

# Piper Arrow III

# Speeds & Preflight

## Speeds

V <sub>NE</sub> .....	183 kias
V <sub>NO</sub> .....	146 kias
V <sub>A</sub> (2,750 lbs.) .....	118 kias
V <sub>A</sub> (1,865 lbs.) .....	96 kias
V <sub>S</sub> .....	60 kias
V <sub>S0</sub> .....	55 kcas
Best Angle - V <sub>X</sub> .....	78 kias
Best Angle - V <sub>X</sub> (gear down) .....	72 kias
Best Rate - V <sub>Y</sub> .....	90 kias
Best Rate - V <sub>Y</sub> (gear down) .....	78 kias
Best Glide (2,750 lbs.) .....	79 kias
V <sub>FE</sub> .....	103 kias
Max Crosswind Component .....	17 kias

## Takeoff

Normal/crosswind takeoff .....	15°C, No Wind
.....	MTOW, Sea Level
Flaps .....	0°
Ground Roll .....	1000 ft
Total Distance Over 50 ft Obstacle .....	2500 ft
Normal Climb Out .....	90 kias
Short Field Takeoff .....	15°C, No Wind
.....	MTOW, Sea Level
Flaps .....	25° (2nd notch)
Ground Roll .....	1000 ft
Total Distance Over 50 ft Obstacle .....	1850 ft
Speed Until Obstacles Cleared .....	78 kias

## Landing

Final approach speed .....	75 kias
Normal landing .....	Sea Level, No Wind
Flaps .....	Flaps 40°
Ground Roll .....	660 ft
Total Distance Over 50 ft Obstacle .....	1530 ft
Approved Flap Range .....	0°-40°

## Preflight

### COCKPIT

Parking brake .....	SET
Magneto switch .....	OFF
Landing gear lever .....	DOWN
Mixture .....	IDLE CUT-OFF
Avionics .....	OFF
BATT MASTR switch .....	ON
Fuel gauges .....	CHECK QUANTITY
Annunciator panel .....	CHECK
BATT MASTR switch .....	OFF
Primary flight controls .....	CHECK OPERATION
Flaps .....	CHECK OPERATION
Trim .....	NEUTRAL

### LEFT/RIGHT WING

Flap and aileron .....	CHECK
Wing tip and lights .....	UNDAMAGED
Tie-Down .....	DISCONNECT
Fuel tank .....	CHECK LEVEL

### NOSE SECTION

Chocks .....	REMOVED
Towbar .....	REMOVED (NOSE GEAR)
Engine inspection door .....	CLOSED
Oil .....	CHECK LEVEL
Propeller .....	GOOD CONDITION
Air inlets .....	CLEAR
Landing light .....	CHECK

### TAIL SECTION

Fin .....	CHECK CONDITION
Rudder .....	CHECK CONTROLS
Stabilator and trim tab .....	CHECK CONTROLS
Tail cone .....	CHECK CONDITION

### EMPENAGE

Antennas .....	CHECK CONDITION
Tie-Down .....	DISCONNECT
Baggage door .....	CLOSED
Flashing Beacon .....	CHECK CONDITION

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### Before starting engine

Passengers . . . . . BRIEFED  
Brakes . . . . . SET  
Circuit breakers . . . . . IN  
Beacon . . . . . ON  
Alternate air . . . . . OFF  
Mixture . . . . . CUT-OFF  
Propeller . . . . . FULL FORWARD  
Throttle . . . . . 1/2 INCH  
Gear Handle . . . . . DOWN  
Avionics . . . . . OFF  
Fuel selector . . . . . DESIRED TANK  
Clearance . . . . . AS REQUIRED

### Engine start

ALTR switch . . . . . ON  
BATT MASTR switch . . . . . ON  
Beacon . . . . . verify ON  
Throttle . . . . . verify 1/2 INCH OPEN  
Propeller . . . . . verify FULL FORWARD  
Fuel pump . . . . . ON

*cold engine - prime*

Prime . . . . . Mixture RICH  
. . . . . then IDLE CUT-OFF

Propeller . . . . . CLEAR  
Starter . . . . . ENGAGE  
Mixture . . . . . FULL RICH

### WHEN ENGINE STARTS

Magneto selector . . . . . BOTH  
Throttle . . . . . 1000 RPM  
Oil pressure . . . . . CHECK  
. . . . . (if no pressure in 30 seconds - STOP ENGINE)  
Fuel Pump . . . . . OFF  
Electrical Equipment and Avionics . . . . . AS REQUIRED  
Mixture . . . . . LEAN for ground operations

ALTR switch . . . . . set/verify ON  
Avionics and transponder . . . . . ON & SET  
. . . . . frequencies & squawk  
Instruments . . . . . CHECK and/or SET

## Engine Start & Run-up

### Taxi

Fuel selector . . . . . SWITCH TANK  
Taxi area . . . . . CLEAR  
  
Clearance . . . . . OBTAIN  
*or*  
Intensions . . . . . ANNOUNCE  
  
Taxi lights . . . . . AS REQUIRED  
Parking brake . . . . . RELEASE  
Throttle . . . . . APPLY SLOWLY  
Brakes . . . . . CHECK  
Nose wheel steering . . . . . CHECK  
Compass, Directional Gyro, Turn Coordinator . . . . . CHECK  
. . . . . during turns

### Ground check / Run-up

Parking brake . . . . . SET  
Passenger Seats . . . . . MOST UPRIGHT POSITION  
Seats and Seat Belts . . . . . SECURE  
Cabin Doors . . . . . CLOSED and LOCKED  
Instruments . . . . . SET  
. . . . . altimeter - SET (airport elevation)  
. . . . . heading indicator- SET (verify with compass)  
Fuel selector . . . . . verify DESIRED TANK  
Fuel gauges . . . . . CHECK QUANTITY  
Fuel pump . . . . . ON  
Mixture . . . . . FULL RICH  
Propeller . . . . . verify FULL FORWARD  
Throttle . . . . . 2,000 RPM  
Magnetos . . . . . CHECK (observe 50-175 RPM drop)  
Oil gauges . . . . . CHECK  
Ammeter . . . . . CHECK  
Vacuum . . . . . 4.8-5.1 inHg  
Annunciator panel . . . . . PRESS-TO-TEST  
Propeller . . . . . CYCLE  
. . . . . then FULL FORWARD  
Alternate air . . . . . CHECK  
Fuel pump . . . . . OFF (momentarily - check pressure)  
. . . . . then ON  
Fuel pressure . . . . . CHECK  
Throttle . . . . . RETARD (1,400 RPM)



# Piper Arrow III

# Cruise & Landing

## Cruise performance

75% Power (Best Power):  
 S.L. . . . . . 132 ktas  
 4,000 ft. . . . . 134 ktas

65% Power (Best Power):  
 S.L. . . . . . 124 ktas  
 4,000 ft. . . . . 127 ktas  
 8,000 ft. . . . . 129 ktas

55% Power (Economy Cruise):  
 S.L. . . . . . 110 ktas  
 4,000 ft. . . . . 117 ktas  
 8,000 ft. . . . . 124 ktas

## Cruise

Cruise power . . . . . AS REQUIRED  
 Mixture . . . . . SET RICH  
 . . . . . (above 65% power)  
 . . . . . SET LEAN  
 . . . . . (below 65% power)  
 Landing Lights . . . . . AS REQUIRED  
 Fuel selector . . . . . SWITCH  
 . . . . . in 10/30/45 min intervals

## Descent

Approach . . . . . BRIEFED  
 Fuel selector . . . . . FULLEST TANK  
 Mixture . . . . . ENRICHEN  
 . . . . . during descent  
 Pitot heat . . . . . AS REQUIRED  
 Landing lights . . . . . AS REQUIRED  
 Seat Backs . . . . . MOST UPRIGHT POSITION  
 Seats and Seat Belts . . . . . SECURED and LOCKED

## Before landing

Fuel pump . . . . . ON  
 Mixture . . . . . FULL RICH or SET (high altitude)  
 Propeller . . . . . HIGH RPM

## G.U.M.P.S.

Gas . . . . . fuel selector BOTH  
 . . . . . fuel pump ON  
 Undercarriage . . . . . DOWN  
 Mixture . . . . . SET  
 Prop . . . . . HIGH RPM  
 Switches . . . . . SET  
 . . . . . landing lights AS REQUIRED  
 . . . . . pitot heat AS REQUIRED  
 . . . . . autopilot OFF

## Landing

Gear . . . . . DOWN (below 129 kias)  
 Flaps . . . . . SET (below 103 kias)  
 Final approach speed . . . . . 75 kias  
 Approved Flap Range . . . . . 0°-40°  
*Short field landing*  
 Flaps . . . . . Flaps 40°

## After Landing F.A.C.T.S

Flaps . . . . . UP  
 Auxiliary fuel pump . . . . . OFF  
 Cowl flaps . . . . . CLOSED  
 Transponder . . . . . STANDBY / OFF  
 . . . . . Vatsim transponder standby  
 Switches . . . . . SET  
 . . . . . pitot heat OFF  
 . . . . . strobe lights OFF  
 . . . . . landing lights OFF  
 . . . . . taxi / other lights SET

## Shutdown / Secure

Flaps . . . . . RETRACT  
 Fuel pump . . . . . OFF  
 Avionics . . . . . OFF  
 Electrical switches . . . . . OFF  
 Propeller . . . . . FULL FORWARD  
 Throttle . . . . . CLOSED  
 Mixture . . . . . IDLE CUT-OFF  
 Magnetos . . . . . OFF  
 ALTR switch . . . . . OFF  
 BATT MASTR switch . . . . . OFF