NM from show center on the 500' show line and into the wind to the maximum extent practical. Airspeed in level flight is approximately 105-120. At show center, select MAX AB and freeze the waterline at or below 30°, allowing the aircraft to climb and accelerate.

TARGET PARAMETERS					
Altitu	de AGL	AOA	Power Setting	Pull	
Entry	500'	27-32	A/R	A/R	
Exit	500'	27-32	A/R	A/R	

PARAMETER LIMITS					
Min Alti	tude AGL	AOA MIN/MAX	Power Setting	Pull	
Entry	400'	N/A / 35	A/R	A/R	
Exit	400'	N/A / 35	A/R	A/R	

Abnormal Procedures: If the aircraft descends below 400' AGL, select MAX AB, terminate the maneuver by reducing the AOA to 35° or less, and accelerate with a positive rate of climb or execute a lift limit pull as required.

Half-Cuban Eight: In the climb from the Slow Speed Pass, move to the 1,500' show line by holding 5°AOB for approximately 5 seconds and accelerate to a minimum of 220KCAS with the waterline frozen at 30°. At a minimum of 220KCAS, begin a 1.5g pull and turn back to parallel on the 1,500 foot show line. At a minimum of 3000' AGL, at least 150KCAS, and at least 80 degrees pitch attitude, execute a CLAW limit pull through 45°NL inverted, ensuring an over the top inverted airspeed of no slower than 75KCAS. Neutralize pitch stick to break the alpha, roll 180° into the crowd to the upright position. Regain at least 150KCAS then set 25° nose low. At 1600' AGL, execute a lift limit pull to recover no lower than 500'AGL.

Apex comm call required IAW paragraph 1c: "3000, 150"

	TARGET PARAMETERS				
Altitude AGL		KCAS	Theta	Power Setting	Pull
Entry	500'	110	A/R	MAX AB	N/A
Pull	500-1500'	220	A/R	MAX AB	1.5G
*Apex Pull	*>3000'	*>150	*80°-90°	MAX AB	CLAW limit
Exit	500'	A/R	A/R	MAX AB	A/R

	PARAMETER LIMITS				
Min Altit	Min Altitude AGL KCAS MIN Theta Power Setting Pull				
Entry	400'	100	A/R	MAX AB	N/A
Pull	400'	200	A/R	MAX AB	1.5G
Apex Pull	3000'	150	80°-90°	MAX AB	CLAW limit
Exit	400'	150	A/R	MAX AB	Lift Limit

<u>Abnormal Procedures</u>: Abort into a nose high recovery if airspeed decays to below 150KCAS prior to reaching 3,000' AGL and 80 degrees pitch attitude in the vertical.

g. <u>Tactical Pitch</u>: Enter on the 500' show line, 500'AGL, and 325KCAS. Select MAX AB, set 45°AOB, and perform a CLAW limit pull for 120-135° of turn while the AB lights in the pull. Roll out using full lateral stick, then smoothly pull to set 60-70° of pitch on the waterline demonstrating the jet's ability to climb out after an aggressive change in nose position. Terminate the maneuver by executing a nose high recovery into a teardrop setting up for the next maneuver.

TARGET PARAMETERS				
Altitude AGL KCAS Power Setting Pull				Pull
Entry	500'	325	MAX AB	CLAW limit
Recovery	2500'	150	MAX AB	A/R
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PARAMETER LIMITS				
Altitude AGL	KCAS MIN/MAX	Power Setting	Pull	

Entry	400'	275 / 375	MAX AB	N/A
Recovery	1000'	140 / N/A	MAX AB	N/A

<u>Abnormal Procedures</u>: If the AB blows out or airspeed decays below 140KCAS, abort the maneuver by rolling wings level (if less than 30° of pitch), performing a nose high recovery (above 30° of pitch), and accelerating away from the show line.

h. <u>Pedal Turn</u>: Enter on the 1500' show line at 500' AGL and 350KCAS with the crowd on the left. Select MAX AB just prior to show center, confirm 150%ETR, and at 400KCAS execute a CLAW limit pull to the vertical. At 4,500'AGL, perform a CLAW limit pull. When the nose comes through the horizon inverted and on a forward vector, maintain full aft stick while commanding full right lateral stick and full right pedal. Hold full controls as the nose falls through the horizon for 360-630° of turn. Initiate a nose low recovery in the direction away from the audience NLT 2,500'AGL by commanding neutral stick and neutral pedal. With rotation stopped, execute a lift limit pull as required to complete the recovery. Once recovered, lower the landing gear, target 200KCAS, and convert to STOVL.

Recovery comm	call	required	IAW	paragraph	1c:	"2500"
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TARGET PARAMETERS					
Altitude AGL		KCAS	Power Setting	Pull	
Entry	500'	350	MAX AB	N/A	
Pull	500'	400	MAX AB	CLAW limit	
Apex Pull	>4500'	>200	MAX AB	CLAW limit	
*Recovery	*2500 <b>'</b>	150	MAX AB	Lift Limit	
Exit	500 <b>'</b>	200	A/R	A/R	

PARAMETER LIMITS					
Altitude AGL		KCAS	Power Setting	Pull	
Entry	400'	300	MAX AB	N/A	
Pull	400'	375	MAX AB	CLAW limit	
Apex Pull	4000'	200	MAX AB	CLAW limit	
Recovery	2500'	150	MAX AB	Lift Limit	
Exit	400'	150	A/R	A/R	

<u>Abnormal Procedures</u>: If the AB fails to light before the pull to vertical is initiated, abort the maneuver. If the AB blows out during the vertical climb, or the jet decelerates below 150KCAS prior to 3,000'AGL, abort the maneuver and execute a nose high recovery. No matter the orientation, recovery will be initiated NLT 2,500'AGL to arrest the sink rate and clear the show line. If the AB fails during the pedal turn, recover the aircraft to level flight. If CONV HALT asserts, enter a delta pattern remaining greater than 1NM behind the crowd at a minimum of 2000'AGL or as published by the local show restrictions.

i. <u>Delayed Hover</u>: Once the jet completes the conversion to STOVL, execute a decelerating approach to 200'AGL at show center to face the audience if winds allow, otherwise into the wind as required IAW applicable timers. Perform a sideward translation in the direction the jet will be landed for approximately 5 seconds. Stop the sideward translation and pedal the jet 90° in the same direction translated to face down runway heading. Initiate an aft translation in TRC targeting 6-8KGS while simultaneously performing a continuous pedal turn into the crowd utilizing stick and throttle/speedbrake switch as required. Utilize the TRV to control the direction of translation, ensuring it is in the opposite direction the jet will be landed. Once the full 360° pedal turn has been completed, the jet should be facing down the runway in the direction to land.

j. <u>Rolling Vertical Landing (RVL)</u>: Start the approach from delayed hover completion. Initially push forward on the stick and put the throttle to MIL. Capture 80KGS in the descending acceleration to an RVL targeting prior to show center. Bring the aircraft to a slow taxi speed by show center if able while converting back into CTOL.

k. <u>High Speed Aileron Roll (Weapon Bay Door option)</u>: Enter on the 500' show line at 500'AGL and 425 KCAS. Approaching show center, execute an energy sustaining pull to 5-7° NH FPM, neutralize the stick, and then execute a pure lateral stick 360° roll. Recover back to 500'AGL on the 500' show line.

For the Weapon Bay Door open option instead of the aileron roll: Enter at a 30-45° offset in front of show center at 300 KCAS and 500'AGL. While wings level and approaching the 1500' show line, open the weapons bay doors, then begin an energy-sustaining turn with the weapon bays facing show center to pass no closer than the 500' show line. Once passed show center, close the weapons bay doors, select MAX AB and reposition for the next maneuver.

1. <u>Inverted to Inverted Roll</u>: Enter on the 1500' show line at 500' AGL and 400KCAS. Approaching the aerobatic box, execute an energy sustaining pull to 10-12° NH FPM and then neutralize the stick. Roll inverted away from the crowd with pure lateral stick. Bunt to -1G to maintain approximately 3-5° NH FPM flight for 3-5 seconds. Approaching show center, execute a pure lateral stick 360° roll until once again wings level inverted. Bunt to -1G to maintain level to slightly climbing flight for another 3-5 seconds or until approaching the end of the aerobatic box. Roll with pure lateral stick back upright, past wings level, with angle of bank as desired to reposition away from the show line. Alternate the direction of each roll during this maneuver.

TARGET PARAMETERS					
Altitude AGL KCAS Power Setting Pull					
Entry	500 <b>'</b>	400	A/R	N/A	
Exit	500'	400	A/R	A/R	

PARAMETER LIMITS					
Altitu	de AGL	KCAS MIN/MAX	Power Setting	Pull	
Entry	400'	350 / 450	A/R	N/A	
Exit	500'	350 / 450	A/R	NTE > -2° NL	

<u>Abnormal Procedures</u>: If airspeed decays below 350KCAS, the aircraft descends below 500'AGL, or if more than 2°NL FPM, abort the maneuver by rolling wings level and performing a lift limit pull to clear the show line.

m. <u>STOVL door conversion pass</u>: Enter on the 500' show line at 500'AGL and T9 at 200KCAS. Initiate STOVL conversion prior to show center to have doors opening to occur while passing the audience.

n. <u>STO</u>: Aircraft lines up 1000 feet prior to show center on the runway and conducts a STO. Once airborne, retract the gear and accelerate with a positive rate of climb.

o. <u>MAX AB takeoff</u>: Aircraft lines up and conducts a standard MAX AB takeoff. Once airborne, raise the gear and maintain 0.5-2G during gear retraction. Target a minimum of 150KCAS during climbout either via runway heading or as required for reposition. At 3,500' or as required for weather, execute a reposition to set up for the next maneuver.

p. <u>Reposition between Maneuvers</u>: Repositions may be flown in either direction at any time during the flight sequence as required. IAW FAA regulations, 90° AOB may be exceeded during repositions (if required). The standard Reposition is a climbing check turn away from the audience, a 270° roll away from the crowd, and then a descending turn back toward the show line while setting up for the next maneuver. The 270° roll will be omitted during any maneuver which accompanies an aircraft conversion into/out of STOVL.

14. Amplifying Instructions:

a. Alternate takeoff method is STO, MAX or a MIL conventional takeoff.

b. Venues which require a flying start will omit paragraphs 8.(a)/9.(a)/10.(a), picking up the routine with paragraph 11.(b) after holding as directed.

c. Additional level passes, deletion of maneuvers, or low approaches in STOVL mode are authorized to achieve a suitable hover weight and are at the pilot's discretion.

d. Opening of the WEAPON BAY DOORS is permitted during the spiraling descent reposition from the High Speed pass into NH Aileron Roll maneuver.

e. Venues which require a flying finish will substitute the paragraph and 8.(j)/9.(j)/10.(j), RVL or slow landing sequence with a conversion to CTOL mode passing show center and departure via venue procedures.

f. Alternate landings of a CTOL or VL are authorized IAW field restrictions, weather, and/or landing requirements.

g. A minimum of 3000 feet of usable runway remaining ahead of the aircraft is required to conduct the RVL from the delayed hover.

h. Demo aircraft will utilize two frequencies: Airboss and Tac (GSO). Guard frequency will not be monitored by the demo aircraft as the Airboss will monitor Guard.

i. ALOW 1 will be set to 450' AGL.

j. GCAS will be set to STBY.

k. Altimeter will be set to read 0' on deck to match the RALT once airborne, not per the local altimeter setting for field elevation passed via ATIS. If a flying start is required, the altimeter will be set to match the RALT once at the show location and over flat terrain.

1. Airshow winds will be checked at the surface and planned profile altitudes prior to each demonstration.

m. The Delayed Hover maneuver will be performed with regard to the hover weight restriction and wind envelope, noting that any winds will become tail winds at some point during 360 degree rotation and will reduce max hover weight allowance.

n. A practice should be accomplished, if possible, at the air show site prior to the scheduled show.

o. Demo pilots shall maintain currency and proficiency IAW the  ${\tt T\&R}$  syllabus 6800 series events.

p. The sequence and order of maneuvers can be modified with the concurrence of the Model Manager as required based on show restrictions or performance.