



REV. 1/23/2017

**Cessna Skyhawk N758HS
R172K (C172)**

Preflight Inspection

CABIN

Documents (ARROW).....ON BOARD
 Next Maintenance.....CHECK
 Control Lock.....REMOVE
 Ignition Switch.....OFF
 Avionics Master.....OFF
 Master Switch.....ON
 Fuel Quantity.....CHECK
 Wing Flaps.....DOWN
 Lights.....CHECK
 Pitot Heat.....CHECK
 Master Switch.....OFF
 Fuel Shutoff Valve.....ON (push full in)
 Fuel Selector Valve.....BOTH
 Cowl Flap.....OPEN
 Trim Controls.....NEUTRAL
 Alternate Static Air.....OFF

RIGHT WING

Wing Flap SECURE
 Aileron..... FREE / SECURE
 Wing Tip / Light..... CHECK
 Leading Edge..... INSPECT
 Wing Tie-down REMOVE
 Main Tire (38 PSI) / Brake..... CHECK
 Fuel Sump..... DRAIN / CHECK
 Fuel Quantity / Cap..... CHECK / SECURE

NOSE

Windshield..... INSPECT / CLEAN
 Static Ports..... CLEAR
 Fuel Sump..... DRAIN / CHECK
 Nose Wheel (45 PSI) / Strut (3")... CHECK
 Exhaust Stack..... CHECK / SECURE
 Propeller / Spinner..... CHECK
 Cowl Plugs..... REMOVE
 Landing / Taxi Lights..... CHECK
 Fuel Strainer..... PULL OUT 3 sec
 Engine Oil..... 6-8 qts (7 min x-country)
 ASK FOR ASSISTANCE TO FILL

LEFT WING

Main Tire (38 PSI) / Brake..... CHECK
 Fuel Sump..... DRAIN / CHECK
 Fuel Quantity / Cap..... CHECK / SECURE
 Pitot Tube / Cover..... CHECK / REMOVE
 Fuel Vent..... CLEAR
 Wing Tie-down REMOVE
 Stall Warning Opening..... CHECK
 Leading Edge..... INSPECT
 Wing Tip / Light..... CHECK
 Aileron..... FREE / SECURE
 Wing Flap SECURE

EMPENNAGE

Baggage Door..... CLOSED
 Autopilot Static Ports..... CLEAR
 Horizontal Stabilizer..... CHECK
 Elevator..... FREE / SECURE
 Vertical Stabilizer..... CHECK
 Rudder..... FREE / SECURE
 Tail Tie-Down..... REMOVE
 ELT,VOR Antenna / Beacon CHECK

**This checklist is not a substitute for the 1979 Cessna R172K Pilot Operating Handbook.
 All information contained herein is deemed accurate but not guaranteed.**

Preflight Inspection

Before Engine Start

Preflight Inspection..... COMPLETE
 Passenger Briefing..... COMPLETE
 SPOT Unit..... ON / TRACK
 Seats / Belts / Shoulder Belts..... ADJUST
 Doors..... CLOSED / LOCKED
 Fuel Selector Valve..... BOTH
 Cowl Flap..... OPEN
 Fuel Shutoff Valve..... ON (push full in)
 Avionics Master..... OFF
 Autopilot / Electrical Equipment..... OFF
 Circuit Breakers..... CHECK IN
 Brakes..... SET / HOLD

Engine Start

Mixture..... RICH
 Propeller..... HIGH RPM
 Throttle..... CLOSED
 Rotating Beacon..... ON
 Master Switch..... ON
 AUX Fuel Pump..... HIGH / HOLD
 Throttle.....
 Advance to obtain 8-10 GPH fuel flow
 then return to CLOSED position
 AUX Fuel Pump..... OFF
 Propeller Area..... CLEAR
 Ignition Switch..... START
 Throttle..... ADVANCE SLOWLY until start
 Throttle..... 800-1000 RPM
Oil Pressure..... CHECK
 NAV Lights..... ON
 Avionics Master..... ON
If engine fails to start:
 AUX Fuel Pump..... OFF
 Mixture..... IDLE CUT-OFF
 Throttle..... OPEN
 Ignition..... Crank until Start or 15 Sec
 Mixture..... RICH
 Throttle..... 800-1000 RPM
Oil Pressure..... CHECK
 NAV Lights..... ON
 Avionics Master..... ON

See POH Section 4 for amplified starting procedures

Start / Taxi / Before Takeoff

Before Taxi

Mixture..... LEAN for Taxi
 Wing Flaps..... RETRACT
 Radios / GPS..... SET / VOLUME Adjust
 ATIS and Clearance..... OBTAIN
 Lights..... NAV / TAXI
 Transponder..... ALT / As Required
 Brakes..... RELEASE / CHECK

Before Takeoff

Brakes..... SET / HOLD
 Doors / Windows..... CLOSED / LOCKED
 Seats / Belts / Shoulder Belts..... SECURE
 Flight Controls..... FREE / CORRECT
 Elevator / Rudder Trim..... SET for Takeoff
 Fuel Selector Valve..... BOTH
RUNUP
 Mixture..... RICH
 Throttle..... 1800 RPM
 Magnetos..... CHECK RPM DROP
 Max drop: 150, Difference: 50
 Prop Cycle 3 Times: DROP RPM.....
 INCREASE MP.....
 DROP Oil Press.....
 Suction..... CHECK
 Engine Gauges..... CHECK
 Ammeter..... CHECK
 Flight Instruments..... SET / CHECK
 Throttle..... IDLE- Check Smooth Running
 Throttle Friction lock..... ADJUST
 Autopilot..... CHECK / OFF
 See Autopilot Preflight page if first flight
 of the day and/or autopilot is to be used
 Radios / GPS..... SET / CHECK
 Takeoff Procedure..... BRIEFED
 Clearance..... OBTAINED
 Takeoff Time..... RECORD
 Lights..... ALL ON (Landing / Strobe)
 Transponder..... ALT
 Brakes..... RELEASE

Missoula ATIS..... 126.65
 Missoula Ground..... 121.90
 Missoula Tower..... 118.40
 NorthStar Jet Unicom..... 123.30

Normal Takeoff

Wing Flaps.....0°-10° (10° preferred)
(Soft Field 15°)
Cowl Flap.....OPEN
Power.....FULL THROTTLE & 2800 RPM
MAX 5 MIN. AT THIS POWER SETTING
Mixture.....LEAN for field elevation
per **2800 RPM** fuel flow placard
Rotate.....55 KIAS
Wing Flaps.....RETRACT above 70 KIAS
Airspeed.....75-85 KIAS

Short Field Takeoff

Wing Flaps.....10°
Cowl Flap.....OPEN
Brakes.....HOLD
Power.....FULL THROTTLE & 2800 RPM
MAX 5 MIN. AT THIS POWER SETTING
Mixture.....LEAN for field elevation
per **2800 RPM** fuel flow placard
Brakes.....RELEASE
Elevator.....SLIGHTLY NOSE HIGH
Rotate.....55 KIAS
Airspeed.....**Vx 59-65 KIAS**
WHEN CLEAR OF OBSTACLE
Wing Flaps.....RETRACT above 70 KIAS
Airspeed.....**Vy 81-76 KIAS**

Full Throttle - Mixture Settings (GPH)

Pressure Altitude	RPM	
	2800	2600
Sea Level	17	16
4000'	15	14
8000'	13	12
12000'	11	10

Normal Climb

Wing Flaps.....UP / VERIFIED
Airspeed.....85-95 KIAS
MAXIMUM PERFORMANCE CLIMB
Airspeed.....**Vy 81-76 KIAS**
Power.....FULL THROTTLE & **2600 RPM**
Mixture.....LEAN for altitude
per 2600 RPM fuel flow placard
Fuel Selector Valve.....BOTH
Cowl Flap.....OPEN
Landing Light.....OFF
Engine Gauges.....CHECK & MONITOR

Cruise

Power.....15-25 in. / 2200-2600 RPM
(no more than 80% Power)
Mixture.....LEAN with EGT
(50° rich of peak)
Elevator / Rudder Trim.....ADJUST
Cowl Flap.....CLOSED / As Required
Heading Indicator.....SET
Lights.....AS DESIRED
Autopilot.....AS DESIRED

Descent

Power.....AS DESIRED
Mixture.....ENRICH as required
Cowl Flap.....CLOSED
Landing Light.....ON
Radios / Weather.....SET / OBTAIN

Before Landing

Fuel Selector Valve.....BOTH
Cowl Flap.....CLOSED
Mixture.....RICH
Propeller.....HIGH RPM
Seat Belts / Shoulder Belts.....SECURE
Wing Flaps.....AS DESIRED
(below 110 KIAS)
Lights.....ALL ON
Autopilot.....OFF (Disengage)

Normal Landing

Airspeed.....65-75 KIAS (flaps UP)
Wing Flaps.....AS DESIRED (0°-10°)
(below 110 KIAS / 10°-40° below 85 KIAS)
Airspeed.....60-70 KIAS (flaps DOWN)
Elevator and Rudder Trim.....ADJUST
Touchdown.....MAIN WHEELS FIRST
Roll.....LOWER NOSE WHEEL GENTLY
Braking.....MINIMUM REQUIRED

Short Field Landing

Airspeed.....65-75 KIAS (flaps UP)
Wing Flaps.....40°
(below 85 KIAS)
Airspeed.....MAINTAIN 63 KIAS
Elevator and Rudder Trim.....ADJUST
Power.....REDUCE TO IDLE
when obstacle is cleared
Touchdown.....MAIN WHEELS FIRST
Braking.....APPLY HEAVILY
Wing Flaps.....RETRACT
for maximum brake effectiveness

Go-Around

Power.....FULL THROTTLE & 2800 RPM
MAX 5 MIN. AT THIS POWER SETTING
Wing Flaps.....20°
Airspeed.....55 KIAS
Mixture.....LEAN for altitude
per **2800 RPM** fuel flow placard
Cowl Flap.....OPEN
Wing Flaps.....RETRACT slowly
after reaching 65 KIAS
Airspeed.....**Vy 81-76 KIAS**

After Landing

Cowl Flap.....OPEN
Wing Flaps.....RETRACT
Pitot Heat.....OFF
Landing / Strobe Lights.....OFF
Taxi Light.....ON
Mixture.....LEAN for Taxi
Transponder.....ALT / As Required
Radios / Clearance.....SET / OBTAIN

Shutdown / Secure

Transponder.....STBY
Flight Plan.....CLOSED
Avionics Master.....OFF
Autopilot / Electrical.....OFF
AUX Fuel Pump.....OFF
Throttle.....IDLE
Mixture.....IDLE CUT-OFF
Ignition Switch.....OFF
Master Switch.....OFF
Control Lock.....INSTALL
Cowl Flap.....CLOSED
Fuel Selector Valve.....LEFT or RIGHT
SPOT Unit.....OFF
Cowl Plugs / Pitot Cover.....INSTALL
Aircraft Hobbs / Tach / Chocks / Tie-down

Post-Flight Walk-Around

Takeoff / Climb / Cruise / Descent

Landing / Shutdown

Fires

During Start on the GROUND

Aux Fuel Pump.....OFF
 Mixture.....IDLE CUT-OFF
 Ignition Switch.....OFF
 Master Switch.....OFF
 Fire Extinguisher.....ACTIVATE

Engine Fire in Flight

Throttle.....CLOSE
 Mixture.....IDLE CUT-OFF
 Fuel Shutoff Valve.....OFF
 Master Switch.....OFF
 Vents / Cabin Air / Heat.....CLOSED
 Airspeed.....105 KIAS
 (if not extinguished increase speed)
 Forced Landing.....EXECUTE

Electrical Fire in Flight

Master Switch.....OFF
 Avionics Switch.....OFF
 All Switches except Ignition.....OFF
 Vents / Cabin Air / Heat.....CLOSED
 Fire Extinguisher.....ACTIVATE
 If Fire is out and electrical is necessary:
 Master Switch.....ON
 Circuit Breakers.....CHECK (don't reset)
 Radio Switches.....OFF
 Avionics Switch.....ON
 Radio Switches.....ON
 (one at a time until short is found)
 Vents / Cabin Air / Heat.....OPEN

Cabin Fire

Master Switch.....OFF
 Vents / Cabin Air / Heat.....OFF
 Fire Extinguisher.....ACTIVATE
 Land.....AS SOON AS POSSIBLE

Emergency Procedures

Engine Failures

Takeoff Roll

Throttle.....IDLE
 Brakes.....APPLY
 Wing Flaps.....RETRACT
 Mixture.....IDLE CUT-OFF
 Master / Ignition Switches.....OFF

Immediately After Takeoff

Airspeed.....70 KIAS (flaps UP)
 65 KIAS (flaps DOWN)
 Mixture.....IDLE CUT-OFF
 Fuel Shutoff Valve.....OFF (pull out)
 Ignition Switch.....OFF
 Wing Flaps.....AS REQUIRED
 (full down recommended)
 Master Switch.....OFF

During Flight

Airspeed.....75 KIAS
 Primer.....IN & LOCKED
 Fuel Shutoff Valve.....ON (push full in)
 Fuel Selector.....BOTH
 Mixture.....RICH
 Throttle.....1/2 OPEN
 AUX Fuel Pump...LOW 3-5 seconds / OFF
 Ignition Switch.....BOTH
 (START if prop has stopped)

Forced Landing

Without Power

Airspeed.....70 KIAS (flaps UP)
 65 KIAS (flaps DOWN)
 Seat Belts / Shoulder Harness....SECURE
 Mixture.....IDLE CUT-OFF
 Fuel Shutoff Valve.....OFF
 All Switches (except Master).....OFF
 Wing Flaps.....AS REQUIRED
 (full down recommended)
 Master Switch.....OFF
 Doors.....UNLATCHED
 Touchdown.....SLIGHTLY TAIL LOW
 Brakes.....APPLY HEAVILY

V Speeds

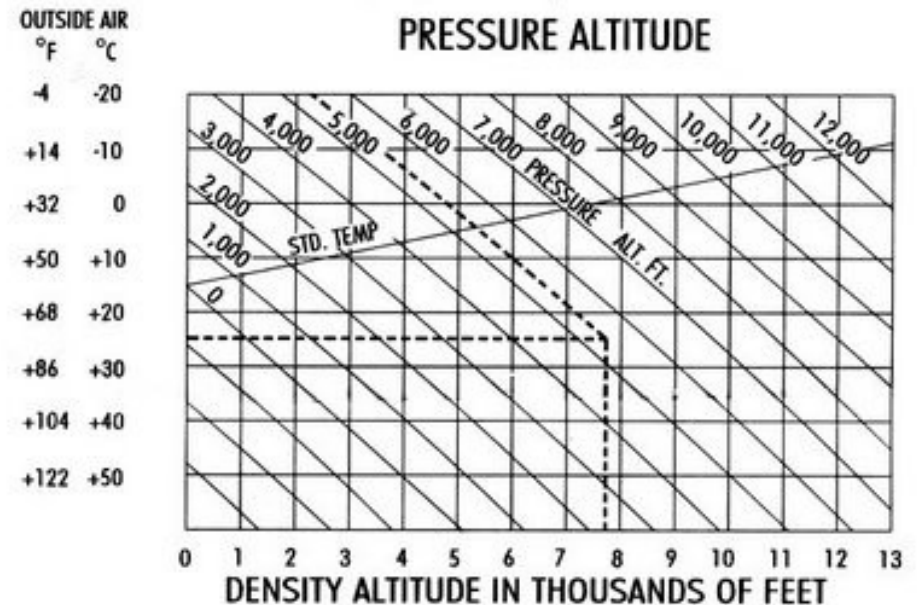
Cessna R172K Hawk XP Airspeeds

V Speed	KIAS
V _{GLIDE}	62-75
V _{SO}	44-46
V _S	49-54
V _R	55
V _X	59-65
V _Y	81-76
V _{FE} 10°	110
V _{FE} 10° - 40°	85
V _{NO}	129
V _{NE}	163
Max X-wind	20
V _A	87-105

Light Gun Signals

GROUND	SIGNAL	AIR
Cleared for Takeoff		Cleared to Land
Cleared to Taxi		Return for Landing
STOP		Give Way Continue Circling
Taxi Clear of Runway		Airport Unsafe DO NOT LAND
Return to Starting Point on Airport		Not Applicable
Exercise EXTREME CAUTION		Exercise EXTREME CAUTION

Density Altitude Chart



V-Speeds / Light Gun Signals / Density Altitude Chart

Roll Axis

The following is a step by step procedure for pre-flighting the Roll Axis:

1. Place the A/P Master Switch to the **TEST** position. This should result in illumination of all annunciation's: **RDY, HDG, VS, FD, NAV, ALT, REV, APR, GS, SEL, UP, DN, FAIL, DSABL, TRIM, CAP, and SOFT**. After all annunciation's are observed, place the A/P Master Switch to the **ON** position. If the Turn Coordinator gyro is up to speed, only the **RDY** annunciation should remain on.
2. Rotate the heading knob on the Directional Gyro (DG) to position the bug under the lubber line.
3. Engage the HDG mode, and observe the **HDG** annunciation. Then move the DG heading knob left and right. The control wheel should move in the direction of bug travel. Return the bug to center.
4. Grasp the control wheel and manually turn it left and right to overpower the roll servo. There should be a noticeable increase in control wheel friction, no excessive looseness, no ratcheting or noise.
5. Turn on the NAV radio and tune a valid VOR signal. Then engage the NAV mode, observing the **NAV** annunciation. Move the VOR/OBS so that the needle swings left and right. The control wheel should move in the direction of needle travel. The **NAV** annunciation should flash when CDI deflection is over 50%.
6. Select REV mode, and observe the **REV** annunciation. Again, rotate the VOR/OBS knob. The control wheel should move opposite the direction of needle travel. The **NAV** annunciation should flash when CDI deflection is over 50%.
7. Channel a nonvalid VOR signal. The **NAV** annunciation should flash, and **FAIL** annunciation should illuminate (if the radio has a NAV flag output).
8. Disconnect by pressing and releasing the control wheel mounted A/P disconnect switch. Move the control wheel to ensure freedom of controls, and check to see that the **RDY** annunciator is flashing for approximately 5 seconds to indicate autopilot disconnect.

Pitch/Altitude and Vertical Speed

The following is a step by step procedure for pre-flighting the Pitch/Altitude and Vertical Speed Systems:

1. Be sure the Autopilot Master Switch is **ON**, and that a roll axis mode has been selected.
 2. Move the control wheel to level flight position and engage the VS mode. Press the UP modifier switch and hold. The control wheel should move aft, slowly. Press the DN switch and hold. The control wheel should move slowly forward.
- NOTE:** On some aircraft the autopilot may not be able to lift the elevators without pilot assistance during ground operation.
3. Overpower the pitch function by pulling the control wheel slowly aft. The TRIM annunciator and DN switch should illuminate and the audio warning should sound. Slowly push the control wheel forward. The TRIM annunciation and UP switch should illuminate and audio warning should sound. During overpower, there should be no excessive play in the controls or ratcheting noise.
 4. Pitch Limiter Test:
 - A. Place the Master Switch to **TEST** position.
 - B. Engage HDG mode.
 - C. Engage ALT mode.
 - D. Center and hold the control wheel, press and hold the UP switch. Pitch should disengage after about .5 seconds, release UP switch, pitch should reengage.
 - E. Hold the control wheel, press and hold the DN switch. Pitch should disengage after about .5 seconds, release DN switch, pitch should reengage.

CAUTION: If the pitch servo does not disengage when either the UP or DN modifier switch is engaged, the limit accelerometer may have failed. Do not use the autopilot pitch section until the problem is corrected. This check should be performed once per flight day. (Check FAA approved AFM supplement.)

5. If the autopilot is equipped with optional autotrim, proceed with the following steps:
 - A. Place Trim and Autopilot Master Switches to **ON**.
 - B. Operate Manual Trim Switch (both segments) nose DN. Autopilot **TRIM** annunciator flashes and trim moves nose down (check manual trim wheel).
 - C. Operate trim switch (both segments) UP, autopilot **TRIM** annunciator flashes, trim moves nose up (check manual trim wheel). Grasp aircraft trim control and overpower electric trim.
 - D. Operate each segment of the trim switch separately. Trim should not operate unless both halves of the trim switch are operated simultaneously in the same direction.
 - E. With trim operating, press trim interrupt switch. Trim motion should cease while interrupt switch is activated. Trim motion should resume when interrupt switch is released.

Autotrim

1. Place autopilot and Trim Master Switches to **ON** and engage autopilot HDG and VS modes.
2. Grasp control wheel, slowly push forward. After approximately 3 seconds, trim should run nose up.
3. Slowly pull control wheel aft. After approximately 3 seconds, trim should move nose down.
4. Move manual trim switch up and down. Autopilot disengages, trim should operate in commanded direction (trim switch will disengage autopilot only when pitch is engaged).
5. Reengage HDG and VS modes and press trim interrupt/AP disconnect switch. Autopilot should disengage.
6. Trim aircraft for takeoff and check controls for freedom of movement. Be sure the autopilot and trim are disengaged.

CAUTION: If either the manual electric trim or autotrim fails during any portion of the preflight, turn Trim Master Switch OFF. Do not use the electric trim until the fault is corrected. With Trim Master Switch OFF, the autopilot trim indicators and audio warning are reactivated. If the electric trim fails, or has an in-flight power failure, the system automatically reverts to indicator lights and audio warning. Should this occur, turn Trim Master Switch OFF, and revert to aircraft manual trim until the fault is corrected.