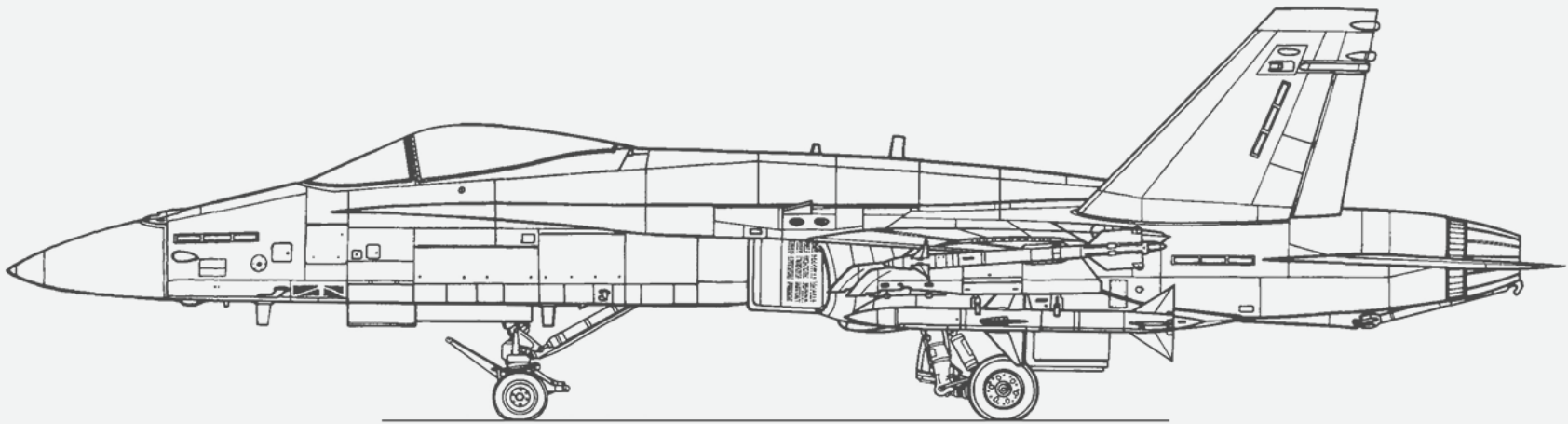


# Kneeboard Suite

## F/A-18C Hornet



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**ENGINE START**

- 1 EXT & INTR LT knobs ..... SET
- 2 EXT LTS Master Switch .... OFF / **FIELD: ON**
- 3 PARK BRK handle ..... *for INS align* ..... SET
- 4 BATT switch ..... *rmb* ON

FIRE TESTS A & B.

- 5 APU switch ..... ON  
*Ready light within 30 sec*
- 6 ENG CRANK switch ..... *rmb* R
- 7 Right throttle ..... IDLE (15% rpm minimum)
- 8 Displays, HUD / HMD ..... ON / As desired

*After fire tests: BLEED AIR KNOB: 4x rmb CYCLE 360°. WARNING AND CAUTION LIGHTS TEST.*

- 9 ENG CRANK switch ..... *lmb* L
- 10 Left throttle ..... IDLE (15% rpm minimum)

**BEFORE TAXI**

*'FPAS' > set HOME wypt / 58*

HSI page > 'DATA' > CHECK WYPT ZERO & MAGVAR.

- 1 INS knob *9 min align* ..... CV / **FIELD: GND**  
*for 90 sec align: HSI page > box 'STD HDG'*
- 2 RADAR knob ..... OPR
- 3 WING FOLD .... **FIELD: SPREAD AND LOCK**
- 4 FCS RESET button ..... PUSH
- 5 FLAP switch ..... HALF
- 6 FCS BIT TEST ..... PERFORM  
*hold the 'Y' key > BIT page > 'FCS-MC' > 'FCS'*
- 7 HOOK BYPASS switch ..... As required
- 8 ANTI SKID switch ..... OFF / **FIELD: ON**
- 9 T/O TRIM button ..... PUSH

NOSEWHEEL STEERING DISENGAGE, FLAP AUTO. CHECK FLIGHT CONTROLS, FLAP HALF.

- 10 TRIM ..... SET FOR TAKEOFF
- CARRIER LAUNCH: **FIELD TAKEOFF: 12°**  
 UNDER 44.000 lbs - 16°  
 45.000 - 48.000 lbs - 17°  
 OVER 49.000 lbs - 19°  
*LAT TRIM about 3° for asymmetric loadouts*

PROBE, SPEEDBRAKE, LAUNCH BAR switches, HOOK HANDLE and PITOT HEAT switch - CYCLE.

- 11 Fuel ..... SET BINGO
- 12 Standby altimeter ..... SET
- 13 SARI ..... UNCAGE
- 14 (HUD) ALT switch ..... RDR

**BEFORE TAXI (CONT'D)**

- 15 (UFC) IFF / TCN / ILS / D/L ..... As required
- 16 Radar altimeter bug ..... 40 / **FIELD: 200**
- 17 **GROUND Combat Checks** ..... As required
- 18 HMD ..... *(canopy down and locked)* ALIGN
- 19 *HSI page > verify 'QUAL OK'* *GPS restricted: INS knob* ..... *'NAV'* ..... IFA
- 20 OBOGS switch, OXY FLOW knob ..... ON
- 21 Chocks ..... REMOVE
- 22 Parking brake ..... OFF
- 23 Nosewheel steering ..... ON

DDI-L 'CHKLST', DDI-R 'FCS'. CHECK BRAKES. DURING TAXI ABOARD SHIP CANOPY MUST BE CLOSED AND SEAT ARMED.

**BEFORE TAKEOFF / CAT HOOK-UP**

- 1 Canopy / Seat ..... CLOSED / ARMED
- 2 WING FOLD ..... SPREAD AND LOCK
- 3 Takeoff checklist ..... COMPLETE

DDI-L 'HUD', DDI-R 'FCS'. CONTROLS WIPEOUT. AT GW OVER 44.000 lbs USE MAX POWER.

**AIRBORNE / MISSION-READY**

- 1 **AIRBORNE Combat Checks** ..... As required

EXTERIOR LIGHTS	POSIT	FORMAT	STROBE	LAND
DECK - DAY RECOVERY - DAY	OFF			OFF
DECK - NIGHT	STARTUP AND TAXI - OFF 'SALUTE' - ON, BRIGHT NO-GO - OFF ASAP ONCE TRAPPED - OFF			
RECOVERY - NIGHT	ON, BRIGHT			
AIR REFUEL - NIGHT	ON, BRIGHT		OFF	
GROUND (FIELD)	AS REQUIRED, NIGHT ONLY		ON	AS DES.
RWY ENTRY (FIELD)				ON

LATLN DCML <i>Default</i>	DD°MM.mm' 42°10.76'	On the F10 map: <i>N/A</i>
<b>PRECISE</b> LATLN DCML	DD°MM.mmmm' 42°10.7696'	Lat Long Decimal N42°10.769
LATLN SEC	DD°MM'SS" 42°10'46"	Lat Long 42°10'46"N
<b>PRECISE</b> LATLN SEC	DD°MM'SS.ss" 42°10.46.18"	Precise Lat/Long N42-10-46.18
GRID (JTAC) AAA BB CCCDD KM 908728	<b>PRECISE GRID (MGRS)</b> AAA BB CCCXXDDXX 38T KM 9087472809	

**COMBAT CHECKS**

**DESCENT / PENETRATION**

**FIELD**

- 1 ENG ANTI ICE / WINDSHIELD .... **As desired**
- 2 DEFOG handle ..... **HIGH**
- 3 ANTI SKID ..... **ON**
- 4 Radar and standby altimeters ..... **450 / SET**
- 5 Nav aids / IFF / Lights ..... **As required**

**HAIL-R CHECKS**

**CARRIER (INBOUND)**

- HOOK / HEATS
- ACL / ANTI SKID OFF
- Instruments / ICLS
- Lights / Landing weight
- Radar altimeter

*RADALT:  
C1 -- 450/370  
C3 -- 5000  
for Platform,  
then 500*

DDI-L 'HUD', DDI-R 'FCS' or as needed, AMPCD 'HSI'.

**APPROACH**

*Dispenser, Harness, A. Skid,  
Hook, Flaps, Wheels*

- 1 Landing checklist ..... **COMPLETE**

**CLEARING RUNWAY**

- 1 Seat ..... **ARMED / FIELD: SAFE**
- 2 FLAP switch ..... **AUTO**
- 3 WING FOLD ..... **As required**
- 4 T/O TRIM knob ..... **PUSH**
- 5 OXY FLOW knob ..... **OFF**

**BEFORE ENGINE SHUTDOWN**

- 1 Parking brake ..... **SET**
- 2 INS knob ... *>10 sec before eng shutdown* ... **OFF**
- 3 SARI ..... *lmb + scroll up* ... **CAGE**
- 4 Radar, Sensors, Avionics, Comm ..... **OFF**
- 5 EXT & INTR LT knobs ..... **OFF**
- 6 Seat / Canopy ..... **SAFE / OPEN**

**ENGINE SHUTDOWN**

- 1 Nosewheel steering ..... **DISENGAGE**
- 2 FLAP switch ..... **FULL**
- 3 Throttle ..... **OFF (alternate side)**
- 4 Displays, HUD, HMD ..... **OFF**
- 5 Throttle ..... **OFF**
- 6 Battery switch (*WCALP*) 'FLAPS' INOP ..... **OFF**

IF ENGINES ARE NOT IDLED FOR 5 MIN PRIOR TO SHUTDOWN, A RESTART SHOULD BE AVOIDED BETWEEN 15 MIN AND 4 HOURS.

**GROUND**

- 1 WYPTS / SEQ / A-A WYPT
- 2 Smart weapons checks
- 3 Time ..... **SET**
- 4 FLIR ..... **STBY**

**AIRBORNE**

- 1 ALR-67 / ALQ / FLIR ..... **ON**
- 2 Dispenser switch .... **ON / BYPASS**
- 3 Stores / MAVs / laser codes
- 4 Bingo bug ..... **SET**

**(OP AREA) / POST TANKING**

- 1 MASTER ARM switch ..... **ARM**
- 2 RALT / SEL JETT
- 3 ALE ..... **Setup**
- 4 Master mode / SENS (LDT / LST)
- 5 Smart weapons checks

**COMMIT / INGRESS**

- 1 MASTER ARM switch ..... **ARM**
- 2 EXT LTS / Emitters / IFF
- 3 ALQ ..... **REC / XMIT**

**RTF**

- 1 EXT LTS / IFF
- 2 ALQ ..... **REC**
- 3 Fuel / Bingo bug .... **Check / Reset**
- 4 MASTER ARM switch ..... **SAFE**
- 5 SEL JETT / Dispenser
- 6 Battle damage checks
- 7 ALQ / ALR / FLIR ..... **OFF**

**WEIGHT LIMITS, lbs**

CARRIER LAUNCH / FIELD TAKEOFF	51.900
CARRIER LANDING / FIELD FCLP	33.000
FIELD FLARED LANDING	39.000

**AIR REFUELING**

*PROBE LIMITS | ext & retr: 300 kts  
extended: 400 kts*

- 1 Radar ..... **STBY / SILENT**
- 2 MASTER ARM switch ..... **SAFE**
- 3 INTR WING fuel switch ..... **As desired**
- 4 Air refuel PROBE switch ..... **EXTEND**
- 5 Night refueling ..... **EXT LTS steady bright**

IF FUEL LEVEL IS CRITICAL, SWITCH EXT TANKS TO 'STOP' OR 'ORIDE' TO ENSURE THE FASTEST TRANSFER OF FUEL TO THE ENGINE FEED TANKS

*DROGUE: KC-135 MPRS / S-3B / KC-130 / IL-78*



AIRBORNE							
^ HOSTILE		U TRACKING		□ UNKNOWN		◡ FRIENDLY	
11 F F-111	24 B Su-24	52 B B-52	F2 F F-2				
13 T C-130	25 F MiG-25	76 T IL-76	F4 F F-4E				
14 F F-14	29 F MiG-29	78 T IL-78	F5 F F-5E				
15 F F-15	F Su-27, Su-33	95 B Tu-95	JF F JF-17				
16 F F-16	F J-11A	AN T An-26, An-30	KC T KC-10				
17 T C-17	30 F Su-30	AV B AV-8B	T KC-135				
18 F F/A-18	31 F MiG-31	B1 B B-1	M2 F Mirage				
19 F MiG-19	34 F Su-34	BJ B Tu-160	S3 B S-3B				
21 F MiG-21	39 B Su-25	E2 A E-2C	Tu B Tu-142				
22 B Tu-22	50 A A-50	E3 A E-3					
23 F MiG-23	A KJ-2000	E6 B EA-6B					

A - AWACS F - FIGHTER/MULTIROLE  
B - BOMBER/EW T - TRANSP./TANKER

GROUND					
SAM		AAA		TRACKING	
WATCHING		HARM CODES			
S	Unknown Search or Early Warning Radars:				
	1L13	101	55G6	102	
	AN/FPS-117	210	AN/FPS-117 domed	211	
	[2] [3] Flat Face B P-19			122	
BB	[10] Big Bird SR 64H6E			104	
CS	[10] Clam Shell low-alt SR 5N66M			103	
DE	[13] Dog Ear SR 9S80M1			109	
HQ	[7] HQ-7 SR			128	
SD	[11] Snow Drift SR 9S18M1			107	
TS	[5] Tin Shield SR ST-68U			130	
ENGAGING					
2	CH 28/++ SA-2	Guideline	S-75	126	
3	CH 13/++ SA-3	Goa	S-125	123	
5	CH 73/++ SA-5	Gammon	S-200	129	
6	CH 22/26 SA-6	Gainful	Kub	108	
7	EV 10/18 HQ-7	launcher		127	
8	CH 09/16 SA-8	Gecko	Osa	117	
10	CH 46/++ SA-10	Grumble	TR S-300PS	110	
11	CH 23/++ SA-11	Gadfly	Buk	115	
13	FL 05/12 SA-13	Gopher	Strela	118	
15	CH 09/20 SA-15	Gauntlet	Tor	119	
19	EV 05/12 SA-19	Grison	Tunguska	120	
A	EV 02/10	Gepard		207	
	EV 02/05	M163	Vulcan	208	
	EV 02/07	ZSU-23-4	Shilka	121	
HK	CH 25/++	Hawk	SR 203 TR 204	CWAR 206	
NS	CH 06/35	NASAMS	AIM-120C	209	
			06/30 NASAMS AIM-120B		
P	CH 48/++	Patriot	STR	202	
RO	CH 06/20	Roland	ADS 201 SR	205	
RP	-- --/--	[RT] Rapier	Blindfire	124	
RT	EV 07/10	Rapier	launcher	125	

NAVAL			
SHIP		TRACKING	
40	CV Tarawa	FL 08/13	407
49	FR Perry	CH 50/++	401
AE	DE Arleigh Burke	CH 57/++	412
	CR Ticonderoga	CH 55/++	315
HN	DE 052C Haikou	CH 64/++	410
	CR Pyotr Velikiy	CH 74/++	313
HP	VE Grisha / Albatros	CH 08/17	306
MR	DE 052B Guandgzhou	CH 27/48	409
	FR 054A Yantai	CH 35/++	411
PS	TT 071 Amphib.dock	EV 04/09	408
	VE Molniya	EV 04/09	312
SS	CV CVN-70 Vinson	CH 14/35	402
	CV CVN-71 Roosevelt	CH 14/35	403
	CV CVN-72 Lincoln	CH 14/35	404
	CV CVN-73 Washington	CH 14/35	405
	CV CVN-74 Stennis	CH 14/35	406
	CV CVN-75 Truman	CH 14/35	413
SW	CV Kuznetsov 2017	CH 09/20	320
	CV Kuznetsov old	CH 09/20	301
T2	CR Moskva	CH 47/++	303
TP	FR Neustrashimy	CH 09/20	319
	FR Rezky	CH 08/17	309
U	Unknown (usually naval)		
CV - CARRIER CR - CRUISER DE - DESTROYER			
FR - FRIGATE TT - TRANSPORT VE - CORVETTE			

[10] - USUALLY LINKED TO [THIS] LAUNCHER  
 COUNTERMEASURES: CH - CHAFF FL - FLARES  
 EV - EVASIVE MANEUVERING (OPTICAL SAM/AAA)  
 22/26 - MAX LAUNCH RANGE, nm  
 AND ALTITUDE x 1000 ft AGL  
 ++ THE MISSILE CAN REACH YOU ABOVE 50.000 ft

**BOMBS**

- 82B Mk-82 500 lbs (500)
- 82XT Mk-82 Snakeye 500 lbs retarded (550)
- 82YT Mk-82Y 500 lbs ballute (510)
- 83B Mk-83 1000 lbs (1000)
- 84 Mk-84 2000 lbs (1970)
- RET CBU-99 cluster anti-tank (490)
- RE Mk-20 cluster anti-tank (490)
- WEDL AGM-62 Walleye II 2000 lbs glide bomb, D/L (St 2, 8) (2340)

**BOMBS - LASER**

- 82LG GBU-12 500 lbs (610)
- 83LG GBU-16 1000 lbs (1130)
- 84LG GBU-10 2000 lbs (2110)
- GB24 GBU-24B/B 2000 lbs penetrator (2400)

**BOMBS - JDAM**

- J-82 GBU-38 500 lbs (530)
- J-83 GBU-32(V)2/B 1000 lbs (1030)
- J-84 GBU-31(V)1/B (2060)  
GBU-31(V)2/B (2060)  
2000 lbs
- J-109 GBU-31(V)3/B (2160)  
GBU-31(V)4/B (2140)  
2000 lbs penetrators

**A-G MISSILES**

- JSA AGM-154A JSOW GPS/INS glide bomb, cluster (1070)
- JSC AGM-154C JSOW GPS/INS glide bomb, penetrator (1070)
- HARM AGM-88C HARM (900)
- HPD AGM-84D Harpoon (1190)
- SLAM AGM-84E SLAM GPS/INS, AWW-13 D/L (1390)
- SLMR AGM-84H SLAM ER GPS/INS, AWW-13 D/L (1490)
- MAV AGM-65E 300 lbs laser (630)
- MAVF AGM-65F 300 lbs IR (670)

**ROCKETS**

S-SINGLE  
R-RIPPLE

- 61 M151 HE soft targets (600)
- 68 MK5 HE(AT) anti-tank (250)
- 10 ZUNI MK 71 (700)

**A-A MISSILES**

- 7F AIM-7F Sparrow (510)
- 7M AIM-7M
- 7M AIM-7MH
- 9L AIM-9L Sidewinder (190)
- 9M AIM-9M
- 9X AIM-9X
- AB AIM-120B AMRAAM (350)
- AC AIM-120C (360)

**TRAINING**

- TP AN/ASQ-T50 ACMI (140)
- TST CAP-9M (190)
- 45X BDU-45 retarded (510)
- 45 BDU-45B (510)
- 45LG BDU-45 LG laser (610)
- 76 BDU-33 (25)

**PODS, MISC**

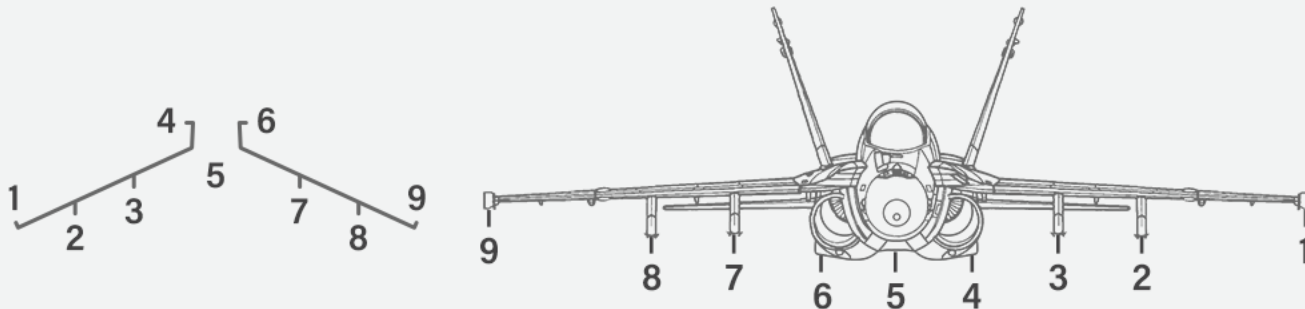
- AFLIR AN/ASQ-228 ATFLIR (St 4) (370)
- FLIR AN/AAQ-28 Litening (St 4, 5) (460)
- DL13 AWW-13 Datalink Pod for Walleye / SLAM / ER (St 2, 3, 5, 7, 8) (440)
- GUN M61A1 Vulcan 20mm, 578 rounds (330)
- FUEL FPU-8A fuel tank, 330 gal (2540)

**PYLONS, RACKS**

- SUU-63 underwing (310)
- SUU-62 centerline (140)
- BRU-33, BRU-55 (200)
- BRU-41A (280)
- LAU-115, LAU-115C (120)
- LAU-117 Maverick launcher (130)
- LAU-127 (200)

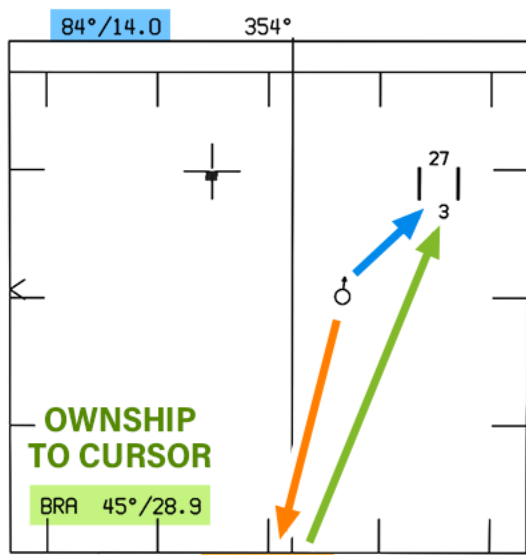
(500) - actual weight, lbs

F/A-18C Lot 20 (1997)  
F404-GE-402  
BuNo 165407



**No target:**

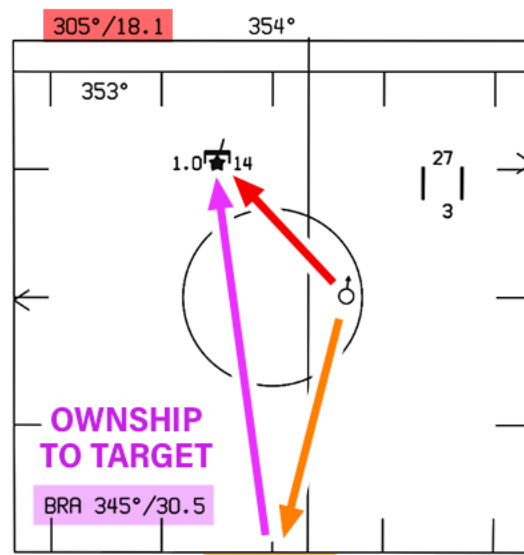
**BULLSEYE TO CURSOR**



**BULLSEYE TO OWNSHIP**

**Designated target:**

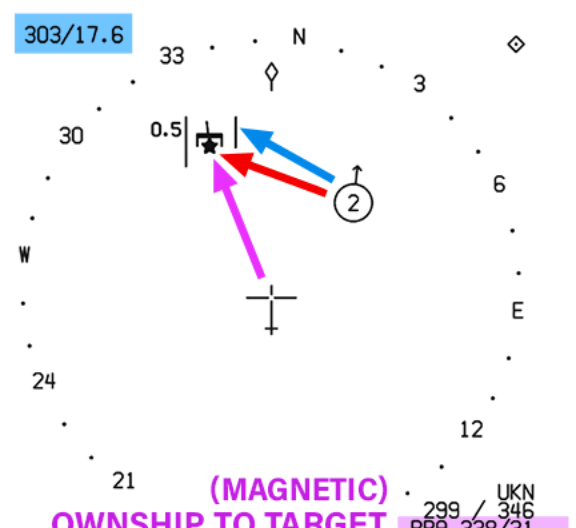
**BULLSEYE TO TARGET**



**BULLSEYE TO OWNSHIP**

**SA with TUC/STEP:**

**BULLSEYE TO CURSOR**



**BULLSEYE TO TARGET**

HAFU ANATOMY

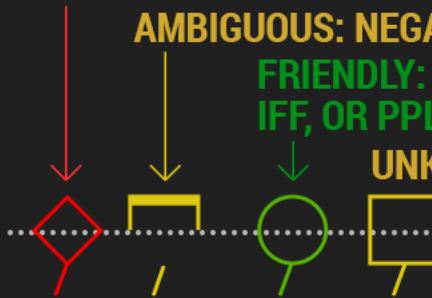
HOSTILE: IFF + NCTR, OR IFF + OFFBOARD TRACK

AMBIGUOUS: NEGATIVE IFF  
FRIENDLY: POSITIVE IFF, OR PPLI

UNKNOWN

UPPER HAFU: FROM ONBOARD SENSORS (IFF, NCTR, PLID)  
IT GOVERNS THE COLOR OF THE ENTIRE SYMBOL

LOWER HAFU: FROM OFFBOARD FIGHTER-TO-FIGHTER TRACKS



PPLI TRACKS



SURV DONOR  
FRIENDLY AWACS



F/F DONOR  
FRIENDLY FIGHTER

SURV TRACKS



DETECTED BY AWACS. ARE HOLLOW AND SMALLER THAN OTHER TRACKS.

RADAR / SA SYMBOLOGY

	ONBOARD SENSORS	OFFBOARD F/F	ONBOARD + OFFBOARD
HOSTILE	NO IFF RESPONSE AND HOSTILE NCTR		CORRELATED HOSTILE
AMBIGUOUS	NO IFF RESPONSE		ONBOARD: NOT INTERROGATED OFFBOARD: HOSTILE / FRIENDLY
FRIENDLY	POSITIVE IFF		CORRELATED FRIENDLY
UNKNOWN	NOT INTERROGATED		CORRELATED UNKNOWN

THERE ARE LESS COMMON COMBOS, SUCH AS THESE:

	ONBOARD: HOSTILE / FRIENDLY PLID OFFBOARD: FRIENDLY / HOSTILE		ONBOARD: NO IFF RESPONSE OFFBOARD: FRIENDLY
--	--	--	--

HMD SYMBOLOGY



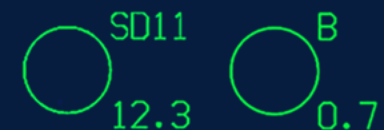
ONBOARD TRACKS:

- VISIBLE ONLY WHEN THE CONTACT IS UNDER THE CURSOR ON THE SA PAGE
- ONLY UPPER HAFU IS DISPLAYED
- AIRCRAFT TYPE
- RANGE



OFFBOARD TRACKS:

- ALWAYS VISIBLE, UNLESS ONBOARD TRACK IS DISPLAYED
- ONLY LOWER HAFU IS DISPLAYED
- AIRCRAFT TYPE
- RANGE



PPLI TRACKS:

- ALWAYS VISIBLE
- DISPLAYED AS CIRCLE
- PILOT ID
- A, B, C ... = FLIGHT MEMBER
- RANGE

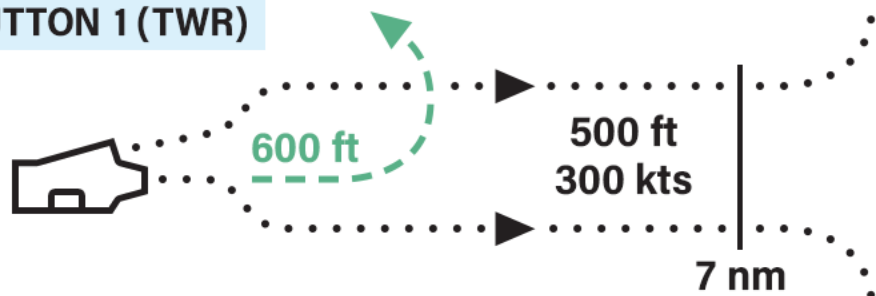
SYMBOLOGY COMPARISON

	L&S ONBOARD: UNKNOWN OR AMBIGUOUS	L&S ONBOARD: FRIENDLY	L&S ONBOARD: HOSTILE	L&S CORRELATED HOSTILE	DT2	L&S PPLI	L&S OFFBOARD: HOSTILE
HUD							
HMD							
RDR							



**I** Day. Ceiling above 3000 ft and visibility more than 5 miles. Twoship covey launches possible.

**BUTTON 1 (TWR)**



Zip Lip. Clearing turn. Climb 500 ft, fly 300 kts parallel the BRC until 7 nm. Then climb unrestricted.

For direct entry into the pattern, climb 600 ft, flaps full, hook down. Turn downwind with interval. Do the landing checklist.

**MAX TAKEOFF WEIGHT: 51.900 lbs.  
OVER 44.000 lbs USE MAX POWER.**

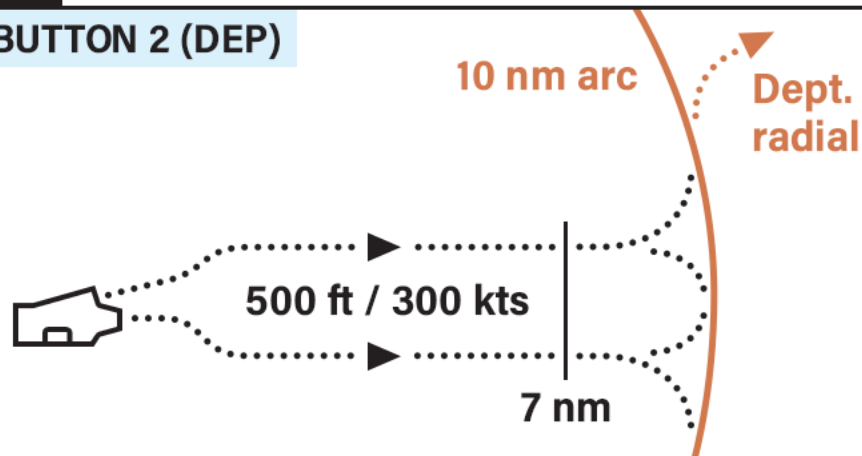
**CLEARING TURN**

Waist cats 3 and 4 – left clearing turn.  
Bow cats 1 and 2 – right clearing turn.  
Once airborne, turn 20° left or right from the current heading. 30° AOB MAX.  
Once achieved, turn to parallel the BRC.

**All exterior lights must be off** while on deck, at all times. **At night**, turn the POSIT, FORM and STROBES ON when ready for launch ("nighttime salute").

**II** Day. VMC at the ship (ceiling above 1000 ft and visibility more than 5 miles), IMC in climb.

**BUTTON 2 (DEP)**



Zip Lip. Clearing turn. Climb 500 ft, fly 300 kts parallel the BRC.

At 7 nm turn to intercept the 10 nm arc.

Depart the arc and join the briefed radial. Climb at 300 kts until clear of clouds.

Report *Popeye* if not on top at 18.000 ft.

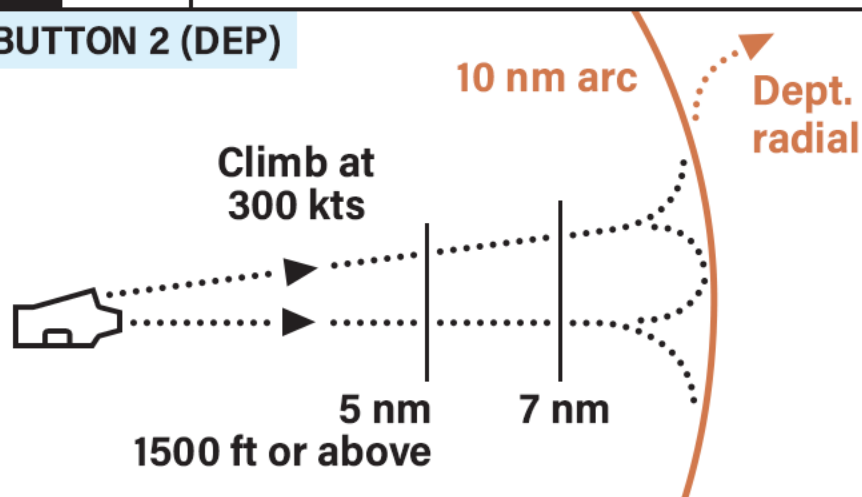
**T.O. CHECKS**

- SEAT ARM
- NWS LO
- WARN LITES
- HARNES
- HOOK
- FLAPS
- TRIM
- WINGS
- CONTROLS

**i** For CASE II and CASE III, the arc and departure radial are only required during IMC. If skies are clear, or if it's possible to pick a way through holes in the clouds, there is no requirement to arc or fly the radial.

**III** Night Day: ceiling below 1000 ft or visibility less than 5 miles.

**BUTTON 2 (DEP)**



No clearing turn. Report *Airborne*. Climb straight ahead at 300 kts.

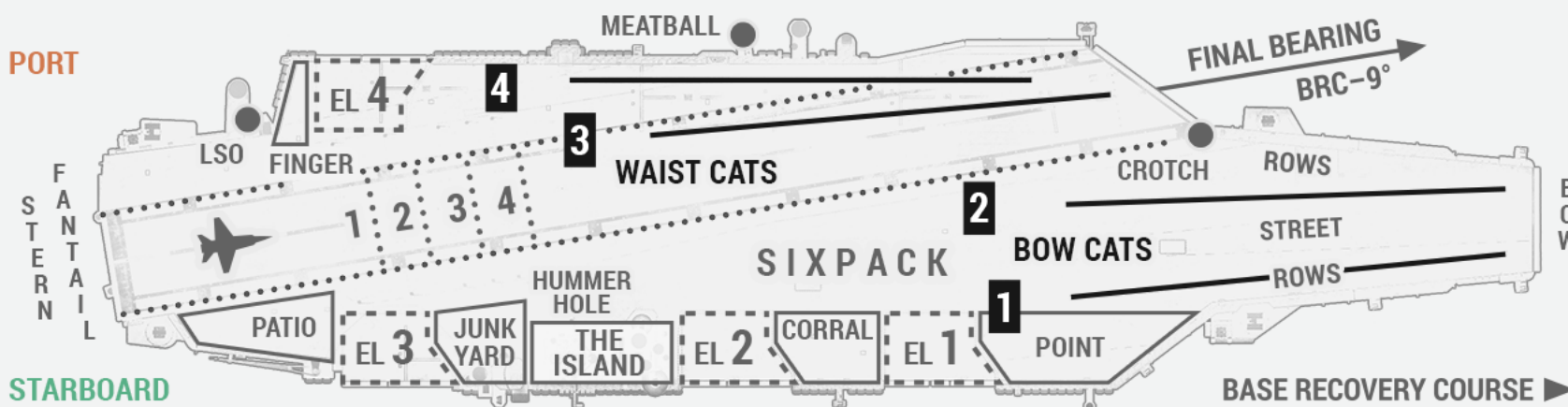
Cross 5 nm at or above 1500 ft. Report *Passing 2,5* on climb through 2500 ft.

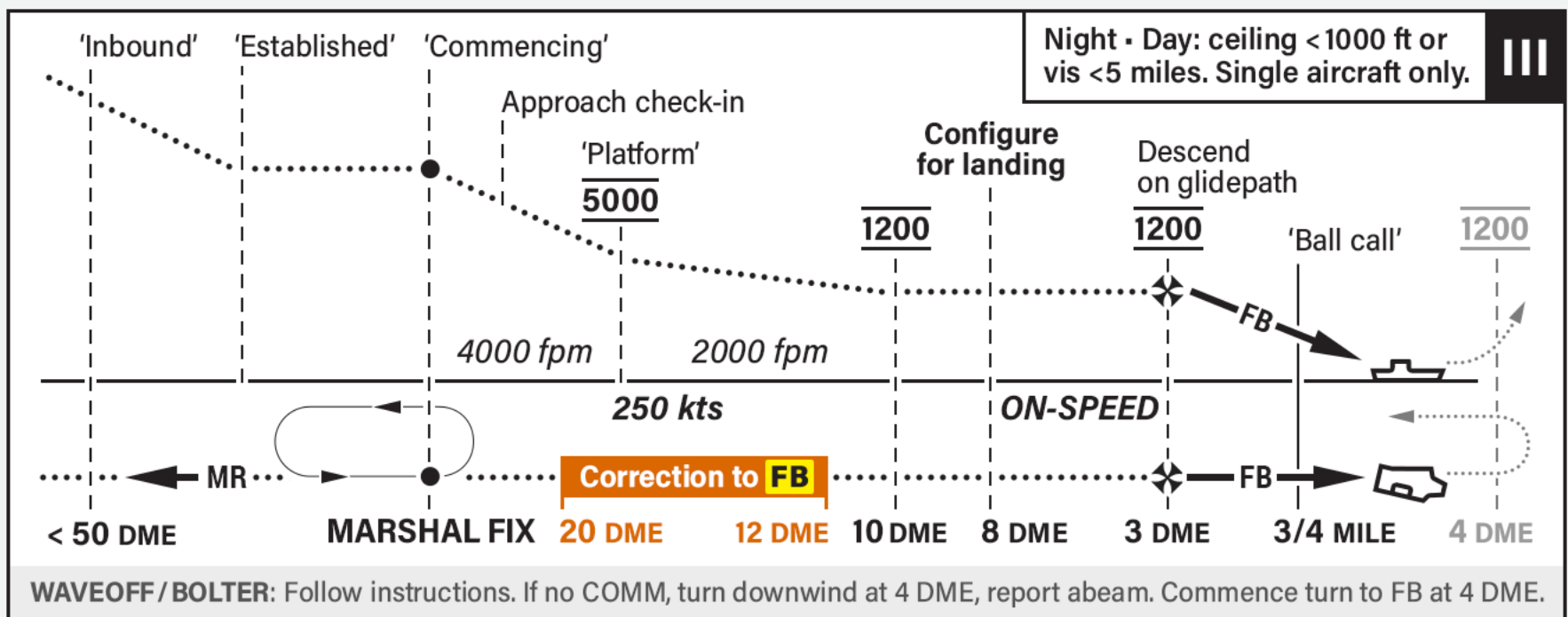
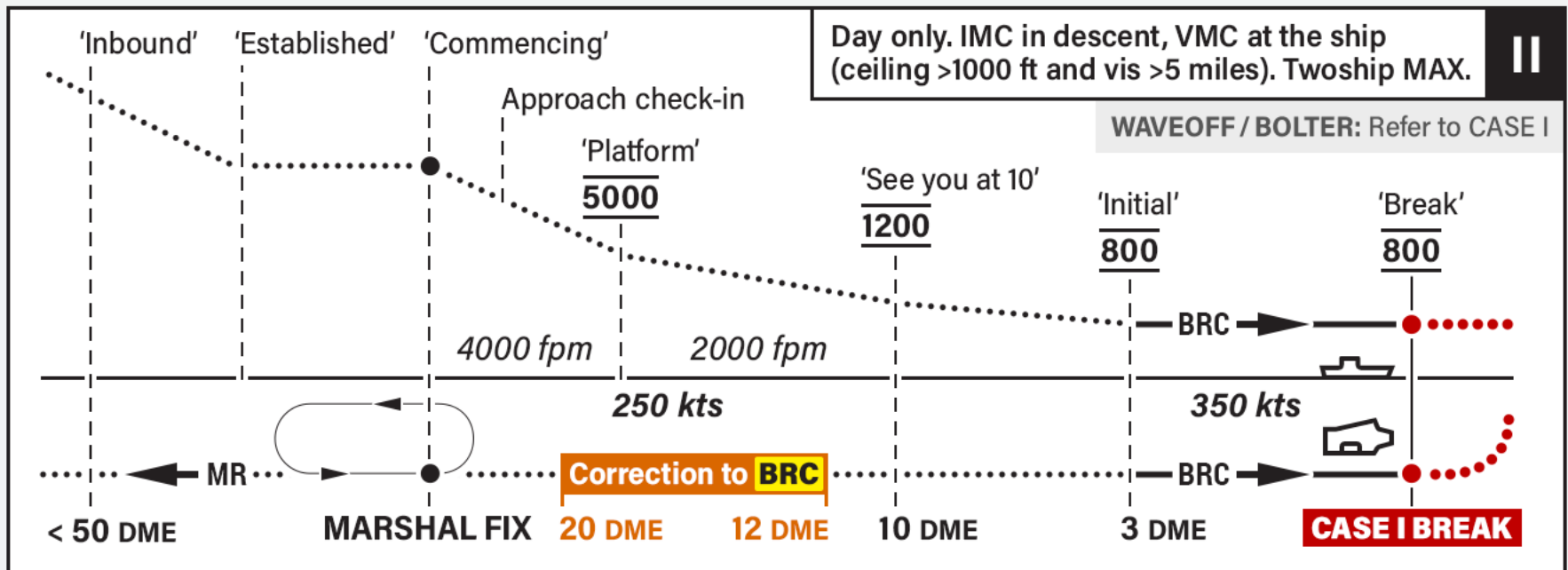
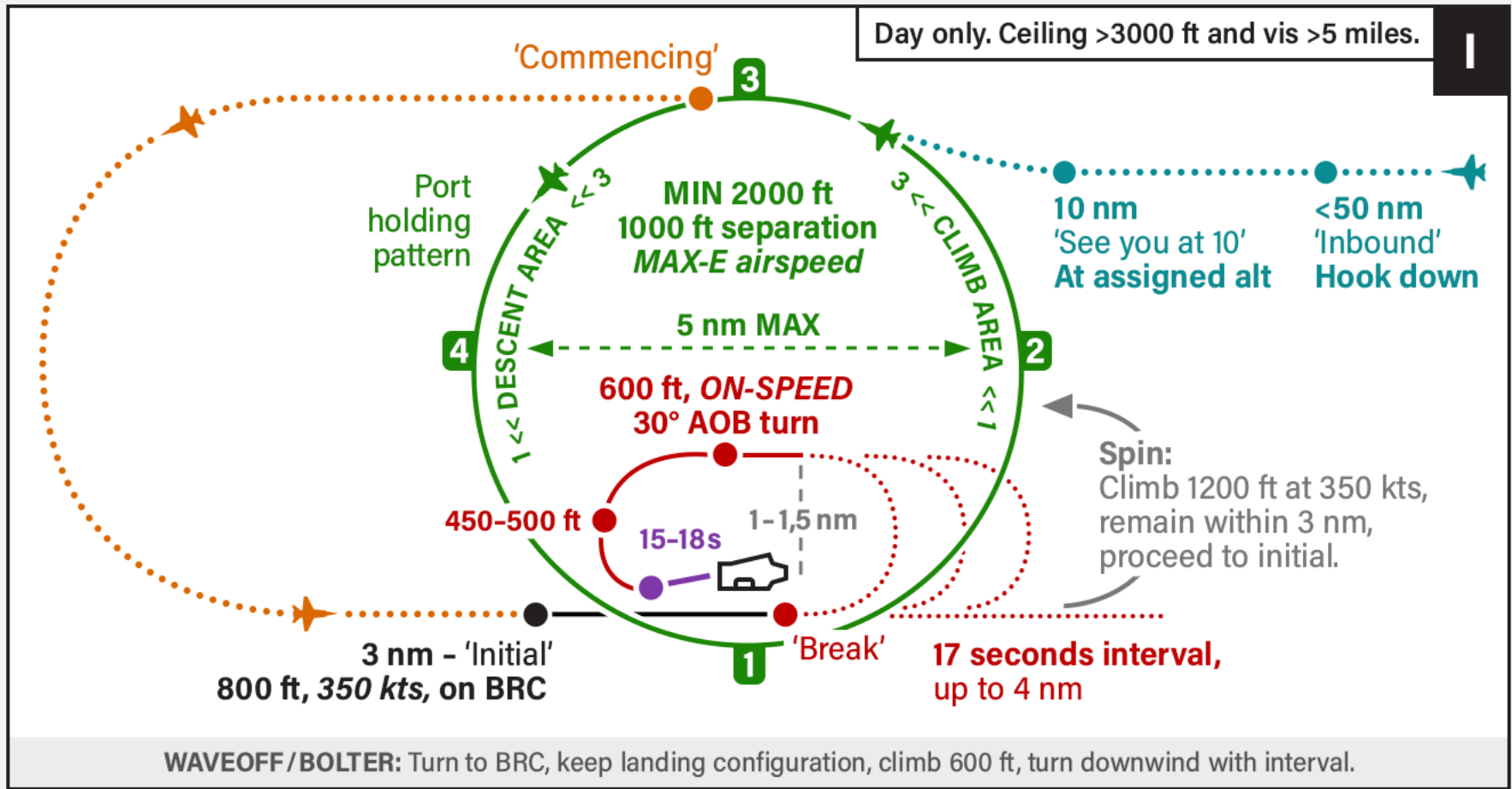
At 7 nm turn to intercept the 10 nm arc. Report *Arcing*.

Continue climbing and join the departure radial. Report *Established outbound*.

Report *On top, angels XX* when clear of clouds. Report *Popeye* if not on top at 18.000 ft.

Report *Kilo* when mission-ready.





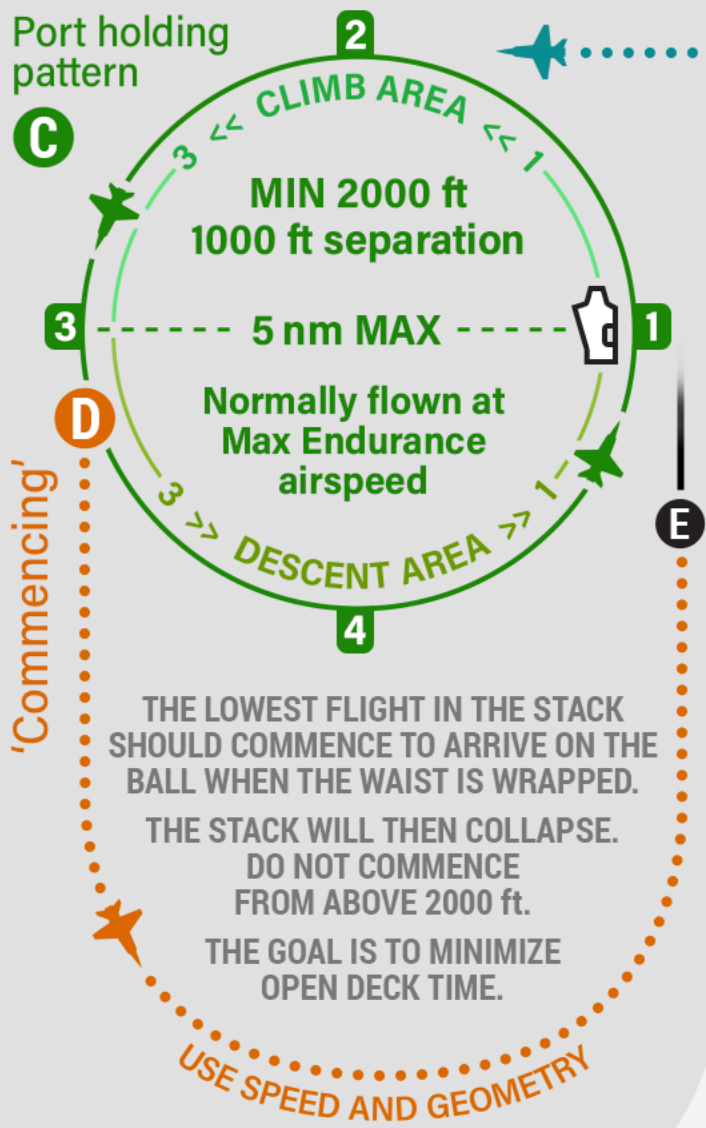
MARSHAL - BUTTON 16  
 APPROACH - BUTTON 15 OR 17  
 TOWER - BUTTON 1  
 VALID ONLY WHEN SET UP BY THE MISSION DESIGNER

MAX LANDING WEIGHT  
 UNRESTRICTED: 33,000 lbs  
 RESTRICTED: 34,000 lbs

H HOOK, HEATS  
 A ACL, ANTI-SKID OFF  
 I INSTRUMENTS, ICLS  
 L LIGHTS, LDG WEIGHT  
 R RAD ALT



Day only. Ceiling above 3000 ft and visibility more than 5 miles.

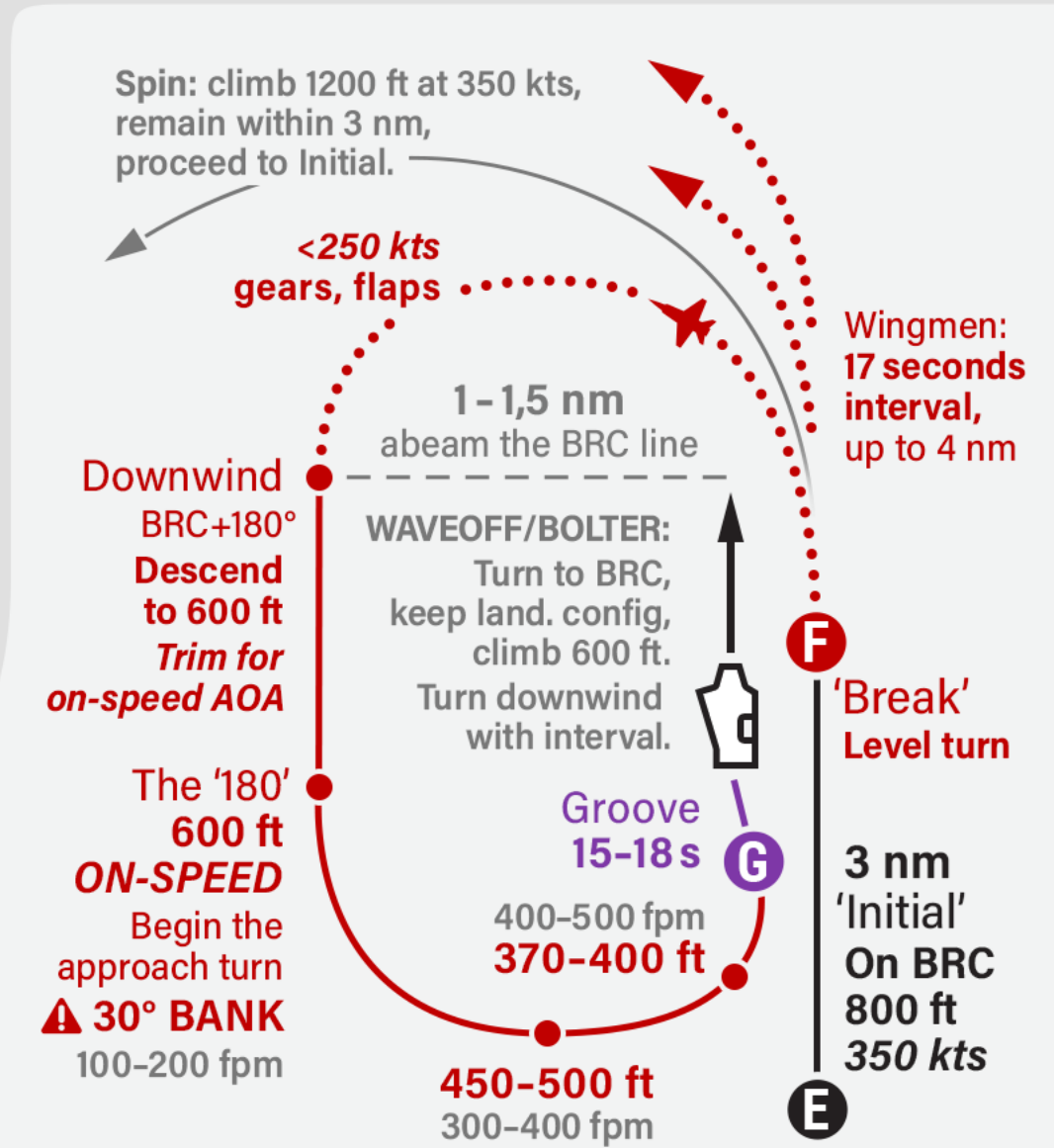


**A** <50 nm  
'Inbound'  
Hook down

**B** 10 nm  
'See you at 10'  
Be at assigned alt  
Cyclic Ops: Zip Lip starts  
upon switching to Tower

- HOOK, HEATS
- ACL, ANTI-SKID OFF
- INSTRUMENTS, ICLS
- LIGHTS, LDG WEIGHT
- RAD ALT

**HAIL-R**



THE LOWEST FLIGHT IN THE STACK SHOULD COMMENCE TO ARRIVE ON THE BALL WHEN THE WAIST IS WRAPPED.  
THE STACK WILL THEN COLLAPSE.  
DO NOT COMMENCE FROM ABOVE 2000 ft.  
THE GOAL IS TO MINIMIZE OPEN DECK TIME.

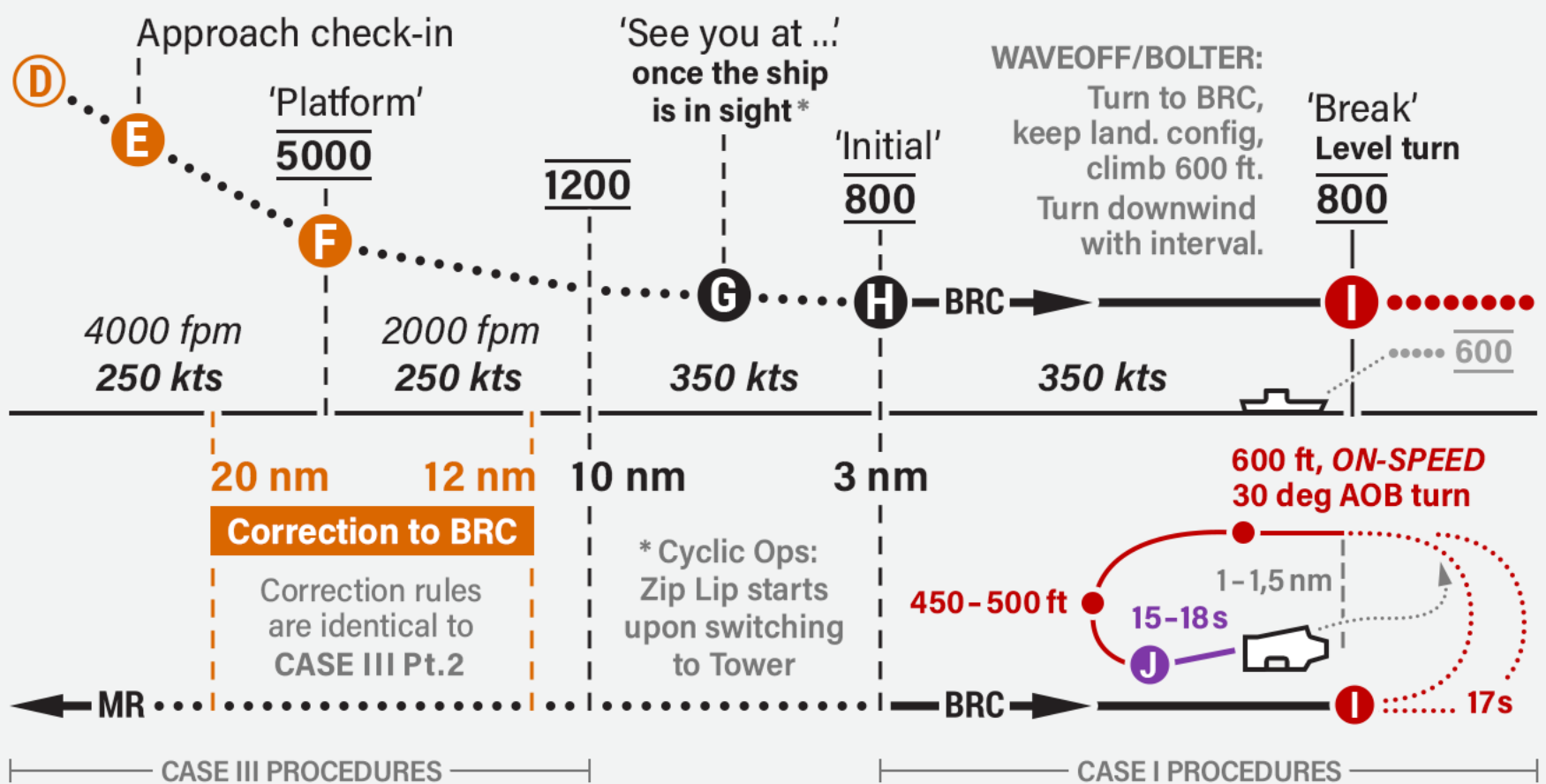
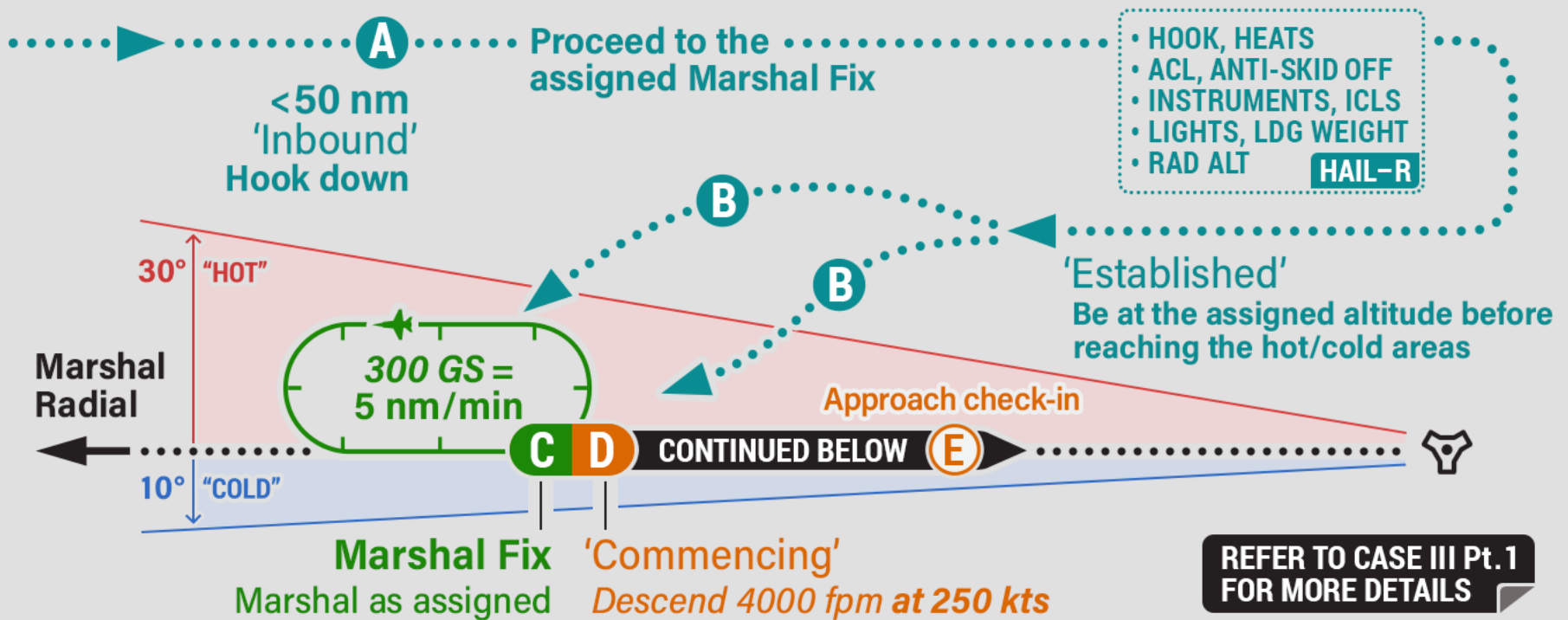
**SUPERCARRIER AI / NO HUMAN ATC**

- UNTIL THE MARSHAL STACK LOGIC IS CORRECTLY IMPLEMENTED IN DCS, OR WHEN FLYING ONLINE AND UNCONTROLLED, CONSIDER THE FOLLOWING:
- APPROACH 10 nm [B] AT 2000 ft OR AT THE NEXT AVAILABLE ALTITUDE (WITH 1000 ft INCREMENTS).
  - IF THE STACK IS EMPTY: PROCEED DIRECT INITIAL [E], OR FLY THE PORT HOLDING PATTERN [C] AT 2000 ft AND START TO COMMENCE FROM POSITION [3].
  - IF THE STACK IS NOT EMPTY: FLY THE PORT HOLDING PATTERN [C]. DESCENT 1000 ft BETWEEN [3] AND [1] WHEN THE LEVEL BELOW HAS CLEARED, UNTIL REACHING 2000 ft. THEN COMMENCE OUT OF [3].
  - WITH LIVE TRAFFIC IN THE PATTERN, ANNOUNCING YOUR POSITION (i.e. 'COMMENCING', 'INITIAL') MIGHT HELP TO ENHANCE SITUATIONAL AWARENESS.

- BREAK IS DETERMINED BY THE LAST AIRCRAFT IN THE LANDING PATTERN (WHEN THEY REACH YOUR 7 O'CLOCK POSITION).
- IF UNABLE TO BREAK BEFORE 4 nm, DEPART AND RE-ENTER. REMAIN CLEAR OF THE PATTERN / STACK. FOLLOW INSTRUCTIONS IF GIVEN, OTHERWISE STATE YOUR INTENTIONS.
- NOTE THAT DEPART AND RE-ENTER MAY OCCUR ANYWHERE IN THE PATTERN.
- THE '180' IS WHERE THE WHITE OF THE ROUND DOWN AT THE STERN IS VISIBLE.
- WHATEVER ABEAM DISTANCE REQUIRES 30° AOB IS THE RIGHT DISTANCE. IF YOU END UP OVER- OR UNDERSHOOTING THE GROOVE, CORRECT THE ABEAM DISTANCE, NOT THE BANK ANGLE, ON YOUR NEXT PATTERN.

- A** **BUTTON 16** WITHIN 50 nm FROM THE CV, REPORT INBOUND: *Marshal, # (modex), marking Mom's XXX for XX (bearing and distance from the CV), angels XX, state X.X (fuel).*  
WITH A WINGMAN: *holding hands with # and low state X.X.*
  - B** AT 10 nm, REPORT: *#, see you at 10.* ON HANDOFF, SWITCH TOWER **BUTTON 1**
  - C** **D** **E** **F** – NOT REPORTED DURING CYCLIC OPS (ZIP LIP UNLESS SAFETY CONCERNS OR IMC)  
**SUPERCARRIER AI:** 'OVERHEAD' WILL BE AUTOMATICALLY REPORTED AT 5 nm FROM THE SHIP
  - G** NO 'BALL' CALL DURING CYCLIC OPS – ONLY 'CLARA'
- THE PROVIDED BUTTONS ARE ONLY VALID WHEN SET UP CORRECTLY BY THE MISSION DESIGNER. IGNORE IF UNSURE.

Day only. IMC in descent, VMC at the ship (ceiling >1000 ft and visibility >5 miles). Two aircraft max.



**A BUTTON 16** WITHIN 50 nm FROM THE CV, REPORT INBOUND: *Marshal, # (modex), marking Mom's XXX for XX* (bearing and distance from the CV), *angels XX, state X.X* ('low state' if with a wingman) FLIGHT LEAD SHALL RECEIVE AND READBACK THE HOLDING INSTRUCTIONS **EXAMPLE:**

*301 (modex), marshal on the 116* (radial from TACAN, deg), *23 DME* (distance from TACAN on given radial), *angels 8* (holding altitude), *expected approach time is 21* (minutes passed the hour, e.g. commence at 16:21. Readback in single digits: 'two one'), *button XX* (Approach channel)

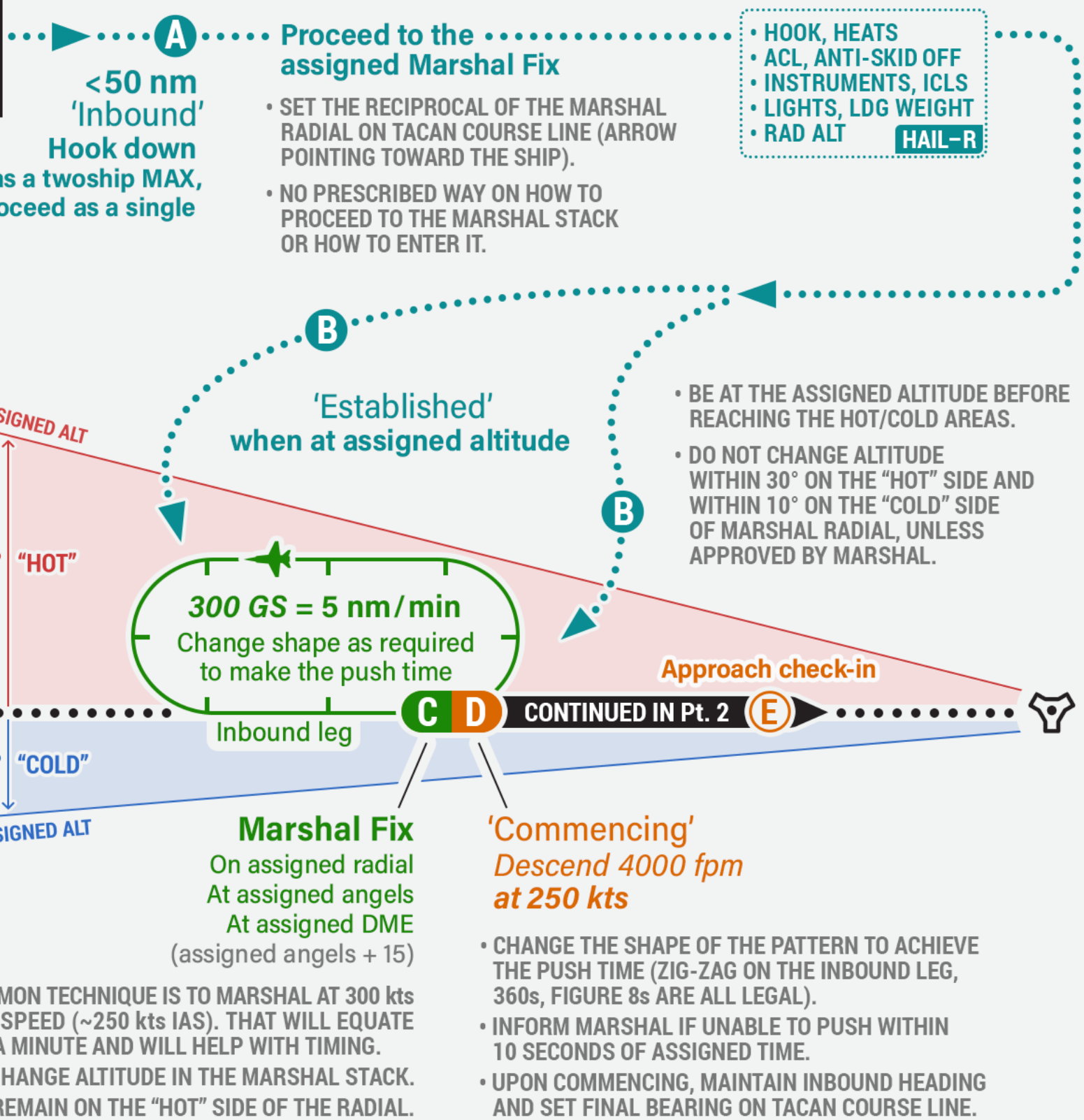
SUPERCARRIER AI WILL READBACK THE INSTRUCTIONS AUTOMATICALLY. THE BUTTON IS NOT PROVIDED.

- B** WHEN ESTABLISHED AT THE ASSIGNED ALTITUDE, REPORT: *#, established angels X, state X.X*
- D** WHEN STARTING THE APPROACH, REPORT: *#, commencing, altimeter XX.XX, state X.X*
- E BUTTON 15 OR 17** ON HANDOFF, CONTACT THE APPROACH: *#, checking in, XX miles*
- F** PASSING 5000 ft, REPORT: *#, platform*
- G** ONCE THE SHIP IS IN SIGHT, REPORT: *#, see you at XX*. ON HANDOFF, SWITCH TOWER **BUTTON 1**
- H I** – NOT REPORTED DURING CYCLIC OPS (ZIP LIP UNLESS SAFETY CONCERNS OR IMC)
- J** NO 'BALL' CALL DURING CYCLIC OPS – ONLY 'CLARA'

THE PROVIDED BUTTONS ARE ONLY VALID WHEN SET UP CORRECTLY BY THE MISSION DESIGNER. IGNORE IF UNSURE.

Night - Day: ceiling below 1000 ft or visibility less than 5 miles. Single aircraft only.

**Pt. 1**  
**MARSHAL**



**NO SUPERCARRIER / NO HUMAN ATC**

IF YOU DON'T OWN THE SUPERCARRIER MODULE, OR ARE FLYING ONLINE AND UNCONTROLLED, CONSIDER THE FOLLOWING:

- 1 ASSUME THE HOLDING FIX AT FB + 180°, 21 DME, ANGELS 6, AND ENSURE IT IS EMPTY. OTHERWISE DETERMINE THE NEXT AVAILABLE FIX (DME = ANGELS + 15).
- 2 FLY DIRECTLY TO YOUR HOLDING FIX.
- 3 UPON ENTERING THE HOLDING PATTERN, WAIT FOR AT LEAST ONE MINUTE TO BUILD A SEPARATION BETWEEN AIRCRAFT THAT MIGHT BE CURRENTLY COMMENCING.
- 4 ANNOUNCE 'COMMENCING' AND DESCEND AS DEPICTED.

**A** **BUTTON 16** WITHIN 50 nm FROM THE CV, REPORT INBOUND: *Marshal, # (modex), marking Mom's XXX for XX* (bearing and distance from the CV), *angels XX, state X.X* ('low state' if with a wingman) RECEIVE AND READBACK THE HOLDING INSTRUCTIONS **EXAMPLE:**  
*301 (modex), marshal on the 287 (radial from TACAN, deg), 23 DME (distance from TACAN on given radial), angels 8 (holding altitude), expected approach time is 36 (minutes passed the hour, e.g. commence at 22:36. Readback in single digits: 'three six'), button XX (Approach channel)*

SUPERCARRIER AI WILL READBACK THE INSTRUCTIONS AUTOMATICALLY. THE BUTTON IS NOT PROVIDED.

**B** WHEN ESTABLISHED AT THE ASSIGNED ALTITUDE, REPORT: *#, established angels X, state X.X*

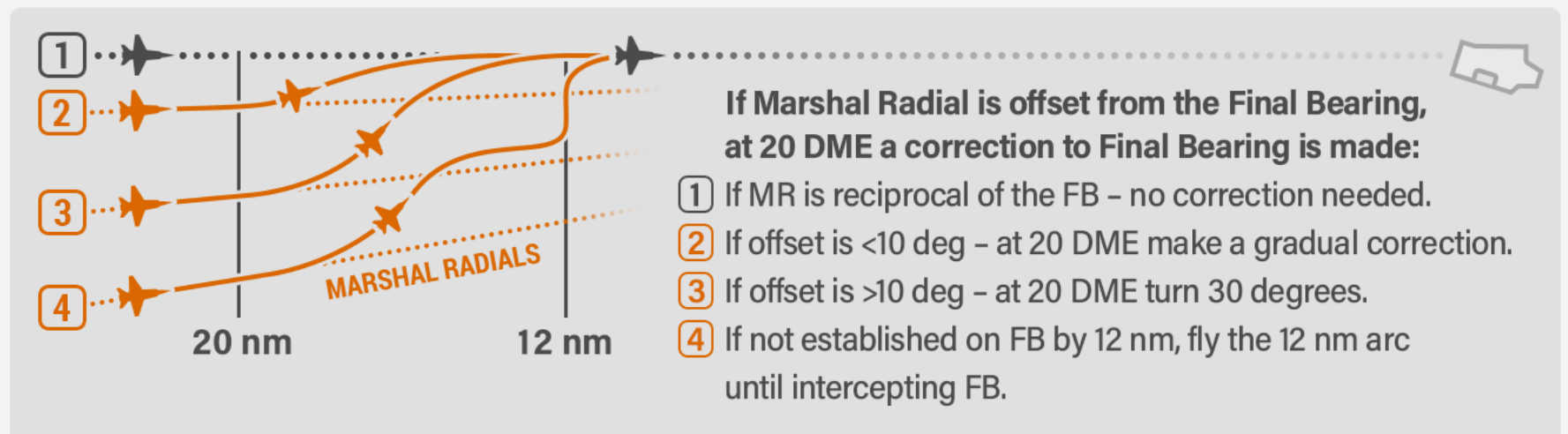
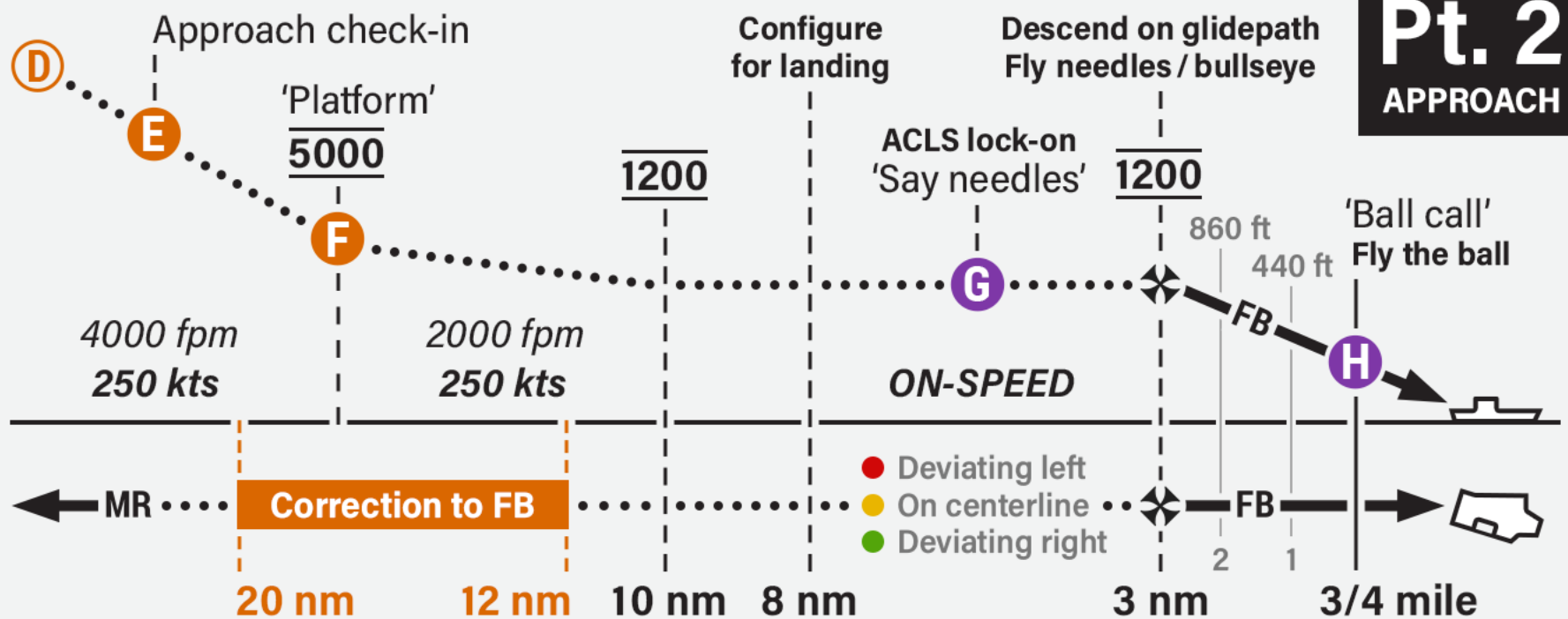
**D** WHEN STARTING THE APPROACH, REPORT: *#, commencing, altimeter XX.XX, state X.X*

THE PROVIDED BUTTONS ARE ONLY VALID WHEN SET UP CORRECTLY BY THE MISSION DESIGNER. IGNORE IF UNSURE.



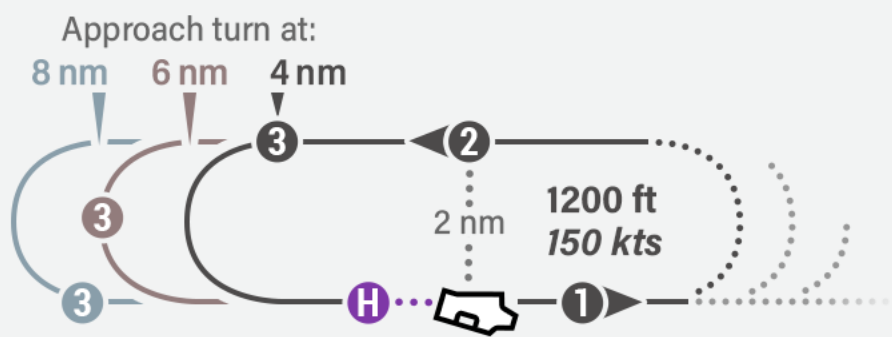
Night - Day: ceiling below 1000 ft or visibility less than 5 miles. Single aircraft only.

**Pt. 2**  
**APPROACH**



- BELOW 2000 ft, USE THE "MINUTE TO LIVE" RULE: ALT = MAX V/S. E.g., AT 1900 ft = MAX 1900 fpm, AT 1500 ft = MAX 1500 fpm, AND SO ON.
- ACLS MODE I - THE "TRUE AUTOLAND".
- ACLS MODE I ALPHA - MODE I UNTIL THE PILOT TAKES OVER AT THE BALL CALL.
- ACLS MODE II - PILOT USES ACLS GUIDANCE, BUT FLYING MANUALLY.
- ACLS SYMBOLOGY: ○ "NEEDLES".
- ICLS SYMBOLOGY: + "BULLSEYE".
- EXT LIGHTS OFF ONCE TRAPPED AND THRUST RETARDED TO IDLE.

**WAVEOFF / BOLTER \***



\* Supercarrier AI doesn't yet support waveoffs and bolters

1. Gears up, flaps half, 150 kts. Report 'Airborne' and fly the Final Bearing. Climb to 1200 ft and await ATC instructions.  
**Supercarrier AI: at 4 DME turn downwind.**
2. Report 'Abeam' with fuel state.
3. Dirty up depending on DME of the assigned approach turn.  
**Supercarrier AI: at 4 DME dirty up, turn left and intercept the Final Bearing.**

**E** **BUTTON 15 OR 17** ON HANDOFF, CONTACT THE APPROACH: #, *checking in, XX miles*

**F** **PASSING 5000 ft**, REPORT: #, *platform*

**G** **SAY NEEDLES:** #, *up and on* **SUPERCARRIER AI WILL RESPOND WITH THIS AUTOMATICALLY** IF ACLS IS INOP: #, *negative needles* \* - EXPECT TO 'FLY BULLSEYE' (ICLS)

**H** **BALL CALL:** #, *Hornet Ball, X.X (state)*  
FOR ACLS MODE 1: #, *Hornet Ball, X.X, coupled* \*  
IF UNABLE TO SEE THE LINE-UP, OR THE SHIP AT ALL: #, *Clara line-up* \* OR: #, *Clara ship* \*

\* **SUPERCARRIER AI DOESN'T SUPPORT THIS CALL**

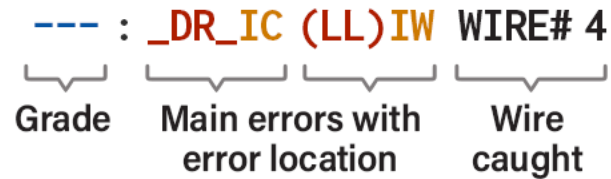
THE PROVIDED BUTTONS ARE ONLY VALID WHEN SET UP CORRECTLY BY THE MISSION DESIGNER. IGNORE IF UNSURE.

**LSO GRADE EXAMPLE**

Parentheses ( ) around any symbol signifies "a little". Example: (F) means "a little fast".

Underline \_ serves for emphasis. Example: H means "very high".

A square [ ] around any symbol indicates that a signal was not answered. Example: [BC] means no ball call has been made.



**TRANSCRIPTION**

**No grade :**  
**Drifted way right in close, Landed a little left in the wires,**  
**Caught number 4 wire.**

**MAIN ERRORS**

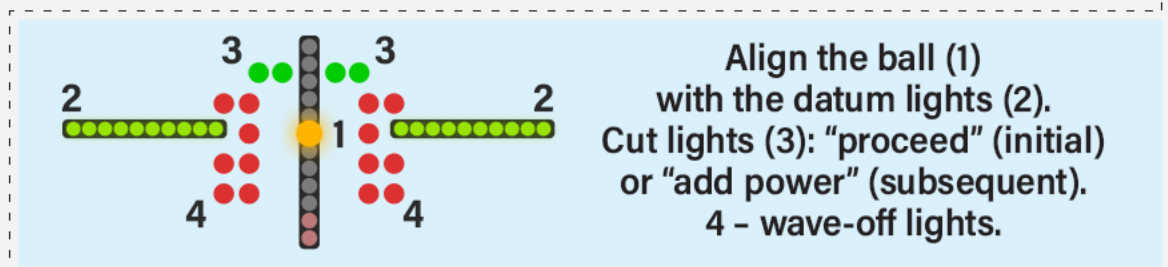
- AFU** All fouled up
- DL** Drifted left
- DR** Drifted right
- EG** Eased gun (pulled throttles back to help set the hook for arrestment)
- F** Fast
- FD** Fouled deck
- H** High
- LL** Landed left
- LO** Low
- LR** Landed right
- LUL** Lined up left
- LUR** Lined up right
- N** Nose
- NERD** Not enough rate of descent
- NSU** Not set up
- P** Power
- SLO** Slow
- TMRD** Too much rate of descent
- W** Wings
- LLWD** Landed left wing down
- LRWD** Landed right wing down
- LNF** Landed nose first
- 3PTS** Landed 3 points

**ERROR LOCATIONS**

- BC** Ball call (before first 1/3 of glideslope)
- X** At the start (first 1/3 of glideslope)
- IM** In the middle (middle 1/3 of glideslope)
- IC** In close (last 1/3 of glideslope)
- AR** At the ramp
- TL** To land (between AR and first wire)
- IW** In the wires
- AW** All the way

**GRADES**

- WO** Waveoff
- OWO** Own Waveoff
- \_OK\_** Perfect pass
- OK** Reasonable deviations with good corrections
- (OK)** Fair. Reasonable deviations
- No-grade. Below average but safe pass
- C** Cut. Unsafe, gross deviations inside waveoff window
- B** Bolter



**WAVEOFF**

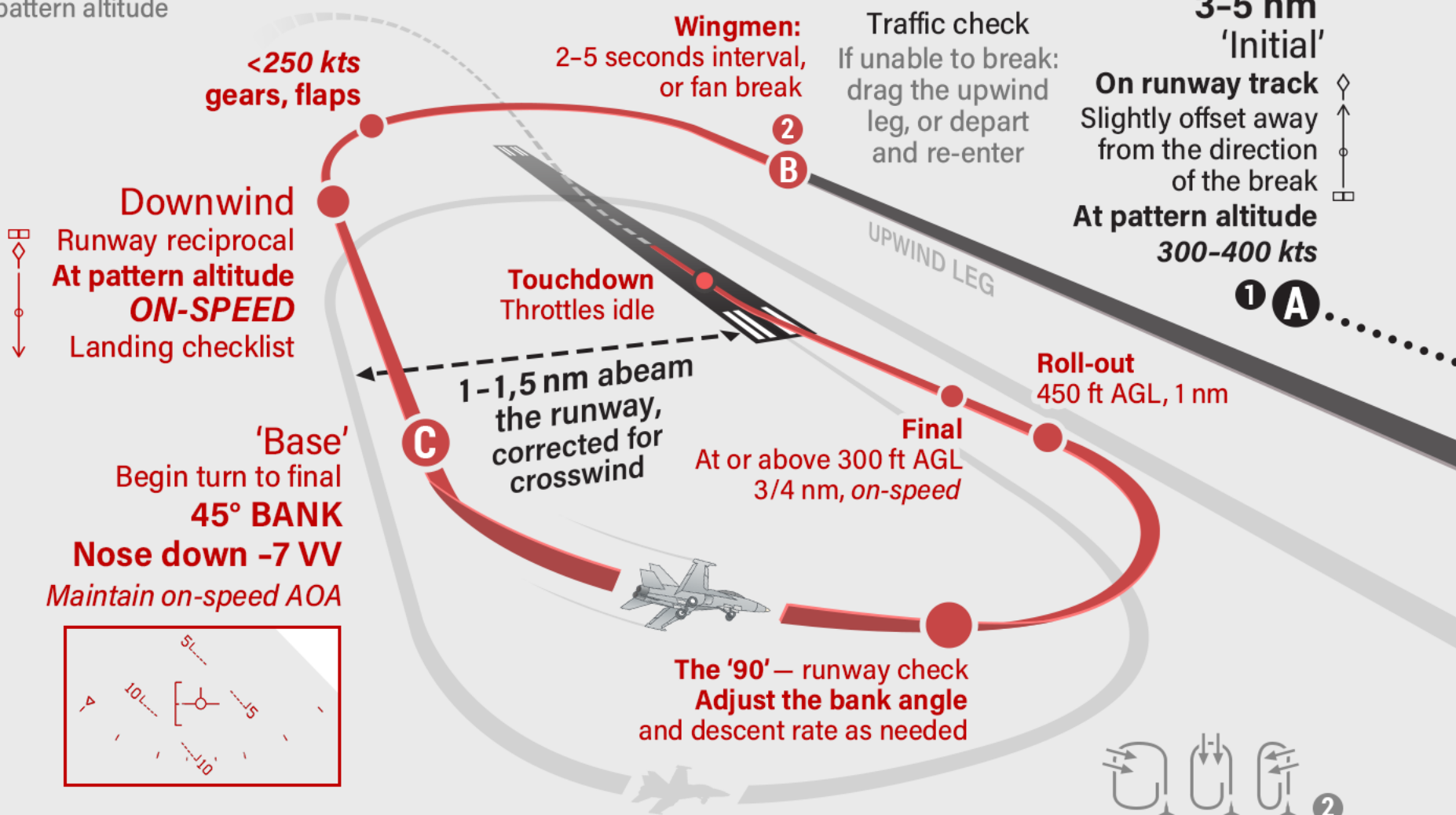
MIL power (MAX if required)  
 Raise gears and flaps only after a safe climb has been established  
 At >400 ft AGL and >200 kts turn downwind while climbing to pattern altitude

**Break**  
 Over the first half of the runway or as soon as practical  
**LEVEL TURN**  
 Gs to meet the abeam distance

**COMMON PATTERN ALTITUDE**  
**1500 ft AGL**  
 OR AS PUBLISHED / TOLD BY ATC

**Overhead**  
 Traffic check  
 If unable to break: drag the upwind leg, or depart and re-enter

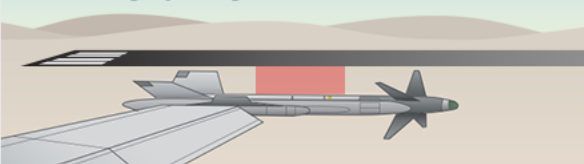
**3-5 nm 'Initial'**  
**On runway track**  
 Slightly offset away from the direction of the break  
**At pattern altitude**  
**300-400 kts**



**1**  
 DESCENT CHECKLIST COMPLETED. SET RADALT TO 450.  
 SET THE COURSE LINE TO RUNWAY HEADING.  
 SET THE HEADING BUG RECIPROCAL OF THE RUNWAY HEADING.  
 FLY THE  $\diamond$  GROUND TRACK POINTER, NOT THE LUBBER LINE.

**2**  
 TIGHTEN OR LOOSEN THE BREAK TURN DEPENDING ON CROSSWIND DIRECTION AND STRENGTH.  
 CORRECT THE ABEAM DISTANCE, NOT THE BASE TURN:  
 ADD OR SUBTRACT 0,1 nm FOR EVERY 10 kts OF CROSSWIND COMPONENT. ABEAM THE RUNWAY  $\neq$  ABEAM THE TACAN.

(Negligible crosswind) Runway above the wingtip – good abeam distance

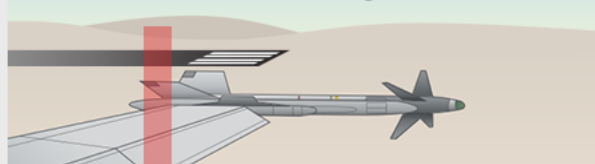


**LANDING CHECKS**

DISPENSER · HARNESS  
 ANTI SKID · HOOK  
 FLAPS · WHEELS

MLW (FLARED): 39.000 LBS

Wing passes the touchdown area – begin turn to final

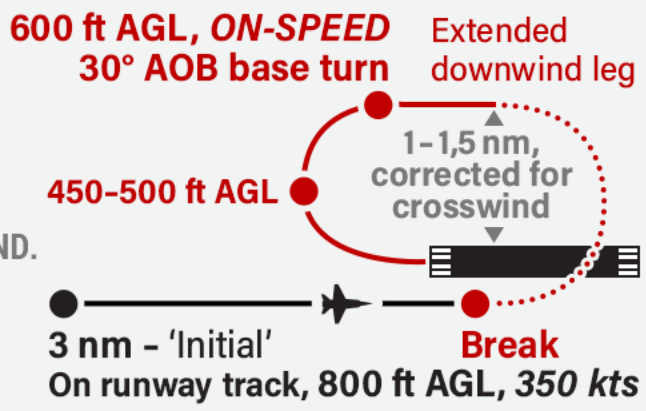


THERE ARE **NO** STANDARD AND UNANIMOUSLY ACCEPTED PATTERN ALTITUDE AND APPROACH SPEED. ATC AND PUBLISHED PROCEDURES ALWAYS OVERRULE THE WHATEVER IS SUGGESTED ABOVE OR CONSIDERED "COMMON".

**FIELD CARRIER LANDING PATTERN**

CARRIER-TYPE BREAKS ARE SIMILAR TO THE CASE I APPROACHES WITH THE FOLLOWING DIFFERENCES:

- CARRIER BREAK HAS TO BE APPROVED BY ATC ON CHECK-IN.
- A WAYPOINT MAY BE CREATED ON THE RUNWAY TO SIMULATE THE CARRIER BOX AND AID IN THE ABSENCE OF TACAN.
- THE ABEAM DISTANCE ON DOWNWIND SHOULD BE CORRECTED FOR CROSSWIND.
- THE DOWNWIND LEG IS EXTENDED BY 10-15 SECONDS AS THE RUNWAY IS NOT STEAMING FORWARD.
- THERE ARE NO PRESCRIBED WAYS TO FLY THE FINAL.



WHEN FLYING ONLINE AND UNCONTROLLED, ANNOUNCING YOUR POSITION MIGHT HELP TO ENHANCE SITUATIONAL AWARENESS:

- A** LEAD REPORTS INITIAL: (Flight callsign), # mile initial, runway #, left (right) overhead.
- B** LEAD REPORTS BREAK: (Flight callsign), in the break.
- C** EACH PILOT REPORTS BASE: (Individual callsign), base, gear down, full stop (touch & go).



- 1 BATT switch ..... *rmb* ON
- 2 Parking brake ..... **Verify SET**
- 3 Wheel chocks ..... REMOVE
- 4 Rearm and refuel ..... ORDER  
*Max takeoff weight: 51.900 lbs.  
Note 'Total Weight' for stab trim.*
- 5 APU switch ..... ON  
*Wait for ready light*
- 6 ENG CRANK switch ..... *rmb* R  
Right throttle to IDLE at >18% RPM
- 7 **Displays, HUD, HMD** ..... ON
- 8 ENG CRANK switch ..... *lmb* L  
Left throttle to IDLE at >18% RPM
- 9 RADAR knob ..... OPR
- 10 **INS knob** ..... **CV / FIELD: GND**
- 11 HSI page ..... PB19 'STD HDG'  
*On the bottom display. Verify boxed.*
- 12 OBOGS switch ..... ON
- 13 FCS RESET button ..... PUSH
- 14 ANTI SKID ..... OFF / **FIELD: ON**
- 15 FLAP switch ..... HALF
- 16 FCS BIT TEST ..... PERFORM  
*Hold the 'Y' key. On the BIT page (right display): press PB9 'FCS-MC', then PB9 'FCS'. Release 'Y' and wait about 20 seconds for the 'GO' signal.*
- 17 T/O TRIM button ..... PUSH
- 18 STAB TRIM ..... SET FOR TAKEOFF  
*Left display — press PB18 'MENU' for 'SUPT' screen, then PB15 'FCS':*



<b>CARRIER:</b>	<b>FIELD:</b>
UNDER 44.000 lbs — 16°	always 12°
45.000 - 48.000 lbs — 17°	
OVER 49.000 lbs — 19°	

- 19 IFF and D/L ..... ON
- 20 FLIR switch ..... STBY
- 21 *Bottom display — verify 'QUAL OK' is displayed on the HSI page, then:*  
**INS knob** ..... **IFA (redfor: NAV)**
- 22 ALR-67 (RWR) ..... POWER ON
- 23 ALQ-165 (jammer) ... REC or XMIT
- 24 Dispenser ..... ON or BYPASS
- 25 Canopy ..... LCtrl+C CLOSE
- 26 Ejection seat ..... ARM
- 27 HMD ..... Align
- 28 Parking brake ..... OFF
- 29 Nosewheel steering ..... ON
- 30 WINGS ..... SPREAD AND LOCK  
**CARRIER:** Before cat hook-up  
**FIELD:** Before taxi

**HMD alignment**

1. 'MENU' > 'SUPT' > 'HMD' > box 'ALIGN'. Move head to superimpose HMD cross over HUD cross, then hold [CAGE/UNCAGE] until 'ALIGN OK' is displayed.
2. Use [TDC] to align DX/DY crosses with HUD cross and press [CAGE/UNCAGE] to confirm.
3. Repeat for DROLL cross.
4. Unbox 'ALIGN' to finish alignment.

