

Recovering Aircraft

6.1 ARRIVAL PROCEDURES

6.1.1 Entering the Carrier Control Area

Inbound flights shall normally be turned over to marshal control for further clearance to the marshal pattern. Aircraft that were unable to check in with strike, mission, or marshal control because of communication difficulties should proceed as directed in Figure 4-1.

6.1.2 Arrival Information

The flight leader shall provide the following information when checking in with marshal control:

1. Position
2. Altitude
3. Fuel state (low state in flight)
4. Total number of aircraft in flight (lineup)
5. Type approach requested — UTM's sweet (if applicable)
6. Other pertinent information such as navigational aid status, hung or unexpended ordnance, weather, etc., that may affect recovery
7. COD load report.

6.1.3 Transient Helicopters

Transient helicopters approaching the carrier for landing shall contact marshal control at least 25 miles out.

During Case III, marshal control will clear helicopters to CV-3 holding or starboard delta as requested. Helicopters

unable to check in with marshal control because of communications difficulties should proceed as directed in Figure 4-1.

6.2 CASE I

Note

Case I/II recoveries of fixed wing aircraft shall not be conducted concurrently with Case III departures.

This approach may be utilized when it can be anticipated that flights will not encounter instrument conditions at any time during the descent, break, and final approach. A ceiling of 3,000 feet and 5 miles visibility within the carrier control zone is required. The flight leader retains full responsibility for proper navigation and separation from other aircraft. All returning flights will check in with marshal control when entering the carrier control area or as soon as they are released by another controlling agency. Marshal control shall acknowledge the check-in and provide the following information:

1. Case recovery
2. Expected BRC
3. Altimeter
4. Expected "Charlie" time (if other than briefed).

Aircraft shall normally be switched to tower control at 10 nm after reporting the ship in sight ("see you").

6.2.1 Jet/Turboprop Aircraft Port Holding/Spin Pattern

The jet and turboprop port holding pattern is a left-hand pattern tangent to the BRC or expected BRC with the ship in the 3-o'clock position and a maximum diameter of 5 nm. Flights shall be established at their assigned port holding pattern altitude 10 nm prior to entering the pattern. Entry shall be tangential with wings level. Minimum altitude assignment shall be 2,000 feet MSL. A minimum of 1,000 feet vertical separation between holding altitudes shall be maintained. The squadron/ unit recovery order and altitude assignment shall be as promulgated by ship/air wing doctrine. All aircraft shall maintain the prescribed separation and landing order in the port holding pattern and throughout the descent.

Departure from the port holding pattern for break entry shall be accomplished aft of the ship's beam. Descent to the

break from the port holding pattern is commenced by the lowest aircraft or flight in time to meet the ramp time. This descent should be planned so as to arrive at the initial (3 miles astern, 800 feet) wings level, paralleling the BRC.

WARNING

Flight leaders shall exercise caution to avoid aircraft in the tanker pattern.

The flight leader shall either execute a normal break or spin for all or a portion of his flight, depending upon the number of aircraft in the landing pattern. A spin should normally be initiated at the bow. The spin pattern shall be flown at 1,200 feet within 3 nm of the ship. A maximum of six aircraft shall be in the landing pattern at one time. This number may be modified by the air officer. No aircraft shall break more than 4 miles ahead of the ship. Pilots must exercise caution to avoid departing aircraft and aircraft in the starboard holding pattern. Should a Delta be given after commencing descent from the port holding pattern, but prior to entering the landing pattern, aircraft shall climb or descend as required and enter the spin pattern (1,200 feet) unless specifically directed otherwise. Aircraft in the landing pattern shall continue to maintain proper interval, flying the landing pattern at 600 feet until otherwise directed. Flights directed to spin or reenter the port holding pattern shall climb only on the upwind or crosswind leg ahead of the ship's beam. Aircraft reentering the break from the spin pattern have priority over aircraft entering from the port holding pattern.

6.2.2 COD Aircraft Starboard Holding

The starboard holding pattern shall be a right-hand racetrack pattern between 45 and 135 relative to the BRC at 500 feet or at 1,000 feet if approved by the air boss, with the closest point of approach no closer than 1 nm. When ready, the air officer will give a Charlie to aircraft in the starboard holding pattern.

6.2.3 Helicopters

Helicopters shall proceed to hold avoiding the areas depicted in Figure 4-3 during fixed-wing operations. Unless previously briefed to the contrary, when more than one helicopter is operating in the holding pattern, all helicopters shall fly a right-hand pattern at 300 feet maintaining 80 knots.

6.2.4 VFR Day Fixed Wing Carrier Landing Pattern

The landing pattern depicted in Figure 6-1 is used by fixed wing aircraft during day VFR (Case I/II) operations. The purpose of day case I/II operations is to allow for a primarily pilot controlled pattern and reduce total recovery time compared to case III operations.

6.2.4.1 Landing Pattern Entry

Entry into the break shall be made at 800 feet. All breaks shall be level. A descent to 600 feet to intercept the downwind leg of the landing pattern shall commence when established downwind. Descent to 600 feet shall be completed before reaching the 180 position.

6.2.4.2 Downwind Leg and Approach Turn

The landing pattern downwind leg is flown at 600 feet, 1 to 1-1/2 nm abeam the ship's stern. Aircraft in the VFR Day Landing Pattern should be established in the intended landing configuration, wings level at 600 feet with landing checklist complete by the 180. At the 180, the aircraft should begin the approach turn and gradual descent to pass the 90-degree position at 450 to 500 feet. The pilot should continue the approach turn until intercepting the extended centerline of the ship's angled deck and acquire the optical landing system meatball image. The approach turn from the 180 to the start should take 45 seconds.

6.2.4.3 Groove and Touchdown

The aircraft should roll wings level on centerline with a centered ball to allow a 15 – 18 second groove before aircraft touchdown on deck. At touchdown the pilot shall add power as appropriate, and prepare to bolter. Following arrestment, the pilot shall follow the instructions of the aircraft directors and comply with the procedures in NAVAIR 00-80T-120 (CV Flight/Hangar Deck NATOPS manual).

6.2.4.4 Waveoffs

Pilots shall be prepared to be waved off at any time during a landing approach. Aircraft approaching in an unsafe condition or situation (e.g., too low, insufficient interval, etc) will be waved off rather than be allowed to continue

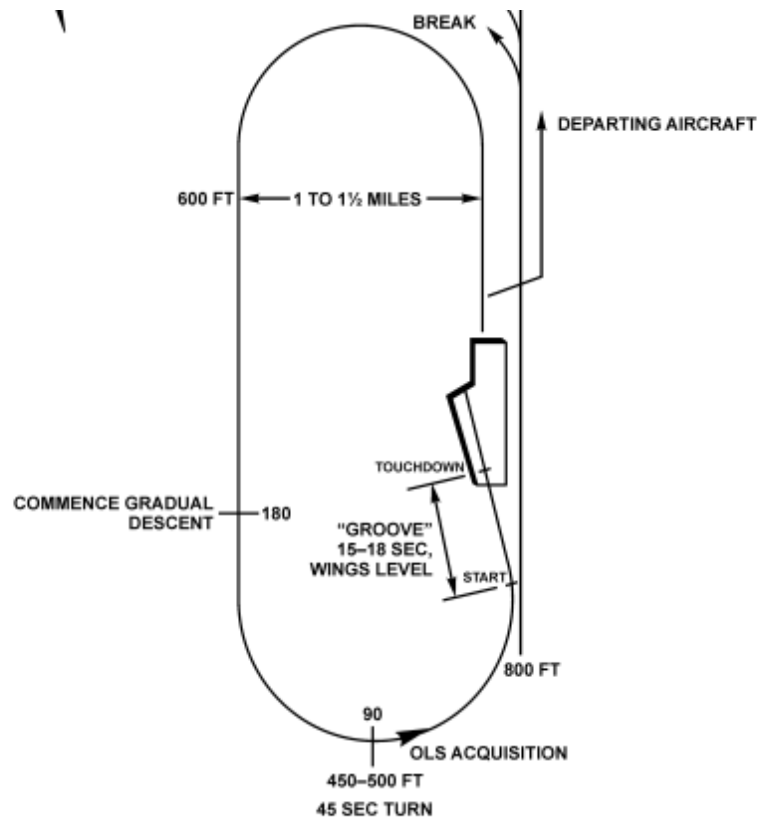
to touchdown. Upon being directed to wave off, pilots shall add power as necessary to stop the aircraft's rate of descent and commence a climb.

6.2.4.5 Landing Pattern Upwind Leg

Once clear of the ship following a waveoff, touch and go, or bolter, the pilot shall turn to parallel the BRC. Corrections to parallel the BRC shall not be attempted until a definite climb has been established. The climb to 600 feet landing pattern altitude should normally be completed prior to commencing the turn to the downwind leg. Aircraft continuing in the landing pattern shall take normal interval on other traffic in the pattern.

6.2.4.6 Landing Pattern Departure

Aircraft departing the case I/II pattern shall remain in the pattern until established on the upwind leg. From the upwind leg, aircraft shall clear the pattern by executing a 20 turn to starboard followed by a 20 turn reversal to parallel the BRC.



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Figure 6-1. VFR Day Fixed

Wing Carrier Landing Pattern

6.2.5 Voice Reports

Flight leaders shall make the following voice reports

POSITION	REPORT
Descending from the port holding pattern	"Commencing"
Three miles astern	"Initial"
Entering spin pattern (when applicable)	"Spinning"
Departing the landing pattern to reenter port holding.	"Departing_____nm upwind"

6.2.5.1 Low Visibility Voice Reports: Anyone Can Recommend Low Visibility Reports

The following additional calls shall be used by flight leaders upon Air Officer's announcement of "99 low-vis-calls."

"Commencing"

"Initial"

"Breaking at ___nm"

"Departing at ___DME"

"Spin 90"

Flight leaders should amplify low-vis calls as required to add to overall situational awareness and safety of flight

(e.g. - "501, commencing from angels 4 with 2").

6.2.6 ZIP LIP

Case I procedures shall apply, except for elimination of prescribed voice reports. The flight leader first in recovery

order shall observe the deck and plan his recovery to be at the ramp as soon as a ready deck is available. Should

unprogrammed, unbriefed, or straggler flights arrive for recovery, ZIP LIP shall be broken as required to ensure safety

of flight.

Note

ZIP LIP shall be broken anytime an apparent safety of flight situation develops.

6.2.7 Drag

If a straight-in approach (drag) is requested, it shall be initiated at sufficient distance astern for the aircraft to be

established positively on glidepath and approach airspeed at a minimum of 1-1/2 nm for jet/turboprop aircraft.

6.3 CASE II

This approach shall be utilized when weather conditions are such that the flight may encounter instrument conditions

during the descent, but visual conditions of at least 1,000 feet ceiling and 5 miles visibility exist at the ship. Positive

control shall be utilized until the pilot is inside 10 nm and reports the ship in sight. During Case II recoveries, CATCC shall be manned and prepared to assume control of a Case III recovery in the event weather conditions deteriorate. The maximum number of aircraft in the landing pattern is limited to six.

Note

Case II recoveries shall not be conducted concurrently with Case III departures. Should doubt exist regarding the ability to maintain VMC, Case III recoveries shall be utilized.

Penetrations in actual instrument conditions by formation flights of more than two aircraft are not authorized. Flight leaders shall follow Case III approach procedures outside of 10 nm. When within 10 nm with the ship in sight, flights will be shifted to tower control and proceed as in Case I. If the flight does not have the ship in sight at 10 nm, the flight may descend to not less than 800 feet. If a flight does not have the ship in sight at 5 miles, both aircraft shall be vectored into the bolter/waveoff pattern and action taken to conduct a Case III recovery for the remaining flights.

Note

Weather conditions permitting, helicopters may be assigned Case I procedures concurrently with Case II and III fixed-wing aircraft operations.

6.4 CASE III

This approach shall be utilized whenever existing weather at the ship is below Case II minimums and during all flight operations conducted between one-half hour after sunset and one-half hour before sunrise except as modified by the OTC or carrier commanding officer. Night/IMC Case III recoveries shall be made with single aircraft. Section approaches will be approved only when an emergency situation exists. Formation penetrations/approaches by dissimilar aircraft shall not be attempted except in extreme circumstances where no safer options are available to effect a recovery.

Note

Case III recoveries may be conducted concurrently with Case I and II launches.

At night during VMC conditions, helicopters may be cleared to the starboard holding pattern. The same airspeed and spacing restrictions will apply as in day VMC.

6.4.1 Marshal Procedures

6.4.1.1 Jet/Turboprop Aircraft

The primary TACAN marshal fix is the 180 radial relative to the expected final bearing at a distance of 1 mile for every 1,000 feet of altitude plus 15 miles (angels +15). The holding pattern is a left-hand, 6-minute racetrack pattern.

The inbound leg shall pass over the holding fix. In no case will the base altitude be lower than 6,000 feet.

6.4.1.2 Helicopters

The primary TACAN marshal is the 110 radial relative to the expected final bearing at a distance of 1 mile for every 500 feet of altitude, starting at 1,000 feet and 5 miles. The holding pattern is a right-hand racetrack pattern with 2-nm legs. The inbound leg shall pass over the holding fix.

6.4.1.3 Emergency Marshal Fixes

All fixed-wing aircraft are issued an emergency marshal radial 150 relative to the expected final bearing at a distance of 1 mile for every 1,000 feet of altitude plus 15 miles (angels +15). Lowest altitude for assignment is 6,000 feet for turboprop/jet. Holding sequence is jets, then turboprops. Holding procedures are right-hand, 6-minute racetrack patterns. The inbound leg shall pass over the holding fix. Helicopter emergency marshal radial is the same as normal helicopter marshal radial with helicopter emergency holding normally commencing at 7 miles.

6.4.1.4 Overhead Marshal

Overhead marshal may be utilized as geographical or operational circumstances necessitate. The assigned inbound magnetic heading to the holding fix should coincide with the outbound magnetic radial of the

approach. If overhead marshal is used as the emergency marshal fix, EEATs should be every other minute.

6.4.1.5 En Route Radar Approaches

In the event an aircraft or flight cannot reach the marshal point in time to make an assigned approach time, an en route radar approach may be used to place the flight in the proper approach sequence. The marshal/approach controller shall employ positive radar control and provide the pilot the purpose and a brief description of the intended penetration whenever possible.

6.4.1.6 Marshal Altitude Assignment

Every effort should be made to anticipate weather conditions and provide marshaling in visual conditions if practical. Aircraft below an overcast should not be required to climb into the overcast to comply with base altitude limits if marshal control can safely exercise control below the overcast. Those aircraft above an overcast should be assigned altitudes above the overcast and retained in formation where possible. Formation flights shall be limited to a maximum of four aircraft at any one assigned altitude. Under instrument conditions, a section of two aircraft is the maximum number authorized in any one flight.

6.4.1.7 Marshal Altitude Separation

Fixed-wing aircraft will normally have a minimum of 1,000 feet vertical separation. Vertical separation may be reduced to 800 feet when inside 12 nm. Helicopters shall be separated by a minimum of 500 feet vertically.

6.4.1.8 Marshal Airspeed

Aircraft will normally fly at airspeeds in accordance with the applicable aircraft NATOPS flight manual.

6.4.1.9 Bow-On-Recovery

A bow-on-recovery occurs when the marshal radial is located ahead of the carrier. Significant potential conflict exists between departing and recovering aircraft due to airspace constraints associated with opposite direction traffic flow and the existence of an AN/SPN-43 radar "blind spot" ahead of the ship. CATCC shall communicate bow-on-recovery to all aircrew as soon as bow-on-recovery is determined. Departing aircraft will

receive positive control to ensure departing aircraft remain clear of recovering aircraft until course conflict is resolved. CATCC shall provide recovering aircraft positive control and sequencing to ensure adequate separation is maintained.

6.4.2 Marshal Instructions

Marshal control shall ensure the following information has been provided each aircraft prior to entering marshal:

1. Case recovery
2. Type approach
3. Expected final bearing
4. Altimeter
5. Marshal holding instructions
6. Expected approach time
7. Expected approach button
8. Time check
9. Vector to marshal (if required)
10. Multiple marshal stack information (radials/altitudes).

Note

When overhead marshal is utilized, the assigned outbound penetration bearing shall be updated during recovery to maintain a minimum of 25 clockwise from the reciprocal of the final bearing.

6.4.3 General Instructions

The following information shall be provided prior to commencing the penetration/approach:

1. Case recovery
2. Type approach
3. Final bearing
4. Weather and deck conditions
5. Divert field/fuel data
6. Time hack (30 seconds minimum) using GPS time
7. USW datum (if applicable)
8. Density altitude (if applicable)
9. MOVLAS recovery, including station number and location (tactical situation permitting)
10. COD RETRO report (if applicable).

To reduce radio traffic, items of general or collective interest may be transmitted as a "99" broadcast by marshal or

approach control.

6.4.4 Departing Marshal

Each pilot shall adjust his holding pattern to depart marshal at the assigned EAT. Early or late departure shall be reported to marshal control immediately so that control adjustments can be accomplished if required.

6.4.5 Initial Separation

Unless weather or operating circumstances dictate otherwise, aircraft departing marshal will normally be separated by 1 minute. Adjustments may be directed by CATCC, if required, to ensure proper separation.

6.4.6 Frequency/IFF/SIF Changes

Changes in radio communication frequencies, IFF and/or SIF mode/code that require accomplishment by the pilot should be made no later than platform except under emergency conditions. The aircraft shall be in straight and level flight should such changes be required below an altitude of 2,500 feet.

6.4.7 Instrument Approach Procedures

The approaches described in this paragraph are designed primarily for single-carrier operations; however, with slight modification, they can be used for the following:

1. Multiple-carrier operations
2. Letdown under reduced navigation and control
3. Letdown using SAR as navigational aids with AEW control
4. Recoveries during EMCON conditions.

The approach charts (Figures 6-2 to 6-5) are designed for use with all aircraft carriers regardless of weather conditions.

It is incumbent on each ship to utilize the standard approaches so that pilots may safely transition from ship to ship or from visual to instrument conditions with a minimum change in operating procedures.

6.4.7.1 Approach Minimums

The commanding officer shall establish approach minimums that reflect significant changes in operational capabilities, such as may be occasioned by decreased proficiency of the CATCC or embarked air wing. However,

absolute minimums are as provided in Figure 6-6 (see LSO NATOPS Manual for CARQUAL minimums).

When a suitable bingo field is available, aircraft shall not commence an approach if the reported weather is below

the minimums in Figure 6-6 unless it has been determined that the aircraft has sufficient fuel to proceed to the bingo

field in the event of a missed approach.

6.4.7.2 Penetration/Approach

1. Jet/turboprop aircraft shall descend at 250 KIAS and 4,000 feet per minute until platform is reached, at which point the descent shall be shallowed to 2,000 feet per minute. Unless otherwise directed, aircraft shall commence transition to a landing configuration at the 8-nm fix.
2. Helicopters shall descend at 90 knots and 500 feet per minute from marshal, crossing 145 relative to the final bearing at or above 900 feet. Unless otherwise directed, helicopters shall commence transition to a landing configuration prior to the 3-nm fix.

6.4.7.3 Correcting to the Final Bearing

1. Jet or turboprop aircraft on the CV-1 approach will correct from the marshal radial to the final bearing at 20 miles in the following manner:
 - The pilot shall make a gradual correction when the final bearing is within 10 of the reciprocal of the marshal radial.
 - The pilot shall turn 30 when the final bearing is greater than 10 from the reciprocal of the marshal radial.
If not established on the final bearing at 12 miles, the pilot shall fly the 12-mile arc until intercepting final bearing.
2. Aircraft on the CV-2 approach shall correct to the final bearing in the following manner:
 - If final bearing decreases, fly 90 of penetration turn and arc to the new final bearing.
 - If final bearing increases, fly the standard penetration turn continuing to intercept the new final bearing prior to the 10-mile DME fix.

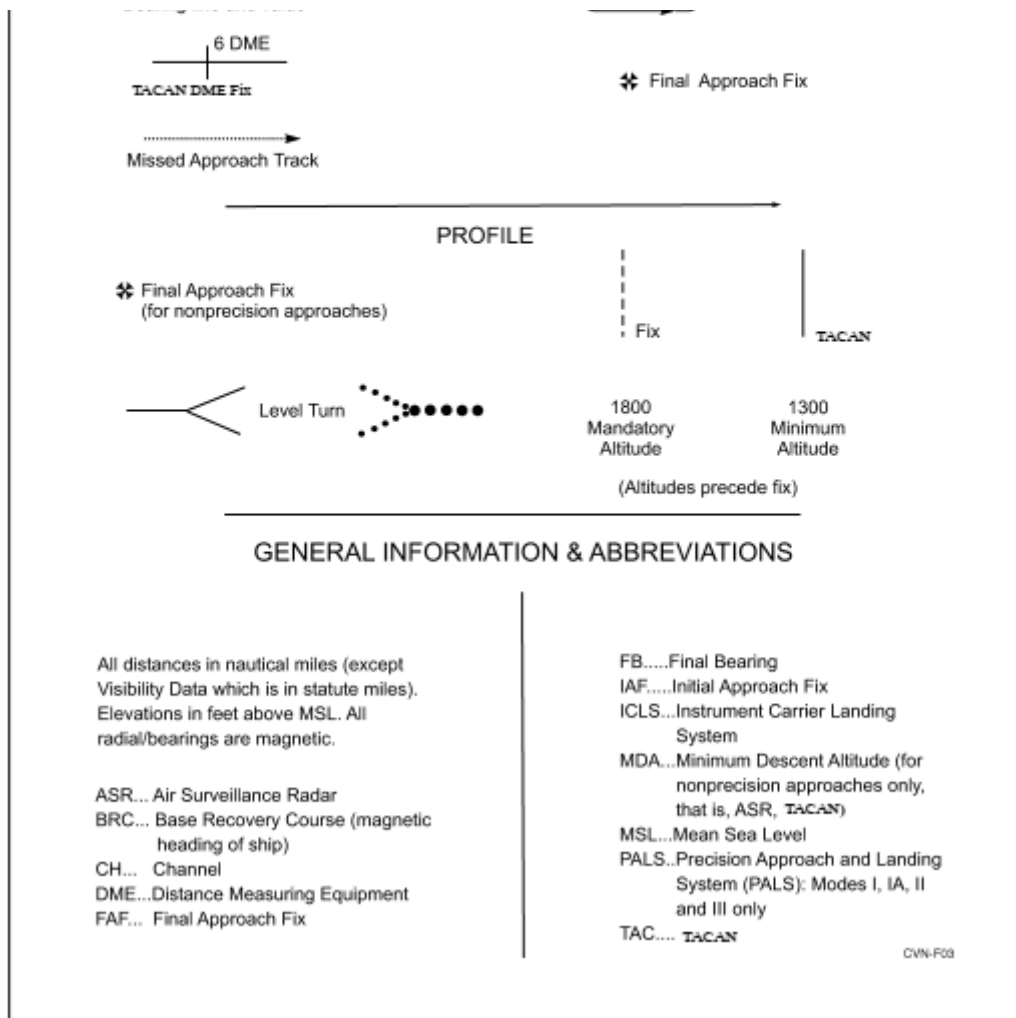


Figure 6-2. Legend Chart

for Aircraft Carrier Instrument Approach Procedures

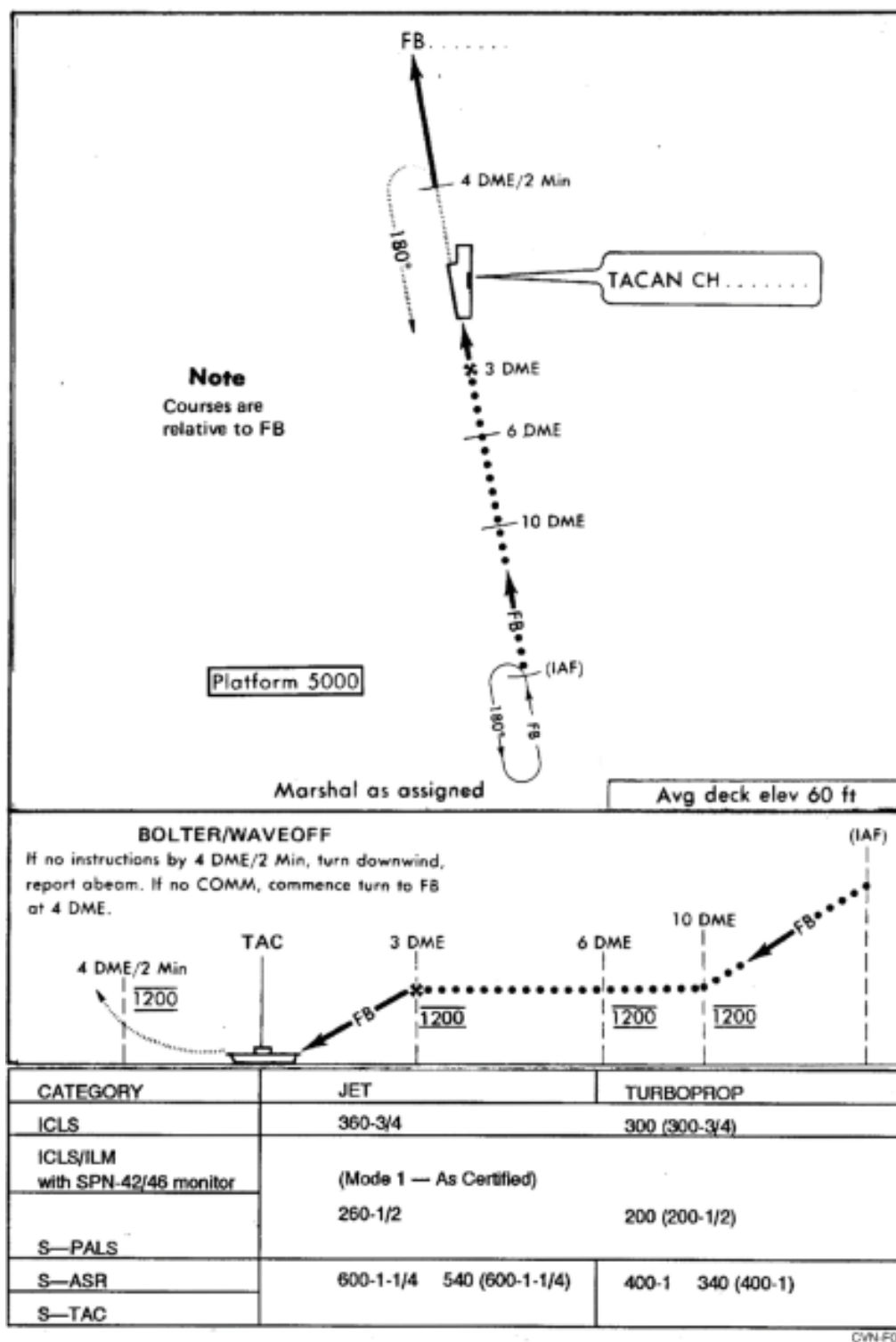


Figure 6-3. Approach Chart CV-1 TACAN (Jet and Turboprop)

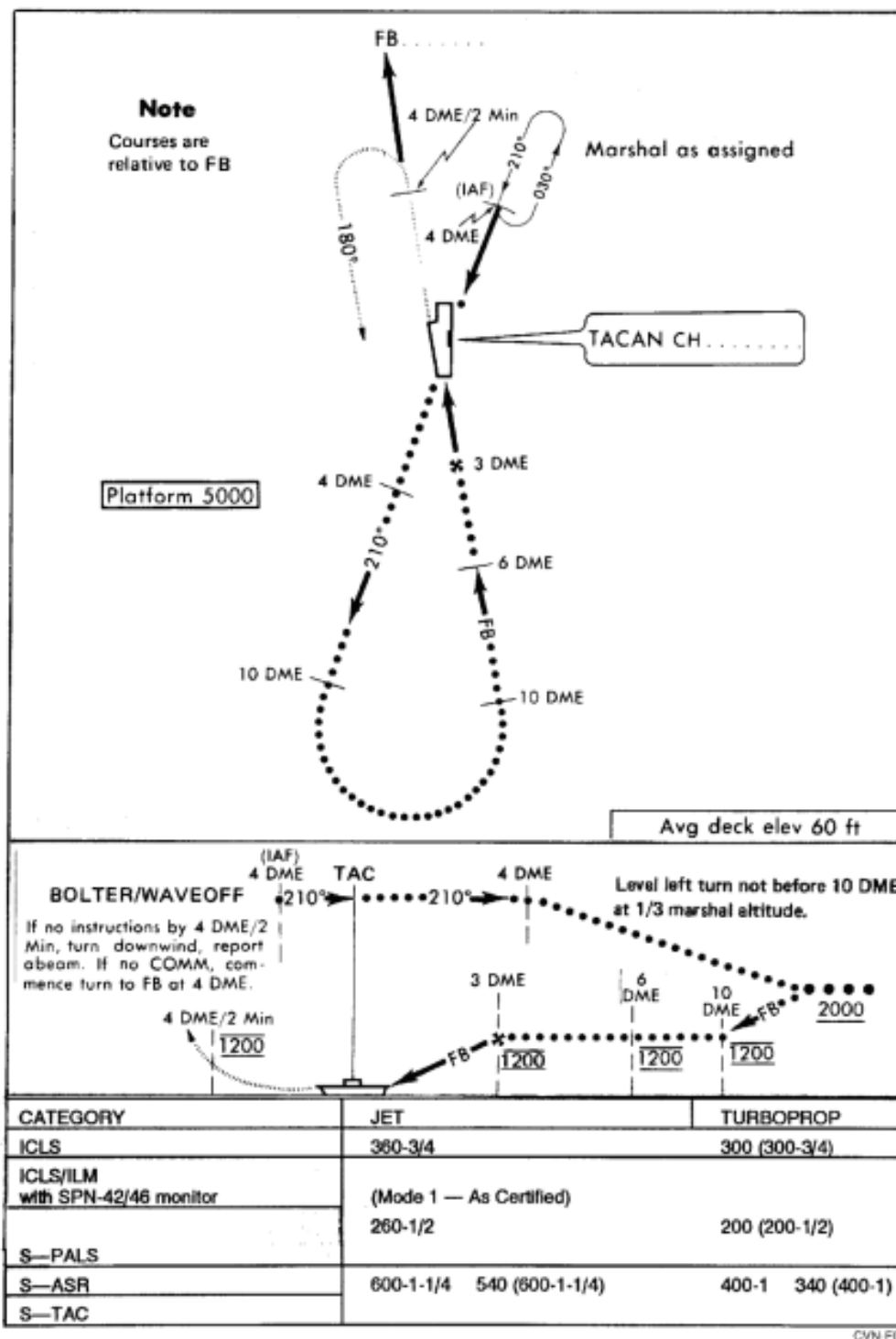


Figure 6-4. Approach Chart CV-2 TACAN Overhead (Jet and Turboprop)

attempt to make contact with the ship, giving identification and position. If instructions are not received, he will assume communication failure and execute a turn downwind reporting downwind abeam. If radio contact is not reestablished, he will proceed downwind and reenter as follows:

1. Fixed-wing aircraft commence turn to final at the 4 nm DME or 2 minutes past abeam position.
2. Helicopters reenter through the 3 nm DME fix or turn inbound 2 minutes past abeam.
3. PALS aircraft shall be alert for data-link displays.

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6.4.11.2 Aircraft in Company

An aircraft with navigation and/or communication equipment inoperative in the company of an escort aircraft with navigation and communication equipment in working order will be handled as a single aircraft in the recovery procedure. The escort aircraft becomes the flight leader and will visually communicate with the distressed aircraft in accordance with standard aircraft NATOPS procedures. The distressed aircraft will assume a position on the starboard wing of the lead aircraft. Transition to landing configuration should be made clear of clouds either above or below the overcast as desired. The controller shall be advised when this transition does/will occur, when the lead aircraft has the OLS in sight, he will visually communicate a lead change and break off to the left. The distressed aircraft will continue a visual approach to landing. The escort aircraft will parallel the final bearing course and maintain a position so as to be easily acquired and be rejoined by the distressed aircraft in the event of a bolter or waveoff. Unless otherwise directed, the escort aircraft will repeat the above procedures until the distressed aircraft is recovered and then continue normal procedures for his own recovery. The SPN-42/46 radar should be locked onto the lead aircraft. The PALS final controller should instruct lead aircraft "beacon on," wingman "beacon off," and then select "beacon lock only" on the SPN-42/SPN-46 console.

If the address of the escorted aircraft is inserted in the PALS, the escorted aircraft will receive needle information. When the lead aircraft breaks away on OLS acquisition, this may give the escorted aircraft an erroneous "fly down, fly right" presentation on the needles. The displayed error may become progressively larger as both aircraft close on the ship regardless of the approach actually being flown by the escorted aircraft.

6.4.11.3 Failure of Carrier Navigation Aids/CATCC Radars Prior to Approach

Individual ships should develop special procedures to recover airborne aircraft in the event of a casualty to shipboard air traffic control equipment. Selection of special/alternate approach procedures will be dictated by the availability of suitable navigational equipment aboard escort ships and/or embarked aircraft. Should the use of assist navigation equipment or utilization of airborne radar and control become necessary, approach minimums, separation between aircraft, and size of the recovery will be adjusted so as to ensure safety of recovery operations.

6.4.12 Radar Handoff Procedures

Positive radar identification shall be accomplished by the receiving agency prior to transfer of control. Control will be transferred only after the receiving agency has notified the transferring agency that positive radar contact has been established.

6.4.13 Voice Communication Procedures

6.4.13.1 Compulsory Arrival, Marshal, and Approach Voice Reports

1. Entrance into carrier control area — Information required from flight leader (see paragraph 6.1)
2. Receipt of:
 - a. Marshal instructions
 - b. Type recovery

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- c. EAT or Charlie time
- d. Altimeter setting
3. Entering holding/marshal with altitude, fuel state, and hung/unexpended ordnance (if any)
4. Altitude changes
5. Commencing approach, with fuel state, altimeter setting
6. Frequency changes
7. Platform (jet/turboprop aircraft)
8. Ten miles (jet/turboprop aircraft)
9. “Coupled/needles” as appropriate and “command control” if Mode I/IA approach
10. Three miles (helicopters)
11. Breaking away (section approaches only)
12. Ball call report — (side number, aircraft type, ball or Clara/Clara lineup, fuel state, hung/unexpended ordnance, coupled/uncoupling (if applicable), automatic/manual)
13. Waving off
14. Abeam, with fuel state after bolter/waveoff.

6.4.13.2 Phraseology

Standard ATC and precision instrument approach phraseology shall be used with the following exceptions:

1. Fuel state reports (thousands of pounds; for example, “3.5”)
2. Altitude (angels; for example, “1.2”)
3. Heading changes on Case III final approach after lock-on or final radar contact (normally soft headings; for

example, “301, right five”).

6.5 RECOVERING FIXED-WING AIRCRAFT

6.5.1 Preparation for Recovery

Preoperational checks of the arresting gear, optical landing aids, and associated equipment are ordinarily completed

before the beginning of air operations; therefore, preparation for recovery generally consists of nothing more than

manning the necessary stations. Whenever fixed-wing aircraft are airborne, all arresting gear equipment shall be

maintained in a ready status unless the commanding officer has granted permission to place specific item equipment out of commission for maintenance or other reasons.

Fifteen minutes before each scheduled recovery or immediately upon hearing the word passed to prepare to recover

aircraft, personnel will man stations and take the following preparatory actions.

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The air officer shall perform the following:

1. Confirm the recovery time with CATCC and the bridge.
2. Obtain the expected BRC.
3. Provide CATCC the break time for Case II recoveries or ramp time for Case III recoveries.
4. Monitor/update fuel status of returning aircraft, information on hung or unexpended ordnance, aircraft emergencies, if any, and the current altimeter setting.
5. Confirm with the bridge that the fantail and adjacent sponson(s) are secured during recovery of fixed-wing aircraft.

The ILARTS and PALS radar operators shall ensure equipment is turned on and operating.

The PriFly lens operator shall receive permission from the air officer prior to turning on lens.

The recovery equipment controller in PriFly shall perform the following:

1. Ensure all arresting gear engines, the arresting gear deck-edge station, ILARTS room, and lens room are manned and ready to recover aircraft.
2. Report to the air officer when all stations are manned, giving the existing arresting gear engine and lens settings.

The arresting gear officer shall perform the following:

1. Inspect the landing area for loose gear.
2. Ensure all after deck-edge antennas are positioned as required.
3. Check the condition of crossdeck pendants, barrel fittings and wire supports, and ensure retractable sheaves are in the raised position.
4. Ensure all aircraft and mobile equipment parked on the flight deck are inside the safe-parking line.
5. Ensure hook runners and the deck-edge operator are on station.
6. Ensure the ready barricade, including deck ramps, is in a ready status, with a clear route to the area and a tractor with driver is standing by.
7. Ensure waist catapult slot buttons are installed in accordance with current bulletins and ensure the deck status

light is operating.

8. Notify PriFly when the deck is ready.

The flight deck officer shall perform the following:

1. Ensure the mobile crane, a forklift, and a tractor are warmed up and that drivers are standing by. Also ensure operationally ready mobile firefighting equipment is manned and that all have clear access to the flight deck.
2. Ensure the crash crew is on station and that directors and plane handlers in sufficient number are standing by.
3. Ensure the flight deck area is clear of all unnecessary personnel.
4. Ensure the flight deck is clear of unnecessary equipment and that all deck hatches in the landing area are closed and properly secured prior to signaling a ready deck forward.

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The LSO shall perform the following:

1. Conduct a two-way radio check and sound- powered phone checks on appropriate circuits.
2. Check the landing area lights and lens for proper brilliance when turned on and check the cut and waveoff lights for proper operation.
3. Ensure the following distress equipment is available at the LSO platform:
 - a. Battery-powered marker
 - b. Life preserver ring
 - c. Very pistol
 - d. Search and rescue sonobuoy
 - e. Aldis lamp (night operations only).

The catapult officer shall ensure the following:

1. Catapult shuttles are properly positioned and shuttle cover installed on catapult 3.
2. Track slot seals are in place on bow catapults (except during CARQUALs).
3. Catapult deck gear is clear of landing area.
4. For ships so equipped, waist ICCS is fully lowered.

The weapons officer shall ensure the following:

1. An EOD representative shall be stationed in flight deck control during all operations when aircraft are carrying weapons. Unless assistance is required, EOD personnel should not normally be exposed to the flight deck during launches or recoveries.
2. The EOD officer, Air Gunner, and air wing weapons officer are equipped with an SRC-22 (or equivalent communication set during launch and recovery operations).

6.5.2 Flight Deck Procedures

For detailed flight deck procedures, refer to CV Flight/Hangar Deck NATOPS Manual (NAVAIR 00-80T-120).

6.5.3 Special Safety Precautions

Observe the following safety precautions.

1. While aircraft are being recovered, no personnel other than those required by this instruction shall be in the catwalks, on the flight deck, or in the arresting gear engine rooms or ILARTS/lens room without the express

permission of the air officer.

2. The deck will be considered foul any time unauthorized personnel are in or around aircraft parked adjacent to the landing area.

3. Personnel shall not stand in or otherwise block entrances to the island structure or exits leading off the catwalks.

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4. Personnel shall not sit on missile equipment, chocks, deck-edge coaming, or any other object during flight quarters or while aircraft is turning on the flight deck. Personnel should not turn their backs on aircraft landing

or taxiing out of the gear.

5. In taxiing aircraft out of the gear, directors must be aware of the activities of the hook runner, tillerbar man,

and wing riders.

6. All taxi signals shall be answered promptly and accurately unless the pilot considers that a dangerous situation

exists or is developing, in which case he shall stop immediately.

7. If a pilot loses sight of his director, he shall stop immediately. The director shall exercise care to remain in plain

view of the pilot at all times.

8. No director shall give signals to a pilot who is being controlled by another director except in an attempt to avert

an accident.

9. Personnel having reason to suspect the readiness or condition of any arresting gear engine, crossdeck pendant,

or associated equipment shall immediately cause the deck to be fouled by informing the arresting gear officer,

deck-edge operator, and the recovery equipment controller in PriFly.

If the arresting gear crew is required to enter the landing area during aircraft

recovery, a safety person shall be stationed forward of that crew, facing aft,

to ensure the arresting gear crew is warned of approaching aircraft in time

for them to safely exit the landing area.

10. If during recovery operations any part of the aircraft affecting safe recovery strikes the ramp, aircraft, or other

equipment on deck or ship's structure other than normal flight deck protrusions (crossdeck pendants, flight deck light covers, ILARTS heads, or waist catapult ramps) and the aircraft subsequently bolters, no further effort shall be made to effect a normal carrier arrestment.

11. PALS radar beacon-equipped aircraft parked or taxiing aft of the island shall have the beacon switch in off or

standby position during recovery operations. Aircraft preparing for launch shall delay PALS beacon self-test until forward of the island or airborne.

12. Pyrotechnic devices shall not be used in marking aircraft accident sites to preclude igniting aviation fuel. To minimize the possibility of an aircraft landing on a foul deck, the following procedures are mandatory.

1. The lens (and at night, the landing area lights) shall never be turned on without the express permission of

the
air officer.

2. Except for the purpose of conducting tests, neither the lens nor the landing area lights shall be turned on until the controlling LSO establishes positive communications with the air officer.
3. The waveoff lights shall be continuously activated anytime the lens or landing area lights are turned on and the LSO is not on the platform.
4. Aircraft shall be permitted to conduct practice CCA approaches, including PALS approaches. When the OLS is on and deck lights (night only) are on, PriFly and the LSO platform shall be manned by qualified personnel.

Both stations will have communications with the aircraft; assigned minimums shall be no lower than 200 feet and one-half mile. With OLS and deck lights (night only) off, the LSO platform need not be manned. CCA

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shall not assign minimums lower than 500 feet and 1 mile. In all cases, CCA will issue, "This is a practice approach to a low approach only. Upon reaching (minimums), execute waveoff."

5. To avoid unnecessary delay in recovering the first aircraft, the lens and/or landing area lights may sometimes

be turned on a short time before the ship is completely ready to commence recoveries. When this is done, the LSO shall wave off approaching aircraft at a distance of one-half mile or greater if he has not received the "clear deck" signal.

6. During instrument recoveries, PriFly will keep CATCC advised as to the status of the deck and provide the estimated time the deck will be clear. CATCC shall keep PriFly advised as to the type and position of the nearest aircraft.

7. Combat and CATCC must keep PriFly informed of any aircraft known or suspected to have radio failure.

8. After calling "ball," if no verbal/visual acknowledgment of positive control by the LSO is received, the pilot

shall execute his own waveoff early enough to clear the landing area by 100 feet above flight deck level.

The deck is foul when any of the following conditions exist:

1. The red rotating beacon is on.
2. Personnel, aircraft, support equipment, or loose gear are in the landing area.
3. Arresting gear engines are not properly set and in battery.
4. There is a known or suspected malfunction of recovery equipment.
5. After each touch and go, arrestment, bolter, or waveoff.

Note

During night operations when the deck is open, but momentarily foul, the landing deck lights will remain on and foul deck waveoff will be controlled by the LSO.

During night operations, green wands shall be used only by those air department personnel authorized to launch aircraft or signal a clear deck.

6.5.4 Control of the Landing Pattern (VMC)

The air officer is charged with the overall control of the VMC landing pattern (Figure 6-1) and is assisted by the LSO.

Specific responsibilities are assigned as follows.

6.5.4.1 Air Officer

1. Provide pilot with sufficient information to ensure that aircraft are established in the landing pattern in time to meet the expected Charlie time.
2. Assign or revise the landing order as necessary.
3. Regulate the number of aircraft in the landing pattern to ensure a steady flow of traffic while preventing the pattern from becoming extended or overcrowded.
4. Monitor the landing interval.
5. Whenever possible, maintain visual contact with all aircraft in the Charlie pattern.
6. Maintain an accurate count of the number of aircraft to be recovered and inform the bridge when only two remain.

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7. Monitor the upwind pattern, being particularly alert to warn pilots of aircraft boltering or waving off of their proximity to aircraft launching or breaking.
8. Maintain visual contact with aircraft that have radio failure and instruct the LSO with regard to visual signals to be given.
9. Inform the LSO of any unusual condition(s) affecting the normal recovery of aircraft.

6.5.4.2 LSO (Under the Supervision of the Air Officer)

1. Control all fixed-wing aircraft approaches after the 180° position.
2. Ensure that approaching aircraft are properly configured.
3. Monitor the operation of the OLS and cross check the approach radar/ICLS glidepath angle.
4. Instruct and supervise the LSO talker and hook spotter.
5. Assist in controlling aircraft that have radio failure by flashing the cut or waveoff lights in accordance with signals delineated in Figure 6-11.
6. Whenever possible, maintain visual contact with all aircraft in the Charlie pattern.
7. Inform the air officer of any unusual conditions affecting the safe recovery of aircraft.

6.6 RECOVERING HELICOPTERS

6.6.1 Recovery Procedures

When recovering after night plane guard duties, helicopters should be provided positioning information by CATCC

in order to expeditiously intercept the glideslope and effect a landing following recovery of the last fixed wing

aircraft. When a flight of helicopters is being recovered under VMC, the leader of the flight should plan to be at the

ramp within a minimum safe interval after the last fixed wing aircraft has landed. The helicopter which is the

farthest

advanced on the inbound radial and has not turned to parallel the ship's course will be considered No. 1 in the landing

pattern and should expeditiously effect a landing following recovery of the last fixed-wing aircraft. The helicopter

cleared No. 1 to land should be assigned a landing spot farthest forward into the wind. Subsequent helicopters should

be cleared to land in sequence behind the No. 1 helicopter. In the event the last fixed-wing aircraft waves off, all

helicopters shall reposition in the pattern (with CATCC assistance as required) to take interval on that last fixed-wing

aircraft. Prior to issuing landing clearance, the air officer shall ensure the helicopter may land within the relative wind

envelope prescribed in the respective aircraft NATOPS flight manual, and the tower shall transmit relative wind

direction, speed, and landing spot(s). For landings not oriented to the angle or axial centerline (day VMC only), the

air officer will ensure an adequate waveoff path is available to the helicopter.

Because of the severe rotorwash and wing-tip vortices produced by CH-53E, MH-53E and V-22 aircraft, land/launch operations should not be conducted upwind of other aircraft or any unsecured area. Because of this severe hazard, consideration should be given to conducting CH-53E, MH-53E and V-22 operations from after-deck spots only.

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Note

Rotating beacon light signals for helicopter operations are contained in the Aircraft Signals NATOPS Manual (NAVAIR 00-80T-113).

Army helicopters are not equipped with an automatic blade fold/spread system. Time for manually folding and spreading main rotor blades should be taken into account for tactical planning during shipboard operations.

Certain Army and Air Force helicopters are not equipped with a rotor brake. Extended rotor coast down times can be expected. These times can vary with relative wind speed and direction, and can exceed 8 minutes in winds as light as 20 knots. The ship shall be ready to provide optimum winds for the windmilling stop of the rotor system.

During Case III recoveries, the approach shall be flown as directed by CATCC until the pilot acquires visual contact

with the optical landing aids, at which time the pilot shall "call the ball." Control will then be assumed by the air

officer, who shall issue final landing clearance. In the event of a waveoff, the pilot shall parallel the final bearing

course and report to CATCC for control. At night, navigation lights shall be steady bright and anticollision

lights on

until established on the final bearing, at which time the position lights shall be placed on dim and steady.

The forward anticollision light shall be turned off when the meatball is in sight.

When the word is passed to stand by to land helicopters, the LSE shall take a position clearly visible to the pilot. The

tower will obtain a "gear down" report from the pilot before issuing final landing clearance. As the helicopter approaches, the LSE shall ensure the landing gear is down, the rotating beacon that controls his area of the flight deck

is green or amber, as appropriate, and that the landing area is clear of personnel, equipment, and loose gear.

Except in unusual circumstances, helicopters shall be landed only on marked spots visible to the pilot during the final

approach.

Except for the "waveoff" and "hold" signals, the LSE signals will be accepted as advisory and the pilot has full

responsibility for the proper and safe operation of the aircraft. At night when two or more helicopters are landing,

the navigation light shall remain STEADY/DIM and the tail anticollision light shall remain ON until touchdown.

After landing and before disengagement, chocks will be placed on the main wheels and the initial aircraft tiedowns

will be attached by the deck crew. A hold signal will be given by the LSE while tiedowns are being attached to indicate

that an unsafe takeoff condition exists. Navigation lights shall be switched to FLASHING DIM (day: FLASHING

BRIGHT) until the rotors have been disengaged and are fully stopped. The LSE will then signal for the aircraft lights

to be turned OFF. When helicopters are recovered immediately ahead of fixed-wing aircraft, pilots shall shut down

and disengage as expeditiously as feasible. They shall remain in their aircraft until towed clear of the fixed-wing

landing area. An amber or red light will be ON whenever rotors are engaged on deck.

6.6.2 NVD Equipment Aided Approaches

Crews aided with NVD may make a visual approach to a spot rather than a Carrier Controlled Approach (CCA)

provided such an approach is coordinated with Air Officer/PriFly, are not IMC, and have sufficient illumination/

visibility.

Night Vision Device (NVD) Centerline Visual Approach. During VMC and using NVDs, the HAC may accept a

visual approach to the fantail and proceed along the centerline for landing on the designated spot. After the last fixed

wing aircraft on final is identified by the Air Boss/CATCC, the helicopter will take interval and land visually Night Vision Device (NVD) Slide-in Visual Approach. At the HAC's discretion, the helicopter may slide in

to a

landing on the designated spot. Visual contact with the ship and NVD usage is required.

6.7 SPECIAL PROCEDURES FOR CARRIER QUALIFICATION LANDING

6.7.1 Fixed-Wing Aircraft

The number of aircraft in the Case I or II pattern should be limited to four and shall not exceed six. Maintaining a proper and uniform interval is very important in the CARQUAL pattern. The air operations officer and the air officer shall make appropriate recommendations. Jet/turboprop aircraft night CARQUALs shall be under

CCA control. Advisory control may be specified by the ship's commanding officer when weather permits. The air officer must be acutely aware of the responsibility to ensure the initial separation between bolter/waveoff and departing aircraft during CARQUAL and cat-trap-cat evolutions.

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CATCC's restricted radar coverage (blindspot) ahead of the ship requires aircrew to exercise good lookout doctrine and radio discipline upon departure.

During night CARQUALs, CCA shall utilize a single frequency to control all aircraft in the CARQUAL pattern.

Anytime CARQUAL or refresher landings are being conducted, a senior representative of each squadron involved

should be present in the tower. During IMC and night operations, his station will be in air operations. He must be

well qualified in the aircraft and prepared to advise the air officer in the event of an emergency.

It is the responsibility of the air operations officer to keep the air officer accurately apprised of the number of landings

required for each aircraft. Air operations/ CATCC will maintain a status board that will show landings required,

landings completed, and location of each aircraft (in Delta, in the Charlie pattern, or on the deck).

The air operations officer is responsible for providing the air officer with accurate bingo/divert data. Before commencing and/or during CARQUALs, he shall compute the distance and bearing to the bingo/divert field and the

fuel required for the model aircraft involved. Bingo/divert data will be broadcast on the recovery frequency by PriFly

or CCA as appropriate.

The decision to divert aircraft will be made by the commanding officer or his designated representative. The air

operations officer and the air officer shall make appropriate recommendations during IMC/night and VMC operations, respectively. In addition, the LSO will make timely divert recommendations to the air officer based on

unsatisfactory pilot performance or unsatisfactory CARQUAL conditions around the ship. It is the pilot's responsibility to inform the tower if he reaches bingo fuel state and has not been ordered to divert.

Changing pilots when an aircraft is on the flight deck with engine(s) running is an inherently dangerous practice

requiring extreme care. When a change is made, the aircraft shall be chocked and have at least the initial tiedowns

attached. Pilots shall not leave/switch their seats until given the "tiedowns in place" signal by the aircraft director.

Note

It is the pilot's responsibility to inform the tower when reaching holddown fuel state after trapping and the aircraft has not been taxied to a refueling spot.

6.7.2 Helicopters

When feasible, two landing spots will be utilized for CARQUAL landings. The pattern shall be a left-hand racetrack

on the port side of the ship. Pattern spacing shall be adjusted to permit one aircraft to be launched prior to another being landed. When the pilot acquires the meatball, he shall report his side number, "ball," and "gear down." Night CARQUALs shall be under CCA control. Advisory control may be specified by the ship's commanding officer when weather permits.

The pilot in the right seat shall be in control of the aircraft unless the tower is informed to the contrary. When changing

pilots, the aircraft will be chocked and have initial tiedowns attached.

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6.8 EMERGENCY LANDING

6.8.1 Fixed-Wing Aircraft

At first indication of a possible emergency landing, the air officer will pass the word "stand by to make a ready deck."

At this time, arresting gear and Crash Salvage personnel, ILARTS, and lens operators will immediately man their

stations. It is the responsibility of PriFly to contact the LSO, who will proceed to the platform. The squadron duty

officer will be notified. Tractors will be attached to all aircraft parked in the landing area, tiedowns will be removed

when directed by the plane directors, and directors and chock men will stand by. A helicopter should be manned and

started unless an airborne helicopter is available for plane guard. If the emergency condition requires a straight-in

approach or a straight-in approach is contemplated, the SPN-41 shall immediately be activated without pilot request.

When it has been determined that an emergency landing will be made, the Air Officer will pass the word, "Make a

ready deck," at which time the landing area will be cleared as expeditiously as safety permits. Personnel concerned

will stand by to rig the barricade if called for. The air officer shall pass an expected Charlie time to the distressed

aircraft.

Pilots of aircraft returning to the ship for an emergency landing shall not shift from the control frequency to tower

frequency until directed to do so unless radio contact has been lost on the control frequency. Normally, the tower and

LSO will shift to the control frequency, thereby avoiding the necessity of a frequency change by the pilot. In no case

will the pilot of an aircraft in distress leave an assigned frequency without broadcasting the frequency to which he

is shifting.

As the ship is being prepared for the landing of aircraft, the air officer will pass as much pertinent information as

possible to the flight deck, bridge, LSO, and CATCC. The air officer shall determine the amount and type of firefighting equipment to be broken out and direct the deployment of personnel, depending upon the nature

and

seriousness of the emergency.

6.8.2 Helicopters

As much deck space as possible will be made available for emergency helicopter landings. If time permits, the senior

helicopter squadron or unit officer on board should take station in the tower or in CATCC, and the air officer should determine the optimum relative wind and request the bridge to maneuver the ship as necessary. In clearing a helicopter for an emergency landing, PriFly will ordinarily designate an area of the flight deck rather than a specific landing spot. Once the aircraft is on final approach, it is imperative that the ship hold a steady course. During an emergency landing, the LSE, if immediately available, shall stand at the upwind edge of the designated landing area. The LSE signals are advisory in nature, except for the waveoff and hold signals, which are mandatory. The LSE shall give a waveoff only in case of a foul deck or if instructed by the tower to do so.

6.9 EMERGENCY SIGNALS

6.9.1 Visual Signals to Ship From Aircraft With Radio Failure

Figures 6-7 and 6-8 provide visual signals to be used in the event of radio failure. Aircraft configuration is the primary daytime indicator of the pilot's desires or intentions. At night, aircraft lighting configuration is the primary indicator of the pilot's desires or intentions.

6.9.2 Visual Signals to Aircraft From Ship Under EMCON or Lost Communication Conditions

Figure 6-9 provides visual signals for giving commands or advisories to aircraft when the ship has lost its communication capability or is under EMCON conditions.

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6.9.3 Carrier Pattern Emergencies

The LSO will make appropriate recommendations to the air officer or pilot as indicated in Figure 6-10.

6.9.4 Day Communication Emergencies

Figure 6-11 describes appropriate action for day communication emergencies.

6.9.5 Night Communication Emergencies

Figure 6-12 describes appropriate action for night communication emergencies.

6.10 TANKER OPERATIONS

Tankers assigned duties in support of the recovery of aircraft shall use the following procedures:

1. Only those tankers that have a known good store and sufficient fuel to meet receiver fuel requirements shall display the flashing green light.

2. For optimum utilization of tankers, single-cycle operation is recommended.

3. A specific existing agency (i.e., departure control) shall be designated tanker control with the responsibility to monitor:

- a. Tanker give-away fuel status
- b. Tanker location
- c. Location and fuel requirements of the low state aircraft
- d. Coordination of the tanker and receiver rendezvous.

6.10.1 Recovery Tanker Procedures

6.10.1.1 CASE I/II

After launch, the oncoming recovery tanker shall switch to departure control for assignment. All tanker packages

should be checked as soon as possible after launch. When it has been determined that the new tanker store is operational, departure control should be advised immediately. The recovery tanker shall maintain a rendezvous circle

oriented on the CV (Figure 6-13). The rendezvous circle shall contain four reference points. Minimum pattern altitude

shall be 1,500 feet. This pattern is a left-hand circle within 5 nm of the CV during launch and recovery operations.

When the last jet is aboard, the tanker shall climb to prebriefed altitude and switch to assigned frequency for control.

PILOT'S DESIRES OR INTENTIONS	VISUAL SIGNAL
I desire immediate landing.	Fly up the port side of the ship, low and close aboard, rocking wings, in a landing configuration with hook down. Navigation lights bright and steady with anticollision light on. If turning final in VFR pattern or approaching final on a CCA, momentarily turn on the taxi light, if available.
I desire to land but can wait for the next recovery.	Fly up the port side with the landing gear up, hook down, navigation lights bright and steady, and anticollision light off while abeam the ship.
I am proceeding to the bingo field.	Fly up the port side of the ship, rocking wings, with landing gear and hook up, navigation lights bright and steady, and anticollision light on. If fuel state and nature of the emergency permit, continue making passes until joined by a wingman. Upon reaching bingo fuel state, proceed alone, setting IFF/SIF to emergency when departing.
NOTE 1. The requirement for gear down and rocking wings as the signal for an immediate landing is not required when considered unsafe by the pilot due to the nature of the emergency; for example, loss of an engine in multiengine aircraft. 2. At night, aircraft flying close aboard the port side of the ship without lights are considered to have an emergency requiring immediate landing.	

Figure 6-7. Emergency Signals to Ship From Fixed-Wing Aircraft With Radio Failure

PILOT'S DESIRES OR INTENTIONS	VISUAL SIGNAL
I require immediate landing.	Fly close aboard starboard quarter, remaining clear of other traffic, with gear down and floodlights/landing light on. With complete electrical failure, fire a red flare to seaward.
I desire to land but can wait for the next recovery.	Fly by or hover on the starboard side of the ship, low and close aboard, with navigation lights bright and flashing and anticollision light on.

Figure 6-8. Emergency Signals to Ship From Helicopters With Radio Failure

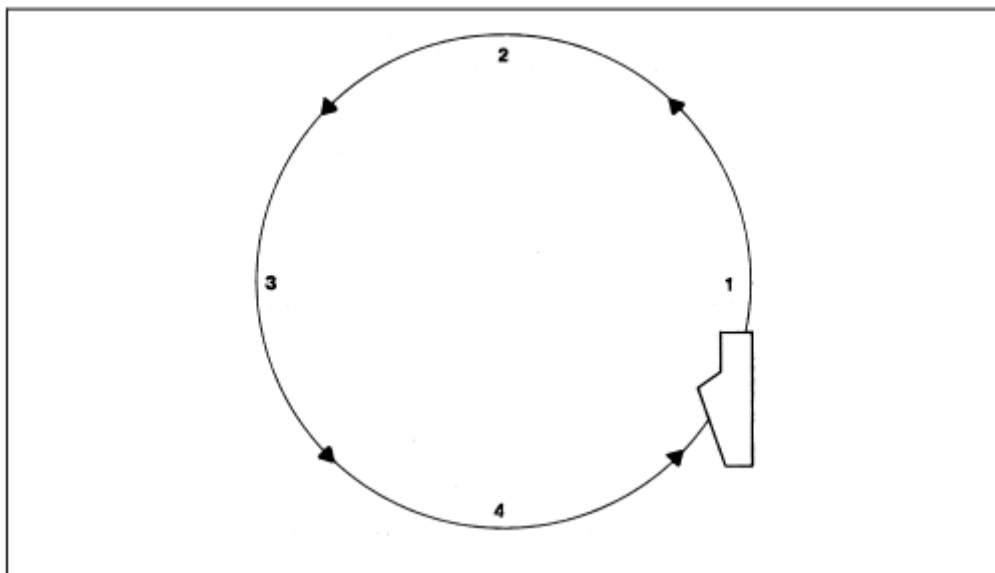


Figure 6-13. Tanker Rendezvous Pattern

6.10.1.2 Case III

The recovery tanker pattern shall be assigned by departure control. It shall be at least 1,000 feet above the overcast

or VMC between layers, but not less than 2,500 feet MSL. The tanker pilot shall advise departure control of the best

altitude and position to conduct emergency tanking. Positive control shall be provided for tanker overcast

penetrations. Departure control shall assist in positioning the tanker near a potential receiver and shall keep the tanker

informed of the potential receiver's position.

Note

Tanking shall not be attempted below 1,500 feet during Case I/II and 2,500 feet during Case III.

6.10.2 Rendezvous Procedures

6.10.2.1 Rendezvous Low (Day and Night)

When directed to "hawk" (closely monitor) a particular aircraft that is a potential receiver, the tanker pilot shall

position the tanker to be at the 2-o'clock position of the low-state aircraft as it bolters or waves off. The minimum

altitude for rendezvous shall be 1,500 feet day, 2,500 feet night, ensuring a minimum of 500 feet vertical separation

between receiver and tanker aircraft until visual separation can be maintained. When directed, the tanker shall switch

to the potential receiver aircraft's frequency. If visual contact is not acquired, the controlling agency shall provide

assistance until visual contact is established. The receiver should generally make the final rendezvous on the tanker.

Positive radio communications must be established if the tanker will be rendezvousing on the receiver at night. The

tanker should stream the drogue as the receiver joins, thus expediting plug-in. The tanker pilot

shall report to tanker
control the following:

1. When the receiver is taking on fuel
2. When refueling has been completed, the amount of fuel transferred, and update give-away.

6.10.2.2 Rendezvous High/On Top (Day and Night)

Departure control shall provide positive control until visual contact is established. The receiver shall make the final rendezvous on the tanker and report as previously described.

6.10.3 Recovery Tanking Pattern

After the receiver is engaged, the tanker aircraft shall establish a racetrack pattern in the vicinity of the ship. Unless special circumstances exist, the tanker should not proceed more than 10 miles ahead of the ship. The downwind leg should be

3 to 5 miles abeam and tanking should be completed prior to reaching a point 6 miles astern to allow for proper pattern

entry. If tanking is done above an overcast, departure control may direct adjustment of the pattern so as to allow for normal descent and CCA pickup.

6.10.4 Recovery (Case III)

The desire to expedite tanker recovery must not jeopardize flight safety. The recovery tanker shall be given positive

control unless executing an instrument approach procedure published in this section or operating under night

EMCON conditions. The aircraft shall be level during the turn to final bearing and given sufficient clearance to pass

through 6 miles at 1,200 feet.

Note

If recovery tanker is established 1,200 feet abeam, the six mile gate is not required.

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6.10.5 Fuel Transfer and Dump Control

Each ship/air wing shall promulgate supplementary instructions that shall include the following instructions.

1. Bingo data for all embarked aircraft.
2. Low state figures (i.e., state at which aircraft will normally be ordered to tank) and amount of fuel to be transferred to each type aircraft when no divert field is available.

3. Procedures for control of tanker fuel by CATCC.

4. Minimum fuel for barricade engagement.

Except in an emergency, tankers shall obtain clearance from departure control before transferring or dumping fuel.

Departure control shall be advised of any changes of tanker fuel state and give-away as appropriate.

Shipboard recovery of a tanker aircraft with an extended hose presents a missile hazard that may be caused by shattering of the drogue/basket as it strikes the ramp area. Prior to recovery, the flight deck should be cleared

of all but required recovery personnel. Only the controlling LSO should remain on the platform, and he should utilize the safety net as the aircraft crosses the ramp. If possible, aircraft adjacent to the landing area should be respotted forward or struck below to the hangar deck.

Even though the probability of damage to the aircraft by drogue/basket slap during a bolter is slight, the pilot should be aware of this possibility.

6.11 DIVERSION OF AIRCRAFT

The air operations officer or the air officer shall normally be responsible for making the recommendation to the commanding officer as to which aircraft should be diverted in the interest of flight safety. The air operations officer shall, if practicable, determine the condition of the navigation, communication, and lighting facilities of divert field prior to the first Case III recovery. The following factors shall be considered when anticipating a divert:

1. Aircraft fuel state
2. Bearing and distance of field
3. Weather at divert field, current and forecast
4. En route upper level winds
5. Suitability of field for type of aircraft
6. Navigational assistance available
7. Aircraft mechanical condition
8. Ordnance restrictions
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9. Condition of carrier deck
10. Availability of tankers
11. Pilot performance.

CATCC/CDC shall be alerted to the impending divert of an aircraft or group of aircraft and shall take control of the

aircraft when diverted. CDC shall also ensure the ship's lookouts are alerted to the forthcoming divert, model aircraft,

side number, and on what relative bearing the aircraft is expected to depart the ship.

If the tanker refueling hose cannot be retracted, the hose shall be guillotined prior to recovery. If the hose fails to

separate, the aircraft shall be diverted to a suitable landing field. When the situation prevents an aircraft divert and

it is equipped with an external refueling store, the store shall be jettisoned prior to attempting a carrier landing. If

the hose cannot be guillotined and/or the refueling store jettisoned, normal arrested landing procedures shall be utilized.

When it is determined to divert an aircraft, approach control shall notify the pilot by passing the following information

only: "(call sign) signal divert/bingo, (name of field) passing angles 2.5 go button (XX)." After the switch to departure

control once above 2,500 feet, the pilot shall be advised to check gear up/hook up and also have

information relayed regarding the magnetic heading and the distance to the divert field. A readback of diverting instructions from the pilot or flight leader is mandatory on departure frequency. While under positive control and en route to the divert airfield, any additional information available shall be provided the pilot concerning latest en route and field weather, squawk, altimeter setting, and position from which divert is being initiated. If operating outside an ADIZ boundary, the CDC controller shall provide the pilot with the necessary ADIZ information. The appropriate Air Defense Sector shall be advised of the diverted aircraft's departure point, ADIZ penetration point, time of penetration, altitude, ETE, destination, and any additional information that may be pertinent to safety of flight. The CDC controller shall maintain a radar plot and radio monitor on all diverted aircraft as long as possible and retain responsibility for the aircraft until positive radar handoff to FACSAC/ARTCC or other appropriate controlling agency. Under IMC, the aircraft shall be instructed to shift to the appropriate airspace controlling agency (FAA or other) frequency after the additional divert information has been received. Once communications have been established with this controlling agency, the flight plan particulars shall be furnished, including the ADIZ penetration information for relay to an air defense sector. The aircraft will receive a clearance. If communications cannot be established, as is often the case, the pilot should file using GCI Common. The air operations officer shall ensure a divert flight plan is transmitted to the appropriate divert airfield and similar information to the pertinent air defense system agency should an ADIZ penetration be involved; he is also responsible for receipt of an arrival report on the diverted aircraft. The pilot shall ensure an arrival report is transmitted immediately upon landing via the most expeditious means (i.e., POTS, HF/UHF radio, INMARSAT, immediate message, etc.). Squadron or unit commanders and the air operations officer are jointly responsible for ensure aircraft performance data pertinent to divert is available to and understood by air control personnel.

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