TransNorthern Aviation

Super DC-3 Maneuvers

Principal Base of Operations:

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Anchorage, AK
99502

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REVISIONS

It is the responsibility of the Director of Operations or Chief Pilot to keep the Super DC-3 Maneuvers current.

All revisions will be submitted to the FAA for approval prior to being implemented.

Revision control is accomplished in the upper right-hand corner of each page as follows

Page 1 Original 03-29-21

1 Represents Page 1.
Original Represents Original document (not yet revised)
03-29-21 Represents the date the original document (or revision) became effective.

LOG OF REVISIONS

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EFFECTIVE PAGES

This list shows the current revision and effective date of each page.

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James Howery, POI

JAMES M HOWERY
Digitally signed by JAMES M HOWERY
Date: 2023.12.07 10:01:14 -09'00'

USE OF THE MANEUVERS GUIDE

The flight maneuvers contained herein are designed to support the flight training curriculum segment. The procedures established for each maneuver are designed to standardize company flight training.

All crewmembers are expected to demonstrate knowledge and proficiency in each maneuver (both ground and flight) listed in the flight training curriculum segment in accordance with the standards set forth in the applicable airman certification standards guide.

Instructors and check airman will be familiar with the ATP (FAA-S-ACS-11), Commercial Pilot (FAA-S-ACS-7A), or Instrument Rating (FAA-S-ACS-8B) Airman Certification Standards as applicable, prior to conducting training & testing.

These flight training maneuvers do not replace the aircraft performance and operating limitations published in the Super DC-3 AFM. Compliance with the FAA Limitations section is mandatory for all flight operations.

Training Considerations:

- Flight training sessions should be preceded and followed by an instructor briefing and debriefing.
- Flight training maneuvers should be completed above 3,000' AGL.
- Flight training maneuvers should be modified as necessary to comply with ATC instructions.
- For traffic avoidance ADSB and ATC Traffic Advisory services should be used whenever possible.
- Clearing turns should be conducted as necessary prior to initiating the maneuver.
- Instructors should emphasize use of appropriate checklists and single or multi-crewmember resource management.
- Instructors will provide a view limiting device for applicable maneuvers.

Super DC-3 Operational Speeds (KIAS)

V_{SO}	68	Stall Speed Landing Configuration
V_{S1}	76	Stall Speed Clean Configuration
V_X	84	Two Engine Best Angle of Climb Speed
V_{XSE}	84	Single Engine Best Angle of Climb Speed
V_{SSE}	94	Safe Single Engine Speed
V_{YSE}	113	Single Engine Best Rate of Climb Speed (Blue Line)
V_Y	113	Two Engine Best Rate of Climb Speed
	130	Cruise Climb Speed
	17	Demonstrated Crosswind

Super D-3 Limitation Speeds (KIAS)

V_{MC}	76	Minimum Single Engine Control Speed (Red Line)
V_{FE}	128	Flaps 1/4
	116	Flaps 1/4 to Full Down
V_{LO}	144	Landing Gear - Maximum Operating Speed
V_{LE}	144	Landing Gear - Maximum Extended Speed
V_A	125	Maneuvering Speed
V_{NO}	202	Max Structural Cruising Speed
V_{NE}	237	Never Exceed Speed

Super DC-3 Approach Speeds KIAS

120	Holding - Flaps UP
85	No Flap Approach
100	ILS Approach

Normal Landing Speeds KIAS

120	Downwind - Flaps 1
105	Base - Flaps 2
100	Final - Flaps 4 (Company policy is maintain 100 KIAS until landing assured)

Manifold Pressure is referred to as MP throughout the maneuvers guide

FLAPS and V_{REF} SPEED TABLE

Company policy is for the flying pilot to call for Flaps 0, 1, 2, 3, & 4, and is how the flap positions are noted within this maneuvers guide. These positions equate to the flap indicator markings of 0, 1/4, 1/2, 3/4, and 4/4.

The AFM Stall Speed Chart (performance page 32-9) allows stall speeds to be determined for 4 flap positions which are labeled as follows:

Flaps Retracted 0° = Company Flaps 0
Approach Flaps 11° = Company Flaps 1
Flap Position 35° = Company Flaps 3
Landing Flap Position 45° = Company Flaps 4

The V_{REF} speed tables listed in the maneuvers do not contain speeds for Flaps 2 because the AFM Stall Speed Chart does not reference a flap setting equivalent to Flaps 1/2 (Flaps 2).

In Addition, Flaps 3 & 4 speeds are the same in the V_{REF} speed table as the difference is only 1 KT at the listed aircraft training weights. Extending flaps from 3 to 4 increases drag with a negligible change is speed. Aircraft weights in the speed table reflect a normal takeoff training weight of 23,500 lbs., and reduced weights of 22,500 lbs. and 21,500 lbs. which reflect flight training fuel burn.

In the AFM V_1 and V_2 are the same and is 84 KIAS below 24,800 lbs. 84 KIAS is also V_X/V_{XSE}.

CREW BRIEFINGS (Conducted by the flying pilot)

Takeoff Briefing (Same as the Captains Briefing on the Before Takeoff Checklist - item 5):

- The departure procedure is reviewed and the initial heading is _____ and altitude is_____.
- I will advance the throttles and you will tap my hand 2 inches below takeoff power and then trim power to Max T.O. power settings (NOTE: Use of more than Max Rated Takeoff Power is prohibited).
- I will fly the aircraft.
- As I taxi onto the runway you will perform the Line Items.
- You will call "30 inches in the green" (refers to engine gauges)
- Takeoff power will be ____" MP and _____RPM (based on aircraft limitations and conditions).
- You will continuously monitor the engine gauges.
- You will call "airspeed alive" and V_1 speed.
- Any abnormality below V_1, advise me and we will abort.
- After V_1, we will treat it as an airborne emergency.
- We will continue to 500 feet AGL and then identify, verify, and agree on failed engine.
- You will feather the engine on my command.
- If VFR, we will climb to a safe altitude and come around and land.
- If IFR, you will advise ATC and we will comply with instructions.

Approach Briefing:

- The type of approach, approach minimums, and missed approach procedure.
- Required calls (altitudes, times, airport in sight or not in sight, minimums, and deviations).
- Both pilots should review the approach plates prior to initiating the approach.

POSITIVE EXCHANGE OF CONTROLS

There should never be any doubt about who is flying the airplane. When the flying pilot hands off the controls to the non-flying pilot the callout is "You have the flight controls" and visually confirms the exchange. The non-flying pilot callout is "I have the flight controls" and now becomes the flying pilot.

ENGINE OPERATING WARNING

The Wright 1820 engine should never be operated with Manifold settings less than Propeller RPM/100 (i.e. 18" & 1800 RPM). Operations with MP less than RPM/100 will result in SEVERLY LIMITED ENGINE LIFE. In instances where the Propeller is Driving the Engine inadequate oiling of the master rod bearing occurs and engine failure may result. THEREFORE, during training Engine Failure will be simulated utilizing partial power settings consistent with safe engine operations.

Preparation

Includes Training Flight Briefing, Weight & Balance, Flight Log Procedures, Visual Inspection, Securing Cargo

Note:
Risk management should be stressed during each training session.

As part of CRM training instructors should be involved with the trainee's aeronautical decision-making process including flight preparation.

Flight Preparation

1) Training Flight Briefing - Each flight training session must include:
   - A preflight briefing with a review of the training maneuvers, completion standards, flight training area, intended airports, weather, NOTAMS etc.
   - A post flight briefing with an evaluation of the training session
2) Weight and Balance calculations including fuel load determination
3) Flight Log Procedures
4) Visual Inspection - Interior and Exterior
5) Securing Cargo

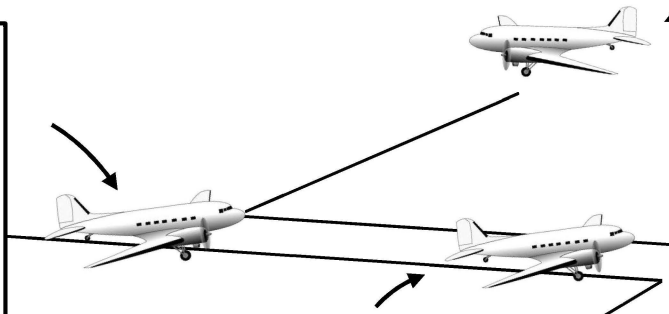
Notes:
Systems Operations for Takeoff is a discussion/configuration check of applicable systems, i.e., deicing/environmental that should be on prior to departure.

Surface Operations

Incudes Flight Deck Organization, Use of Checklists, Starting, Pre-Takeoff Checks, Taxi Operations

Taxi Operations
1) When ready to taxi release the parking brake and as aircraft begins to move forward test brakes by depressing each brake pedal
2) Taxi at a moderate speed and avoid making fast turns that put abnormal side loads on the landing gear
3) Taxiing speed should allow the aircraft to be safely controlled in the event of a brake failure
4) Whenever possible the nose of the aircraft should follow the painted taxi lines
5) Directional control is accomplished first with rudder, then with differential power, and last with brakes
6) Unlock the tail wheel lock BEFORE beginning a turn

Prior to Taxi
1) Flight Deck - Organized
2) Prestart Checklist - Complete
3) Starting Engines Checklist - Complete
4) After Starting Engines Checklist - Complete
5) Taxi Checklist - Complete (Ok to taxi during warmup below 1200 RPM)
6) Cowl Flaps - Should remain open at all times on the ground



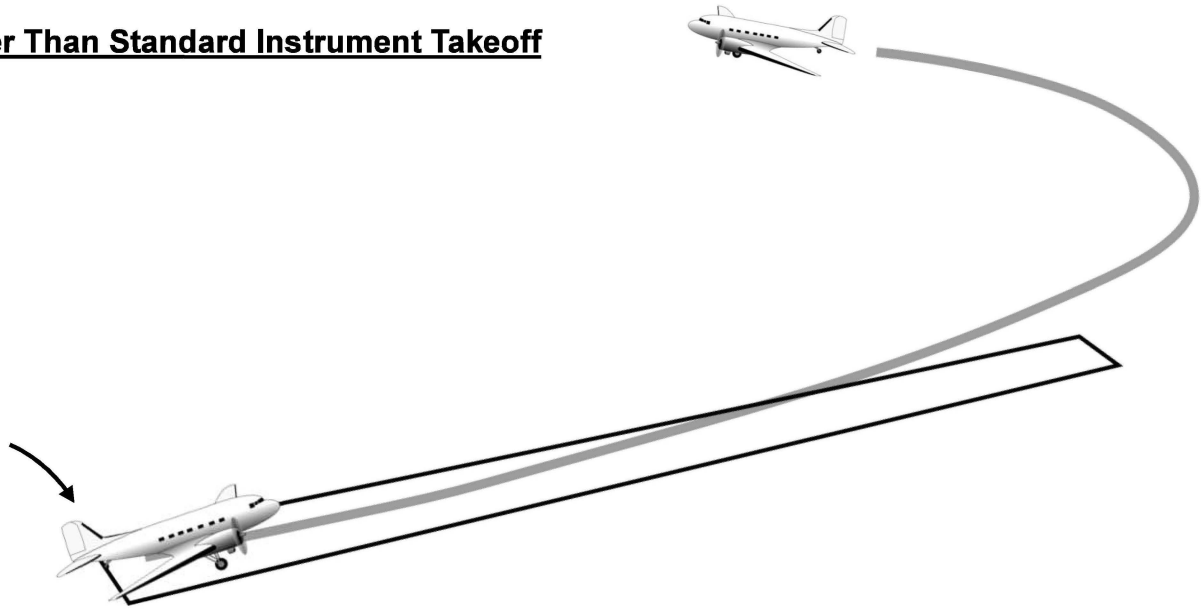
Pre-Takeoff Checks
1) System Operations for Takeoff **(see note)**
2) Engine Runup Checklist - Complete
3) Takeoff Briefing - Complete

Lower Than Standard Instrument Takeoff

Notes:
The flying pilot will conduct the Takeoff Briefing.

During takeoff roll differential braking should be used only in emergencies.

Takeoff
1) Flying Pilot aligns aircraft with the centerline
2) Flying Pilot smoothly adds power and focuses on the flight instruments
3) Non-Flying Pilot trims power and monitors runway centerline
4) Flying Pilot maintains the centerline with rudder, aileron, and differential power if required
5) Non-Flying Pilot monitors the centerline, engine instruments, and calls V_1



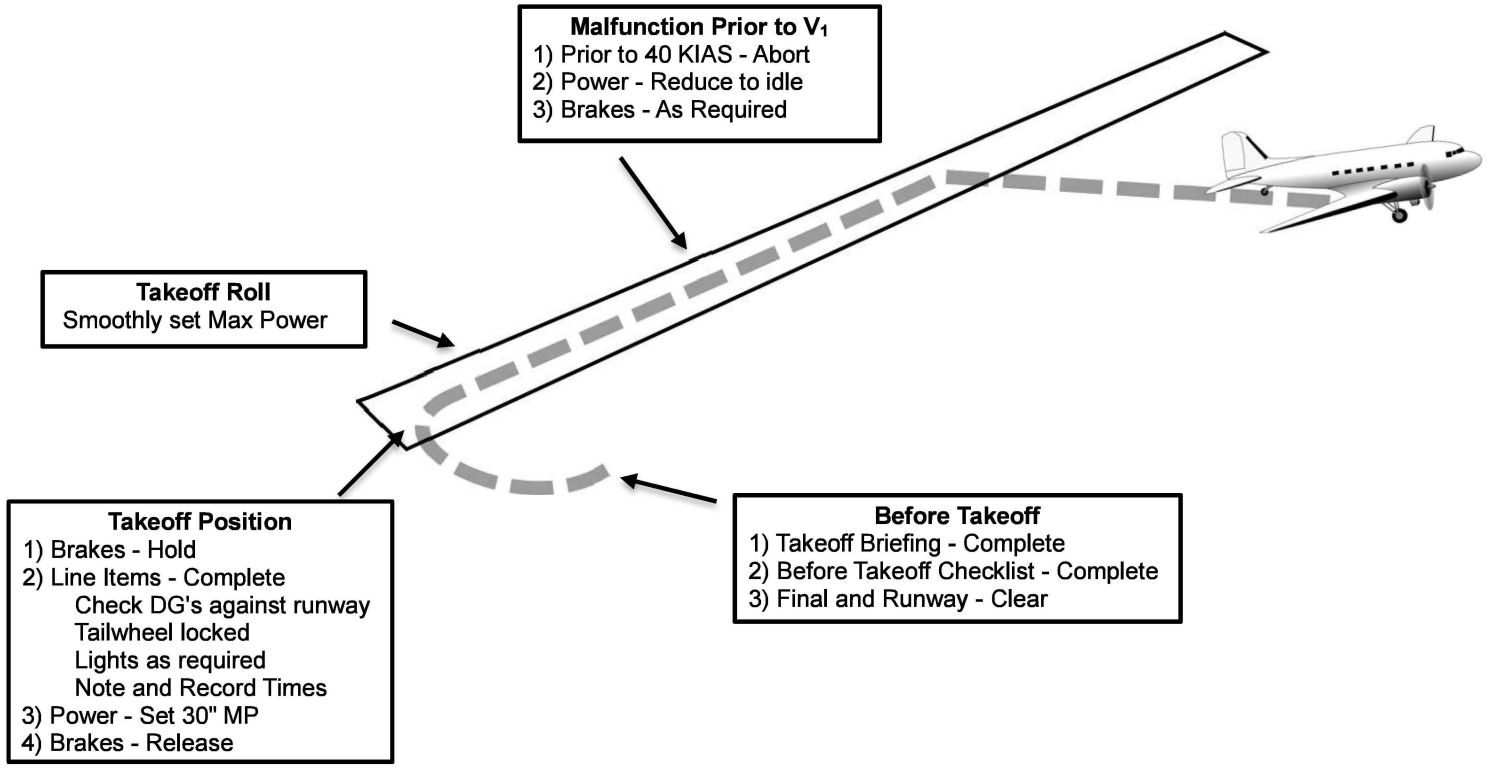
Engine Failure - Below V_1

Notes:
Runway Conditions: level, hard surface, standard atmosphere.

V speeds are determined during weight & balance computation. V_1/V_2 is 84 KIAS below 24,800 lbs.

The instructor will simulate an engine failure by retarding a throttle to idle prior to reaching a speed of approximately 50% V_{MC} (40 Knots maximum).

Prior to departure the instructor and pilot should review how the engine failure will be simulated and the procedures to be followed.



Engine Failure - After V_1

Includes Climb with Failed Engine

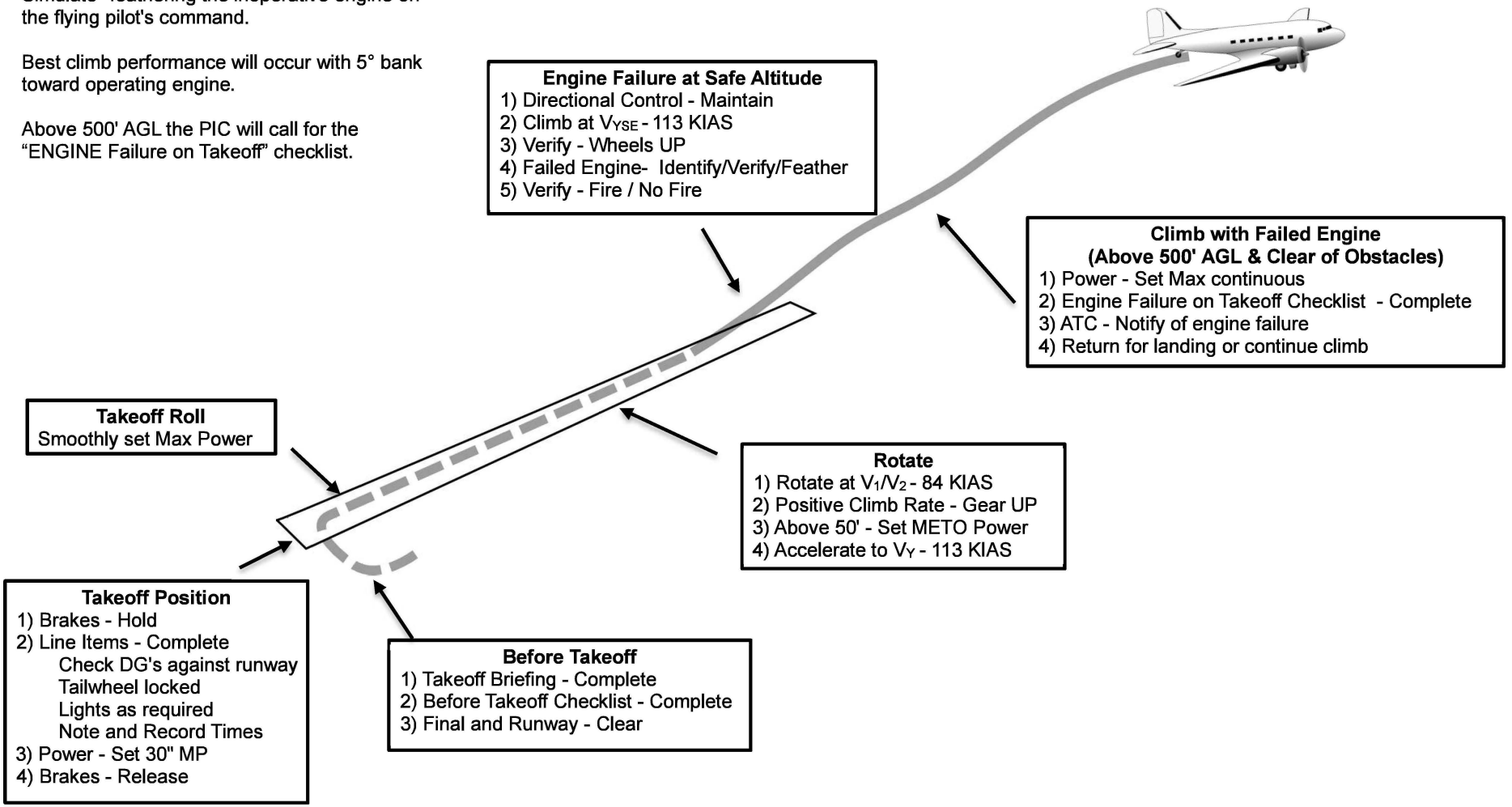
Notes:
Runway Conditions: level, hard surface, standard atmosphere.

V speeds are determined during weight & balance computation. V_1/V_2 is 84 KIAS below 24,800 lbs.

With CRM the crew will identify the failed engine and the non-flying pilot will "Verify and Simulate" feathering the inoperative engine on the flying pilot's command.

Best climb performance will occur with 5° bank toward operating engine.

Above 500' AGL the PIC will call for the "ENGINE Failure on Takeoff" checklist.



Notes:
Runway Conditions: level, hard surface, standard atmosphere.

V speeds are determined during W&B computation. V_1/V_2 is 84 KIAS below 24,800 lbs.

When the aircraft is taxied onto the runway the flying pilot will call for "Line Items".

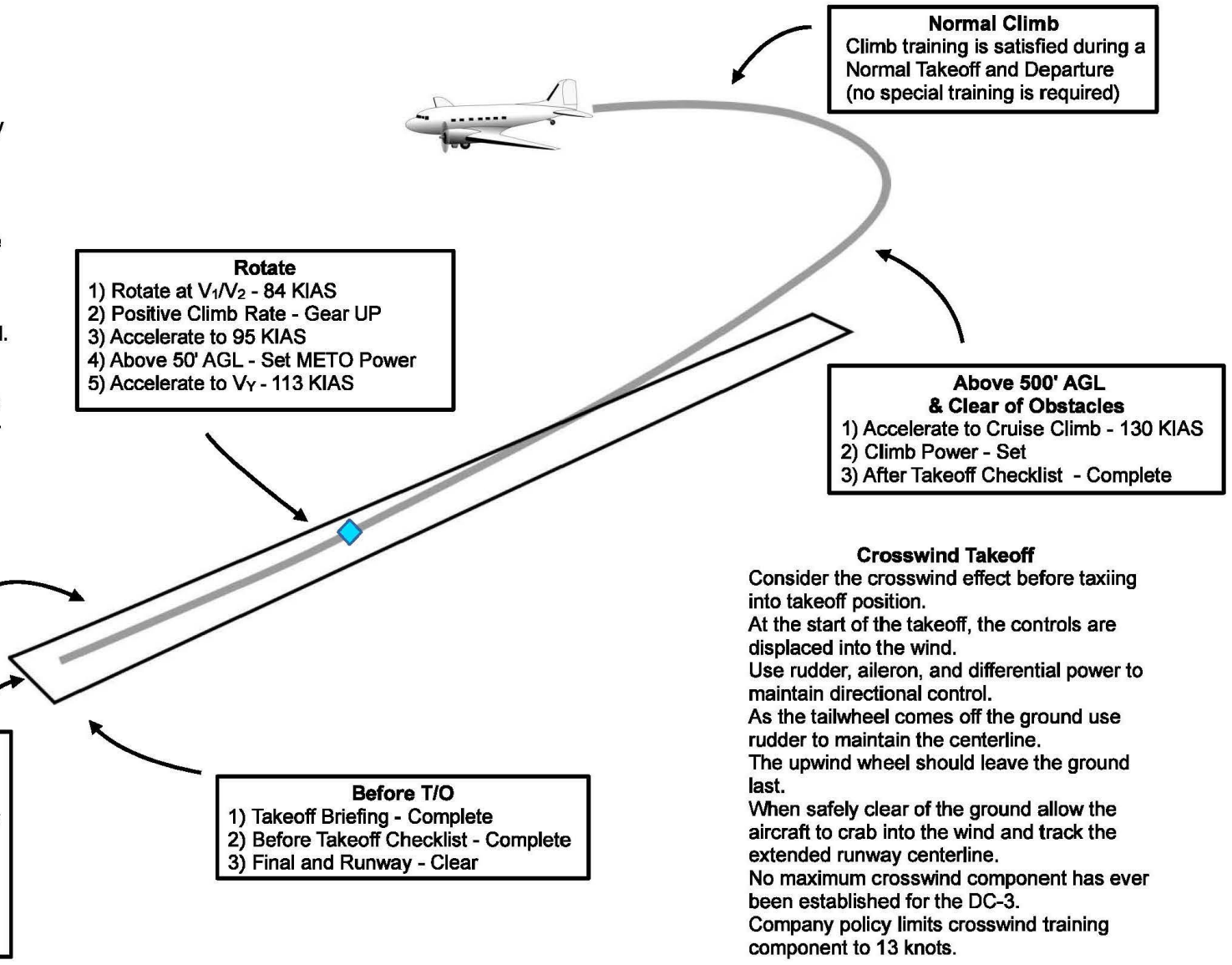
During training Max Continuous Power of 45" MP and 2500 RPM may be used for takeoff when adequate runway lengths are available.

During takeoff non-flying pilot monitors engine instruments and Indicated Airspeed.

Rotation should be made at V_1/V_2. At 50' AGL accelerate to 95 knots and set METO power. At 300 feet AGL, accelerate to 105-115 knots and set climb power.

Normal Takeoff and Departure – Flaps 1

Includes Crosswind Takeoff and Normal Climb



Normal Climb
Climb training is satisfied during a Normal Takeoff and Departure (no special training is required)

Rotate
1) Rotate at V_1/V_2 - 84 KIAS
2) Positive Climb Rate - Gear UP
3) Accelerate to 95 KIAS
4) Above 50' AGL - Set METO Power
5) Accelerate to V_Y - 113 KIAS

Above 500' AGL & Clear of Obstacles
1) Accelerate to Cruise Climb - 130 KIAS
2) Climb Power - Set
3) After Takeoff Checklist - Complete

Takeoff Roll
Smoothly set Max Power

Takeoff Position
1) Brakes - Hold
2) Line Items - Complete
   Check DG's against runway
   Tailwheel locked
   Lights as required
   Note and Record Times
3) Power - Set 30" MP
4) Brakes- Release

Before T/O
1) Takeoff Briefing - Complete
2) Before Takeoff Checklist - Complete
3) Final and Runway - Clear

Crosswind Takeoff

Consider the crosswind effect before taxiing into takeoff position.
At the start of the takeoff, the controls are displaced into the wind.
Use rudder, aileron, and differential power to maintain directional control.
As the tailwheel comes off the ground use rudder to maintain the centerline.
The upwind wheel should leave the ground last.
When safely clear of the ground allow the aircraft to crab into the wind and track the extended runway centerline.
No maximum crosswind component has ever been established for the DC-3.
Company policy limits crosswind training component to 13 knots.

Short Field Takeoff and Departure – Flaps 1

Notes:
Runway Conditions: level, hard surface, standard atmosphere.

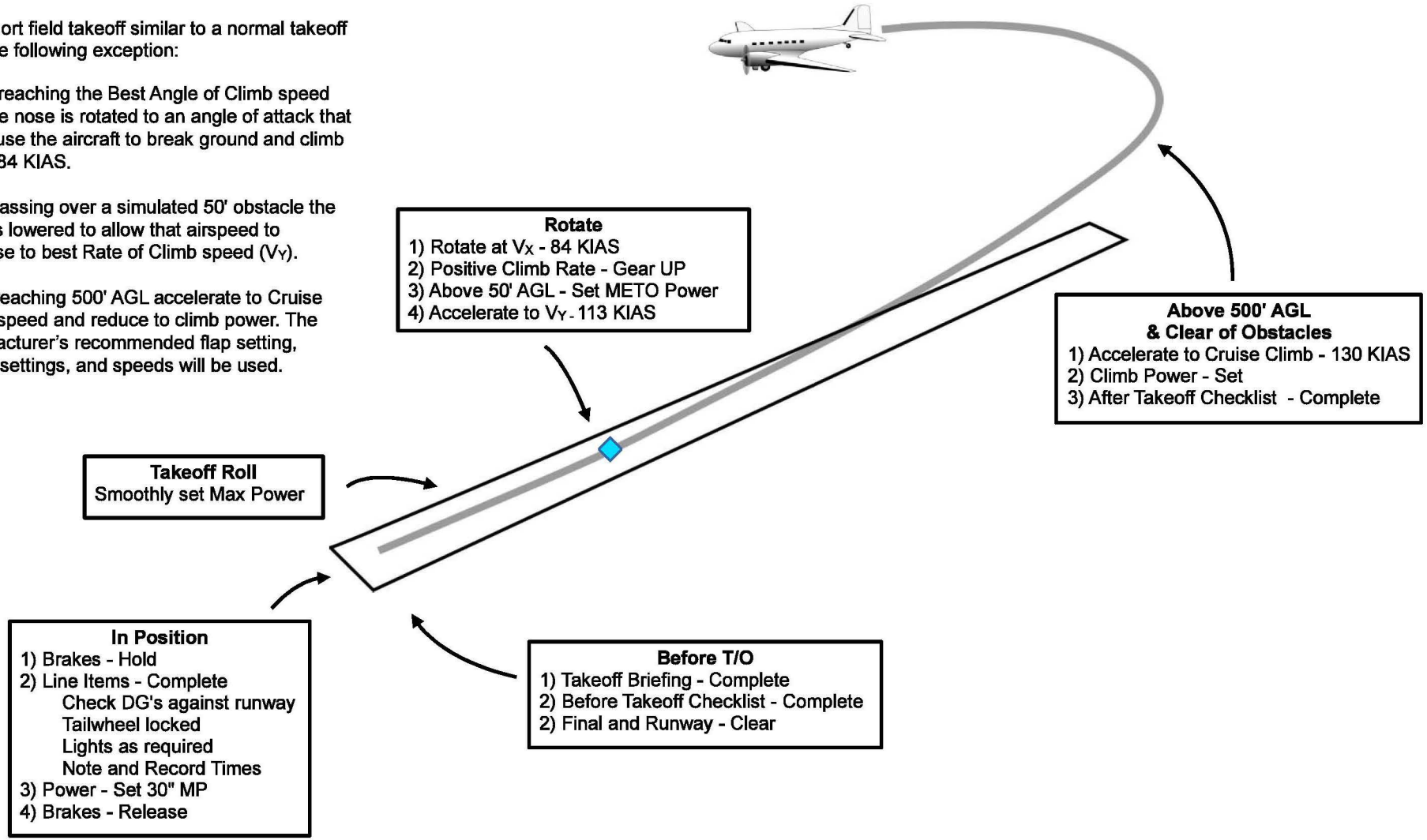
V speeds are determined during weight & balance computation. V_1/V_2 is 84 KIAS below 24,800 lbs.

The short field takeoff similar to a normal takeoff with the following exception:

When reaching the Best Angle of Climb speed (V_X) the nose is rotated to an angle of attack that will cause the aircraft to break ground and climb at V_X - 84 KIAS.

After passing over a simulated 50' obstacle the nose is lowered to allow that airspeed to increase to best Rate of Climb speed (V_Y).

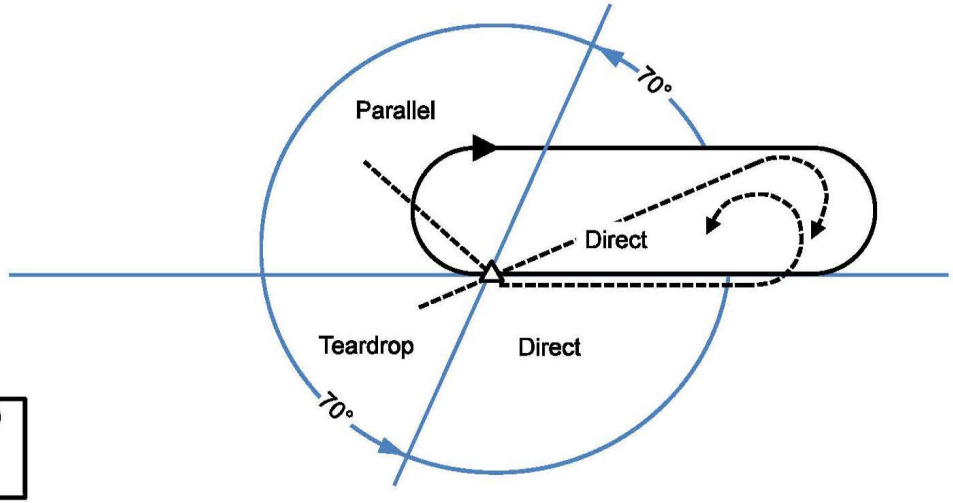
Upon reaching 500' AGL accelerate to Cruise Climb speed and reduce to climb power. The manufacturer's recommended flap setting, power settings, and speeds will be used.



Holding

Notes:
Decelerate to holding airspeed prior to reaching the holding fix.
Holding speed should be the minimum consistent with good aircraft control.
The entry procedure recommended by the AIM should be used.

1) Power - 25" MP and 1900 RPM or as required
2) Slow to 120 KIAS



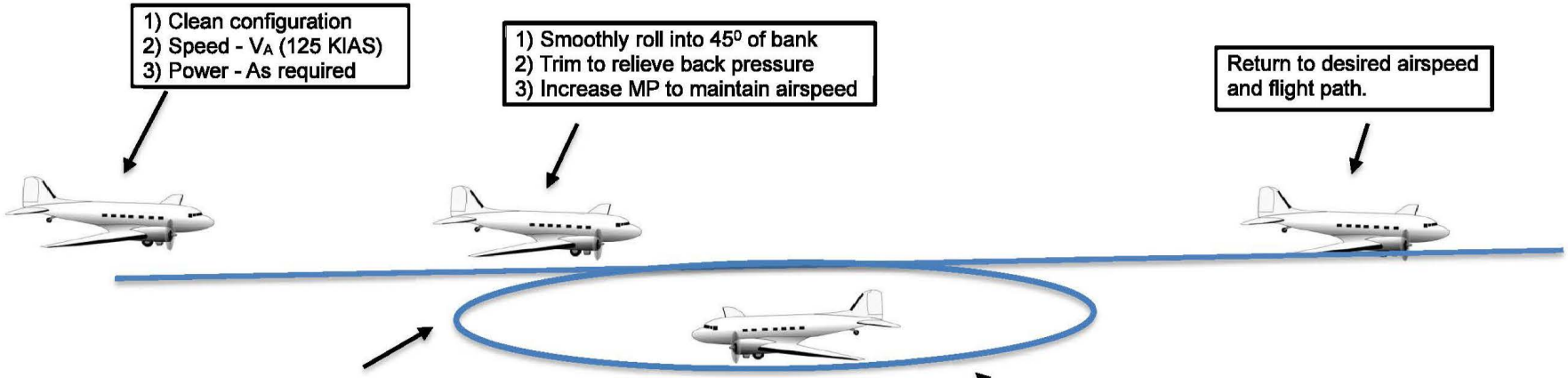
Steep Turn

Note:
Ensure area is clear of other traffic.

1) Clean configuration
2) Speed - V_A (125 KIAS)
3) Power - As required

1) Smoothly roll into 45⁰ of bank
2) Trim to relieve back pressure
3) Increase MP to maintain airspeed

Return to desired airspeed and flight path.



1) Lead rollout by approx. 30⁰
2) Reduce MP to maintain airspeed

1) Maintain altitude ± 100'
2) Speed - 120 KIAS ± 10 KTS
3) Bank - 45⁰ ± 5°

Notes:
Stalls should be completed above 3000' AGL.

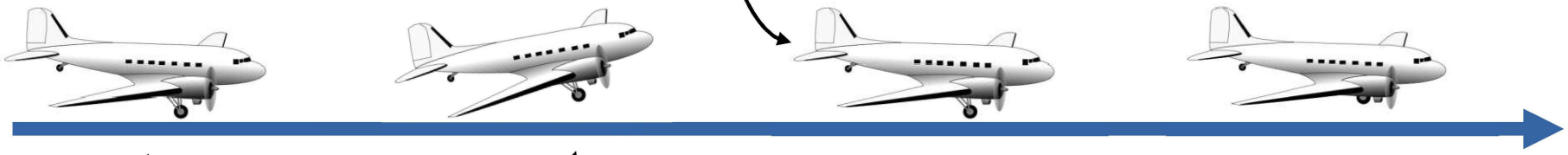
Ensure area is clear of other traffic.

Observe engine operating warning on page 6.

Climb power may be used to simulate takeoff power at the reduced training weights.

Takeoff Configuration Stall

At Stall Indication
1) Pitch - Reduce to eliminate stall Indication and simultaneously level wings (trim as required)
2) Power - As required
3) Positive Climb Rate - Gear UP
4) Increase speed to V_Y - 113 KIAS



1) Power - As required
2) Slow to V_{LE} - 144 KIAS
3) Gear - Down
4) Flaps - Remain Up
5) Trim Aircraft to V_Y - 113 KIAS

1) Increase pitch
2) Set Climb Power or per Instructor (reduced power settings extend engine life and eliminate excessive pitch angles)

1) Return to desired speed and altitude
2) Power - As required

Note:
Stall should be completed above 3000' AGL.

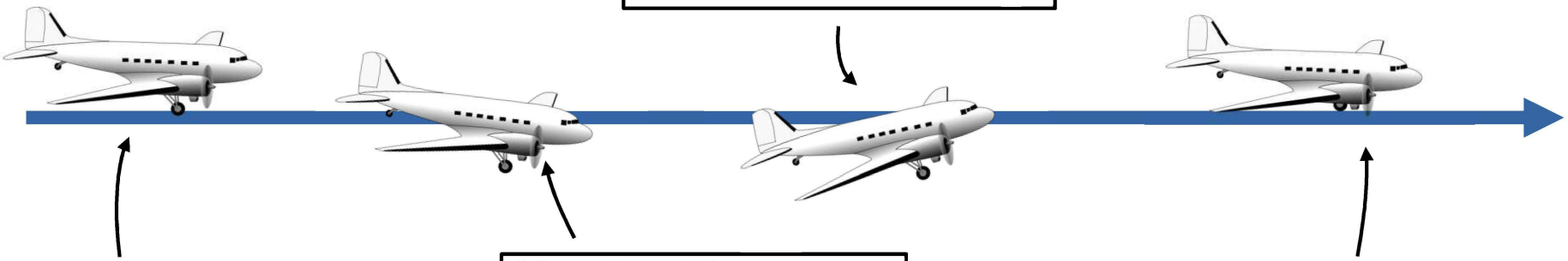
Ensure area is clear of other traffic.

Observe engine operating warning on page 6.

Climb power may be used to simulate takeoff power at the reduced training weights.

Landing Configuration Stall

At Stall Indication
1) Pitch - Reduce to eliminate stall indication and simultaneously level wings (trim as required)
2) Power - Set Climb Power or per instructor
3) Flaps - Retract to Flaps 0
4) Positive Climb Rate - Gear UP



1) Power - As required
2) Slow to V_{LE} - 144 KIAS
3) Gear - Down
4) Slow to Flaps 4 V_{FE} - 115 KIAS
5) Flaps - 4
6) Establish Stabilized Descent - 1.3 V_{S0}

1) Power - As required
2) Establish Stabilized Descent - 1.3 V_{S0}
3) Pitch - Increase until stall indication

1) Return to desired speed and altitude
2) Power - As required

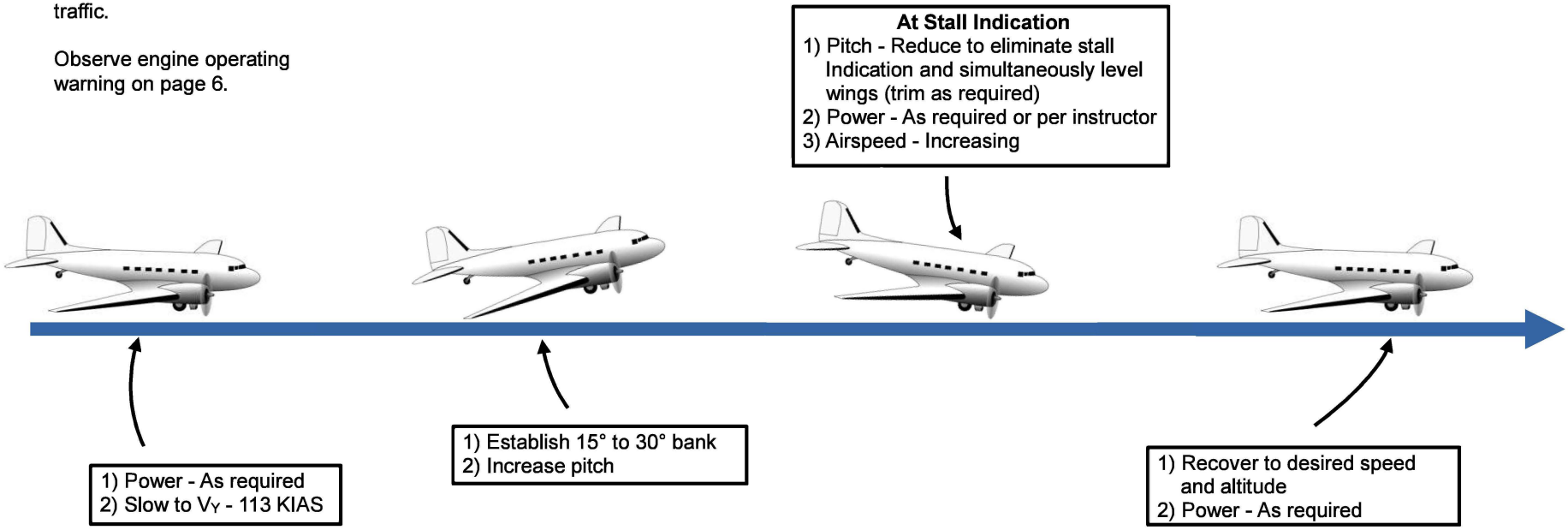
V_{REF} = 1.3 V_{S0}/V_{S1}			
Flaps	**Weight x 1000**		
	21.5	**22.5**	**23.5**
0	85	87	90
1	80	82	83
3 & 4	74	77	78

Notes:
Stall should be completed above 3000' AGL.

Ensure area is clear of other traffic.

Observe engine operating warning on page 6.

Clean Configuration Stall



Engine Shutdown and Restart / Maneuvering with Inoperative Engine

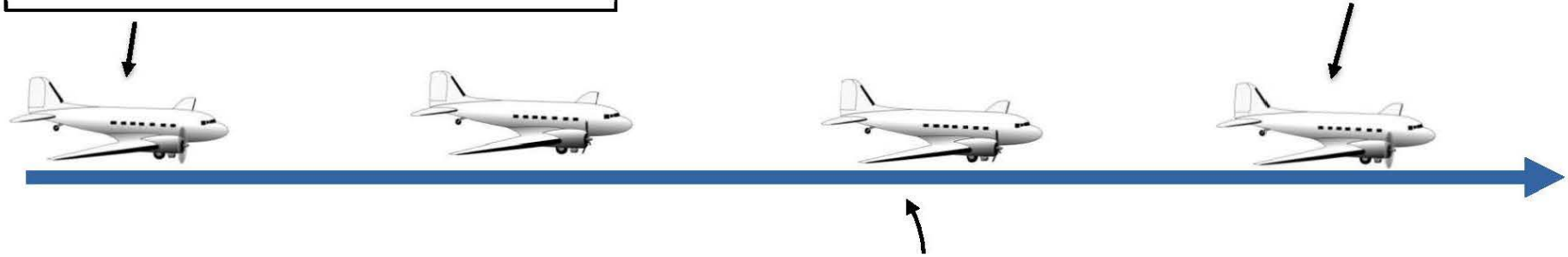
Notes:
Ensure area is clear of other traffic.

Complete above 3000' AGL within distance of an adequate runway.

Engine should not be feathered during training when outside air temps are below 75° F. due to potential damage to the engine.

Simulated Engine Shutdown
1) Shutdown engine with mixture or fuel selector
2) Maintain aircraft control
3) Mixtures as required; both throttles positioned for maximum power
4) Gear and Flaps as required
5) Determine failed engine and verify by closing the throttle
6) If unable to remedy cause of failure, feather propeller
7) Secure failed engine with appropriate checklist and check for fire
8) Monitor operating engine instruments
9) Adjust power, cowl flaps, and speed as necessary
10) Maintain altitude with airspeed at or above V_{YSE} - 113 KIAS

Unfeathering
1) Unfeathering will be accomplished in accordance with the Propeller Unfeathering Procedure (see Emergency Operating Procedures page 2)
2) Return to desired speed and fight path



Maneuvering with Inoperative Engine
1) Observe Engine Operating WARNING on Page 5
2) Conduct turns into and away from inoperative engine
3) Do not exceed 30° of bank
4) Continue to monitor operating engine
5) Use power as required to maintain desired speed and altitude

Slow-Speed Handling Characteristics

Notes:
Stall should be completed Above 3000' AGL.
Ensure area is clear of other traffic.
Maneuver is performed with Flaps 0.

$V_{REF} = 1.2\ V_{S1}$			
Flaps	Weight x 1000		
	21.5	22.5	23.5
0	78	80	83

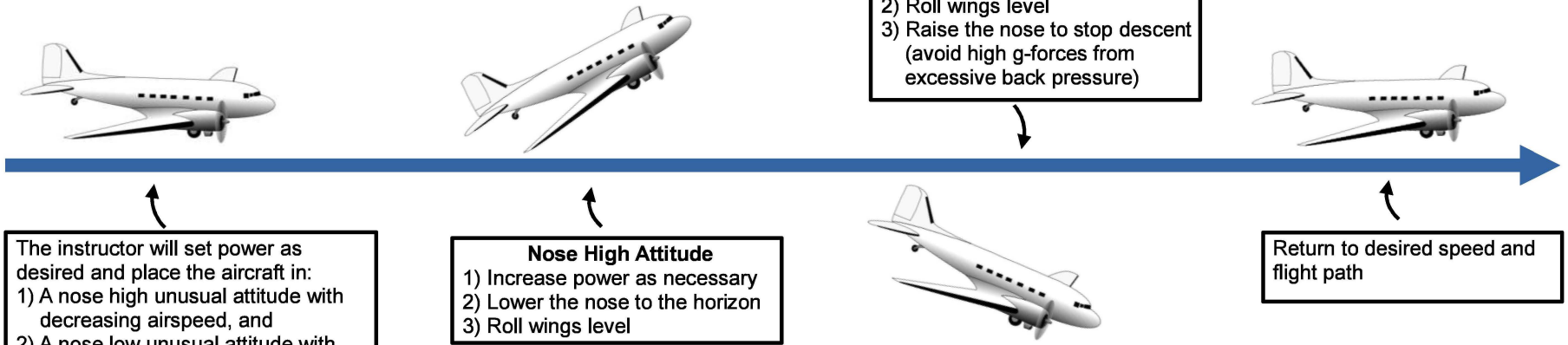
Reduce power gradually to establish $1.2V_{S1}$

1) Demonstrate coordinated turns left and right while maintaining altitude.
2) Avoid stall indications

Return to desired speed and flight path

Unusual Attitude Recovery

Notes:
Maneuver should be completed above 3000' AGL.
Ensure area is clear of other traffic.
Observe engine operating warning On page 6.



The instructor will set power as desired and place the aircraft in:
1) A nose high unusual attitude with decreasing airspeed, and
2) A nose low unusual attitude with increasing airspeed

Nose High Attitude
1) Increase power as necessary
2) Lower the nose to the horizon
3) Roll wings level

Nose Low Attitude
1) Reduce power as required
2) Roll wings level
3) Raise the nose to stop descent (avoid high g-forces from excessive back pressure)

Return to desired speed and flight path

Normal and Maximum Rate Descent

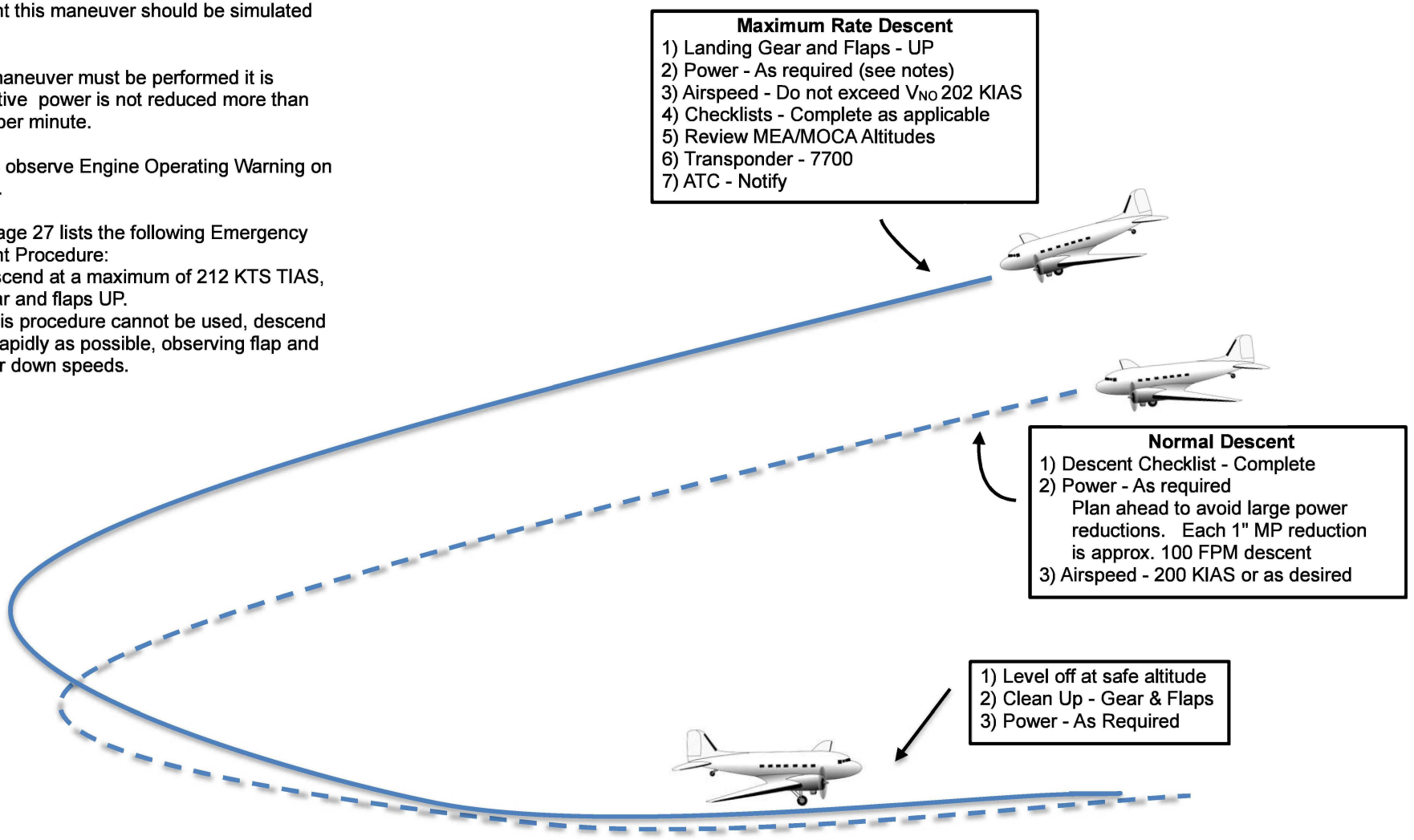
Notes:
Ensure area is clear of conflicting traffic.

Since excessive engine wear and damage may occur from practicing a Maximum Rate Descent this maneuver should be simulated only.

If the maneuver must be performed it is imperative power is not reduced more than 1" MP per minute.

Always observe Engine Operating Warning on page 6.

AFM page 27 lists the following Emergency Descent Procedure:
1) Descend at a maximum of 212 KTS TIAS, Gear and flaps UP.
2) If this procedure cannot be used, descend as rapidly as possible, observing flap and gear down speeds.



Notes:
Ensure all listed training events are performed and combine events whenever possible.

Inoperative Engine Procedures
Simulated engine failures below 2000' AGL will be accomplished with throttle and feathering will be simulated with zero thrust.

Observe engine warning on page 6.

Conduct a normal approach and landing except final approach speed should not be less than V_{YSE} (113 KIAS) until landing is assured.

Flaps 1 should not be exceeded until landing is assured.

ILS / LPV / VNAV Approach with Missed Approach

Includes Inoperative Engine Approach, Landing from Precision Approach, Landing from Precision Approach with most Critical Engine Inoperative

$V_{REF} = 1.3\ V_{S0}/V_{S1}$			
Flaps	Weight x 1000		
	21.5	22.5	23.5
0	85	87	90
1	80	82	83
3 & 4	74	77	78

Prior to IAF or Vectors
1) Power - As required
2) Airspeed - 125 KIAS
3) Flying Pilot calls - Flaps 1, Before Landing Check

In-Range
1) In-Range Checklist - Complete
2) V_{REF} - Compute
3) Approach Briefing - Complete

FAF Inbound
Landing Flaps - As desired (no change below 500' AGL)

Glideslope Intercept
1) Flying Pilot calls - Gear Down
2) Non-Flying Pilot calls - Gear DOWN, Latched & Pressure, Flaps 1
   Before Landing Check complete with Props and Flaps to go
3) Check FAF crossing altitude
4) Airspeed - 100 KIAS
5) Power - As required

Landing
1) Cross at V_{REF}
2) When power is reduced for landing non-flying pilot pushes Props Forward

Missed Approach
1) METO power - Set RPM and MP
2) Maintain Heading - with 5° bank toward good engine & trim as required (SE only)
3) Flaps 0
4) Positive Climb Rate - Gear Up
5) Airspeed - Climb at 113 KIAS (V_Y/V_{YSE})
6) Follow missed approach procedure and advise ATC

Above 500' AGL & Clear of Obstacles
1) Accelerate to Cruise Climb - 130 KIAS (SE - climb at V_{YSE})
2) Climb Power - Set
3) After Takeoff Checklist - Complete

Non-Precision Approach with Missed Approach

Includes Inoperative Engine Approach

Inoperative Engine Procedures
Simulated engine failures below 2000' AGL will be accomplished with throttle and feathering will be simulated with zero thrust.

Observe engine operating warning on page 6.

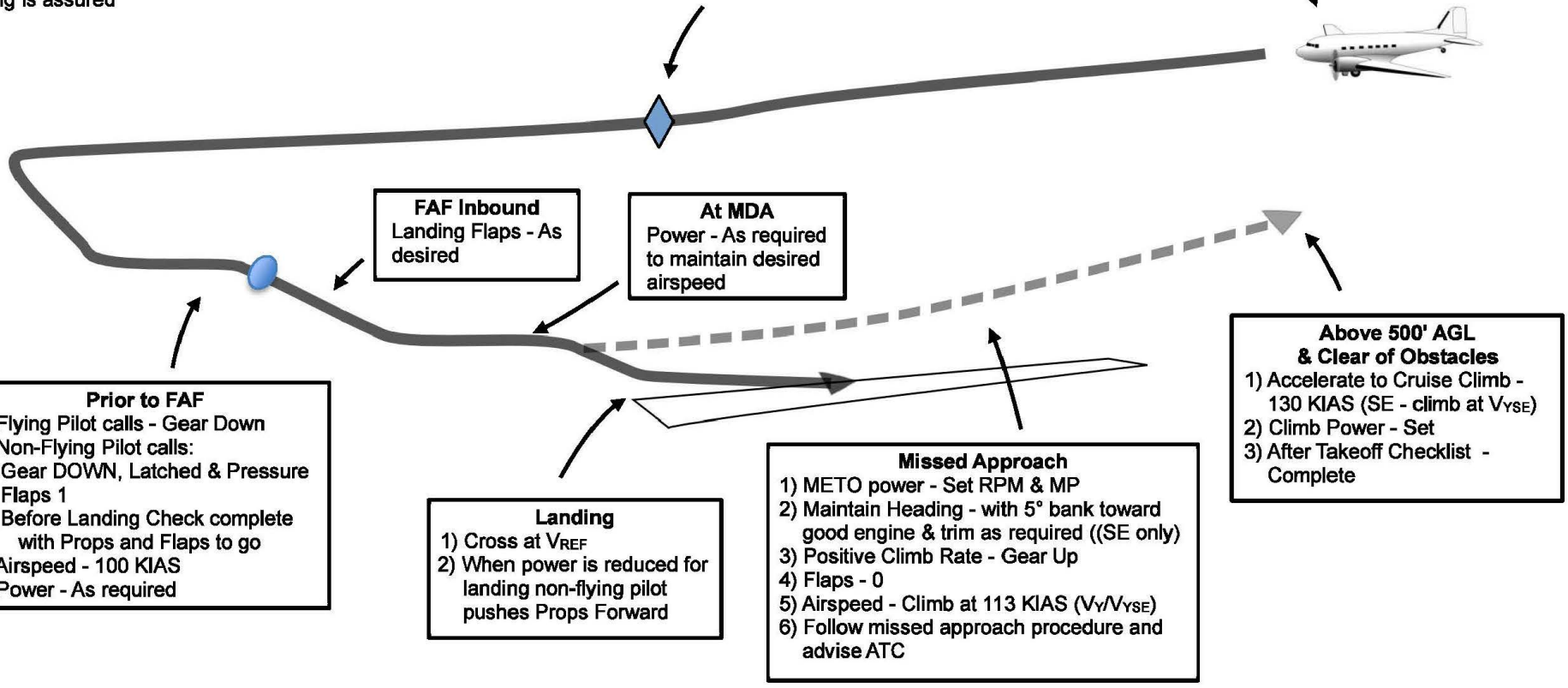
Conduct a normal approach and landing except final approach speed should not be less than V_{YSE} (113 KAS) until landing is assured.

Flaps 1 should not be exceeded until landing is assured

$V_{REF} = 1.3\ V_{S0}/V_{S1}$			
Flaps	Weight x 1000		
	21.5	22.5	23.5
0	85	87	90
1	80	82	83
3 & 4	74	77	78

In-Range
1) In-Range Checklist - Complete
2) V_{REF} - Compute
3) Approach Briefing - Complete

Prior to IAF or Vectors
1) Power - As required
2) Airspeed - 125 KIAS
3) Flying Pilot calls - Flaps 1, Before Landing Check



FAF Inbound
Landing Flaps - As desired

At MDA
Power - As required to maintain desired airspeed

Prior to FAF
1) Flying Pilot calls - Gear Down
2) Non-Flying Pilot calls:
   Gear DOWN, Latched & Pressure
   Flaps 1
   Before Landing Check complete with Props and Flaps to go
3) Airspeed - 100 KIAS
4) Power - As required

Landing
1) Cross at V_{REF}
2) When power is reduced for landing non-flying pilot pushes Props Forward

Missed Approach
1) METO power - Set RPM & MP
2) Maintain Heading - with 5° bank toward good engine & trim as required ((SE only)
3) Positive Climb Rate - Gear Up
4) Flaps - 0
5) Airspeed - Climb at 113 KIAS (V_Y/V_{YSE})
6) Follow missed approach procedure and advise ATC

Above 500' AGL & Clear of Obstacles
1) Accelerate to Cruise Climb - 130 KIAS (SE - climb at V_{YSE})
2) Climb Power - Set
3) After Takeoff Checklist - Complete

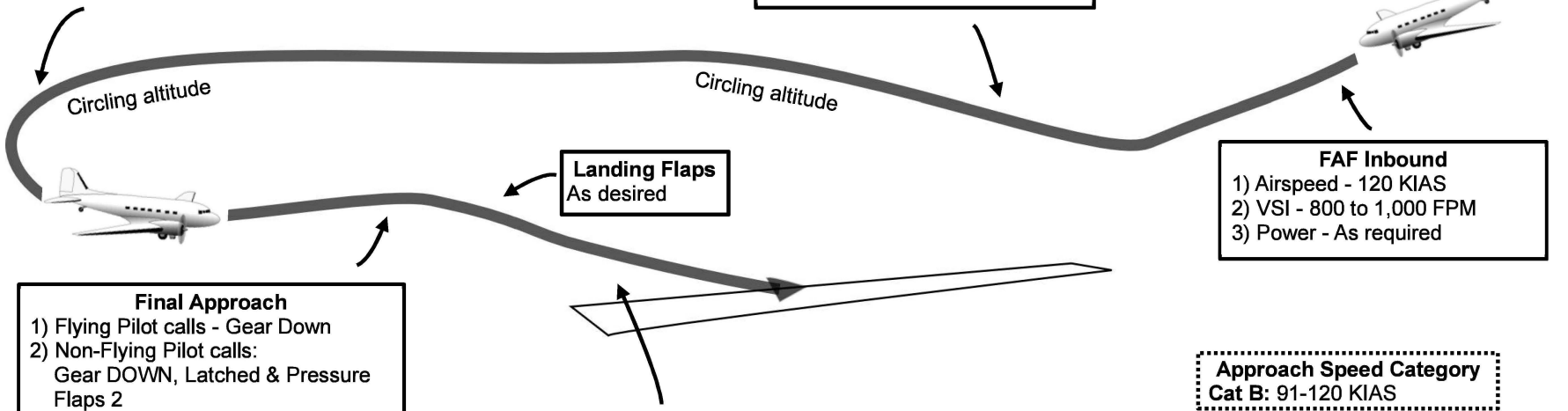
Circling Approach

$V_{REF} = 1.3\ V_{S0}/V_{S1}$			
Flaps	**Weight x 1000**		
	21.5	**22.5**	**23.5**
0	85	87	90
1	80	82	83
3 & 4	74	77	78

Prior to FAF
1) Flying Pilot calls - Flaps 1, Before Landing Check
2) Non-Flying Pilot calls - Gear DOWN, Latched & Pressure Flaps 1 Before Landing Check complete with Props and Flaps to go
3) Airspeed - 120 KIAS
4) Power - As required

MDA
1) Flying Pilot calls - Gear UP
2) Begin circling maneuver
3) Remain above circling altitude
4) Circle at 120 KIAS
5) Maintain visual reference

Base
1) Flaps - 2
2) Airspeed - 105 KIAS



Landing Flaps
As desired

FAF Inbound
1) Airspeed - 120 KIAS
2) VSI - 800 to 1,000 FPM
3) Power - As required

Final Approach
1) Flying Pilot calls - Gear Down
2) Non-Flying Pilot calls: Gear DOWN, Latched & Pressure Flaps 2 Before Landing Check complete with Props and Flaps to go
3) Airspeed -100 KIAS

Threshold
1) Cross at V_{REF}
2) When power is reduced for landing non-flying pilot pushes Props Forward

Approach Speed Category
Cat B: 91-120 KIAS

Notes:
- Maintain circling altitude as applicable (or assigned altitude per Instructor).
- Runway must be in sight during entire maneuver.
- No more than 30° bank angle.
- Missed approach procedure according to type of approach.

Normal and Inoperative Engine Approach and Landing

Inoperative Engine Procedures
Simulated engine failures below 2000' AGL will be accomplished with throttle and feathering will be simulated with zero thrust.

Observe engine operating warning on page 6.

Conduct a normal approach and landing except speed on final should not be less than V_{YSE} (113 KIAS) until landing assured.

Cross threshold at V_{REF} + 7 KTS per AFM page 7.

Note: Avoid long flat approaches with high power setting on the operating engine and excessive threshold speed.

$V_{REF} = 1.3\ V_{S0}/V_{S1}$			
Flaps	**Weight x 1000**		
	21.5	**22.5**	**23.5**
0	85	87	90
1	80	82	83
3 & 4	74	77	78

Downwind
1) Power - As required
2) Airspeed - 125 KIAS
3) Flying Pilot calls - Flaps 1, Before Landing Check
4) Non-Flying Pilot calls - Flaps 1
Before Landing Check Complete with Gear, Props and Flaps to go

In-Range
1) In-Range Checklist - Complete
2) V_{REF} - Computed
3) Approach Briefing - Complete

Base
1) Flaps - 2
2) Airspeed - 105 KIAS

Final
1) Flaps 4 or as desired
2) Airspeed - 100 KIAS

Contact Approach
1) A Contact Approach is flown using Normal Approach and Landing Procedures.

2) Because Contact Approaches may be flown in Special VFR conditions, a knowledge of the local area is especially important.

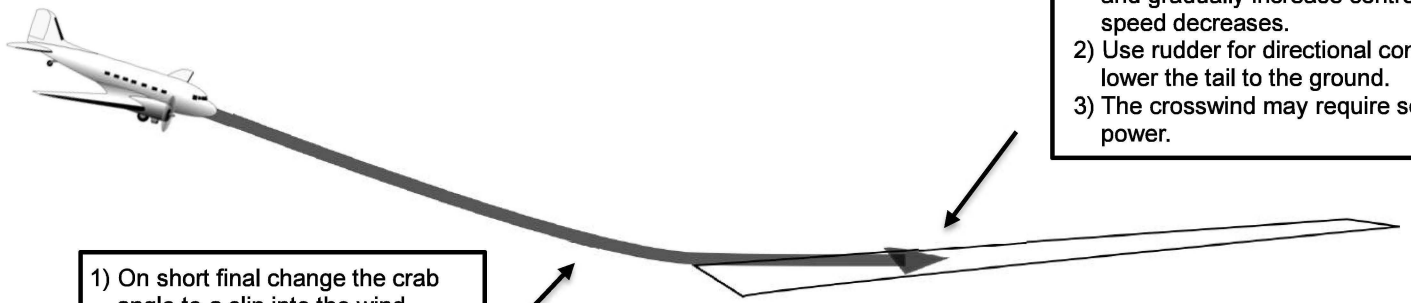
3) Training will focus on the locations of prominent landmarks and hazards to navigation, along both the approach and departure path (in case of a missed approach).

Final Approach
1) Flying Pilot calls - Gear Down
2) Non-Flying Pilot calls - Gear DOWN, Latched & Pressure
Flaps 2
Before Landing Check complete with Props and Flaps to go
3) Airspeed - 105 KIAS
4) Power - As required

Threshold
1) Cross at V_{REF}
2) When power is reduced for landing Non-flying pilot pushes Props Forward

Landing and Parking
1) Make wheel landing
2) Maintain directional control with rudder and differential power
3) Gently lower tail
4) Brakes - As required
5) When clear of runway - Complete After Landing Checklist
6) Engine Shutdown Checklist - Complete
7) Securing Checklist - Complete

Crosswind Landing



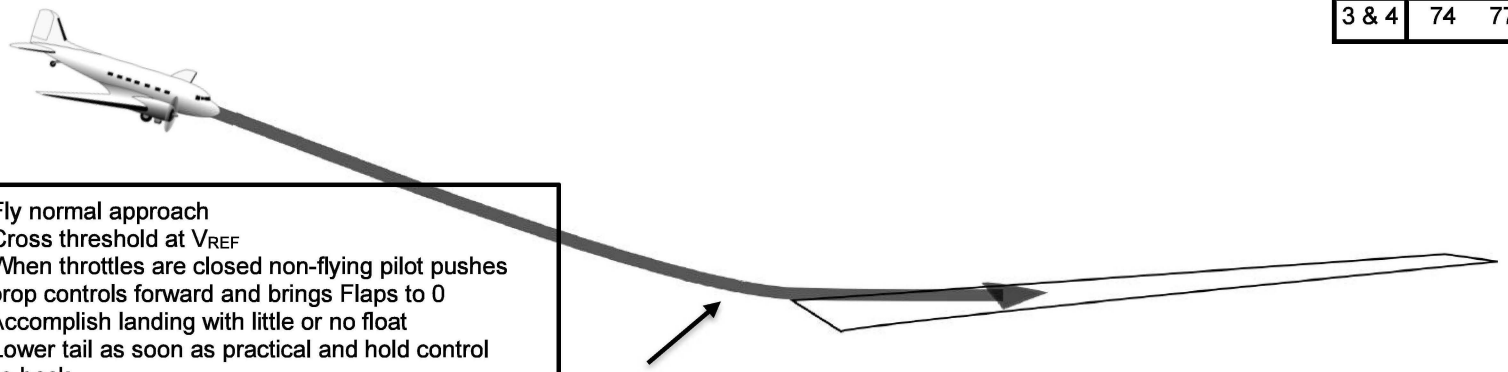
1) Make ground contact on the upwind wheel and gradually increase control deflection as speed decreases.
2) Use rudder for directional control and gently lower the tail to the ground.
3) The crosswind may require some differential power.

1) On short final change the crab angle to a slip into the wind.
2) Use ailerons and rudder as required to maintain the runway centerline.

Note:
Exercise caution when practicing short field landings at minimum speeds. At these speeds high sink rates may occur in some aircraft requiring excessive altitude and/or power for recovery.

Short Field Landing

$V_{REF} = 1.3\ V_{S0}$			
Flaps	**Weight x 1000**		
	21.5	**22.5**	**23.5**
3 & 4	74	77	78



1) Fly normal approach
2) Cross threshold at V_{REF}
3) When throttles are closed non-flying pilot pushes prop controls forward and brings Flaps to 0
4) Accomplish landing with little or no float
5) Lower tail as soon as practical and hold control yoke back
6) Use brakes as necessary to minimize landing roll

Note:
No flap landings are similar to a normal landing.

Use an approach speed of 1.3 V_{S1}.

Touchdown without flaps results in an increased nose up attitude, longer landing roll, and additional braking.

This maneuver may be trained to a landing but may not be checked to a landing.

No Flap Approach and Landing

V_{REF} = 1.3 V_{S1}			
Flaps	Weight x 1000		
	21.5	22.5	23.5
0	85	87	90

Downwind
1) Power - As required
2) Airspeed - 125 KIAS
3) Flying Pilot calls - Before Landing Check
4) Non-Flying Pilot calls -
Flaps 0
Before Landing Check Complete
with Gear, Props and Flaps to go

In-Range
1) In-Range Checklist - Complete
2) V_{REF} - Computed
3) Approach Briefing - Complete

Extend downwind to ensure adequate time for stabilized approach

Final Approach
1) Flying Pilot calls - Gear Down
2) Non-Flying Pilot calls -
Gear DOWN, Latched & Pressure
Flaps 0
Before Landing Check complete
with Props to go
3) Airspeed - 100 KIAS
4) Power - As required

Threshold
1) Cross at V_{REF}
2) When power is reduced for landing non-flying pilot pushes Props Forward

Landing and Parking
1) Make wheel landing
2) Maintain directional control with rudder and differential power.
3) Gently lower tail
4) Use brakes as required
5) When clear of runway - Complete After Landing Checklist
6) Engine Shutdown Checklist - Complete
7) Securing Checklist - Complete

Landing with a Pitch Mistrim

Landing with a Pitch Mistrim

Landing with pitch mistrim may be combined with any landing maneuver.

1) Prior to landing the instructor will introduce nose up or nose down trim (within reason).
2) The flying pilot will use control force as necessary to land the aircraft with an out-of-trim condition.

System Procedures During any Phase

Normal, Abnormal, Alternate, Emergency

Note:
Section II of the Super DC-3 AFM is titled "Airplane Operating Procedures" and includes Normal, Abnormal, Alternate, and Emergency procedures.

Procedures without a separate profile are listed on this page.

Consult the AFM page number for the applicable procedure.

These procedures are also found in the Emergency Operating Procedures Checklist.

System Procedures

Fire Control:
- Engine Section Fire - AFM page 22
- Fuselage Fire - AFM page 23
- Heater Compartment Fire - AFM page 24
- Electrical System Fire - AFM page 24
- Smoke Evacuation - AFM page 25
- Ventilation System Smoke - AFM page 26
- Miscellaneous Fire Equipment - AFM page 27

Malfunctioning Heater - AFM page 29
Hydraulic System Failure - AFM page 29
Air Brake Operation - AFM page 30
Use of Fuel Booster Pumps - AFM page 30

With the exception of Fuel Booster Pumps the above procedures are simulated.
Training consists of a review of the procedure and may done in any phase of training including sitting in a static airplane on the ramp.