

ARROW TAKE OFF AND LANDINGS

PRE-TAKE OFF CHECK LIST

Clear area and/or clearance received
 Boost pump on
 Mixture rich or as required
 Prop high rpm

V _{so}	56 KIAS
V _{s1}	61 KIAS
V _x gear down	70 KIAS
V _x gear up	79 KIAS
V _y	83 KIAS
V _g	91 KIAS
V _{fe}	108 KIAS
V _{lo} gear retract	109 KIAS
V _{lo} gear extension	130 KIAS
V _{le} gear extended	130 KIAS
V _{le} emergency	85 KIAS
V _a	117 KIAS
V _{no}	148 KIAS
V _{ne}	186 KIAS

PRE LANDING CHECK LIST

Boost pump on
Gas on fullest tank
Undercarriage down (three green)
Mixture/**M**anifold as required
Prop high rpm below 90 KTS
Seatbelts on

NORMAL TAKEOFF

ThrottleFULL
 Engine Inst..... GREEN ARC
 Rotate56 KIAS
 Landing gear.....RETRACT (*With positive climb rate*)
 Climb83 KIAS

SHORT FIELD TAKEOFF

Flaps 25⁰ (second notch)
 ThrottleFULL
 Engine Inst..... GREEN ARC
 Rotate56 KIAS
 Climb70 KIAS until obstacle cleared
 Landing gear.....RETRACT (*With positive climb rate*)
 Climb83 KIAS

SOFT FIELD TAKEOFF

Flaps 25⁰ (second notch)
 ThrottleFULL
 Engine Inst..... GREEN ARC
 Lift off as soon as possible
 Accelerate to.....70 KIAS
 Climb70 KIAS until obstacle cleared
 Landing gear.....RETRACT (*With positive climb rate*)
 Climb83 KIAS

NORMAL LANDING

Airspeed70 KIAS ON FINAL
Flaps..... FULL OR AS REQUIRED
Landing gear.....THREE GREEN

SHORT FIELD LANDING

Airspeed65 KIAS ON FINAL
Flaps..... FULL
Landing gear.....THREE GREEN

SOFT FIELD LANDING

Airspeed70 KIAS ON FINAL
Flaps..... FULL OR AS REQUIRED
Landing gear.....THREE GREEN
Power..... Apply small amount of power during flare

Power-Off 180 Accuracy Landings

Pre-maneuver check list
Pre-landing check
Gear down below 120 KIAS
Abeam landing point, power to idle
Immediately pitch for V_g (91 KIAS) and start base turn
Look for aiming point (needs to be just in front of landing point)
Turn final, final landing check
Add flaps or slip as needed
Flare at aiming point

Arrow Maneuvers

Pre-maneuver check list

Seat/shoulder belts on
Boost pump on
Clear the area

Post Maneuver check list

Power set (22" training, 24" cruise)
Prop 2450
Mixture set
Boost pump off
Heading and altitude

SLOW FLIGHT

Pre-maneuver check list
Reduce Power to 12"
Gear down below 120 KIAS
Flaps down in the white arc
Prop full forward below 90 KIAS
Mixture as required
Increase power to maintain level flight at 56-60 KIAS
(1500 AGL, $\pm 50^\circ$, heading $\pm 10^\circ$, AS +5/-0, specified bank $\pm 5^\circ$)

Recovery

Power to 25", prop 2500
Flaps up
Gear up
Accelerate to 110 KIAS
Post maneuver check list

POWER OFF STALL

Pre-maneuver check list
Reduce Power to 12"
Gear down below 120 KIAS
Flaps down in the white arc
Prop full forward (low pitch) below 90 KIAS
Establish 70 KIAS, 500 fpm descent
Power idle, nose slightly above horizon till stall
(1500 AGL, heading $\pm 10^\circ$, specified bank no more than $20^\circ \pm 5^\circ$)

Recovery

Full Power
Gear up
Flaps up
At 83 KIAS, power to 25", prop 2500

Accelerate to 110 KIAS
Post maneuver check list

POWER ON STALL

Pre-maneuver check list
Reduce Power to 12"
Prop full forward (low pitch) below 90 KIAS
Mixture as required
At 60 KIAS, simultaneously increase pitch to 20° and power to 22"
(3000 AGL, heading $\pm 5^\circ$, specified bank no more than $20^\circ \pm 10^\circ$)

Recovery

Full Power
At 83 KIAS, power to 25", prop 2500
Accelerate to 110 KIAS
Post maneuver check list

STEEP TURNS

Pre-maneuver check list
Power 22", Prop 2500
(Bank 50-55°, altitude $\pm 100'$, Airspeed ± 10 kts, heading $\pm 10^\circ$)

Recovery

Post maneuver check list

Chandelles

Pre-maneuver check list
Flaps up, Gear up
Power to 22", Prop to 2500
Roll 30 degrees of bank
Power up to 25" and pitch up
At 90 degree point begin rolling out and maintain pitch
At 180 degree point, level wings and maintain altitude
(1500 AGL, Heading $\pm 10^\circ$, minimum altitude loss)

Recovery

Maintain altitude
Accelerate to 110 KIAS
Post maneuver check list

Lazy Eights

Pre-maneuver check list

Flaps up, Gear up

Power 20", Prop 2500

Choose 0, 90, and 180 degree visual reference

Pitch up slowly and begin shallow bank

At 45 degree point, Max pitch up, 15 degree bank

At 90 degree point, Nose at horizon, 30 degree bank

At 135 degree point, Max pitch down, 15 degree bank

Repeat in opposite direction

(1500 AGL, At 180° point \pm 100', airspeed \pm 10 KTS, heading \pm 10°)

Recovery

Maintain original altitude

Post maneuver check list

Steep Spirals

Pre-maneuver check list

Flaps up, Gear up

Altitude +4000 ft. agl

Enter on downwind

Abeam reference point, Power idle and adjust pitch for 91 KTS

Bank no more than 60 degrees

Clear engine on upwind each turn

Recovery

After 3 turns, recover on downwind

Post maneuver check list

Eights-on-Pylons

Pre-maneuver check list

Descend to pivotal altitude

Power 20" Prop 2500

Choose pylons 3-5 sec. apart

Enter on downwind

Adjust pivotal altitude with groundspeed

Recovery

Exit on downwind

Climb as needed

Post maneuver check list

Ground Speed	75	80	85	90	95	100	105	110	115	120	125	130
Altitude AGL	498	566	639	717	799	885	976	1071	1170	1274	1383	1496