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# **Simwings.nl – vNAVCAD F9F-8T syllabus**

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**By**

**Marcel “Sigma” Hendrikse**

## Foreword

After having finished the T-2 curriculum, you are now ready for the final phase of VNAVCAD training. From the Naval Air Station at Kingsville, TX, you will be flying the Grumman F9F-8T dual-seat training aircraft.

As you are now somewhat more experienced, the number of familiarization flights will be considerably lower compared to the T-2 phase. Other phases will also consist of less flights. This goes for the instructional part as well! Aerobatics, for instance, will be assumed known by now. A lot of instructional information is identical to that given in the T-2 phase and is referred to as such.

Aircraft used in this stage:

<b>Download</b> <b>(Flightsim.com)</b>	<a href="#">f9f_cougar.zip</a> <a href="#">F9F_COUGARFIX.ZIP</a>
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**IMPORTANT: BY DEFAULT THIS AIRCRAFT LACKS THE AOA INDEXER (with the V, the chevron and the centered donut). On the site, you can download a text file holding the information needed to allow you to edit the panel.cfg file and have the instrument available**

A new challenge will be found in 'unusual recovery' setups. You will be referred to a link on the website: a .zip file containing a number of flight situations in the F9F. Each situation is paused in a (near)zero-visibility situation, in an unusual attitude. Your assignment will be to use your instrument panel to put the aircraft in straight and level flight, 250 knots. That will require a quick and accurate observation of the instrument panel, followed by the proper control inputs.

This new challenge will be a part of the Instrument training you will go through in this phase.

Included in this course are also two night flights.

Next to that, you will again visit NAS Jacksonville and the USS John F. Kennedy for your carrier qualification, after of course having made sufficient FCLP rounds (50) at NAS Kingsville.

After CQ-02, your logbook will be signed off with:

*No more flights this command*

by your instructor.

The next step will then be the winging ceremony, the party and your journey to the Replacement Air Group (RAG) where you will be trained in flying the fleet aircraft assigned to you.

Good luck, Ensign!



**SET FAIR WEATHER.****TOPICS:**

- taxiing and takeoff
  - climb to 16,000 feet, 300 knots
    - **PRACTICE:**
  - straight and level flight
  - level and climbing turns (30 through 90 degrees AOB)
  - stalls in clean and landing configuration
  - aerobatics
- 

**[Secondary objective of all maneuvering is to burn down fuel to make the aircraft light enough for landing]**

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**NAVIGATION:**

Proceed to KNQI (GPS)

Contact ATC and request clearance for touch and go on the active

2 touch and go's

Landing, taxi in, shutdown

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## Basic Instruments (BI)

Like in the T-2, you will be faced with instrument flying in the Cougar. BI-01 through BI-04 will be roughly the same as in the T-2 stage.

BI-05 and BI-06 will consist of 'unusual attitude recovery' training. Make sure you download the file called **f9f\_uar.zip** file from the website. Also bear in mind that the flight situations included there are using the aircraft mentioned in the foreword, so make sure you have that aircraft installed. Follow the instructions in the zip file to make sure you have the flight situations saved in the right location.

'Unusual attitude recovery' training puts you in a paused flight situation with zero visibility. The aircraft will be somewhere in the airspace around Kingsville in a random flight attitude. This could be upside down, climbing, descending, turning, level or a combination thereof.

Your job will be to use your instruments to bring the aircraft back to straight and level flight, 250 knots. You can then proceed with the next UAR flight situation.

In this stage, you are NOT going to land via ILS. This is my recommended setup for BI flights in the F9:

> Position the aircraft on the runway, ready for takeoff  
then go to the Weather menu and set visibility to the minimum of the slider

> Take off, following the mission profile as described in the flight sheet (BI-0x)

> Once finished with the maneuvers, return to the Weather menu and select a clear/fair weather profile

> Use GPS to get your bearings back to KNQI

It is also very useful to have a watch/stopwatch/etc. at hand. You will need this for the timing required during one of the (recurring!) exercises.

**TOPICS:**

Basic Instrument

**PREREQUISITE(S):**

Startup mode in Flight Simulator:

1. F-9 at start of active runway at KNQI with idling engines, flaps in takeoff
2. Visibility set to minimum in Weather menu
3. No winds set

**Maneuvers:**

Note the runway heading and set the Horizontal Situation Indicator (HSI) to match that

Start your takeoff run, rotating at 100 knots. KEEP THE AIRCRAFT ALIGNED WITH THE RUNWAY!

Once the aircraft leaves the ground, keep a positive rate of climb all the way to 16,000 feet

Level off at 16,000 feet, 250 knots

**DEVIATIONS TOLERANCE FOR ENTIRE FLIGHT:**

**ALTITUDE: +/- 100 FEET**  
**SPEED: +/- 10 knots**

**TASK 1**

30 and 45 degree AOB left & right turns

Straight and level flight 250 knots

Deceleration to pattern/landing speeds, go to landing config while maintaining altitude

**TASK 2****S-Patterns**

Start at a random altitude above 10,000 feet, flying 250 knots straight and level

Start your timer and initiate a 1-minute, 1000 fpm descend at 250 knots (requires power decrease)

At the end of the minute, break the descend and IMMEDIATELY start a 1000 fpm climb for another minute (requires power increase)

At the end of the 1<sup>st</sup> minute, you should be exactly 1,000 feet lower

At the end of the 2<sup>nd</sup> minute, you should be at your initial altitude, flying the same course, same speed (250)

**[REPEAT 4 TIMES]**

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**[REPEAT 4 TIMES]**

**TOPICS:**

Basic Instrument - Unusual Attitude Recovery

**PREREQUISITE(S):**

Startup mode in Flight Simulator:

1. F-9 at start of active runway at KNQI with idling engines, flaps in takeoff
2. Visibility set to minimum in Weather menu
3. No winds set

**Maneuvers:**

Open the first "UARF9-~~xx~~" flight situation

[\*] DIRECTLY unpause the situation once it has been loaded

Maneuver to bring the aircraft in a straight and level flight, 250 knots

Once stabilized, load the next "UARF9-~~xx~~" flight situation and repeat from [\*]

After having completed all flight situations, restore Fair/Clear Weather in the Weather menu and use GPS to return to KNQI

Apply for a touch and go, then land, taxi in and shut down systems and engine



**TOPICS:**

Basic Instrument - Unusual Attitude Recovery

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## Radio Instruments (RI)

RI consists of 6 flights during which you are going to use intersections and VOR beacons for orientation. Like in the T-2 phase, we will simulate you being 'under the bag' in the rear cockpit by setting visibility to the minimum level.

At the end of each flight, while still airborne, you will set visibility back to normal and return to base.

There will be 6 similar flights, which again are based on the principle that repetition is the key to proficiency. You can opt to work through RI in just under a week by flying 1 sortie per day, or in 3 days by flying a sortie in two separate parts of the day (morning and afternoon for example).

For the purpose of this exercise, you are allowed to use the GPS for navigation to and from intersections.

The next page contains an IFR chart (source: VFRmap.com) of the direct surroundings of NAS Kingsville. Take a close look at it.

I would again like to emphasize the benefit of using FSNavigator: it will allow you to show intersections and airways that can be used during the RI flights.

**All flights will consist of round robin flights: they will start and end at KNQI. Intermediate checkpoints can consist of VORs, NDBs and intersections**



**TOPICS:**

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1. T-2 at start of active runway at KNQI with idling engines, flaps in takeoff
2. Visibility set to minimum in Weather menu
3. No winds set

Set the Horizontal Situation Indicator (HSI) to match runway heading

Start your takeoff run, then rotate. KEEP THE AIRCRAFT ALIGNED WITH THE RUNWAY!

Once the aircraft leaves the ground, keep a positive rate of climb all the way to 16,000 feet and level off at 16,000 feet, 250 knots

**DEVIATIONS TOLERANCE FOR ENTIRE FLIGHT:**

**ALTITUDE: +/- 100 FEET**  
**SPEED: +/- 15 knots**

**Maneuvers:**

Set up a flightplan starting at KNQI, altitude 16,000 feet.

Format: KNQI > VORs/NDBs/INTs > KNQI

Minimum # of waypoints: 5

You are allowed to use GPS for intersections and autopilot altitude hold

(use the fields to write down names and if applicable frequencies)

<b>KNQI</b>				
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**Final stage of flight:**

Set GPS to KNQI and descend to 10,000 feet. Level off, 250 knots

Over KNQI, start a 1000 fpm descending turn (30 degrees AOB), 250 knots and level off at 2,000 feet

Set weather to clear, enter the pattern and land (optional: touch and go)

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FORM-01

COMPLETED

TOPICS:

Formation flight

**SKIPPED**

**TOPICS:**

Introduction to night-flying

**PREPARATION:**

Set the simulator to night time, Fair Weather

**Maneuvers:**

Create a flight plan

<b>KNQI</b>				
				<b>KNQI</b>

Fly the flight plan and upon arrival back at KNQI, carry out two missed approach procedures:

- prior to hitting the tarmac, retract speed brakes and hit full power
- climb back to 1000 feet, retracting gear and flaps
- turn back to repeat the procedure
- finish with a full-stop landing

Taxi in and shutdown systems and engine

**TOPICS:**

Introduction to night-flying

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## Field Carrier Landing Practice and Carrier Qualification

Basically, the comments stated in the T-2 syllabus also apply to the training in the F-9 and should be considered repeated here.

The steps to be carried out are identical. The only difference is that you are already familiar with FCLP, so the sheer number of touch and go's will be lower: 50. FCLP stage consists of 6 sequences of 7 approaches and touch and go's each, topped off by a 7<sup>th</sup> sequence in which you execute 8.

For the benefit of repeated instruction, I have included all steps of each sequence. The sequences are numbered FCLP-01 through FCLP-07.

**Review checklists and procedures first.**

**TOPICS:**

Field Carrier Landing Practice

**PREREQUISITE(S):**

Clear weather + aircraft set at an IFLOLS-equipped runway

**Maneuvers:**

Take off from the runway and climb to 800 feet, level off at 250 knots

**[\*\*]** Turn 180 degrees to the left while idling the engines

Lower gear and flaps, extend speed brakes, maintain 150 knots and descend to 600 feet

Passing the start of the runway, start a gentle descending turn. Make sure that when you are 90 degrees off the final heading (runway heading), your altitude is no less than 450 feet

This is also where you would start using the virtual cockpit in order to allow yourself to turn the aircraft to the final approach heading while keeping the runway (and at some point the IFLOLS or "meatball") in sight

When rolling out on the final approach heading, your altitude should be no less than 300 feet. Use the IFLOLS and the angle-of-attack indicator to maintain proper speed and attitude.

Do NOT (!!!!) flare. Instead, 'fly' the aircraft to the ground at a constant speed

Upon touchdown, retract speed brakes, apply full power and do NOT allow the nose wheel to touch the ground. You should maintain angle of attack; the aircraft will immediately become airborne again

Retract gear and - above 200 knots - flaps

Climb to 800 feet and level off at 250 knots, then repeat all from **[\*\*]**

**Use the below table to check off your touch and go's**

1	2	3	4	5	6	7	
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After the last touch and go, apply for a full-stop landing (or just make one)

Taxi in and shutdown systems and engine

**Review checklists and procedures first.**

**TOPICS:**

Field Carrier Landing Practice

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After the last touch and go, apply for a full-stop landing (or just make one)

Taxi in and shutdown systems and engine

**Review checklists and procedures first.**

**TOPICS:**

Field Carrier Landing Practice

**PREREQUISITE(S):**

Clear weather + aircraft set at an IFLOLS-equipped runway

**Maneuvers:**

Take off from the runway and climb to 800 feet, level off at 250 knots

**[\*\*]** Turn 180 degrees to the left while idling the engines

Lower gear and flaps, extend speed brakes, maintain 150 knots and descend to 600 feet

Passing the start of the runway, start a gentle descending turn. Make sure that when you are 90 degrees off the final heading (runway heading), your altitude is no less than 450 feet

This is also where you would start using the virtual cockpit in order to allow yourself to turn the aircraft to the final approach heading while keeping the runway (and at some point the IFLOLS or "meatball") in sight

When rolling out on the final approach heading, your altitude should be no less than 300 feet. Use the IFLOLS and the angle-of-attack indicator to maintain proper speed and attitude.

Do NOT (!!!!) flare. Instead, 'fly' the aircraft to the ground at a constant speed

Upon touchdown, retract speed brakes, apply full power and do NOT allow the nose wheel to touch the ground. You should maintain angle of attack; the aircraft will immediately become airborne again

Retract gear and - above 200 knots - flaps

Climb to 800 feet and level off at 250 knots, then repeat all from **[\*\*]**

**Use the below table to check off your touch and go's**

1	2	3	4	5	6	7	
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**Use the below table to check off your touch and go's**

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After the last touch and go, apply for a full-stop landing (or just make one)

Taxi in and shutdown systems and engine

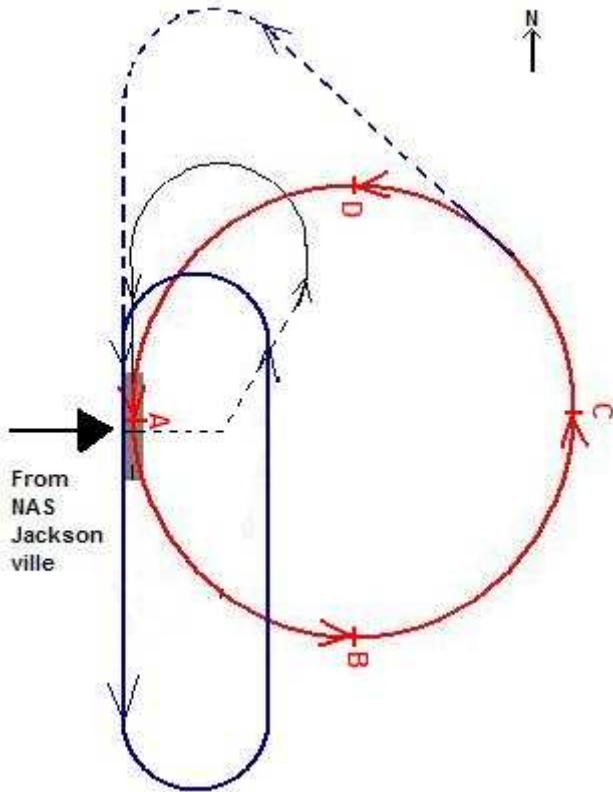
## Carrier Qualification (CQ)

CQ in the F-9 will also take place from NAS Jacksonville. Therefore, the same navigational information applies to this stage.

Set your ADF to frequency 367. If you have the NAV2 radio available, you may want to set it to 108.40. Set your NAV1 radio (which will control the ILS) to 110.30.

Set your VOR1 to 184, which is the final heading toward the landing deck.

Take off from NAS Jacksonville, climb to 4000 feet and at the same time turn toward heading 100. Once the ADF needle zeroes in on the carrier's NDB, turn directly toward it



Refer to the T-2 syllabus for a review of further relevant information.

**TOPICS:**

Carrier Qualification

**PREREQUISITE(S):**

Clear weather + aircraft set at NAS Jacksonville, active runway (KNIP)

**Maneuvers:**

Take off and fly to the East, see the diagram on page 57

Carry out the described procedures along this schedule:

<b>F9F-8T CARRIER QUALIFICATION</b>	
<b>Action</b>	<b>Check</b>
1 <sup>st</sup> bolter	
2 <sup>nd</sup> bolter	
1 <sup>st</sup> trap – 1 <sup>st</sup> launch	
2 <sup>nd</sup> trap – 2 <sup>nd</sup> launch	
3 <sup>rd</sup> trap – 3 <sup>rd</sup> launch	
4 <sup>th</sup> trap – 4 <sup>th</sup> launch	
<b>RETURN TO NAS JACKSONVILLE</b>	
Land and shutdown	

After the 4th launch, head west back toward NAS Jacksonville. Land there, taxi to the platform, shut down, get out and enjoy a cold beer!

## Training concluded

Carrier qualification in the F9F-8T was the last 'hurdle' you needed to take. Next will come the winging ceremony and the assignment to a Replacement Air Group (RAG), where you will be transitioning to the aircraft type you will be flying in the fleet.

Assignment of the airframe is/was in real life primarily based on your performance in flight school and the Navy's requirements. Personal preferences were subordinate to both those factors.

If the A-6 Intruder is your top choice of fleet aircraft, check out my VA-128 site: <http://www.simwings.nl/val28>.

I, for one, hope you had a pleasant time flying these missions. You should have accumulated quite some hours and hopefully some extra knowledge. It was a pleasure to design these flights. Of course, the number and the contents are 'dialed down' to (recreational) flightsimming levels.

All 3 vNAVCAD courses were created using primarily Stephen R. Gray's excellent book "Rampant Raider". I strongly recommend reading it. It will give you a great insight in U.S. Navy flight training in the mid-1960s and I'm sure you will find a lot of familiar things in the book if you have flown the missions.

Likewise, if you read the book prior to flying the missions, you will also come across a lot of familiar things.

For comments and/or questions, you can contact me at [mba@freeler.nl](mailto:mba@freeler.nl).

*Marcel Hendrikse*

December 2012-January 2013