

## INTRODUCTION

Enclosed in this information you will find the following items that will help you come prepared to the ground school.

Welcome Letter

Attendance and Document Requirements

Profiles and Procedures Guide

Specific Operating Limits for the C-402C

Initial Ground School Syllabus

Post Ground School Guidelines

General Information

We welcome you to the Ground School. Please let us know if you have any questions at any time.

Thank you,

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## **ATTENDANCE AND DOCUMENT REQUIREMENTS**

Please be sure to have the following documentation with you at the first day of ground school.

- ✈ Proof of Citizenship (current valid passport or birth certificate with a raised seal and photo ID, Social Security Card)
- ✈ Appropriate class materials (i.e. notebooks, pens, pencils, high lighters, etc.)

The following paperwork must be filled out and returned to us prior to ground school. Please note that the National Driver Registry Check page of the packet must be notarized.

- ✈ Completed Background Screening application (found in Welcome mailing)

The Training Department will provide to you a binder with the following items included on Day 1 of Ground School:

- ✈ Copies of appropriate charts
- ✈ Copies of appropriate segments of the Aircraft Flight Manual (AFM).
- ✈ Additional required company paperwork
- ✈ Autopilot Checklists
- ✈ Ground School sign off forms and test answer keys

## INITIAL GROUND SCHOOL SYLLABUS

The following schedule is a template only. Actual times may vary depending on length taken on each topic.

Day	Ground School Topic
<b># 1 Monday</b> <b>Welcome To Cape Air</b>	<b>0800-1700</b> <ul style="list-style-type: none"> <li>✍ Prints, Paperwork, Photos</li> <li>✍ Pre-Employment Drug Testing</li> <li>✍ GOM Regs, Ops Specs, WB Training</li> </ul>
<b># 2 Tuesday</b>	<b>0800-1700</b> <ul style="list-style-type: none"> <li>✍ FOM</li> <li>✍ Cold Weather Ops</li> <li>✍ Hazmat</li> <li>✍ Hazards to Flight</li> </ul>
<b># 3 Wednesday</b>	<b>0800-1700</b> <ul style="list-style-type: none"> <li>✍ Hazards to Flight, cont.</li> <li>✍ Wake Turbulence</li> <li>✍ CFIT</li> <li>✍ Wind Shear</li> <li>✍ Company Accidents/Incidents</li> </ul>
<b># 4 Thursday</b>	<b>0800-1700</b> <ul style="list-style-type: none"> <li>✍ Navigation</li> <li>✍ Concepts of Instrument Approach Procedures</li> <li>✍ Flight Planning</li> <li>✍ Uncontrolled Airport Operations</li> <li>✍ Company Flight Control Procedures</li> <li>✍ Meteorology</li> <li>✍ ATC Procedures</li> </ul>
<b># 5 Friday</b>	<b>0800-1700</b> <ul style="list-style-type: none"> <li>✍ Systems</li> </ul>
<b># 6 Monday</b>	<b>0800-1700</b> <ul style="list-style-type: none"> <li>✍ Systems, cont.</li> </ul>
<b># 7 Tuesday</b>	<b>0800-1700</b> <ul style="list-style-type: none"> <li>✍ Systems, cont.</li> <li>✍ Emergency Situation Training</li> <li>✍ Emergency Drill Training</li> </ul>
<b># 8 Wednesday</b>	<b>0800-1700</b> <ul style="list-style-type: none"> <li>✍ Systems Test</li> <li>✍ Security</li> <li>✍ Completion Paperwork</li> </ul>

# POST GROUND SCHOOL

## Simulator Sessions

- ✈ Up to 10 lessons in PC based Flight Training Device until demonstrated proficiency in normal, instrument, and emergency procedures.

## Flight Training

- ✈ 7-10 flights, approximately 1 ½ hours each session in the Cessna 402C

## Before Line Flying

- ✈ A check ride with a company check pilot
- ✈ Line Oriented Flight Training (LOFT) in the simulator
- ✈ Initial Operating Experience (IOE)
  - Minimum of 15 hours of supervised line flying with a company IOE check pilot

## **General Information**

### **Security:**

Upon completion of a successful check ride, you will receive a company issued identification badge. Cape Air employees display the ID through an armband pouch, removable clip, or lanyard enabling the holder to wear it above the waist. Each device used does not obstruct any part of the ID. The ID is displayed on the outside of the outermost garment at all times regardless of the weather or job related activities.

### **Scheduling:**

The initial ground school schedule is a set schedule. During the second week of ground school simulator training will begin. Our goal is to ensure all trainees receive the proper training. This is also the same with flight training. You will be assigned to an instructor and will work with that instructor for the majority of your training. Please note that it is possible you may train with another instructor if your original one is not available on particular days.

### **Smoking:**

Smoking is not permitted inside any building or on the ramp sides of the buildings. Smoking is permitted on the non-secure sides of the buildings (street side).

### **Refreshments:**

McDonald's, Wendy's, Panera Bread, and Uno's, are all within walking distance of our facilities. Vending machines are found on the first floor of the Employee Development Center (EDC) and the hangar floor near the flight training offices in the Headquarters building (Fleet Center).

### **Medical:**

Cape Cod Hospital  
27 Park Street  
Hyannis, MA 02601  
508-771-1800

CVS Pharmacy  
Cape Cod Mall, Route 132  
Hyannis, MA 02601  
508-775-3441 Front Store  
508-771-1774 Pharmacy

Brook's Pharmacy  
Airport Shopping Center  
360 Barnstable Road  
Hyannis, MA 02601  
508-771-8122

**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**



**Cessna 402C**

**Profiles and Procedures  
Guide**



**Revised – June 2007**

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**Profiles and Procedures Guide**

## **Introduction**

Operating procedures defined in this section are intended to conform with the objectives of the Company in order to place safety and standardization in their proper perspective.

**Conscientious adherence to these procedures is expected.**

One of the most important items in good cockpit management is the proper use of the checklist. The success attained by flight crews in the execution of the various normal and emergency procedures is attributable, to a large extent, by the reliability of a “flow check / checklist” system. The checklist philosophy relies heavily on a thorough “flow check” to ensure proper system configuration. The checklist is then used as a follow-up to confirm that the aircraft is in the proper configuration for that phase of operation.

The source document for all approved procedures is the Hyannis Air Service, Inc. Flight Training Manual. For the convenience of the pilots, certain data and procedures have been excerpted from the Hyannis Air Service, Inc. Flight Training Manual, the Cessna 402 Pilot Operating Handbook and the FAA Airline Transport Pilot Practical Test Standards guide.

**In the event of a discrepancy between this Guide and the aforementioned source documents, the Hyannis Air Service, Inc. Flight Training Manual and the Cessna 402 Pilot Operating Handbook will take precedence.**

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Profiles and Procedures Guide**

**Table of Contents**

Normal Takeoff _____	2
Engine Failure After Takeoff _____	3
Go Around/Missed Approach – Normal _____	4
Go Around/Missed Approach – Engine Inoperative _____	5
Steep Turns _____	6
Clean Stalls _____	7
Takeoff and Departure Stall _____	8
Approach to Landing Stall _____	9
Traffic Pattern _____	10-11
ILS Approach – Normal _____	12
ILS Approach – Engine Inoperative _____	13
Non-Precision Approach – Normal _____	14
Non-Precision Approach – Engine Inoperative _____	15
Appendix _____	16
Memory Items _____	17-24
Cessna 402 Cockpit Flows _____	25-26
Speeds and Definitions _____	27
Aircraft Weights and Standard Power Settings _____	28



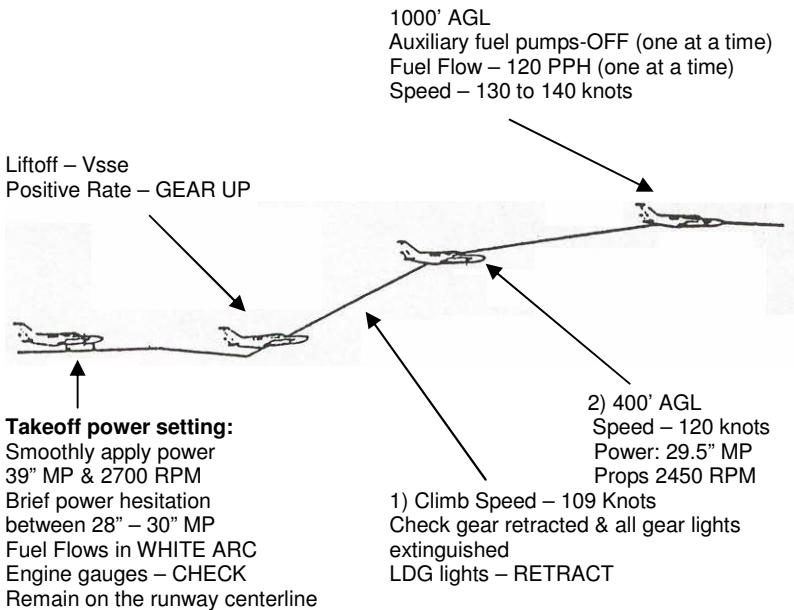
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**Normal Takeoff**

Ascertain the approach and departure areas are clear of aircraft prior to occupying the active runway.

**Maintain:**

- |                           |                   |
|---------------------------|-------------------|
| ✓ Positive pitch attitude | ✓ Target airspeed |
| ✓ Positive rate-of-climb  | ✓ Heading         |
- 



Helpful Hints

- 1) Pitch 10°-12° for 109 kts
- 2) At 400' pitch 5°-7° for 120 kts

Performance Standards:

- Positive pitch attitude maintained
- Positive rate-of-climb maintained
- Airspeed  $\pm 5$  knots
- Heading  $\pm 5^\circ$  of runway heading

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## Engine Failure After Takeoff

Ascertain the approach and departure areas are clear of aircraft prior to occupying the active runway.

### Maintain:

- |                           |                   |
|---------------------------|-------------------|
| ✓ Positive pitch attitude | ✓ Target airspeed |
| ✓ Positive rate-of-climb  | ✓ Heading         |

Liftoff – Vsse

Positive rate – GEAR UP (or in-transit)

#### 1) ENGINE FAILURE

Center ball with rudder pressure

Mixtures – FULL RICH

Propellers – FULL FORWARD

Throttles – FULL FORWARD (39" MP)

Flaps – CHECK UP

Landing Gear – CHECK UP

Fuel Flow – If deficient, pump on HIGH

Inoperative Engine:

Throttle – CLOSE

Mixture – IDLE CUT-OFF

Propeller – FEATHER

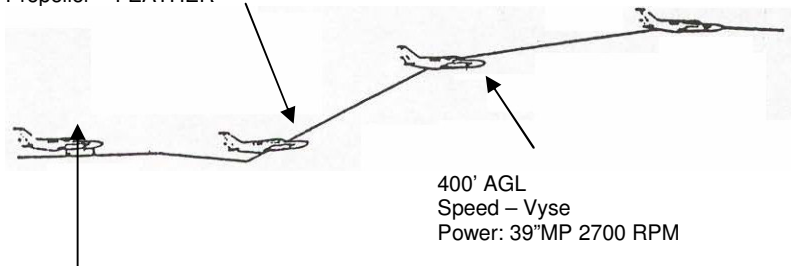
1000' AGL

Speed – Vyse

Power – 39"MP 2700 RPM

Engine Failure after Takeoff

Emergency Checklist



### Takeoff power setting:

Smoothly apply power

39" MP & 2700 RPM

Brief power hesitation between 28" – 30" MP

Fuel Flows in WHITE ARC

Engine gauges – CHECK

Remain on the runway centerline

### Helpful Hints

2) Pitch initially <5°  
then 8°-10° approx.  
after feathering

### Performance Standards:

- Positive pitch attitude maintained
- Positive rate-of-climb maintained
- Airspeed  $\pm 5$  knots
- Heading  $\pm 5^\circ$  of runway heading
- Zero sideslip

### WARNING

**The propeller on the inoperative engine must be feathered, landing gear retracted, and wing flaps up or continued flight may be impossible.**

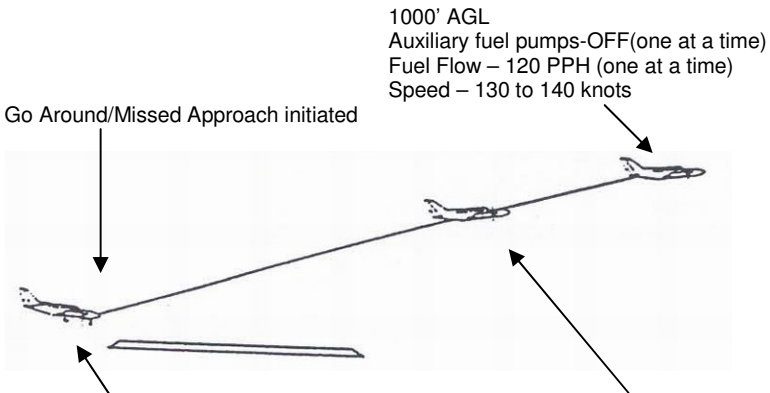
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## Go Around/Missed Approach – Normal

This procedure is used when a landing attempt is abandoned or if necessary to execute a missed approach.

**Maintain:**

- |  |                   |
|--|-------------------|
| ✓ Positive pitch attitude<br>(for target airspeed) | ✓ Target airspeed |
| ✓ Positive rate-of-climb                           | ✓ Heading         |
- 



**TWO ENGINE GO AROUND**

1) Pitch – Establish pitch attitude to maintain 95 kts.  
simultaneously with the following:  
Mixtures – FULL RICH  
Propellers – FULL FORWARD  
Throttles – FULL FORWARD (39" MP)  
Flaps – 15°  
Positive Rate of climb – GEAR UP  
Flaps – UP  
Speed 109 knots  
Cowl Flaps – OPEN  
Lights – RETRACT

2) 400' AGL  
Speed – 120 knots  
Power: 29.5" MP  
2450 RPM

Helpful Hints

- 1) Pitch 10°-12° for 109 kts
- 2) At 400' pitch 5°-7° for 120 kts

Performance Standards:

- Positive pitch attitude maintained
- Positive rate-of-climb maintained
- Airspeed  $\pm 5$  knots
- Heading  $\pm 5^\circ$  of runway heading

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## **Go Around/Missed Approach – Engine Inoperative**

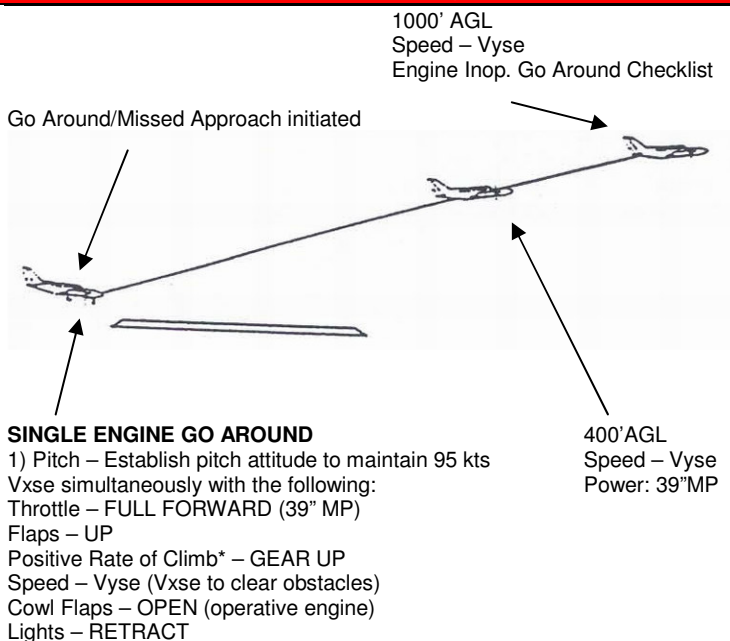
This procedure is used when a landing attempt is abandoned or if necessary to execute a missed approach.

### **Maintain:**

- |  |                   |
|--|-------------------|
| ✓ Positive pitch attitude<br>(for target airspeed) | ✓ Target airspeed |
| ✓ Positive rate-of-climb                           | ✓ Heading         |

#### **WARNING**

Level flight may not be possible for certain combinations of weight, temperature and altitude. In any event, do not attempt an engine inoperative go-around after wing flaps have been extended beyond 15°.



#### Performance Standards

- Positive pitch attitude maintained
- Positive rate-of-climb maintained
- Airspeed  $\pm 5$  knots
- Heading  $\pm 5^\circ$  of runway heading

#### Helpful Hints

- 1) Pitch  $8^\circ - 10^\circ$   
for Vyse

**\*NOTE:** For the purposes of the Engine Inoperative Go Around ONLY, "positive rate" will be considered trend reversal of rate of descent.

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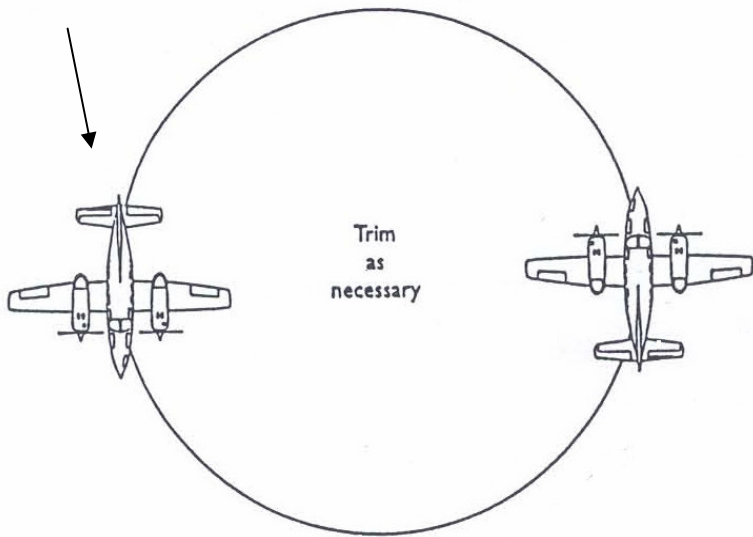
## Steep Turns

The maneuver is accomplished with gear and flaps retracted in the cruise configuration. Smoothly roll into a 45° banked turn for 360°. During the maneuver pay special attention to:

**Maintain:**

- |                  |              |
|------------------|--------------|
| ✓ Altitude       | ✓ Bank angle |
| ✓ Target heading | ✓ Airspeed   |
- 

Enter at cruise configuration



**Performance Standards:**

- Altitude  $\pm 100'$
- Airspeed  $\pm 10$  knots
- Bank angle  $\pm 5^\circ$
- Heading  $\pm 10^\circ$  of initial heading
- "Roll-in/Roll-out" rates equal

**Helpful Hints:**

Maintain straight and level between turns

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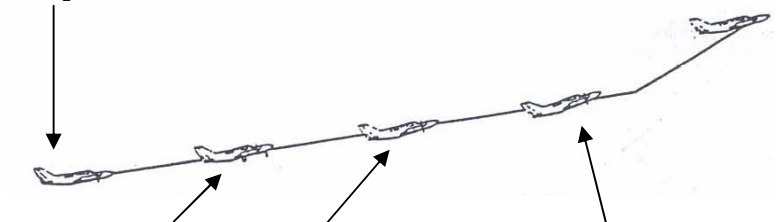
**Clean Stall**

Ascertain the immediate area is clear of other aircraft using clearing turns. Perform the in-range check, extend the gear, then follow with the landing check. During the maneuver pay special attention to:

**Maintain:**

- ✓ Bank angle (if applicable)      ✓ Altitude
  - ✓ Heading (if applicable)
- 

In-range check



Gear – DOWN  
Landing check  
Flaps – 15°

At 95 knots:

- Propellers – FULL FORWARD
- Flaps & Gear – UP
- Reduce power to 16" MP if ness.
- Stop trimming
- Maintain – ALT  
(and heading if applicable)

At first indication, accomplish the following simultaneously:

Pitch – LOWER NOSE (As needed)

Power – Maximum takeoff

- mixtures & props full forward
- throttles full forward (39"MP)

1) Establish:

Target airspeed – V<sub>x</sub>

Flaps – Verify UP

Positive rate – Verify GEAR UP

2) Accelerate to 109 knots "when clear of obstacles"

Cowl Flaps – OPEN

Climb to 400' AGL above initial entry altitude and level off

Climb Flow

Cruise Flow

Performance Standards:

- Heading  $\pm 10^\circ$
- Prompt and correct control application
- No secondary stall
- No abrupt pitch changes during recovery
- Constant pitch maintained during recovery

Helpful Hints:

- 1) Pitch  $15^\circ - 17^\circ$  for 84 kts
- 2) Pitch  $10^\circ - 12^\circ$  for 109 kts

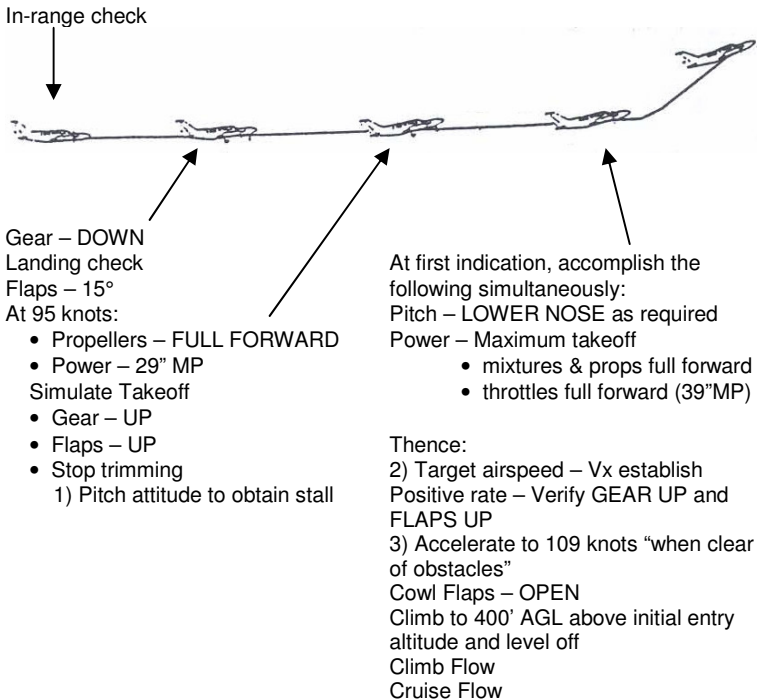
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**Takeoff and Departure Stall**

Ascertain the immediate area is clear of other aircraft using clearing turns. Perform the in-range check, extend the gear, then follow with the landing check. During the maneuver pay special attention to:

**Maintain:**

- ✓ Bank angle (if applicable)      ✓ Altitude
- ✓ Heading (if applicable)



**Performance Standards:**

- Heading  $\pm 10^\circ$
- Prompt and correct control application
- No secondary stall
- No abrupt pitch changes during recovery
- Constant pitch maintained during recovery

**Helpful Hints:**

- 1) Pitch  $20^\circ - 22^\circ$  to initiate stall
- 2) Pitch  $15^\circ - 17^\circ$  for 84 kts
- 3) Pitch  $10^\circ - 12^\circ$  for 109 kts

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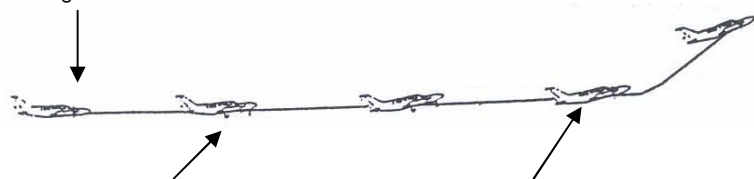
## Approach to Landing Stall

Ascertain the immediate area is clear of other aircraft using clearing turns. Perform the in-range check, extend the gear, then follow with the landing check. During the maneuver pay special attention to:

**Maintain:**

- ✓ Bank angle (if applicable)      ✓ Altitude
- ✓ Heading (if applicable)

In-range check



Gear – DOWN below 160 knots

Landing check

Flaps – FULL below 140 knots

At 95 knots:

- Propellers – FULL FORWARD
- Stop trimming
- Maintain – ALT  
(and HDG if applicable)

At first indication, accomplish the following simultaneously:

Pitch – LOWER NOSE as required

Wings – LEVEL

Power – Maximum takeoff

- mixtures & props full forward
- throttles full forward (39"MP)
- FLAPS - 15°

Thence:

1) Target airspeed –  $V_x$  establish

Positive Rate – GEAR UP

– FLAPS UP

2) Accelerate to 109 knots "when clear of obstacles"

Cowl Flaps – OPEN

Climb to 400' AGL above initial entry altitude and level off

Climb Flow

Cruise Flow

Performance Standards:

- Heading  $\pm 10^\circ$
- Prompt and correct control application
- No secondary stall
- No abrupt pitch changes during recovery
- Constant pitch maintained during recovery

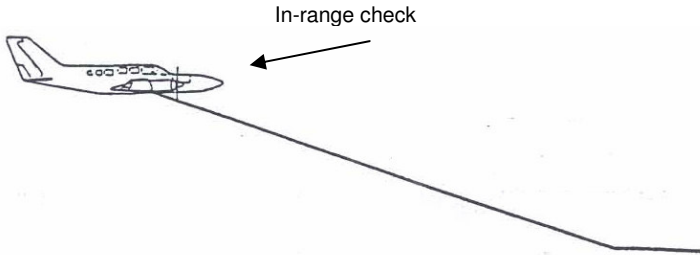
Helpful Hints:

- 1) Pitch  $15^\circ - 17^\circ$  for 84 kts
- 2) Pitch  $10^\circ - 12^\circ$  for 109 kts

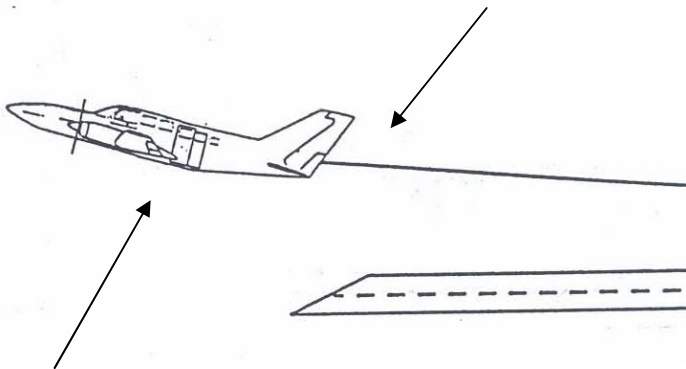


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**Traffic Pattern**



**Go Around/Missed Approach**



**TWO ENGINE GO AROUND**

1) Pitch – Establish pitch attitude to maintain 95 knots simultaneously with the following:

Mixtures – FULL RICH

Propellers – FULL FORWARD

Throttles – FULL FORWARD (39" MP)

Flaps – 15°

Positive Rate of climb – GEAR UP

2) Flaps – UP

Speed 109 knots

Cowl Flaps – OPEN

Lights – RETRACT

Helpful Hints:

1) Pitch 10° – 12° for 109 kts

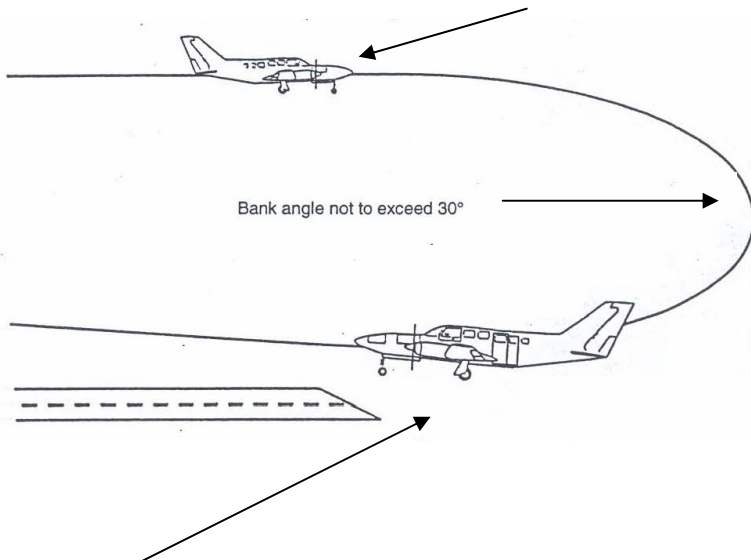
2) Pitch 5° – 7° for 120 kts

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**Traffic Pattern**

When ready to commence descent:

Gear – DOWN  
Mixtures – FULL RICH  
Propellers – 2450 RPM  
Gear Lights – CHECK “three green”  
Switches – AS REQUIRED  
BEFORE LANDING CHECKLIST  
Target airspeed – 120 knots  
Flaps – AS REQUIRED  
Manifold pressure not below 20”



Normal Landing:

Flaps – FULL  
Power – SMOOTHLY REDUCE  
Speed – Appropriate for weight (at threshold)  
Propellers – FULL FORWARD  
Throttles – CLOSED

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**ILS Approach – Normal**

All radios tuned and identified as appropriate for the procedure being flown prior to the in-range check.

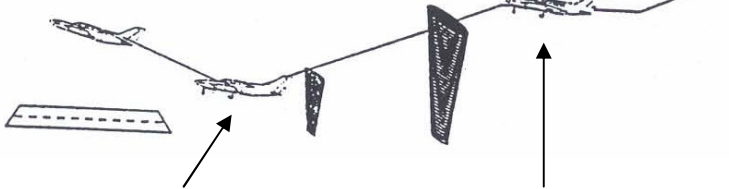
**Review Approach Plate:**

- |                             |                             |
|-----------------------------|-----------------------------|
| ✓ Touchdown zone elevation  | ✓ Final approach fix        |
| ✓ Final approach course     | ✓ Decision altitude         |
| ✓ Pilot controlled lighting | ✓ Missed approach procedure |
- 

In-range check

DH, field NOT in sight

Go Around/Missed Approach



**DH, Field in Sight**

Flaps – FULL (45°)

Power – REDUCE

One dot below glide slope:

Gear – DOWN

Mixtures – RICH

Propellers – 2450 RPM

Check three green

Switches – AS REQUIRED

**BEFORE LANDING CHECKLIST**

Target airspeed – 120 knots

Flaps – AS REQUIRED

Manifold pressure not below 20"

At MDA – Circling Approach

• Power 26" MP

• Flaps – 15°

• Bank angle not to exceed 30°

Performance Standards:

- Altitude  $\pm 100'$  outside the GSIA
- Airspeed  $\pm 10$  kts,  $+5/-0$  kts on final apprch seg.
- Localizer  $\pm 1/4$  scale
- Glide slope  $\pm 1/4$  scale

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## ILS Approach – Engine Inoperative

All radios tuned and identified as appropriate for the procedure being flown prior to the in-range check.

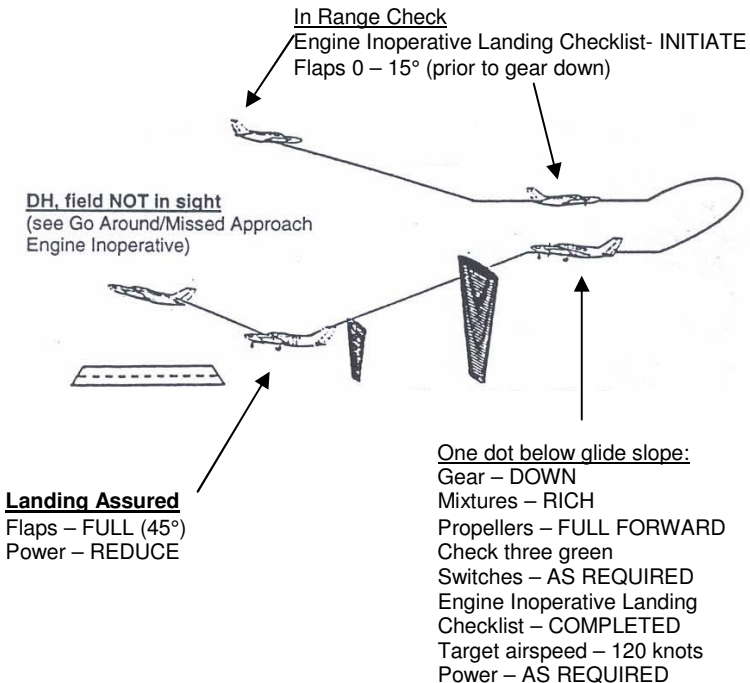
### Review Approach Plate:

- |                             |                             |
|-----------------------------|-----------------------------|
| ✓ Touchdown zone elevation  | ✓ Final approach fix        |
| ✓ Final approach course     | ✓ Decision altitude         |
| ✓ Pilot controlled lighting | ✓ Missed approach procedure |
- 

*Point of engine failure:*

Memory items – ACCOMPLISH

Engine Securing checklist – Complete (if practical)



Performance Standards:

- Altitude  $\pm 100'$  outside the GSIA
- Airspeed  $\pm 10$  knots,  $+5/-0$  knots on final approach seg.
- Localizer  $\pm 1/4$  scale
- Glide slope  $\pm 1/4$  scale

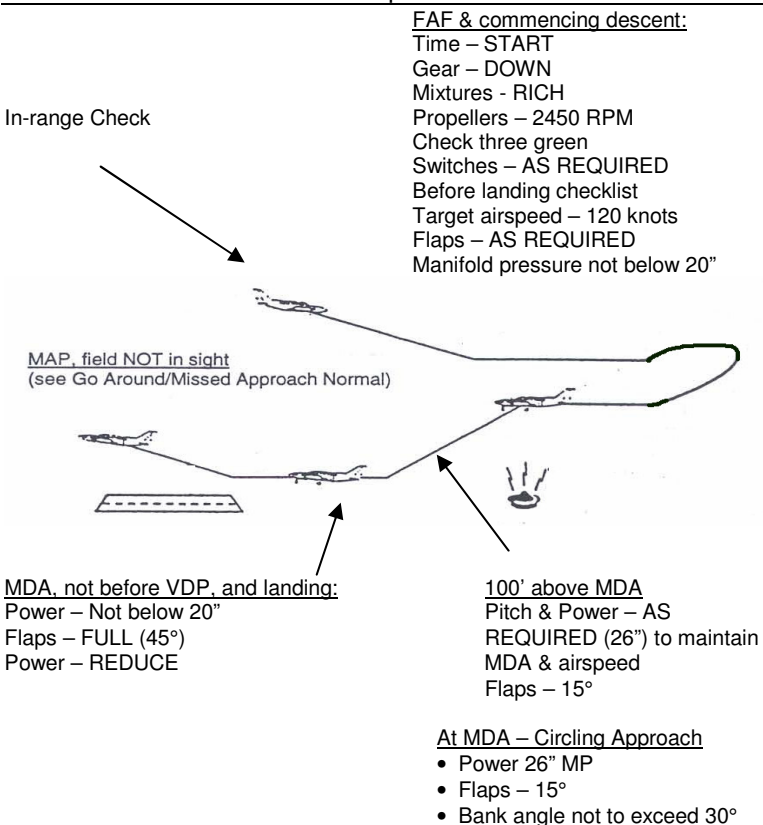
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**Non-Precision Approach – Normal**

All radios tuned and identified as appropriate for the procedure being flown prior to the in-range check.

**Review Approach Plate:**

- |                             |                                     |
|-----------------------------|-------------------------------------|
| √ TDZ/Airport elevation     | √ Final approach fix                |
| √ Final approach course     | √ Minimum descent altitude          |
| √ Pilot controlled lighting | √ Missed approach point & procedure |



Performance Standards:

- Altitude  $\pm 100'$  (MDA;  $+50'/-0'$  – Circling  $+100'/-0'$ )
- Airspeed  $\pm 5$  knots ( $+5/-0$  knots after FAF)
- Localizer  $\pm 1/4$  scale
- VOR  $\pm 1/2$  scale
- NDB  $\pm 5^\circ$  of approach course bearing

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## Non-Precision Approach – Engine Inoperative

All radios tuned and identified as appropriate for the procedure being flown prior to the in-range check.

### Review Approach Plate:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>√ TDZ/Airport elevation</li> <li>√ Final approach course</li> <li>√ Pilot controlled lighting</li> </ul> | <ul style="list-style-type: none"> <li>√ Final approach fix</li> <li>√ Minimum descent altitude</li> <li>√ Missed approach point &amp; procedure</li> </ul> |
|---|---|

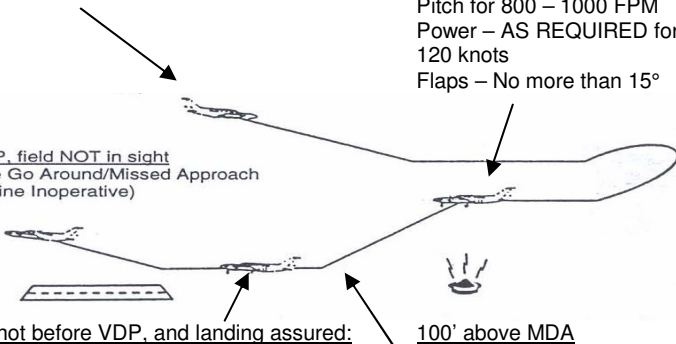
*Point of engine Failure:*

Memory items - ACCOMPLISH  
Engine Securing Checklist - COMPLETE  
In-range Check  
Engine Inoperative Landing  
Checklist – INITIATE  
Flaps 0 - 15°

FAF & commencing descent:

Time – START  
Gear – DOWN  
Mixtures - RICH  
Propellers – FULL FORWARD  
Check three green  
Switches – AS REQUIRED  
ENGINE INOPERATIVE  
LANDING CHECKLIST  
Target airspeed – 120 knots  
Pitch for 800 – 1000 FPM  
Power – AS REQUIRED for  
120 knots  
Flaps – No more than 15°

MAP, field NOT in sight  
(see Go Around/Missed Approach  
Engine Inoperative)



MDA, not before VDP, and landing assured:  
Flaps – FULL (45°)

100' above MDA  
Pitch & power – AS  
REQUIRED (29.5") to  
maintain MDA & airspeed  
Flaps 0 – 15°

Performance Standards:

- Altitude  $\pm 100'$  (MDA;  $+50'/-0'$  – Circling  $+100'/-0'$ )
- Airspeed  $\pm 5$  knots ( $+5/-0$  knots after FAF)
- Localizer  $\pm 1/4$  scale
- VOR  $\pm 1/2$  scale
- NDB  $\pm 5^\circ$  of approach course bearing

At MDA–Circling Approach

- Power 26" – 29" MP
- Flaps 0 – 15°
- Gear – UP
- Bank angle not to exceed 30°

To commence descent, gear down, power as required, landing assured – full flaps if needed.

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**Appendix**

- 1) Boxed Items – Memory Checklists
- 2) Cockpit Flows
- 3) Speeds and Definitions
- 4) Power Settings
- 5) Aircraft Weights and Standard Power Settings

**Cape Air  
Nantucket Airlines**

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**Memory Items**

**Procedures in this section enclosed in “black boxes” are immediate action items and *must* be committed to memory.**

Notes, cautions, and warnings are taken from the Cessna 402 Emergency Procedures Section in the Pilot's Operating Handbook.

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**ENGINE INOPERATIVE PROCEDURES**

**ENGINE SECURING PROCEDURES**

- 1) Throttle – CLOSED
- 2) Mixture – IDLE CUT-OFF
- 3) Propeller – FEATHER

**ENGINE FAILURE DURING TAKEOFF**

(Speed below  $V_{sse}$  or gear down)

- 1) Throttles – CLOSE IMMEDIATELY
- 2) Brake, or land and brake – AS REQUIRED

**NOTE**

The distance for the airplane to be accelerated for a standing start to 95 KIAS on the ground, and the decelerate to stop with **heavy** braking, is presented in the Accelerate Stop Distance Chart in Section 5 of the Pilot's Operating Handbook for various combinations and conditions.



**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Memory Items**

**ENGINE INOPERATIVE PROCEDURES (continued)**

**ENGINE FAILURE AFTER TAKEOFF**

Speed above  $V_{se}$  with gear up or in transit

- 1) Mixtures – FULL RICH
- 2) Propellers – FULL FORWARD
- 3) Throttles – FULL FORWARD (39.0" MP)
- 4) Flaps – CHECK UP
- 5) Landing Gear – CHECK UP
- 6) Fuel Flow – CHECK  
(if deficient, position auxiliary fuel pump to HIGH)
- 7) Inoperative Engine:
  - a. Throttle – CLOSE
  - b. Mixture – IDLE CUT-OFF
  - c. Propeller – FEATHER

**WARNING**

**The propeller on the inoperative engine must be feathered, landing gear retracted and wing flaps up or continued flight may be impossible.**

**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Memory Items**

**ENGINE INOPERATIVE PROCEDURES (continued)**

**ENGINE FAILURE DURING FLIGHT**

Speed above Vmca

- 1) Inoperative Engine - DETERMINE
- 2) Operative Engine- ADJUST AS REQUIRED\*
- Before Securing The Inoperative Engine:**
- 3) Fuel Flow – CHECK (if deficient, position auxiliary fuel pump to HIGH)
- 4) Fuel Selectors – MAIN TANKS (feel for detent)
- 5) Fuel Quantity – CHECK
- 6) Oil Pressure and Temperature – CHECK
- 7) Magneto Switches – CHECK ON
- 8) Mixture – ADJUST (lean until manifold pressure begins to increase then enrichen as power increases)

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**If engine does not start, secure as follows:**

- 1) Throttle – CLOSE
- 2) Mixture – IDLE CUT-OFF
- 3) Propeller – FEATHER

**\* Mixtures, Propellers, Throttles- Full Forward**

**Verify Flaps up, Verify Gear up**

**NOTE**

Schedule fuel use such that an adequate amount of fuel is available in the operative engine's main tank for landing. Crossfeed as required to maintain lateral balance within 120 pounds per side. When crossfeeding, maintain level flight, maintain altitude greater than 1000' AGL and position inoperative engine auxiliary fuel pump to LOW.

**WARNING**

**The propeller on the inoperative engine must be feathered, landing gear retracted and wing flaps up or continued flight may be impossible.**

**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Memory Items**

**ENGINE INOPERATIVE PROCEDURES (continued)**

**ENGINE FAILURE DURING FLIGHT**

Speed below  $V_{mca}$

- 1) Rudder – APPLY towards operative engine
- 2) Power – REDUCE to stop turn
- 3) Pitch Attitude – LOWER NOSE TO  
ACCELERATE ABOVE  $V_{mca}$
- 4) Inoperative Engine Propeller – FEATHER
- 5) Operative Engine – INCREASE POWER as  
airspeed increases above  $V_{mca}$

**ENGINE INOPERATIVE GO-AROUND**

Speed above  $V_{sse}$

**WARNING**

Level flight may not be possible for certain combinations of weight, temperature and altitude. In any event, do not attempt an engine inoperative go-around after wing flaps have been extended beyond 15°.

- 1) Throttle – FULL FORWARD (39.0" MP)
- 2) Wing Flaps - UP
- 3) Positive Rate-of-Climb – ESTABLISH
- 4) Landing Gear – UP

**NOTE:** For the purposes of the Engine Inoperative Go Around ONLY, "positive rate" will be considered trend reversal of rate of descent.

**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Memory Items**

**FIRE PROCEDURES**

**FIRE ON THE GROUND**

Engine start, taxi, and takeoff

- 1) Throttle – CLOSE
- 2) Brakes – AS REQUIRED
- 3) Mixtures – IDLE CUT-OFF
- 4) Battery – OFF (use gang-bar)
- 5) Magnetos – OFF (use gang-bar)

**IN-FLIGHT WING OR ENGINE FIRE**

- 1) Both Auxiliary Fuel Pumps – OFF
- 2) Operative Engine Fuel Selector – MAIN TANK  
(feel for detent)
- 3) Emergency Crossfeed Shutoff – OFF (pull up)
- 4) Appropriate Engine – SECURE
  - a. Throttle – CLOSE
  - b. Mixture – IDLE CUT-OFF
  - c. Propeller – FEATHER
  - d. Fuel Selector – OFF (feel for detent)
  - e. Cowl Flap – CLOSED

Note: Adjust power on Operative Engine to maintain at least 120 knots indicated airspeed.

**WARNING**

**The propeller on the inoperative engine must be feathered, landing gear retracted and wing flaps up or continued flight may be impossible.**

**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Memory Items**

**FIRE PROCEDURES (continued)**

**IN-FLIGHT CABIN ELECTRICAL FIRE OR SMOKE**

- 1) Electrical load – REDUCE to minimum req.
- 2) Fuel Selectors – MAIN TANK (feel for detent)
- 3) Emergency crossfeed shutoff – OFF (pull up)
- 4) Attempt to isolate the source of fire or smoke
- 5) Wemacs – OPEN (eyeball vents)
- 6) Cabin air controls – OPEN all vents including windshield defrost, close if intensity of smoke increases.

**WARNING**

**Opening the foul weather windows or emergency exit window will create a draft in the cabin and may intensify a fire.**

**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Memory Items**

**AIR INLET OR FILTER ICING EMERGENCY  
PROCEDURES**

- 1) Alternate Air Control(s) – PULL OUT
- 2) Propeller(s) – INCREASE (2550 RPM for normal cruise)
- 3) Mixture(s) – LEAN (as required)

**SPINS**

- 1) Throttles – CLOSE IMMEDIATELY
- 2) Ailerons – NEUTRALIZE
- 3) Rudder – HOLD FULL RUDDER (opposite the direction of rotation)
- 4) Control Wheel – FORWARD BRISKLY (1/2 turn of spin after applying full rudder)
- 5) Inboard Engine – INCREASE POWER (to slow rotation, if necessary)

**After rotation has stopped:**

- 6) Rudder – NEUTRALIZE
- 7) Inboard Engine – DECREASE POWER (if used, to equalize engines)
- 8) Control Wheel – PULL (to recover from resultant dive, apply smooth steady control pressure)

**NOTE**

The aircraft has not been flight tested in spins. Thus, the above recommended procedure is based entirely upon the best judgment of Cessna Aircraft Company.

**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Memory Items**

**EMERGENCY DESCENT PROCEDURES**

**PREFERRED PROCEDURE**

- 1) Throttle – IDLE
- 2) Propellers – FULL FORWARD
- 3) Mixtures – ADJUST for smooth engine operation
- 4) Wing Flaps – UP
- 5) Landing Gear – UP
- 6) Moderate Bank – INITIATE
- 7) Airspeed – 230 KIAS

**TURBULENT ATMOSPHERIC CONDITIONS**

- 1) Throttles – IDLE
- 2) Propellers – FULL FORWARD
- 3) Mixtures – ADJUST for smooth engine operation
- 4) Wing Flaps – DOWN (45°)
- 5) Landing gear – DOWN
- 6) Moderate bank – INITIATE
- 7) Airspeed – 149 KIAS

**Hyannis Air Service, Inc.**  
**Profiles and Procedures Guide**  
**Cessna 402 Cockpit Flows**

**Cockpit flows are not to be used in lieu of a checklist.**

**BEFORE STARTING ENGINES**

Crossfeed shutoff open  
Fuel selectors on main tanks  
Cowl flaps open & locked  
Mixtures rich  
Props forward  
Throttles open  
Landing gear switch down  
Gust locks removed  
Alternate air controls in & locked  
Circuit breakers checked  
Clear prop area – Nose area  
Master and alternators on  
Magnetos on  
Check gear lights – three green  
Annunciator and gear horn checked  
Flaps up  
Fuel quantity checked

***Before Start Checklist***

*Thence:*

Prime as required  
Throttles closed  
Clear and start engine  
Auxiliary fuel pumps low  
Check oil pressure  
Starter warning lights - out  
Check vacuum system  
Avionics, heat/air and lights as req.  
Flight controls and brakes checked  
Crew door locked – if applicable

**BEFORE TAKEOFF**

Check flight instruments during taxi  
Crossfeed shutoff open  
Fuel selectors on main tanks  
Cowl flaps open & locked  
Autopilot check (first flight & mid-day)  
Set all three trims  
Flaps up  
Mixtures rich  
Props forward  
Fuel quantity  
Engine instruments in the green  
Check and set radios  
Check cylinder head temp.  $\geq 150^{\circ}$   
Throttles advance to 1700 RPM:  
    Cycle props  
    Hydraulic flow lights out  
    Starter warning lights out  
    Suction in the green  
    Check magnetos  
    Auxiliary fuel pumps low  
    Check voltammeter  
    De-ice equip – Check as req.  
Throttles reduce to  $< 1000$  RPM  
Cylinder head temperature  $\geq 200^{\circ}$   
Circuit breakers checked  
Alternate air checked  
Flight controls checked  
Anti-ice/De-ice as required  
Crew Door locked

***Before Takeoff Checklist***

**Continued next page ...**



**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Cessna 402 Cockpit Flows (continued)**

**Cockpit flows are not to be used in lieu of a checklist.**

**TAKEOFF**

Cylinder head temp.  $\geq 200^{\circ}$   
Transponder on, heading indicator and  
lights set for takeoff  
Mixtures and propellers forward  
Throttles – advance smoothly  
Accelerate:  
    Check engine instruments  
    Back pressure at 80 knots  
    Liftoff at V<sub>LOF</sub>  
    Positive rate-of-climb – GEAR UP  
        - Lights retract

**CLIMB FLOW**

Maintain V<sub>y</sub> through 400' AGL  
At 400' AGL:  
    Accelerate to 120 knots  
    Reduce to climb power  
    Initiate turn as required  
At 1000' AGL:  
    Auxiliary fuel pumps off  
        One at a time  
Fuel flow 120 PPH  
Accelerate to 130 – 140 knots

**CRUISE**

Accelerate to cruise airspeed for 1 minute  
Set cruise power  
    26" MP  
    2300 RPM  
    Mixtures lean 90 PPH  
    Cowl Flaps – trail  
    Fuel Selectors on main tanks

***Cruise Checklist***

**IN-RANGE CHECK**

Power – reduce to 20" – 22"  
Auxiliary fuel pumps low  
Fuel selectors to main tanks  
Cowl flaps closed  
Wing flaps 15" (slow to 120 knots)  
Engine instruments checked

**BEFORE LANDING**

Gear down  
Mixtures rich  
Propellers 2450 RPM (top  
    of the green arc)  
Landing gear three green  
Switches as required  
    (lights, heater, etc.)  
***Before Landing Checklist***  
Flaps 45"  
Propellers full forward

**AFTER LANDING**

***(when clear of runway)***  
Cowl flaps open  
Flaps up  
Transponder / Radar  
    on standby  
Auxiliary fuel pumps low  
Lights and heater as  
    required

***After Landing Checklist***

**SHUTDOWN**

Accessories off  
Auxiliary fuel pumps off  
Mixtures idle cut-off  
Mags off (use gang bar)  
  
Master and alternators off  
    (use gang bar)  
Parking brake set  
Gust lock installed  
Crew door unlocked

***Shutdown Checklist***

**Hyannis Air Service, Inc.  
Profiles and Procedures Guide**

**Speeds and Definitions**

		<b>C-402C KIAS</b>	<b>C-402C-VG KIAS</b>	<b>Comp. Speeds</b>
Vmc	Minimum Control Airspeed (critical engine inoperative)	80	69	
Vsse	Safe Single Engine Speed (minimum speed to intentionally fail an engine)	95	100@ 7210 lb 96@ 6900 lb 95@ 6850 lb	
Vx	Best Angle of Climb Speed (two engines)	84	84	
Vy	Best Rate of Climb Speed (two engines)	109	112	
Vxse	Best Angle of Climb Speed (single engine)	95	95	
Vyse	Best Rate of Climb Speed (single engine)	104	106	
Va	Maneuvering Speed (gross weight)	150	153	
Vle	Maximum Landing Gear Extend Speed	180	180	
Vlo	Maximum Landing Gear Operating Speed	180	180	160
Vfe	Flap Extended Speed - 15° - 45°	180 149	180 149	160 140
Vno	Maximum Structural Cruise Speed	205	205	
Vne	Never Exceed Speed (Red Line)	235	235	
Vso	Stall Speed (gear and flaps extended)	71 (69 KCAS)	71 (67 KCAS)	
Vlights	Maximum Landing Light Extend Speed	140	140	
	Maximum Demonstrated Cross- Wind Component	15	15	
	Best Two Engine Out Glide Speed (gross weight)	117	121	

**Hyannis Air Service, Inc.**  
**Profiles and Procedures Guide**

**Aircraft Weights and Standard Power Settings**

<b>2 Engine</b>	<b>Phase of Flight</b>	<b>Manifold Pressure "Hg</b>	<b>RPM</b>	<b>Fuel Flow (PPH)</b>	<b>Cowl Flaps</b>
	<b>Takeoff</b>	39.0"	2700	200-210	Open
	<b>Climb</b>	29.5"	2450	120	Open
	<b>Cruise</b>	26.0"	2300	90	Trail
	<b>Holding</b>	21.0"	2100	70	Closed
	<b>In-Range &amp; Apprch</b>	20" – 22"	2300	N/A	Closed
<b>1 Engine</b>	<b>Takeoff</b>	<b>Not Applicable</b>			
	<b>Climb</b>	39.0"	2700	200-210	Open
	<b>Cruise</b>	29.5"	2450	120	Open
	<b>Holding</b>	26.0"	2450	N/A	As Req.
	<b>In-Range &amp; Apprch</b>	26.0"	2450	N/A	As Req.
	<b>Circling</b>	26" – 29"	2700	Full Rich	As Req.

**Aircraft Weight (Maximum)**

	<b>C-402C</b>	<b>C-402C-VG</b>
Maximum Ramp Weight	6885 lbs.	7250 lbs.
Maximum Takeoff Weight	6850 lbs.	7210 lbs.
Maximum Landing Weight	6850 lbs.	6850 lbs.
Maximum Zero Fuel Weight	6515 lbs.	6515 lbs. at 151.0 6750 lbs. aft of 151.9

**Baggage Weights (Maximum)**

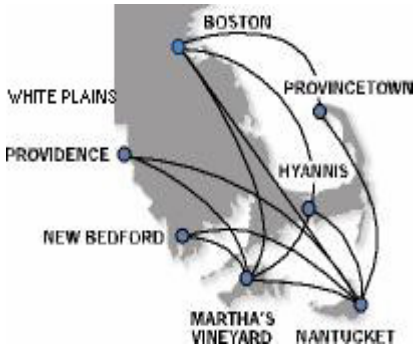
Avionics Bay	250 lbs. (less installed equip.)
Nose Compartment	350 lbs. (less installed equip.)
Aft Cabin "A" (shelf)	400 lbs. (200 lbs. each side)
Aft Cabin "B" (aft shelf)	100 lbs. (50 lbs. each side)
Wing Lockers	200 lbs. or 120 lbs. short wing locker (each side)

Maximum cargo load aft of the front spar is 2000 lbs.

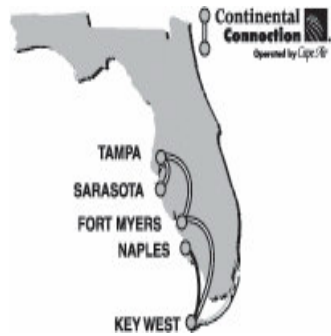
Maximum allowable combined weight from station 238.1 to the aft bulkhead is 600 lbs.

Maximum cargo load in any 22.5" length of cabin floor 500 lbs.

# Hyannis Air Service, Inc. Profiles and Procedures Guide



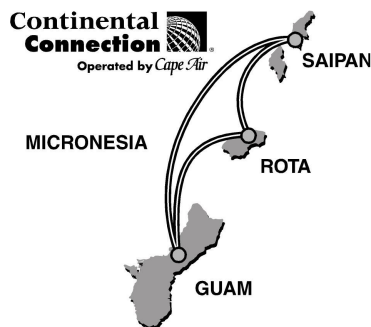
New England



Florida



Caribbean



Micronesia