Leadplane Training Lesson Plan

LAT Operations

12-12-N9065-HO

Objective:

To familiarize and develop the student's proficiency with large airtanker (LAT) operations.

Content:

There are eight LAT aircraft identified in the Interagency Airtanker Base Directory.

RJ85 3000 gallons

Bae-146 3000 gallons

C130 4000 gallons (not MAFFS)

MD87 3000 gallons

Convair 580 2000 gallons

P3 2550 gallons

737 4000 gallons

DC7 3000 gallons

The DC7 is not approved on federal fires without approval. The Convair 580's used in the lower 48 can be from Canada or Canadian aircraft on an Alaska contract. The 580's that come directly from Canada may have special aerial supervision constraints.

The gallons of retardant each aircraft can deliver will vary due to density altitude, fuel load, and departure airport. The gallons will vary from load to load but generally will be close to the maximum capacity. The download amounts don't usually affect the retardant tactics and are not usually a concern.

All of these aircraft can operate out of the non-SEAT airtanker bases listed in the Interagency Airtanker Base Directory except for the following six Cal Fire bases. Columbia, Grass Valley, Hemet, Hollister, Ramona and Ukiah. The tanker captains will know if they can use one base or another and should be consulted.

Due to the increased in route speeds of the jet powered tankers, the closest reload base may not be the best to use. Consider the tankers ability to take a full load of retardant and the time in route to tanker bases. A tanker base that is further away but allows a full load of retardant may be a better choice. Consult the tanker pilot and allow them to weigh in on these types of decisions. Similarly, if a tanker base is getting overloaded with reloads or fueling, consider sending the faster tankers to another tanker base that is further away to alleviate pressure on the closer tanker base.

All of these aircraft are maneuverable enough to fly in most terrain depending on pilot experience.

LAT's are a good aircraft to build retardant line with. Considering that fire line is rarely straight, this size load of retardant is very effective when building line or doing structure protection. Tie-in overlap needs to be considered since this is where thin areas of retardant may occur and will be susceptible to the fire burning through the retardant line. The LAT's can start and stop the retardant allowing for multiple passes when building retardant lines that change direction.

Minimum drop altitude is 150 feet above the fuels for LAT's. This altitude is based on a coverage level 4 and should be raised up as coverage level is increased. There are a variety of factors that influence the final coverage level on the ground (wind speed, aircraft drop speed, uneven terrain, fuel density, etc.) but the drop altitude should not need to be higher than 200 feet. Coverage levels lower than a 4 are not dropped below 150 feet.

There is no delay for wake turbulence after a LAT has dropped.

LAT aircraft generally are most comfortable in orbit at the same altitude. Stacking tankers is usually not done. If there is a situation that may warrant stacking tankers consider grouping tankers at an IP or holding point prior to coming into the operations area. Grouping like aircraft and then clearing them into the operations area is usually a best practice.

Completion Standards:

The lesson is complete when the student can explain the uses of LAT's during fire suppression activities and the best practices for integrating the LAT's into the FTA. The student must also be able to demonstrate the use of LAT's in a fire environment for Phase 2 without the reliance on the evaluator.

Drop Height Table

This table shows the minimum altitude above the height of the fuel to eliminate forward momentum of the retardant which eliminates retardant shadowing on the fuels.

Controller Setting	B747	DC10	CV580	S2	MAFFS2	RJ85	C130	BAe146	MD87	P3A
1	200	200	150	150	150	150	150	150	150	150
2	200	200	150	150	150	150	150	150	150	150
3	200	200	150	150	150	150	150	150	150	150
4	200	200	150	150	150	150	150	150	150	155
6	265	250	170	150	150	155	150	160	170	175
8	265	265	200	180	150	175	185	175	190	200

*737 data was not available at the time of writing.

Drop height may be affected by the ground speed of the aircraft, variations in the height of the terrain, variations in the height of the fuels, wind speed, wind direction, and the steepness of the terrain.