CHECKLISTS

FOR

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VERTICAL REALITY
SIMULATIONS

NAVY MODEL

F/A-18E

"SUPER HORNET"

SUPERBUG X

Vertical Reality Simulation's®
F/A-18 Hornet Simulator For Microsoft® Flight Simulator X

FSX-VRS-F/A-18E-REV1.1

05/05/2010 REVISION 1.0
06/05/2010 REVISION 1.1
New chapter – PERFORMANCE DATA

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1.1 NORMAL PROCEDURES

1.1.1 INTERIOR CHECKS

Left console -
[ ] Circuit Breakers - **IN**
[ ] Manual Canopy Handle - **STOWED**
[ ] VOL Panel - **AS DESIRED**
[ ] FCS GAIN switch - **NORM/GUARD DOWN**
[ ] APU switch - **OFF**
[ ] PROBE switch - **RETRACT**
[ ] EXT TANKS switches - **NORM**
[ ] DUMP switch - **OFF**
[ ] INT WING switch - **NORM**
[ ] GEN TIE CONTROL switch - **NORM/GUARD DOWN**
[ ] EXT LT panel - **SET**
[ ] Throttles - **OFF**
[ ] External lights master switch - **FORWARD**
[ ] Throttles - **OFF**

Instrument panel -
[ ] PARK BRK handle - **SET**
[ ] LDG/TAXI LIGHT switch - **OFF**
[ ] ANTI SKID switch - **ON**
[ ] SELECT JETT knob - **SAFE**
[ ] FLAP switch - **HALF/FULL**
[ ] LAUNCH BAR switch - **RETRACT**
[ ] LDG GEAR handle - **DOWN**
[ ] CANOPY JETT handle - **FORWARD**
[ ] MASTER ARM switch - **SAFE**
[ ] EMERG JETT button - **OUT**
[ ] FIRE and APU FIRE buttons - **OUT**
[ ] L/R DDI, HUD, UFCD, MPCD knobs - **OFF**
[ ] COM 1/2 knobs - **OFF**
[ ] ALT switch - **BARO/RDR**
[ ] IR COOL switch - **OFF**
[ ] SPIN switch - **NORM/GUARD DOWN**
[ ] HOOK handle - **UP**
[ ] WINGFOLD switch - **SPREAD**
[ ] AV COOL switch - **NORM**

Pedestal panel (A/C 165660+)
[ ] ECM JETT button - **OUT**
[ ] JAMMER switch - **OFF**
[ ] RWR switch - **OFF**
[ ] DISPENSER switch - **OFF**
[ ] AUX REL switch - **NORM**
[ ] RUD PED ADJ lever - **AS DESIRED**

Right console -
[ ] Circuit breakers - **IN**
[ ] GEN switches - **NORM**
[ ] BATT switch - **OFF**

ECS panel - **SET**
[ ] ECS MODE switch - **AUTO**
[ ] CABIN TEMP knob - **AS DESIRED**
[ ] CABIN PRESS switch - **NORM**
[ ] BLEED AIR knob - **OFF**
[ ] ENGINE ANTI ICE switch - **OFF**
[ ] PITOT ANTI ICE switch - **OFF**
[ ] DEFOG handle - **MID RANGE**
[ ] WINDSHIELD switch - **OFF**

INT LT panel - SET
[ ] CONSOLES/INST/FLOOD - **AS DESIRED**
[ ] CHART/WARN - **INOP**
[ ] MODE switch - **AS DESIRED**

Sensor panel - **SET**
[ ] FLIR switch - **OFF**
[ ] LTD/LST switches - **SAFE/OFF**
[ ] RADAR knob - **OFF**
[ ] INS knob - **INOP**

1.1.2 ENGINE START

1.1.2.1 APU START

A self-contained (battery/APU) start is the primary method for starting the engines.
With an external power start, all electrical systems are operative. With a battery start, power is available to operate the APU and engine fire warning systems, the caution lights panel and the EFD backup display.
The right engine is normally started first in order to provide normal hydraulics to the brakes. During first engine battery start, the EFD RPM indication typically jumps from 0 to 5 or 10%, and light-off is indicated by TEMP rising from a minimum reported value of approximately 190℃. When the corresponding generator comes online (approximately 60%N2 rpm), the engine crank switch returns to OFF. After both generators are online, the APU will run for 1 minute and then shut down automatically.

Engine start checks -
[ ] PARK BRK handle - **FULLY SET**
[ ] BATT switch - **ON**
[ ] Battery gauge - **CHECK**

Nominal voltage for a "good" battery should be 23 to 24 vdc. Minimum battery voltage is that which provides a successful engine start (i.e., APU remains online and the EFD remains powered to provide indications of RPM and TEMP). EFD blanking and/or uncommanded APU shutdown should be anticipated with a battery voltage at or below approximately 18 vdc. If a weak battery results in an unsuccessful engine start attempt, the battery should be charged or replaced prior to takeoff, since the battery provides the last source of electrical redundancy for the FCCs.

With external electrical power -
[ ] EXT PWR switch - **RESET**
[ ] GND PWR switches 1, 2, 3 and 4 - **B ON**
[ ] L(R) DDI, HUD, and MPCD knobs - **ON**
[ ] COMM 1 and 2 knobs - **ON**
[ ] LT TEST switch - **TEST**
[ ] DDI/MPCD/UFCD - **ENTER DESIRED WPTS**

All starts - **ON**
[ ] FIRE test switch - **TEST A**
[ ] FIRE test switch - **NORM**
[ ] FIRE test switch - **TEST B**

During a successful FIRE warning test ALL of the following lights should illuminate in each TEST position: both FIRE lights, the APU FIRE light, and both L and R BLEED warning lights. Additionally, the following voice aural warnings should be heard in order: "Engine fire left, engine fire right, APU fire, bleed air left, bleed air right" (each repeated twice).

[ ] APU ACC caution light - **VERIFY OFF**
[ ] APU switch - **ON (within 30 seconds)**
[ ] RGEN switch - **ON**
[ ] BLEED AIR knob - **R-OFF/OFF**
[ ] Right throttle IDLE - **(shift-control-D if OFF)**
[ ] ENG CRANK switch - **R (10% N2 minimum.)**

Oil pressure should be a minimum of 10 psi within 30 seconds. Maximum transient EGT during start is 871℃.

[ ] Battery gauge - **VERIFY 28 vdc**
[ ] L(R) DDI, HUD and MPCD knobs - **ON**

EFD - CHECK (ground idle) -
[ ] RPM - **61% min**
[ ] TEMP - **250-500c**
[ ] FF - **600-900 pph**
[ ] OIL - **35-90 psi (warm oil)**
[ ] NOZ - **77% to 83%**

If external power start -
External electrical power - **DISCONNECT**
[ ] BLEED AIR knob - **NORM**
[ ] LT TEST switch - **TEST**
[ ] ENG CRANK switch - **L**
[ ] Left - **IDLE (10% N2 minimum.)**
[ ] ENG CRANK switch - **CHECK OFF (prior to lightoff)**
[ ] EFD - **CHECK**

1.1.2.2 CROSSBLEED START
[ ] APU switch - **OFF**
[ ] BLEED AIR knob - **NORM**
[ ] ENG CRANK switch - **L(R)**
[ ] Operating engine throttle - **80% N2**
[ ] Starting engine throttle - **IDLE (10% N2 minimum.)**
[ ] ENG CRANK switch - **CHECK OFF**
[ ] EFD - **CHECK**

1.1.3 BEFORE TAXI CHECKS

Do not attempt to taxi with the right engine shut down, as normal NWS is not available due to lack of HYD 2 pressure. Although NWS is available via the brake accumulator, there is insufficient pressure available for sustained (non emergency) steering.

[ ] WYPT 0 **CHECK/SET** - **(flight plan load)**
[ ] RADAR knob - **OPR**
[ ] FLIR/LST/LTD switches - **AS DESIRED**

UFCD avionics -
[ ] RALT sublevel - **ON/SET**
[ ] TCN sublevel - **ON, T/R, CH SET**
[ ] IFF sublevel - **ON/MODES UNBOXED**
[ ] Time sublevel - **AS DESIRED**

[ ] WINGFOLD - **SPREAD**
[ ] FCS RESET button - **PUSH/VERIFY RSET**
[ ] FLAP switch - **AUTO**
[ ] TRIM – **CHECK**

Check pitch, roll, and yaw trim for proper movement in all directions (FCS format). Note it is not possible to trim stabilators to negative values (TED) with WonW.

Control checks -
[ ] Full aft - **CHECK 24°NU STAB**
[ ] Full forward - **CHECK 20°ND STAB**
[ ] Full L/R - **CHECK 30°differential STAB**
CHECK 8°differential TEFs
[ ] FLAP switch - **HALF**
[ ] NWS mode - **HI**
[ ] Rudder pedals - **CYCLE 40°L/R**
[ ] SEAT - **ARMED**
[ ] T/O TRIM switch - **PRESS (TRIM advisory)**
[ ] IFR PROBE switch - **CYCLE THEN RETRACT**
[ ] Speedbrake - **CYCLE THEN OFF**
[ ] LAUNCH BAR switch - **CYCLE THEN UP**
[ ] HOOK handle - **CYCLE THEN UP**
[ ] PITOT ANTI ICE switch - **CYCLE THEN AUTO**
[ ] APU - **VERIFY OFF**
[ ] Standby attitude indicator - **VERIFY ERECT**
[ ] Altimeter setting - **SET**
[ ] Stores page - **VERIFY INVENTORY/STATUS**
[ ] BIT page - **VERIFY NO DEGD/FAIL**
[ ] Canopy - **FULL UP/DN FOR TAXI**
[ ] BIT page - **VERIFY CLEAR**

1.1.4 TAXI CHECKS

[ ] Normal Brakes - **CHECK**
[ ] Nosewheel Steering - **CHECK IN HIGH L/R**

When using brakes, apply firm, steady brake pedal pressure. Use nosewheel steering whenever possible, minimizing differential braking.

1.1.5 TAKEOFF

1.1.5.1 BEFORE TAKEOFF
[ ] Checklist page - **VERIFY FUEL TYPE**
[ ] T.O. checklist (CHK page) - **COMPLETE**
[ ] Canopy - **CHECK CLEAR/CLOSED**
[ ] IFF sublevel - **BOX REQUIRED MODES**
[ ] PARK BRK handle - **FULLY SOWED**
[ ] ENG page - **CHECK AT MIL**

1.1.5.2 NORMAL TAKEOFF
The takeoff checklist should be completed prior to taking the duty runway.
For single-ship takeoffs, taxi to runway centerline and allow the aircraft to roll forward slightly to center the nosewheel.
When advancing the throttles from IDLE to MIL, check for EGT and RPM.
If afterburner takeoff is desired, check for proper afterburner light-off as indicated by both nozzles opening.
Ensure the landing gear is up and locked (light in the LDG GEAR handle is out) before passing 250 KCAS.

1.1.5.3 CROSSWIND TAKEOFF
Crosswind takeoffs should be performed using the normal takeoff technique. However, the pilot should expect to make slightly larger and more frequent rudder pedal inputs to track runway centerline. As the aircraft accelerates and the ailerons become effective, lateral stick into the wind may be desired to maintain wings level throughout the remainder of the takeoff roll and rotation. Allow the aircraft to crab into the wind at takeoff, while continuing to maintain runway centerline during the gear transition and early climbout.

1.1.5.4 AFTER TAKEOFF CHECKS
[ ] LDG GEAR handle - **UP**
[ ] FLAP switch - **AUTO**

For safe maneuverability of the aircraft, up to 350 KCAS may be required up to 10,000 feet.

10,000 FT checks -
[ ] Cabin Altimeter - **VERIFY 8,000 FEET**
[ ] Fuel transfer - **CHECK INT/EXT**
[ ] RALT - **CHECK/SET 5,000 FEET**

1.1.6 LANDING CHECKS

Normal instrument penetration is 250 KCAS with a 4,000 to 6,000 feet per minute descent rate. For safe maneuverability of the aircraft, up to 350 KCAS may be required below 10,000 feet.

[ ] HOOK handle - **AS REQUIRED**
[ ] HOOK BYPASS switch - **AS REQUIRED**
[ ] Exterior lights - **SET FOR LANDING**
[ ] ENG ANTI ICE switch - **AS REQUIRED**
[ ] PITOT ANTI ICE switch - **AUTO**
[ ] DEFOG HANDLE - **HIGH (if required)**
[ ] WINDSHIELD switch - **AS REQUIRED (if required)**
[ ] Altimeter setting - **CHECK**
[ ] RALT - **CHECK/SET**
[ ] NAV master mode - **SELECT**
[ ] Navaids - **CROSS CHECK**
[ ] ILS - **ON/CH SET (if required)**
[ ] IFF - **AS DIRECTED**
[ ] Weapons/Sensors - **OFF AS REQUIRED**

1.1.6.1 VFR LANDING PATTERN ENTRY

[ ] Speedbrake - **DEPLOY (as required)**
[ ] Airspeed - **240-250 kts**
[ ] LDG GEAR handle - **DOWN**
[ ] FLAPS switch – **FULL**

When established downwind -
[ ] Landing checklist (CHK page) - **COMPLETE**
[ ] Report - **3 DN/LOCKED**
FLAPS FULL/HALF

1.1.6.2 ATC APPROACHES

With flaps HALF/FULL and airspeed under 240 KCAS (PA), ATC (auto throttle control) controls power in order to maintain approach AoA (8.1°). Unlike amanual throttles approach, nose position (i.e., velocity vector placement) now controls power.

[ ] ATC - **ENGAGE (if desired)**

Approach ATC is not designed to operate in aggressive maneuvering flight.
Aggressive attitude changes cannot be countered quickly enough for predictable and consistent speed adjustments.

1.1.6.3 FINAL APPROACH

Maintain onspeed AOA

1.1.6.4 LANDING

1.1.6.5 BRAKING

1.1.7 POST-FLIGHT CHECKS

Do not taxi with the right engine shut down. Normal braking and NWS are not available without HYD 2 pressure.

When clear of active runway-
[ ] SEAT ARM - **SAFE**
[ ] FLAPS switch - **AUTO**
[ ] T/O TRIM button - **PRESS (TRIM advisory)**
[ ] Canopy - **FULLY UP/DOWN**

1.1.7.1 BEFORE ENGINE SHUTDOWN CHECKS

[ ] THROTTLES - **IDLE**
[ ] PARK BRK handle - **SET [CTRL-.]**
[ ] BIT display - **RECORD DEGD/FAILURES**
[ ] RADAR knob - **OFF**
[ ] Sensors/Avionics - **OFF**
[ ] EXT/INT LT knobs - **OFF**
[ ] Canopy - **CLEAR/OPEN**

1.1.7.2 ENGINE SHUTDOWN CHECKS

[ ] Brake Accumulator Gauge - **CHECK 3000 PSI**
[ ] NWS - **Disengage**
[ ] 5 minute engine cool down - **CONFIRM**

NOTE
Ensure that the engines are idled (<70% N2) for 5 minutes, allowing engine temperatures to stabilize.

[ ] BLEED AIR knob - **OFF**
[ ] THROTTLES - **OFF**
[ ] COMM 1 and 2 knobs - **OFF**
[ ] L(R) DDI knobs - **OFF**
[ ] HUD BRT knob - **OFF**
[ ] UFCD/MPCD knobs - **OFF**
[ ] BATT switch - **OFF**

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1.2 CARRIER BASED PROCEDURES

1.2.1 ENGINE START

Engine starts should be made as per normal procedures (Normal Procedures tab), however crossbleed starts should be avoided due to the potential for injury from the associated high RPMs. Use APU starts unless instructed otherwise.

[ ] APU engine start - **PERFORM**

1.2.2 TAXI CHECKS

1.2.2.1 BEFORE TAXI CHECKS

[ ] Normal Before Taxi Checks - **PERFORM**
[ ] NWS mode - **HI**
[ ] FLAPS switch - **FULL**
[ ] CANOPY switch - **CLOSE**

The maximum allowable wind for canopy opening is 60 kts. Opening the canopy with headwinds over 60 kts, or in gusty conditions, could result in damage or loss of the canopy.

[ ] WINGFOLD switch - **FOLD (WING UNLK caution)**
[ ] SEAT ARM lever - **ARMED**
[ ] T/O trim switch - **PRESS**
[ ] DDI TRIM advisory - **VERIFY**

Ensure the T/O trim switch is pressed with flaps in FULL (or launchbar down). T/O trim will drive the stabilators to 6.5° TEU (minimum launch trim). Shore-based operations with flaps HALF (and launchbar UP) will drive the surfaces to 4°TE U.

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1.2.2.2 CATAPULT TRIM
The T/O trim function will set the stabilators to the minimum catapult trim, however unless the aircraft is light, this will generally be insufficient.
Correct stabilator trim is critical for proper (hands-off) fly-away performance and safety. Failure to properly trim the aircraft prior to catapult launch can result in excessive sink rates off the bow. Use the following charts to set additional longitudinal trim.

[ ] Gross weight (CHK page) - **RECORD**
[ ] Determine power setting (table A) – **RECORD**

GW 1,000)	Power Setting
64-66	MAX
58-53	MAX (MIL optional if OAT <90℉)
64-66	MIL (MAX optional)
32-45	MIL only

TABLE A

[ ] Calculate endspeed (tables B/C) - **RECORD**

Determine the catapult endpeed using gross weight (CHK page) and asymmetry (Aircraft Configuration Manager preflight checklist window). If asymmetry is under 2000 ft-lbs, use table B, otherwise use table C.

Catapult Endspeed (symmetrical load		
GW (1,000)	Endspeed (KCAS)	
	MIL	MAX
66	-	161
65	-	159
64	-	158
63	165	156
62	163	154
61	161	153
60	158	
59	156	
58	154	
<57	153	

Catapult Endspeed assymetrical load	
Assymetry (1,000 ft-lb)	Endspeed (KCAS)
2	153
4	156
6	159
8	161
10	162
12	163
14	165
16	166
18	167
20	168
22	169

TABLE B

[ ] Longitudinal (TEU) trim - **DETERMINE/SET**

Determine the required additional longitudinal (elevator) trim using charts A(MIL launch) or B (MAX launch).

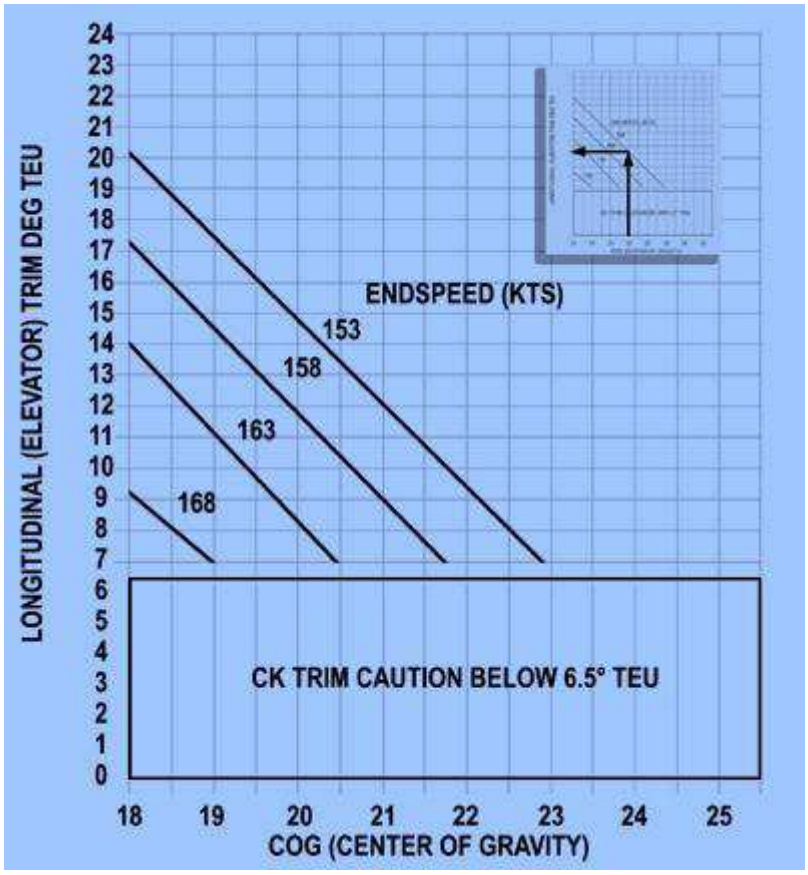
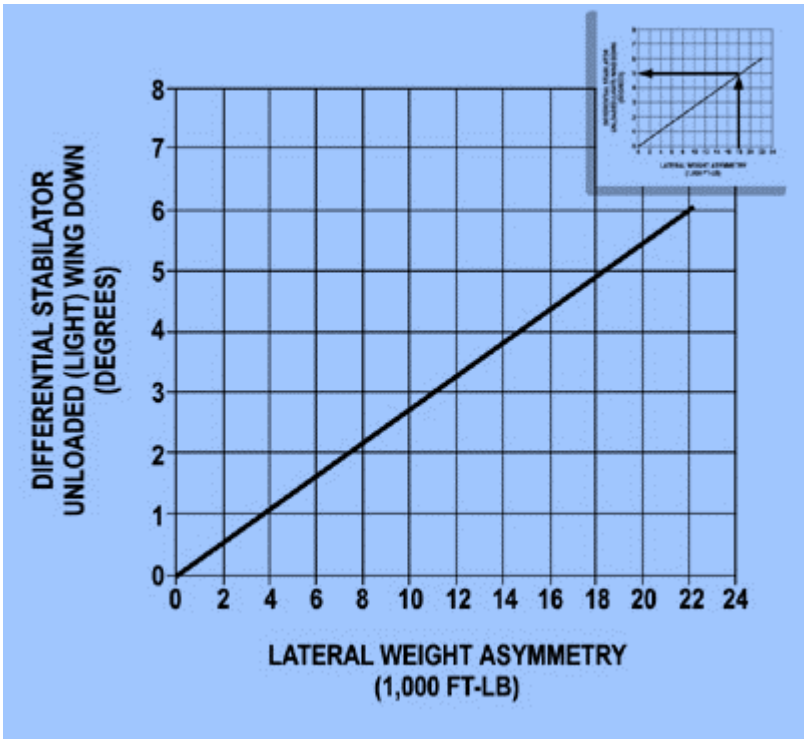


CHART A

[ ] Lateral trim - **DETERMINE/SET**

Lateral (roll) trim in the F/A-18 is accomplished through differential stabilator. The flight control system does NOT compensate for lateral asymmetries, therefore it is necessary to make trim adjustments prior to launch if asymmetry exceeds 2,000 ft-lbs (ACM preflight summary window).
Use chart C to determine the required lateral trim (if any), and using standard FS trim controls, trim into the light wing while observing the FCS page.



1.2.2.3 TAXI

Taxi with NHS HI and keep wings folded until the aircraft is positioned behind the JBD.

1.2.3 CATAPULT LAUNCH

PRIOR TO CATAPULT HOOKUP

[ ] T.O. checklist (CHK page) **COMPLETE**

1.2.3.1 CATAPULT HOOKUP

Taxi the aircraft over the JBD and align with the catapult track. Using as little power as possible to maintain maneuverability, taxi and line up the aircraft with the catapult track. When the aircraft is properly positioned, the green catapult light will illuminate in the Panel Navigator (views menu), or catapult window VC-only (views menu).
Stop the aircraft at this point.
Using the catapult gauge (Panel Navigator or VC-only Catapult window), enter the recorded endspeed from the previous steps by leftclicking the endspeed digits located just under the arming lamp.

[ ] Catapult endspeed (catapult gauge) **SET**
[ ] WINGFOLD switch **SPREAD (caution out)**

If the wingfold switch is inadvertently set to FOLD while the aircraft is moving (WonW), the wings will fully or partially spread, the ailerons will fair, and the aircraft will settle. In no case will enough lift be generated from folded wings to sustain flight.

[ ] LAUNCH BAR switch **EXTEND** (green LBAR lamp)
[ ] NWS **DISENGAGE**

When the launch bar is extended and enters the catapult track, do not use NWS.

[ ] Catapult Gauge **ARM**

With a green catapult gauge lamp, and the launch bar extended, the "crew" will secure the holdback bar and the launch bar will be secured into the catapult shoe. At the same time, the parking brake will be set if it was not previously set.
Once the catapult gauge is armed, do not release the parking brake, until ready to launch, or you may be prematurely launched without sufficient power.

1.2.3.2 CATAPULT LAUNCH

[ ] Throttles - **MIL**
[ ] LAUNCH BAR switch - **RETRACT** (LBAR lamp out)

Due to the close proximity of the LAUNCH BAR switch to the FLAP switch, ensure that the FLAP switch was not inadvertently placed into AUTO. With flaps in AUTO, the aircraft will settle excessively during launch.
Failure to set the LAUCH BAR switch in RETRACT prior to launch may result in excessive wear and/or failure of hydraulic seals in the HYD 2A circuit, resulting in possible leaks.

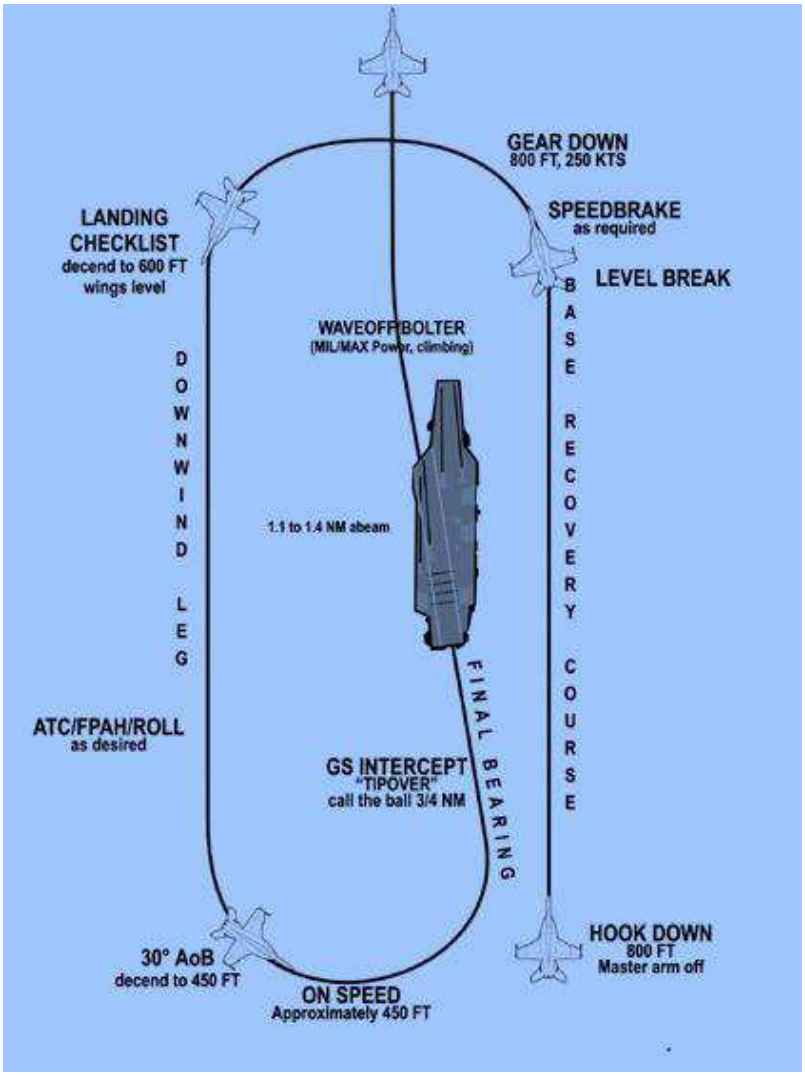
[ ] Controls - **CYCLE**
[ ] Engine instruments - **CHECK**
[ ] Throttles - **FULL MIL/MAX**

When ready for launch -
[ ] PARK BRAKE - **RELEASE**

When safely airborne -
[ ] LDG GEAR - handle UP
[ ] Clearing turn - **PERFORM** (if required)

With positive ROC -
[ ] FLAP switch - **AUTO**

1.2.4 LANDING PATTERN



Pattern entry -
[ ] Altitude - **800 FT (RALT)**
[ ] HOOK lever - **DOWN**
[ ] MASTER ARM switch – **SAFE**

Level break -
[ ] Speedbrake - **EXTEND** (if required)
[ ] Airspeed - **250 KCAS**
[ ] FLAP switch - **FULL**
[ ] LANDING GEAR lever - **DOWN**

Downwind leg -
BRC. Select ILS if desired and available.
[ ] Altitude - **600 FT (RALT)**
[ ] LDG checklist (CHK page) - **COMPLETE**
[ ] Airspeed - **ON SPEED**
[ ] ILS - **TUNED/ON** (if desired)
[ ] TCN steering - **TUNED/ON** (if desired)
[ ] ATC - **ENGAGE** (if desired)

1.2.5 LANDING CHECKS

1.2.5.1 FINAL APPROACH
[ ] REPORT - **CALL SIGN**
BIGFOOT BALL or **CLARA**
FUEL (to nearest 100 lbs)
AUTO (if ATC engaged)

1.2.5.2 GLIDE SLOPE

1.2.5.3 WAVEOFF
If the waveoff signal is received, select MIL (MAX if required) and maintain onspeed AOA with the E-bracket until rate of descent is arrested.

1.2.5.4 ARRESTED LANDING

At touchdown -
[ ] THROTTLES - **MIL**

When forward motion ceases -
[ ] THROTTLES - **IDLE**
[ ] BRAKES - **APPLY**
[ ] HOOK handle - UP
[ ] FLAPS switch - **AUTO**
[ ] WINGFOLD switch - **FOLD**
[ ] NWS - **ENGAGE/HI**

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1.3 SPECIAL PROCEDURES

1.3.1 FORMATION TAXI/TAKEOFF
Proceed as usual referring to your squadron procedures.

1.3.2.1 SECTION TAKEOFF

1.3.1.2 ABORTED TAKEOFF

1.3.2 AIR REFUELING (RECEIVER)

1.3.2.1 BEFORE PLUG-IN
[ ] Airspeed - **175-250 KCAS**
[ ] Radar - **STBY/SILENT/EMCON**
[ ] MASTER ARM switch - **SAFE**
[ ] ALE-50 transmit power - **OFF (if deployed)**
[ ] INTR WING switch - **NORM**
[ ] EXT TANK switch(es) - **AS REQUIRED**
[ ] Speedbrake switch - **RETRACT**
[ ] PROBE switch – **EXTEND**

1.3.2.2 REFUELING TECHNIQUE (PROCEDURES)
Note : Tanker overtake speed
Over 1Nm : 100 Kts overtake
6000 Ft : 60Kts
5000 Ft : 50Kts
Decrease overtake speed by 10 Kts for every 1000 Ft closure.
When within 1000 Ft to Tanker : Do not exceed 10Kts overtake.

1.3.2.3 MISSED APRROACH
Refer to chapter 8.2.2.3 page 287 of the VRS F/A-18E Superbug manual.

1.3.2.4 DISENGAGEMENT
When refuelling is done, decrease speed and maintain a 3 to 5 knot separation.
[ ] PROBE switch – **RETRACT**
[ ] PROBE UNLK Caution – **OFF**

1.3.3 AIR REFUELING (TANKER)

1.3.2.1 BEFORE TAKEOFF
[ ] STORE switch - **OFF**
[ ] HOSE switch - **RETR**
[ ] PWR switch - **OFF**
[ ] Fuel TRANS switch - **OFF**
[ ] REFUEL (lb delivered) - **RST**
[ ] HOSE CUT switch - **SAFE/GUARD DOWN**

1.3.3.2 DROGUE EXTENSION
[ ] PWR switch - **ON**
[ ] Airspeed - **175-250 KCAS**
[ ] HOSE switch - **EXT**

1.3.3.3 DELIVERY
[ ] DISPLAY switch - **SCH**
[ ] SLEW switch - **AS REQUIRED**
[ ] DISPLAY switch - **DEL**
[ ] STORE switch - **TO**
[ ] FUEL TRANS switch - **AUTO**

1.3.3.4 DROGUE RETRACTION
[ ] TRANS switch - **OFF**
[ ] Airspeed - **175-200**
[ ] PWR switch - **OFF**
Note the power switch will not halt fuel transfer if the hose is extended.
Power can only be removed from the ARS with a completely retracted hose and TRANS in OFF.

1.3.3.5 BEFORE LANDING
[ ] STORE switch - **OFF**
[ ] HOSE switch - **RETR**
[ ] PWR switch - **OFF**
[ ] TRANS switch - **OFF**

1.3.4 SATS PROCEDURES

1.3.4.1 LANDING PATTERN
Refer to chapter 8.2.4.1 page 289 of the VRS F/A-18E Superbug manual.

1.3.4.2 APPROACH
Refer to chapter 8.2.4.2 page 289 of the VRS F/A-18E Superbug manual.

1.3.4.3 WAVEOFF
Refer to chapter 8.2.4.3 page 289 of the VRS F/A-18E Superbug manual.

1.3.4.4 ARRESTED LANDING
Refer to chapter 8.2.4.4 pages 289/290 of the VRS F/A-18E Superbug manual.

1.3.4.5 BOLTER
Refer to chapter 8.2.4.5 page 290 of the VRS F/A-18E Superbug manual.

1.3.5 HOT SEAT PROCEDURES
[ ] PARK BRK handle - **SET**
[ ] NWS - **DISENGAGE**
[ ] Left throttle - **OFF**
[ ] Throttle friction - **M**AX
[ ] Avionics - **AS DESIRED**

1.3.6 ALERT SCRAMBLE

The alert/scramble aircraft shall be preflighted in accordance with normal procedures every 4 hours or as local directives dictate. The pre-alert turn shall consist of full Plane Captain checks and full systems checks. Minimum requirements are

1.3.6.1 SETTING ALERT

[ ] Radar BIT status - **GO**
[ ] COMM 1/2 - **SET LAUNCH FREQ**
[ ] Launch T/O Trim - **SET**

1.3.6.2 BEFORE SHUTDOWN

[ ] COMM 1/2 knobs - **ON**
[ ] EMCON - **AS DESIRED**
[ ] DDI/MPCD/HUD knobs - **ON**
[ ] Thrust Lever - **MAX (MILITARY)**

1.3.6.3 AFTER SHUTDOWN

[ ] External power - **CONNECT**
[ ] EXT PWR switch - **RESET then NORM**
[ ] GND PWR switches 1,2,3,4 - **OFF**
[ ] BATT switch - **OFF**

1.3.6.4 ALERT FIVE LAUNCH

[ ] GND PWR switches 1, 2, 3, 4 - **ON**
[ ] BATT switch - **ON**
[ ] APU switch - **ON (READY light < 30 sec)**
[ ] R engine - **CRANK**
[ ] L engine - **CRANK**
[ ] FCS RESET button - **PUSH (RSET DDI advisory)**
[ ] External electrical power - **DISCONNECT**
[ ] DDI T.O. checklist (CHK page) – **COMPLETE**

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1.4 EMERGENCY PROCEDURES

1.4.1 GROUND EMERGENCIES

1.4.1.1 LOSS OF DC ESSENTIAL BUS

With WonW and both GENs offline, the Essential Bus is powered by the battery through the battery contactor. If the APU fails to start and APU accumulator pressure is assumed to be present, then a DC bus failure may be responsible.

[ ] BATT switch - **CYCLE**
[ ] Electrical RESET button - **PRESS**
[ ] GEN switches - **CYCLE**

1.4.1.2 ENGINE FAILS TO START

If no EGT rise within 20 seconds after throttle advance or rpm stabilizes below IDLE :

[ ] Throttle affected engine - **OFF**
[ ] Continue cranking for 3 minutes
[ ] ENG CRANK switch - **OFF**
[ ] APU switch - **OFF**

1.4.1.3 EMERGENCY EGRESS

The canopy may be opened electrically via the CANOPY switch on the right sill, or via the CANOPY JETT handle on the left sill.
NOTE
The manual canopy crank is not operative in the VRS F/A-18.

[ ] Canopy - **OPEN BY ANY MEANS**

Ensure that ground personal are clear prior to activating the CANOPY JETT handle.

[ ] Exit the cockpit

1.4.2 GENERAL EMERGENCIES

1.4.2.1 WARNINGS, CAUTIONS, ADVISORIES

There are 3 general types of indications in the cockpit ranging from the most severe (warnings)
to benign (advisories).

1.4.2.2 WARNING LAMPS

Warning lamps are located to the left and right of the UFCD, just underneath the instrument panel hood and above each DDI. Although some of the lamps share real estate with advisory lamps, all are red in color.

NOTE : Shaded cells indicate a Pro-version-only feature which may be partially or fully disabled in the Standard Edition of the VRS F/A-18.
For description, please refer to VRS F/A-18E Superbug manual.

WARNING	ACTION
APU FIRE Warning Lamp **"APU Fire" Voice Warning**	**INFLIGHT/GROUND -** [ ] APU FIRE lamp - PUSH [ ] FIRE EXTGH lamp - PUSH **GROUND -** [ ] Throttles - OFF [ ] Egress
LBAR Red Warning Lamp	**DECK -** [ ] Suspend catapult launch [ ] LAUNCH BAR switch - RETRACT **If LBAR fails to retract -** [ ] LBAR circuit breaker (VC only) - PULL
LBLEED or RBLEED **Red Warning Lamp(s)** **"Bleed Air Left/Right"**	**If not cranking -** [ ] BLEED AIR knob affected side - OFF **If lamp still on -** [ ] Throttle affected engine - OFF [ ] Land ASAP
Voice Warning	**If AV AIR HOT caution -** [ ] Airspeed - <325 kts [ ] ECS MODE switch - OFF/RAM [ ] CABIN PRESS switch RAM/DUMP

FIRE (L/R) **Warning Lamp(s)** **"Engine Fire Left/Right"** **Voice Warning**	**GROUND** [ ] Throttles - OFF [ ] FIRE LAMP (affected engine) - PRESS [ ] FIRE EXTGH LAMP - PRESS [ ] BATT switch - OFF [ ] Egress **ON TAKEOFF** [ ] ABORT or Emergency Takeoff **INFLIGHT** [ ] Throttle affected engine - OFF [ ] FIRE LAMP (affected engine) - PRESS [ ] FIRE EXTGH LAMP - PRESS [ ] HOOK Handle - DOWN
LDG GEAR HANDLE **flashing or steady red**	**STEADY** [ ] Check Gear Down indications **FLASHING** [ ] LDG GEAR handle - DOWN (or increase airspeed and/or altitude)
HOOK **Warning Lamp**	**INFLIGHT** **If hook is in the UP position-** [ ] HOOK circuit breaker - PULL **If hook fails to extend-** [ ] Divert **If hook partially down** [ ] Attempt carrier landing
RALT **Flashing UFCD Warning**	[ ] Climb above LAW [ ] Reset LAW to a lower altitude [ ] Disable LAW
SPN **Warning Lamp**	[ ] SPIN switch - NORM [ ] GUARD - DOWN

THREAT WARNING INDICATION(S)	ACTION
AI **Warning Lamp**	UNIMPLEMENTED
AAA **Red Warning Lamp**	Refer to tactical procedures.
CW **Red Warning Lamp**	Refer to tactical procedures.
SAM **Red Warning Lamp**	Refer to tactical procedures.

1.4.2.3 DDI CAUTIONS/CAUTION LAMPS

Cautions are normally indicated on the LDDI and are displayed in yellow 150% sized text starting at the lower left of the display and filling to the right and up.

MC1 is primarily responsible for the annunciation of cautions, advisories, and voice alerts. If MC1 is failed or off, MC2 will provide a limited number of backup cautions (CAUT DEGD).

CAUTION	ACTION
ANTISKID **DDI Caution**	Pro-only
APU ACCUM **DDI Caution** **APU ACC** **Caution Lamp**	**Following APU start/emergency** **IFR extension -** [ ] HYD ISOL switch - ORIDE (until caution ceases) **If caution remains-** [ ] HYD ISOL switch
ARS DROGUE **DDI Caution**	[ ] Airspeed 175-200 KCAS [ ] ARS PWR switch - ON [ ] HOSE switch - CYCLE to EXT then RETR **If caution remains-** [ ] ARS PWR switch - OFF [ ] Obtain visual inspection. **If drogue appears stowed-** [ ] Land normally. **If drogue not retracting -** [ ] CUT switch - SELECT **If unsuccessful cut -** [ ] Field landing without arrestment gear.
ASPJ DEGD **DDI Caution**	[ ] ASPJ IBIT - PERFORM **If caution still present-** [ ] ASPJ PWR – OFF
ASPJ OVRHT **DDI Caution**	[ ] ECS Mode switch - CHECK **If caution still present-** [ ] Airspeed - <350 KCAS [ ] ASPJ PWR - OFF
ATC FAIL **DDI Caution**	[ ] Control throttles manually until disconnect condition ceases. **If GAIN ORIDE selected in approach mode -** [ ] FCS RESET button - PRESS

ASPJ DEGD **DDI Caution** **FCES** **Caution Lamp**	[ ] ASPJ IBIT - PERFORM **If caution still present-** [ ] ASPJ PWR - OFF
AV AIR HOT **DDI Caution**	**GROUND** [ ] ECS MODE switch - VERIFY AUTO **If engine runup possible-** [ ] Either throttle - > 74% RPM **If caution remains after 3 minutes** [ ] Do not takeoff. **If engine runup not possible -** [ ] APU switch - ON [ ] BLEED AIR knob - AUG PULL **INFLIGHT** [ ] Affected systems - power OFF (if possible). [ ] Throttle - Maintain above IDLE **If caution remains after 3 minutes** [ ] ECS MODE switch - MAN **If caution goes out -** [ ] Land ASAP. **If caution remains after 3 minutes** [ ] Altitude - <25,000 FT [ ] Airspeed <325 kts [ ] ECS MODE switch - OFF/RAM (emergency cooling) [ ] AV COOL switch - EMERG
BATT SW **DDI Caution** **BATT SW** **Caution Lamp**	[ ] BATT switch - CONFIRM ON
BINGO **DDI Caution** **"Bingo"** **Voice Warning**	[ ] Adjust BINGO setting (EFD).
BRK ACCUM **DDI Caution**	**GROUND** [ ] Ensure the right engine (HYD 2 is started prior to the left engine before attempting to use NWS or braking. **INFLIGHT** [ ] BRK PRESS gauge - CHECK [ ] HYD ISOL switch- OVRD [ ] Extend landing gear ASAP. [ ] Consider short field arrested landing.

CANOPY **DDI Caution**	**GROUND** [ ] Maintain ground speed under 60 kts [ ] CANOPY switch - DOWN **INFLIGHT** [ ] Slow below 300KTS [ ] Altitude below 25,000 [ ] CANOPY PRESS switch - RAM/DUMP [ ] CANOPY switch - DOWN [ ] CANOPY PRESS switch - NORM **If caution remains -** [ ] Land ASAP.
P CAS **R CAS** **Y CA** **DDI Caution** **FCES** **Caution Lamp** **"Flight Controls"** **Voice Warning**	**Complete FCS caution procedures** **P CAS** [ ] Make smooth lateral inputs only. **R CAS** [ ] Limit pedal inputs to half throw. **Y CAS** [ ] Make smooth lateral inputs only. [ ] Limit pedal inputs to half throw.
CAUT DEGD **DDI Caution**	[ ] SDC - RESET (FUEL page) [ ] MC1 switch – CYCLE If caution remains [ ] Land ASAP.
CK SEAT **DDI Caution** **CK SEAT** **Caution Lamp**	[ ] SEAT OVERRIDE handle - DOWN [ ] SAFE/ARM lever - ARMED
CK TRIM **DDI Caution**	[ ] T/O Trim button - PRESS [ ] CONFIRM trim advisory **If carrier based-** [ ] Make final trim adjustments for catapult launch (carrier procedures)
CK FLAPS **DDI Caution**	**If shore based-** [ ] FLAP switch - HALF **If carrier based-** [ ] FLAP switch - FULL
L DC FAIL **R DC FAIL** **DDI Caution(s)**	[ ] Electrical RESET button - PRESS **If caution clears -** [ ] Resume normal operation. **If caution remains -** [ ] Land ASAP.

DECOY **DDI Caution**	[ ] Electrical RESET button – PRESS **If caution clears -** [ ] Resume normal operation. **If caution remains -** [ ] Land ASAP.
DUMP OPEN **DDI Caution**	[ ] DUMP switch - CYCLE [ ] BINGO setting - set higher than internal fuel qty. [ ] INTR WING switch - INHIBIT **If ext fuel remaining-** [ ] EXT TANK switches - STOP [ ] Land ASAP.
L ENG **R ENG** **DDI Caution(s)** **"Engine Left/Right"** **Voice Warning**	**GROUND** [ ] Do not takeoff. **INFLIGHT** [ ] ENG format - determine extent. **If PERF90, AB FAIL, THRUST or IDLE** [ ] Land ASAP. **If SHUTDN** [ ] Throttle affected engine - OFF **If caution clears -** [ ] Restart affected engine. [ ] Resume normal operations.
EXT TANK **DDI Caution**	**GROUND** [ ] EXT TANK switch(es) - VERIFY NORM **If caution remains -** [ ] Do not takeoff. **INFLIGHT -** [ ] EXT TANK switch(es) - STOP (when EXT transfer complete)
FC AIR DAT **DDI Caution**	**If PTS X'd in channels 1 - 4-** [ ] ANTI-ICE PITOT switch - ON. **If X's still present -** [ ] Slow below 350KTS (approx 6°-7°AOA). **For landing-** [ ] LDG GEAR handle - DN [ ] FLAP switch - HALF/FULL [ ] Fly straight-in approach. [ ] Fly onspeed AOA to touchdown (ATC not available)

FCS **DDI Caution** **FCES** **Caution Lamp** **"Flight Controls"** **Voice Warning**	[ ] Cease maneuvering. [ ] Decelerate below 350 kts. [ ] FCS format - SELECT and identify failure [ ] FCS RESET button - PUSH **If no Xs remain -** [ ] Continue normal operations. **If no more than 1 X remains in any row -** [ ] Land ASAP **If more than 1 X remains in any row -** [ ] Airspeed - 200-300 kts in UA. [ ] AoA below 10° in UA/onspeed in PA. [ ] 2G maximum. [ ] Half lateral stick maximum. [ ] perform controllability check at safe altitude. [ ] Fly straight-in approach. [ ] Land ASAP.
FCS HOT **DDI Caution** **FCS HOT** **Caution Lamp** **"Flight Computer Hot"** **Voice Warning**	[ ] ECS MODE switch - CONFIRM AUTO **If condition persists -** [ ] Airspeed - < 350 kts. [ ] AV COOL switch - EMERG [ ] Land ASAP.
L FLAMEOUT **R FLAMEOUT** **DDI Caution** **"Engine Left/Right"** **Voice Warning**	**DUAL ENGINE FLAMEOUT-** [ ] Throttles - MAX [ ] Lower the nose to maintain RPM. **If no automatic relight approaching 10,000 FT -** [ ] Airspeed - <250 kts. [ ] APU switch - ON (ready light) [ ] ENG CRANK switch - R/L **If restart unsuccessful -** [ ] EJECT **SINGLE ENGINE FLAMEOUT-** [ ] Throttle affected engine - IDLE **If RPM still decreasing -** [ ] Throttle affected engine - OFF **If cause known -** [ ] Refer to engine restart procedures. **If cause unknown -** [ ] Do not restart engine. [ ] Refer to single engine landing procedures.

FLAPS OFF **DDI Caution** **FCES** **Caution Lamp** **"Flight Controls"** **Voice Warning**	**Complete FCS caution procedures-** **LEF FAILURE -** [ ] Perform controllability check at safe altitude. [ ] FLAP switch - HALF/FULL [ ] Fly straight-in approach. [ ] Fly onspeed AOA to touchdown **TEF FAILURE -** [ ] Perform controllability check at safe altitude. [ ] Adjust gross weight to minimum practical. [ ] Calculate expected approach speed. **For landing-** [ ] LDG GEAR handle - DN [ ] FLAP switch - FULL [ ] Fly straight-in approach. [ ] Fly 10°- 12°AOA to touchdown (if required).
FLAP SCHED **DDI Caution** **FCES** **Caution Lamp**	**Complete FCS caution procedures-** **If PTS X'd in channels 1 - 4-** [ ] ANTI-ICE PITOT switch - ON. **If X's still present -** [ ] Slow below 350KTS (approx 6°-7°AOA). **For landing-** [ ] LDG GEAR handle - DN [ ] FLAP switch - HALF/FULL [ ] Fly straight-in approach. [ ] Fly onspeed AOA to touchdown (ATC not available)
FUEL LO **DDI Caution** **FUEL LO** **Caution Lamp** **"Fuel low"** **Voice Warning**	[ ] FPAS page - obtain best Mach number. [ ] Throttles - reduce speed to best Mach. [ ] FUEL page - check for fuel transfer failure indications. [ ] Land ASAP.

FUEL XFER **DDI Caution**	[ ] FUEL page - Confirm imbalance in wing or transfer tanks. **If wing asymmetry greater than 350 lb-** [ ] Monitor wing transfer. [ ] Roll heavy wing up 5°. **If one wing still fails to transfer, or if either wing is below 200 lb -** [ ] INTR WING switch - INHIBIT [ ] In preparation for landing, recalculate lateral asymmetry. [ ] Land ASAP. **If tank 1 empty and tank 4 full -** [ ] INTR WING switch - INHIBIT [ ] Monitor tanks 1/4 transfer. [ ] Land ASAP.
G-LIM 7.5 **DDI Caution** **"Flight Controls"** **Voice Warning**	**Limit g to the following:-** GW (lb) Acceleration (g) 42,097 -3.0 to +7.5 45,000 -2.8 to +7.0 50,000 -2.5 to +6.3 55,000 -2.3 to +5.7 60,000 -2.1 to +5.2 66,000 -1.9 to +4.7
G-LIM OVRD **DDI Caution** **"Flight Controls"** **Voice Warning**	Pro Only [ ] Return stick to neutral.

L GEN **R GEN** **DDI Cautions** **L/R GEN** **Caution Lamps**	**SINGLE GEN FAILURE** [ ] GEN switch - CYCLE (affected side). **If GEN fails to reset-** [ ] Electrical RESET button - PRESS **If GEN still inop -** [ ] GEN switch - OFF [ ] Land ASAP. **DUAL GEN FAILURE** [ ] Descend below 10,000 ft. [ ] RADAR knob - OFF [ ] Electrical RESET button - PRESS **If either GEN back online-** [ ] FCS RESET button - PRESS **If either GEN fails to reset-** [ ] GEN switches - CYCLE **If both GENs still inop -** [ ] GEN switches - OFF [ ] BATT switch - CONFIRM ON [ ] GEN TIE - CONFIRM no caution. [ ] Land Immediately. **If immediate landing not possible -** [ ] Slow below 250 kts (standby ASI). [ ] Prepare for a controlled ejection.
HOME FUEL **DDI Caution**	[ ] Change HOME waypoint and/or reduce fuel consumption.
HYD 1A **DDI Caution**	[ ] Airspeed < 380 kts **If right aileron X's -** [ ] FCS RESET - PRESS **If flight surfaces not restored -** [ ] Refer to appropriate FCS procedures.
HYD 1B **DDI Caution**	[ ] Airspeed < 380 kts **If left rudder or left LEF Xs'-** [ ] FCS RESET - PRESS **If flight surfaces not restored -** [ ] Refer to appropriate FCS procedures.

HYD 2A **DDI Caution**	[ ] Airspeed < 380 kts **If right LEF X's -** [ ] FCS RESET - PRESS **If flight surfaces not restored -** [ ] Refer to appropriate FCS procedures. [ ] Probe switch - EMERG EXTD (if required) [ ] Make an arrested landing (if possible) **If arrested landing not possible -** [ ] Make normal landing [ ] Consider paddle switch - PRESS after touchdown to preserve APU ACCUM pressure for slow-speed NWS.
HYD 2B **DDI Caution**	[ ] Airspeed < 380 kts **If right rudder or left aileron X's -** [ ] FCS RESET - PRESS **If flight surfaces not restored -** [ ] Refer to appropriate FCS procedures. [ ] Probe switch - EMERG EXTD (if required) [ ] Make an arrested landing (if possible) **If arrested landing not possible -** [ ] Make normal landing [ ] Consider paddle switch - PRESS after touchdown to preserve APU ACCUM pressure for slow-speed NWS.
IFF OVRHT **DDI Caution**	[ ] IFF POWER button (UFCD) - OFF. **If accompanied by AV AIR HOT caution -** [ ] Follow AV AIR HOT procedures.
INLET ICE **DDI Caution**	[ ] ENG ANTI ICE switch - ON [ ] PITOT ANTI ICE switch - ON **When clear of icing conditions -** [ ] ENG ANTI ICE switch - OFF
LADDER **DDI Caution**	**INFLIGHT -** [ ] Reduce airspeed to minimum practical. [ ] Obtain visual inspecxtion if possible. [ ] Land ASAP.
MC1 **DDI Caution**	**INFLIGHT -** [ ] Use no more than 1/2 lateral stick with tanks or A/G stores on the wings. [ ] Refer to G-LIM 7.5G procedure. [ ] Land ASAP.

MC2 **DDI Caution**	**INFLIGHT -** [ ] Land ASAP.
NO RATS **DDI Caution**	**INFLIGHT -** [ ] Cycle gear and hook. **If caution remains -** [ ] Advise carrier of NO RATS condition. Ship should increase wind-overdeck (WOD). **If required WOD not available -** [ ] Reduce weight to permit recovery with available WOD. **If carrier recovery not possible -** [ ] Divert.
NWS **DDI Caution**	**INFLIGHT -** [ ] Make arrested landing if possible. **GROUND -** [ ] NWS CYCLE. **If caution remains -** [ ] Do not take off.
L OIL PR **R OIL PR** **DDI Caution** **"Engine Left/Right"** **Voice Warning**	**INFLIGHT -** [ ] Throttle affected engine - IDLE **If caution remains -** [ ] Throttle affected engine - OFF [ ] resart for landing.
L OVRSPD **R OVRSPD** **DDI Caution** **"Engine Left/Right"** **Voice Warning**	**INFLIGHT -** [ ] Throttle affected engine - IDLE [ ] ENG format - monitor RPM **If 108% N1 or 104% N2 rpm exceeded –** [ ] Throttle affected engine - OFF
P BRAKE **DDI Caution**	[ ] Park brake handle - RELEASE
PROBE UNLK **DDI Caution**	[ ] Airspeed < 300 kts [ ] PROBE switch - CYCLE
RIG **DDI Caution**	[ ] General Realism (FS9 settings) - MAX. [ ] PROBE switch - CYCLE
VOICE/AUR **DDI Caution**	[ ] CSC BIT status - CHECK
WING UNLK **DDI Caution**	[ ] WINGFOLD switch - CHECK SPREAD

1.4.2.3 DDI ADVISORIES

Advisories are informational indications displayed starting on the lower left of the LDDI. If the LDDI is OFF or failed, advisories will be displayed on the RDDI. Advisories are preceeded by an informational tone of medium pitch.

NOTE : Shaded cells indicate a Pro-version-only feature which may be partially or fully disabled in the Standard Edition of the VRS F/A-18.

For description, please refer to VRS F/A-18E Superbug manual.

ADVISORY	ACTION
AB LIM	Informational
BALT	Informational
BIT	[ ] BIT format - CHECK
CPLD	Informational
DBAD	Informational
FQTY	Informational
FPAH	Informational
GSEL	Informational
GTRK	Informational
HDG	Informational
LHEAT **RHEAT**	Informational
HOSE	**If ARS switch ON and drogue deployed -** Information **If ARS switch ON and hose not secured -** [ ] Hose EXT/RETR switch - CONFIRM RETR **If drogue still does not retract -** [ ] Refer to ARS DROGUE caution.
HSEL	Informational
LAND	Informational
RALT	Informational

1.4.3 TAKEOFF EMERGENCIES

1.4.3.1 EMERGENCY CATAPULT FLYAWAY

After catapult launch, several emergencies may cause the aircraft to settle, i.e. soft catapult, AB blowout, degraded engine performance, single engine total loss of thrust, etc. If settling cannot be stopped immediately, it is necessary to eject without delay. Priorities during emergency catapult flyaway are to establish control of the aircraft, arrest aircraft settle, and accelerate for climbout.

If flyaway airspeed available –
[ ] Throttles - **MAX**
FULL AGAINST
[ ] Rudder - **ROLL/YAW**
[ ] EMERG JETT button - **PUSH**
[ ] Maintain 10°-12° pitch with waterline
[ ] Do not exceed 14° AoA (AoA Tone)
[ ] Do not exceed 1/2 lateral stick

If out of control or still settling –
[ ] EJECT

If under control and settle stoped –
[ ] Accelerate to onspeed (8.1°) AoA

1.4.3.2 ABORTED TAKEOFF

Several emergency situations may require the use of Aborted Takeoff Procedures: The decision to abort or execute an emergency takeoff depends on the nature and severity of the emergency.
[ ] Throttles - **IDLE**
[ ] Brakes - **APPLY FULL**
[ ] STICK - **AFT** (if required)
[ ] HOOK handle - **DOWN** (if required)

1.3.3.3 EMERGENCY TAKEOFF

Several emergency situations may require the use of Emergency Takeoff Procedures: The decision to abort or execute an emergency takeoff depends on the nature and severity of the emergency.

[ ] Throttles - **MIL/MAX** (if required)
[ ] Maintain onspeed AoA (8.1°)
[ ] EMERG JETT button - **PUSH** (if required)

1.3.3.4 LOSS OF DIRECTIONAL CONTROL DURING TAKEOFF/LANDING

A directional control problem on takeoff or landing may be caused by a NWS or brake failure.
These failures may be compounded by wet or icy runways, crosswinds, hydroplaning, or single engine operation. Your decision is crucial to the success of the takeoff or landing depending on your speed at the time the problem is encountered, the stopping distance required if landing, and the availability of arresting gear.

If decision to take off is made –
[ ] Execute Emergency Takeoff Procedure

If decision to stop is made –
[ ] Throttles - **IDLE**

If NWS failure suspected –
[ ] Paddle switch - **PRESS**

If directional control problem remains –
[ ] NWS - **ENGAGE (centered rudder)**
[ ] EMERG BRAKE handle - **PULL (brakes released)**
[ ] Use judicious braking
[ ] HOOK handle - **DOWN** (if required)

1.3.3.5 LANDING GEAR FAILS TO RETRACT

If landing gear warning light and warning tone on with the LDG GEAR handle UP –
[ ] LG circuit breaker - **CHECK IN**
[ ] LDG GEAR handle - **DN (do not cycle)**

If three down and locked indications –
[ ] Land as soon as practical

1.3.4 INFLIGHT EMERGENCIES

1.3.4.1 AFTERBURNER FAILURE

Afterburner failure can be recognized by failure of the nozzle to open (EFD display), which may be the only apparent symptom other than lack of expected thrust levels. The afterburner continuously receives ignition above MIL power. If an afterburner does not light or blows out, reduce the throttle to MIL and reselect afterburner. If an afterburner fails to light on subsequent attempts, maintenance action is most likely required.

1.3.4.2 EMERGENCY RESTART

There are 3 methods of restarting an engine in flight listed in order of desirability.
Attempting to restart an engine that has failed for no apparent reason (i.e. low AoA/high airspeed and no apparent FOD) may result in engine bay fuel leak/fire.

1.3.4.3 WINDMILL START

The FADEC will automatically attempt to restart any engine in which a flameout is detected, as long as throttle for the affected engine is IDLE or above and at least 12% RPM is available. Automatic restarts are the fastest and most reliable method for airborne engine restart.
[ ] Throttle affected engine - **IDLE OR ABOVE**

1.3.4.4 CROSSBLEED START

If the affected engine has decayed below 12% N1 and/or cannot achieve it, a crossbleed start may be attempted. In order for the opposite engine to supply enough bleed air to start the affected engine, the good engine must be throttled to a minimum of 80% N2 RPM. Crossbleed starts may not be possible above 25,000 FT. Refer to chart A, below for the typical restart envelope.

[ ] Throttle opposite engine - **ABOVE 80% N2**
[ ] BLEED AIR knob - **OPPOSITE**
ENG/NORM
[ ] CRANK switch - **L(R) (affected engine)**

After ignition -
[ ] BLEED AIR knob - **NORM**

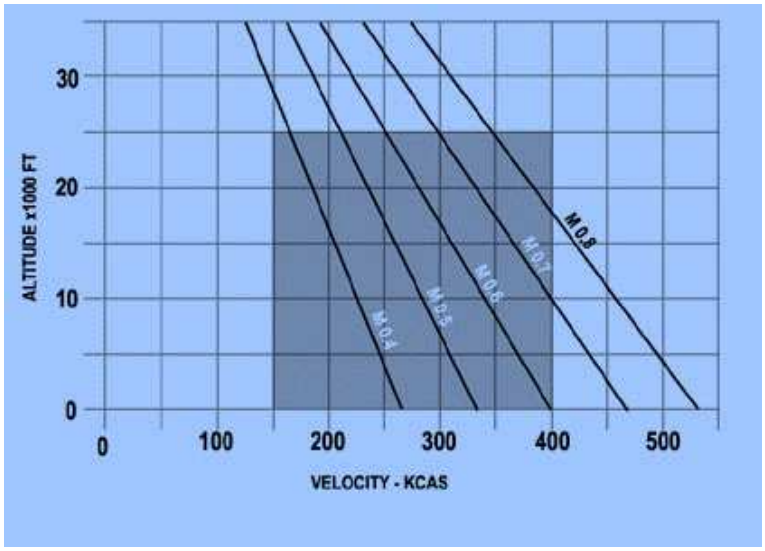


CHART A

1.3.4.5 AIRBORNE APU START

Airspeed must be under 250 kts and altitude under 10,000 ft.
Since APU accumulator pressure must be used to start the APU, the HYD Aft Isolation valve should be opened in order to allow HYD 2B to fully charged the accumulator WoffW.
Due to the various risk factors in airborne APU operation, the unit should be shut down immediately after ignition of the affected engine.

[ ] Throttle affected engine - **IDLE OR ABOVE**
[ ] BLEED AIR knob – **OPPOSITE**
ENG/NORM
[ ] HYD ISOL OVRD switch - **OVERRIDE**
[ ] Wait approximately 10 seconds - **(if prudent)**
[ ] APU switch - **ON**
[ ] APU lamp - **VERIFY GREEN**
[ ] CRANK switch - **L(R) (affected engine)**

After ignition -
[APU switch – **OFF**

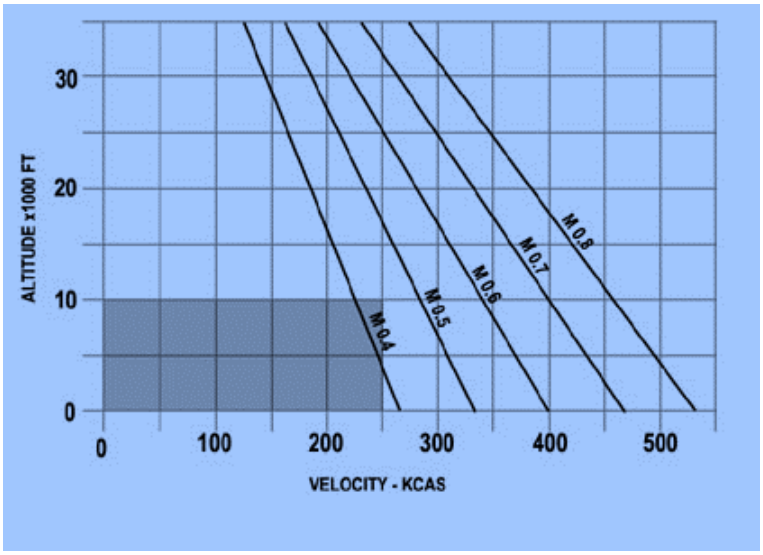


CHART B

1.3.4.6 DOUBLE TRANSFORMER FAILURE

Failure of both transformer-rectifiers (TRs) will produce a loss of the HUD (but not other displays), bleed air including cockpit airflow/pressurization, and loss of othe equipment relying on the main DC busses.

NOTE : the BATT SW caution light should be out.

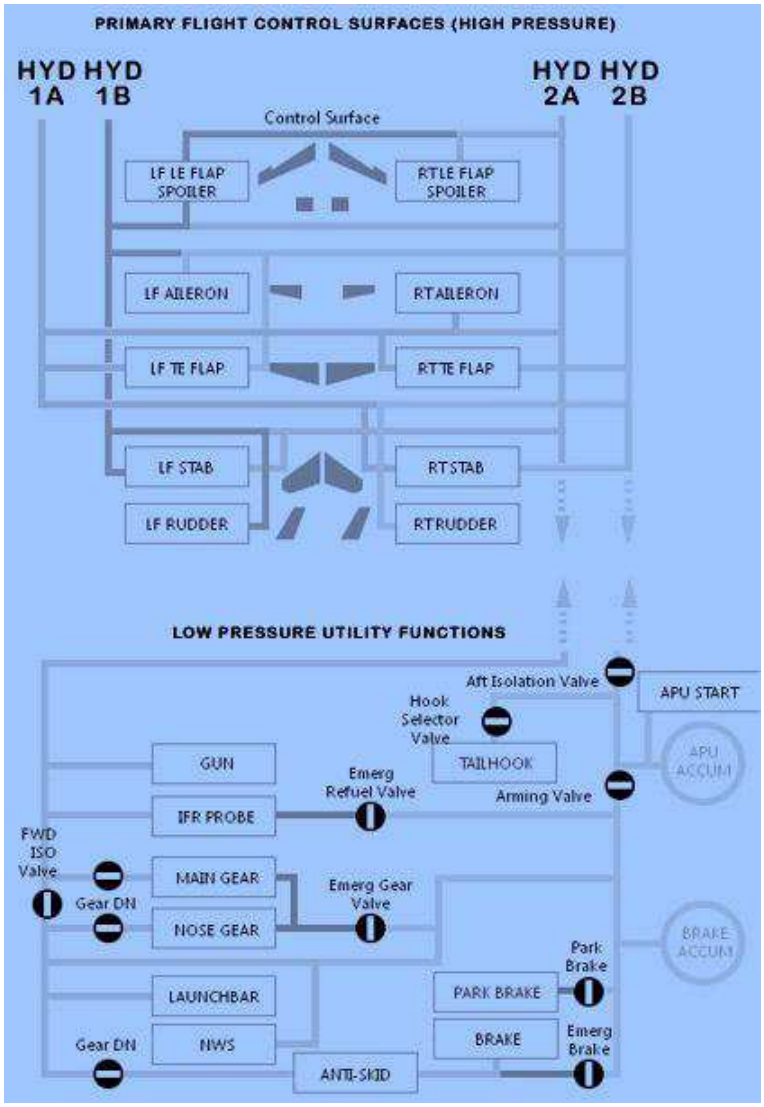
During a dual TR failure, time is not critical, and Essential Bus equipment need not be turned off. Equipment requiring AC power is not effected and does not need to be switched off.

[ ] BATT SW caution light - **CONFIRM OUT**
[ ] Maintain altitude below 10,000 feet
[ ] Electrical RESET button - **PRESS**
[ ] Land as soon as practical

For landing –
[ ] Make a short field arrestment (if available)
[ ] Use emergency brakes with steady brake pressure (do not pump).

1.3.4.7 HYDRAULIC FAILURES

Hydraulic failures are indicated by the HYD 1A, 1B, 2A, and 2B circuit cautions. The effects of losing one or more HYD circuits can be seen by analyzing the flow diagram below.



1.3.4.8 COCKPIT TEMPERATURE HIGH OR AV AIR HOT CAUTION

Hot cockpit airflow may be caused by an ECS control failure or a valve failure.
In ECS MAN mode, cockpit temperature can reach 190°F, if the cockpit flow valve is stuck full open.

[ ] CABIN TEMP knob - **FULL COLD**

If temperature remains high –
[ ] ECS MODE switch - **MAN**

If temperature still high –
[ ] Maintain altitude below 25,000 feet.
[ ] CABIN PRESS switch - **RAM/DUMP**

If temperature not reduced –
[ ] BLEED AIR knob - **OFF** (do not cycle)
[ ] Maintain altitude below 10,000 ft.
[ ] Maintain airspeed below 325 KCAS (300-325 KCAS optimum)
[ ] ECS MODE switch - **OFF/RAM**
[ ] AV COOL switch - **EMERG**

If AV AIR HOT caution appears OR aft avionics cooling fan disabled –
[ ] Non-essential avionics equipment - **OFF**
[ ] Land as soon as possible

1.3.4.9 DISPLAY MALFUNCTION

If a display malfunctions, cycle power to attempt to restore normal functioning. If a display continues to malfunction, turn if off to prevent an overheat.
[ ] BIT Format - **CHECK**
[ ] Affected systems(s) - **POWER OFF**

1.3.4.10 OUT OF CONTROL FLIGHT

If a display malfunctions, cycle power to attempt to restore normal functioning. If a display continues to malfunction, turn if off to prevent an overheat.

Selection of manual spin recovery mode (SPIN switch in RCVY) seriously degrades controllability, will prevent recovery from any departure or spin, and is prohibited (Pro-only feature)

Recovery Procedures –
[ ] Controls - **RELEASE ALL**
[ ] SPEEDBRAKE - **IN**

If still out of control –
[ ] Throttles - **IDLE**
[ ] Altitude, AOA, airspeed, and yaw rate - **CHECK**

If command arrow present –
[ ] Lateral stick - **FULL INTO ARROW**

When command arrow removed –
[ ] Lateral stick - **NEUTRAL**

When recovery indicated by YAW rate tone removed, side forces subsided, and airspeed accelerating above 180 knots –
[ ] Recover

Passing 6,000 ft. AGL, dive recovery not initiated –
[ ] EJECT

Post departure dive recovery initiated below 6,000 ft. AGL is not assured. Delaying the ejection decision below 6,000 ft. AGL while departed may result in unsuccessful ejection.

Post Departure Dive Recovery –
[ ] One-g roll to the nearest horizon

[ ] Throttles - **MAX** (MIL if alt not critical)
[ ] Pull to and maintain 25° to 35° AOA until posi tive ROC established

A positive rate of climb requires wings level pitch attitude (waterline) greater than indicated AOA.

If aircraft departs during dive recovery below 6,000 ft. AGL –
[ ] EJECT

1.3.4.11 CONTROLABILITY CHECK
REQUIREMENT : Malfunction, failure, or damage, which degrades approach and landing characteristics.

PURPOSE : Determine if attempting approach or controlled ejection, safe landing configuration, and safe final approach airspeed/AOA.

[ ] Climb/maintain a safe altitude
    5000-15000 ft AGL as practical.
[ ] Visual inspection
    If necessary/possible.
[ ] Check emergency procedure limits
    AOA, airspeed, etc.
[ ] Plan LDG GEAR extension
    Distance from field (consider fuel, stores remaining, etc.)
[ ] Plan FLAPS extension
    Decide timing of and setting required (field/CV).
[ ] SEL JETT
    To maintain symmetry.
[ ] GEAR
    DN (access controllability/damage)
[ ] FLAPS
    HALF/FULL (HALF first if handling degraded)

If landing attempted, request a straight-in approach (if practical) and maintain the minimum controllable airspeed plus 10 knots. If lateral stick is required for balanced flight, plan for turns in the direction of the stick displacement (if possible).

1.3.4.12 EXTERNAL STORES JETTISON

For emergency jettison –
[ ] WoffW
[ ] LDG GEAR handle - **UP**
[ ] EMERG JETT - **PUSH** (all but cheek/tip)

For selective jettison –
[ ] WoffW
[ ] LDG GEAR handle - **UP**
[ ] Find a clear area below aircraft
[ ] LT TEST switch - **TEST** (verify all JETT lights lit)
[ ] Jettison pushtiles - **SELECT DESIRED STATIONS**
[ ] SELECT JETT knob - **ROTATE AS REQUIRED**
[ ] MASTER ARM switch - **ARM**
[ ] SELECT JETT button - **PUSH**
[ ] MASTER ARM switch - **SAFE**
[ ] SELECT JETT knob - **SAFE**

For AUX REL - (station must be H-LKD or H-ULK following a failed SELECT JET release attempt) –
[ ] WoffW
[ ] LDG GEAR handle - **UP**
[ ] Find a clear area below aircraft
[ ] LT TEST switch - **TEST** (verify all JETT lights lit)
[ ] AUX REL switch - **ENABLE**
[ ] Jettison pushtiles - **SELECT DESIRED STATIONS**
[ ] SELECT JETT knob - **ROTATE AS REQUIRED**
[ ] MASTER ARM switch - **ARM**
[ ] SELECT JETT button - **PUSH**
[ ] MASTER ARM switch - **SAFE**
[ ] SELECT JETT knob - **SAFE**
[ ] AUX REL switch – **NORM**

1.3.4.13 FCS FAILURE INDICATIONS

[ ] FCS RESET switch – **PRESS**

1.3.5 LANDING EMERGENCIES

1.3.5.1 SINGLE ENGINE FAILURE IN LANDING CONFIGURATION

GENERAL CONSIDERATIONS –
[ ] **Fly straight in approach** (if practical)
[ ] **Plan approach to make turns using shallow bank angle**
[ ] **DO NOT exceed on-speed AOA in turns**
[ ] **Reduce gross weight** (44,000 lb max, lower if practical)
[ ] **Consider crossbleed to provide HYD 2 pressure to extend the landing gear normally and to preserve APU accumulator pressure for emergency NWS.**
[ ] **Maintain operating engine above 80% rpm during flap and landing gear extension.**

LEFT ENGINE FAILED –
[ ] FLAP switch - **HALF**
[ ] LDG GEAR handle - **DN**
[ ] Make a normal landing or a precautionary short field arrested landing (if practical)

RIGHT ENGINE FAILED –
[ ] FLAP switch - **HALF**
[ ] Make a normal landing or a precautionary short field arrested landing (if practical)

If short field arresting gear not available and crossbleed not desired
[ ] EMERG BRK handle - **VERIFY**
PULLED
[ ] Make normal landing
[ ] Use emergency brakes with steady brake pressure (do not pump)
[ ] Once stopped or clear of runway, DO NOT taxi.

CROSSBLEED CONSIDERATIONS (RIGHT ENGINE FAILED)
[ ] Do not crossbleed if engine damage is suspected.
[ ] If normal braking with anti-skid is required, verify reset of EMERG BRK handle
[ ] If APU ACCUM caution light is on, advance LEFT ENG throttle to 80% rpm minimum and switch ENG CRANK switch to R
[ ] HYD 2 pressure - **RESTORE**
[ ] HYD ISOL - **ORIDE**
[ ] APU ACCUM caution - **VERIFY REMOVED**
[ ] ENG CRANK switch – **OFF**
[ ] APU switch - **ON** (ready light within 30 sec)

[ ] ENG CRANK switch - **R**
[ ] HYD 2 pressure - **VERIFY RESTORED**
[ ] HYD ISOL switch - **ORIDE**
[ ] APU ACCUM caution - **VERIFY OUT**
[ ] Make normal landing

1.4.5.2 FORCED LANDING

The aircraft is not designed to land on an unprepared surface. If a suitable landing site is not available, perform a controlled ejection.

1.4.5.3 LANDING GEAR UNSAFE OR FAILS TO EXTEND/RETRACT

A landing gear position of three down and locked is indicated by three steady green position lights with the landing gear warning light and warning tone out.

If the landing gear warning light and warning tone are OFF –
[ ] AOA indexer lights – **CONFIRM ON**
[ ] Landing gear position lights - **CHECK FLUSH**
[ ] LT TEST switch - **TEST**

At this point if a bulb(s) test bad it is safe to assume that the landing gear is down and locked –
[ ] Obtain visual inspection (if possible)
[ ] Approach lights - **ILLUMINATED** (if visual possible)
[ ] Make a minimum sink rate precautionary short field arrestment (if available)

If the landing gear warning light and warning tone are ON –
[ ] AOA indexer lights - **CONFIRM OUT**
[ ] LDG GEAR handle - **CHECK FULL DN** (do not cycle)
[ ] LG circuit breaker - **CHECK IN**
[ ] Get visual inspection (if practical)

If one or more landing gear indicates unsafe, a visual inspection can only confirm general position and obvious damage. There is no external indication of a locked gear.

Only if all gear indicated unsafe –
[ ] LG circuit breaker - **CYCLE**
[ ] LDG GEAR handle - **UP, pause, DN**

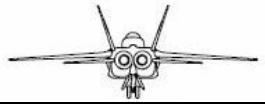
If any gear indicated down and locked –
[ ] LDG GEAR handle - **DO NOT CYCLE**
[ ] LT TEST switch - **VERIFY 3 LIGHTS**

If any bulb test good and any gear indicates unsafe –
[ ] Refer to Landing Gear Malfunction – Landing Guide charts in deciding landing options.

If any gear remains unsafe –
[ ] Perform positive and negative g maneuvers and gently roll and yaw aircraft to attempt to drive the unsafe gear down and locked

If any gear remains unsafe and HYD 2A is operative –
[ ] LDG GEAR handle - **UP, pause, DN**
[ ] Perform positive and negative g maneuvers and gently roll and yaw aircraft to attempt to drive the unsafe gear down and locked

If any gear still indicates unsafe –
[ ] Refer to Landing Guide charts on the three following pages :

CARRIER LANDING			
GEAR CONFIGURATION		**ACTION**	**NOTES**
	NOSE GEAR RETRACTED STUB OR TRAILING	DIVERT OU BARRICADE	1,2,3
	ONE MAIN GEAR RETRACTED OR TRAILING	DIVERT OU BARRICADE	1,2,3,4
	COKED NG AND/OR ONE OR MORE COCKED MAIN GEAR	NORMAL LANDING	2
	ONE OR BOTH MAIN GEAR STUB	DIVERT OU BARRICADE	1,2,3
	NOSE GEAR AND ONE MAIN GEAR RETRACTED OR TRAILING	RETRACT ALL GEAR. IF UNABLE TO RETRACT, EJECT.	
	BOTH MAIN GEAR RETRACTED OR TRAILING	DIVERT OU BARRICADE	1,2,4
	ALL GEAR UP	DIVERT OU BARRICADE WITH TANKS INSTALLED ONLY OR EJECT	1,2,4
	LAUNCH BAR DOWN OR RED LAUNCH BAR LIGHT ILLUMINATED	DIVERT OR REMOVED CDP'S 1 AND 4 AND MAKE NORM LANDING	

1) JETTISON ALL EXTERNAL ORDINANCE

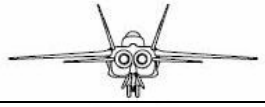
2) RETAIN AND DEPRESSURIZE EMPTY EXT TANKS

3) HOOK DOWN BARRICADE ENGAGEMNT WITHOUT CROSS DECK PENDANTS

4) HOOK DOWN BARRICADE ENGAGEMNT WITH CROSS DECK PENDANTS

FIELD LANDING (NO ARRESTING GEAR AVAILABLE)			
GEAR CONFIGURATION		**ACTION**	**NOTES**
	NOSE GEAR RETRACTED STUB OR TRAILING	LAND	1,2,3 ,4,5
	ONE MAIN GEAR RETRACTED OR TRAILING	LAND	1,2,3, 7,8,9 ,10
	COKED NG AND/OR ONE OR MORE COCKED MAIN GEAR	LAND	2
	ONE OR BOTH MAIN GEAR STUB	LAND	1,2,3 ,7,8,9 ,10
	NOSE GEAR AND ONE MAIN GEAR RETRACTED OR TRAILING	RETRACT ALL GEAR. IF UNABLE TO RETRACT, EJECT.	
	BOTH MAIN GEAR RETRACTED OR TRAILING	LAND	1,2,5 ,9
	ALL GEAR UP	LAND	1,2,5,9
	LAUNCH BAR DOWN OR RED LAUNCH BAR LIGHT ILLUMINATED	LAND	

1) JETTISON ALL EXTERNAL ORDINANCE
2) RETAIN AND DEPRESSURIZE EMPTY EXT TANKS
3) MINIMUM DESENT RATE LANDING
4) LOWER NOSE GENTLY BEFORE FALL THROUGH
5) SECURE ENGINES OF ANY GEAR RETRACTED
6) HOLD MISSING DAMAGED GEAR OFF DECK UNTIL ENGAGEMENT
7) ANTI-SKID OFF
8) LAND ON SIDE OF RUNWAY TOWARD GOOD GEAR
9) HOLD WINGS LEVEL AS LONG AS POSSIBLE
10) USE NWS AND GOOD BRAKE TO MAINTAIN CENTERLINE

FIELD LANDING (ARRESTING GEAR AVAILABLE)			
GEAR CONFIGURATION		**ACTION**	**NOTES**
	NOSE GEAR RETRACTED STUB OR TRAILING	NO ARRESTED LANDING, REMOVE CDP	1,2,3 ,4,5
	ONE MAIN GEAR RETRACTED OR TRAILING	MAKE ARRESTED LANDING	1,2,3 ,6
	COKED NG AND/OR ONE OR MORE COCKED MAIN GEAR	MAKE ARRESTED LANDING	2
	ONE OR BOTH MAIN GEAR STUB	MAKE ARRESTED LANDING, REMOVE CDP	1,2,3 ,7,8,9 ,10
	NOSE GEAR AND ONE MAIN GEAR RETRACTED OR TRAILING	RETRACT ALL GEAR. IF UNABLE TO RETRACT, EJECT.	
	BOTH MAIN GEAR RETRACTED OR TRAILING	MAKE ARRESTED LANDING	1,2,5 ,9
	ALL GEAR UP	NO ARRESTED LANDING, REMOVE CDP	1,2,5,9
	LAUNCH BAR DOWN OR RED LAUNCH BAR LIGHT ILLUMINATED	NO ARRESTED LANDING, REMOVE CDP	

1) JETTISON ALL EXTERNAL ORDINANCE
2) RETAIN AND DEPRESSURIZE EMPTY EXT TANKS
3) MINIMUM DESENT RATE LANDING
4) LOWER NOSE GENTLY BEFORE FALL THROUGH
5) SECURE ENGINES OF ANY GEAR RETRACTED
6) HOLD MISSING DAMAGED GEAR OFF DECK UNTIL ENGAGEMENT
7) ANTI-SKID OFF
8) LAND ON SIDE OF RUNWAY TOWARD GOOD GEAR
9) HOLD WINGS LEVEL AS LONG AS POSSIBLE
10) USE NWS AND GOOD BRAKE TO MAINTAIN CENTERLINE

If at any time landing gear indicates three down and locked –
[ ] LDG GEAR handle - DO NOT CYCLE
[ ] Make a minimum sink rate precautionary short field arrestment (if available)
[ ] Pin the landing gear after landing

1.4.5.4 FIELD ARRESTMENT
Using the carrier operations feature contained in the VRS ACM, you can define “cable catch” zones not just for aircraft carriers, but also on land. These can be used toe simulate field arrestment procedures. Note that the use of the tailhook is required to successfully TRAP (Tactical Recover of Aircraft and Personnel) in any defined zone. Typically runway locations for such operations are as follows :

SHORT FIELD (best) –
Located 1,500 to 2,000 feet past the approach end of the runway.

MIDFIELD –
Located near the halfway point of the runway.

LONG FIELD or ABORT –
Located 1,500 to 2,000 feet short of the departure end of the runway.

OVERRUN –
Located shortly past the departure end of the runway

1.4.6 EJECTION

The ejection seat may be used to escape from the aircraft in extreme emergency situations. The VRS F/A-18E simulates ejection seat operation in a cursory manner by providing escape sequence arming functionality and animations.

1.4.6.1 EJECTION SEAT RESTRICTIONS

During ejection seat development and testing, the SJU-17(V) 1/A and 2/A NACES seats were qualified for use by aviators with nude weights from 136 to 213 lb.
Due to NACES ejection seat limitations, any person whose nude body weight is less than 136 lb. or greater than 213 lb. is subject to increased risk of injury from ejection.

1.4.6.2 AIRSPEED DURING EJECTION

[ ] Optimum speed for ejection 250KCAS and below

1.4.6.3 EJECTION PREPARATION AND INITIATION

In order to initiate an ejection the SAFE/ARMED handle MUST be in the ARMED position.
Ejection sequence will not initiate with handle in SAFE.

IMMIDIATE EJECTION –
[ ] Position body properly against seat
[ ] Pull ejection handle sharply up and towards abdomen to eject

CONTROLLED EJECTION –
IF time and conditions permit
[ ] Alert Crewmember (F/A-18F only)
[ ] Trade airspeed for altitude (zoom)
[ ] Level wings and minimize rate of decent
[ ] IFF squawk
[ ] Follow radio distress procedures
[ ] Stow loose equipment
[ ] Cabin pressure switch - **RAM/DUMP**
[ ] Shoulder harness lock lever - **LOCKED**
[ ] Lap belt and shoulder harness - **TIGHT**
[ ] Visor - **DN**
[ ] Helmet - **SECURED**
[ ] Oxygen Mask - **TIGHT**
[ ] Altimeter/Altitude - **CHECK**
[ ] Slow aircraft as much as possible
[ ] Position body properly against seat
[ ] Pull ejection handle sharply up and towards abdomen to eject

1.4.7 IMMEDIATE ACTION

This section contains only immediate action items. It is intended for review only and does not contain any steps which are not immediate action nor does it contain notes, cautions, warnings, or explanatory matter associated with particular procedures.

1.4.7.1 APU FIRE LIGHT

In flight or on ground –
[ ] APU FIRE light - **PUSH**
[ ] APU switch - **CONFIRM OFF**
[ ] FIRE EXTGH DISCH light - **PUSH** (READY LAMP LIT)

On ground –
[ ] Throttles - **OFF**
[ ] Egress

1.4.7.2 HOT START

If EGT climbs rapidly thru 750°C –
[ ] Throttle affected engine - **OFF**

1.4.7.3 ENGINE CAUTIONS

L or R EGT HIGH, L or R ENG VIB, L or R FLAMEOUT, L or R OIL HOT, L or R OIL PR, and L or R OVERPD –
[ ] Throttle affected engine - **IDLE**

1.4.7.4 (L/R) FIRE LIGHT

GROUND –
[ ] Throttles - **OFF**
[ ] FIRE light affected engine - **PUSH**
[ ] FIRE EXTGH DISCH light - **PUSH** (READY LAMP LIT)
[ ] BATT switch - **OFF**
[ ] Egress

ON TAKEOFF –
[ ] ABORT or execute Emergency Takeoff Procedure

INFLIGHT –
Dual FIRE lights –

[ ] Throttles - Minimum practical for flight

Single FIRE light or Dual when side confirmed –
[ ] Throttle affected engine - **OFF**
[ ] FIRE light affected engine - **PUSH**
[ ] FIRE EXTGH DISCH light - **PUSH**
[ ] HOOK handle - **DN**

1.4.7.5 LOSS OF THRUST ON TAKEOFF
[ ] ABORT or execute Emergency Takeoff Procedure

1.4.7.6 ABORT
[ ] Throttles - **IDLE**
[ ] Brakes - **APPLY**
[ ] Stick - **AFT** (if required)
[ ] HOOK handle - **DN** (if required)

1.4.7.7 EMERGENCY TAKEOFF
[ ] Throttles - **MIL** (MAX if requred)
[ ] Maintain on-speed AOA and balanced flight
[ ] EMERG JETT button - **PUSH** (if required)

1.4.7.8 LOSS OF DIRECTIONAL CONTROL DURING TAKEOFF/ LANDING
If decision to takeoff is made –
[ ] Execute Emergency Takeoff Procedure

If decision to stop is made –
[ ] Throttles - **IDLE**

If NWS failure is suspected –
[ ] Paddle switch - **PRESS**

If directional control problem remains –
[ ] NWS - **ENGAGE**
[ ] EMERG BRK handle - **PULL**
[ ] Use judicious braking on appropriate side
[ ] HOOK handle - **DN** (if required)

1.4.7.9 EMERGENCY CATAPULT FLYAWAY
If flyaway airspeed available –
[ ] Throttles - **MAX**
[ ] Rudder pedal - **FULL AGAINST YAW/ROLL**
[ ] EMERG JETT button - **PUSH**
[ ] Maintain 10 to 12° pitch attitude with waterline symbol. Do not exceed 14° AOA (AOA tone). Do not exceed ½ lateral stick.

If uncontrollable or settle not stopped –
[ ] EJECT

If controllable and settle stopped –
[ ] Accelerate to on-speed (8.1°) AOA for climb

1.4.7.10 FCS CAUTION OR FCES CAUTION LIGHT
[ ] Cease maneuvering

1.4.11 L or R FUEL INLT CAUTION
[ ] Throttle affected engine - **OFF**
[ ] FIRE light affected engine – **PUSH**

1.4.7.12 HYD 1 (2) HOT CAUTION
[ ] Throttle affected engine - OFF

1.4.7.13 DUAL L BLEED and R BLEED Warning Lights
[ ] BLEED AIR knob - **OFF** (do not cycle)

If light(s) still on –
[ ] Throttles - Minimum for practical flight

1.4.7.14 SINGLE L BLEED or R BLEED Warning Light
[ ] BLEED AIR knob affected engine - **OFF** (do not cycle)

If light still on, do the following in order until the light goes out –
[ ] Throttle affected engine - **IDLE**
[ ] Throttle affected engine - **OFF**
[ ] BLEED AIR knob - **OFF** (do not cycle)

1.4.7.15 OCF ECOVERY PROCEDURES
[ ] Controls **RELEASE, SPEEDBRAKE IN**

If still out of control –
[ ] Throttles - **IDLE**
[ ] Altitude, AOA, airspeed, and yaw rate CHECK

If command arrow present –
[ ] Lateral stick - **FULL INTO ARROW**

When command arrow removed –
[ ] Lateral stick - **SMOOTHLY NEUTRAL**

When side forces subsided, and airspeed accelerating above 180 KCAS
[ ] Recover

Passing 6,000 ft AGL, dive recovery not initiated –
[ ] EJECT

1.4.7.16 SINGLE ENGINE FAILURE IN LANDING CONFIGURATION
[ ] Throttles - **MIL** (MAX if required)
[ ] Maintain on-speed AOA and balanced flight
[ ] FLAP switch - **HALF**

TABLE OF CONTENTS (CONT.)

1.5 PERFORMANCE DATA

1.5.1 FLAP SCHEDULING

CAS Mode	FLAPS	Status	LEF	TEF	Aileron
UA	N/A	WonW	3° LED	4° TED	2° TED
		WoffW	Scheduled with M,AOA,Alt	Scheduled with M,AOA,Alt	50% of TEF (<10° AOA), 0° (>15° AOA)
PA	FLAPS HALF	WonW	15° LED	30° TED	30° TED
		WoffW	Scheduled with AOA	30° TED (on speed)	30° TED (on speed)
	FLAPS FULL	WonW	15° LED	40° TED	40° TED
		WoffW	Scheduled with AOA	40° TED (on speed)	40° TED (on speed)

WonW = Weight on Wheels, WoffW = Weight off Wheels, TED = Training Edge Down, TEU = Training Edge Up, LED = Leading Edge Down, LEU = Leading Edge Up

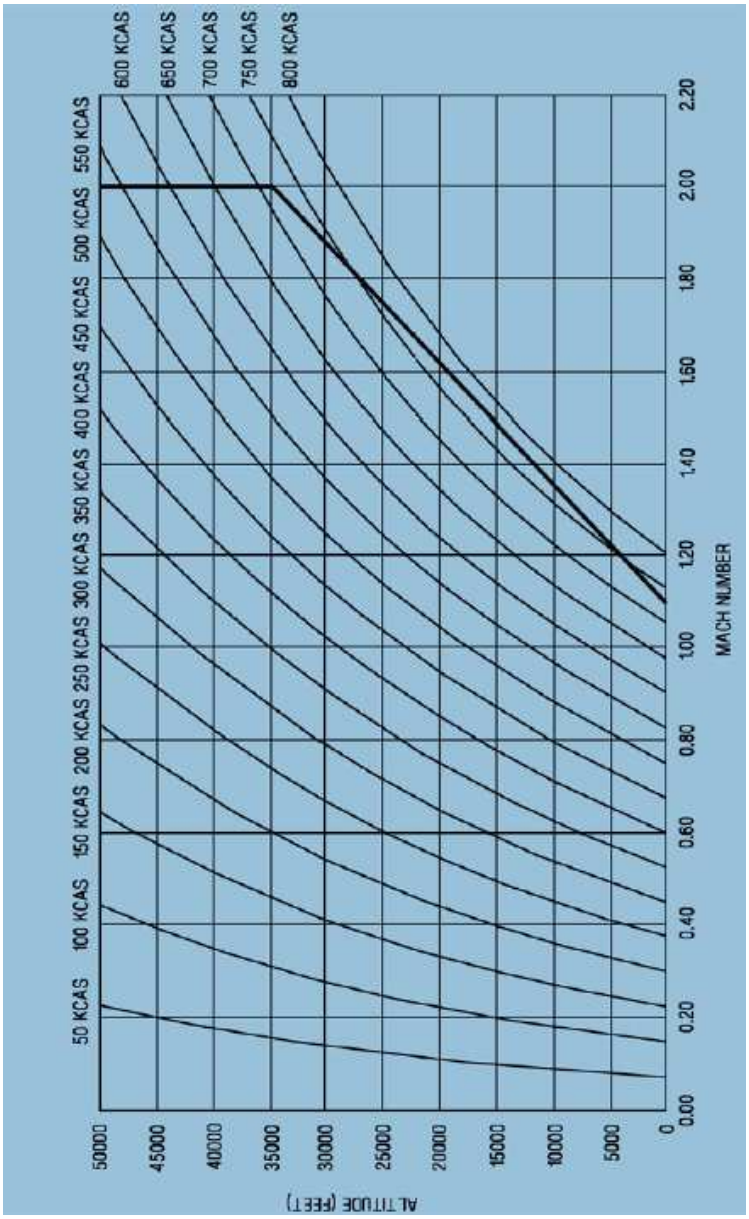
1.5.2 BIT SYSTEM STATUS MESSAGES

Message	System	Definition
NOT RDY	All except MC1	OFF, not installed, or initializing
OFF	RDR, MPCD, UFCD, IFF, RALT, ILS, TCN, COM1, COM2	OFF
IN TEST	All systems except MC1, MC2, RWR	Initiated BIT (IBIT) in progress
GO	All systems	BIT completed without failure
DEGD	All systems except MC1, MC2	Operation degraded
OVRHT	LDT, FLIR, NFLR, SMS, MPCD, UFCD, CSC, FCSA, FCSB, ASPJ, RWR, LTDR, ALE-50	Overheat.
MUX FAIL	CLC, FLIR, NFLR, SMS, RDR, LDDI, RDDI, MPCD, CSC, MC2, FCSA, FCSB, COM1, COM2, ASPJ,	Not communicating on MUX and on/off discrete is set to on.
	LTDR,ALE-47, ALE-50	
OP GO	NFLR, SMS, COM1, COM2, ALE-47, ALE-50	Non critical BIT failure detected
PBIT GO	All systems except MC1, MC2, RWR,FADEC	Initiated BIT has not been run since ground power-up and PBIT is not reporting any failures.

1.5.3 ENGINE OPERATING LIMITATIONS

Limitations		N2 (%)	N1 (%)	EGT (°C)	Nozzle(%)	Oil Press (psi)
Transient (MIL / MAX)		102	103	970	–	–
Steady state	MAX	100	100	950	50 to 100	80 to 150
	MIL			930	0 to 35	
Ground IDLE		³ 60	³ 30	250 to 500	75 to 85	35 to 90
Start		³ 10	–	870	–	180

1.5.4 AIRFRAME OPERATING LIMITATIONS



1.5.5 SUBSYSTEM AIRSPEED LIMITATIONS

Subsystem	Position/Action	Airspeed/Groundspeed
Refueling Probe	Extension/Retraction	300 KCAS
	Extended	400 KCAS
Landing Gear	Extension/Retraction	250 KCAS
	Extended	170 KCAS
Trailing Edge Flaps	HALF-FULL	250 KCAS
Tires	Nose Gear	195 KGS
	Main Gear	210 KGS
Wingfold	Spread/Fold	60 knots
Canopy	Open	60 knots

1.5.6 GROSS WEIGHT AND LATERAL ASYMMETRY

Condition		Gross Weight Limitation(lbs)	Lateral Weight Asymmetry(ft-lb)
Field takeoff		66,000	26,000
Inflight			
Field landing, FCLP, T&G		50,600	
Catapult		66,000	22,000
Carrier landing / barricade		44,000	

1.5.7 AOA LIMITATIONS FLAPS AUTO

Lateral Weight Asymmetry (1,000 ft-lb)	Subsonic			Supersonic	
>6	Unrestricted			>+15° Unrestricted	> +15° Half lateral stick or half rudder pedal inputs only
>6 to >8					
>8 to >12	Low/Slow >20k ft or >250 KT Unrestricted	High/ Fast >20k ft and >250 KT >+30°		-6 to +15° Single axis inputs only (2)	
>12 to >26	-6 to +15° Single axis inputs only (2)				

(1) Rolling maneuvers up to abrupt, full stick (full stick in less than 1 second) are authorized within the AOA and acceleration limitations specified in figure 4-7.

(2) In ``Single axis inputs only" regions, avoid rolling or yawing the aircraft while changing longitudinal stick position. It is acceptable to pull, stop, then roll or to pull and counter any roll-off induced by the heavy wing under g.

1.5.8 FLAPS FULL OR HALF LIMITATIONS

Parameter		Limitation
AOA		0 to 14° (AOA tone) (1)
Bank angle		90° max 15° max during flap selection (HALF or FULL from AUTO)
Acceleration	Symmetrical	0.0 to +2.0g
	Rolling	+0.5 to +1.5g

(1). Transitory excursions above 14° may be seen during catapult launch.

1.5.9 ARS OPERATING LIMITATIONS

Condition / Action	Limitation
Altitude	0 to 35,000 feet MSL
Power on (RAT unfeathered)	180 to 300 KCAS
Hose extended	180 to 250 KCAS
Hose extended and fuel transfer to receiver	180 to 300 KCAS or 0.80 Mach maximum
Hose retract	180 to 200 KCAS (< 25,000 feet MSL) 180 to 210 KCAS (³ 25,000 feet MSL)

FSX-VRS-F/A-18E-REV1.1

FSX-VRS-F/A-18E-REV1.1