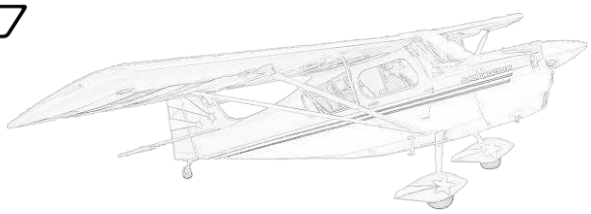

HANGER STUDIOS 713

FLIGHT MANUAL

AMERICAN CHAMPION
SUPER DECATHLON 8KCAB

THIS PUBLICATION IS MADE FOR MICROSOFT FLIGHT SIMULATOR AND SHOULD NOT BE USED AS A REAL WORLD SUBSTITUTE

ISSUED BY HANGAR STUDIOS 713 AND UNDER DIRECTION OF MICROSOFT FLIGHT SIMULATOR MARKETPLACE GUIDELINES

Thank You for Your Purchase!

Thank you for choosing the **American Champion (8KCAB) Super Decathlon** for **Microsoft Flight Simulator 2020**! This aircraft has been meticulously developed to bring the excitement and challenge of real-life aerobatics to the virtual skies, offering one of the most authentic flying experiences available in the simulator. Whether you're a dedicated sim pilot, a real-world flyer, or an RC aviation enthusiast, I'm confident that the Super Decathlon will provide you with hours of enjoyment and precision flying.

The Super Decathlon: A True Aerobatic Legend

The **Super Decathlon** is renowned for its robust design and exceptional aerobatic capabilities, making it a go-to aircraft for aerobatics training in real life. With its powerful Lycoming AEIO-360 engine and lightweight frame, it is built to withstand high-G maneuvers while providing superior control in all flight attitudes. The **Super Decathlon** for MSFS 2020 faithfully replicates these characteristics, offering a virtual flight experience that mirrors the real thing as closely as possible.

Key Features:

- **Aerobatic Excellence**: Capable of performing advanced maneuvers such as loops, rolls, hammerheads, spins, and more, the Super Decathlon is ideal for honing your aerobatic skills. The plane is built to handle **+6 Gs and -5 Gs**, ensuring that it can withstand the most demanding routines.
- **Authentic Flight Model**: Developed with the help of real-world Decathlon owners and pilots, every aspect of the flight model has been carefully crafted to match real-world performance. This includes the unique handling dynamics of a **taildragger**, particularly during takeoff and landing, where precision is key.
- **Realism at its Core**: Tested in fully immersive **VR environments** with motion simulators, this aircraft delivers unmatched realism in both visual and handling characteristics. Whether you're flying in standard mode or VR, the Super Decathlon provides an incredibly lifelike experience.
- **Detailed 3D Modeling & Texturing**: Every nut, bolt, and surface has been modeled with painstaking detail. The virtual cockpit offers both **Analog and Glass Panel** configurations, each featuring advanced avionics and customizable setups to suit your flying style.
- **Liveries and Customization**: Included with the Super Decathlon are several real-world liveries, including those of actual aircraft owners, such as **Jimmy's Xtreme Decathlon** and **Charlie Morris' airshow Super Deacthlon**. These liveries not only add a personal touch but also reflect the authenticity behind the development of this plane.
- **Smoke System for Airshows**: Engage the smoke system and take to the skies for your own virtual airshow performances. The smoke trails add an extra dimension of realism, making it perfect for showcasing your aerobatic maneuvers and multi-player friendly.
- **Ground Features**: Fully interactive elements such as a modeled engine visible during oil checks, functioning door and window animations, and a detailed yoke/pedal system give you complete control over the aircraft's every feature.

The Perfect Learning Tool for Aerobatics

Whether you're new to aerobatics or an experienced pilot, the **Super Decathlon** offers an immersive way to refine your skills. The plane's unique handling and forgiving nature make it a fantastic trainer for **beginners** to master aerobatic techniques, while its robust performance allows **experienced pilots** to perfect more advanced maneuvers. MSFS 2020's physics engine, combined with the realistic flight model of the Super Decathlon, provides a simulation environment where you can practice without the risks of real-world flying.

Learning Opportunities:

•**Aerobatic Maneuvers**: Perfect for learning loops, rolls, spins, and more, while adhering to realistic G-force limitations.

•**Taildragger Handling**: Experience the nuances of flying a taildragger, including the challenges of ground handling, crosswind takeoffs, and landings.

•**Airshow Ready**: For those interested in airshows, the smoke system and high-G performance make the Super Decathlon a fantastic platform for creating and practicing airshow routines.

Ideal for RC Aviation Enthusiasts

The **Super Decathlon** is a popular model among **RC pilots**, and now, with **MSFS 2020**, you can take your RC experience to the next level. Whether you're looking to practice aerobatics or get a feel for full-scale flying, this aircraft serves as an excellent learning tool. With its highly responsive controls and realistic physics engine, flying the Super Decathlon in the simulator is a great way to translate RC skills into full-scale aerobatic maneuvers.

A New Chapter for MSFS 2020 Aerobatics

The **American Champion Super Decathlon** is not just another aircraft for your hangar—it's a gateway to the world of precision aerobatics. Whether you're training for a new maneuver or putting on a virtual airshow, this aircraft offers a level of detail and authenticity that will keep you coming back for more.

I hope you enjoy flying this incredible aircraft as much as I enjoyed developing it for you. Your purchase supports future innovations, and I'm excited to see how you use the Super Decathlon to push the boundaries of aerobatic flying in **Microsoft Flight Simulator 2020**.

Most of the following information is taken directly from the actual POH and inserted directly into this manual verbatim – It's that close to the real plane

Fly safe, fly bold, and thank you once again for your support!

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AIRSPEED LIMITATIONS

NOTE

Limitations are applicable to both Normal and Acrobatic Category except where designated as applying to only one category.

Airspeed Designation	Super Decathlon CAS MPH	Airspeed Indicator Marking
Never Exceed (V_{NE})	200	Red Line
Caution Range	160 - 200	Yellow Arc
Maximum Structural Cruise (V_{NO})	160	End of Green Arc
Normal Operating Range	54 - 160	Green Arc
Maneuvering (V_A) at Gross Weight:		
Normal Category	121	None
Acrobatic Category	132	None

NOTE

CAS - Calibrated Airspeed: This is indicated airspeed corrected for position and instrument error.

IAS - Indicated airspeed assumes zero instrument error.

V_{NE} - Maximum safe airspeed which is not to be exceeded at any time.

V_{NO} - Not to be exceeded except in smooth air only and then with caution.

V_A - No full or abrupt longitudinal control movements allowed above this airspeed.

POWERPLANT LIMITATIONS AND INSTRUMENT MARKINGS

Model	Super Decathlon
Engine, Lycoming	AEIO-360-H1A and AEIO-360-H1B
Propeller	Constant Speed HC-C2YR-4CF/FC7666A-2
Fuel, Minimum Octane Rating (Approved For Continuous Use)	100 / 130
Tachometer (rpm)	
Normal Range (green arc)	500 - 2000 2250 - 2700
Avoid Continuous Operation (red arc)	2000 - 2250
Avoid Aerobatic Operation (red arc)	2600 - 2700
Maximum (red radial)	2700
Cylinder Head Temperature (°F)	
Normal Range (green arc)	90 - 500
Maximum (red radial)	500
Oil Temperature (°F)	
Normal Range (green arc)	100 - 245
Maximum (red radial)	245
Oil Pressure (psi)	
Normal Range (green arc)	60 - 100
Caution Range (yellow arc)	25 - 60
Maximum (red radial)	100
Minimum (red radial)	25
Fuel Pressure (psi)	
Normal Range (green arc)	14 - 45
Maximum (red radial)	45
Minimum (red radial)	14

WEIGHT AND BALANCE LIMITS

	Super Decathlon
Maximum Gross Weight	1800 Lbs.
Center of Gravity Range	
Normal Category	+13.5 to +18.5 at 1800 Lbs. +11.5 to +18.5 at 1550 Lbs. or Less Straight Line Variation Between Points Given.
Aerobatic Category	+13.5 to +18.5 at 1800 Lbs. +11.5 to +18.5 at 1550 Lbs. or Less Straight Line Variation Between Points Given.
DATUM	Wing Leading Edge

FLIGHT LOAD FACTORS (1800 Lbs. Gross Weight)

Category	Load Factor Limits	Accelerometer Marking
Normal	Positive + 5G Negative - 3G	Green Arc Green Arc
Acrobatic	Positive + 6G Negative - 5G	Red Line Red Line

NOTE

Maximum load factors for Normal Category operations are shown by the ends of the green arc on the accelerometer. Load factors within the yellow arc up to the red radial lines are permitted only in the Acrobatic Category.

KINDS OF OPERATION

Only VFR, day or night operations are approved with all required equipment operating as specified in FAR Part 91.

Flight into known icing conditions is prohibited.

Crosswind landings have been demonstrated in 90° crosswinds up to 17.kts.(20 mph).

UNUSABLE FUEL

Any fuel remaining in the tanks when fuel gauge reads "O" or "E" (empty) cannot safely be used in flight.

MANEUVERS (Refer to Section III Before Attempting Maneuvers)

Maneuvers	Recommended Entry Speed (IAS MPH)
	Super Decathlon
Loop (Normal or Inverted)	140
Immelmann	145
Hammerhead Turn	140
Hammerhead Turn (Inverted Entry & Exit)	140
Snap Roll (Normal or Inverted)	90
English Bunt	70
Vertical 1/2 Slow Roll Up	160
Vertical Slow Roll Up	180
Vertical Slow Roll Down	60
Slow or Barrel Roll	130
Outside Loop (Enter From the Top)	70
Horizontal Eight (Inside - Outside)	140
Spin (Normal or Inverted)	Stall

NOTE

Variations or combinations of the above maneuvers are approved provided that the speed or load factor limitations are not exceeded.

WARNING

Tail slides and Lomcevaks (tumbling maneuvers) are not approved.

No full or abrupt use of flight controls is permitted above maneuvering speed.

SPINS

Normal or inverted spins are approved in this aircraft when flown in the acrobatic category. Spins are prohibited in the normal category. Use the following recovery procedure for a normal spin.

WARNING

Do not allow aircraft to spin unless sufficient altitude exists for safe recovery.

1) Throttle - CLOSED.
2) Ailerons - NEUTRAL POSITION.
3) Elevator - POSITIVE FORWARD TO NEUTRAL (free release of elevator control is not adequate for recovery).
4) Rudder - FULL DEFLECTION in the opposite direction to the rotation.
5) Rudder - NEUTRALIZE when rotation stops and positive control and flying speed is restored.
6) Nose Attitude - RAISE smoothly to level flight altitude.
7) Throttle - only after recovery from diving altitude, then as required.

Use the following procedures for inverted spins.

1) Throttle - CLOSED.
2) Ailerons - NEUTRAL POSITION.
3) Elevator - POSITIVE REARWARD TO NEUTRAL (free release of elevator control is not adequate for recovery).
4) Rudder - FULL DEFLECTION in the opposite direction to the rotation.
5) Rudder - NEUTRALIZE when rotation stops and positive control and flying speed is restored.
6) Nose Attitude - RAISE smoothly to normal upright level flight altitude.
7) Throttle - only after recovery from diving altitude, then as required.

WARNING

During the spin recovery, the airspeed will build very rapidly with a nose low altitude. Smooth but positive recovery from the dive is important to avoid an overspeed condition. Do not use full or abrupt elevator control movements after recovery to avoid secondary stall-spin.

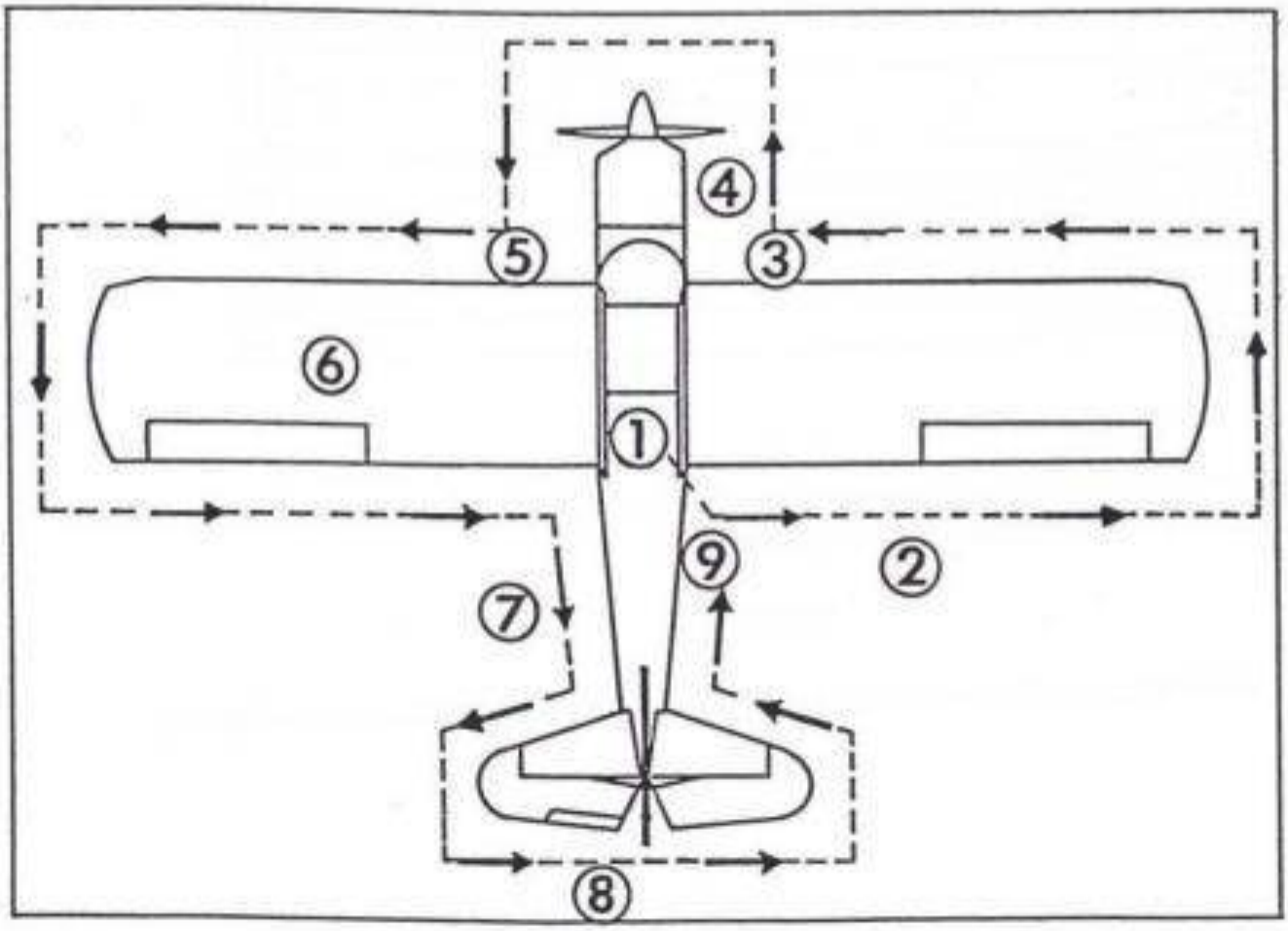
PREFLIGHT INSPECTION

The following inspection should be conducted prior to each flight. The inspection is broken down by area; the following circled numbers correlate with those presented in Figure 3-1.

This checklist emphasizes areas of importance. However, the preflight inspection should also consist of a thorough look at the aircraft for general condition and airworthiness.

① Cabin

a) Cabin Door and Release Mechanism - CHECK condition, security.
b) Flight Controls - CHECK freedom of movement.
c) Magneto and Electrical Switches - OFF (check operation of lights if required and stall warning system with respective switches ON).
d) Fuel Quantity Gauge - CHECK quantity.
e) Fuel Shut-Off Valve - ON.
f) Seat Belts - CHECK CONDITION, SECURE rear belt and harness if not in use.
g) Emergency Locator Transmitter - ARMED.
h) Before Aerobatic Flights, Remove Loose Articles and Equipment - insure the cabin is clean.



PREFLIGHT INSPECTION (cont'd)

② Right Wing

a) Wing Root Fairing and Greenhouse Roof - CHECK secure.
b) Aileron - CHECK condition, freedom of movement, security.
c) Wing Tip and Light - CHECK condition.
d) During preflight inspection performed by pilot

1) Inspect the front and rear lift struts for straightness, dents and other damage.
2) Check strut drain holes to insure that they are not plugged and the struts do not contain water.
3) If either of the above conditions is found, contact an authorized aircraft mechanic to determine aircraft airworthiness.

e) Tie-Down - REMOVE.
f) Fuel - CHECK quantity, cap secure.

③ Right Main Gear

a) Chocks - REMOVE.
b) Tires - CHECK condition, inflation.
c) Brakes - CHECK condition, leakage.
d) Wheel Fairing - CHECK condition, security.

④ Nose Section

a) Windshield - CHECK condition, cleanliness.
b) Oil - CHECK quantity, dip stick secure.
c) Fuel - DRAIN gascolator and sample fuel for contamination and color, CHECK leakage.
d) Engine Compartment - CHECK condition, leakage, etc.
e) Cowling and Inspection Door - CHECK condition, security.
f) Propeller and Spinner - CHECK condition, security.
g) Air Filter - CHECK condition.
h) Landing Light - CHECK condition.

⑤ Left Main Gear: Same as right main gear.

⑥ Left Wing

a) Same as right wing, in addition.
b) Fuel Vent - CHECK unobstructed.
c) Stall Warning Vane - CHECK freedom of movement.

PREFLIGHT INSPECTION (cont'd)

⑦ Fuselage (Left Side)

a) Fabric - CHECK condition, oil, battery acid leakage, etc.
b) Windows - CHECK condition, cleanliness, condition and security.
c) Radio Antenna(s) - CHECK secure.

⑧ Empennage

a) Horizontal Stabilizer and Brace Wires - CHECK condition, security.
b) Vertical Stabilizer and Tail Light - CHECK condition.
c) Elevator, Trim Tab and Rudder - CHECK condition.
d) Tail Wheel - CHECK condition, inflation, security.
e) Tie-Down - REMOVE.

⑨ Fuselage (Right Side)

a) Same as fuselage left side (no fuel drain on right side).

COLD WEATHER OPERATIONS

The following operating practices are recommended for cold weather operations (below 20° F).

Engine preheat (if aircraft is not kept in a heated hangar). Prior to starting, the engine compartment should be thoroughly preheated. Should moisture be present in the oil or breather system, preheating will assure that ice is not blocking passages or lines. The preheat is best accomplished with a large volume of warm air (200° F maximum) directed into the engine compartment through the oil access door. This preheat should be continued long enough to assure that the oil and breather system components have been thoroughly heated. This preheat time will be dependent upon the volume and temperature of the preheat air.

Care should be taken during preheating that the preheat air is not above 200° F as many components in the engine compartment or the cowling may be damaged or scorched.

It is important to use the proper viscosity engine oil and run the engine sufficiently long to bring the engine oil temperature and pressure to the normal operating range. Under some extreme winter conditions, oil temperature may not indicate on the oil temperature gauge until airborne; it is very important that oil pressure be within the green arc prior to run-up and takeoff regardless of oil temperature. This is particularly important as the Decathlon utilizes the Christen inverted oil system. This system has external oil supply lines. Cold oil will not circulate well in cold lines and other engine parts, so the flow of oil from the engine sump through the external hoses, and components of System will be severely impeded until the oil, the engine and all external system parts are warmed up

COLD WEATHER OPERATION (cont'd)

It is recommended that the 25-hour oil change interval be observed and that the oil and breather lines be checked for moisture accumulation during the oil change. It is also recommended that an inspection be made for moisture accumulation at five to ten operating hour intervals. See Section VII for maintenance details.

BEFORE STARTING

1) Seat Belts / Shoulder Harness - FASTENED and adjusted.

2) Fuel Shut-Off Valve - ON.

3) Brakes - SET.

4) Electrical Switches - OFF.

5) Cabin Door - CLOSED (windows as desired).

6) Flight Controls - CHECK for free and correct movement.

7) Radios - OFF.

Set the parking brake by depressing the brake pedals and pulling the park brake knob located under the far right side of the instrument panel.

STARTING

1) Airplane Preflight Inspection - COMPLETE.
2) Cabin Door - SECURED.
3) Seat Belts and Shoulder Harnesses - FASTENED and adjusted or STOWED.
4) Fuel Shut-Off Valve - ON.
5) Brakes - SET.
6) Propeller Control - FULL INCREASE.
7) Alternate Air - Cold.
8) Electrical and Radio Switches - OFF.
9) Master Switch - ON.
10) Engine Prime (as required)
    a) Mixture - FULL RICH.
    b) Throttle - 1/4 to 1/2 inch OPEN.
    c) Electrical Fuel Pump - ON until fuel pressure is indicated, then OFF.
11) Mixture - IDLE CUT-OFF.
12) Throttle - 1/2 to 1 inch OPEN.
13) Magneto Switches - BOTH ON.
14) Insure Propeller and Propeller Blast Area is CLEAR.
15) Starter - ENGAGE, release after engine fires.
16) Mixture - FULL RICH after engine fires.
17) Throttle - 1000 to 1200 RPM.
18) Oil Pressure - CHECK, must indicate pressure within 30 seconds maximum.
19) Electrical and Radio Switches - AS DESIRED.

CAUTION

Do not overprime due to the resulting fire hazard.

To clear an engine that has been flooded

1) Electrical Fuel Pump - OFF.
2) Mixture - IDLE CUT-OFF.
3) Throttle - FULL OPEN.
4) Magneto Switches - OFF.
5) Starter - ENGAGE for several propeller revolutions.
6) Repeat normal starting procedures using no prime.

CAUTION

Limit the use of the starter to 30 seconds duration maximum
with a two minute cooling off period between each starter engagement.

During ground operation, the mixture should be FULL RICH and the carburetor/alternate air COLD to insure good engine cooling and filtered air. Prolonged idle below 1000 RPM is not recommended due to plug fouling and insufficient cooling air when the aircraft is not in motion.

TAXI

Taxi operations during high winds requires the conventional use of the flight controls. With a head wind or quartering head wind, place the control stick full aft and into the wind. With a tail wind or quartering tail wind, use the opposite procedures. The use of the wheel brakes in conjunction with the rudder will assist the pilot in maintaining directional control.

BEFORE TAKEOFF

1) Brakes - SET.
2) Flight Controls - CHECK freedom of movement, proper operation.
3) Elevator Trim - SET takeoff position.
4) Flight Instruments/Radio(s) - CHECK and SET.
5) Check Master Switch - ON.
6) Fuel Shut-Off Valve - ON.
7) Mixture - FULL RICH (lean as required for high altitude).
8) Engine Instruments - CHECK normal indications.
9) Engine Run-Up - 1800 RPM (Elevator Control - FULL BACK)
   a) Magnetos - CHECK (175 RPM maximum drop, 50 RPM maximum differential) return both switches to ON.
   b) Propeller - CHECK operation (full decrease until RPM drop of 300 to 500), return to high RPM position.
   c) Alternate Air - CHECK operation then return to COLD position
   d) Engine Instruments - within green arc
   e) Throttle - 1000 RPM
10) Electrical Fuel Pump - ON.
11) Cabin Door and Windows - CLOSED and LATCHED.
12) Seat Belts / Shoulder Harness - FASTENED and adjusted.

Engine warm-up should be conducted to 1000 to 1200 RPM. High power operation (above 2200 RPM) and engine run-up should be made into the wind and kept to a minimum especially during high temperature conditions. The stick should also be held full aft to prevent the possibility of the aircraft nosing over. The magneto check is run at 1800 RPM using the BOTH-LEFT-BOTH-RIGHT-BOTH sequence. Maximum RPM drop on each magneto is not to exceed 175 RPM and the differential between mags should not exceed 50 RPM. The alternate air and propeller control should be checked for operation at this time. To check prop control, pull vernier control from full increase RPM to full decrease until a 300 to 500 RPM drop is noted, then return to full increase. Avoid using alternate air on the ground. With the alternate air selected, induction air is not filtered and abrasive dirt particles can enter the engine.

TAKEOFF - NORMAL

1) Throttle - FULL OPEN applying smoothly.
2) Engine Instruments - CHECK normal indications and satisfactory takeoff power.
3) Attitude - RAISE TAIL.
4) Lift-Off - 55 - 60 MPH.
5) Climb - 75 - 80 MPH.

Takeoff characteristics are conventional for tail-wheel aircraft. It is recommended to raise the tail with the elevator during the takeoff roll for better forward visibility and directional control. Transition into flight with a smooth but positive rotation. After lift-off, allow aircraft to accelerate to desires climb speed.

CAUTION

On the ground in the level flight attitude, the wheel brakes are very sensitive. It is recommended that directional control be maintained with the use of the rudder only.

Check full-throttle engine operation early in the takeoff run. The takeoff should be discontinued if there are any signs of rough engine operation or sluggish engine acceleration.

During crosswind conditions, place the control stick into the wind (up wind aileron UP) and assume a tail high attitude with the elevator to prevent drifting or premature lift-off.

High altitude takeoffs are accomplished by using the normal takeoff procedures with the addition of leaning the mixture control for smooth engine operation and allowing for the effects of density altitude.

TAKEOFF - OBSTACLE

During an obstacle takeoff, use the Normal Takeoff procedures with the following exceptions (refer to Section IV for appropriate distances):

1) Apply full power rapidly but smoothly.
2) Accelerate in three-point (tail down) attitude.
3) Maintain the following speed until clear of 50 ft. obstacle.

Super Decathlon----------58 mph IAS

WARNING

The aircraft must be pitched forward to a safe power-off speed should a power failure occur during climb-out; failure to respond immediately may result in a stall at low altitude.

TAKEOFF - SOFT FIELD

For soft field takeoff, use the Normal Takeoff procedures with the following exceptions:

1) Attitude - TAIL LOW but clear of ground.
2) Lift-Off - as soon as possible.
3) After Lift-Off - LEVEL FLIGHT to obtain safe margin of airspeed prior to climb.

WARNING

Good pilot judgement and experience are required to determine suitability of a soft field for safe takeoff operation.

The aircraft will lift-off at very low IAS, however, continued climb-out below takeoff-obstacle speed is not recommended.

Be sure to account for the additional takeoff roll and distance to clear an obstacle resulting from the added drag of a soft field. Good pilot judgement is required to make these allowances as it is not possible to tabulate such corrections due to their large variability.

CLIMB

1) Throttle - FULL OPEN.
2) Propeller Control - FULL INCREASE.
3) Mixture - lean only as required to maintain smooth engine operation.
4) Airspeed - 75 - 80 MPH.
5) Electric Fuel Pump - OFF after safe altitude has been obtained.

For maximum performance climbs, use full throttle and the following speeds.

Model	Super Decathlon (mph IAS)
Best Rate of Climb (V_Y)	80
Best Angle of Climb (V_X)	58

If best rate of climb (or best angle of climb) is not required, a climb speed between 80 and 90 MPH will provide good forward visibility (and engine cooling in a warm climate). The mixture should be full rich; lean only as required to maintain smooth engine operation.

NOTE

Monitor fuel pressure gauge when switching electric fuel pump off to insure continuous fuel pressure "in the green" with electric fuel pump off.

CRUISE

1) Level-Off - TRIM.
2) Airspeed - ACCELERATE to desired cruise airspeed.
3) Power - SET to cruise power.
4) Mixture - LEAN when below 75% power.

The fuel mixture should be leaned at any altitude when below 75% of maximum power. Lean to peak EGT if equipped. If no EGT is installed, lean until engine roughness or loss of power is noted then enrich until smooth.

WARNING

Range and endurance information is based on a properly leaned fuel mixture. Failure to lean the fuel mixture will increase fuel consumption appreciably.

Continuous use of alternate air during cruising flight decreases engine efficiency. Unless conditions are severe, do not cruise with alternate air on. When selecting alternate air, do so slowly to the full-on position and only for a few seconds at intervals to determine if ice may have developed on the air intake filter. The Decathlon is not approved for flight into known icing conditions.

STALLS

The stall characteristics of the Decathlon are conventional. For stall speeds at various angles of bank, refer to stall speed table in Section IV.

WARNING

Stall aircraft only if sufficient altitude exists for safe recovery.

AEROBATICS

The Super Decathlon is certified in the Aerobatic Category. Flying aerobatics places a much greater demand on the pilot's ability, knowledge of the aircraft and current regulations. The following information is provided to make aerobatic flying enjoyable, with the utmost emphasis on safety. However, the pilot should not attempt aerobatics unless he has received training by an instructor qualified for aerobatic instruction.

Federal Aviation Regulations (FARs) Part 91.71 specify the airspace and altitudes required for aerobatic flight. Altitude may be the pilot's greatest safety factor and should not be compromised. The wearing of approved parachutes is specified in Part 91.15. It is strongly recommended that parachutes always be worn during aerobatic flight.

American Champion Aircraft Corporation also recommends that pilots utilizing aircraft for aerobatics read the Advisory Circular 91-48: Acrobatics - Precision Flying With A Purpose. This advisory circluar provides information to persons who are interested in aerobaitcs to improve their piloting skills as recreation, sport, or as a competitive activity. It also discusses Federal Aviation Regulations pertaining to aerobatic aircraft aiworthiness considerations, aerobatic instruction, operations and aerobatic flight safety.

Know and respect your airplane's structural limitations. The Super Decathlon structure is designed to withstand a maximum load factor of +6 G's and -5 G's at a maximum gross weight of 1800 lbs.

WARNING

Do not exceed +6.0 "g" positive load factor or -5.0 "g" negative load factor. Do not perform aerobatics in turbulent air.

Never exceed the above load factors regardless of weight. Flying at reduced weights improves performance. Flying above 1800 lbs. is not only prohibited but also greatly increases the changes of a serious overstressing resulting in damage or possible structural failure.

The rear center of gravity (C.G.) limit is critical for aerobatic flight. This limit is specified in Section I. The flight envelope in Section V also reflects this change. For this reason, baggage is NOT allowed during aerobatic flight. Also, all personal equipment (charts, flight computer, etc.) should be properly secured.

A person learning to fly must be taught how to do so safely. The same holds true for a pilot learning aerobatics. To attempt an aerobatic maneuver with no prior aerobatic instruction is extremely dangerous and NOT recommended.

Aerobatic flight places a greater demand on both the pilot and aircraft. A thorough preflight inspection/evaluation for both is considered essential. The pilot must know and abide by the limitations of the aircraft and his own personal limitations as well. Do not do aerobatics unless you are in good physical condition -- not when you have a hangover, a cold or any other illness. If you are not in good condition, your reaction time is increased and your tolerance to G-loading is decreased. The FAA Approved Airplane Flight Manual has information concerning aerobatic limits and maneuvers and should be consulted.

Watch for other traffic while doing aerobatics. Perform a 90 degree clearing turn in each direction before beginning, checking for traffic all around the airplane. See Part 91 of the Federal Air Regulations for airspace in which aerobatics are prohibited.

At the completion of the flight, a post-flight inspection of the aircraft should also be conducted. If any discrepancies or doubts exist that concern airworthiness, consult a mechanic prior to the next flight.

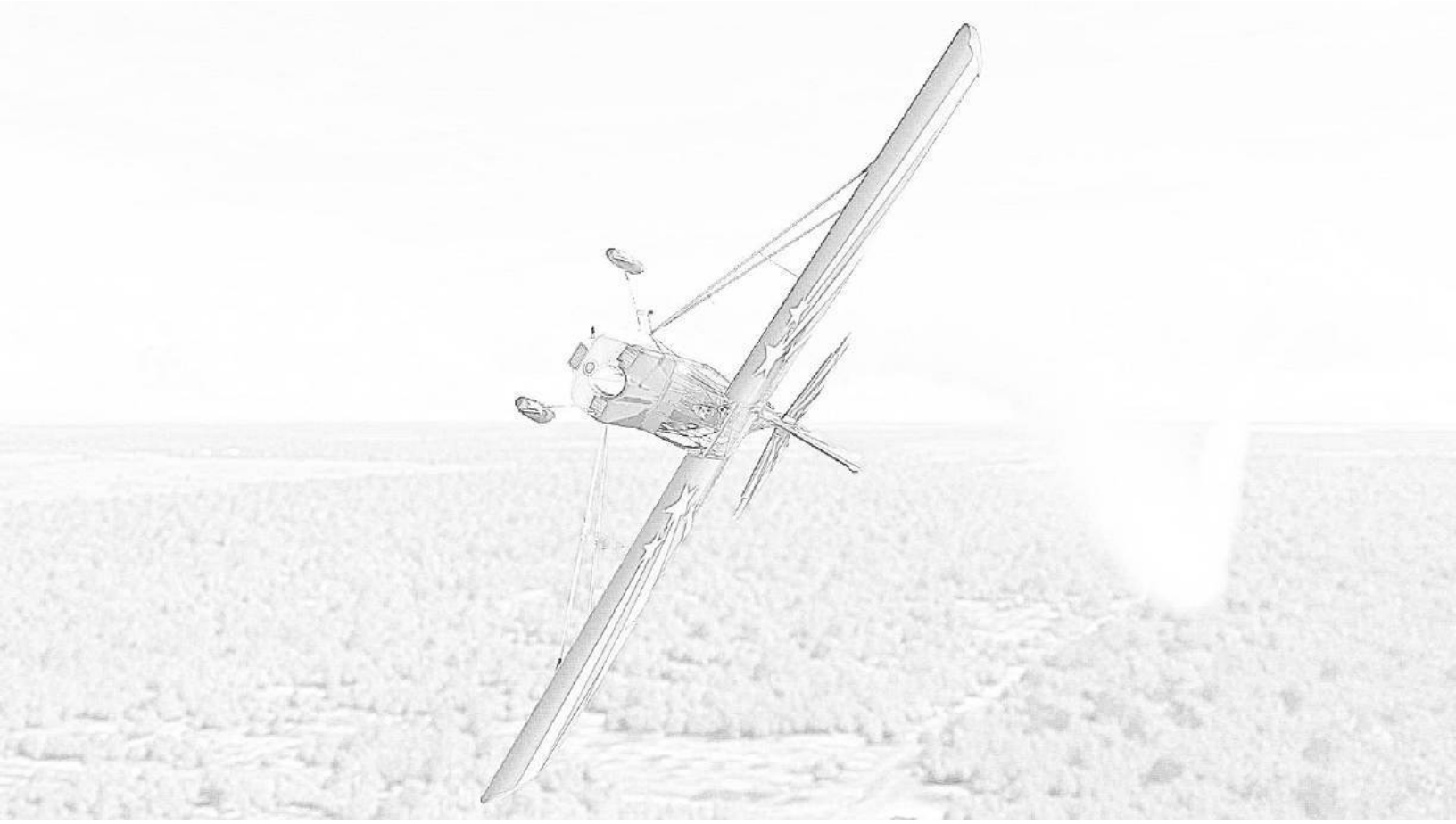
AEROBATICS (cont'd)

The approved aerobatic maneuvers are presented in Section I along with recommended entry speeds. The following information and aresti symbols are presented to assist a properly trained aerobatic pilot perform the maneuvers shown. They do not include all procedures necessary to properly complete the maneuver and should therefore not be used in lieu of appropriate aerobatic flight instructions.

Variations or combinations of the approved aerobatic maneuvers are also approved provided the speed and load factor limitations are not exceeded.

WARNING

Tail slides and Lomcevaks (tumbling maneuvers) are NOT APPROVED. Do not attempt any aerobatic maneuver without proper instruction and checkout.



LOOP - NORMAL OR INVERTED (OUTSIDE)

Enter the maneuver at 140 mph with about 3.5 to 4.0 "g" * load factor. Speed at the top of the loop should be about 40-50 mph. Exit the loop with 3.5 to 4.0 "g" * load factor.

IMMELMAN

Enter the maneuver at 140 to 145 with about 4.0 "g" * pull up. Speed at the top should be 55-65 mph. Perfom 1/2 slow roll at the top.

HAMMERHEAD TURN

Enter the maneuver at 140 mph with 4.0 to 4.5 "g" * pull up. Speed at the top before the turn (or pivot) should be about 40-50 mph. Exit with 4.0 to 4.5 "g" * pull out and approximately 140 mph.

SNAP ROLL-NORMAL OR INVERTED (OUTSIDE)

Enter with power at 90 mph. Do not use full or abrupt use of flight controls above maneuvering speed.

ENGLISH BUNT

Enter the maneuver at 60-70 mph with a steadily increasing push-over to -3.5 to -4.0 "g's" *. Exit maneuver inverted at 140-150 mph.

VERTICAL 1/2 SLOW ROLL UP

Enter the maneuver at approximately 160 mph using a 4.0 to 4.5 "g" * pull up. CAUTION: Flight above V_{NO} (160 mph CAS) in smooth air only. Exit with push-over to level flight.

AEROBATICS (cont'd)

VERTICAL SLOW ROLL UP

Enter the maneuver at 180 mph, using a +4.5 "g" * pull up. CAUTION: Flight above V_{NO} (160 mph CAS) in smooth air only. Exit with pushover to level flight.

VERTICAL SLOW ROLL DOWN

Enter the maneuver at approximately 60 mph and push-over to vertical down. Exit with approximately 4.5 "g" * and 150 mph.

SLOW OR BARREL ROLL

Enter the maneuver at 120 to 130 mph. Do not use full or abrupt use of flight controls above maneuvering speed.

OUTSIDE LOOP (ENTER FROM THE TOP)

Enter the maneuver at 60-70 mph with steadily increasing push-over to -3.5 to -4.0 "g" * at the bottom of the loop. Speed at the bottom should be approximately 140 mph. Continue -3.5 to -4.0 "g" * push through the bottom of the loop. Steadily decrease negative load factor to 1 "g" at the top of the loop.

HORIZONTAL EIGHT INSIDE-OUTSIDE

Enter the first half of the maneuver at 140 mph with about +4.0 "g" * pull up. Enter the second half of the maneuver from about 140 mph with a -3.5 to -4.0 "g" * negative load factor.

HAMMERHEAD TURN (INVERTED ENTRY AND EXIT)

Enter the maneuver at about 140 mph with a -3.5 to -4.0 "g" push. The speed at the top before the turn (or pivot) is approximately 40-50 mph. Exit from vertical down with -3.5 to -4.0 "g" * push to level flight inverted.

AEROBATICS (cont'd)

NORMAL SPINS

Enter from normal stall, power off with full aft stick and full rudder in desired direction of spin. Maintain spin with full pro spin control until 1/4 to 1/2/ spin prior to recovery heading. Recover with positive movement of stick to neutral position and full opposite rudder. Hold pro recovery control until rotation stops and positive control and flying speed is restored. Then neutralize rudder and smoothly recover from the dive* to level flight. Free release of controls is not adequate for spin recovery. Positive movement of the controls by the pilot is required.

WARNING

Spin aircraft only if sufficient altitude exists for safe recovery.

INVERTED SPINS

Enter from inverted stall power off with full forward stick and full rudder in the direction of desired spin. Maintain with full pro spin controls until 1/4 to 1/2 turn prior to recovery heading. Recover with positive movement of stick neutral position and full opposite rudder. Hold pro-recovery controls until rotation stops and positive control and flying speed is restored. Then neutralize rudder and smoothly recover from dive* to level flight. Free release of controls is not adequate for spin recovery. Positive movement of the controls by the pilot is required.

***WARNING**

Do not apply full or abrupt use of flight controls above maneuvering speed. Proper use and application of controls and maneuvering load factors are essential to speed control. Improper and/or inadequate application of maneuvering load factors may result in rapid speed buildup resulting in unsafe flight situations.

DESCENT

1) Mixture - FULL RICH.
2) Throttle - REDUCE as desired.
3) Airspeed - AS DESIRED.

The descent should be made with enough power to maintain cylinder head oil temperatures in green arc. If possible, avoid windmilling the engine with the propeller by reducing airspeed or increasing power.

LANDING - NORMAL

1) Seat and Shoulder Harness - FASTENED.
2) Propeller - FULL increase.
3) Mixture - RICH.
4) Electric Fuel Pump - ON.
5) Brakes - CHECK FIRM (Park Brake - OFF).
6) Approach Airspeed - 70-75 MPH.
7) Throttle - as necessary for desired glide path.
8) After Touchdown - Power Off, brake as required.
9) Electric Fuel Pump - OFF.

Aircraft landing characteristics are conventional for a tail-wheel airplane. Either wheel landings or full stalls (3 point) are permissible. During gusty wind conditions, increase airspeed approximately 5 mph above normal.

As a general rule, it is good practice to contact the ground at a minimum safe speed consistent with existing conditions. In calm or light wind conditions and in short and/or soft field conditions, a full stall landing is recommended. In a full stall landing, the flare or round-out should be made with power off. A three-point landing attitude should be held just above the ground while increasing the back pressure on the stick as airspeed drops until the stick is in the full aft position at the time of touchdown. Brake as necessary.

In high gusty wind or when a crosswind exists, a wheel landing is recommended, preceded by an approach of about 75 to 80 mph. The flare is made with slight power (900-1200 RPM) to a level flight attitude just above the ground. Contact with the ground is made on the main landing gear. At the time of contact, the stick is brought slightly forward of neutral to hold the airplane firmly on the ground in a tail up attitude. As speed decreases, lower the tail slowly to the ground and then hold full aft stick. Brake as necessary. During crosswind conditions, maintain cross-control corrections by using the rudder to maintain runway heading and the ailerons to correct for wind drift throughout the landing flare and roll-out.

CAUTION

The use of wheel brakes is not recommended until after the tail wheel is in contact with the ground. For maximum braking, the control stick should be FULL AFT.

LANDING - OBSTACLE / SHORT FIELD

Use Normal Landing procedures with the following additions:

1) Approach Airspeed - 60 MPH Super Decathlon
2) Throttle - AS DESIRED to control rate of descent.

WARNING

A relatively high rate of descent is possible in this configuration when at full gross weight and the throttle closed. If airspeed is allowed to decrease below the approach speeds shown, landing flare can only be assured with an application of power.

3) Slip aircraft as necessary to increase rate of descent.
4) Touchdown in full stall three-point attitude with stick full back.
5) Brake as required.

WARNING

As speed decreases, braking must be moderated to prevent possible nose-over.

LANDING - SOFT FIELD

Use Normal Landing procedure with the following additions:

1) Approach - Use Normal or Obstacle Landing procedure.
2) Flare to three-point landing attitude and add small amount of power.
3) Touchdown in full stall three-point attitude with stick full back.
4) Use power to assist in maintaining tail - low attitude.

WARNING

Good pilot judgement and experience are required to determine suitability of a soft field for safe landing operation.

SHUTDOWN

1) Brakes - SET.
2) Electrical Equipment - OFF.
3) Mixture - IDLE CUT-OFF.
4) Magnetos/Master Switch - OFF after propeller stops.
5) Controls - SECURE with lap belt around forward control stick only.
6) Wing/Tail Tie Downs - SECURE.

Before engine shutdown, turn off all radio equipment and other electrical equipment. The engine is shut down by closing the throttle and pulling the mixture control full aft to the idle cut-off. After the engine stops, turn off the master switch and both magnetos.

NOTE

If high winds are anticipated, the aircraft should be hangared. If the aircraft must be left out, park into the wind and use additional tie down ropes for security.

GROUND HANDLING

The Super Decathlon is easily handled on the ground by using the handle on the lower right side of the fuselage just forward of the tail section. The tail can be lifted and the airplane can be pushed, pulled and turned from this position. Tie-down rings are provided under each wing on the main wing strut. The tial is secured by tieing the rope or chain through the tail wheel unit. Ground handlers should specifically avoid pushing or pulling on propeller spinner, propeller tips, wing struts, fuselage stringers or tail surfaces.

WARNING

DO NOT push or pull on wing struts to move aircraft. Struts can be damaged by improper handling.

FLIGHT PERFORMANCE

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AIRSPEED CALIBRATION..... 4-2
STALL SPEEDS..... 4-2
TAKEOFF DISTANCE..... 4-3
TIME, FUEL AND DISTANCE TO CLIMB..... 4-4
CRUISE PERFORMANCE..... 4-5
CRUISE PERFORMANCE CONT..... 4-6
LANDING DISTANCE..... 4-7

GENERAL

This data is to inform the pilot what he can expect from the aircraft in the way of performance and to assist in preflight planning.

Flight performance data is included for the Super Decathlon (8KCAB). The data has been compiled from both estimated calculations and actual flight test using average piloting techniques, with an aircraft and engine in good operating conditions. All information is corrected for standard atmospheric conditions.

Performance may vary from the given data due to the many possible variables present with a specific aircraft and flight condition. The pilot is therfore encouraged to maintain a personal flight log for his aircraft. This will not only provide more accurate preflight planning information for future flights, but also can be used as an indicator in determining the general condition of a particular aircraft.

WARNING

This manual includes the performance data for the Super Decathlon. It is the pilot's responsibility to insure that the correct performance chart is used.

AIRSPEED CALIBRATION

CAS (mph)	IAS (mph)
60	60
70	70
80	80
90	90
100	100
120	120
140	141
160	163
180	184
200	206

NOTES

1. Assumes zero instrument error.
2. Maximum gross weight of 1800 lbs. at the forward C.G. limit.

STALL SPEEDS

Model	CAS (mph)			
	Angle of Bank			
	0°	20°	30°	40°
Super Decathlon	53	55	61	75

NOTES

1. Gross weight of 1800 lbs.
2. Power off.

TAKEOFF DISTANCE

CONDITIONS

1. Level, Hard Surface, Dry Runway.
2. Zero Wind.
3. Aircraft Loaded to 1800 Lbs.

PILOT TECHNIQUE: Refer to "TAKEOFF - OBSTACLE"

1. Speed at Lift-Off - 50 mph IAS.
2. Speed at 50 Feet - 58 mph IAS.

WARNING

The aircraft must be pitched forward to a safe power off speed should a power failure occur during climb-out; failure to respond immediately may result in a stall at low altitude.

Pressure Altitude	Distance (Ft.)									
	0° C		10° C		20° C		30° C		40° C	
	Ground Run	Total To Clear 50'	Ground Run	Total To Clear 50'	Ground Run	Total To Clear 50'	Ground Run	Total To Clear 50'	Ground Run	Total To Clear 50'
0	456	833	481	879	508	928	533	975	559	1021
1000	485	886	512	935	540	987	567	1036	594	1087
2000	520	951	550	1005	578	1057	608	1112	639	1169
3000	561	1026	591	1081	624	1141	657	1201	688	1258
4000	602	1101	635	1161	670	1224	704	1287	740	1354
5000	652	1192	690	1261	725	1326	762	1394	802	1466
6000	708	1294	746	1363	781	1438	828	1514	669	1588

NOTES

1. Data presented in this table represents maximum airplane capability at speeds shown and requires aircraft in good operating condition and a proficient pilot.
2. Decrease distance 20% for each 10 mph of head wind.
3. This data does not consider the effects of takeoff from soft and/or grass fields and takeoff with tail wind. Takeoff performance under these conditions vary substantially. Good pilot judgement must be used under all conditions ɔ insure safe operation.

TIME, FUEL AND DISTANCE TO CLIMB

CONDITIONS

1. Standard Temperature.
2. Aircraft Loaded to Gross Weight of 1800 Lbs.
3. Full Throttle, 2700 RPM.

PILOT TECHNIQUE: Refer to "CLIMB"

1. Maximum Rate of Climb.
2. Lean Only as Required to Maintain Smooth Engine Operation.

Pressure Altitude (ft)	Standard Temp (° C)	Climb Speed (mph-IAS)	Rate of Climb (fpm)	From Sea Level		
				Time (min)	Fuel (gal)	Distance (sm)
0	15	80	1230	0	1.0	0
1000	13	80	1160	1	1.2	1
2000	11	79	1090	2	1.4	2
3000	9	79	1020	3	1.7	4
4000	7	78	940	4	1.9	5
5000	5	78	880	5	2.2	7
6000	3	77	790	6	2.4	8
7000	1	77	730	7	2.7	10
8000	-1	76	660	9	3.0	12
9000	-3	75	590	10	3.3	14
10000	-5	75	520	12	3.7	17
11000	-7	74	440	14	4.0	20
12000	-9	74	370	17	4.5	24
13000	-11	73	300	20	5.0	28
14000	-13	73	230	23	5.6	34
15000	-15	72	160	29	6.4	42

NOTES

1. Data presented in this table represents maximum airplane capability at speeds shown and requires aircraft in good operating condition and a proficient pilot.
2. Distances shown are based on zero wind.
3. Allow one gallon fuel for engine start, taxi and takeoff.
4. Decrease distance for head wind or increase distance for tail wind with the following increment: Time(min)/60 x wind component in the direction of flight (mph).

CRUISE PERFORMANCE

CONDITIONS

1. Standard Temperature.
2. All figures based on gross weight of 1800 lbs.
3. Maximum cruise is normally limited to 75% power.
4. All fuel consumption estimates are based on the recommend lean mixture when at or below 75% power and full rich above 75% power.

% POWER	RPM	M.P.	TAS MPH	GPH
		2500 Ft		
85	2600	25.3	151	12.5
80		24.1	147	12.0
75		23.0	144	9.7
70		21.8	139	9.3
65		20.6	136	8.8
60		19.5	131	8.3
85	2500	25.9	151	12.3
80		24.7	147	11.8
75		23.5	144	9.6
70		22.3	139	9.1
65		21.1	136	8.7
60		19.9	131	8.1
85	2400	26.5	151	12.2
80		25.2	147	11.5
75		24.0	144	9.5
70		22.8	139	8.9
65		21.5	136	8.5
60		20.3	131	8.0
		5000 Ft		
80	2600	23.6	151	12.0
75		22.4	147	9.7
70		21.3	143	9.3
65		20.1	139	8.8
60		18.9	134	8.3
55		17.7	128	7.9
80	2500	24.1	151	11.8
75		22.9	147	9.6
70		21.7	143	9.1
65		20.5	139	8.7
60		19.3	134	8.1
55		18.1	128	7.7
80	2400	24.9	151	11.5
75		23.6	147	9.5
70		22.3	143	8.9
65		21.0	139	8.5
60		19.8	134	8.0
55		18.5	128	7.6

NOTE

Speeds shown based on aircraft with optional strut fairings and streamlined tail wires. Reduce figures shown by 2% for aircraft not so equipped.

CRUISE PERFORMANCE (cont'd)

% POWER	RPM	M.P.	TAS MPH	GPH
		7500 Ft.		
80	2600	23.0	154	12.0
75		21.8	151	9.7
70		20.6	146	9.3
65		19.5	141	8.8
60		18.4	136	8.3
55		17.2	131	7.9
80	2500	23.6	154	11.8
75		22.4	151	9.6
70		21.2	146	9.1
65		20.0	141	8.7
60		18.7	136	8.1
55		17.5	131	7.7
80	2400	24.3	154	11.5
75		23.0	151	9.5
70		21.8	146	8.9
65		20.5	141	8.5
60		19.2	136	8.0
55		18.0	131	7.6
		10,000 Ft.		
70	2600	20.2	150	9.3
65		19.0	145	8.8
60		17.8	139	8.3
55		16.7	133	7.9
50		15.5	125	7.4
70	2500	20.6	150	9.1
65		19.4	145	8.7
60		18.2	139	8.1
55		17.0	133	7.7
50		15.8	125	7.2
70	2400	21.2	150	8.9
65		20.0	145	8.5
60		18.7	139	8.0
55		17.4	133	7.6
50		16.2	125	7.1

NOTE

Speeds shown bases on aircraft with optional strut fairings and streamlines tail wires. Redeuce figures shown by 2% for aircraft not so equipped.

LANDING DISTANCE

CONDITIONS

1. Level, Hard surface, dry runway.
2. Zero wind.
3. Aircraft loaded to 1800 lbs.

PILOT TECHNIQUE: Refer to "LANDING-OBSTACLE/SHORT FIELD"

1. Approach Speed - 60 mph-IAS Super Decathlon
2. Throttle - as required to control descent rate.
3. Maximum braking.

WARNING

A relatively high rate of descent is possible in this configuration when at full gross weight and the throttle closed. If airspeed is allowed to decrease below the approach speeds shown, landing flare can only be assured with an application of power.

Pressure Altitude Ft.	Distance (° F)									
	0° C		10° C		20° C		30° C		40° C	
	Ground Roll	Total To Clear 50'	Ground Roll	Total To Clear 50'	Ground Roll	Total To Clear 50'	Ground Roll	Total To Clear 50'	Ground Roll	Total To Clear 50'
0	413	1023	421	1042	428	1060	435	1078	442	1095
1000	421	1042	428	1060	436	1080	443	1097	450	1114
2000	429	1062	437	1081	444	1099	452	1118	459	1137
3000	437	1081	445	1100	453	1120	460	1140	468	1157
4000	445	1102	453	1120	461	1141	469	1160	476	1179
5000	453	1122	462	1143	470	1162	478	1182	486	1202
6000	462	1143	470	1164	479	1185	487	1205	495	1225

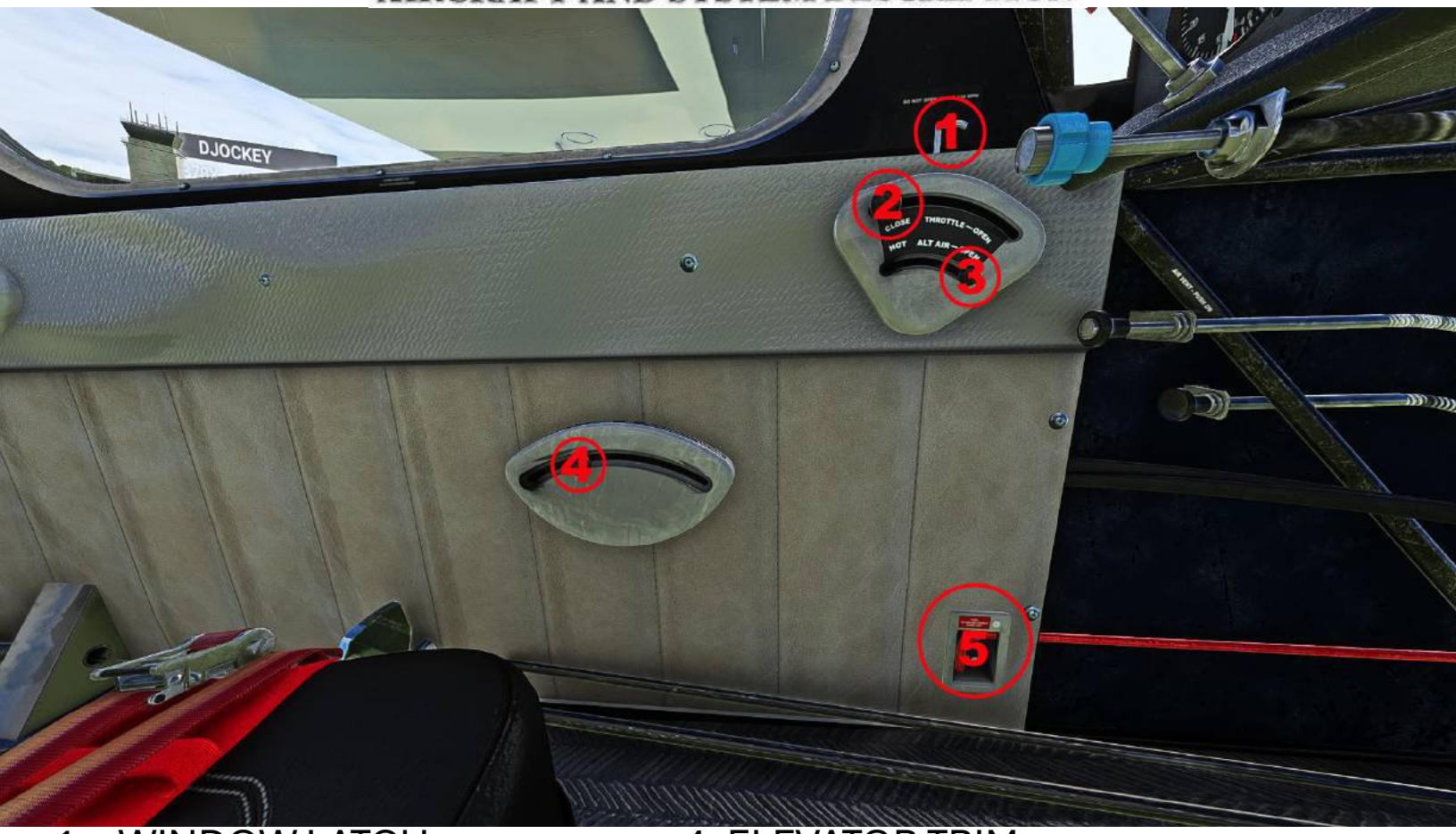
NOTES

1. Data presented in this table represents maximum airplane capability at speeds shown and requires aircraft in good operating condition and a proficient pilot .
2. Decrease the distance shown by 20% for each 10 mph of head wind.

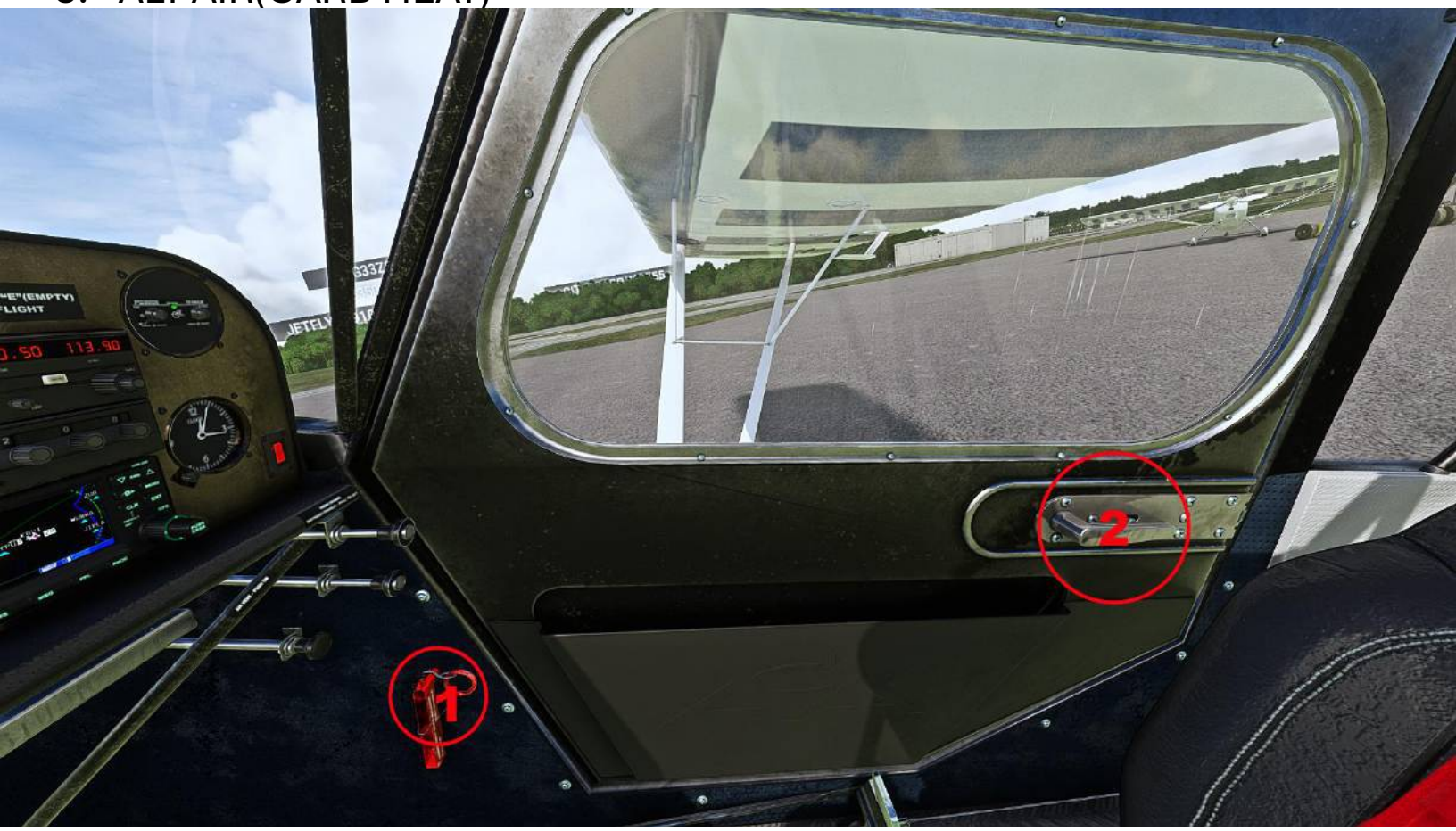
SECTION V

AIRCRAFT AND SYSTEM DESCRIPTION

1. OIL TEMP
2. OIL PRESSURE
3. ACCELEROMETER
4. AIRSPEED
5. ALTIMETER
6. AUDIO
7. MP & FUEL FLOW
8. HOBBS
9. AMMETER
10. RPM
11. TURN COORD.
12. VERTICAL SPEED
13. ANALOG CLOCK
14. COMM/NAV
15. TRANSPONDER
16. GNS430 GPS
17. ELT
18. MIXTURE
19. FUEL PUMP
20. STARTER
21. PROP THROTTLE
22. PARKING BRAKE
23. LEFT VENT
24. RIGHT VENT
25. LEFT CABIN HEAT
26. RIGHT CABIN HEAT
27. MIC
28. WHISKEY COMPASS

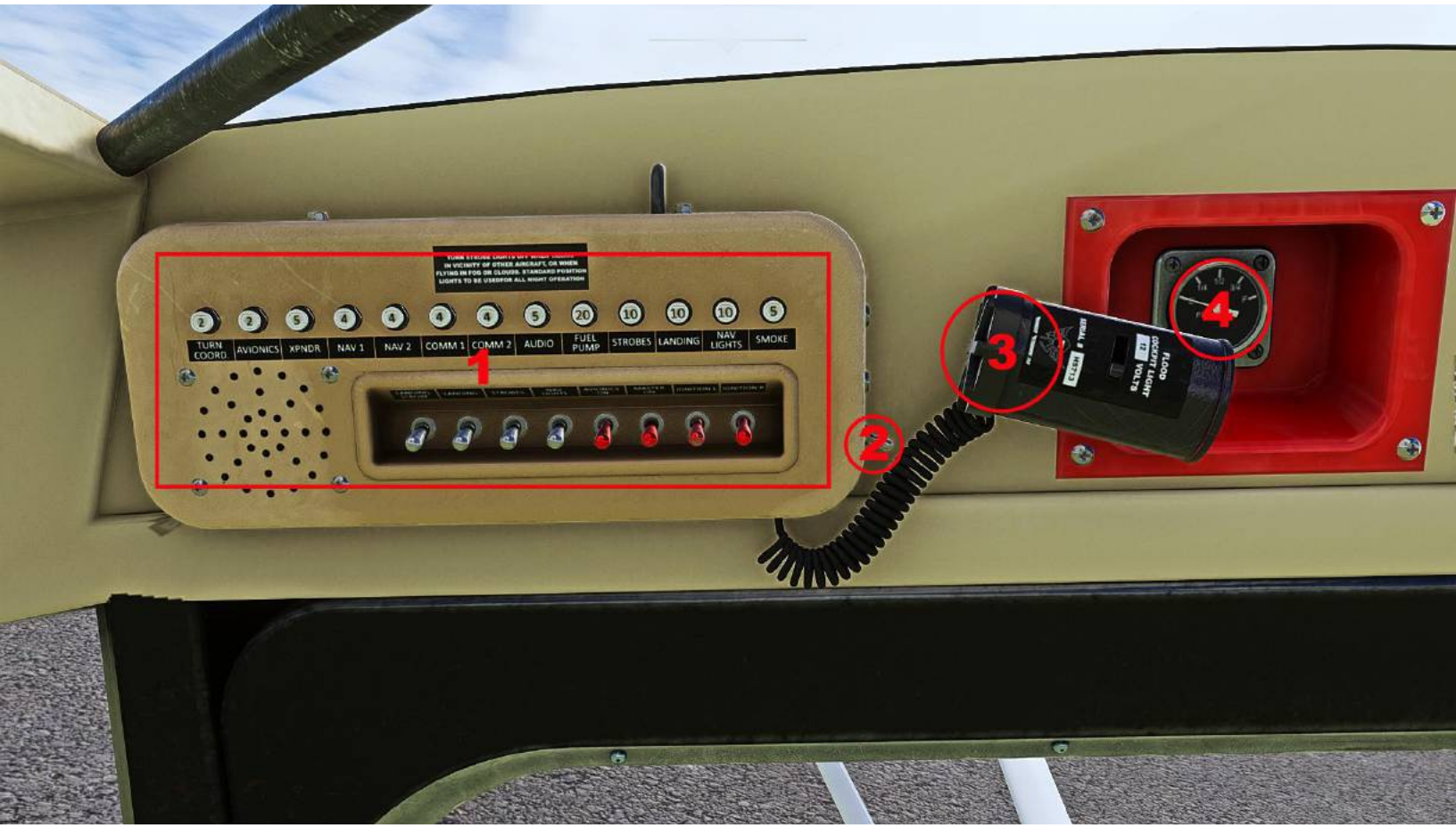


1. WINDOW LATCH
2. ENGINE THROTTLE
3. ALT AIR(CARB HEAT)
4. ELEVATOR TRIM
5. FUEL SHUTOFF



1. EMERGENCY DOOR RELEASE
2. DOOR HANDLE

1. CLIPBOARD 2. PMS50 GTN650 GPS 3. CLIPBOARD CLICK SPOT



1. ELECTRONIC SWITCHES
2. MAP LIGHT POWER
3. MAP LIGHT CLICKABLE
4. LEFT FUEL GAUGE

1. COCKPIT VIEW ONLY – ENGINE/OIL COVER CLICK SPOT

HANGAR STUDIOS 713 SUPER DECATHLON INCLUDES 2 GLASS COCKPIT VARIANTS

GNS430 GLASS PANEL

1. AUTO PILOT CONTROLS
2. ELECTRONIC PANEL
3. GARMIN G3X GPS TOUCH SCREEN
4. GARMIN G5 BACKUP
5. 330 TRANSPONDER
6. GNS430 GPS
7. ACCELEROMETER

HANGAR STUDIOS 713 SUPER DECATHLON INCLUDES 2 GLASS COCKPIT VARIANTS

PMS50 GTN650 GLASS PANEL

1. PMS50 GTN650 GPS TOUCH SCREEN

A SEPARATE MOD IS NEEDED FOR THIS TO FUNCTION(PC ONLY)

FOR DOWNLOAD INFORMATION AND INSTALL INSTRUCTIONS
PLEASE VISIT WWW.PMS50.COM

THIS IS A SEPARATE PRE-INSTALLED GPS UNIT FOR **PC**
FOR **XBOX** USERS THIS COMES PRE-INSTALLED

PMS50 GTN750 IN-GAME PANEL

PMS50 GTN750 IN GAME PANEL

Exclusive In-Game Panel for the PMS50 GTN750 Included for Xbox

As part of the **American Champion (8KCAB) Super Decathlon** for **Microsoft Flight Simulator 2020** on Xbox, you'll enjoy an exclusive **PMS50 GTN750 in-game panel**—a powerful GPS navigation suite integrated directly into your cockpit. This feature is available exclusively for Xbox users who purchase the Super Decathlon, accessible via a convenient drop-down menu.

	FREE	PREMIUM
COM/NAV	✓	✓
Audio panel	✓	✓
Transponder	✓	✓
Map	✓	✓
Flight plan editing and leg	✓	✓
Procedures with preview	✓	✓
Direct To	✓	✓
OBS	✓	✓
Waypoint pages	✓	✓
Nearest pages	✓	✓
Messaging	✓	✓
In-game toolbar panel	✓	✓
Asobo or Navigraph database	✓	✓
Working Title compatibility	✓	✓
Events for external control	✓	✓
Map waypoint selection	✗	✓
Map auto zoom	✗	✓
Direct-To map waypoint	✗	✓
Map waypoint elevation data	✗	✓
NAVIGRAPH Charts (worldwide)*	✗	✓
Traffic page (TCAS)	✗	✓
Terrain page	✗	✓
Weather radar	✗	✓
FPL preview	✗	✓
FPL import (File and SimBrief)	✗	✓
FPL invert	✗	✓

	FREE	PREMIUM
FPL Catalog (load and save)	✗	✓
Airways	✗	✓
Metar / TAF	✗	✓
VCALC Utility	✗	✓
User waypoints	✗	✓
Timers	✗	✓
Fuel planning	✗	✓
SAR Patterns	✗	✓
Checklists	✗	✓
Visual approaches**	✗	✓
Vectors to final**	✗	✓
Holds**	✗	✓
Road/Sat/IFR/VFR map***	✗	✓
DALT/TAS/Winds	✗	✓
Extended map fields	✗	✓
Sim variables viewer	✗	✓
VATSIM panel	✗	✓
Safe taxi*	✗	✓
DME / Radial info	✗	✓
Track vector	✗	✓
Fuel range rings	✗	✓
External backlight control	✗	✓
User fields	✗	✓
Vertical navigation (VNAV)****	✗	✓

*Requires a Navigraph subscription for charts.

**Only for aircraft compatible with the Working Title Technology (WTT) or when using the toolbar panel GTN750 with an aircraft having a WT GPS in the cockpit. See the list of compatible aircraft.

***Requires a free Bingmap key for the Road and Satellite maps and a Navigraph subscription for charts for the IFR and VFR maps.

****Only for aircraft with internal WTT mode.

Built for Seamless Integration:

This GTN750 panel is fully integrated into Microsoft Flight Simulator using tools from Asobo and Working Title. This ensures the highest performance and stability, allowing for native support within the Xbox environment. The **GTN750** provides the same professional-grade avionics experience available on PC, now brought to Xbox for the first time, thanks to Hangar Studios 713 partnership with PMS50.

Special Thanks From Hangar Studios 713

I would like to extend my deepest gratitude to the incredible community of testers and supporters who have been instrumental in the development of the **American Champion (8KCAB) Super Decathlon** for Microsoft Flight Simulator. Your dedication, feedback, and expertise have helped make this project my most authentic and refined work to date.

A very special thanks to **Smitty**, who has been a cornerstone of this project from the start. Over the past month, Smitty has meticulously helped build the flight model and engine configurations, working tirelessly to ensure that every detail is true to the Super Decathlon. His daily testing sessions, alongside his friend **Jimmy**, the proud owner of an **Xtreme Decathlon**, have been invaluable. Jimmy's insights, combined with Smitty's expertise, have made this aircraft a truly immersive and realistic experience, especially as both of them tested in fully VR environments with motion simulators, pushing the realism to new heights. I am honored to include **Jimmy's livery** in the final release of the aircraft, a fitting tribute to his role in this project.

I would also like to recognize **Charlie Morris**, owner of **Charlie Morris Airshows** and a proud Super Decathlon owner. His aerobatic expertise and contributions, including the livery of his own Super Decathlon, have added another level of authenticity to this project. As an aerobatics instructor and airshow performer, Charlie's input was invaluable in fine-tuning the plane's performance. A special mention to his mentor, the legendary **Greg Koontz**, whose influence and mentorship to Charlie have further enhanced the accuracy of the flight model. Charlie's guidance through Smitty has helped make this the best aircraft I have developed so far.

A big thank you to **TPHI17**, my dedicated Xbox tester. His unique setup—featuring a full suite of peripherals, including yoke, pedals, and AXAIR panel controls, all fully compatible with Xbox—ensured that the Super Decathlon performs flawlessly on the platform. His efforts also extended to testing my Navions, and his feedback has been crucial in optimizing both projects for Xbox users.

Special Thanks From Hangar Studios 713

Finally, a special mention to **Vernon 006**, who contributed valuable insights during the early stages of testing. His input to Smitty, combined with his experience using advanced peripherals, was pivotal in shaping the PC version of the Super Decathlon. His feedback helped lay the foundation for this project's success.

To all my testers and supporters, thank you for your time, passion, and commitment. Together, we've created something truly special, and I look forward to growing this amazing community even further. Your contributions have not only shaped this project but will also inspire future developments.

HANGAR STUDIOS 713 CONTACT INFORMATION

WEBSITE – https://www.hangarstudios713.com
For most updated information on news and promotions

DISCORD - https://discord.gg/4U792JgBnB
Join the community an see more in real time about Hangar Studios 713
Also the best place to reach me or find out the latest information

EMAIL – b4gunner@hangarstudios713.com
Usual response time is within 24-48 hours – Unless I'm out of office

YouTube - https://www.youtube.com/@HangarStudios713
Mostly promotional, but sometimes informative

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