



POH/AFM takes priority over this checklist.

# PIPER TWIN COMANCHE EMERGENCY PROCEDURES

Updated March 2nd, 2023

## LOSS OF DIR. CONTROL PRIOR TO ROTATION

Throttles ..... IDLE  
Brakes ..... AS REQUIRED  
Directional Control ..... MAINTAIN  
Yoke ..... FULL AFT  
Flaps ..... UP  
Radio "ABORTED TAKEOFF RWY #"

## LOSS OF DIR. CONTROL AFTER ROTATION WITH GEAR DOWN

"Gear down going down"

Throttles ..... IDLE  
Directional Control ..... MAINTAIN

Land the airplane

Brakes ..... AS REQUIRED  
Yoke ..... FULL AFT  
Flaps ..... UP  
Runway Runoff ..... EVACUATE

## LOSS OF DIR. CONTROL AFTER ROTATION WITH GEAR UP

"5 for 105 on the bug"

Picture SHIELD ON HORIZON (5°)  
Airspeed ..... 105 MPH  
Heading ..... MAINTAIN

Run flow

Mixtures ..... FORWARD  
Props ..... FORWARD

Throttles ..... FORWARD  
Gear ..... UP  
Flaps ..... UP  
Fuel Pumps ..... ON  
Magnetos ..... ON  
Fuel Selector Valve ..... MAINS  
Fuel Gauges .... VERIFY QUANTITY  
"Identify" ..... "(L/R) ENGINE"

*Touch throttle lever*

"Verify" ..... "(L/R) ENGINE"

*Pull throttle lever to idle*

"Feather" ..... "(L/R) ENGINE"

*Verify correct engine*

Trim ..... AS REQUIRED

Checklist ..... BACKUP

Radio ..... DECLARE EMERGENCY

Engine Shutdown .. AS REQUIRED

## LOSS OF DIR. CONTROL DURING FLIGHT

*Fly the airplane*

Mixtures ..... FORWARD  
Props ..... FORWARD

Throttles ..... FORWARD

Gear ..... UP

Flaps ..... UP

Fuel Pumps ..... ON

Magnetos ..... ON

Fuel Selector Valve ..... MAINS

Fuel Quantity ..... CHECK

"Identify" ..... "(L/R) ENGINE"

*Touch throttle lever*

"Verify" ..... "(L/R) ENGINE"

*Pull throttle lever to idle*

"Feather" ..... "(L/R) ENGINE"

*Verify correct engine*

Trim ..... AS REQUIRED

Checklist ..... BACKUP

Radio ..... DECLARE EMERGENCY

Shutdown Checklist . COMPLETE

## ELECTRICAL FIRE IN FLIGHT

Master Switch ..... OFF

All Other Switches ..... OFF

Vents/Cabin Air/Heat ..... OFF

Fire Extinguisher ..... ACTIVATE

Cabin ..... VENTILATE

Master Switch ..... ON

Circuit Breakers ..... CHECK

Avionics Master ..... ON

Electrical Equipment ON ONE AT A TIME

## CABIN FIRE

Master Switch ..... OFF

Air Vents and Windows .... OPEN

Fire Extinguisher ..... ACTIVATE

Cabin ..... VENTILATE

Land ..... AS SOON AS POSSIBLE

## EMERGENCY DESCENT

Throttles ..... CLOSED

Bank ..... 45° LEFT

Pitch ..... 10-20° NOSE DOWN

Airspeed ..... ≤ 200 MPH

## ENGINE SHUTDOWN

*Perform the following checklist  
items for the INOPERATIVE engine*

Mixture ..... IDLE CUTOFF

Cowl Flaps ..... CLOSED

Fuel Selector ..... OFF

Fuel Pump ..... OFF

Magnetos .. OFF ONE AT A TIME

Alternator ..... OFF

Electrical Load ..... REDUCE

Trim ..... AS REQUIRED

Crossfeed ..... AS REQUIRED

## AIR START

*Perform the following checklist  
items for the engine you wish to  
start*

Fuel Selector Valve ..... MAIN

Throttle ..... OPEN 1/2"

Prop ..... MATCH OTHER

Mixture ..... RICH

Magnetos ..... ON

Starter ..... ENGAGE

Throttle 15" UNTIL CHT GREEN

Alternator ..... ON

Avionics (N24TE) ..... ON

Throttle ..... CRUISE POWER

Cruise Checklist ..... COMPLETE

## FUEL CROSSFEED

*For the INOPERATIVE engine*

Fuel Selector .... DESIRED TANK

*For the OPERATIVE engine*

Fuel Pump ..... ON

Fuel Selector ..... CROSSFEED

Fuel Flow ..... CHECK

Fuel Pump ..... OFF

Fuel Flow ..... CHECK

*Do not land while crossfeeding.  
Switch to main before landing.*

## MANUAL GEAR EXTENSION

Gear circuit breaker ..... IN

Master Switch ..... ON

Panel Lights ..... OFF

*If still not extended*

Airspeed ..... <100 MPH  
Landing Gear Switch ..... OFF (CENTER)  
Motor ..... DISENGAGE

*Raise arm and push forward through full travel*

Gear Extension Handle ..... REMOVE  
Handle ..... PLACE IN RIGHT SOCKET  
Rotate ..... FORWARD  
Handle ..... PLACE IN LEFT SOCKET  
Rotate ..... FORWARD  
Gear Light ..... VERIFY GREEN

*Yellow highlighted items are immediate action items  
that should be committed to memory.*

### LIGHT SIGNALS (FLIGHT)

Cleared to Land ..... STEADY GREEN  
Return to Land ... FLASHING GREEN  
Give way and Circle .... STEADY RED  
Do not land ..... FLASHING RED  
General Warning, Exercise Caution  
..... ALTERNATING RED AND GREEN

### FREQUENCIES

#### Potomac Approach

Potomac (SFRA West) ..... 127.325  
Potomac ..... 128.525

#### KHEF (Manassas)

ATIS ..... 125.175  
Tower ..... 133.1  
Ground ..... 121.8

#### KHWY (Warrenton)

AWOS ..... 120.35  
CTAF ..... 122.70

#### KCJR (Culpeper)

AWOS ..... 119.32  
CTAF ..... 123.07

#### CSN (Casanova VORTAC)

CSN ..... 116.30



POH/AFM takes priority over this checklist.

# PIPER TWIN COMANCHE NORMAL OPERATIONS

Updated March 20th, 2023

## RUNWAY ENTRY

Time for Lights, Camera, Action,  
Traffic

Heading Indicator BUG RUNWAY  
Timer ..... START  
Lights LANDING & ANTI-COL. ON  
Transponder ... VERIFY CODE/ALT  
Mixtures ..... RICH  
Props ..... FORWARD  
Cowl Flaps ..... OPEN  
Fuel Pumps ..... ON  
Traffic . VERIFY RWY/APCH CLEAR  
Runway Number ..... CONFIRM  
Heading/Compass MATCHES RWY

## NORMAL TAKEOFF

Wing Flaps ..... UP  
Brakes ..... HOLD  
Throttles ..... 2200 RPM  
Engine Instruments ..... "GREEN"  
Brakes ..... RELEASE  
Throttles ..... FULL  
Airspeed ..... "ALIVE"  
Rotate ..... 85 MPH "ROTATE"  
Accelerate ..... 100 MPH  
Vertical Speed .. "POSITIVE RATE"  
Brakes ..... TAP  
Landing Gear RETRACT "GEAR UP"  
FLARE SHIELD ON HORIZON (5°)  
Climb ..... 125 MPH

### SHORT FIELD TAKEOFF

Wing Flaps ..... HALF (5 SEC)  
Brakes ..... HOLD  
Throttle ..... FULL  
Engine Instruments ..... "GREEN"  
Brakes ..... RELEASE  
Airspeed ..... "ALIVE"  
Rotate ..... 65 MPH "ROTATE"  
Brakes ..... TAP  
Landing Gear ..... RETRACT  
Pitch ..... 10°  
Climb ..... 90 MPH  
Obstacle ..... "CLEARED"  
Pull-ARE SHIELD ON HORIZON (5°)  
Wing Flaps ..... UP  
Climb ..... 125 MPH

### AFTER TAKEOFF (400' AGL)

Airspeed ..... 125 MPH  
Throttle ..... 25" MP  
Prop ..... 2500 RPM  
Wing Flaps ..... UP  
Landing Light ..... OFF  
Engine Instruments ..... GREEN

### AFTER TAKEOFF (1000' AGL)

Fuel Pumps OFF ONE AT A TIME  
Fuel Flow ..... CHECK

### CRUISE (100' PRIOR TO ALT.)

Cowl Flaps . CHECK CHT / CLOSE  
Throttle ..... 24" MP  
Prop ..... 2400 RPM  
Mixture ..... LEAN (10 GPH)

*EGT 1450 - 1500°F*

Engine Instruments ..... GREEN  
Trim ..... AS REQUIRED

### SWITCH TO AUX TANKS

Fuel Pump ..... ON  
Fuel Selector ..... AUX  
Fuel Flow ..... CHECK  
Fuel Pump ..... OFF  
Fuel Flow ..... CHECK

*Repeat for second engine*

### DESCENT / APPROACH

ATIS/AWOS ..... CHECK  
Altimeters ..... SET

*Primary, Standby*

Radios/GPS ..... TUNE/IDENT  
Approach Briefing ... COMPLETE  
Clearance ..... OBTAIN  
Fuel Selector ..... MAINS  
Mixture ..... SLIGHTLY ENRICH  
Throttles ..... 21" MP

### PRE-LANDING

Fuel Pumps ..... ON  
Fuel Selector Valve ..... MAINS  
Landing Gear DOWN/CONFIRMED  
Mixtures ..... RICH  
Props ..... FORWARD

Lights ..... AS REQUIRED  
Wing Flaps ..... AS REQUIRED  
Cowl Flaps ..... OPEN  
Seatbelts ..... FASTENED

### **NORMAL LANDING**

Wing Flaps ..... HALF (5 SEC)  
Final GUMPS Check ..... COMPLETE  
Airspeed ..... 105 / 90 MPH SHORT FINAL  
Brakes ..... MINIMUM REQUIRED

### **SHORT FIELD LANDING**

Wing Flaps ..... FULL  
Airspeed ..... 90 MPH  
Touch Down ..... MAIN WHEELS FIRST  
Wing Flaps ..... UP  
Brakes ..... MAXIMUM  
Control Wheel ..... FULL AFT

### **GO AROUND**

Throttles ..... FULL  
Pitch ..... 5° NOSE UP  
Wing Flaps ..... HALF (3 SEC)  
Vertical Speed ..... "POSITIVE RATE"  
Landing Gear ..... "GEAR UP"  
Wing Flaps ..... UP  
Airspeed ..... 125 MPH  
Throttle ..... 25" MP  
Props ..... 2500 RPM  
Fuel Pumps ..... OFF  
Landing Light ..... OFF

### **MISSED APPROACH**

Throttles ..... FULL  
Pitch ..... 5° NOSE UP  
Vertical Speed ..... "POSITIVE RATE"  
Landing Gear ..... "GEAR UP"  
Wing Flaps ..... "FLAPS UP"  
Airspeed ..... 125 MPH  
Throttle ..... 25" MP  
Props ..... 2500 RPM  
GPS ..... SUSP AND GPS NAV  
Fuel Pumps ..... OFF ONE AT A TIME  
Landing Light ..... OFF

### **AFTER LANDING**

Wing Flaps ..... UP  
Cowl Flaps ..... OPEN  
Mixtures ..... SET TO 3  
Elevator Trim ..... SET NOSE UP 0  
Rudder Trim ..... CENTER  
Fuel Pumps ..... OFF  
Lights ..... AS REQUIRED  
Radios ..... CONTACT GND / CALL CLR  
Heater ..... FAN OR OFF  
Flight Plan ..... CLOSE IF REQ'D

### **SHUTDOWN / SECURE**

Avionics Master .....	OFF
EFIS (N24TE 2x) .....	OFF
Mixtures .....	IDLE CUTOFF

*Wait for engine to shut off*

Magnetos .....	OFF
Left Engine Tach Time .....	RECORD
Master Switch .....	OFF
Aircraft Log .....	COMPLETE
Aircraft .....	TIE DOWN
Cowl Plugs/Covers .....	INSTALLED



## PRE-MANEUVER CHECKS

Area ..... CLEARING TURNS  
Cowl Flaps ..... AS REQUIRED  
Landing Lights ..... ON  
Fuel Pumps ..... ON  
Fuel Selectors ..... MAINS  
Fuel Quantity ..... CHECK

## STEEP TURNS

## Pre-Maneuver ChecksCOMPLETE

Mixtures ..... SLIGHTLY ENRICH  
Throttles ..... 21" MP  
Props ..... 2400 RPM  
Heading Bug ..... SET TO ENTRY HEADING  
Throttles ..... 16" MP  
Airspeed ..... 130 MPH  
Roll ..... LEFT 50°  
Throttles ..... INCREASE TO 20" MP  
Trim ..... 1.5 TURNS NOSE UP  
Turns ..... COMPLETE  
Trim ..... 1.5 TURNS NOSE DOWN  
Throttles ..... REDUCE TO 16" MP

## SLOW FLIGHT

## Pre-Maneuver ChecksCOMPLETE

Mixtures .....	RICH
Throttles .....	21" MP
Props .....	FORWARD
Heading Bug .....	SET TO ENTRY HEADING
Throttles .....	18" MP 15 SEC, TRIM
	15" MP 15 SEC, TRIM
	12" MP 15 SEC, TRIM
Airspeed .....	100 MPH
Throttles .....	14" MP
Airspeed .....	90 MPH
Heading .....	TURN 30°
Airspeed .....	<140 MPH
Landing Gear .....	DOWN / VERIFIED
Throttles .....	15" MP
Heading .....	TURN 30°
Airspeed .....	<125 MPH
Wing Flaps .....	HALF (5 SEC)
Throttles .....	17" MP
Heading .....	TURN 30°

Wing Flaps ..... FULL

Throttles ..... 18" MP

Heading ..... TURN 30°

## POWER OFF STALL

### ACCELERATED STALL

**Pre-Maneuver Checks** **COMPLETE**

Mixtures ..... RICH

Throttles ..... 21" MP

Prop ..... FORWARD

Throttles ..... 18" MP 15 SEC, TRIM

Throttles ..... 15" MP 15 SEC, TRIM

Airspeed ..... 120 MPH

Roll ..... 45° LEFT

Altitude ..... MAINTAIN

### Recovery

Pitch ..... BELOW HORIZON

Roll ..... WINGS LEVEL

Throttles ..... FULL

**Pre-Maneuver Checks** **COMPLETE**

Mixtures ..... RICH

Throttles ..... 21" MP

Props ..... FORWARD

Throttles ..... 18" MP 15 SEC, TRIM

Throttles ..... 15" MP 15 SEC, TRIM

Throttles ..... 12" MP 15 SEC, TRIM

Airspeed ..... <140 MPH

Landing Gear ..... DOWN / VERIFIED

Airspeed ..... <125 MPH

Wing Flaps ..... FULL

Airspeed ..... 100 MPH

Pitch ..... "DESCENT ESTABLISHED"

Bank ..... 15° LEFT

Throttle ..... IDLE

Stall Indication ..... "STALLING"

### Recovery

Pitch ..... BELOW HORIZON

Roll ..... WINGS LEVEL

Throttles ..... FULL

Flaps ..... HALF (3 SEC)

Pitch ... SLIGHTLY ABOVE HORIZON

Vertical Speed ..... "POSITIVE RATE"

Landing Gear ..... "GEAR UP"

Climb Established ..... FLAPS UP

## POWER ON STALL

**Pre-Maneuver Checks** **COMPLETE**

Mixtures ..... RICH

Throttles ..... 21" MP

Props ..... FORWARD

Throttles ..... 18" MP 15 SEC, TRIM

Throttles ..... 15" MP 15 SEC, TRIM

Throttles ..... 12" MP 15 SEC, TRIM

Airspeed ..... <140 MPH

Landing Gear ..... DOWN / VERIFIED

Airspeed ..... 100 MPH

Throttle ..... 21" MP

Pitch ..... UP

Stall Indication ..... "STALLING"

### Recovery

Pitch ..... BELOW HORIZON

Roll ..... WINGS LEVEL

Throttles ..... FULL

Pitch ..... SLIGHTLY ABOVE HORIZON  
 Vertical Speed ..... "POSITIVE RATE"  
 Landing Gear ..... "GEAR UP"

### EMERGENCY DESCENT

#### Pre-Maneuver Checks ..... COMPLETE

Mixtures ..... RICH  
 Throttles ..... IDLE  
 Props ..... FORWARD  
 Bank ..... 45° LEFT  
 Pitch ..... 10-20° NOSE DOWN  
 Airspeed ..... MAX  $V_{NO}$  (200 MPH)

### $V_{MC}$ DEMO

#### Pre-Maneuver Checks ..... COMPLETE

Mixtures ..... RICH  
 Throttles ..... 21" MP  
 Props ..... FORWARD  
 Throttles ..... 18" MP 15 SEC, TRIM  
 ..... 15" MP 15 SEC, TRIM  
 ..... 12" MP 15 SEC, TRIM  
 Airspeed ..... 120 MPH  
 Left Throttle ..... CLOSE  
 Right Throttle ..... FULL  
 Right Rudder ..... AS NEEDED  
 Bank ..... 5° RIGHT  
 Pitch ..... SLOWLY UP

*At first sign of loss of directional control / stall  
 light / buffet*

Pitch ..... BELOW HORIZON  
 Right Throttle ..... REDUCE TO 1/4  
 Passing red line ..... FULL RIGHT THROTTLE  
 Right Rudder ..... AS REQUIRED  
 Pitch ..... 2.5-5°  
 Airspeed .....  $V_{YSE}$  (BLUE LINE)  
 Throttles ..... SCISSOR TOGETHER

### POWER SETTINGS

*Power settings to be used as a guide only*

Takeoff ..... FULL FORWARD / FULL  
 Climb ..... 25" MP / 2500 RPM  
 Cruise ..... 24" MP / 2400 RPM  
 Descent ..... 21" MP / 2400 RPM  
 IAP Outbound ..... 21" MP  
 IAP Inbound ..... 18" MP  
 Precision Approach ..... 15" MP  
 Non-Precision Approach ..... 12" MP  
 Pattern ..... 17" MP  
 Abeam Numbers ..... 15" MP / PROP FWD.

### SPEEDS

$V_{SO}$  ..... 69 MPH  
 $V_S$  ..... 76 MPH  
 $V_R$  ..... 85 MPH  
 $V_X$  ..... 90 MPH  
 $V_{XSE}$  ..... 90 MPH

V <sub>MC</sub> .....	90 MPH
V <sub>SSE</sub> .....	97 MPH
V <sub>YSE</sub> .....	105 MPH
V <sub>Y</sub> .....	112 MPH
V <sub>FE</sub> .....	125 MPH
V <sub>A</sub> (3600 lb) .....	162 MPH
V <sub>LE</sub> .....	150 MPH (140 AVAD)
V <sub>NO</sub> .....	200 MPH
V <sub>NE</sub> .....	230 MPH
Pattern .....	130 MPH
Abeam Numbers .....	115 MPH
Base .....	110 MPH
Final .....	105 MPH
Max Demo. Crosswind .....	20 MPH



POH/AFM takes priority over this checklist.

**PIPER TWIN  
COMANCHE  
PREFLIGHT  
CHECKLIST**

Updated March 20th, 2023

**COCKPIT SAFETY CHECK**

Magnetos ..... OFF  
Mixtures ..... IDLE CUTOFF  
Throttles ..... CLOSED

**PREFLIGHT PREPARATION**

Weather ..... CHECK  
Inspections/ADs/Squawks ..... CHECK  
Flight Plan ..... FILED  
Weight and Balance ..... COMPUTE  
Fuel Quantity ..... CHECK / CALL

*Master MUST Be Off During  
Fueling*

Aircraft Cover ..... REMOVE  
Cowl Plugs ..... REMOVE  
Pitot Head Cover ..... REMOVE  
Chocks ..... REMOVE  
Engine Preheat ..... BELOW 0 °C/32 °F  
Wings ... CHECK FOR ICE/FROST

**CABIN**

Keys ..... PLACE ON DASH  
Documents ..... S.P.A.(R.)R.O.W.  
Supplements ..... CHECK  
Placards ..... CHECK  
Airworthiness Cert. .... VISIBLE  
Radio Station Lic INT'L FLIGHT  
Registration ..... VALID  
P.O.H/A.F.M. .... CHECK  
W&B Info ..... IN BINDER  
Hobbs Meter ..... RECORD  
Fire Extinguisher GREEN/SECURE

Magnetos ..... OFF  
 Avionics Master Switch ..... OFF  
 Panel Lights ..... OFF  
 Alternate Static Source ..... OFF  
 Gear Selector ..... DOWN  
 Fuel Selectors ..... MAINS  
 Elevator Trim .... SET NOSE UP 0  
 Rudder Trim ..... CENTER  
 Master Switch ..... ON  
 Wing Flaps ..... FULL  
 Gear Light ..... GREEN  
 Fuel Gauges ..... CHECK  
 Exterior Lights CHECK AS REQ'D  
 Pitot Heat ..... CHECK AS REQ'D  
 Stall Warning ..... TEST  
 Master Switch ..... OFF  
 Fuel Strainer DRAIN (PUSH CLOSED)

## RIGHT WING

Flap ..... INSPECT  
 Aileron ..... INSPECT  
 Wing Tip/Nav Lights .... INSPECT  
 Leading Edge/VG/Stall Strip ..... INSPECT

*No more than 2x VG missing*

Wing Tie Down ..... REMOVE  
 Aux Tank ..... CHECK  
 Oil Level .....  $\geq 6$  QTS

*Ensure dipstick secure*

Prop/Spinner ..... INSPECT

*No Oil, No Cracks, No Screws Missing*

Main Tank ..... CHECK  
 Main Gear/Tire/Brakes INSPECT  
 Fuel Caps and Access Doors SECURE

## NOSE AND COWLING

Windshield ..... CLEAN  
 Door Hinge Bolts ..... INSPECT  
 Nose Inlet ..... CLEAR  
 Nose Gear/Tire/Strut .. INSPECT

## LEFT WING

Main Tank ..... CHECK  
 Main Gear/Tire/Brakes INSPECT  
 Oil Level .....  $\geq 6$  QTS

*Ensure dipstick secure*

Prop/Spinner ..... INSPECT

*No Oil, No Cracks, No Screws Missing*

Aux Tank ..... CHECK  
 Wing Tie Down ..... REMOVE  
 Pitot Head CHECK UNBLOCKED  
 Leading Edge/VG/Stall Strip ..... INSPECT

*No more than 2x VG missing*

Wing Tip/Nav Lights .... INSPECT  
 Aileron ..... INSPECT  
 Flap ..... INSPECT  
 Fuel Caps and Access Doors SECURE

## EMPENNAGE

Skin and Rivets ..... INSPECT  
 Stabilator/Anti-Servo Tab INSPECT  
 Vertical Stabilizer ..... INSPECT

Rudder .....	INSPECT
Hinges.....	SECURE
Cables.....	SECURE
Tail Tie Down .....	REMOVE
Antennas .....	INSPECT
Underside .....	INSPECT
Tow Bar .....	SECURE
Baggage Door .....	LOCKED

### FINAL CHECK

Fuel Caps .....	CONFIRM SECURE
Last 360° Walk Around .....	COMPLETE
Chocks.....	CONFIRM REMOVED
Tie Downs.....	CONFIRM REMOVED
Cowl Plugs.....	CONFIRM REMOVED
Pitot Head Cover.....	CONFIRM REMOVED
Preflight .....	COMPLETE

### PERSONAL CHECKLIST

**PAVE** to perceive hazards

**Pilot** ..... CHECK

• Experience/recency..... CHECK

• Physical condition..... SEE IMSAFE

**Aircraft** ..... CHECK

• Fuel reserves..... CHECK

• Performance..... CHECK

• Equipment..... CHECK

**Environment** ..... CHECK

• Weather..... CHECK

**External Pressures** ..... CHECK

**IMSAFE** to check pilot phys. condition

**Injury** ..... CHECK

**Medication** ..... CHECK

**Stress** ..... CHECK

**Alcohol** ..... CHECK

**Fatigue** ..... CHECK

**Emotion** ..... CHECK

### PASSENGER BRIEF

**S – Seatbelts** ..... USAGE

*Fastened during taxi, takeoff, landing. Recommended always.*

**A – Air vents** ..... USAGE

*Sick? Loosen clothing, use air, look at point on horizon. Location of sick sacks.*

**F – Fire extinguisher** ..... USAGE

P – Pull pin

A – Aim at base of fire

S – Squeeze

S – Sweep

**E – Exits** ..... LOCATION/USAGE

**T – Traffic** ..... EXPLAIN

*Clock Position / Who's looking*

**Y – Yak (Sterile Cockpit)**

*No extraneous conversation under cruise or 10,000' MSL (whichever is lower)*

**Y – Yoke**

*3 way positive exchange of flight controls. Stay clear of active flight controls.*

**Y – Any questions?**

### BEFORE START

Preflight ..... COMPLETE  
Passenger Briefing ... COMPLETE  
Seats and Belts ADJUSTED/LOCKED  
Cowl Flaps ..... OPEN  
Fuel Selector Valves ..... MAINS  
Elevator Trim ..... SET NOSE UP 0  
Rudder Trim ..... CENTER  
Circuit Breakers ..... CHECK IN  
Avionics Master Switch ..... OFF  
Anticollision Lights ..... ON  
Nav Lights ..... ON AT NIGHT/IFR  
Master Switch ..... ON  
Magnetos ..... ON  
Alternators ..... ON  
Brakes ..... HOLD OR SET

### COLD ENGINE START

Mixtures ..... RICH  
Props ..... FORWARD  
Throttles ..... 1/2" OPEN  
Fuel Pumps ..... ON  
*Verify Fuel Flow, About 5 Sec.*  
Fuel Pumps ..... OFF  
Prop Area ..... CLEAR  
Left Engine Starter ..... ENGAGE  
Left Throttle ..... 1000 RPM  
Left Oil Pressure ..... CHECK  
Right Engine Starter ..... ENGAGE  
Right Throttle ..... 1000 RPM  
Right Oil Pressure ..... CHECK

### HOT/FLOODED ENGINE START

Mixtures ..... IDLE CUTOFF  
Props ..... FORWARD  
Throttles ..... 1/2 OPEN  
Fuel Pumps ..... OFF  
Prop Area ..... CLEAR  
Left Engine Starter ..... ENGAGE  
*Retard throttle and advance  
mixture*  
Left Throttle ..... 1000 RPM  
Left Oil Pressure ..... CHECK  
Right Engine Starter ..... ENGAGE



*Retard throttle and advance  
mixture*

Right Throttle ..... 1000 RPM  
Right Oil Pressure ..... CHECK

### AFTER START

Mixtures ..... SET TO 3  
Avionics Master Switch ..... ON  
EFIS (N24TE 2x) ..... ON  
GPS Database ..... CHECK DATES  
Wing Flaps ..... UP  
Radios ... TUNE, GET ATIS/AWOS  
Altimeters ..... SET

*Primary, Standby*

Primary Heading Ind. BUG RUNWAY  
Standby Heading Ind. BUG WIND  
Clearance ..... OBTAIN  
Transponder ..... SET/ALT  
Altitude Sel ..... SET  
GPS Flight Plan ..... SET

### TAXI

Taxi Area ..... CLEAR  
Brakes ..... CHECK

*Check for dip in Attitude Indicator*

Flight Instruments ..... CHECK IN TURNS  
Attitude Indicator ..... CHECK  
Heading Indicator ..... CHECK  
Turn Coordinator ..... CHECK

### ENGINE RUNUP

Aircraft ... POSITION INTO WIND  
Brakes ..... HOLD OR SET  
Seats and Seat Belts ..... SECURE  
Flight Controls FREE & CORRECT

*Do not check rudder movement on  
ground*

Elevator Trim ..... SET NOSE UP 0  
Rudder Trim ..... CENTER  
Radios ..... SET  
GPS Flight Plan ..... VERIFY  
2nd Radio ..... 121.5  
CDI ..... SELECT NAV SOURCE  
Fuel Selector Valves ..... MAINS  
Fuel Quantity ..... CHECK  
Autopilot ..... OFF  
Mixtures ..... SET TO 3  
Props ..... FORWARD  
Throttles ..... 1500 RPM  
Props ..... EXERCISE (3X)  
Throttles ..... 2200 RPM  
Magnetos ..... CHECK R/L

*Drop less than 175 and 50 between  
mags*

Throttles ..... CHECK IDLE  
Throttles ..... 1000 RPM  
Throttle Friction Lock ..... ADJUST  
Engine Instruments ..... GREEN  
Suction Gauge (N24TE) ... CHECK  
Ammeter ..... ZERO OR POSITIVE  
Battery Voltage (N2VQ1) 13.2 - 14.4  
Flight Instruments ..... CHECK AND SET  
Standby Flight Instruments ..... CHECK

### BEFORE TAKEOFF

Elevator Trim ..... SET NOSE UP 0  
Rudder Trim ..... CENTER

Fuel Selector Valves ..... MAINS  
 Lights ..... AS REQUIRED  
 Props ..... FORWARD  
 Mixtures ..... RICH  
 Cowl Flaps ..... OPEN  
 Wing Flaps ..... SET  
 XPDR ..... VERIFY CODE/ALT  
 Cabin Door & Win. .... CLOSED & LOCKED  
 Fuel Pumps ..... ON  
 Pitot Heat ..... AS REQUIRED  
 Brakes ..... RELEASE

## TAKEOFF BRIEF

Conditions  
 Weather (Wind, Ceilings, Etc.)  
 Hazards  
 Weather, Terrain, Wildlife, Traffic, etc.  
 Runway  
 Number (L/R), Length  
 Loss of Directional Control  
 • Before Rotation  
 • After Rotation w/ Gear Down  
 • After Rotation w/ Gear Up  
 • Establish PIC in emergency  
 Takeoff (Brief)  
 • Normal, Short?  
 • Runway  
 • Wind speed and direction  
 • Speeds: rotate, initial/enroute climb  
 Departure (Brief)

## RUNWAY ENTRY

*Time for Lights, Camera, Action, Traffic*

Heading Indicator ..... BUG RUNWAY  
 Timer ..... START  
 Lights ..... LANDING ON  
 Transponder ..... VERIFY CODE/ALT  
 Mixtures ..... FORWARD  
 Props ..... FORWARD  
 Cowl Flaps ..... OPEN  
 Fuel Pumps ..... ON  
 Traffic ..... VERIFY RWY/APCH CLEAR  
 Runway Number ..... CONFIRM  
 Heading/Compass ..... MATCHES RWY

## NORMAL TAKEOFF

Wing Flaps ..... UP  
 Brakes ..... HOLD  
 Throttles ..... 2200 RPM  
 Engine Instruments ..... "GREEN"  
 Brakes ..... RELEASE  
 Throttles ..... FULL  
 Airspeed ..... "ALIVE"  
 Rotate ..... 85 MPH "ROTATE"  
 Accelerate ..... 100 MPH  
 Vertical Speed ..... "POSITIVE RATE"  
 Brakes ..... TAP  
 Landing Gear ..... RETRACT "GEAR UP"

Pitch ..... GLARE SHIELD ON HORIZON (5°)  
Climb ..... 125 MPH

### SHORT FIELD TAKEOFF

Wing Flaps ..... HALF (5 SEC)  
Brakes ..... HOLD  
Throttle ..... FULL  
Engine Instruments ..... "GREEN"  
Brakes ..... RELEASE  
Airspeed ..... "ALIVE"  
Rotate ..... 65 MPH "ROTATE"  
Brakes ..... TAP  
Landing Gear ..... RETRACT  
Climb ..... 90 MPH  
Obstacle ..... "CLEARED"  
Pitch ..... GLARE SHIELD ON HORIZON (5°)  
Wing Flaps ..... UP  
Climb ..... 125 MPH