



DAUNTLESS

Dauntless Air

Appleton, MN

Safety Management System Plan and Procedures Manual



Certificated under 14 CFR Part 137 Agricultural Aircraft Operations

Original Issue, 03 January 2022



CERTIFICATION PAGE – SCOPE OF THE SMS PROGRAM

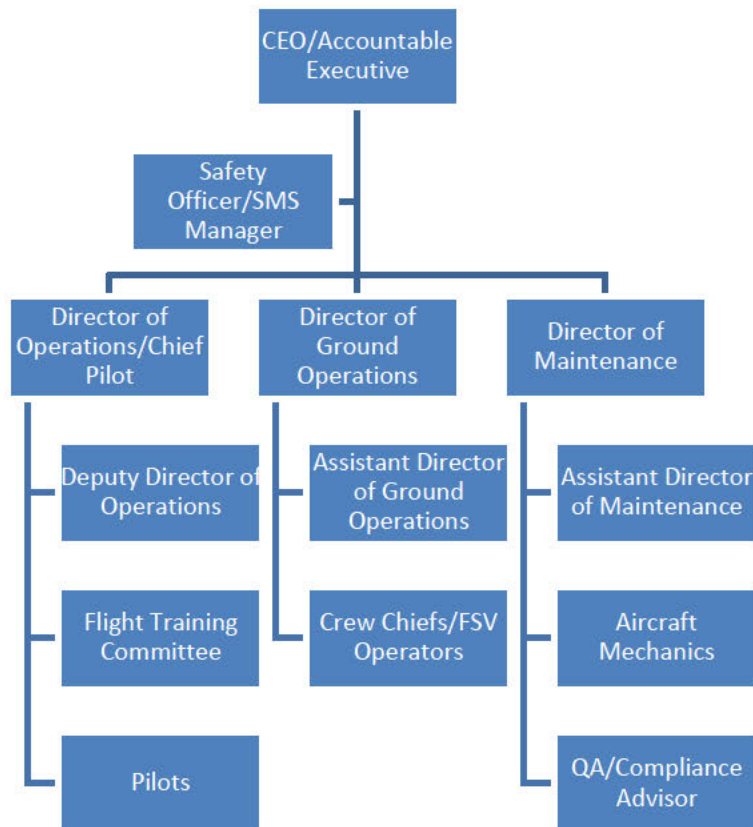
The SMS Plan and Procedures Manual is the core document for the Dauntless Air Safety Management System.

SMS incorporates all areas of our business.

All employees and contractors directly working for Dauntless Air are included as part of the safety management oversight and managed safety processes.



Brett L'Esperance
Accountable Executive



3.2 CEO/ACCOUNTABLE EXECUTIVE

The Accountable Executive (AE) provides the leadership, guidance, and overall commitment to providing the financial support and resources required to implement, maintain, and manage the SMS program. The AE establishes annual performance objectives (along with SMT input) to align Dauntless Air corporate SMS Objectives for the coming year. The AE is the management Chair of the SCC and leads the Annual Safety Review including the assessment and evaluation of annual performance objectives.

Principal SMS obligations of the AE are as follows:

- Responsible for establishing and nurturing overall corporate Just Culture, providing managers with adequate, suitable resources to comply with our safety obligations.
- Through the Senior Management Team (SMT), ensures that all business conducted is done safely while balancing business objectives and customer requirements.
- Provides input and review when the Safety and Compliance Committee (SCC) is developing annual strategic SMS objectives and departmental goals toward improvement of our safety performance.
- Has cause to recommend, develop, and endorse policies pertaining to SMS.
- Ensures the application of our Just Culture decision matrix in matters of SMS reporting and follow-up decision making under the SMS program

3.3 SAFETY OFFICER/SMS MANAGER

The Safety Officer/SMS Manager is accountable to the Accountable Executive.

The Safety Officer/SMS Manager is responsible for, but not limited to the following:

- Advise the Accountable Executive on matters concerning the SMS
- The standardization of SMS across the Company
- Support the Company Emergency Response Plan as it relates to safety activities
- Supporting hazard identification and risk assessment activities with managers
- Manages, provides, and supports SMS training for all employees and any Contractors
- Ensuring all staff (and contractors) comply with our SMS performance standards
- Conducts an annual and any periodic safety audits
- Initiate and, at times, lead Event, Incident/Accident reviews as directed by the AE
- Monitor the industry for safety concerns which may impact our operations
- Ensure corrective actions are carried out in a timely manner
- Monitoring Company and Contractor Safety performance
- Analysis and reporting to management on safety performance
- Overseeing development and evolution of our SMS
- Participate in the development of Dauntless Air annual Safety Objectives
- Ensuring relevant Safety information is distributed efficiently
- Management of the Vortex Safety Management reporting system
- Participates in investigations of company and contractor safety incidents
- Reporting of any injuries or occurrences to appropriate authorities
- Timely distribution of safety information to employees and contractors
- Co-Chairs the SCC in the absence of the AE
- Participate in SMT meetings as requested

3.4 DIRECTOR OF OPERATIONS

- Reports to the CEO/Accountable Executive;
- As the senior manager responsible for operations safety, works with his Chief Pilot to create and implement the company standard for making the 'go vs. no-go' decision for each flight mission. The MFRAT checklist is the basis for establishing, maintaining, and evaluating this standard. It is also the key element in confidently passing operational control for each mission to the on-scene pilot;
- Conducts annual reviews and interviews using the MFRAT as a measure to evaluate each pilot's operational decisions and to reaffirm the company's standard of safety;
- Oversees the annual audit of the company's SMS Program and corporate safety response and makes changes towards improving overall safety based on recommendations emanating from the review;
- Oversees individual interviews with all staff annually to gather feedback and input as to improving the effectiveness of the company's safety protocols;
- Maintains an open-door policy with all personnel to encourage communication at all levels within the company and promotes the identification of potentially hazardous situations that individuals may encounter in the course of performing their duties.

**APPENDIX E - MISSION FLIGHT RISK ASSESSMENT TOOL**

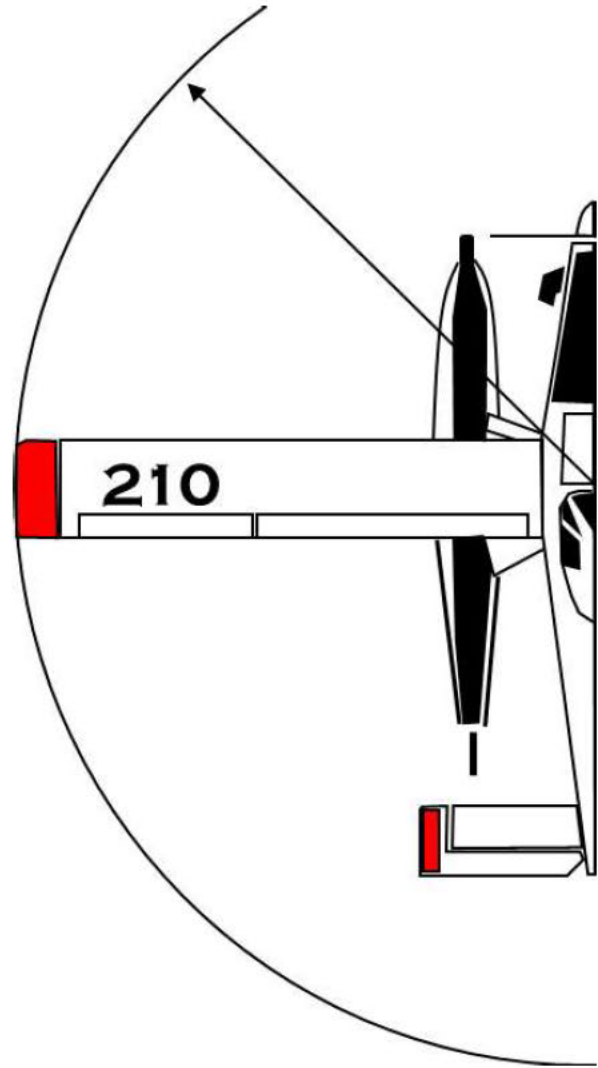
The Mission Flight Risk Assessment Tool (MFRAT) and its application are presented in this Appendix.

To be completed by the pilot flying the mission and where required discussed with and approved by the Director or Operations/Chief Pilot/Assistant Director of Operations as available, prior to mission execution.

Location: _____ Time: _____ Date ____/____/____

Flight Risk Category	Score 1-5	Mitigation of Risk Required
Aircraft Condition (e.g. tire wear, avionics and instrument malfunction, # of Deferred Maintenance items)	/5	<u>Score of 5/5</u> NO GO!!!
Weather (e.g. Visibility; Thunderstorms)	/5	<u>Score of 5/5</u> NO GO!!!
Aircraft Performance (e.g. Load control; density altitude; crosswind; climb)	/5	<u>Score of 5/5</u> NO GO!!!
Mission Environment (e.g. Visibility; Terrain; Turbulence; FTA Congestion)	/5	<u>Score of 5/5</u> NO GO!!!
Human Factors (e.g. Duty Times; Fatigue)	/5	<u>Score of 5/5</u> NO GO!!!
TOTAL	/25	Score < 15: GO Score 16-20: NO GO Contact Chief Pilot or Director of Operations Score > 21: NO GO Until risks mitigated
<i>Please provide details for individual category scores of 5/5 or a total score > 15</i>		
Name: _____	Signature: _____	Date: _____

Score (Maximum 25)	Required Action
15 or less	Mission is a go
16-20	Indicates sufficient safety concerns to warrant the pilot seek guidance from the Chief Pilot or Director of Operations before proceeding
21 or above	The safety threat is considered to be sufficiently serious that the mission is grounded until such time as the circumstances improve to the extent that the assessment score can be reduced to an operational safe level
An risk assessment score of 5 on any individual factor	This should be considered sufficient grounds to abort the mission. The severity of the on scene evaluation will result in the flight being suspended or cancelled until the issue is resolved or circumstances improve



DAUNTLESS AIR

STANDARD OPERATING PROCEDURES
FOR AIR TRACTOR AT-802 FIRE BOSS WATER
SCOOPER AND SEAT AIRCRAFT ON AERIAL
FIREFIGHTING MISSIONS

GENERAL

This manual is intended to detail the company's procedures that are not covered in any other of the Dauntless Air operating documents (e.g. Aircraft Flight Manual, Flight Manual Supplements, checklists, NWCG Standards for Single Engine Air Tanker Guidebook, contracts and FAR Parts 91 and 137). Dauntless Air pilots are required to operate safely within the limitations and requirements of all these documents. In the event of conflicting information between these documents the Contract in force will take precedence; however, safety of flight supersedes all.

This manual provides standard operating procedures used by many pilots on the line. It is important to note that this is a company policy and procedures document that is intended to be a guideline for pilots. Pilots are encouraged to operate within these guidelines but can deviate from them as required based on varying situations encountered during fire missions. If a pilot decides to deviate from a Standard Operating Procedure, it is important that the pilot brief his/her wingman before executing the maneuver. The purpose of this is to provide a new arriving wingman with as much information as possible on how a mission will be flown without having to have an extensive brief.

The following subsections contain an overall directive for that portion of the flight followed by an operational example of how it can be executed.

More extensive detail can be found on the company SharePoint application in subject specific briefs that are covered every year in annual company training.

PREFLIGHT

Dauntless Air flight crews are required to report for duty at a time designated by tanker base personnel and appropriate managers. Before accepting a mission, pilots will preflight their aircraft, perform a weight & balance and performance calculation, and complete a Mission Flight Risk Assessment Toll (MFRAT). The MFRAT may be completed on the MYFIREPLANE app or as a group during the morning briefing.

Part of the morning briefing should be used to decide how aircraft will be dispatched (i.e. single ship or in Flights of two or more). If in Flights, a Flight Lead should be designated and wingmen assigned their position and responsibilities within the flight, such as Flight Following with dispatch, monitoring weather, etc. A Flight (Flt) made up of pilots from different vendors is acceptable provided it is briefed and everyone knows their responsibilities within the flight. Dauntless Air pilots will use our Group Tactics techniques covered at company training as a guide for managing flights. Once the morning briefing is completed the pilots should be ready to accept a dispatch.

DISPATCH

Upon receiving a dispatch, pilots will confirm that the information on the dispatch is complete and accurate. Pilots should then take some time to get information that may be pertinent to the mission (e.g. up to date weather; NOTAMS). Most contracts require a 15-minute launch from the time a dispatch is received. If a pilot needs more time to plan for a difficult mission, he should notify the appropriate SEAT manager and/or base manager(s) and take the time required to plan a safe mission.

- Comm:
 - Once rejoined, 2 contacts Dispatch on FM and passes applicable information
 - If no changes to the mission, no further briefings will be given, and Flight will assume radio silence
 - Lead, push Flight to applicable departure frequencies followed by appropriate check-in.

DEPARTURE/CRUISE

This segment of flight should be used to gather any new information about the mission that could be critical to its success (e.g. weather changes, additional aircraft and resources responding to the same fire or other fires in the area, and any changes in the original dispatch instructions).

The cruise segment of the flight should also be used for additional mission planning. Critical items for discussion might include time on station, fuel endurance, refueling locations, and potential scoop sites. Specific procedures include:

- Route position: Greater than 500' but less than ½ mile from the preceding aircraft unless specified otherwise
- Climb to appropriate altitude for terrain clearance, weather, and optimum fuel efficiency
- Wing: If unable to maintain position, inform Lead "2's stripped"
- Cruise power settings: Lead use 3500 LBS/FT Torque/1500 Np, to provide wingmen with the necessary power advantage to maintain position
- Lead has primary navigation, wing is responsible for clearing
- Lead push Flight to Air-to-Air frequency as required and check them in.
- Once contact with Air Attack (A/A) is established, 2 will inform Dispatch.

The enroute portion of a flight is also a good time to practice and stay proficient in formation flying skills. Good formation skills could save you in the event of flight instrument failure in Marginal Visual Flight Rules (MVFR) conditions due to smoke or haze caused by natural disaster conditions. Good formation flying also increases the efficiency in response times to a fire in a manner like a multi-aircraft Flight "daisy chaining" behind a Lead Plane.

FIRE ENVIRONMENT

Dauntless Air pilots will enter the Fire Traffic Area (FTA) in accordance with published altitudes and communication procedures published in the NWCG Single Engine Air Tanker Guidebook. The Lead may check the whole Flight in with Air Attack using the following procedures:

- 12 Mile check-in with Air Attack:
 - Fire Boss (FB) - "Air Attack 4NC, T851"*
 - Air Attack (A/A) - "Go T851"*
 - FB - "T851, 52, 53, 851 Lead, Flt of 3 FB's, 12 miles south, 6.5, 30.01 set, ready for update"*
 - A/A - "Roger T851, Alt 30.10, enter at 1500, helicopter 87C working 500 and below"*
 - FB - "30.10, 1500, 87C on scene, 851"*

Once in the FTA, Dauntless Air pilots are expected to work with other aircrews and aircraft as a cohesive and coordinated group to accomplish the mission at hand.

Dauntless Air pilots will endeavor to keep all Flight members, aircraft and any other pilots working in the fire environment safe. Examples of this would be group gear checks, pointing out obstacles in the water or fire environment, and pointing out the locations of other traffic (e.g. helicopter dipping area). The goal is to keep the situational awareness of everyone working in the fire environment as high as possible.

- Position entering FTA – Trail: “Flight go trail” “2”, “3”, etc.
- Perform pre-drop checks and check-in Flight on Air/Ground (A/G)
- Setup orbit as required (Standard is left hand), Lead make sure to get objective from A/A:
 - Hit the heat; target larger columns to reduce energy
 - Stop advancement; i.e. Go after the head
 - Spot control; target spotting outside of the main fire
 - MAKE SURE A/A KNOWS YOU ARE IR EQUIPPED!
- Once the Flt is visual of the target area Lead will pass desired coverage level setting and gate armed confirmation on inter-flight:
 - *“Flt set coverage level 6, 1’s gate armed” “2’s gate armed” “3’s gate armed”*
 - *FB “T851 final, gate’s armed, confirm line clear?” A/A “Line is clear, clear to drop” “851”*
 - Wingmen mirror Lead’s call as required
- When rolling in on final, each member address A/A with their Tanker number.

Dauntless Air pilots will also be expected to give and receive feedback on drops. The goal is for all aircraft to be as accurate and effective as possible. Dauntless Air pilots should ensure that they are proficient with the Infra-red systems (FLIR) installed in each Dauntless Air aircraft to increase the probability that their drops are as accurate and effective as possible.

Dauntless Air pilots have the authority and responsibility to refuse a drop if they feel it may endanger themselves, the aircraft, or personnel on the ground. Dauntless Air senior management will support and defend any Dauntless Air pilot who decides that a drop may be too risky to attempt.

WATER OPERATIONS

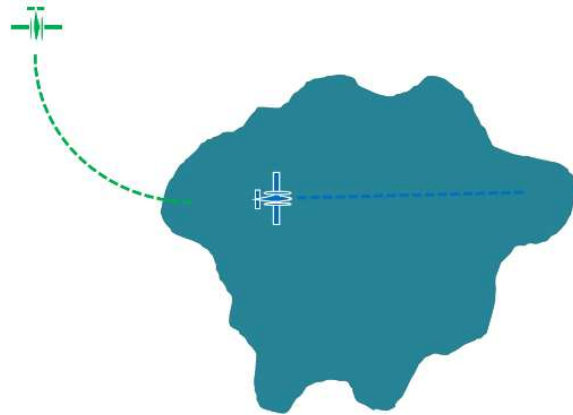
Upon arrival at a selected scoop site, the Flight Lead will call for Pre-Scoop Check. He will do this by calling for a check of the top four most critical items to ensure effective and safe scooping in the AT-802 Fire Boss. These include:

1. Verifying that wheels are up for a water landing
2. Propeller is full forward (1700 RPM)
3. Fire gate is Armed
4. Fire gate has E-Dump pressure.

A reconnaissance of the selected scoop area will then be performed. All Flight members will look for obstructions, debris in the water, boat traffic, adequate water length and depth, wind direction and wave height.

Once an area is deemed safe to scoop, pilots will select the water quantity to be picked up based on their remaining fuel.

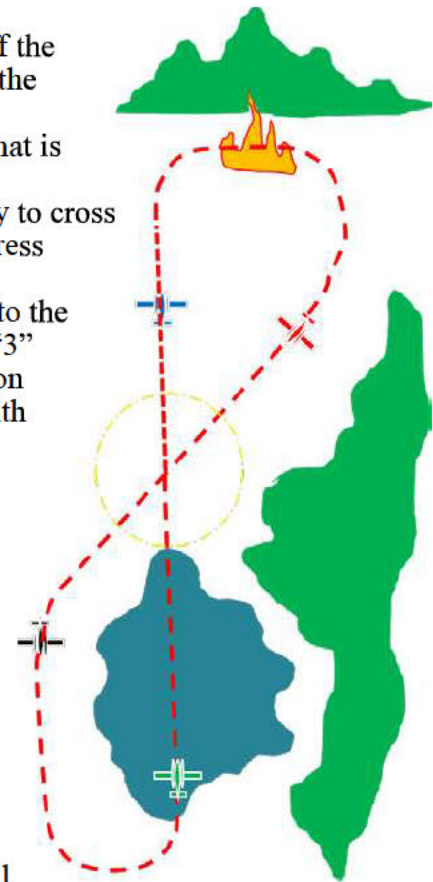
Scooping water should be performed in accordance with the Wipaite Aircraft Flight Manual Supplement (AFMS). However, experience has shown that different flap settings in varying conditions may yield shorter scooping distances and better takeoff performance than calculated in the AFMS. Dauntless Air senior management approves the use of alternate flap settings if no aircraft limitations are exceeded.



Dauntless Air pilots will also select a Coverage Level 2 (or higher) on the Fire Gate Control Panel during scooping operations. This ensures that the load can be jettisoned quickly in the event of an aborted scoop. Flight scooping procedures are as follows:

- Once a water source is located
 - Flt completes at least one orbit to sanitize scooping area
 - Lead set circuit direction considering: wind, terrain, route back to fire
 - On downwind leg perform pre-scoop checks
 - Lead calls: “1’s handle up, four blue, good pressure” “2’s handle up, four blue”, “3’s handle up, four blue”, etc.
 - Recommend coverage level 2 as a minimum for scooping
 - 1 goes in for first scoop
 - Allow space for wingmen to set down without getting too close to shoreline or running out of room to scoop
 - 2 sets the spacing for going on the water considering the following
 - Wind, water condition, how wide is the source, how long, terrain on approach, wake of previous aircraft.
 - Watch for hazard areas of wake turbulence from preceding aircraft
 - Spacing techniques:
 - Touchdown after preceding aircraft has lifted off
 - Allow for 1 minute spacing between touchdowns
 - If water source is a large lake scooping parallel is possible with following considerations
 - **Stay forward of preceding aircraft’s 30-degree line**
 - **Minimum spacing of 500 ft**
 - Consider touching down prior to Lead’s touchdown in order to lift-off early avoiding his/her wake when loaded.

- Once the circuit is established
 - Provide A/A with either an “off the water”, or “off the scoop” call, and “2 minutes out” or as desired by the AA.
 - DO NOT CALL “OFF THE DIP”, since that is helicopter terminology.
 - If multiple aircraft are involved and it is necessary to cross flight paths be directive and set an ingress and egress altitude.
 - Exp: “Flt, deconfliction altitudes: 1000 ft to the lake 500 ft to the fire, acknowledge” “2” “3”
 - Altitudes can be reversed based on situation
 - Ensure this deconfliction is set up even with non-company aircraft!



RETURN TO BASE (RTB)

The flight back to base will be like the outbound trip.
Destination weather will be checked and alternates considered if destination weather is not suitable for recovery.

Formation training and practice may also be performed on the return flight.

- Before leaving the fire provide A/A with a “last drop” call
- After all aircraft have completed their drops, Lead will rejoin the flight and exit the FTA
- Once clear of the FTA, 2 will call Dispatch and check-in.

PATTERN/LANDING/TAXI BACK

- Approaching destination
 - 2 gets ATIS when directed and passes info to Flt Lead.
 - 1 pushes Flt through applicable frequencies. (App., Tower., Ground)
 - Inform Tower of pattern entry technique:
 - “Tower, T851 Flt, 5 to the north with Hotel for Initial”
 - If not aligned with Initial then follow their instructions and apply the applicable break technique
- Entering the pattern
 - Put Flight into echelon
 - Lead passes signal to configure or calls over Inter-flight.
 - Rolling off the Perch Lead calls “1’s base, gear down, 4 green”
 - Wingmen mirror Lead’s call
 - Use 5 sec spacing to provide wake separation
 - Lead will land on downwind side of runway, wingmen offset
 - Technique: Lead land further down to minimize time on runway and provide smoother air for wingmen
- Taxi back staggered spacing, wait for lead’s call to shut down.

POST FLIGHT

Upon recovery, aircraft will be refueled, and a post flight inspection will be performed. This ensures discrepancies are quickly identified and repaired and/or parts ordered. The ideal time to find discrepancies is during post flight and not during preflight for the next dispatch or the next day, which could lead to an unnecessary “unavailable status”.

At the end of each mission, or at the end of the day, mission debriefs should be performed. This is a time for all flight members, both Dauntless Air pilots, and pilots from other companies that were operating in the same fire environment that day, to put their ego’s aside and discuss what went well and what could have been done better. Every flight member should be willing to take and provide constructive criticism. This is an opportunity to learn and become better aerial firefighters!

SAFETY CONSIDERATIONS FOR OPERATIONS IN FLIGHTS

Flying in Flights or Groups of aircraft has proven to be a highly safe and cost-effective tactic in the wildland fire environment. However, these tactics demand excellent formation flying skills and safety considerations if a Flight encounters challenging conditions such as poor visibility where pilots can lose sight of their wingmen. Spacing between aircraft is also an important consideration that also depend on varying conditions, such as water surface conditions, wind, terrain, turbulence, and visibility. Procedures for losing sight of a wingman (Flying in the Blind) and aircraft spacing are detailed below;

Blind (Dauntless Air Aircraft)

- If at any point a wingman loses sight of the Lead or preceding aircraft, call “blind”. Lead will then set an altitude or geographic deconfliction plan until visual again:
 - “2’s blind (altitude)” “1 copies, visual, at your ----- o’clock high/low/same altitude”
 - If 1 is blind as well:
 - “2’s blind” “1’s blind level 500, 2 maintain 1000. 1’s circling over the south end of the lake, left hand turn.”
 - Keep talking until both aircraft are visual again.
 - If altitude deconfliction can’t be achieved, set a geographic deconfliction and gradually work closer until visual.
 - If more aircraft are involved, be directive with altitudes for everyone. Recommend exiting FTA before trying to rejoin Flight if possible.

Blind (mixed company)

- If loss of visual happens in a Flight with another vendor...
 - Make a call: “(position) blind (or lost visual), (altitude), (number of aircraft) in site”
 - If lead does nothing: Lag last known positions to build spacing and change altitude (not to cause a conflict within the FTA).

- Increase scan, look for visual pickup along known segments of the route.
- Inform Air Attack that the flight is separated and you'll operate single ship.
- Start making position calls as a single aircraft.
- Try to talk with lead back on the ground to fix the problem.
- Use smoke as necessary to help regain sight.

Spacing: Who's responsible for setting spacing?

- Ensure all aircraft are on inter-flight frequency
- Calls: Final, Off the drop, On the water, Up
 - Usually use just Off the drop and Up calls
 - Environment determines the calls
 - Low vis = more calls
 - More aircraft = depends on the conditions.....and who you're flying with
- Desired distance: 30 seconds works very well
Queues...
 - Lead turns final/2 turns base
 - Lead drops/2 turns final
 - Lead lifts off water/2 goes on water
- How to fix spacing?
 - Too close: increase distance between aircraft
 - Too far away: must remain within 1 mile to be considered a Flight
- Get the flight back together
 - Speed vs. Geometry

Emergency / Unusual occurrence

- Within the flight: Ensure deconfliction, Exit FTA, assess the issue
- Outside Flight: Inform Air Attack of general issue, exiting the FTA (direction/altitude), standby for further communication
- RTB / Land immediately/Continue with mission? Error conservatively!

EMERGENCIES

Dauntless Air pilots are expected to deal with emergencies in accordance with the procedures in the aircraft emergency checklist. In the event the emergency occurs at a significant enough altitude, the emergency checklist should be followed and adhered to. However, in the event of a total engine failure in the low-level fire environment, Dauntless Air pilots are expected to concentrate on flying their plane and finding a suitable and safe spot to land instead of running a checklist from top to bottom. This policy is based on Dauntless Air's experience over the last two decades of flying.

Dauntless Air pilots also need to be prepared to assist other aircraft in the event of an emergency or downed aircraft. Things to consider may be, running a checklist for the pilot of an aircraft in distress, helping point out suitable landing spots, retaining a load of water and circling a downed aircraft in case of fire, etc.



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FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR THE

AIR TRACTOR AT-802A AMPHIBIAN

WITH A PWC PT6A-67F MOTOR (1600 SHP) ON

WIPLINE MODEL 10000 FLOATS IN THE FIRE BOSS CONFIGURATION

POHSA01795CH-A-2

REG. NO. N10122

SER. NO. 802A-0495

This AFM Supplement is applicable to the AT-802A Fire Boss when the airplane is modified by the installation of a Pratt & Whitney, Canada PT6A-67F motor and Wipline Model 10000 amphibious floats in accordance with STC SA01795CH or (Canadian STC SA03-54). The information contained herein supplements or supersedes the basic AFM only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic AFM as applicable.

FAA APPROVED

FOR [REDACTED] Manager
Chicago Aircraft Certification Office
FAA Central Region

Original issue date: March 8, 2012

Latest revision: March 29, 2019

[REDACTED] – Fleming Field (KSGS), South St. Paul, MN 55075

SCOOPING OPERATIONS

INRUN APPROACH

On downwind to scooping site (11,500 pounds, 5216 kilograms):

1. Allowable Scoop Quantity – DETERMINE.
2. Seat Belt and Shoulder Harness – SECURE.

CAUTION!

It is recommended that on all missions involving scooping, a personal flotation device be worn by the pilot.

3. Landing Gear – UP; 4 BLUE LIGHTS.
4. Water Rudders – UP, GREEN LIGHT
5. Power Lever – AS REQUIRED FOR APPROXIMATELY 100 KIAS.
6. Prop Lever, "P" – FULL FORWARD.
7. Flaps - 10°
8. Scoop Master Switch – SET.
9. Fill Level Quantity – SET for automatic filling.

On final to scooping site (11,500 pounds, 5216 kilograms):

10. Flaps – 20°
11. Airspeed – 78 KIAS.
12. Touchdown with power to remain in a slow step taxi.
13. Water Speed – STABLE AT 50-55 KGS (check GPS, if installed).

SCOOPING

14. Water Speed – STABLE AT 50-55 KGS (check GPS, if installed).
15. Scoop Trigger – SQUEEZE
16. Power Lever – INCREASE SLOWLY as needed to maintain step taxi.
17. Scoop Trigger – RELEASE in manual scoop mode when desired hopper quantity is reached; unnecessary to release in auto scoop mode.
18. Power Lever – INCREASE TO 4943 LBFT (observe Takeoff ITT and N_g limits).
19. Control Stick – AS REQUIRED FOR NORMAL FLOATPLANE TAKEOFF; expect longer water run at heavy hopper loads.

OUTRUN CLIMB (16,000 POUNDS, 7257 KILOGRAMS, MAXIMUM)

20. Initial Climb Airspeed – 82 KIAS.
21. Flaps – 10° passing 90 KIAS; 0° passing 100 KIAS.

BEFORE STARTING ENGINE

Carefully check weight and balance prior to any flight.

WARNING!!

It is a pilot responsibility to ensure that the airplane is properly within its approved loading envelope prior to flight.

An FAA operating limitation requires that a DOT Approved or Mil-Spec helmet be worn by the pilot.

When setting electrical switches before engine start, it is important to read switch placarding until the pilot is familiar with the airplane. Several of the switches have center off positions while most are off in the down position. When setting switches prior to a night flight, only those lighting switches that are necessary for a night start should be turned on.

The starter switch is spring loaded to the OFF position. The ignitor switch is a center off three-position switch. In the START position the ignitors are activated any time the starter switch is ON; in the down CONTINUOUS position the ignitors function continuously regardless of the starter switch position.

Before starting the engine the power lever must be placed in the Idle position, the propeller lever, "P", placed in the full aft at feather stop, "F" position, and the start lever, "S", placed in the full aft cutoff "C" position.

CAUTION!

The propeller reversing mechanism can be damaged if the power lever is moved aft of the idle position when the engine is not running and the propeller is feathered.

STARTING ENGINE

With the start lever, "S", in cutoff, move and hold the starter switch to ON. As the N_g speed passes 12%, move the ignitor switch to the START position with another finger while continuing to hold the start switch in the ON position. When the N_g speed stabilizes at or somewhat below 18%, move the start control lever from cutoff to the run position (just forward of the cutoff gate). Monitor ITT as the engine accelerates to an idle N_g speed of 56-58%, at which point the starter switch may be released and the generator switch turned ON. If, at this point the N_g speed drops below 56%, advance the start lever, "S", to regain 56-58% N_g .

CAUTION!!

Whenever the gas generator fails to light up within 10 seconds after moving the start control lever to the RUN position, shut off the fuel by pulling the start control lever full aft to cutoff, "C", and release start switch. Allow a 30 second fuel draining period plus 5 minutes for starter cool down. Then conduct a 15 second dry motoring run in accordance with that checklist, and allow 10 minutes for starter cool down before attempting another start.

If, for any reason, a starting attempt is discontinued, allow the engine to come to a complete stop and then accomplish a dry motoring run in accordance with that checklist. Repeat the complete starting sequence, observing the starter limits.

CAUTION!!

The starter is thermal limited to three aborted starts per hour.

CAUTION!

The maximum approved airplane landing weight is 11,500 pounds (5216 kilograms).

After landing the water rudders should be lowered for taxi to the dock or beach.

BALKED LANDING

In a balked landing (go-around) climb, the wing flap setting should be reduced to 20° after takeoff power is applied. After all obstacles are cleared and a safe altitude and airspeed are reached, the wing flaps should be retracted. It is recommended that the landing gear remain in the position selected for the landing, unless diverting to another landing site after the balked landing.

SCOOPING OPERATIONS

The procedures provided herein for scooping are recommended until familiarity with the airplane suggests modification to any procedure. Scooping profiles are illustrated in Section 5 to provide rough guidance for planning any scooping operations. The profiles should be referred to very conservatively for rough guidance until a pilot is familiar with the characteristics and performance of a specific airplane at a particular location under particular conditions. The scooping operation can be broken into four distinct phases – 1) weight planning; 2) landing; 3) scooping; 4) takeoff.

- 1) Planning - Prior to initiating every scooping run, the fuel totalizer should be referenced to allow determination of airplane gross weight. This will then allow the pilot to determine how much water can be scooped without exceeding the airplane's maximum gross weight limit of 16,000 pounds (7257 kilograms).
- 2) Landing - On final to a scooping run, a power approach with 20° flaps is recommended. Use an approach speed of 79 KIAS. Reduce power for touchdown to approximately that required for initial step taxi (500-1000 lbft).
- 3) Scooping - After touchdown, allow the airplane to decelerate to the desired scoop deployment speed. Initially, until familiarity is gained in the airplane a ground (water) speed of 50-55 kts is recommended. A GPS receiver can be referenced for groundspeed. This speed provides for almost transparent scoop deployment. As familiarity with the airplane develops the speed can be increased. At higher groundspeeds, the scoop drag increment at deployment requires anticipatory elevator inputs to avoid a porpoise tendency. As water is scooped the power lever must be advanced, as the airplane weight grows, to maintain the step taxi condition.
- 4) Takeoff - At scoop retraction, the power lever should be advanced to takeoff power. The power warning system can assist in preventing excessive over-torque in this regime. A normal floatplane takeoff should be continued from this point. However, expect a longer acceleration distance to lift off at a higher post-scoop weight. After liftoff an initial climb speed of 94 KIAS is recommended, still with 20° flaps. After achieving a safe altitude and airspeed the flaps may be retracted.

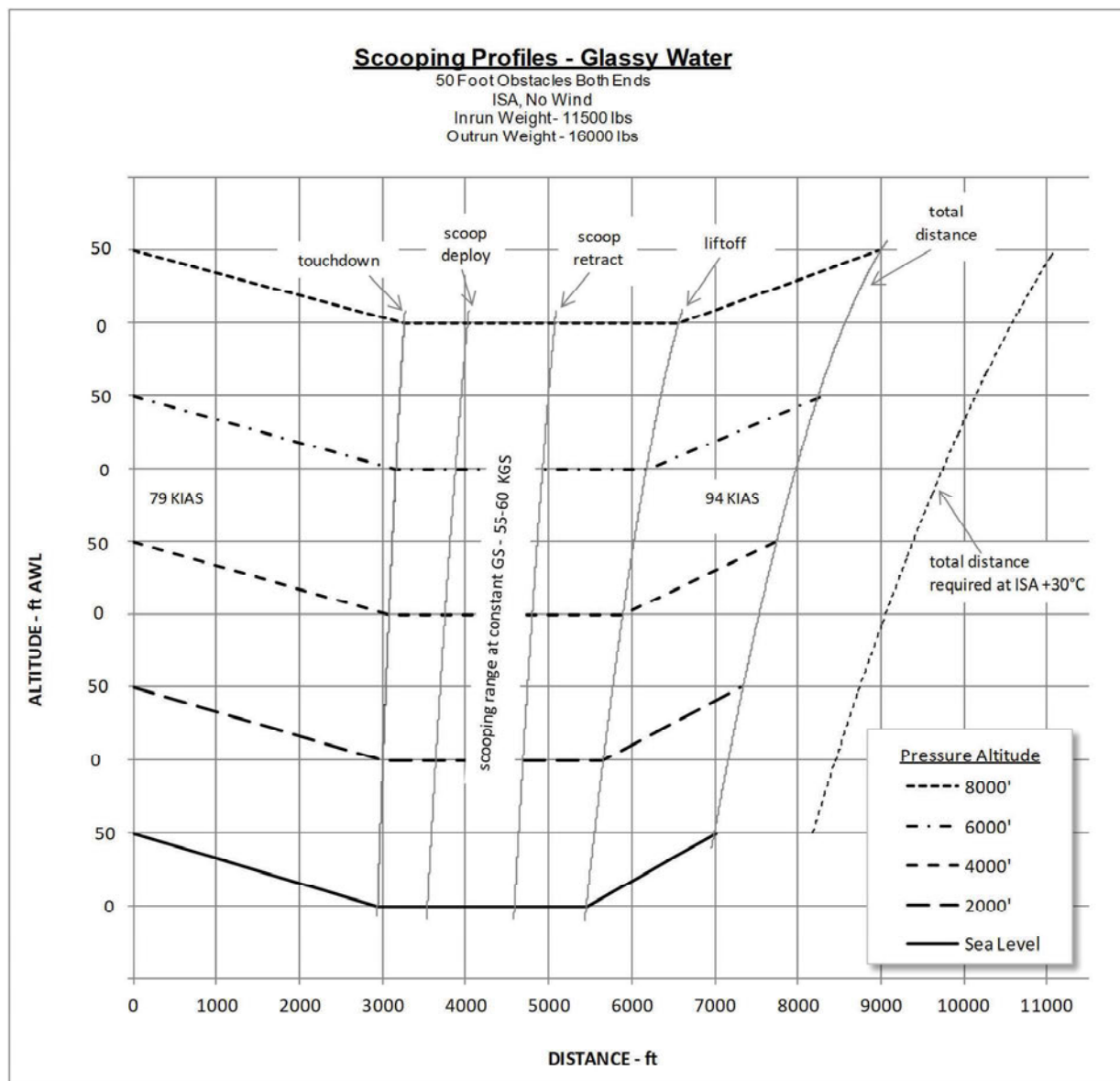


Figure 5-14. Scooping Profiles – Glassy Water