Hot Retardant Loading Safety Training for the Neptune Bae 146

2019

Hot Retardant Loading

- The loading of an aircraft with retardant with one or more engines running.
- Hot Retardant Loading requires an approved base plan, trained personnel and concurrence by both the flight crew and base personnel.
- Neptune Bae-146 Airtankers are authorized for hot retardant loading upon approval of the ATBM (Air Tanker Base Manager).

Interagency Airtanker Base Operations Guide

Initial shut-Down:

The airtanker should be shut down for the first loading at an airtanker base from which the airtanker has not previously operated in the current season.

Flight crews will review procedures and equipment specific to that aircraft with the retardant ramp personnel.

Interagency Airtanker Base Operations Guide

All personnel used for loading airtankers will be trained in:

- Ground operation safety
- Traffic direction procedures
- Standard hand signals
- The use of safety equipment

ATBMs Responsibilities

- Ensure everyone that will be involved in hot retardant loading is trained annually.
  - Required training:
    - Review the Interagency Airtanker Base Operations Guide “Hot Retardant Loading”
    - Working knowledge of the standard hand signals
    - Base Orientation PowerPoint
    - Hot Retardant Loading PowerPoint
    - Hot Retardant Loading Plan
    - Hot Retardant Loading video
    - Hot Retardant Loading quiz for base personnel

ATBMs Responsibilities

- Ensure that each aircraft is shutdown and the initial briefing is given if the airtanker has not been into the Base this year.
- Maintain communication with the Ramp Manager (RAMP), Parking Tender (FWPT) and the pilot.
- Hot Retardant Loading will not be done if aircraft needs fuel. No Main Propulsion engines running.

Neptune BAe-146

Neptune Aviation Bae 146

Neptune Aviation Bae 146

- The BAe 146 is a 3000 Gallon Type I Airtanker.
- The BAe 146 can load retardant from either side .
- The loading valve on the BAe146 is set into the fuselage using existing aircraft services ports. This assures the pressurization capability of the Aircraft. Use of an extension is recommended.
- Fueling can only be accomplished under the right wing.

  No Fueling with engines running.

Loading Port

Overfill Protection

Overfilled retardant exits the aircraft out L/H forward door, aft of the Main Landing Gear. (Door #3)

- Maximum quantity of Tank is 3050 Gallons.
- Maximum retardant load is 3000 Gallons.
- Overfill activates at 3030-3045 Gallons.
- Loading should be stopped when the Micro Motion or Aircraft Quantity Gauge indicates that the requested load has been delivered. Always stop loading at the first indication. If **RED** indicator light comes on STOP IMMEDIATELY.

Ramp Personnel Responsibilities

Ramp Personnel Safety

- Required PPE
  - High visibility vest
  - Hearing protection
  - Eye protection
  - VHF radio with Headset (headset may act as hearing protection)
- Suggested PPE
  - Sunscreen
  - Hat
- Anytime there are aircraft operations the required PPE will be worn.

Ramp Personnel Safety

- Stay within eye sight and radio communication with the Pilot.
- Stay in front of the aircraft and do not permit anybody to walk between you and the aircraft.
- Once you release the airtanker out of the pit, move out of the way quickly but do not run on the ramp.
- Never turn your back to aircraft.

Loader’s Safety & Responsibilities

Loaders Safety

1. Stay in the “Safety Zone” until Parking Tender signals to load.

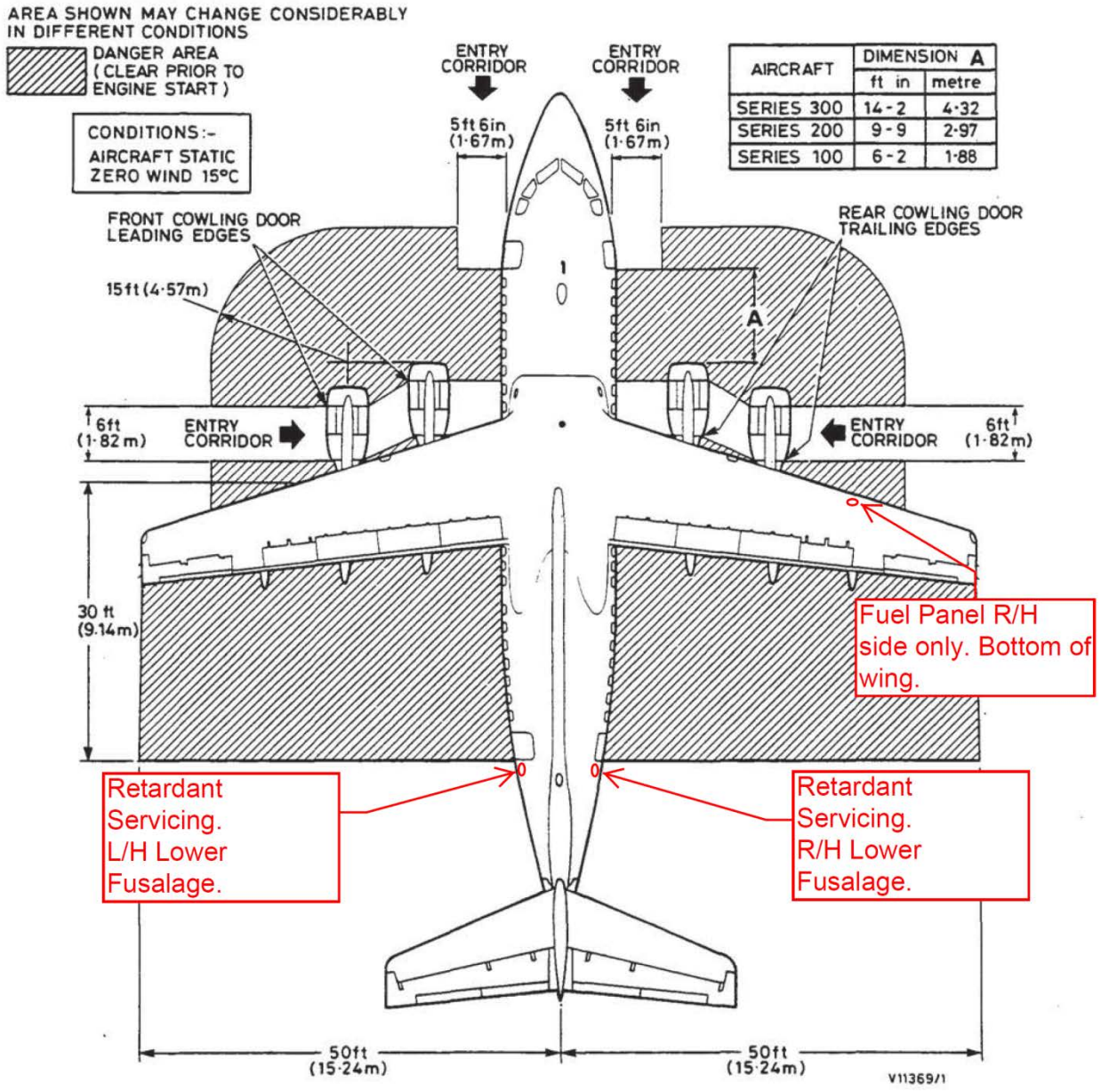
2. Stay away from the Engine Inlets at all times.

3. Danger Areas are identified according to the BAe-146 Airport Planning Manual.

4. Don’t lean against the plane while loading - plane will settle when loaded

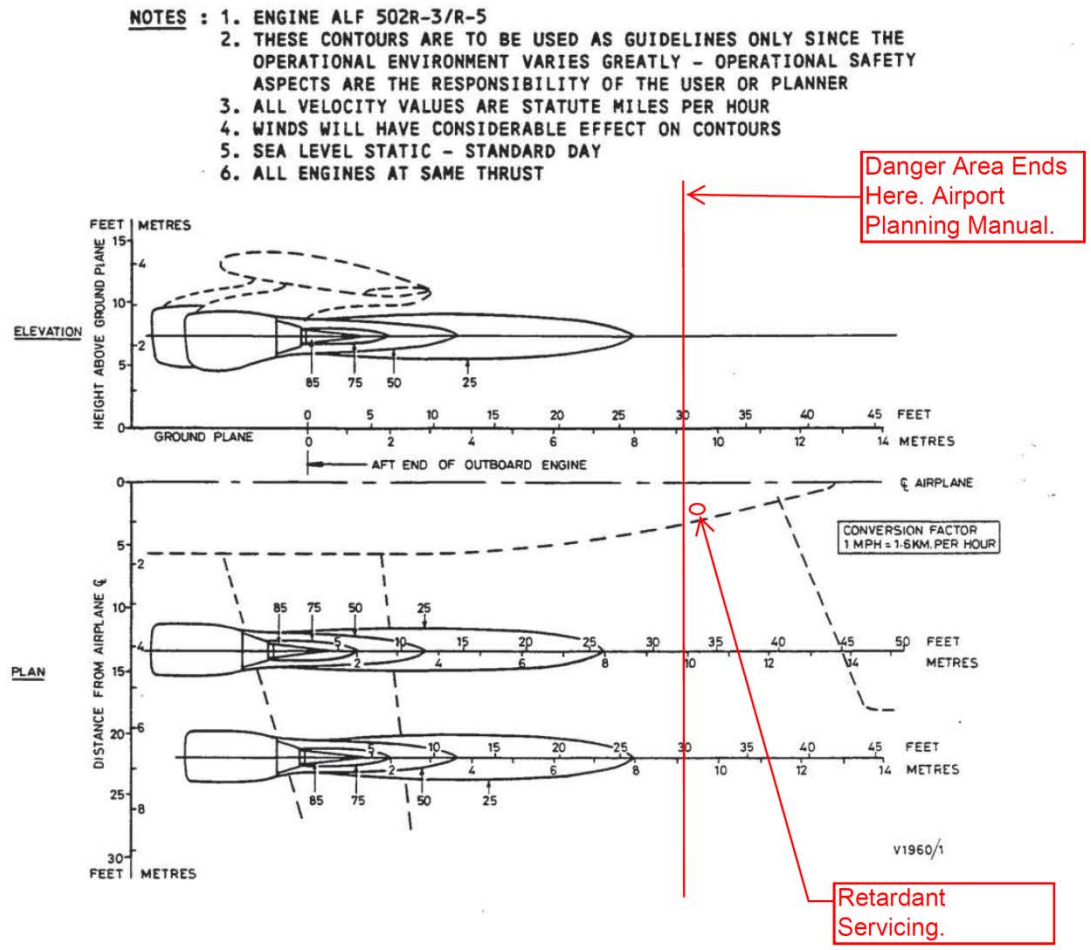
5. Wear all the required safety equipment:
    Eye protection
    Hearing protection
    Gloves

Retardant/ Fuel Servicing



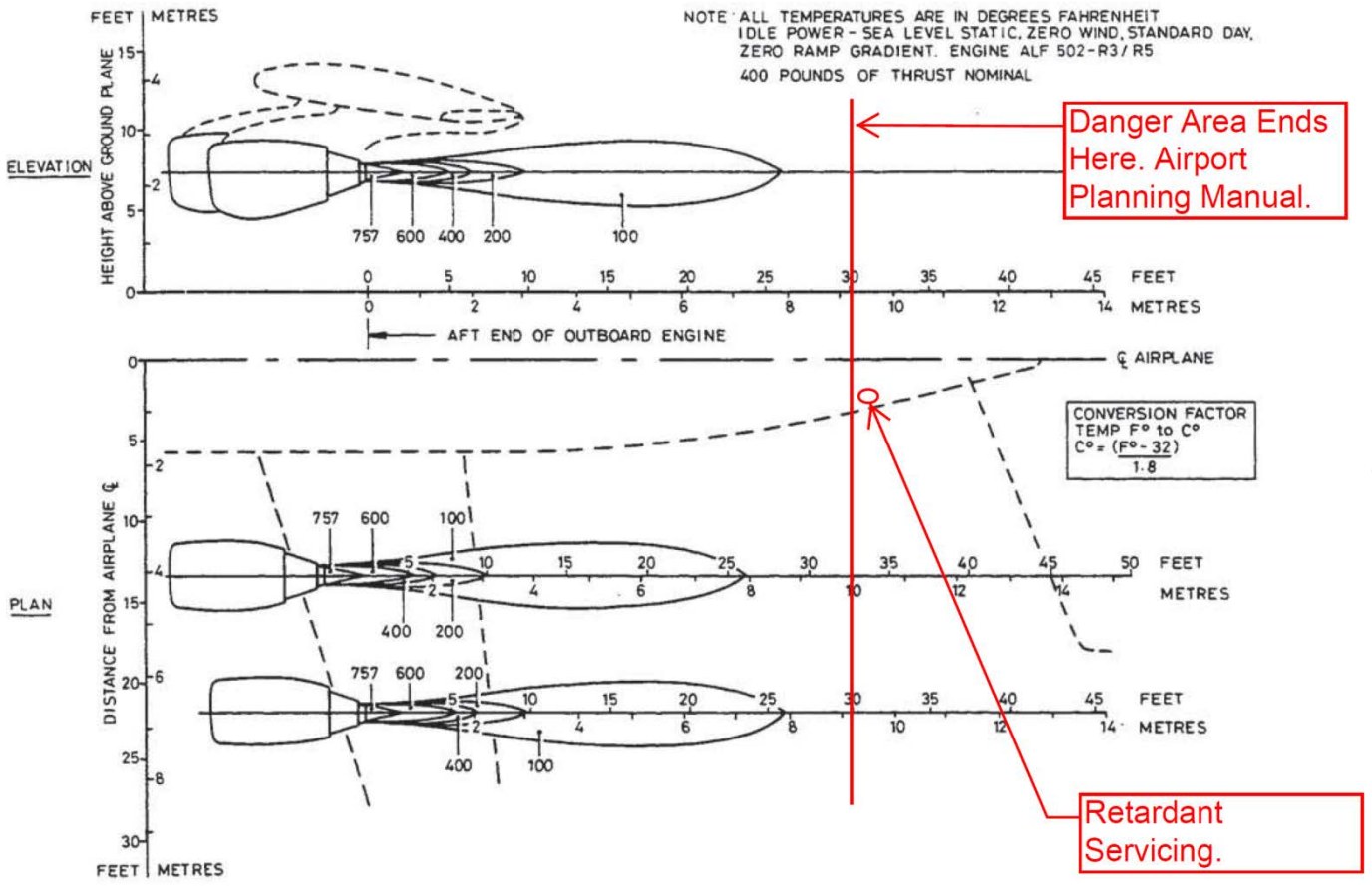
4.1 DANGER AREAS

Engine Exhaust Velocity Contours



4.6 JET ENGINE EXHAUST VELOCITY CONTOURS, IDLE POWER

Engine Exhaust Temperature Contours



6.1.6 JET ENGINE EXHAUST TEMPERATURE CONTOURS, IDLE POWER

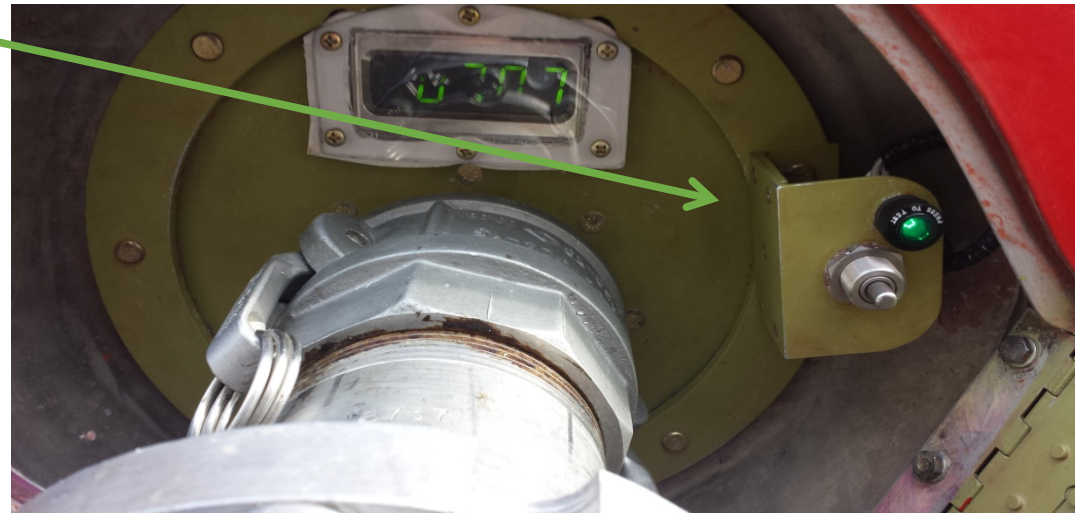
Loaders Responsibilities

1. Maintain visual contact with the Parking Tender while loading.

2. Make sure that all safety procedures are followed.

Loaders Responsibilities

- Wait for signal from the Parking Tender to approach the aircraft.
- Approach from the rear of the wing.
- Once connected, maintain eye contact with the Retardant Quantity Gauge on the Loading Port.
- A **green light** will illuminate when the Tank is ready to load.
- If **green** light is extinguished IMMEDIATELY STOP loading retardant.



Loaders Responsibilities-indicator lights

- **yellow light** will warn that the tank has reached approximately 2850 gallons.
- **red light** will illuminate at 3000 gallons. <u>STOP LOADING RETARDANT</u>.

Aircraft location

Indicator light definition

Loaders Responsibilities

- Follow the Parking Tender's hand signals
- Load the airtankers utilizing the Micro Motion or the aircraft's Retardant Quantity Gauge.
- Loading should be stopped when either the Micro Motion or aircraft's Retardant Quantity Gauge indicates that the requested load has been delivered. Always stop loading at the first indication.

Aircraft Retardant Quantity Gauge

- If Red light illuminates on aircraft,

  <u>STOP IMMEDIATELY</u>.

Parking Tender’s Responsibilities

- If you cannot see the Pilot, the Pilot cannot see YOU.

- Ensure you move to the side to be able to see the pilot and the loader during hot retardant loading.

Hand Signals

EXHIBIT A-1: AIRTANKER BASE RAMP OPERATIONS HAND SIGNALS

Emergency Procedures

In the event of any of the following, immediately cease hot retardant loading operations:

- Loss of communications.
- Any type of fire on or near the aircraft.
- Tank door opens.
- If any Neptune Flight/Ground Crew announce/signal to STOP loading.
- Leaking of any fluids.
- Unauthorized personnel or vehicle approaching the aircraft.
- If Green light inside service panel at loading point extinguishes.

Emergency Procedures

In the event of an emergency, immediately:

- Notify the pilot via radio and/or hand signal. In the case of a fire, a fire extinguisher may only be discharged if instructed to do so by the pilot. Base personnel may assist in emergency operations where their capabilities, equipment, training and PPE are not exceeded.
- Signal to the loader to stop loading.
- Notify the ATBM/Base.
- ATBM follows base specific emergency procedures as outline in the base supplement.