# Aircraft Rescue Firefighting Guide

**UPS Airlines**
**Flight Operations**
October 2018

# A MESSAGE FROM THE UPS AIRLINES CHIEF PILOT

Global Operations Center
825 Lotus Avenue
Louisville, KY 40213

To: All Airport Rescue & Fire Fighting Department Chiefs
From: UPS Airlines, Flight Operations
Date: October 2018

UPS has provided your department with this updated guide depicting UPS cargo aircraft. This document provides basic aircraft layouts and important information relevant to Aircraft Rescue & Fire Fighting (ARFF) responders. These include locations of significant components, freight containers, and crew/occupant seating. Also included are tactical considerations for the incident commander.

This guide may be used for ARFF training and maintained as a reference guide for future emergency response to UPS aircraft. The "Considerations for ARFF Responding to a UPS Aircraft" were developed with input from highly experienced members of the ARFF Working Group. This guide was created in cooperation with UPS Airlines Flight Operations and the Independent Pilots Association with contributions by the SDF Department of Public Safety.

It is Intended for **REFERENCE ONLY** and may be updated by UPS Airlines as the UPS fleet evolves to different models.

Safe Regards,

Captain Chris Williams
Chief Pilot
UPS Airlines

Global Operations Center
825 Lotus Avenue
Louisville, KY 40213

# UPS Aircraft Rescue Firefighting Guide

The UPS policy book defines the company's values, mission, and strategy. A common theme amongst these items is safety. The safety of our employees, customers, and the general public is of utmost importance. UPS believes that there is no room for unsafe work practices in any aspect of our operations. This document was designed with Aircraft Rescue and Fire Fighting (ARFF) needs in mind. It provides important safety information to improve the ability of ARFF departments to respond to UPS Aircraft during an emergency. The information included in this document is for reference use only, and was developed with input from experienced members of the ARFF Working Group.

Questions and comments regarding this reference guide can be directed to:

Jeff Lassell
UPS Airlines ARFF Training Coordinator
802 Grade Lane
Louisville, Kentucky 40213
Contact phone: 502-338-4402
Email: jlassell@ups.com

## Contents







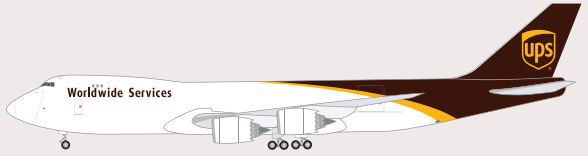










# BOEING 757-200F

UPS Aircraft Rescue Firefighting Guide

**Max. Payload:** 86,900 LBS

**Main Deck:** 15 containers

**Max. Fuel Load:** 75,000 LBS
11,240 GAL
(42,548 LIT)

**Range:** 1,840-1,950 NM

**Cruising Speed:** 465 KTS/535 MPH

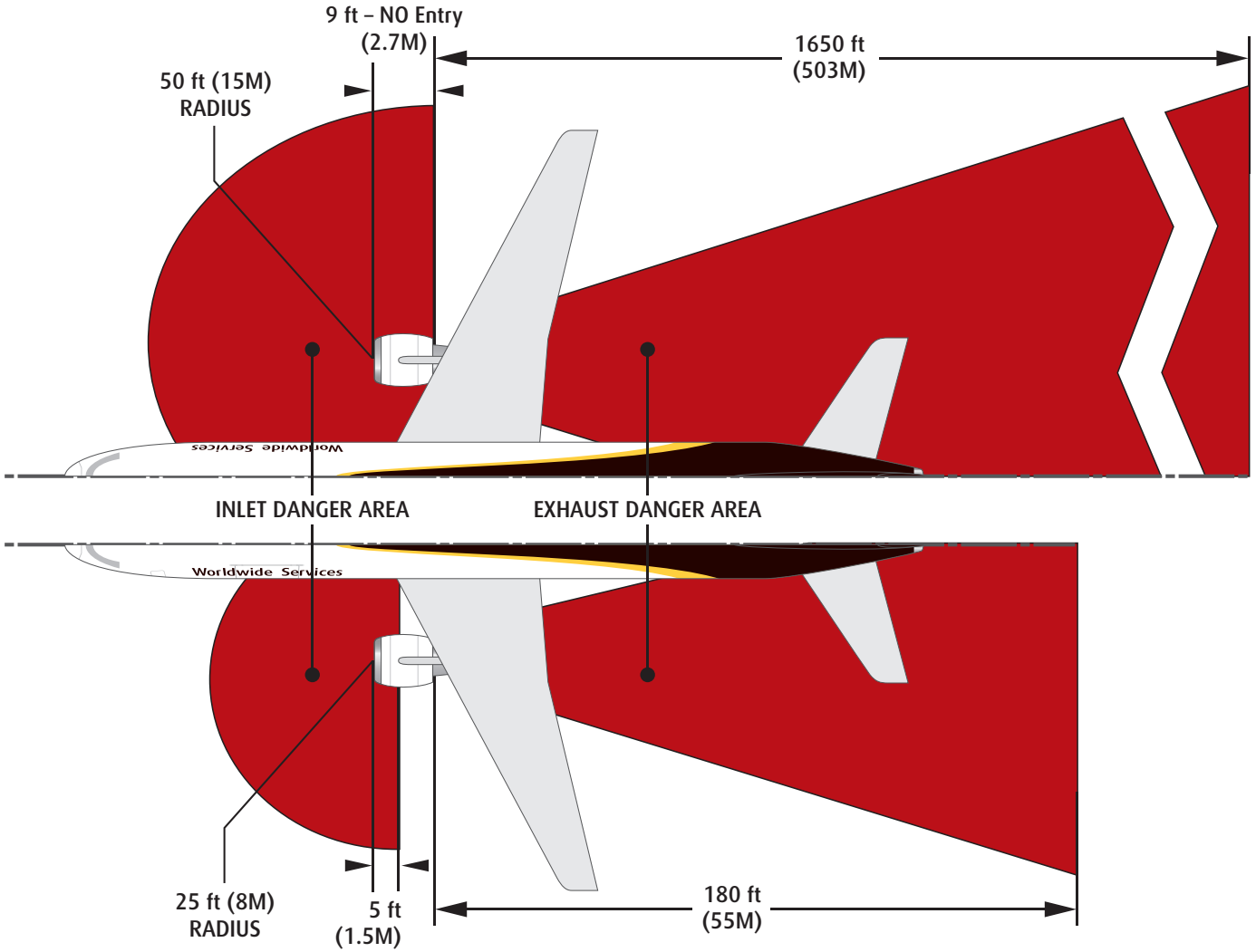
**Engines:** Rolls Royce RB211
Pratt & Whitney 2040


**For Emergency Responders;**
**Direct Contact Numbers to**
**UPS Flight Operations**

UPS System Operations: 502.359.5350

UPS Flight Control: 502.359.5100

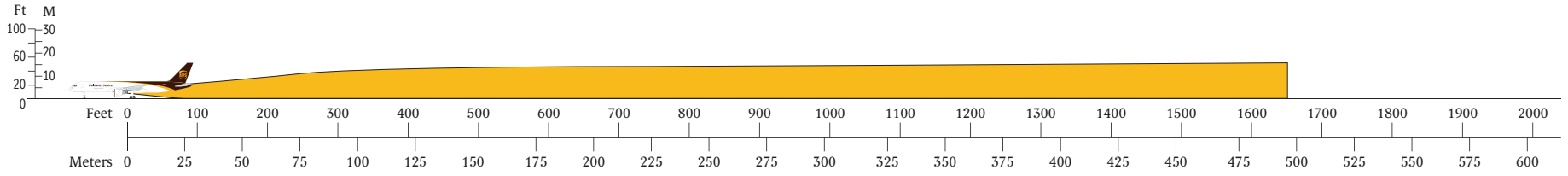
UPS HAZMAT Support Center: 502.380.1800
800.554.9964




**CAUTION**

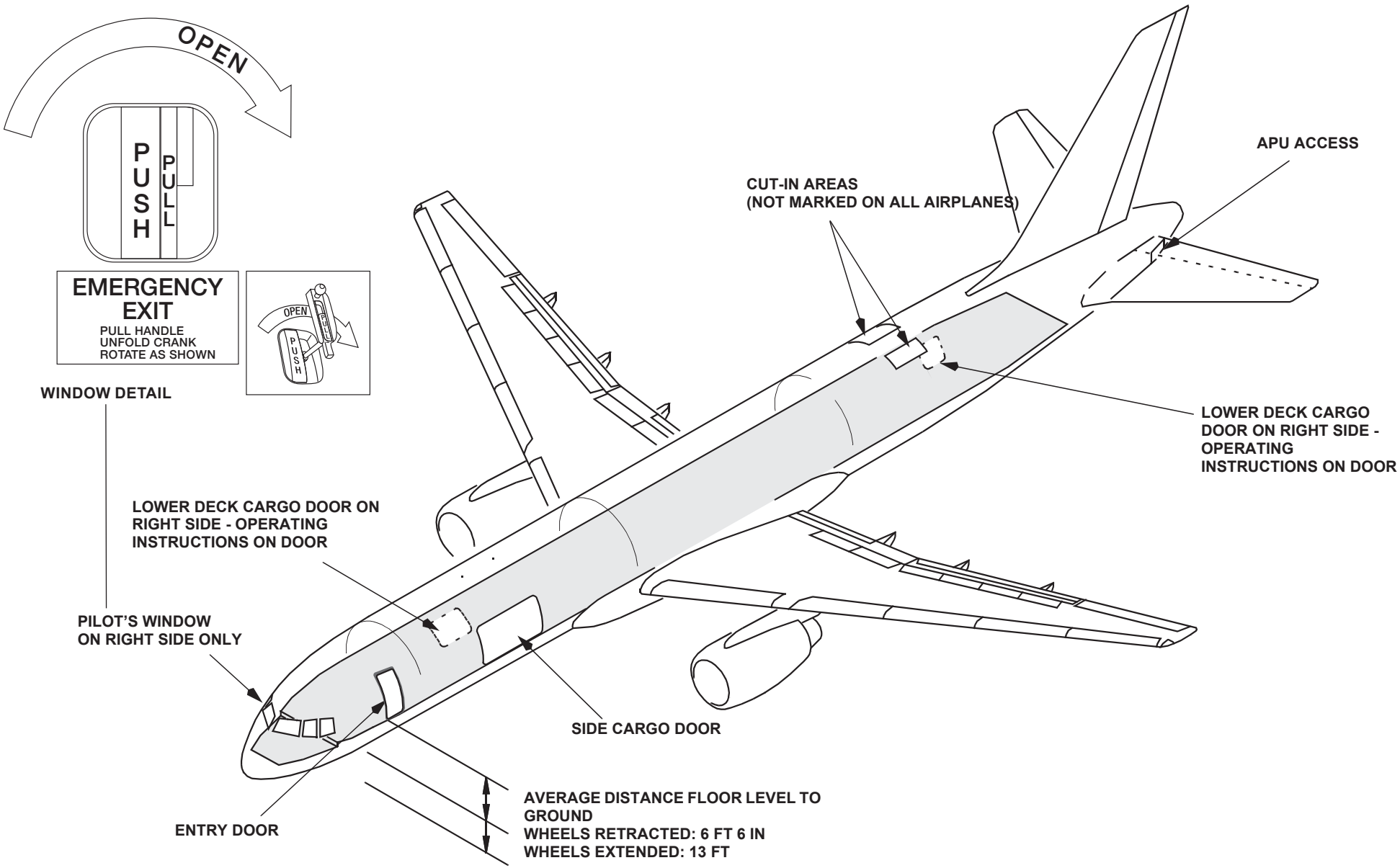
Typical Intake & Exhaust Hazards

## TAKE OFF THRUST VISUALIZED



# EMERGENCY RESCUE ACCESS

BOEING
**757-200F**

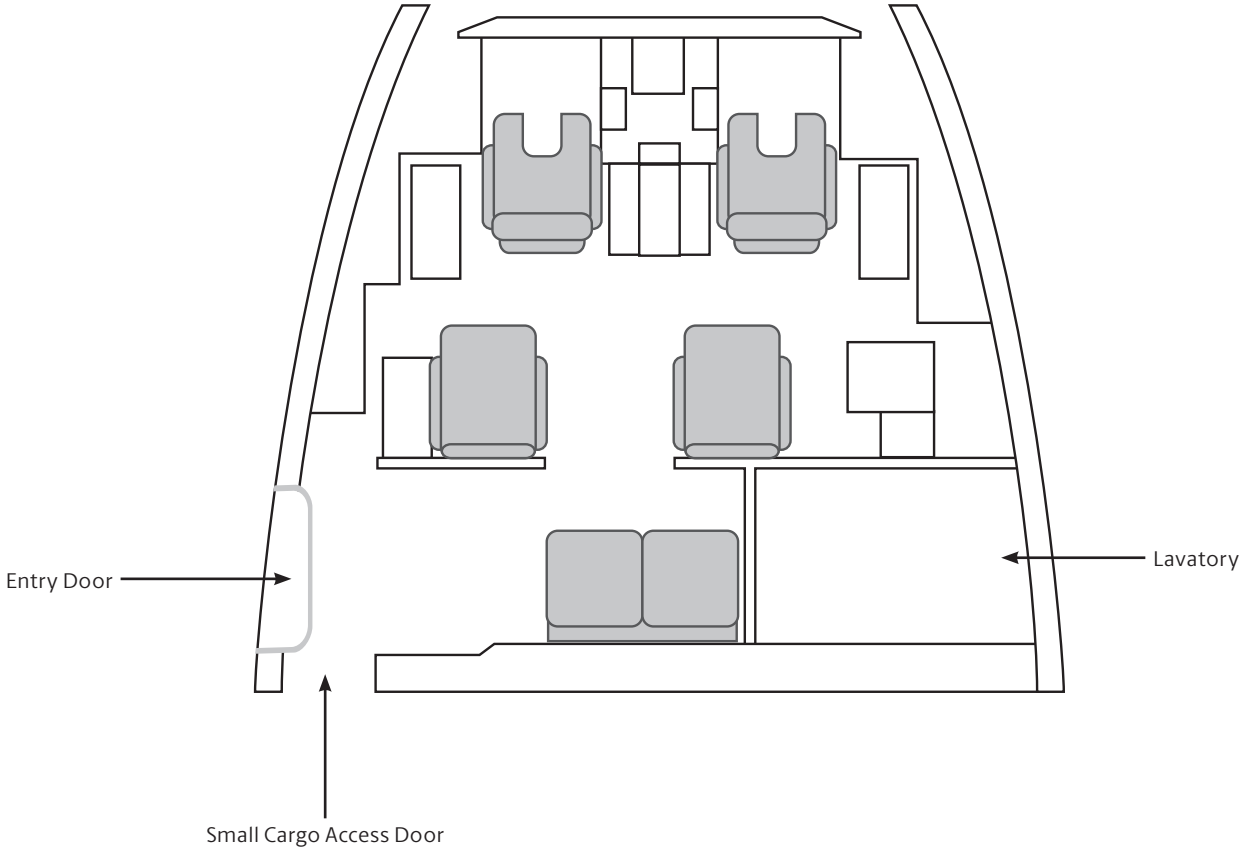



**For Reference Only,** some configurations may vary.

# EMERGENCY RESCUE ACCESS

BOEING
## 757-200F

**MAXIMUM SEATING CAPACITY FOR FLIGHT:**
SIX (6) PEOPLE

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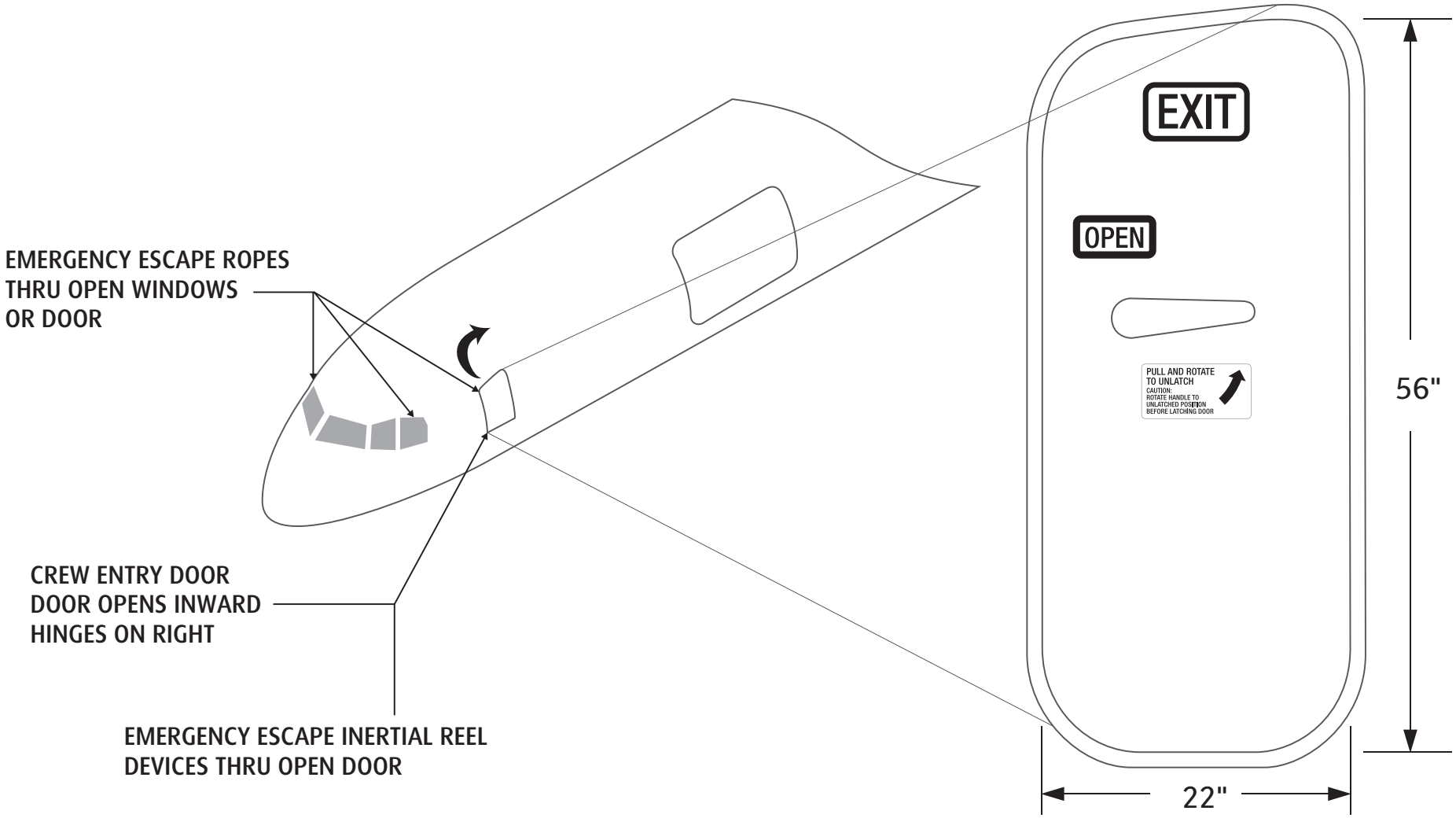
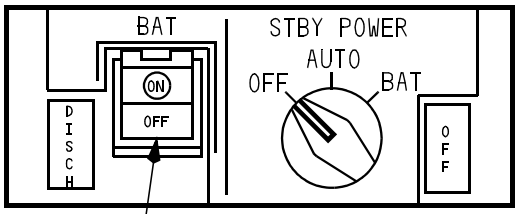
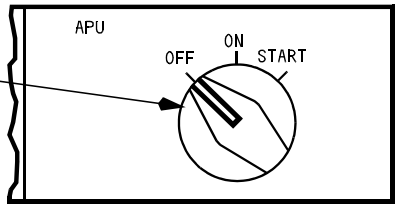

EMERGENCY ESCAPE ROPES
THRU OPEN WINDOWS
OR DOOR
CREW ENTRY DOOR
DOOR OPENS INWARD
HINGES ON RIGHT
EMERGENCY ESCAPE INERTIAL REEL
DEVICES THRU OPEN DOOR
EXIT
OPEN
PULL AND ROTATE
TO UNLATCH
CAUTION:
ROTATE HANDLE TO
UNLATCHED POSITION
BEFORE LATCHING DOOR
56"
22"

# FLIGHT DECK CONTROL SWITCH LOCATIONS

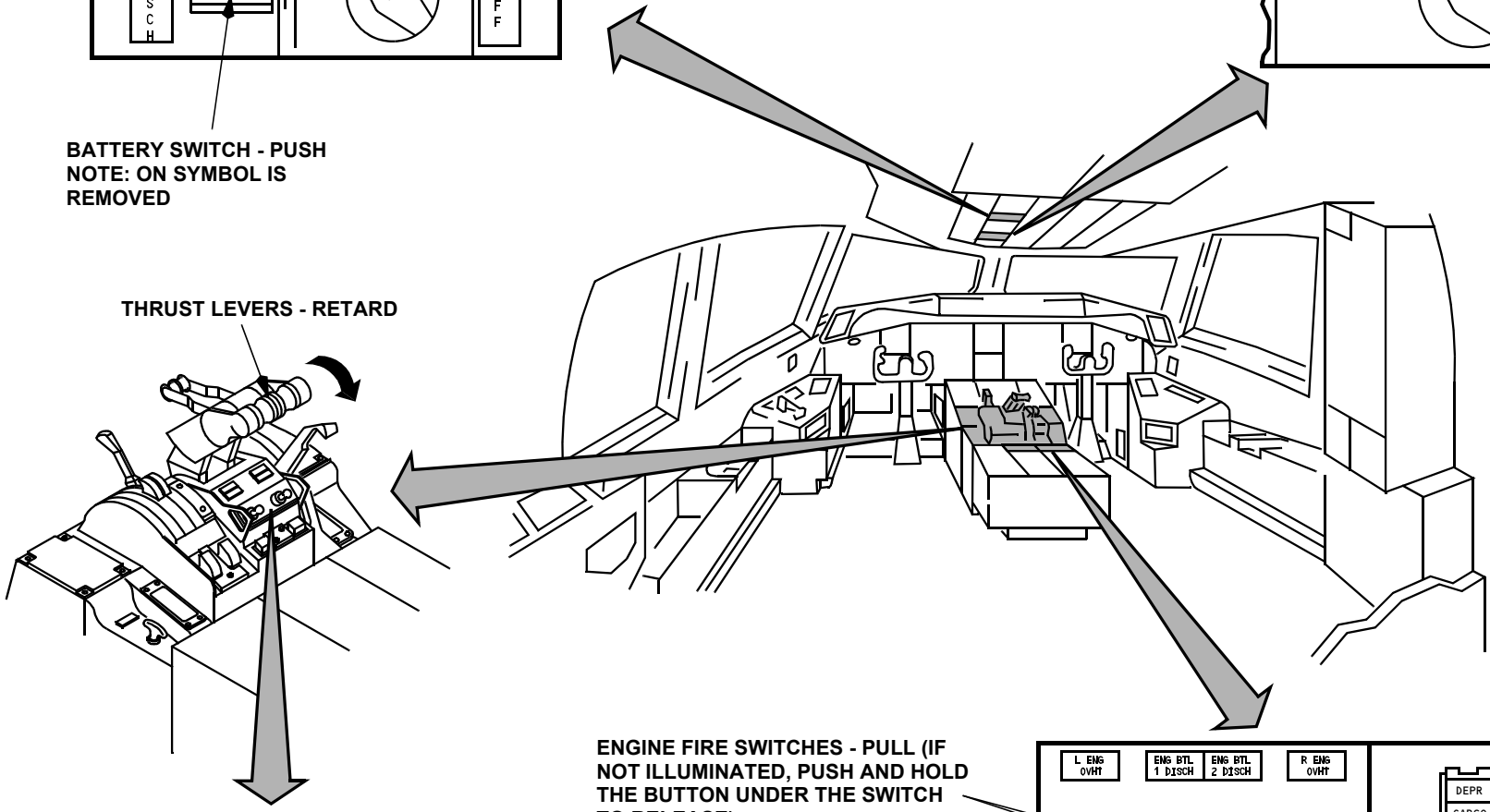
BOEING
757-200F



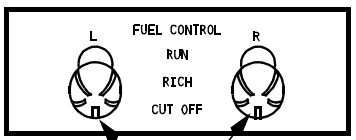

BATTERY SWITCH - PUSH
NOTE: ON SYMBOL IS REMOVED




APU CONTROL SWITCH - OFF

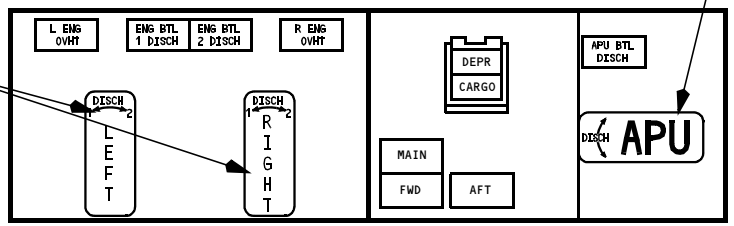


THRUST LEVERS - RETARD




FUEL CONTROL SWITCHES - CUTOFF

ENGINE FIRE SWITCHES - PULL (IF NOT ILLUMINATED, PUSH AND HOLD THE BUTTON UNDER THE SWITCH TO RELEASE)

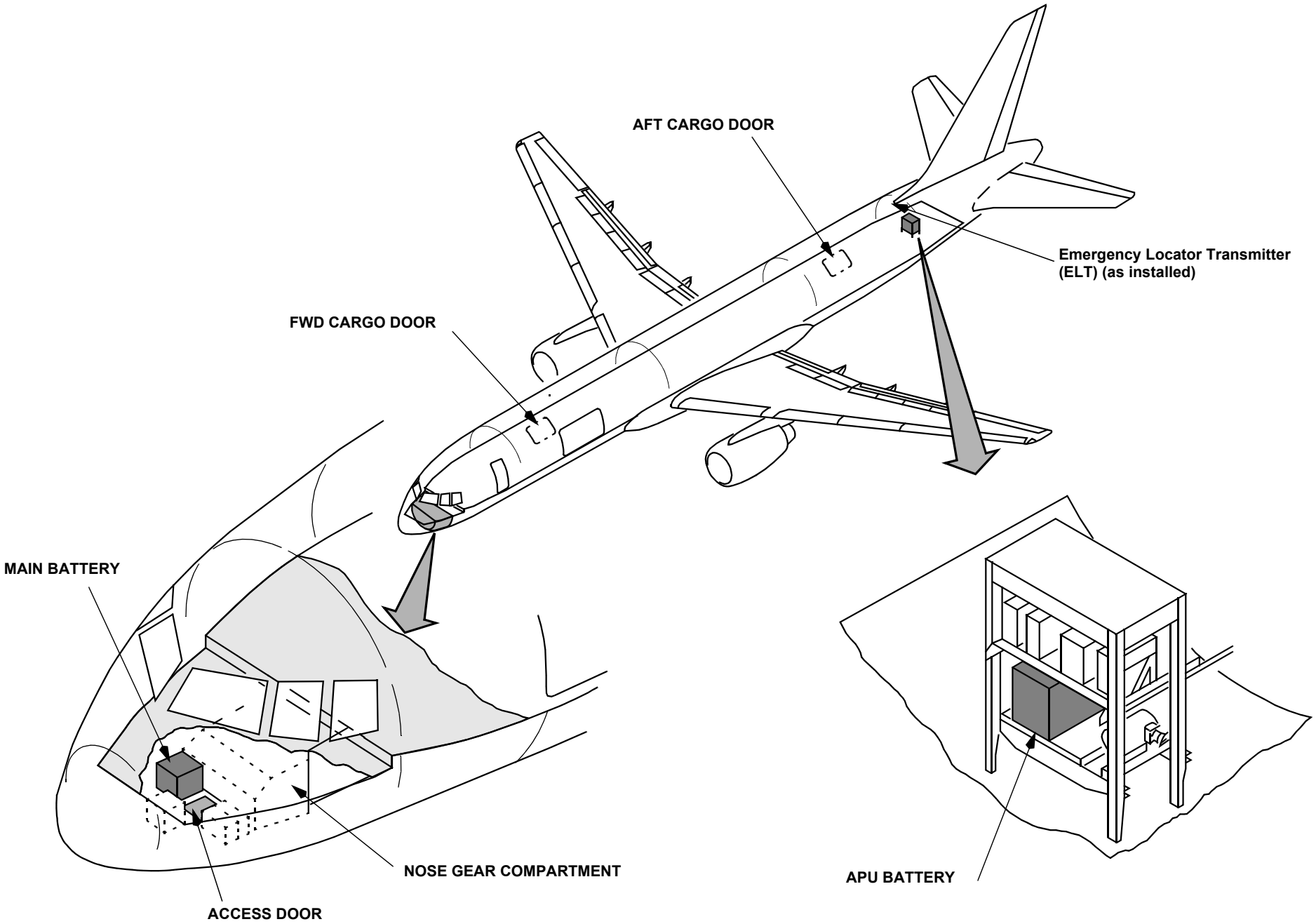



APU FIRE SWITCHES - PULL (IF NOT ILLUMINATED, PUSH AND HOLD THE BUTTON UNDER THE SWITCH TO RELEASE)

CRITICAL SWITCH LOCATIONS AND THEIR OPERATION ARE SHOWN WITH THE EXPANDED VIEWS OF THE CONTROL MODULES.

# BATTERY LOCATIONS

BOEING
## 757-200F

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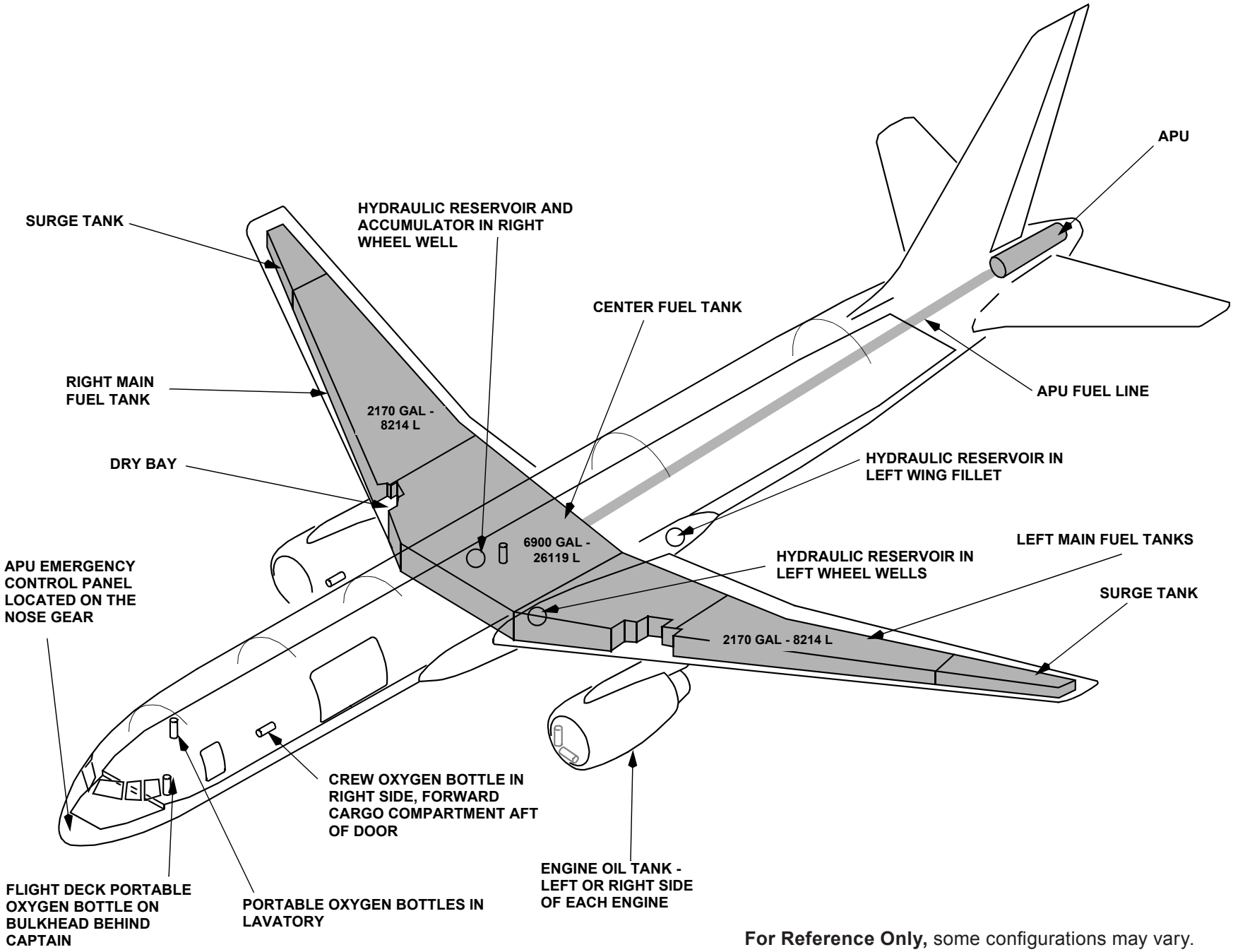
# FLAMMABLE MATERIAL LOCATIONS

BOEING
## 757-200F

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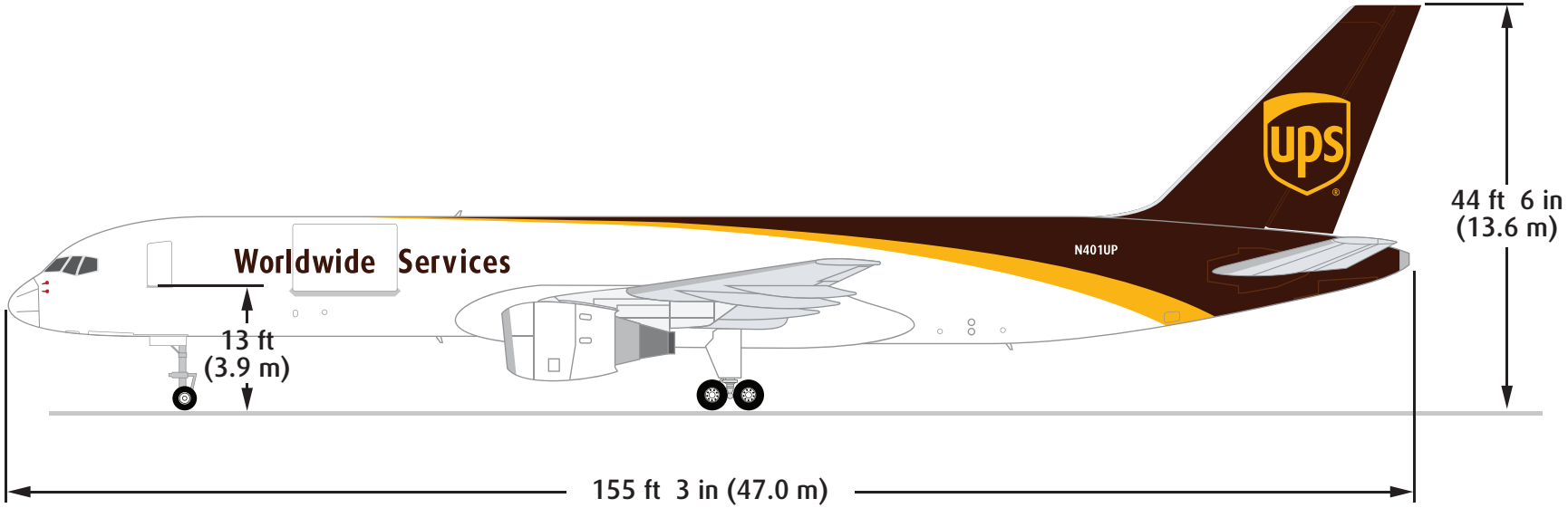
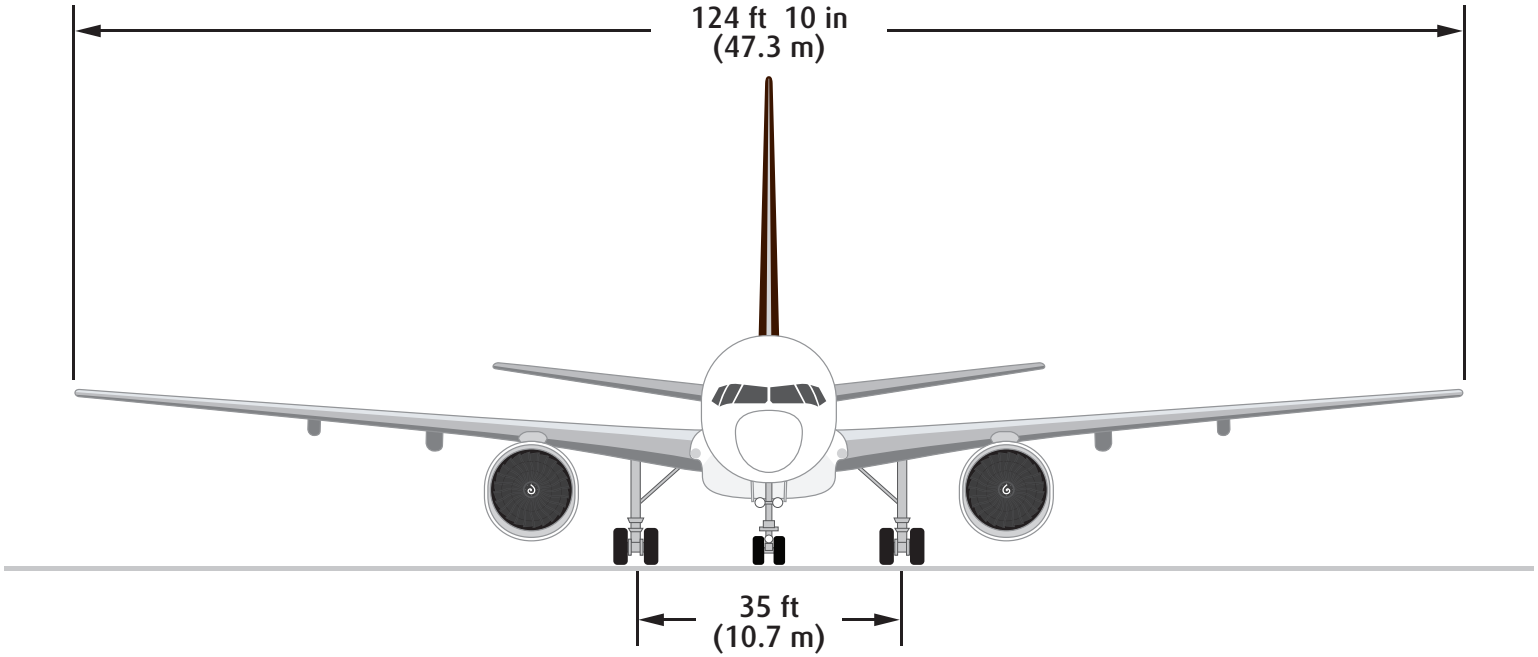
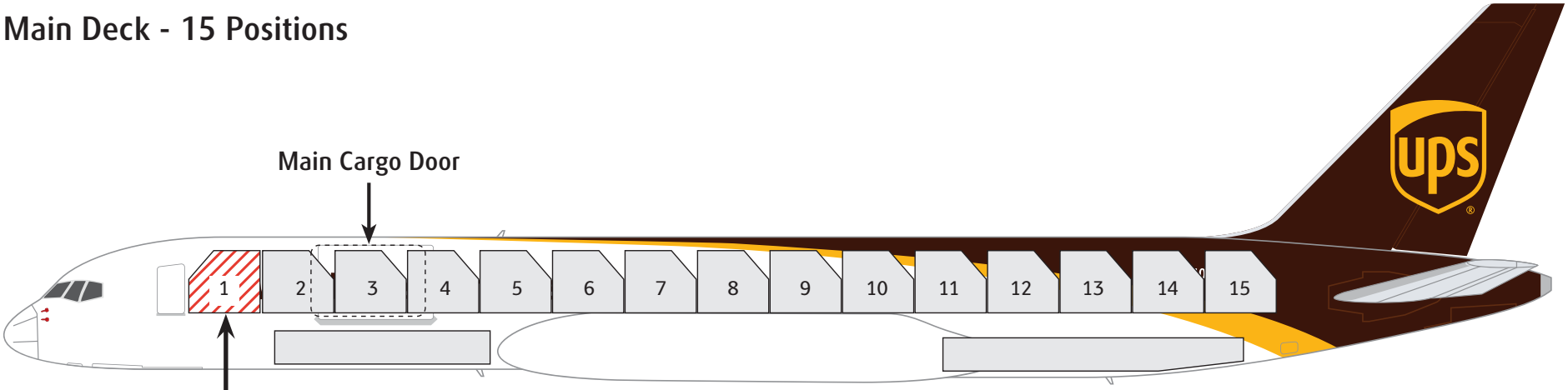
# AIRCRAFT DIMENSIONS

BOEING
## 757-200F



## Main Deck - 15 Positions



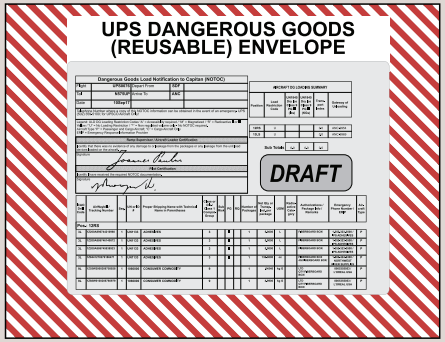

The first location for **"ACCESSIBLE, CARGO AIRCRAFT ONLY"** shipments (if carried).

**WARNING: ANY POSITION MAY CONTAIN HAZMAT!**

Definitions:

- **"CARGO AIRCRAFT ONLY" (CAO)** shipments are hazmat that would not be authorized aboard a passenger-carrying aircraft. CAO shipments requiring in-flight accessibility by the crew ("ACCESSIBLE") will be loaded in the red hashed position. Additional CAO positions on the main deck may added by creating a walkway between subsequent positions.
- **"PASSENGER QUANTITY SHIPMENTS"** are hazmat shipments that would be authorized aboard a passenger-carrying aircraft. They may be loaded anywhere in UPS aircraft.

### NOTOC ENVELOPE



# CONSIDERATIONS FOR ARFF WHEN RESPONDING TO UPS AIRCRAFT

BOEING
**757-200F**

## RESOURCES:

- Seek local UPS management personnel as soon as possible for on scene assistance to incident command. Call UPS Flight Control (502-359-5100) if contact info is not available.
- Contact UPS Aircraft Maintenance control for technical assistance/gaining access (502-359-0001). A mechanic can also be requested for on scene assistance
- Hazmat information is located in the cockpit (NOTOC envelope). See crew, or request a copy from UPS Flight Control (502-359-5100)
- These considerations do not preclude the use of best judgment by the incident commander

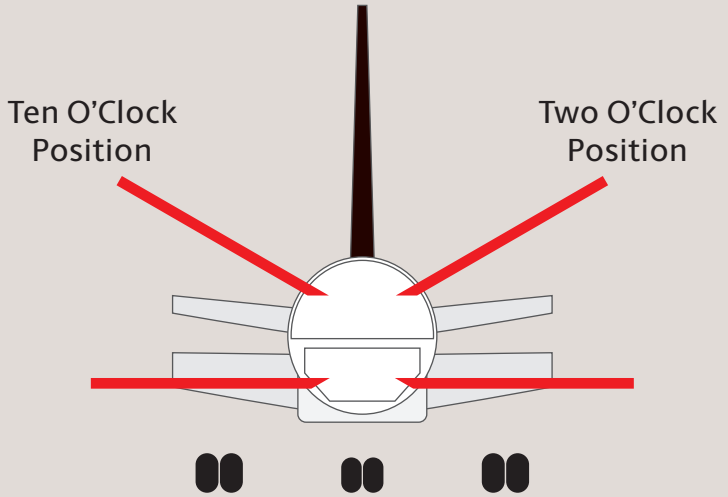
## SAFETY:

- **Landing gear:** consider underneath the aircraft as a collapse zone until determined to be safe.
  - Gear pins are located in the cockpit. Consult mechanic/aircraft maintenance for guidance
  - If unable to install gear pins, landing gear may be unstable
- **Engines running:** use extreme caution around operating engines
  - Inlet and exhaust hazards
  - Foreign object debris ingestion can cause catastrophic engine failure
- **Hot brakes:** do not approach from side, front, or rear
  - Approach wheels at a 45 degree angle
  - Beware of tire bursting and thermal fuse plug discharge due to heat
- **Prevent rolling:** ensure parking brake set, or install chocks on nose gear
- **Tail tipping:** weight of water/foam injected into fuselage can cause tail tipping.
  - Monitor nose strut extension and tire bulge changes for indicator of tipping

## TACTICAL CONSIDERATIONS (AFTER RESCUE OF CREW):

- Use thermal imaging camera to locate fire within fuselage
  - Note: research shows that thermal imaging may not show fire within a unit load device (ULD) container though the fuselage, until the fire breaches the container
- Starve fire of oxygen (close doors/windows/hatches)
- Pierce fuselage
  - Use the longest available piercing device to reach into a ULD container
  - Piercing depths vary from 12 to 58 inches depending on aircraft, container design, and location on aircraft. Average depth is about 26 inches
- Apply appropriate extinguishing agent
- When discharging halotron into cargo area, avoid ventilating as much as possible

## PIERCING LOCATIONS




### Additional Aircraft Information

- **AIRBUS:** https://www.airbus.com/aircraft/support-services/airport-operations-and-technical-data/aircraft-rescue-firefighting-charts.html
- **BOEING:** http://www.boeing.com/commercial/airports/rescue_fire.page

# AIRBUS A300-600F

UPS Aircraft Rescue Firefighting Guide

**Max. Payload:** 121,730 LBS

**Main Deck:** 22 Containers
**Lower Deck:** 7 Containers

**Max. Fuel Load:** 120,000 LBS
18,000 GAL
(68,100 L)

**Range:** 2,000 NM

**Cruising Speed:** 453 KTS/521 MPH

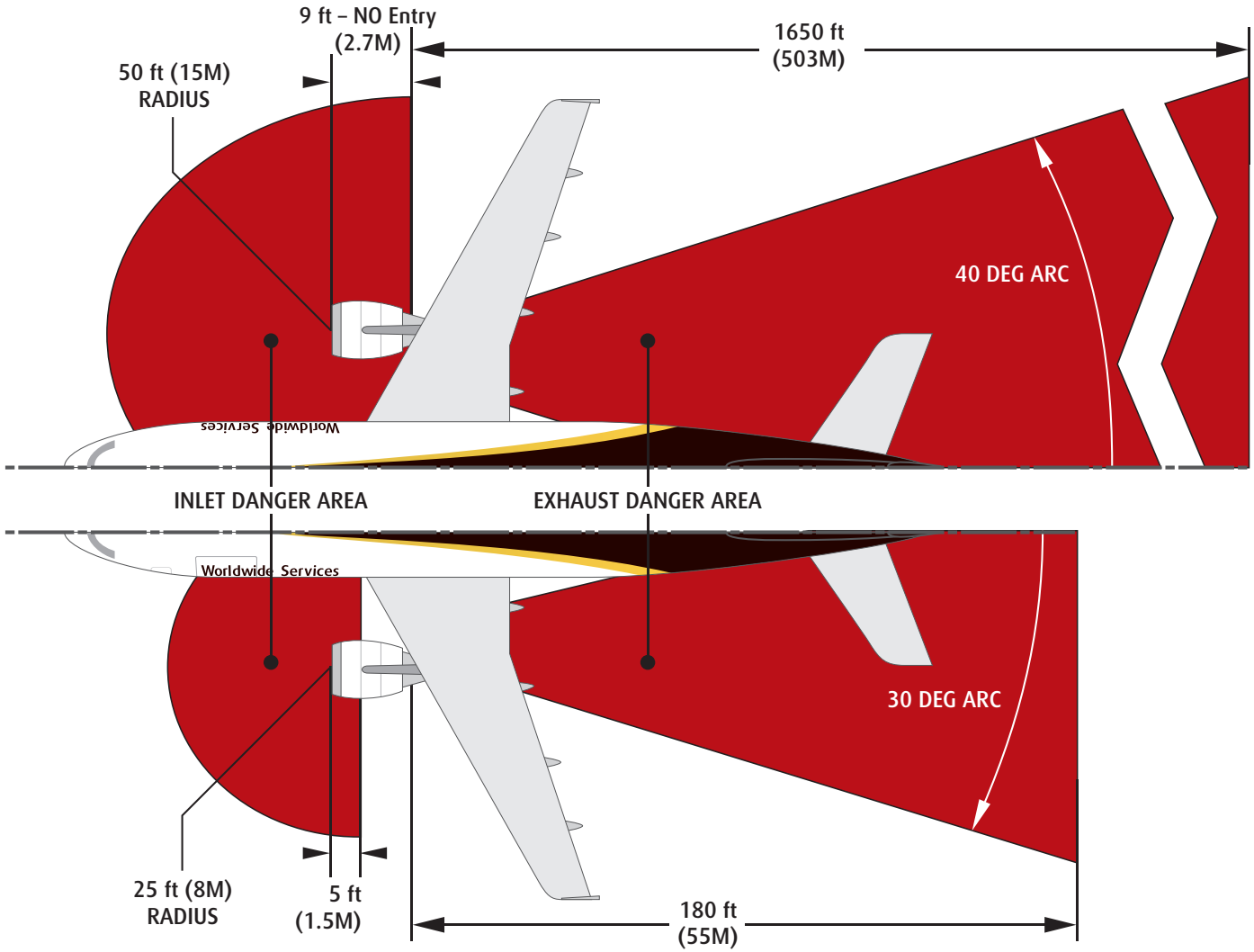
**Engines:** Pratt & Whitney 4158


**For Emergency Responders;
Direct Contact Numbers to
UPS Flight Operations**

UPS System Operations: 502.359.5350

UPS Flight Control: 502.359.5100

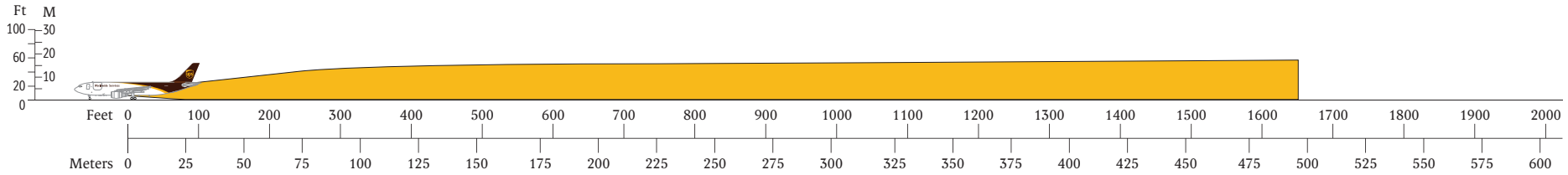
UPS HAZMAT Support Center: 502.380.1800
800.554.9964

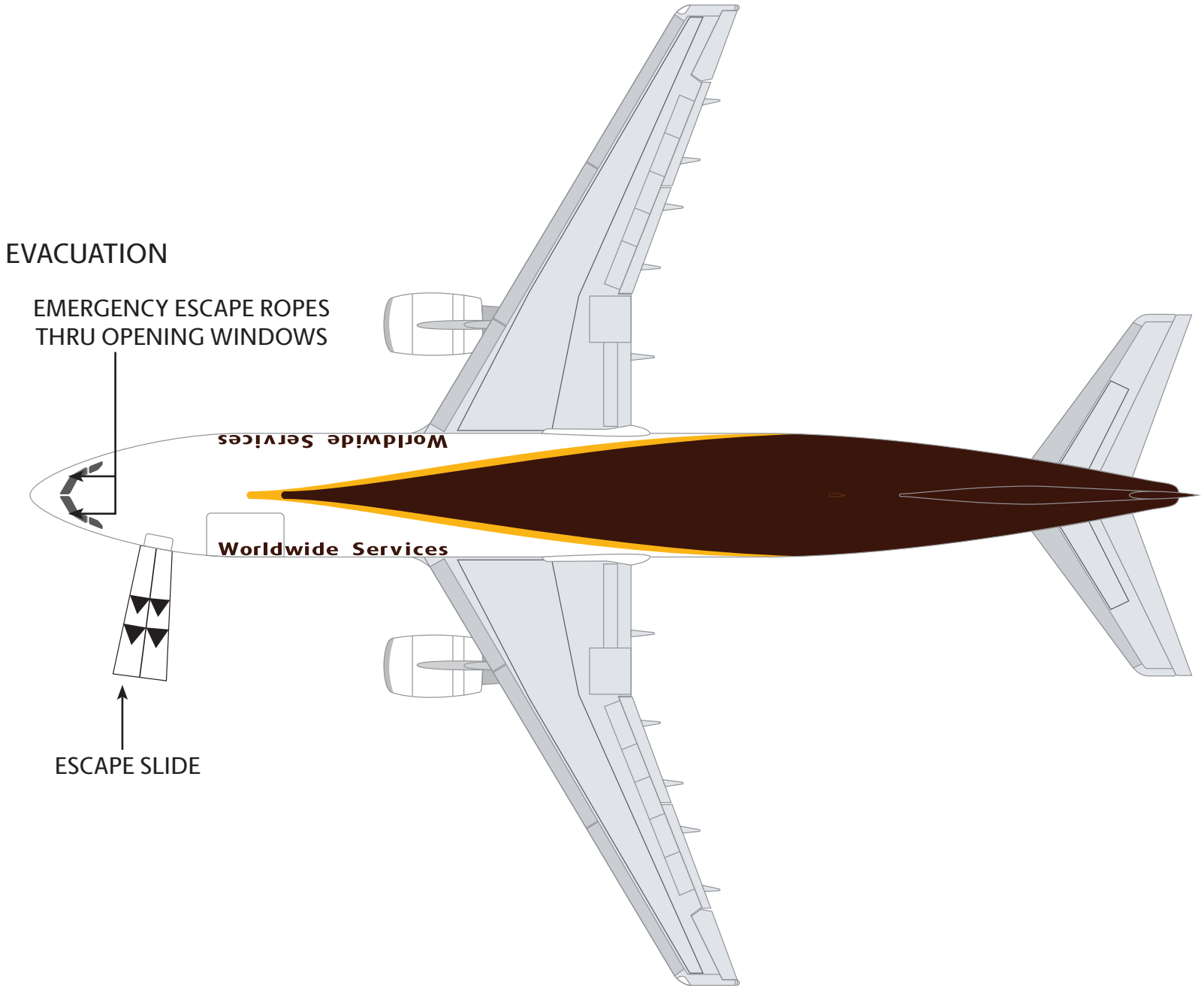



**CAUTION**

Typical Intake & Exhaust Hazards

## TAKE OFF THRUST VISUALIZED

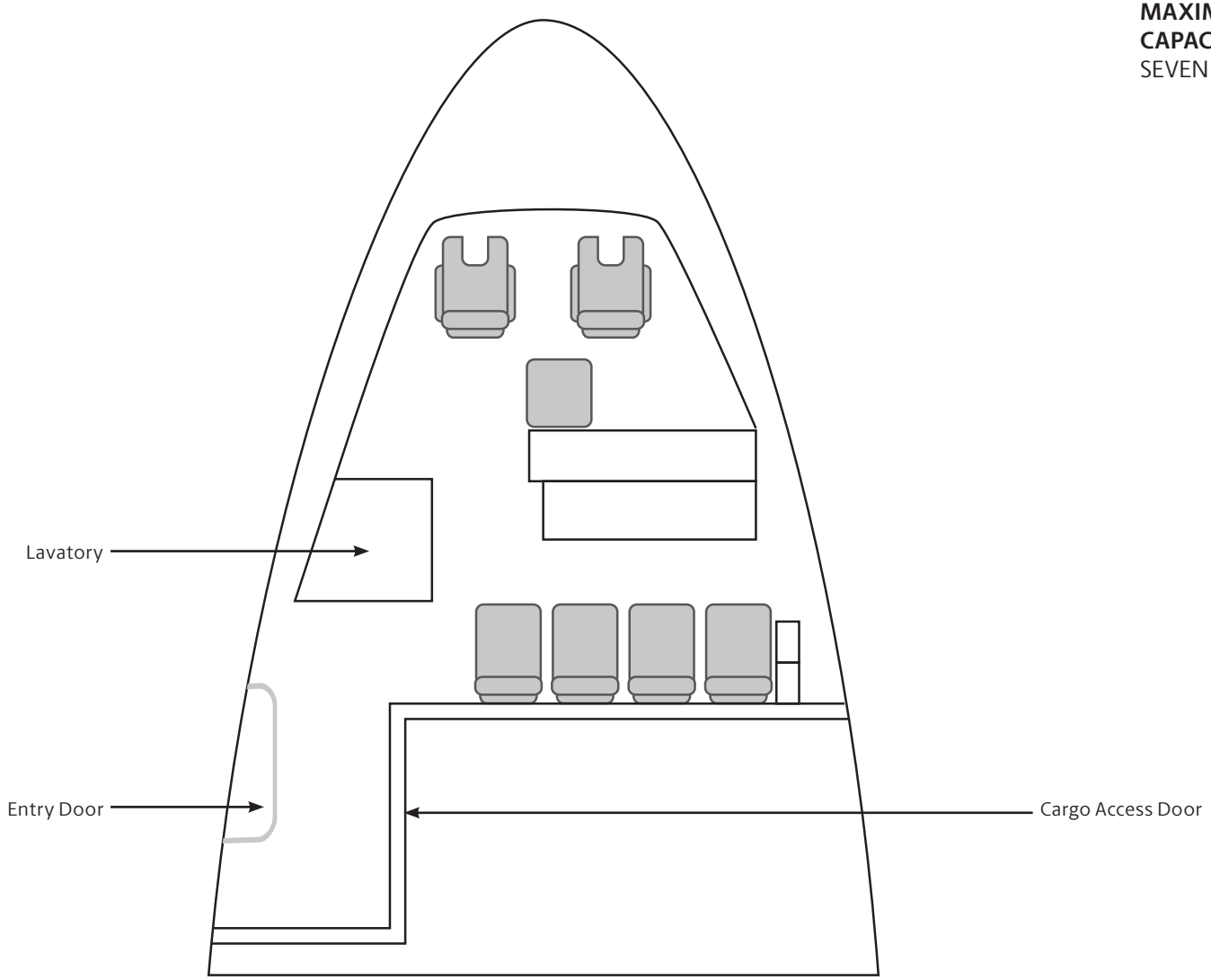



EVACUATION
EMERGENCY ESCAPE ROPES
THRU OPENING WINDOWS
Worldwide Services
Worldwide Services
ESCAPE SLIDE

# EMERGENCY RESCUE ACCESS

AIRBUS
## A300-600F

**MAXIMUM SEATING CAPACITY FOR FLIGHT:**
SEVEN (7) PEOPLE



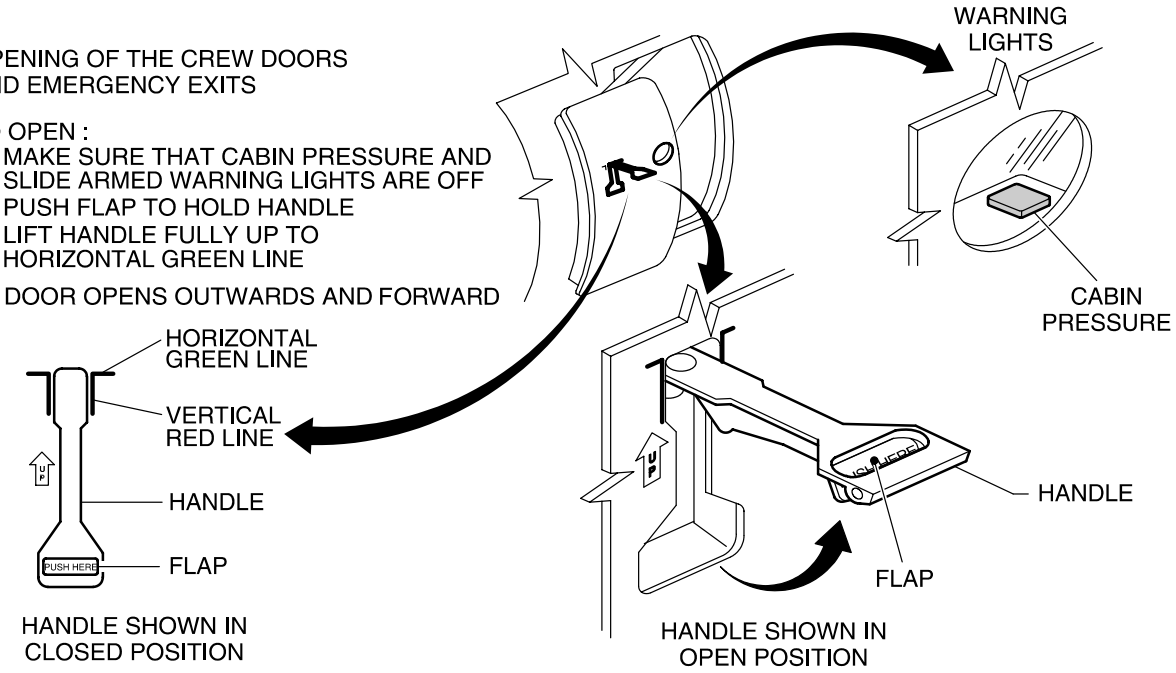

**For Reference Only,** some configurations may vary.

## EXTERNAL CONTROL HANDLES OF CREW DOORS

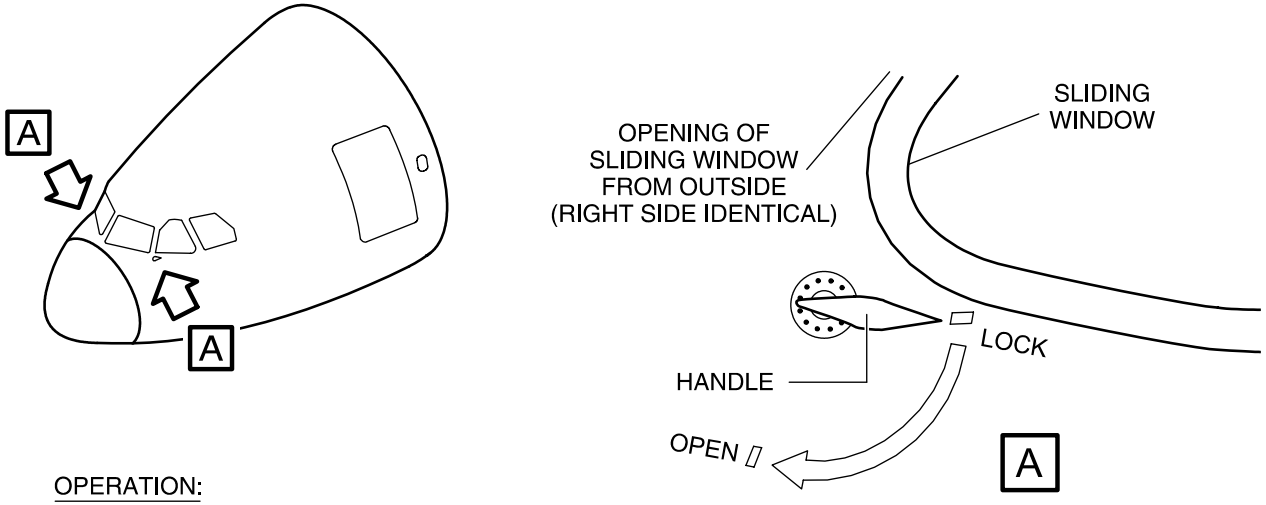
OPENING OF THE CREW DOORS
AND EMERGENCY EXITS

TO OPEN :
1 - MAKE SURE THAT CABIN PRESSURE AND SLIDE ARMED WARNING LIGHTS ARE OFF
2 - PUSH FLAP TO HOLD HANDLE
3 - LIFT HANDLE FULLY UP TO HORIZONTAL GREEN LINE

- DOOR OPENS OUTWARDS AND FORWARD



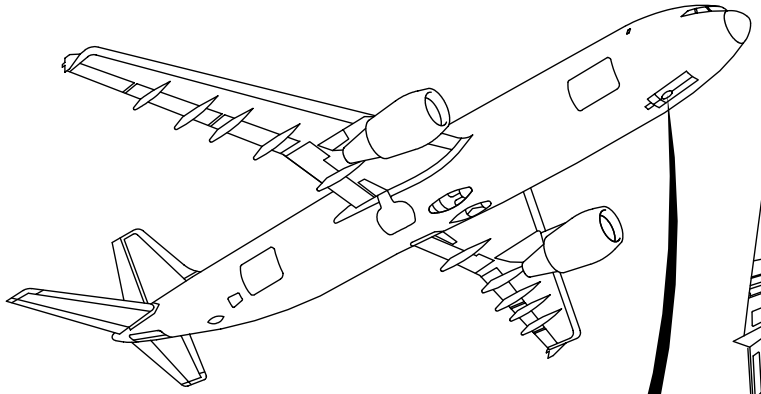

## SLIDING WINDOW (IF INSTALLED)

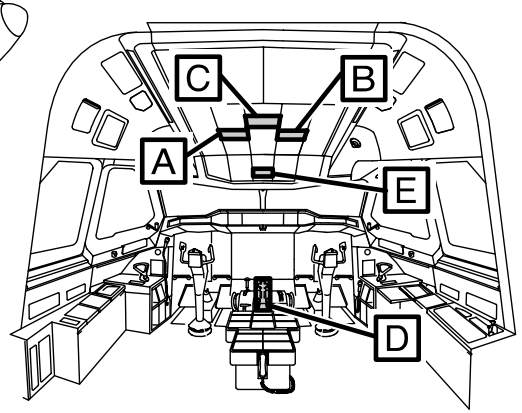


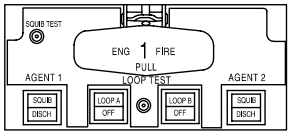

OPERATION:

1 - TURN THE HANDLE TO THE OPEN POSITION.
2 - PUSH THE SLIDING WINDOW.

## APU EXTERNAL CONTROL



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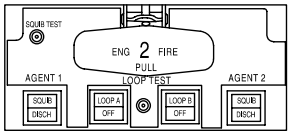


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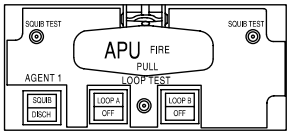


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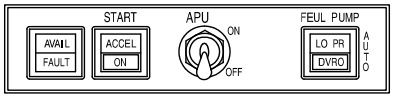


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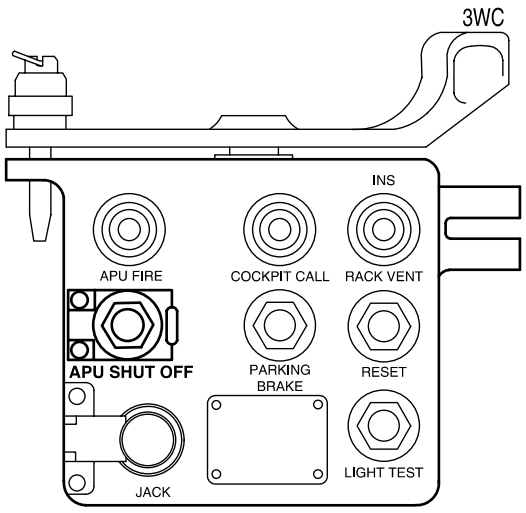
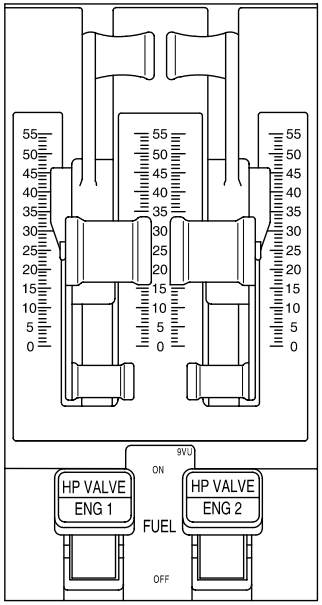



INSTALLED ON NLG

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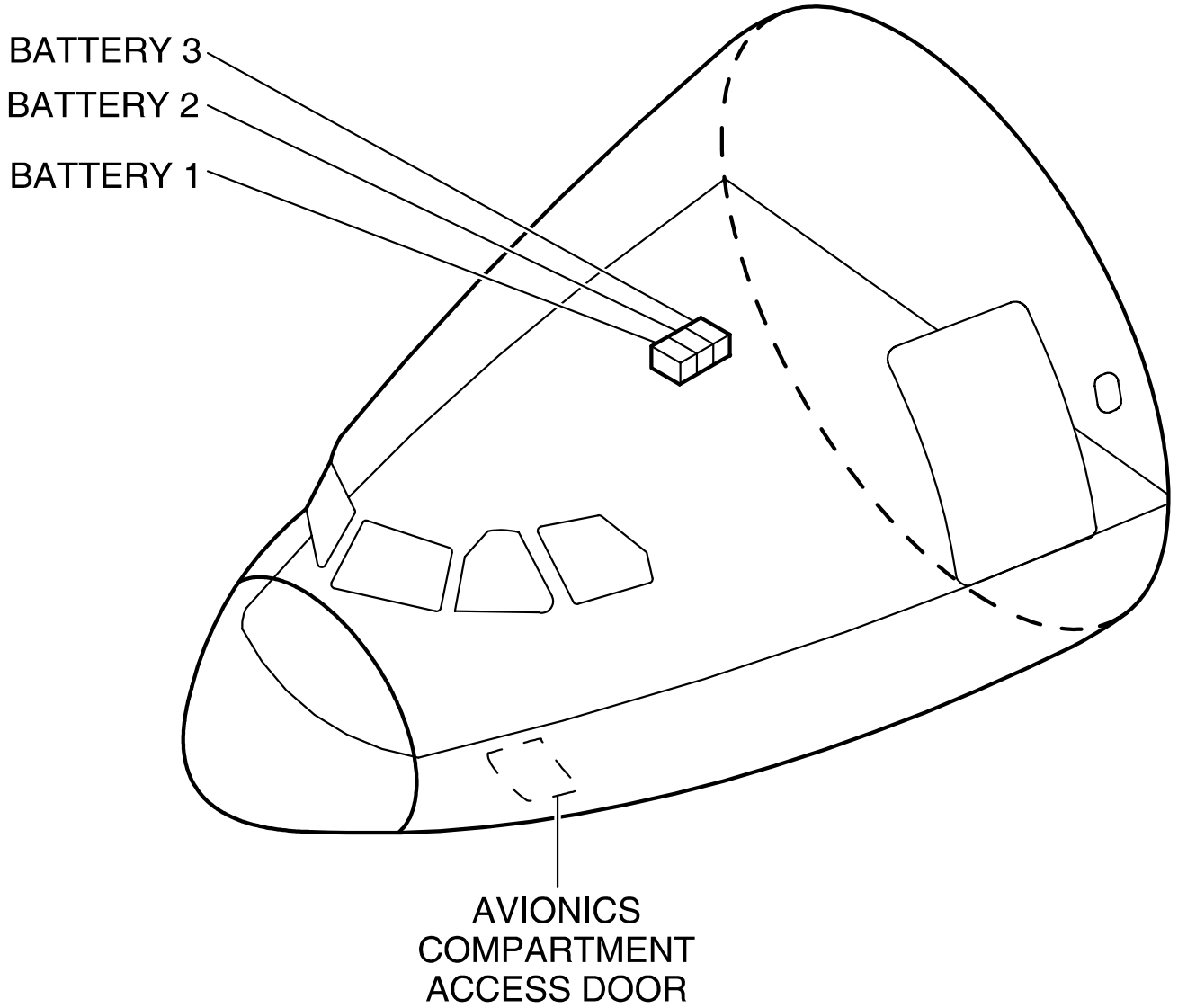
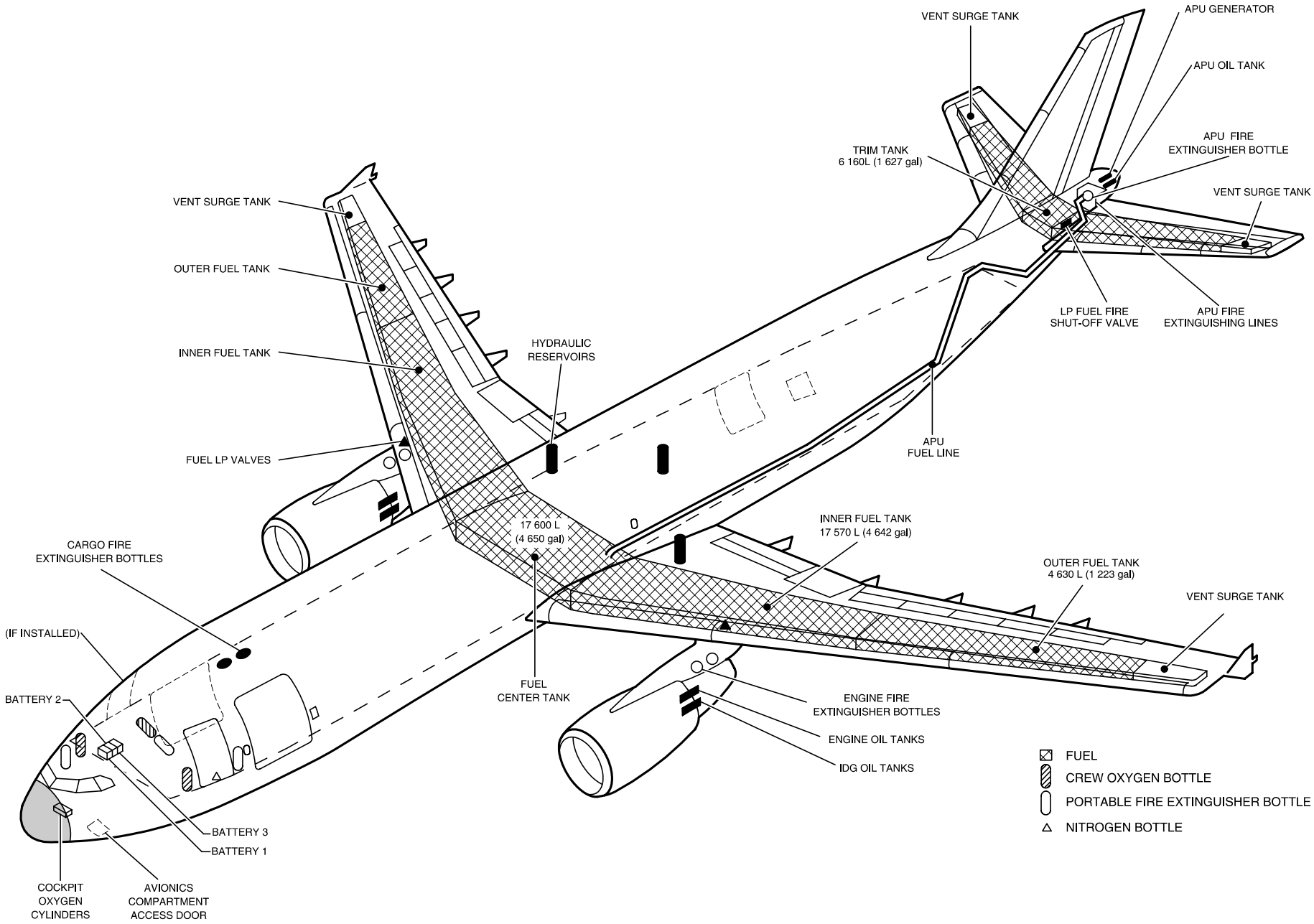

BATTERY 3
BATTERY 2
BATTERY 1
AVIONICS
COMPARTMENT
ACCESS DOOR

# FLAMMABLE MATERIAL LOCATIONS

AIRBUS
## A300-600F

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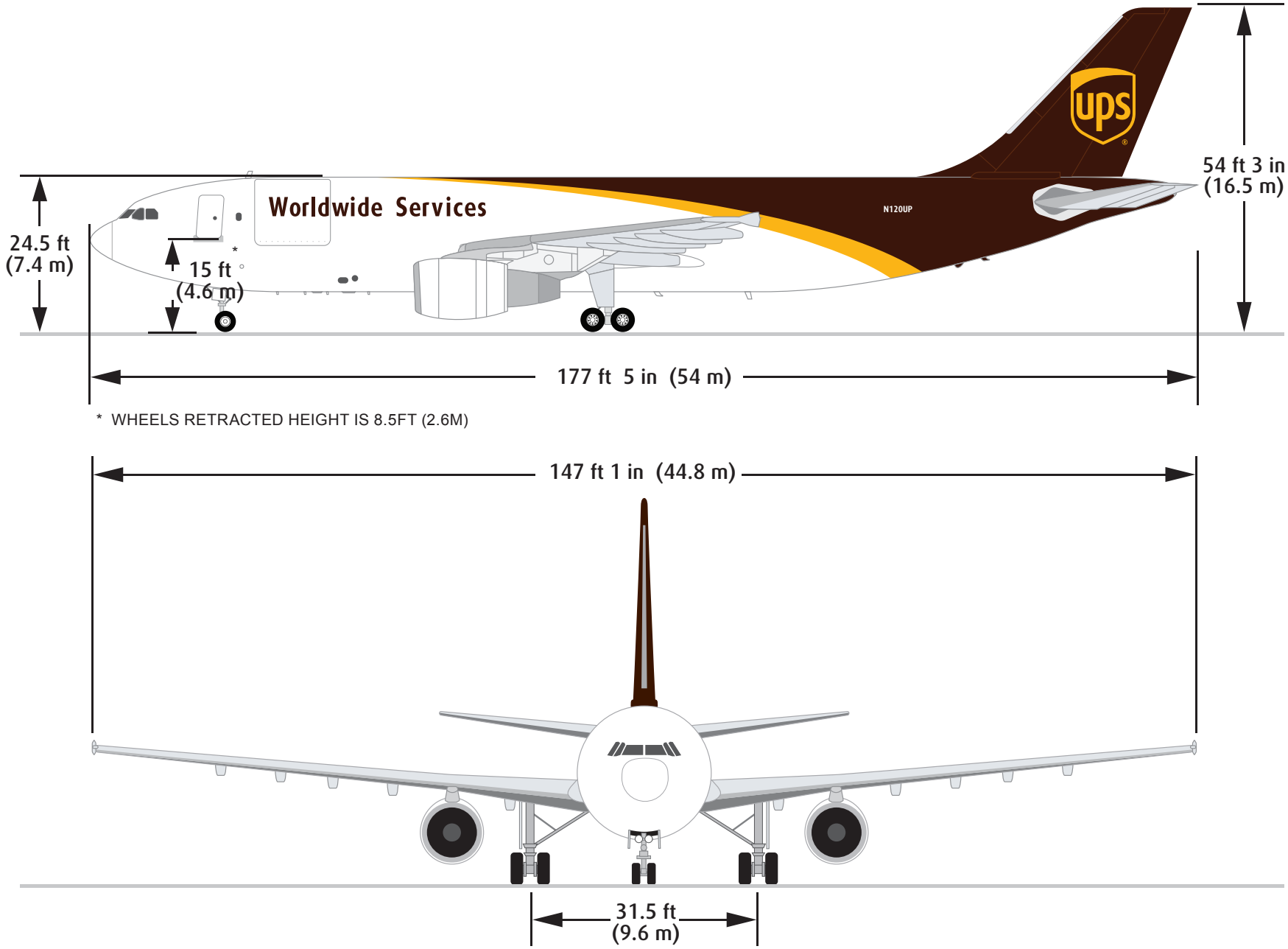
AIRBUS
# A300-600F




* WHEELS RETRACTED HEIGHT IS 8.5FT (2.6M)

# CONTAINER LOCATIONS

AIRBUS
## A300-600F

### Main Deck - 22 Positions
### Lower Deck - 7 Positions


The first location for **"ACCESSIBLE, CARGO AIRCRAFT ONLY"** shipments (if carried).

**WARNING: ANY POSITION MAY CONTAIN HAZMAT!**

Definitions:

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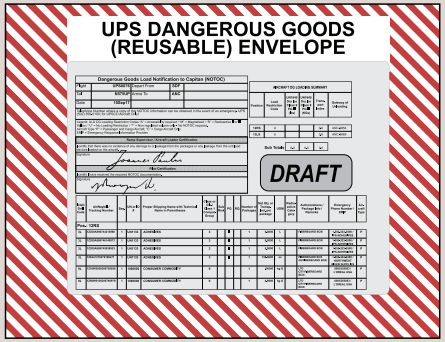
### NOTOC ENVELOPE

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# CONSIDERATIONS FOR ARFF WHEN RESPONDING TO UPS AIRCRAFT

AIRBUS
## A300-600F

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- **Landing gear:** consider underneath the aircraft as a collapse zone until determined to be safe.
  - Gear pins are located in the cockpit. Consult mechanic/aircraft maintenance for guidance
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- **Engines running:** use extreme caution around operating engines
  - Inlet and exhaust hazards
  - Foreign object debris ingestion can cause catastrophic engine failure
- **Hot brakes:** do not approach from side, front, or rear
  - Approach wheels at a 45 degree angle
  - Beware of tire bursting and thermal fuse plug discharge due to heat
- **Prevent rolling:** ensure parking brake set, or install chocks on nose gear
- **Tail tipping:** weight of water/foam injected into fuselage can cause tail tipping.
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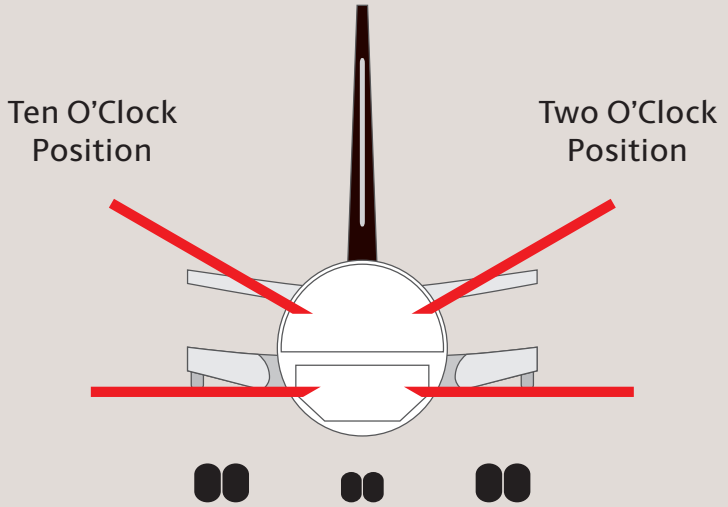
- When discharging halotron into cargo area, avoid ventilating as much as possible

### PIERCING LOCATIONS




### Additional Aircraft Information

- **AIRBUS:** https://www.airbus.com/aircraft/support-services/airport-operations-and-technical-data/aircraft-rescue-firefighting-charts.html
- **BOEING:** http://www.boeing.com/commercial/airports/rescue_fire.page

# BOEING 767-300F

UPS Aircraft Rescue Firefighting Guide

**Max. Payload:** 132,200 LBS

**Main Deck:** 24 Containers
**Lower Deck:** 7 Containers

**Max. Fuel Load:** 160,200 LBS
23,900 GAL
(89,700 L)

**Range:** 3,000 NM

**Cruising Speed:** 465 KTS/535 MPH

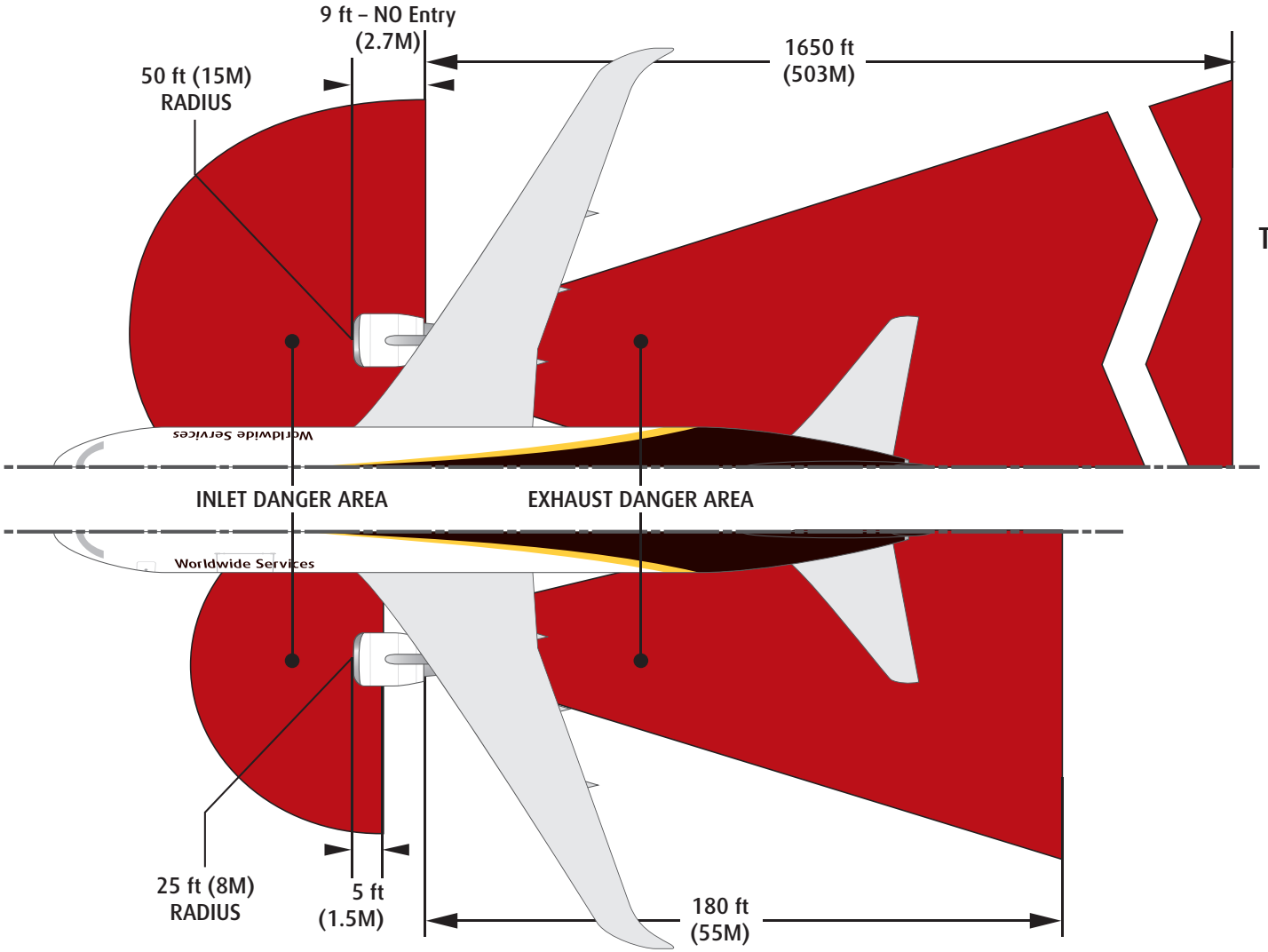
**Engines:** General Electric
CF6-80C2


**For Emergency Responders;
Direct Contact Numbers to
UPS Flight Operations**

UPS System Operations: 502.359.5350

UPS Flight Control: 502.359.5100

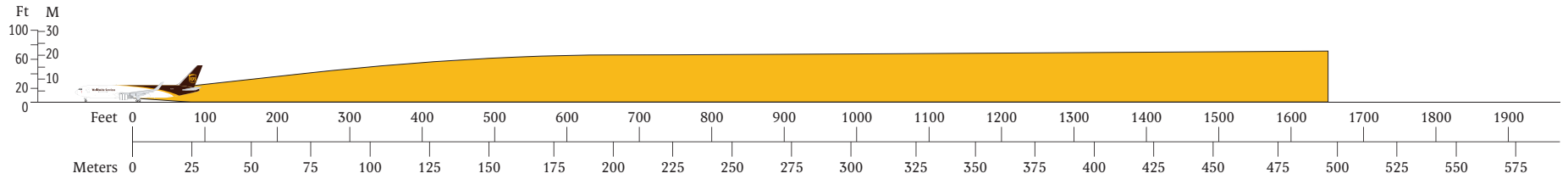
UPS HAZMAT Support Center: 502.380.1800
800.554.9964

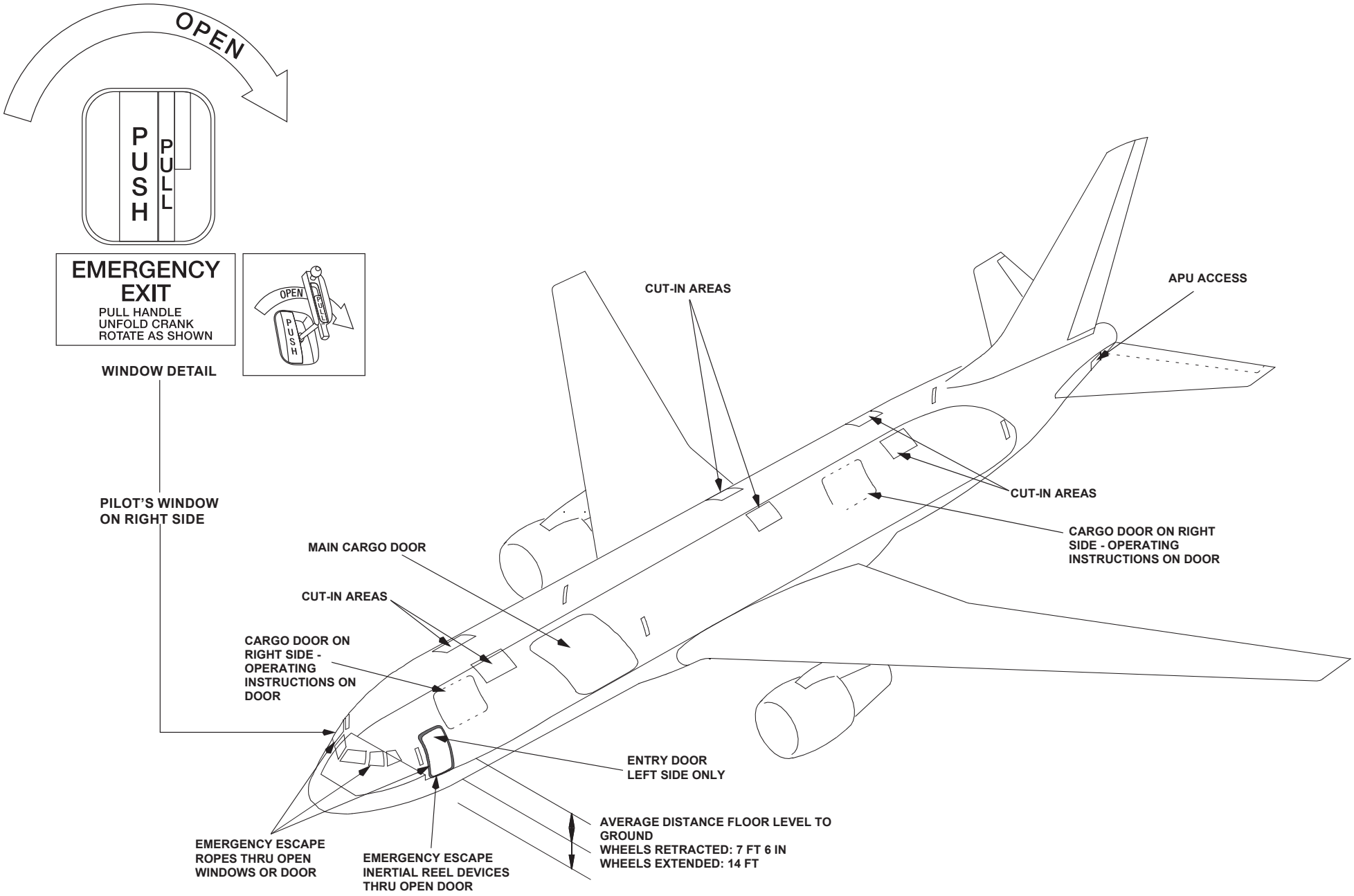



**CAUTION**

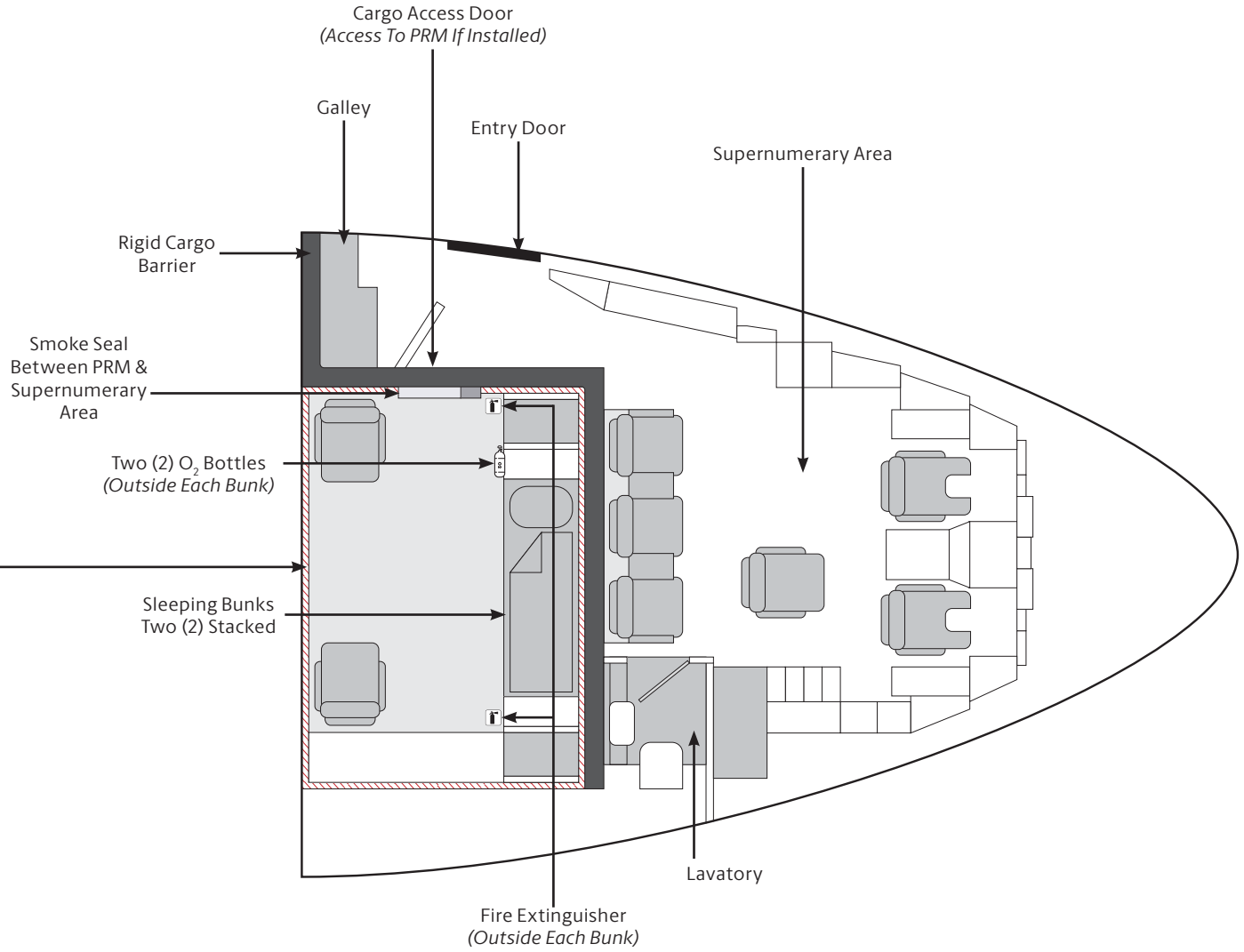
Typical Intake & Exhaust Hazards

## TAKE OFF THRUST VISUALIZED




OPEN
PUSH
PULL
EMERGENCY EXIT
PULL HANDLE
UNFOLD CRANK
ROTATE AS SHOWN
WINDOW DETAIL
PILOT'S WINDOW ON RIGHT SIDE
CUT-IN AREAS
APU ACCESS
CUT-IN AREAS
CARGO DOOR ON RIGHT SIDE - OPERATING INSTRUCTIONS ON DOOR
MAIN CARGO DOOR
CUT-IN AREAS
CARGO DOOR ON RIGHT SIDE - OPERATING INSTRUCTIONS ON DOOR
ENTRY DOOR LEFT SIDE ONLY
AVERAGE DISTANCE FLOOR LEVEL TO GROUND
WHEELS RETRACTED: 7 FT 6 IN
WHEELS EXTENDED: 14 FT
EMERGENCY ESCAPE ROPES THRU OPEN WINDOWS OR DOOR
EMERGENCY ESCAPE INERTIAL REEL DEVICES THRU OPEN DOOR

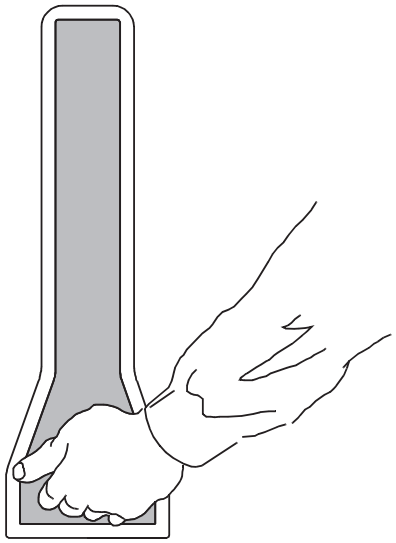
**MAXIMUM SEATING CAPACITY FOR FLIGHT:**
SIX (6) PEOPLE




### 767 Pilot Rest Module:

A Pilot Rest Module (PRM) is occasionally installed on UPS 767 aircraft. It provides 2 bunks and 2 additional chairs for relief pilots or jumpseaters in a rest area separated from the flight deck. When used, the PRM will be installed, instead of cargo, in container position 1 on the main cargo deck. Entry is via the main cargo deck access door. The PRM is not authorized for use during takeoff or landing, so ARFF responders should not expect it to be occupied during an emergency. However, depending on the nature of the emergency, ARFF responders should not overlook this compartment when searching for crewmembers.

# ENTRY/SERVICE DOOR EXTERNAL HANDLE



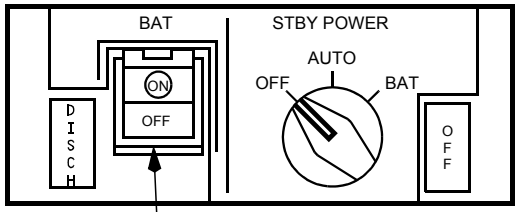
**TO OPEN DOOR:**

**1. PUSH IN DISARM LEVER (RED SURFACE LABLED “PUSH”).**

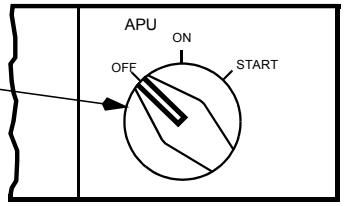
**2. PULL AND LIFT OPERATING HANDLE TO UNLATCH DOOR.**

**3. MOVE DOOR UPWARD.**

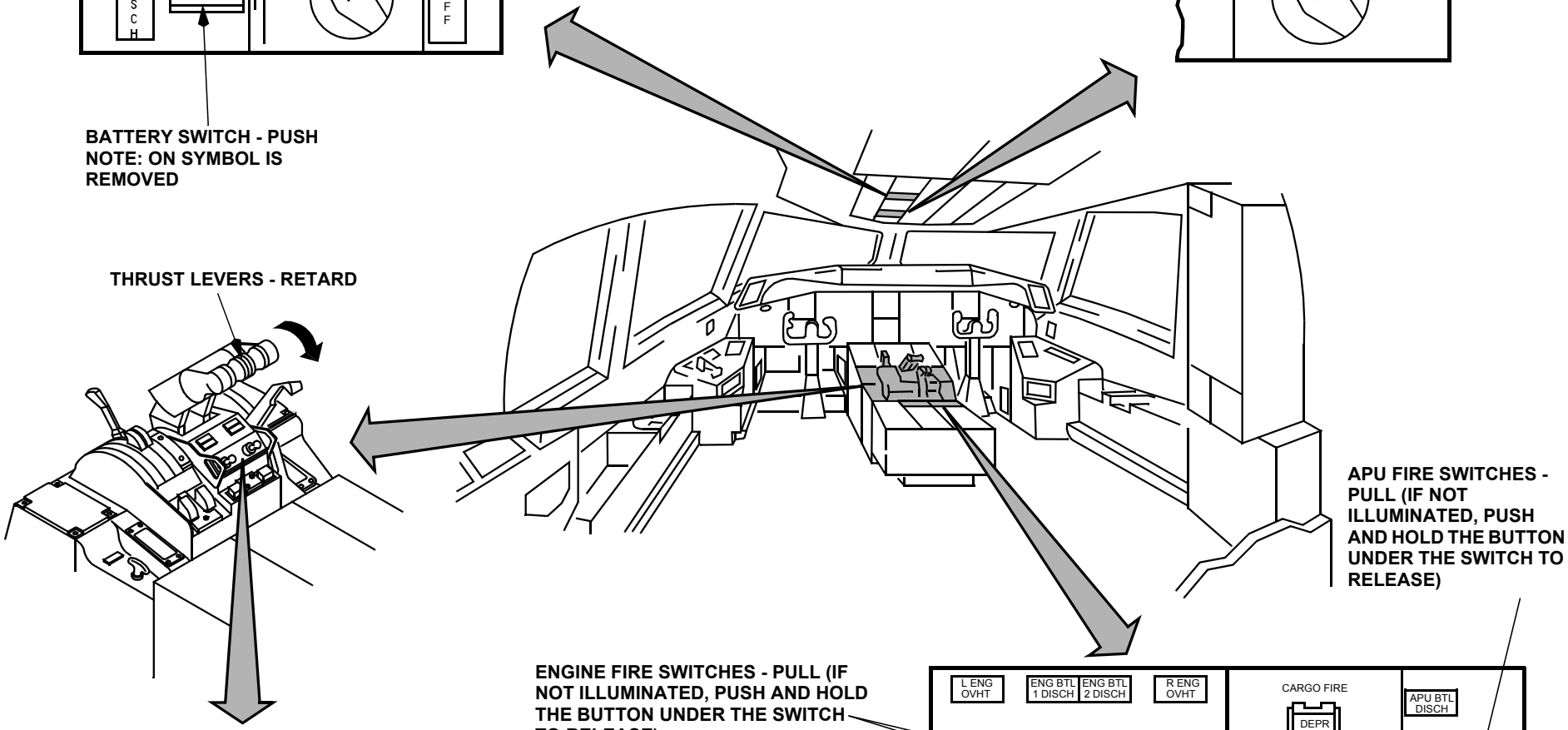
**- DOOR OPENS INWARD; UP INTO OVERHEAD**




BATTERY SWITCH - PUSH
NOTE: ON SYMBOL IS REMOVED

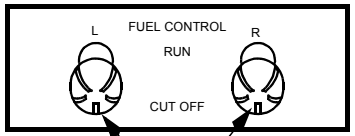



APU CONTROL SWITCH - OFF



THRUST LEVERS - RETARD

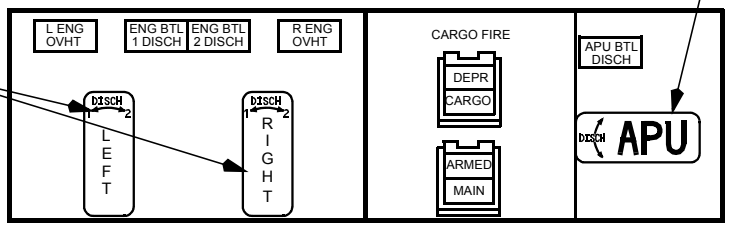





FUEL CONTROL SWITCHES - CUTOFF

APU FIRE SWITCHES - PULL (IF NOT ILLUMINATED, PUSH AND HOLD THE BUTTON UNDER THE SWITCH TO RELEASE)

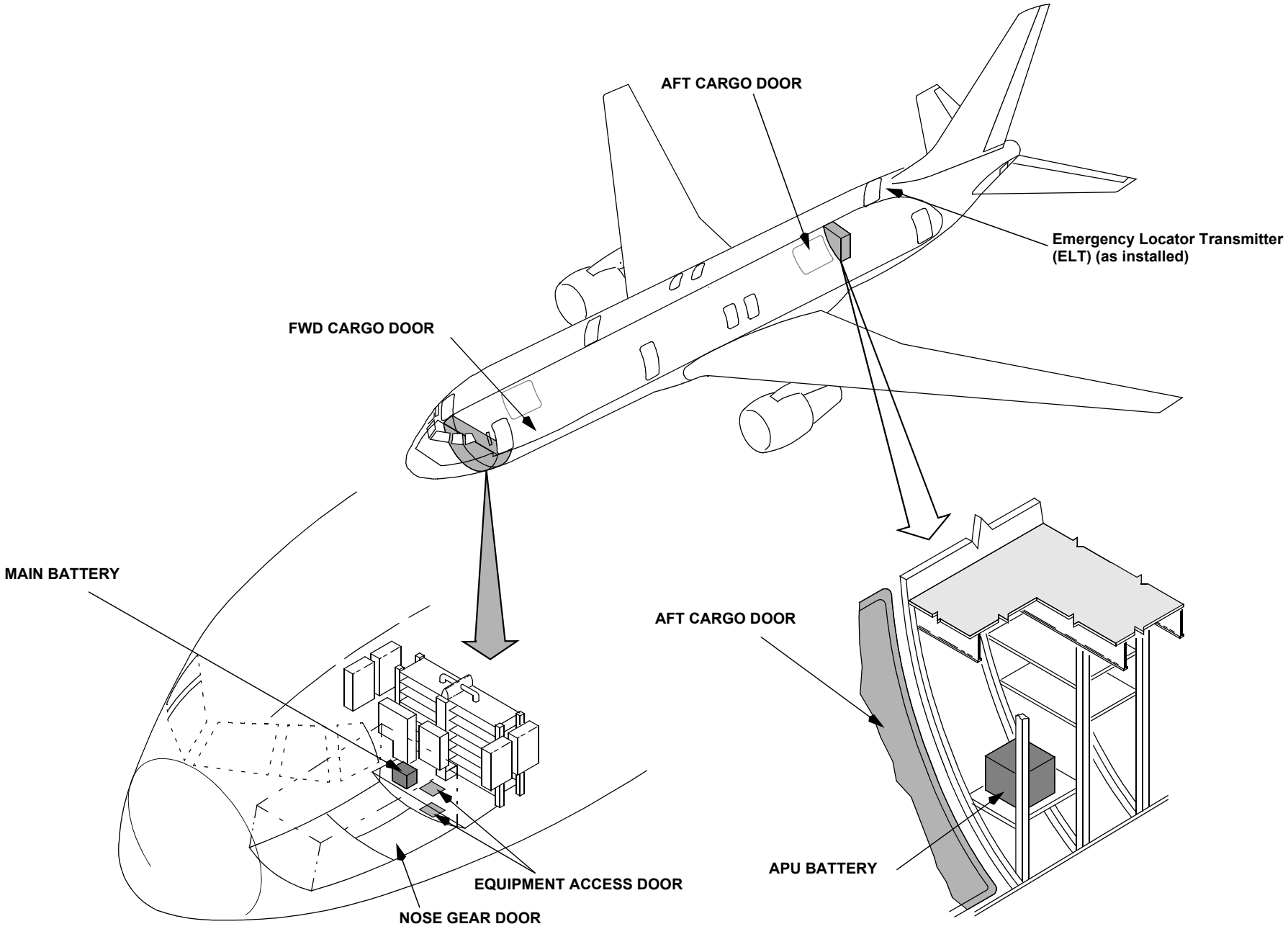
ENGINE FIRE SWITCHES - PULL (IF NOT ILLUMINATED, PUSH AND HOLD THE BUTTON UNDER THE SWITCH TO RELEASE)




CRITICAL SWITCH LOCATIONS AND THEIR OPERATION ARE SHOWN WITH THE EXPANDED VIEWS OF THE CONTROL MODULES.

# BATTERY LOCATIONS

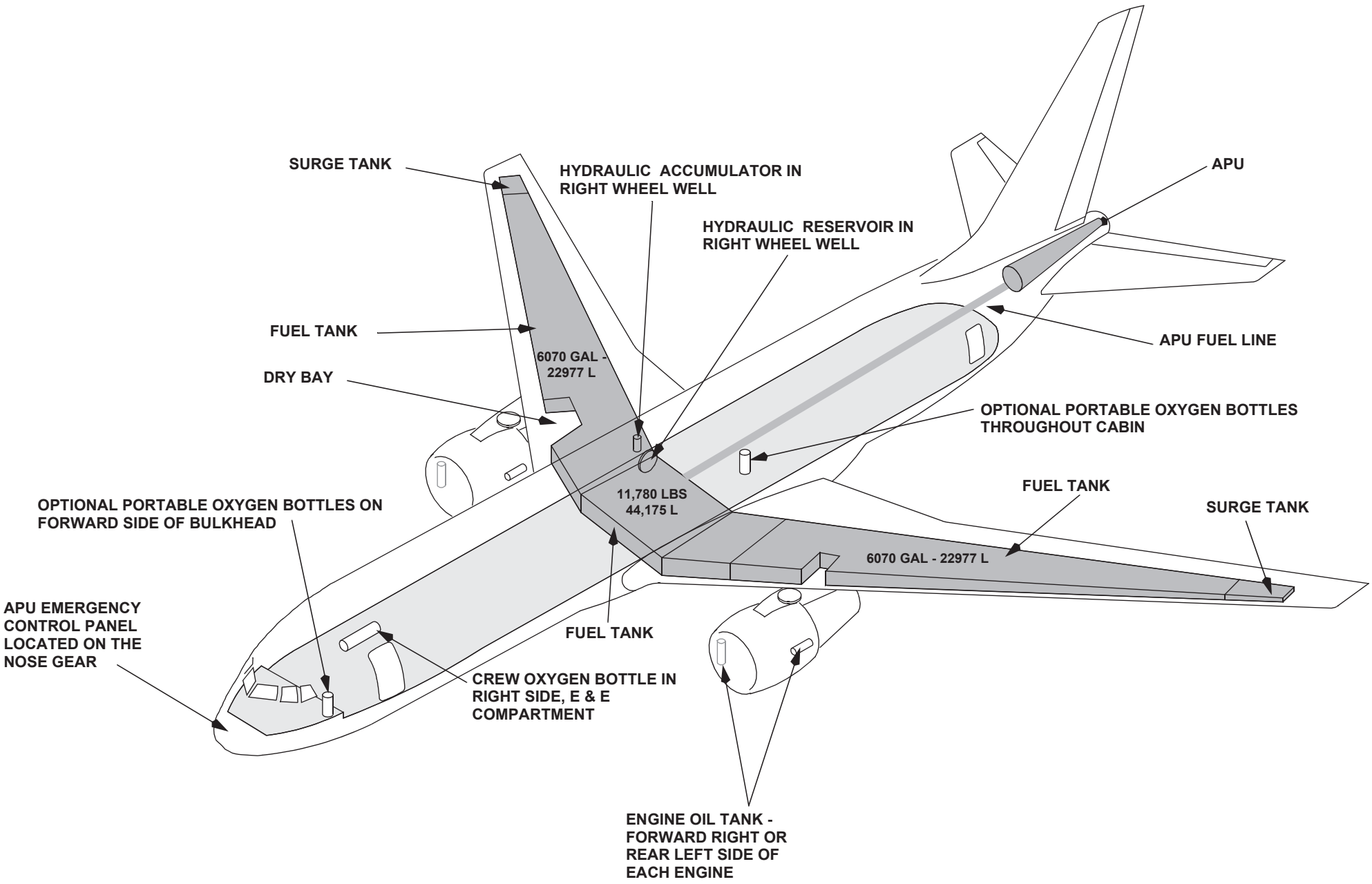
BOEING
## 767-300F




**For Reference Only,** some configurations may vary.

# FLAMMABLE MATERIAL LOCATIONS

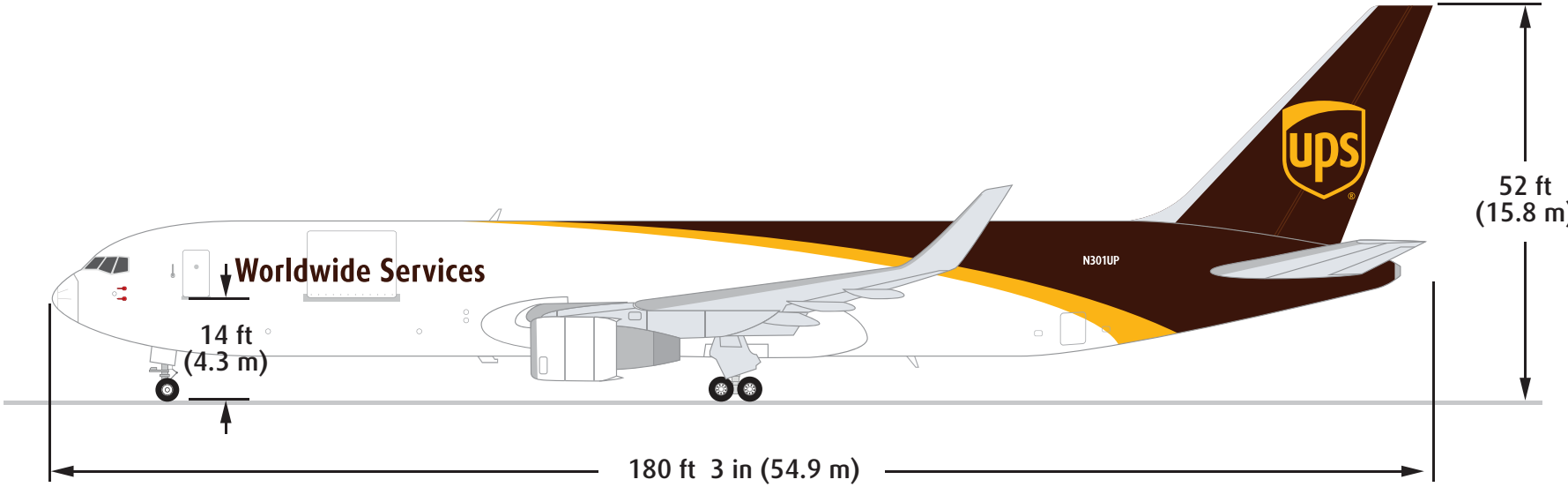
BOEING
**767-300F**

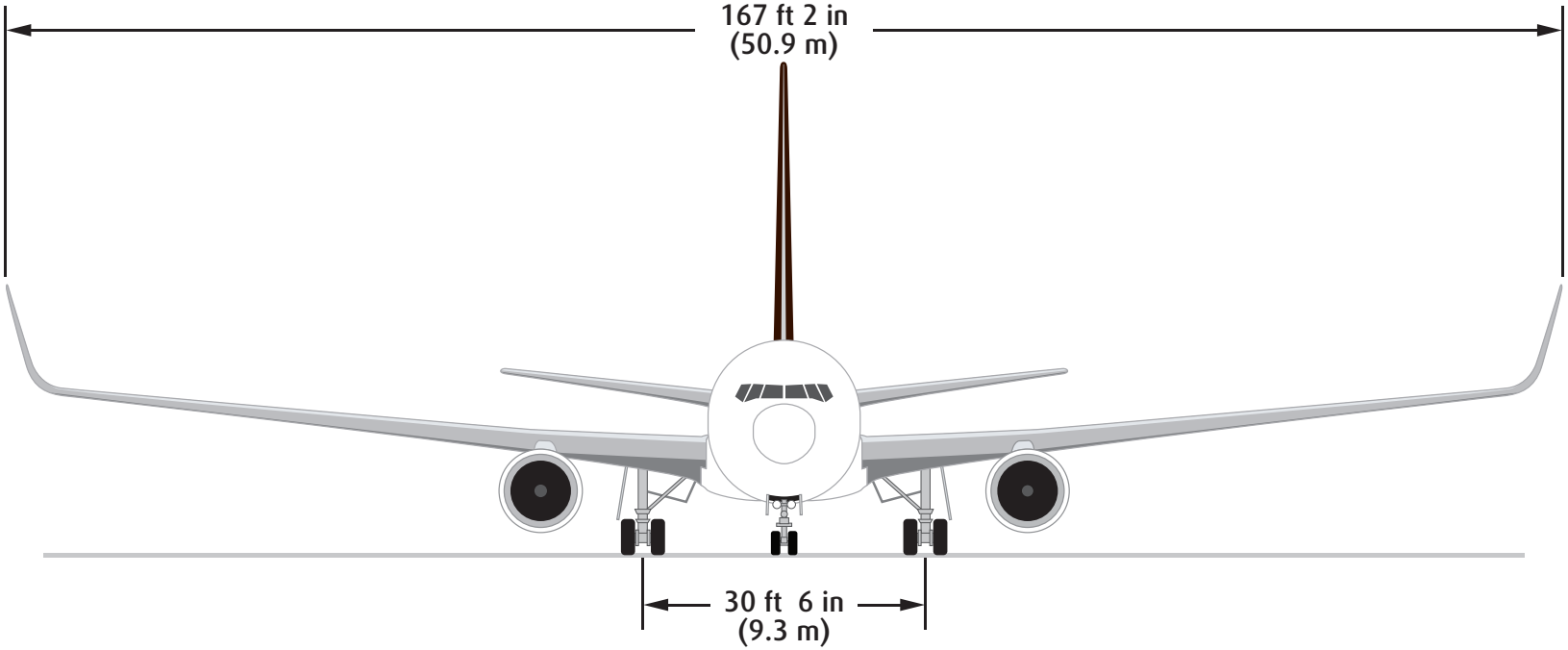



**For Reference Only,** some configurations may vary.

# AIRCRAFT DIMENSIONS

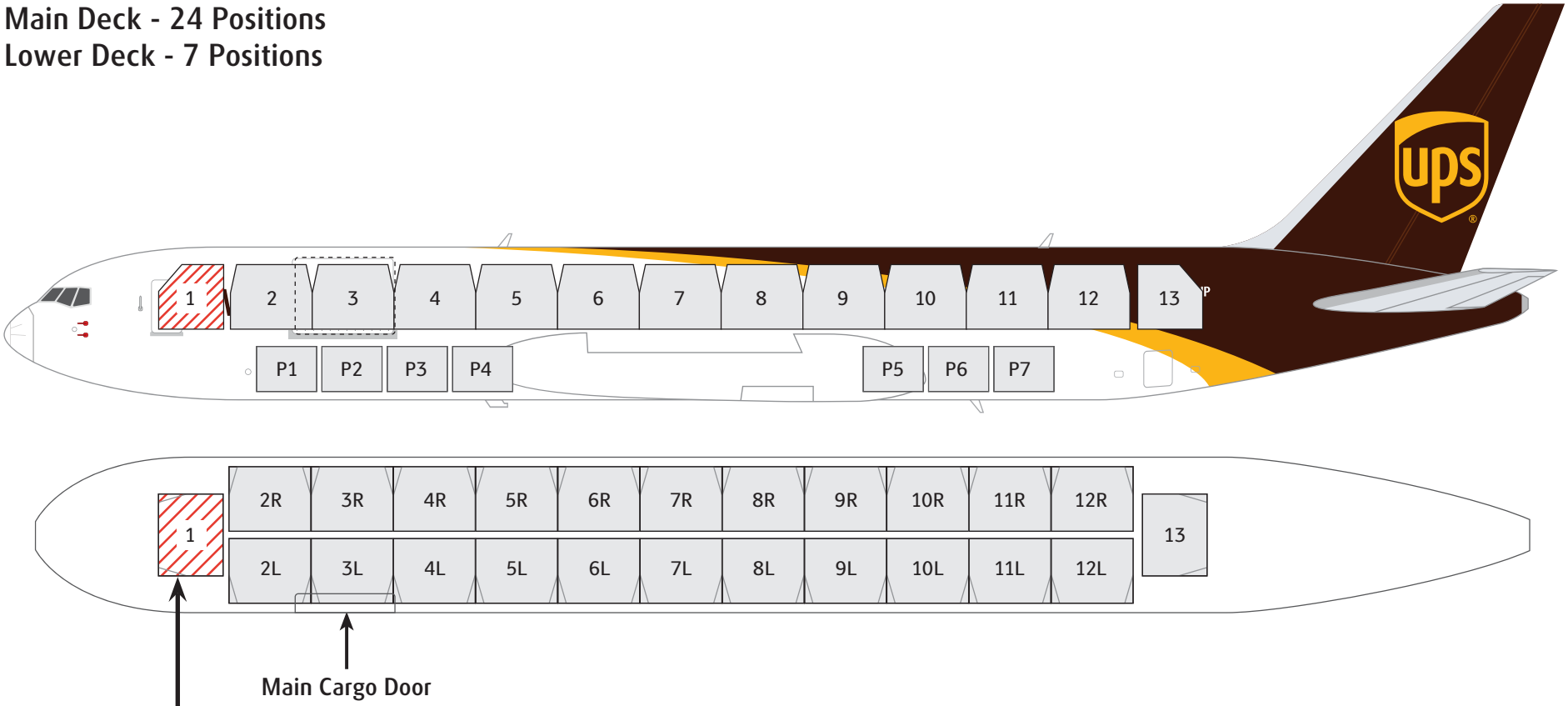
BOEING
## 767-300F




**Note:**
Some Aircraft
Do Not Have
Winglets

## Main Deck - 24 Positions
## Lower Deck - 7 Positions



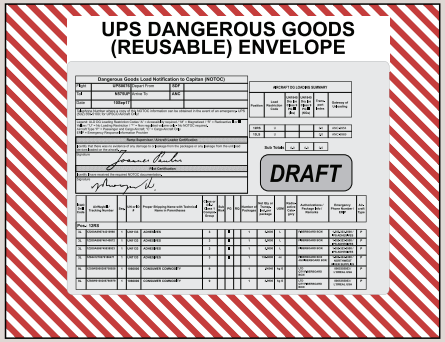

The first location for **"ACCESSIBLE, CARGO AIRCRAFT ONLY"** shipments (if carried).

**WARNING: ANY POSITION MAY CONTAIN HAZMAT!**

Definitions:

- **"CARGO AIRCRAFT ONLY" (CAO)** shipments are hazmat that would not be authorized aboard a passenger-carrying aircraft. CAO shipments requiring in-flight accessibility by the crew ("ACCESSIBLE") will be loaded in the red hashed position. Additional CAO positions on the main deck may added by creating a walkway between subsequent positions.
- **"PASSENGER QUANTITY SHIPMENTS"** are hazmat shipments that would be authorized aboard a passenger-carrying aircraft. They may be loaded anywhere in UPS aircraft.

## NOTOC ENVELOPE



# CONSIDERATIONS FOR ARFF WHEN RESPONDING TO UPS AIRCRAFT

BOEING
**767-300F**

## RESOURCES:

- Seek local UPS management personnel as soon as possible for on scene assistance to incident command. Call UPS Flight Control (502-359-5100) if contact info is not available.
- Contact UPS Aircraft Maintenance control for technical assistance/gaining access (502-359-0001). A mechanic can also be requested for on scene assistance
- Hazmat information is located in the cockpit (NOTOC envelope). See crew, or request a copy from UPS Flight Control (502-359-5100)
- These considerations do not preclude the use of best judgment by the incident commander

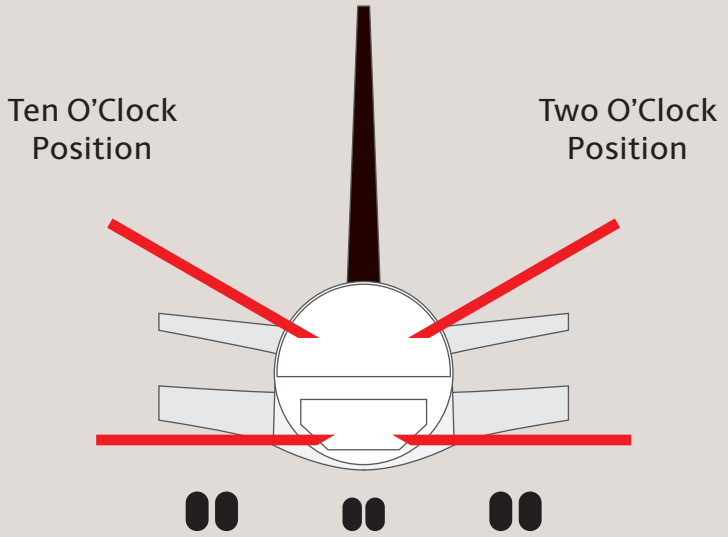
## SAFETY:

- **Landing gear:** consider underneath the aircraft as a collapse zone until determined to be safe.
  - Gear pins are located in the cockpit. Consult mechanic/aircraft maintenance for guidance
  - If unable to install gear pins, landing gear may be unstable
- **Engines running:** use extreme caution around operating engines
  - Inlet and exhaust hazards
  - Foreign object debris ingestion can cause catastrophic engine failure
- **Hot brakes:** do not approach from side, front, or rear
  - Approach wheels at a 45 degree angle
  - Beware of tire bursting and thermal fuse plug discharge due to heat
- **Prevent rolling:** ensure parking brake set, or install chocks on nose gear
- **Tail tipping:** weight of water/foam injected into fuselage can cause tail tipping.
  - Monitor nose strut extension and tire bulge changes for indicator of tipping

## TACTICAL CONSIDERATIONS (AFTER RESCUE OF CREW):

- Use thermal imaging camera to locate fire within fuselage
  - Note: research shows that thermal imaging may not show fire within a unit load device (ULD) container though the fuselage, until the fire breaches the container
- Starve fire of oxygen (close doors/windows/hatches)
- Pierce fuselage
  - Use the longest available piercing device to reach into a ULD container
  - Piercing depths vary from 12 to 58 inches depending on aircraft, container design, and location on aircraft. Average depth is about 26 inches
- Apply appropriate extinguishing agent
- When discharging halotron into cargo area, avoid ventilating as much as possible

## PIERCING LOCATIONS




### Additional Aircraft Information

- **AIRBUS:** https://www.airbus.com/aircraft/support-services/airport-operations-and-technical-data/aircraft-rescue-firefighting-charts.html
- **BOEING:** http://www.boeing.com/commercial/airports/rescue_fire.page

# BOEING MD-11F

UPS Aircraft Rescue Firefighting Guide

**Max. Payload:** 207,895 LBS

**Main Deck:** 26 Containers
**Lower Deck:** 13 Containers

**Max. Fuel Load:** 257,200 LBS
38,400 GAL
(144,200 L)

**Range:** 3,950 NM

**Cruising Speed:** 487 KTS/560 MPH

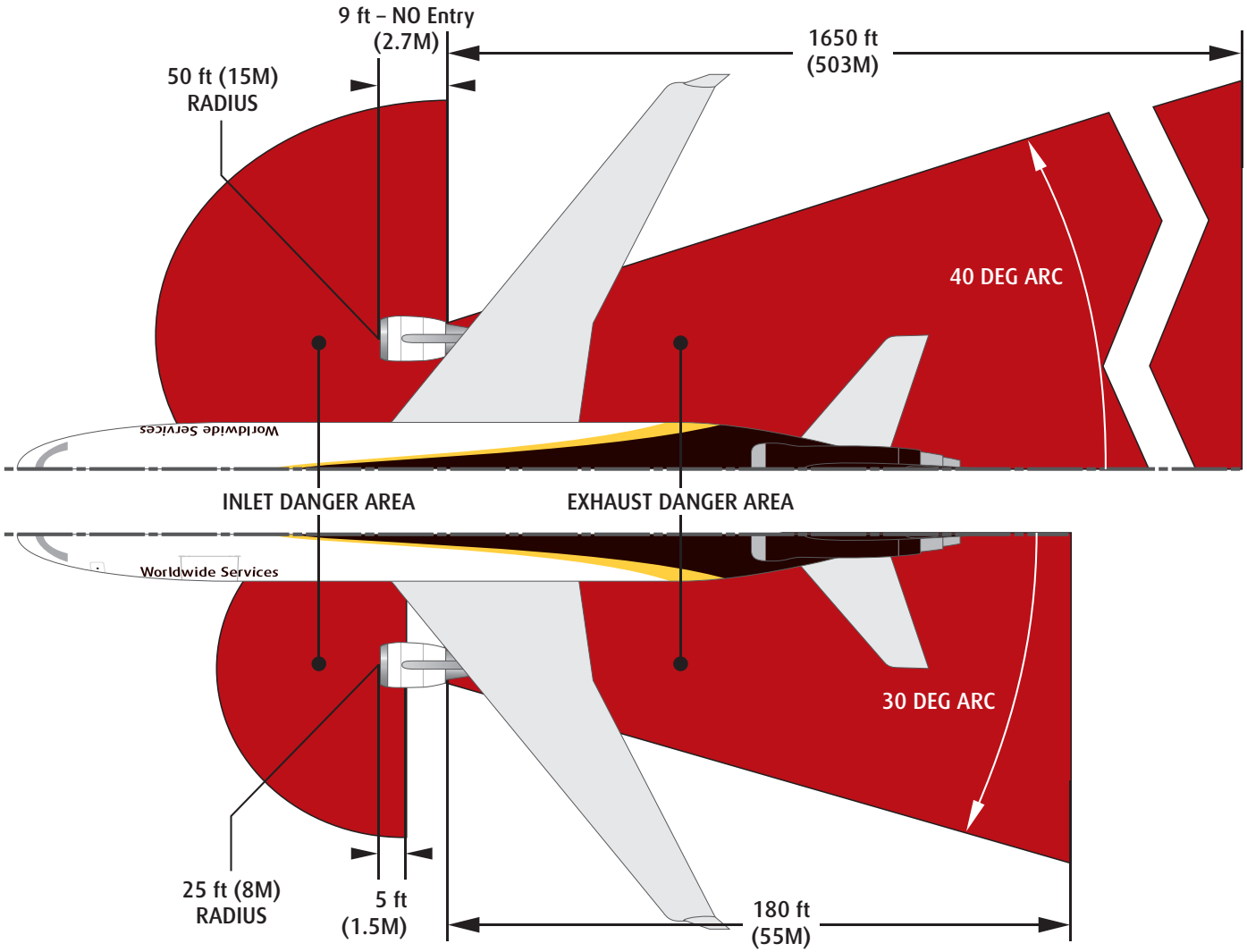
**Engines:** Pratt & Whitney 4460/4462
or General Electric CF6-80C2

**For Emergency Responders;**
**Direct Contact Numbers to**
**UPS Flight Operations**

UPS System Operations: 502.359.5350

UPS Flight Control: 502.359.5100

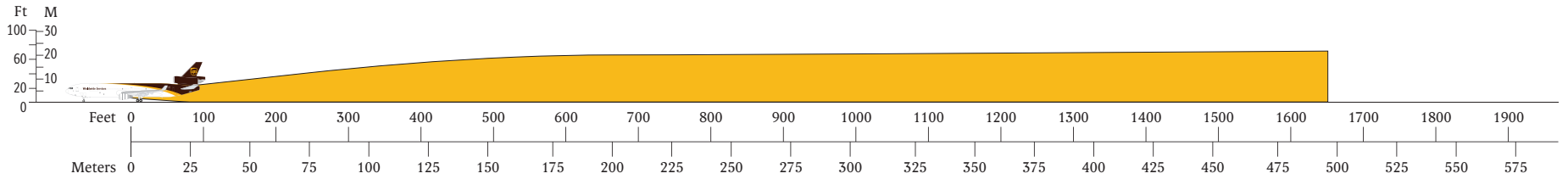
UPS HAZMAT Support Center: 502.380.1800
800.554.9964




**CAUTION**

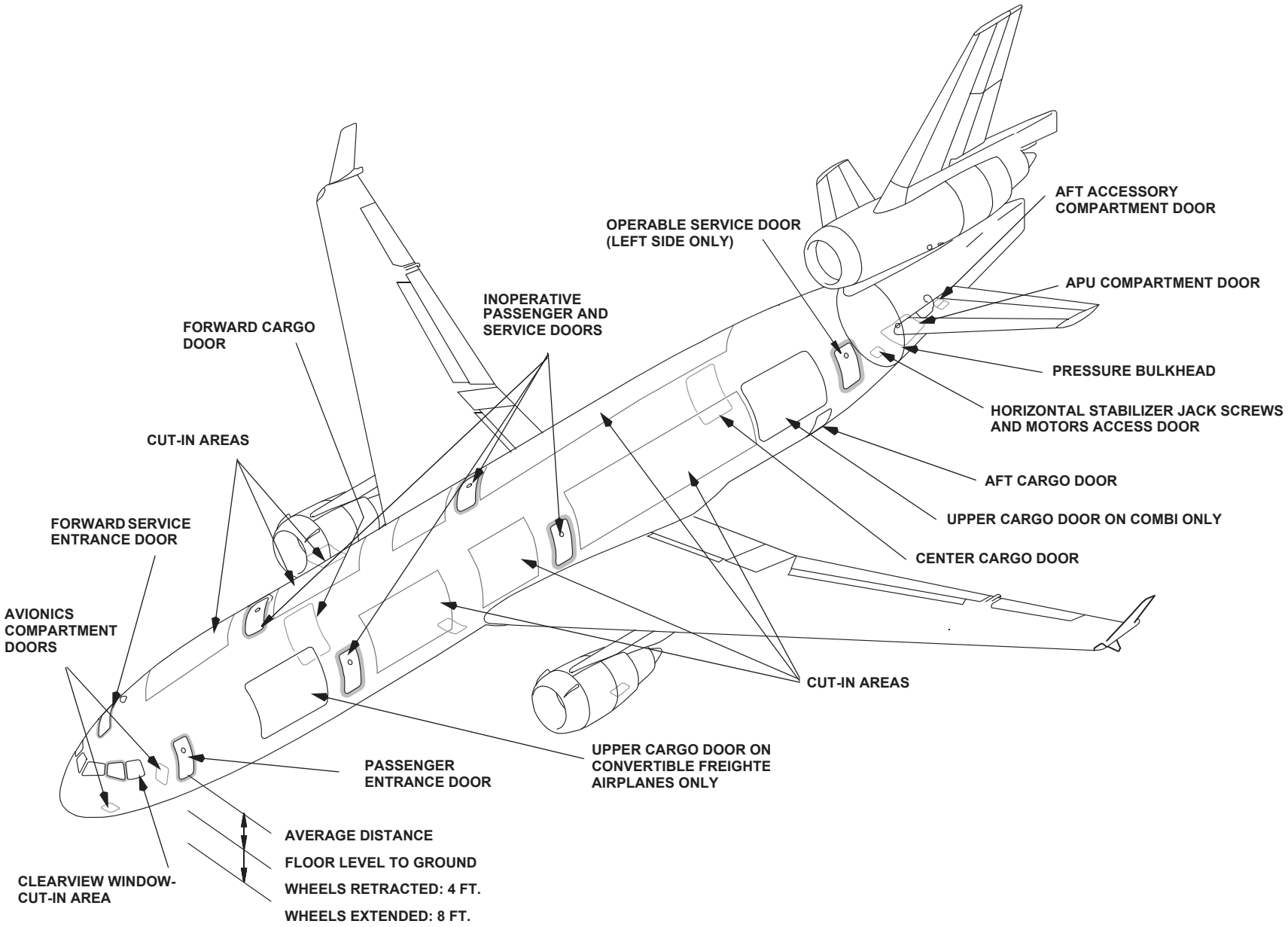
Typical Intake & Exhaust Hazards

## TAKE OFF THRUST VISUALIZED



# EMERGENCY RESCUE ACCESS

BOEING
**MD-11F**




**For Reference Only,** some configurations may vary.

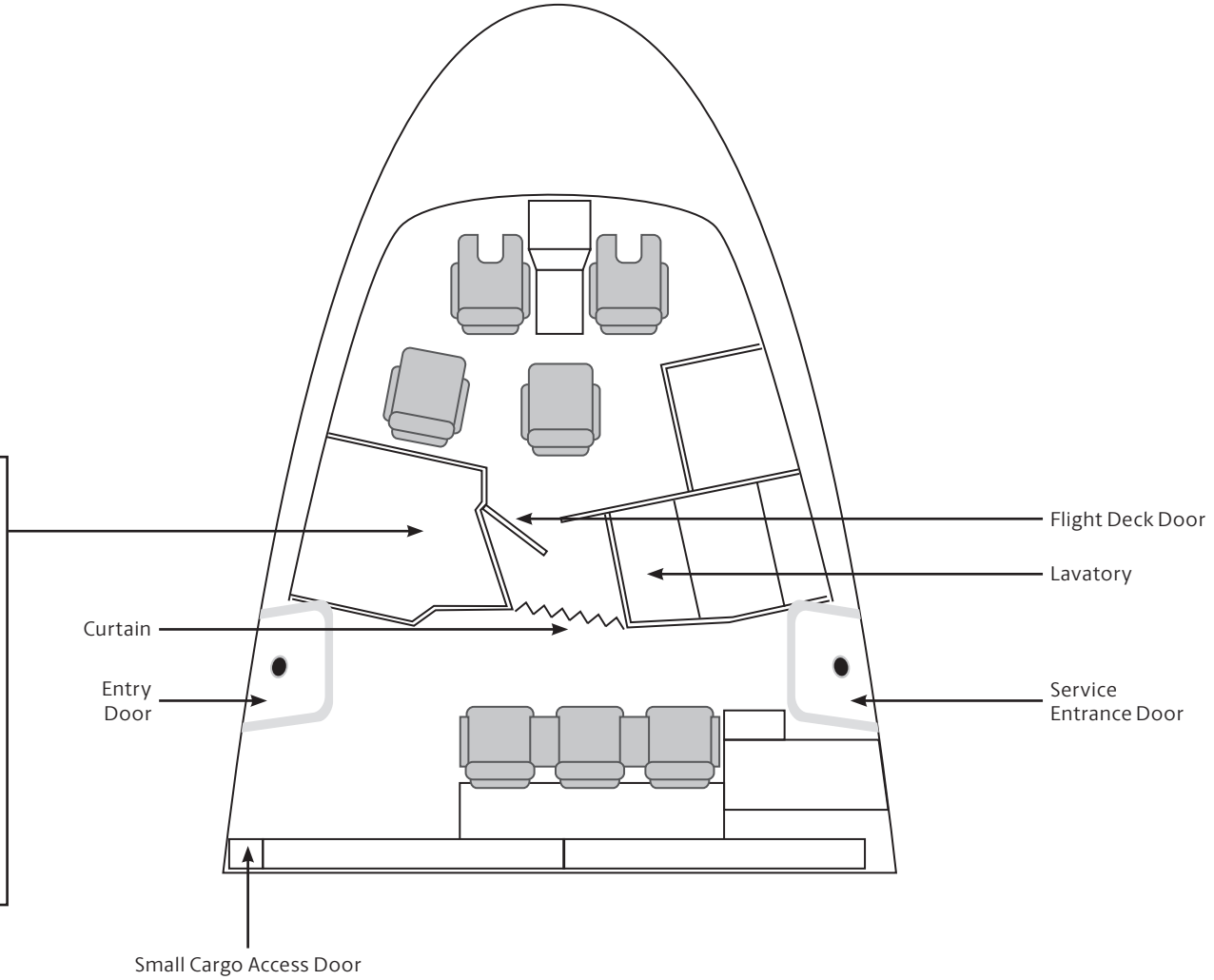
# EMERGENCY RESCUE ACCESS

BOEING
## MD-11F

**MAXIMUM SEATING CAPACITY FOR FLIGHT:**
SEVEN (7) PEOPLE

**MD-11 Bunks:**

UPS MD-11 aircraft have 2 bunks in a compartment that extends across the L1 entry door when used. The bunks are not authorized for use during takeoff or landing, so ARFF responders should not expect them to be extended or occupied during an emergency. However, depending on the nature of the emergency, ARFF responders should not overlook this compartment when searching for crewmembers. If the bunks are extended, entry should be made via the R1 entry door.

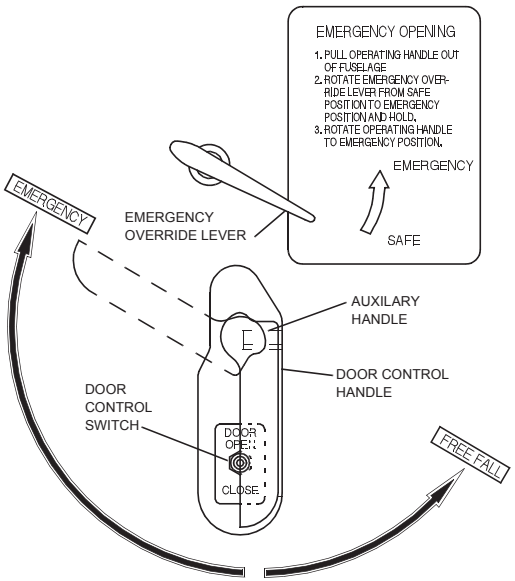



**For Reference Only,** some configurations may vary.

## 1 PASSENGER AND SERVICE DOORS

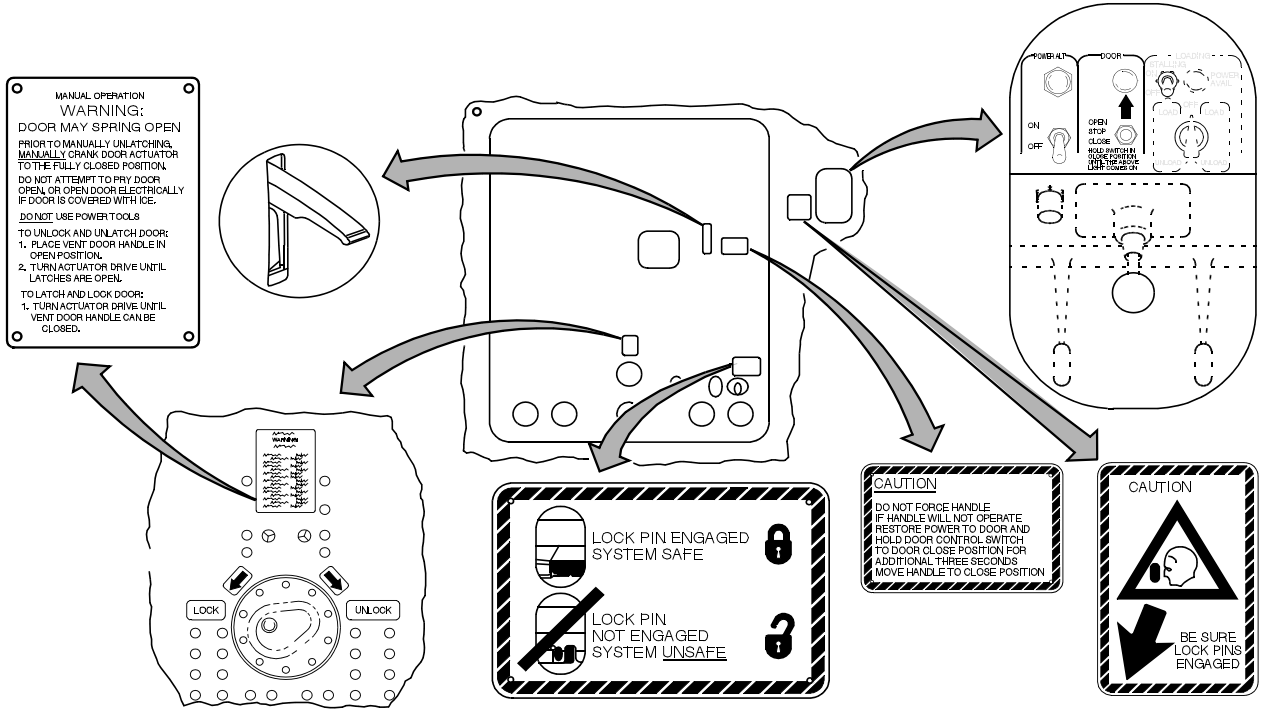
**PUSH BUTTON TYPE**

**NOTE: WHEN MOVED TO "EMERGENCY" POSITION AND HELD, ALLOWS DOOR CONTROL HANDLE TO BE MOVED TO "EMERGENCY" POSITION FOR EMERGENCY OPENING OF THE DOOR IF ELECTRICAL POWER IS NOT AVAILABLE.**

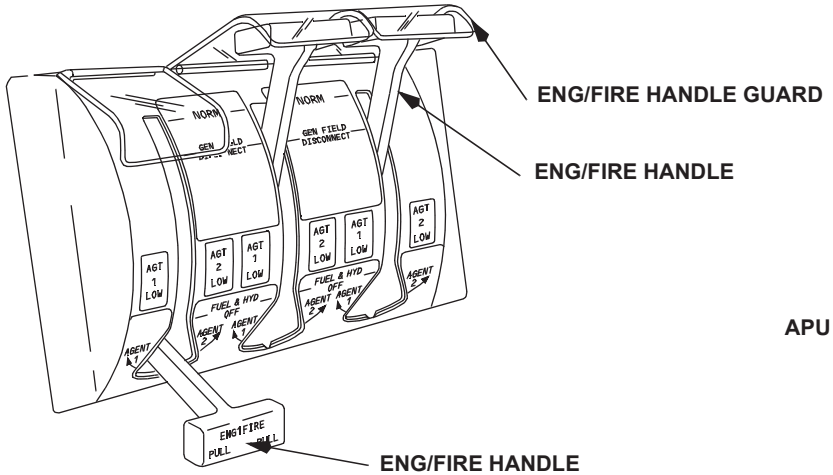



DOOR OPENS INWARD;
UP INTO OVERHEAD

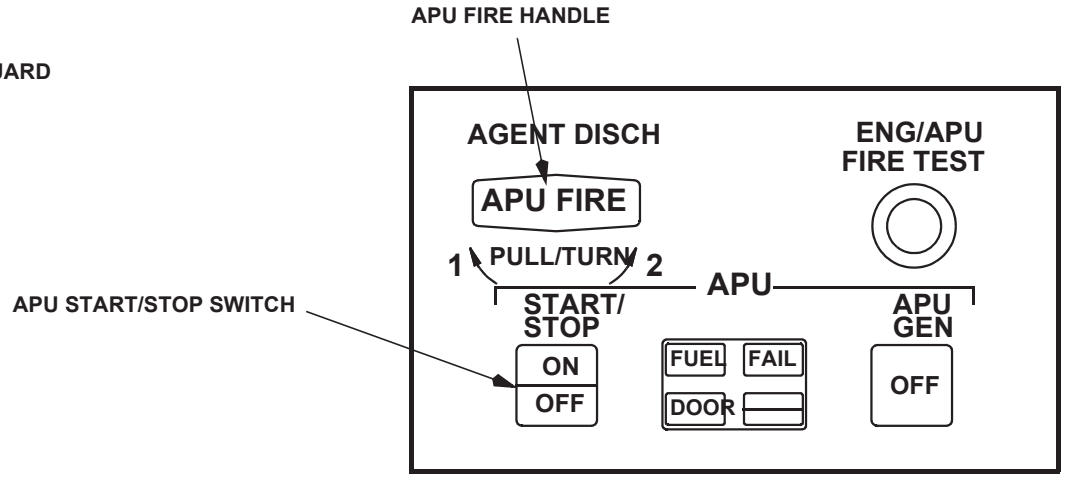
## 2 CARGO ACCESS DOORS



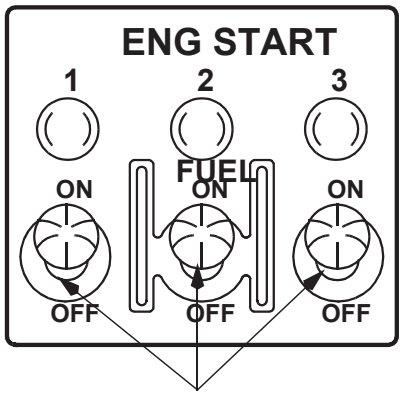
Critical switch locations and their operation are shown with the expanded views of the control modules.




AFT OVERHEAD PANEL




AFT OVERHEAD PANEL




ENGINE FUEL SWITCHES

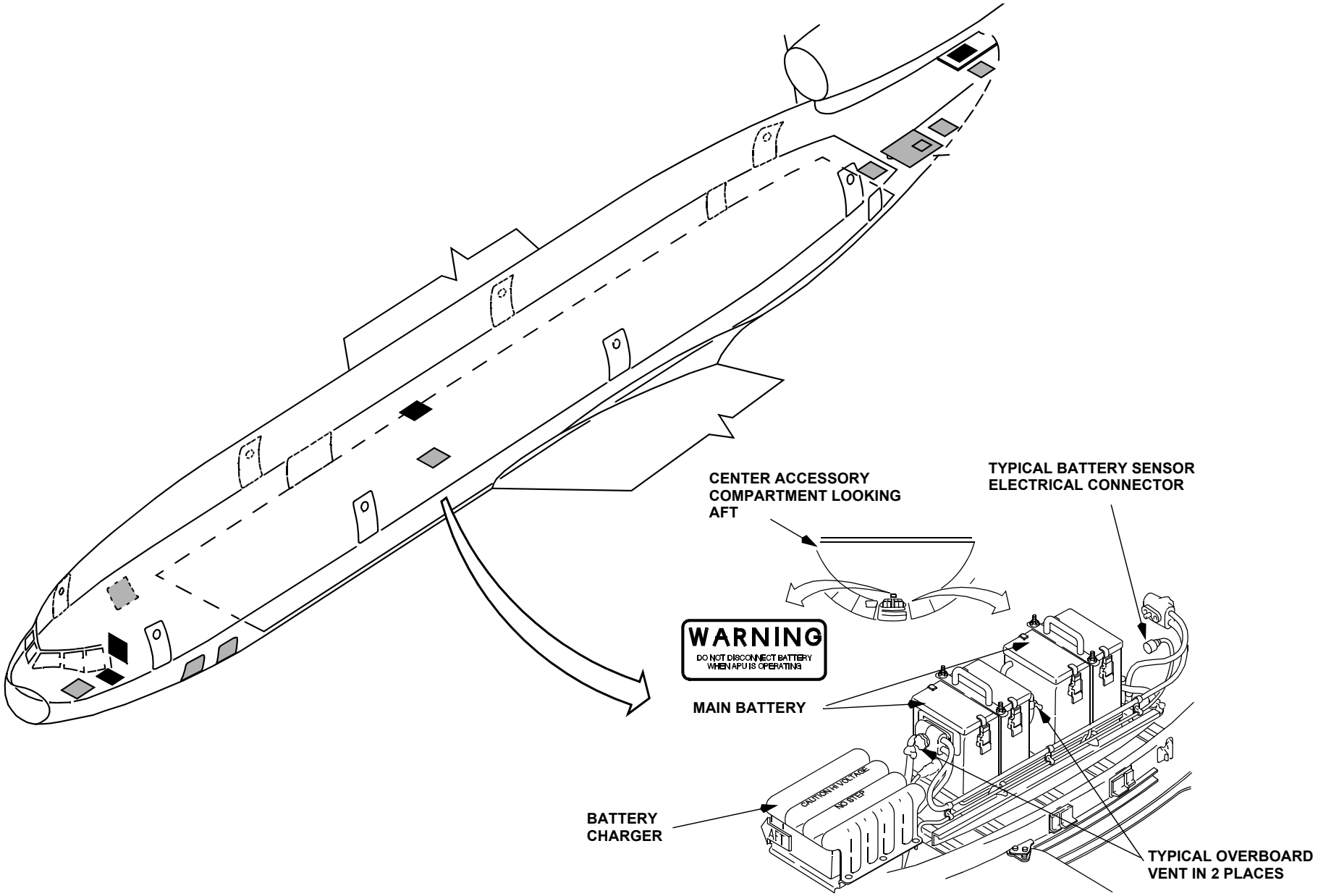
CONTROL STAND

**APU SHUTDOWN AND FIRE PROCEDURE**

1. PUSH APU START/STOP SWITCH TO OFF.
2. IF “APU FIRE” LIGHT IN HANDLE IS ILLUMINATED:
3. PULL AND ROTATE APU FIRE HANDLE IN EITHER DIRECTION
4. AFTER 30 SECONDS , PULL AND ROTATE APU FIRE HANDLE IN THE OPPOSITE DIRECTION.

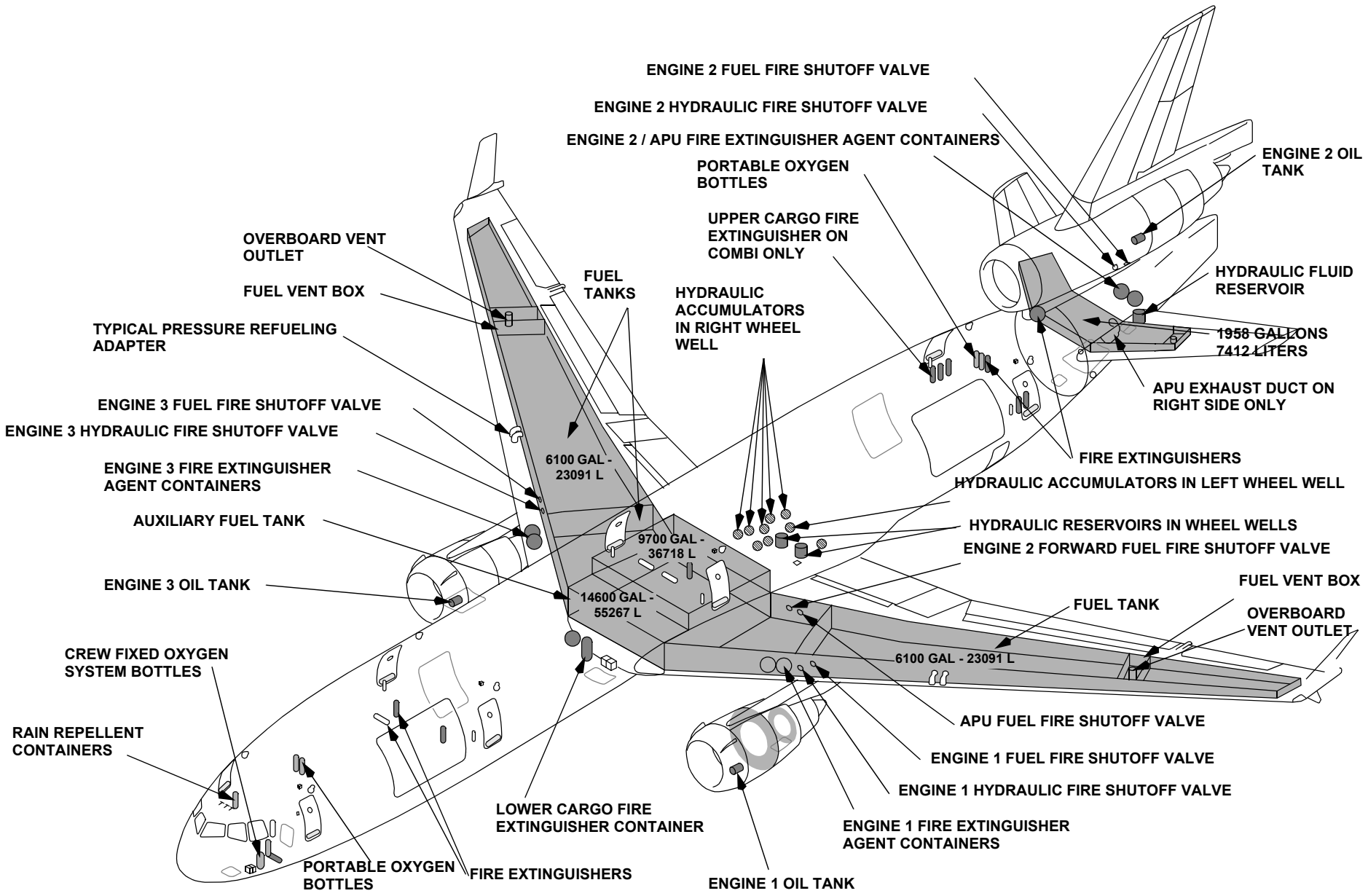
**ENGINE SHUTDOWN AND FIRE PROCEDURE:**

1. FUEL SWITCH(ES) FROM “ON” TO “OFF” (DOWN.)
2. IF LIGHT(S) IN FUEL SWITCH(ES) OR “ENG FIRE” HANDLE(S) ARE ILLUMINATED:
3. LIFT “ENG/FIRE” HANDLE GUARD(S)
4. PULL HANDLE(S) DOWN AND FORWARD
5. WHILE HOLDING FORWARD PRESSURE ON HANDLE, TWIST HANDLE CLOCKWISE AND HOLD
6. AFTER 30 SECONDS, TWIST HANDLE COUNTERCLOCKWISE.

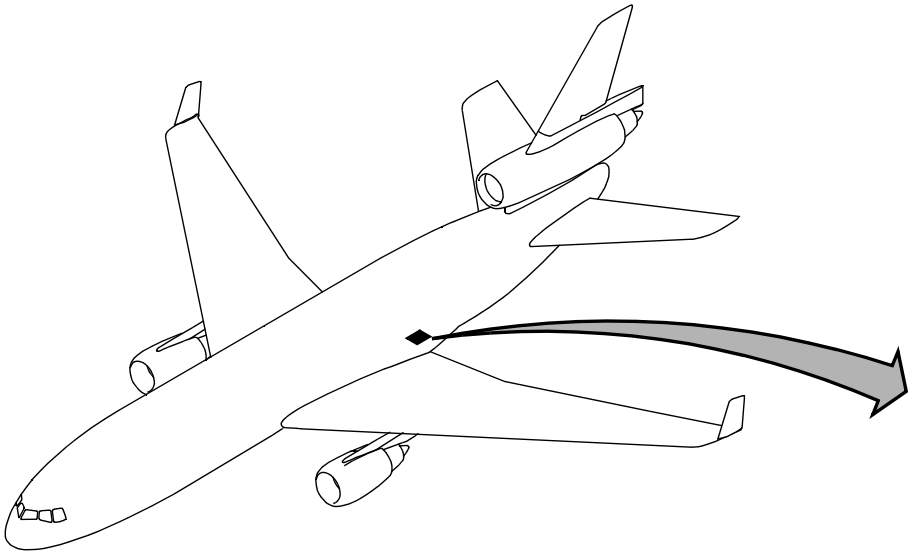

CENTER ACCESSORY COMPARTMENT LOOKING AFT
TYPICAL BATTERY SENSOR ELECTRICAL CONNECTOR
WARNING
DO NOT DISCONNECT BATTERY WHEN APU IS OPERATING
MAIN BATTERY
BATTERY CHARGER
CAUTION HI VOLTAGE
NO STEP
AFT
TYPICAL OVERBOARD VENT IN 2 PLACES

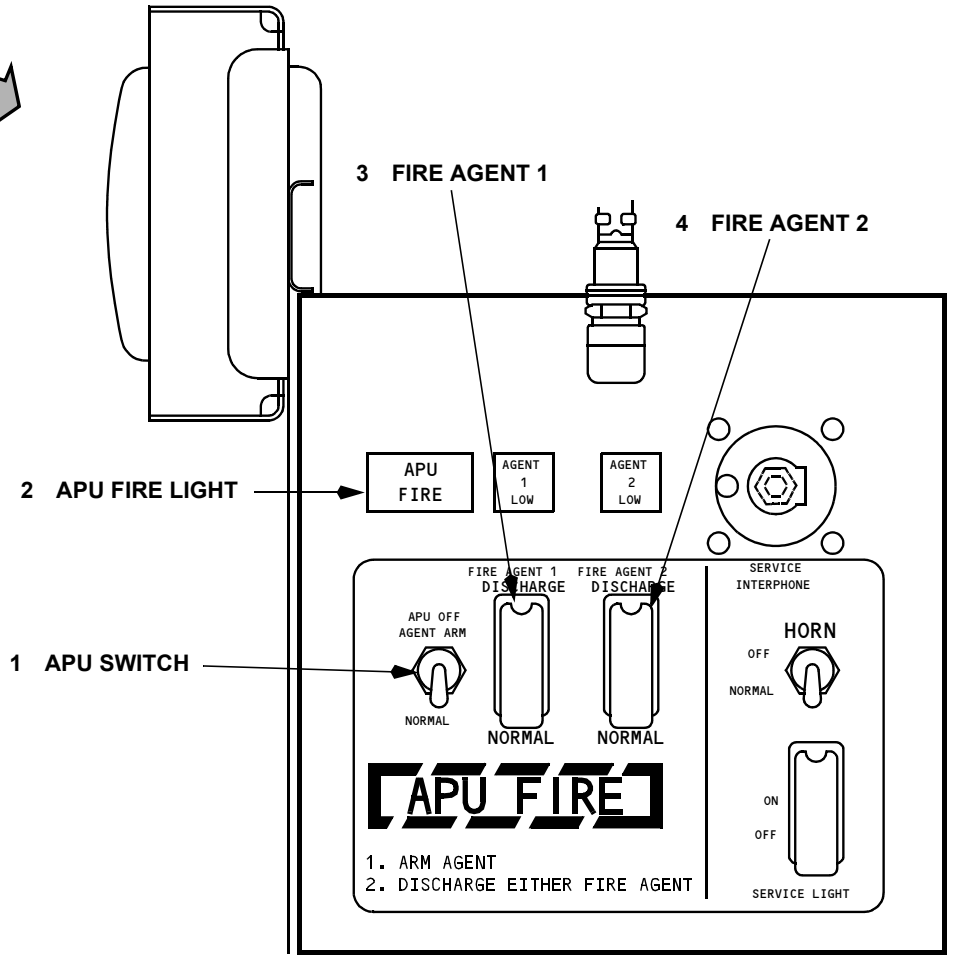
# FLAMMABLE MATERIAL LOCATIONS

BOEING
**MD-11F**




**For Reference Only,** some configurations may vary.






**APU SHUTDOWN AND FIRE PROCEDURE:**

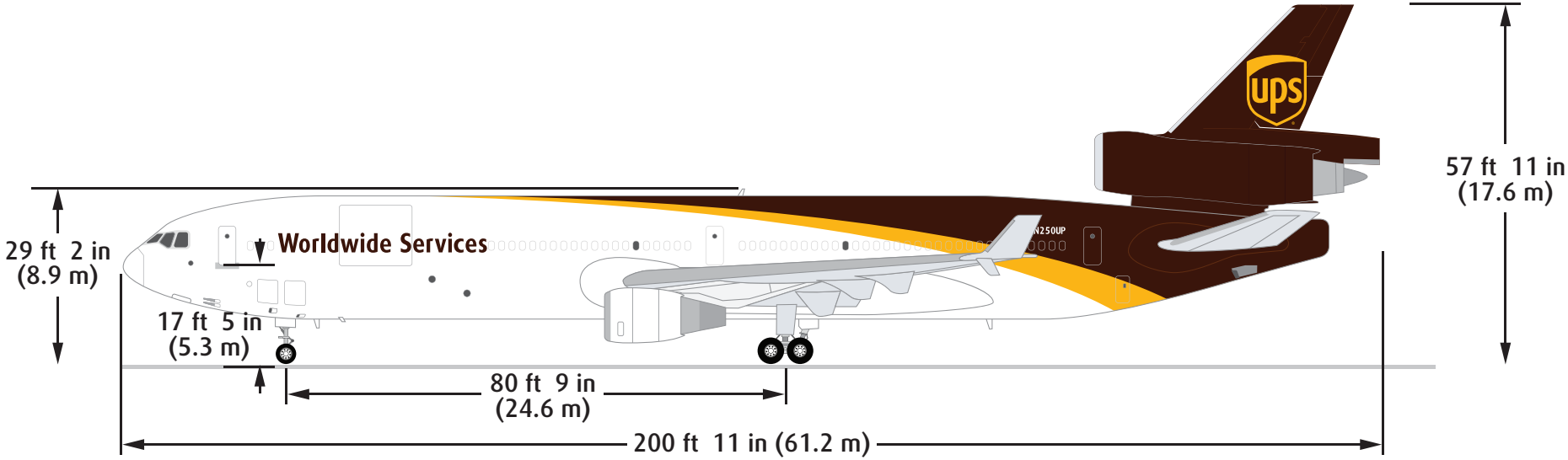
**1. TURN APU SWITCH TO “OFF” (UP).**

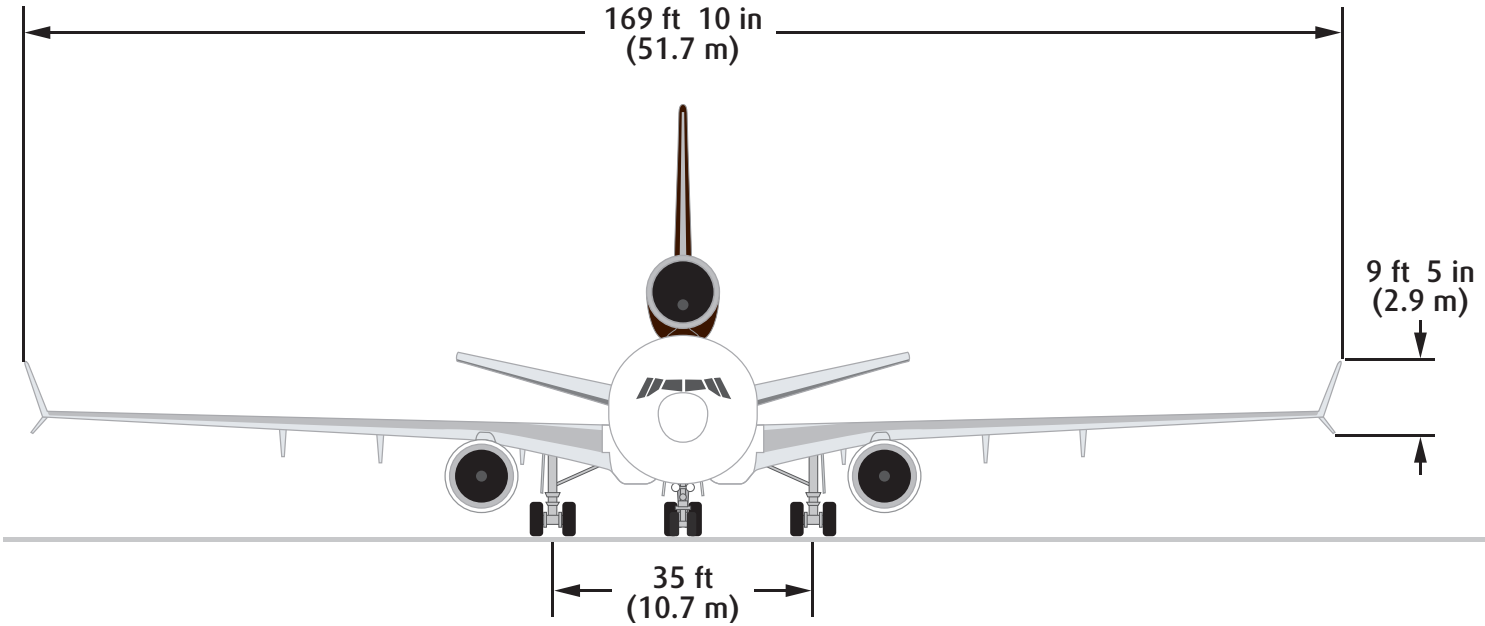
**2. IF APU FIRE LIGHT IS ON...**

**3. FIRE AGENT 1 SWITCH TO “DISCHARGE” (UP).**

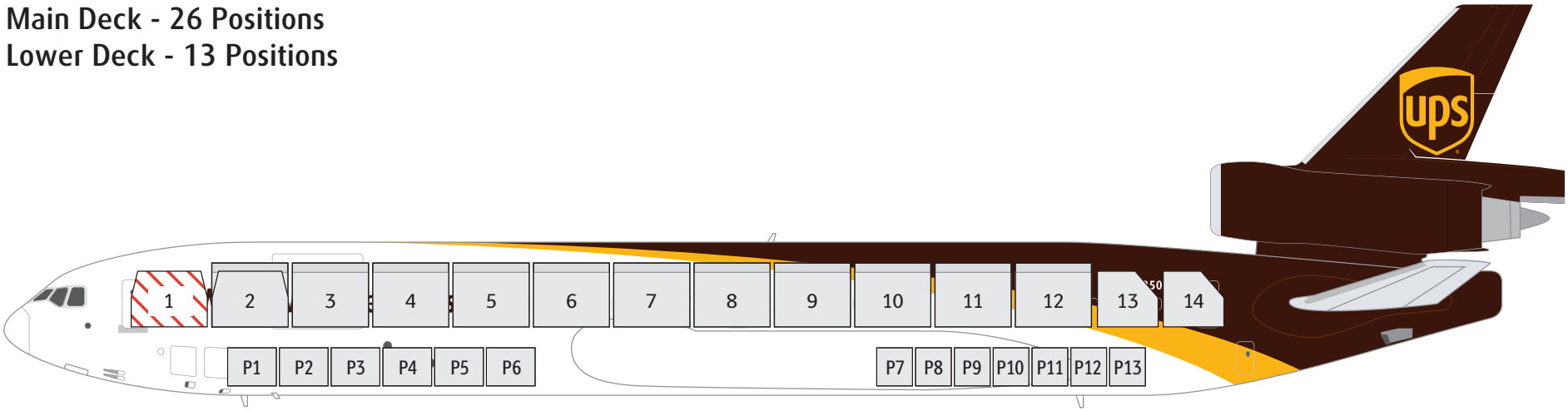
**4. AFTER 30 SECONDS, FIRE AGENT 2 SWITCH TO “DISCHARGE” (UP).**

BOEING
# MD-11F



## Main Deck - 26 Positions
## Lower Deck - 13 Positions





Main Cargo Door

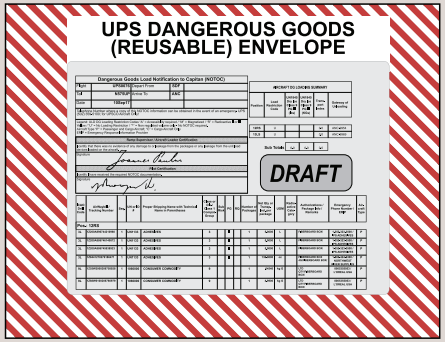
The first location for **"ACCESSIBLE, CARGO AIRCRAFT ONLY"** shipments (if carried).

**WARNING: ANY POSITION MAY CONTAIN HAZMAT!**

Definitions:

- **"CARGO AIRCRAFT ONLY" (CAO)** shipments are hazmat that would not be authorized aboard a passenger-carrying aircraft. CAO shipments requiring in-flight accessibility by the crew ("ACCESSIBLE") will be loaded in the red hashed position. Additional CAO positions on the main deck may added by creating a walkway between subsequent positions.
- **"PASSENGER QUANTITY SHIPMENTS"** are hazmat shipments that would be authorized aboard a passenger-carrying aircraft. They may be loaded anywhere in UPS aircraft.

### NOTOC ENVELOPE



# CONSIDERATIONS FOR ARFF WHEN RESPONDING TO UPS AIRCRAFT

BOEING
## MD-11F

### RESOURCES:

- Seek local UPS management personnel as soon as possible for on scene assistance to incident command. Call UPS Flight Control (502-359-5100) if contact info is not available.
- Contact UPS Aircraft Maintenance control for technical assistance/gaining access (502-359-0001). A mechanic can also be requested for on scene assistance
- Hazmat information is located in the cockpit (NOTOC envelope). See crew, or request a copy from UPS Flight Control (502-359-5100)
- These considerations do not preclude the use of best judgment by the incident commander

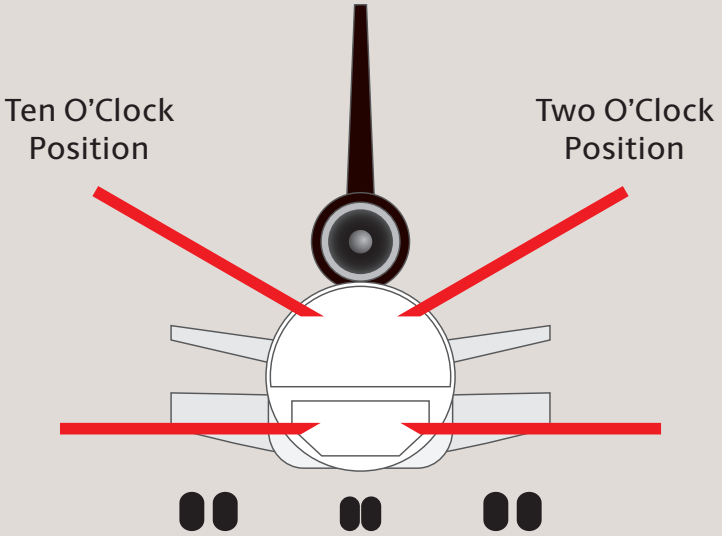
### SAFETY:

- **Landing gear:** consider underneath the aircraft as a collapse zone until determined to be safe.
  - Gear pins are located in the cockpit. Consult mechanic/aircraft maintenance for guidance
  - If unable to install gear pins, landing gear may be unstable
- **Engines running:** use extreme caution around operating engines
  - Inlet and exhaust hazards
  - Foreign object debris ingestion can cause catastrophic engine failure
- **Hot brakes:** do not approach from side, front, or rear
  - Approach wheels at a 45 degree angle
  - Beware of tire bursting and thermal fuse plug discharge due to heat
- **Prevent rolling:** ensure parking brake set, or install chocks on nose gear
- **Tail tipping:** weight of water/foam injected into fuselage can cause tail tipping.
  - Monitor nose strut extension and tire bulge changes for indicator of tipping

### TACTICAL CONSIDERATIONS (AFTER RESCUE OF CREW):

- Use thermal imaging camera to locate fire within fuselage
  - Note: research shows that thermal imaging may not show fire within a unit load device (ULD) container though the fuselage, until the fire breaches the container
- Starve fire of oxygen (close doors/windows/hatches)
- Pierce fuselage
  - Use the longest available piercing device to reach into a ULD container
  - Piercing depths vary from 12 to 58 inches depending on aircraft, container design, and location on aircraft. Average depth is about 26 inches
- Apply appropriate extinguishing agent
- When discharging halotron into cargo area, avoid ventilating as much as possible

### PIERCING LOCATIONS




### Additional Aircraft Information

- **AIRBUS:** https://www.airbus.com/aircraft/support-services/airport-operations-and-technical-data/aircraft-rescue-firefighting-charts.html
- **BOEING:** http://www.boeing.com/commercial/airports/rescue_fire.page

# BOEING 747-400F

UPS Aircraft Rescue Firefighting Guide


**Max. Payload:** 273,300 LBS

**Main Deck:** 33 Containers
**Lower Deck:** 9 Containers

**Max. Fuel Load:** 406,200 LBS
60,600 GAL
(230,000 L)

**Range:** 4,445 NM

**Cruising Speed:** 487 KTS/560 MPH

**Engines:** General Electric CF6-80C2

**For Emergency Responders;**
**Direct Contact Numbers to**
**UPS Flight Operations**

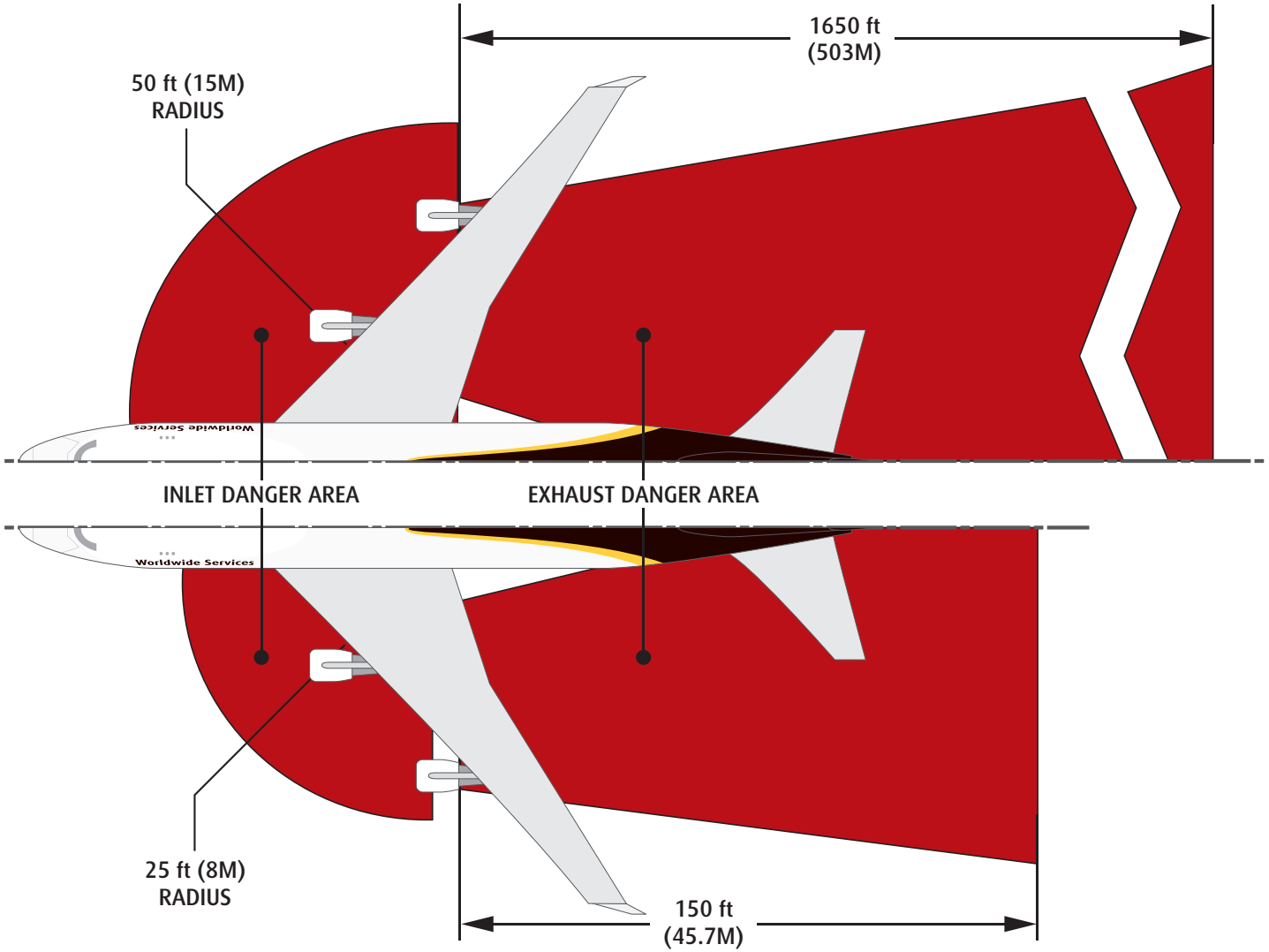
UPS System Operations: 502.359.5350

UPS Flight Control: 502.359.5100

UPS HAZMAT Support Center: 502.380.1800
800.554.9964

# INTAKES AND EXHAUST

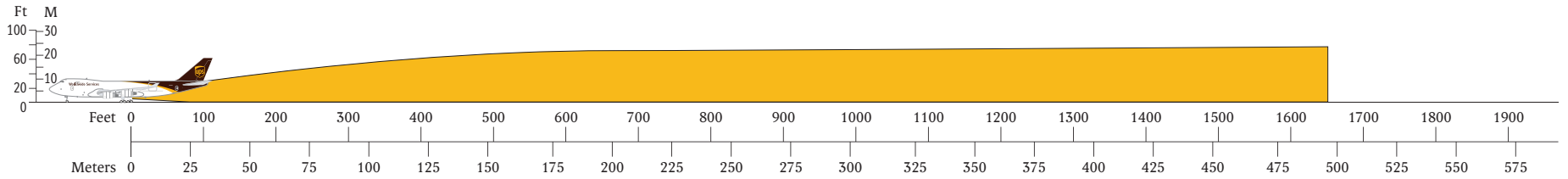
BOEING
**747-400F**

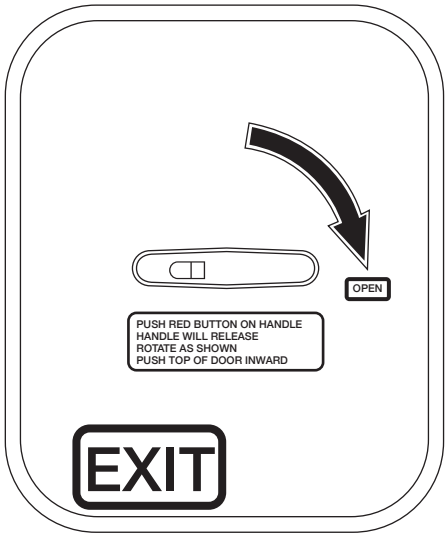



**CAUTION**

Typical Intake & Exhaust Hazards

## TAKE OFF THRUST VISUALIZED



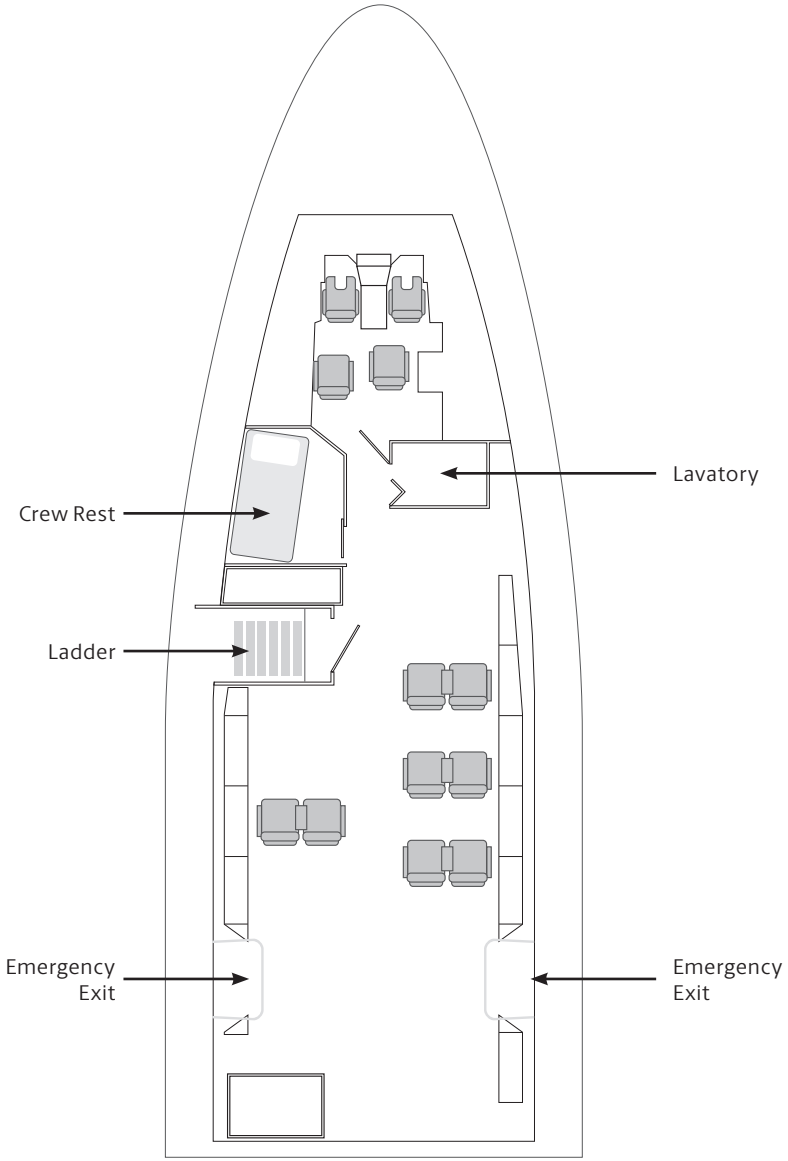



HATCH DETAIL

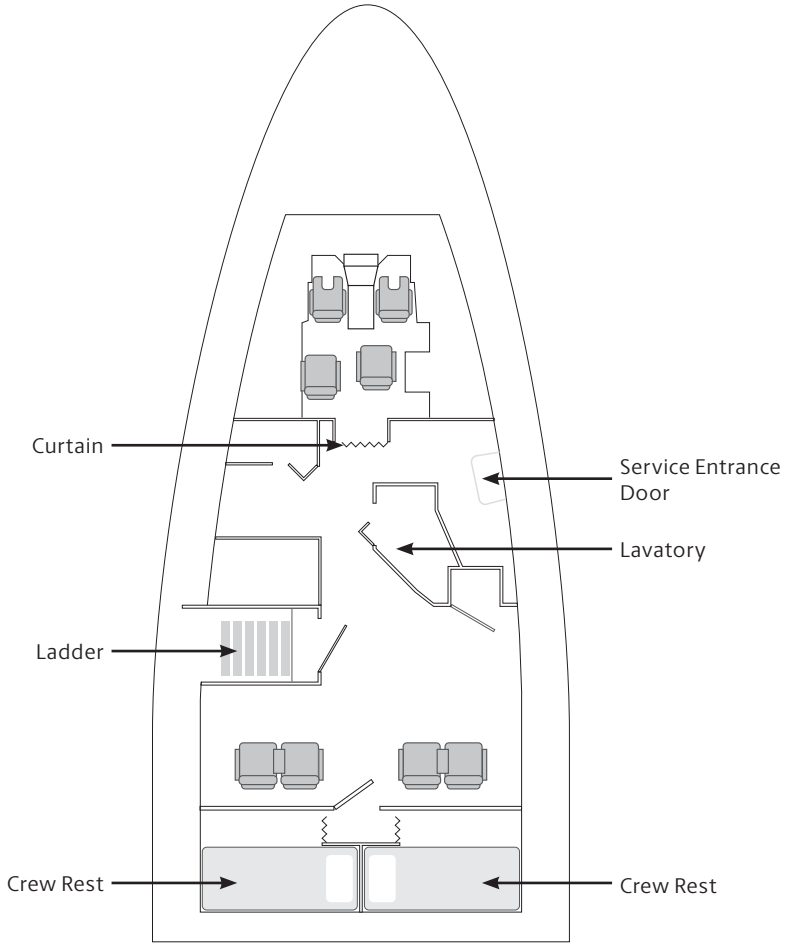



A) CONTROL CABIN/LOUNGE FLOOR LEVEL TO GROUND
WHEELS RETRACTED: 18 FT 4 IN. - WHEELS EXTENDED: 24 FT 6 IN.
B) UPPER DECK CREW DOOR HANDLE
WHEELS RETRACTED: 20 FT 4 IN. - WHEELS EXTENDED: 27 FT
C) PASSENGER CABIN FLOOR LEVEL TO GROUND
WHEELS RETRACTED: 9 FT 10 IN. - WHEELS EXTENDED: 16 FT
D) ENTRY DOOR HANDLE
WHEELS RETRACTED: 13 FT - WHEELS EXTENDED: 19 FT 2 IN.
E) CREW OVERHEAD ESCAPE HATCH
WHEELS RETRACTED: 25 FT 10 IN. - WHEELS EXTENDED: 32 FT

**747-400BCF (PAX Conversion)**
**Maximum seating capacity for flight:**
Twelve (12) people

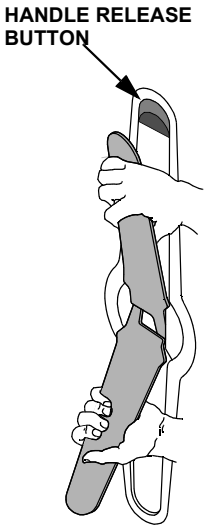



**747-400F**
**Maximum seating capacity for flight:**
Eight (8) people




**For Reference Only,** some configurations may vary.

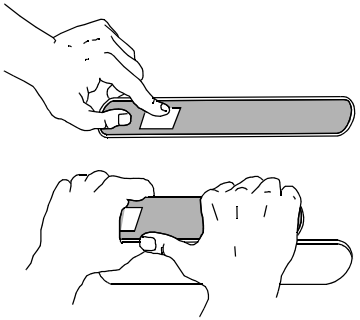
## 1 ENTRY DOORS EXTERNAL HANDLE (2)




TO OPEN DOOR:
1. PUSH HANDLE RELEASE BUTTON AND PULL HANDLE FROM RECESS.
2. ROTATE 180° IN DIRECTION OF "OPEN" ARROW.
3. PULL DOOR OUTWARD

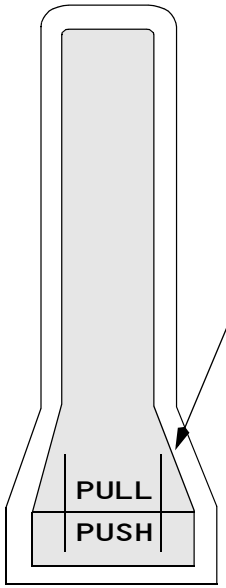
NOTE: OPENING A DOOR FROM THE OUTSIDE DISENGAGES THE EMERGENCY EVACUATION SYSTEM AND THE ESCAPE SLIDE WILL NOT DEPLOY.

## 2 CREW OVERHEAD ESCAPE HATCH EXTERNAL HANDLE



TO OPEN HATCH:
1. PUSH RELEASE TRIGGER ON HANDLE (HANDLE WILL SPRING OUT FROM RECESS APPROXIMATELY 3 INCHES).
2. ROTATE HANDLE 180° CLOCKWISE.
3. PUSH HATCH INWARD.

## 3 UPPER DECK EMERGENCY DOOR




TO OPEN DOOR:
1. PUSH OUTSIDE DISARM LEVER.
2. LIFT DOOR HANDLE.

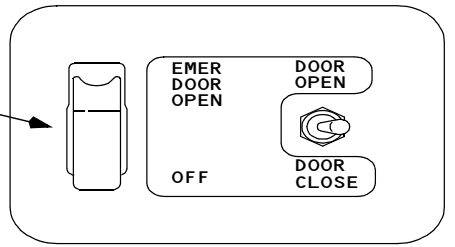
NOTE: PUSHING IN THE DISARM LEVER DISARMS THE SLIDE AND DISENGAGES THE EMERGENCY POWER SYSTEM.
NOTE: CONTROL ACCESS COVER FORWARD OF THE LH DOOR AND AFT OF THE RH DOOR.

3. OPEN CONTROL ACCESS COVER
4. MOVE GUARDED EMERGENCY DOOR SWITCH TO OPEN.

CAUTION: STAND TO THE SIDE OF THE DOOR AS THE DOOR WILL OPEN RAPIDLY AND CANNOT BE STOPPED.

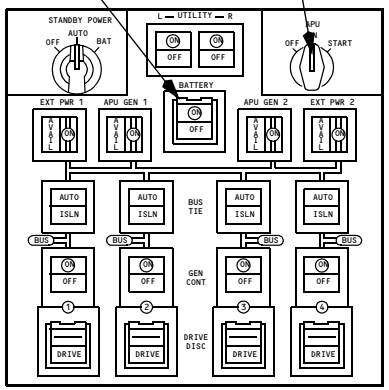
## 4 CUT-IN AREAS

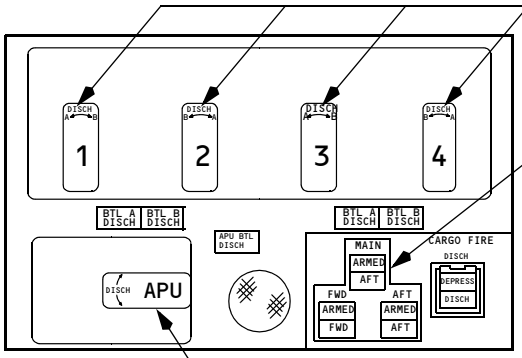
NOTE: CUT-IN AREAS REQUIRE METAL CUTTING PORTABLE POWER EQUIPMENT. BECAUSE OF TYPE OF STRUCTURE AND POSSIBLE INJURY TO PERSONNEL WITHIN, IT IS RECOMMENDED THAT MAJOR EFFORT TO GAIN ACCESS BE DIRECTED TO HATCHES AND DOORS. URGENCY OF SITUATION WILL DICTATE THE NECESSITY FOR A CUT-IN.



APU SELECTOR - ROTATE OFF

BATTERY SWITCH - PRESS
NOTE: ON SYMBOL IS REMOVED



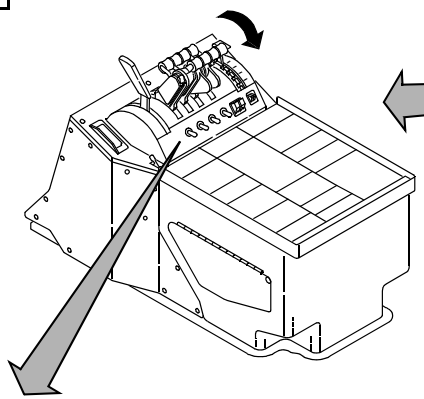



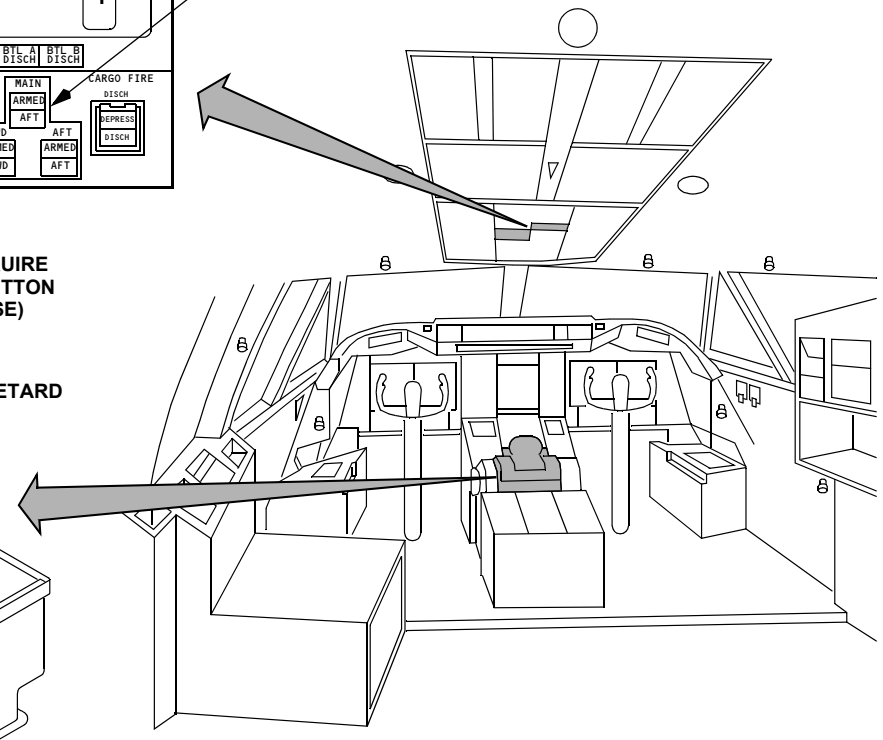

ENGINE FIRE T-HANDLES - PULL
(IF NOT ILLUMINATED, MAY REQUIRE PUSHING AND HOLDING THE BUTTON UNDER THE SWITCH TO RELEASE)

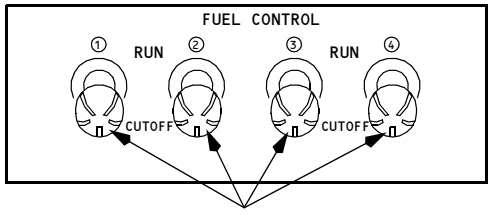
MAIN DECK EXTINGUISHERS AVAILABLE ON FREIGHTER VERSION

APU SWITCH - PULL
(IF NOT ILLUMINATED, MAY REQUIRE PUSHING AND HOLDING THE BUTTON UNDER THE SWITCH TO RELEASE)

THRUST LEVERS - RETARD

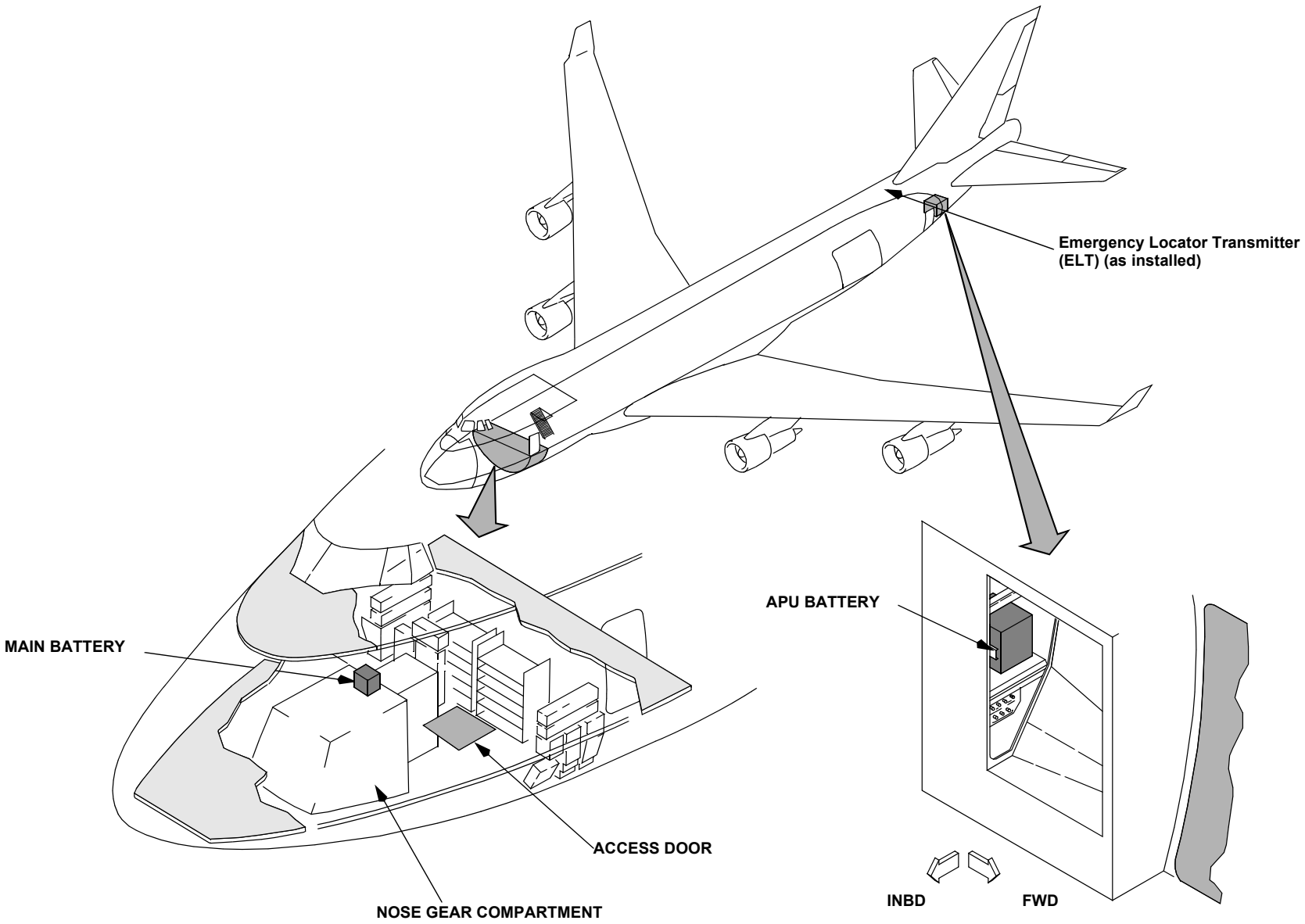






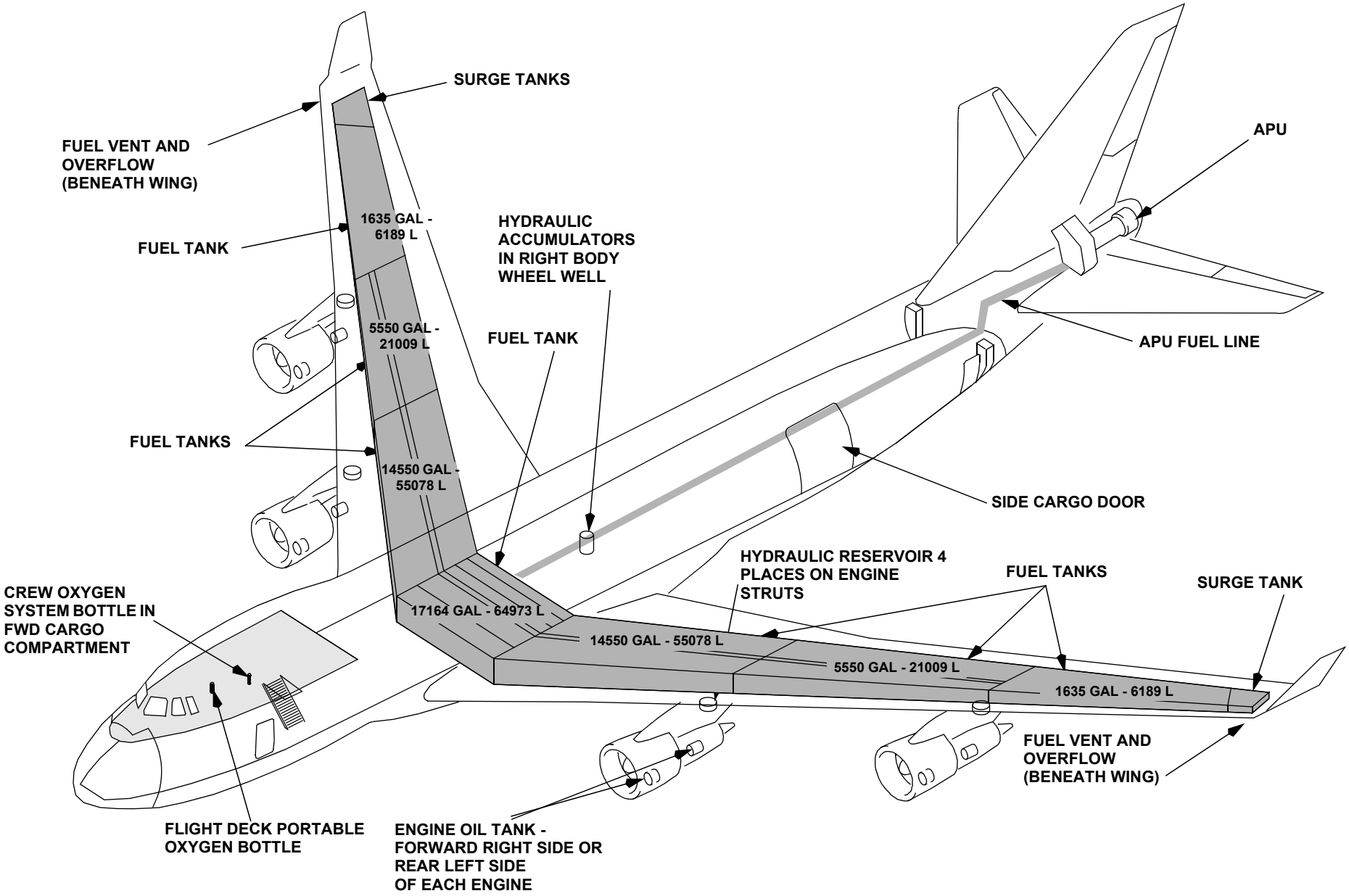

FUEL CONTROL SWITCHES - CUTOFF

CRITICAL SWITCH LOCATIONS AND THEIR OPERATION ARE SHOWN WITH THE EXPANDED VIEWS OF THE CONTROL MODULES.

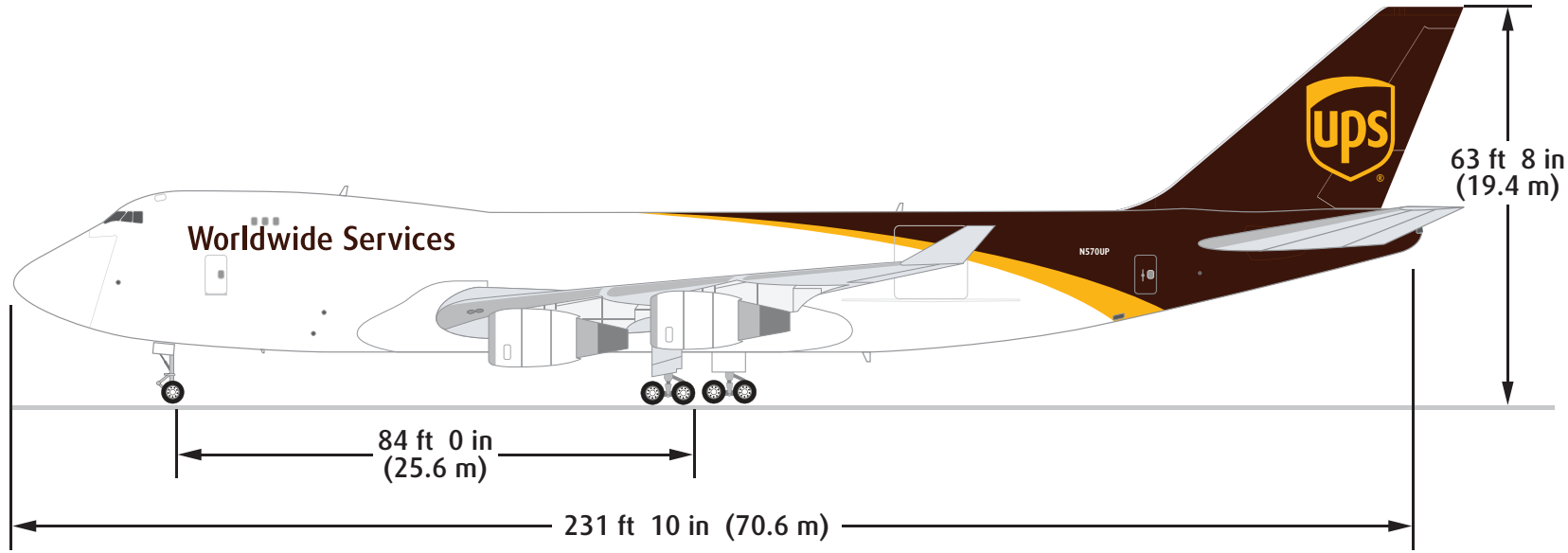

Emergency Locator Transmitter
(ELT) (as installed)
MAIN BATTERY
APU BATTERY
ACCESS DOOR
NOSE GEAR COMPARTMENT
INBD
FWD

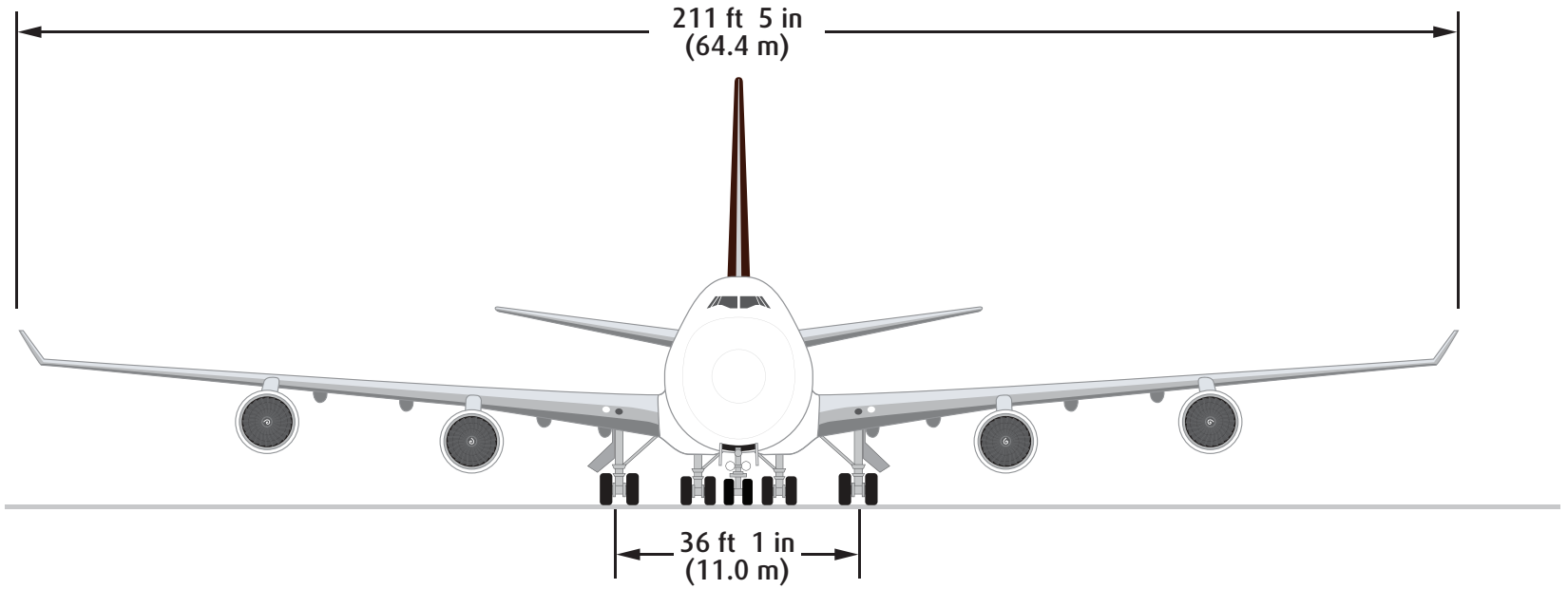
# FLAMMABLE MATERIAL LOCATIONS

BOEING
## 747-400F




**For Reference Only,** some configurations may vary.

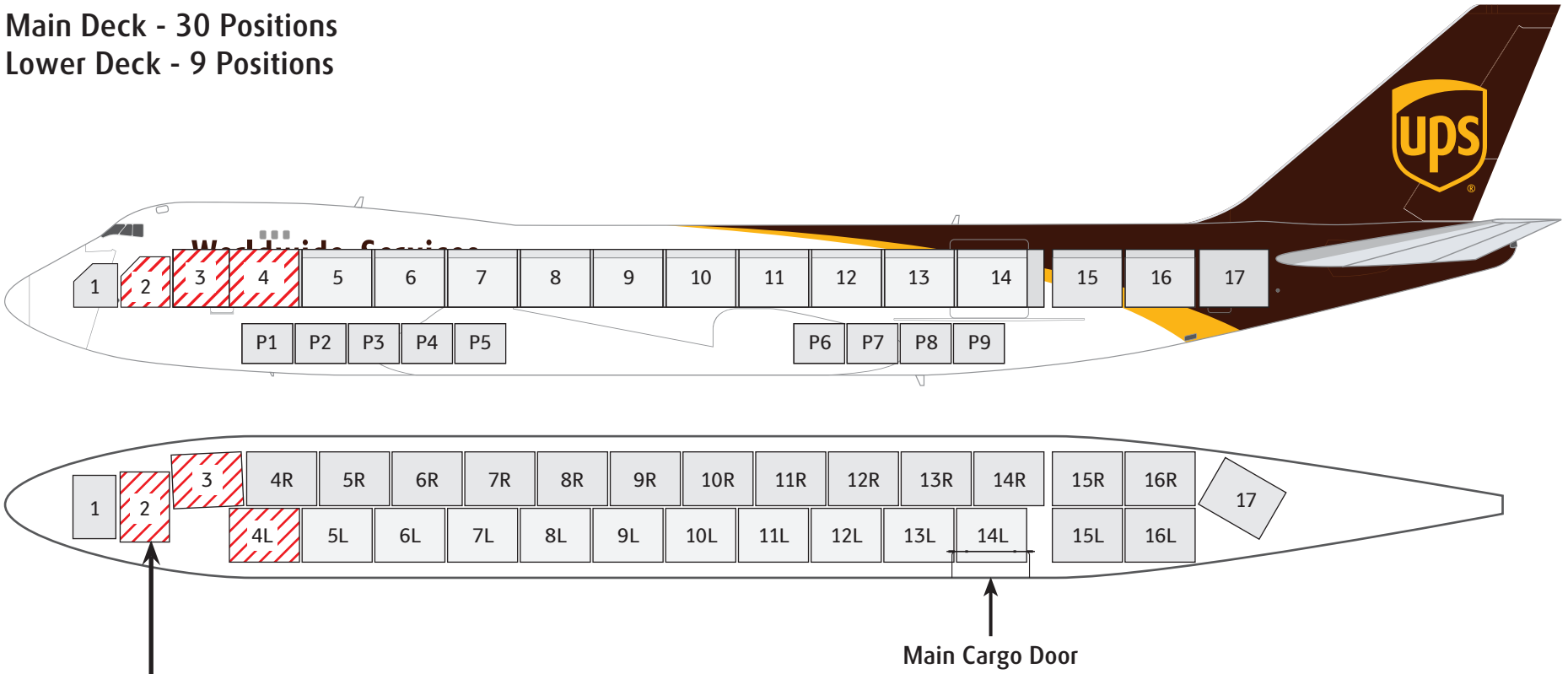

Worldwide Services
N570UP
63 ft 8 in
(19.4 m)
84 ft 0 in
(25.6 m)
231 ft 10 in (70.6 m)


211 ft 5 in
(64.4 m)
36 ft 1 in
(11.0 m)

# CONTAINER LOCATIONS

BOEING
## 747-400F

### Main Deck - 30 Positions
### Lower Deck - 9 Positions



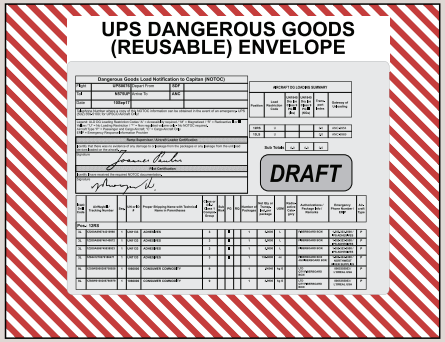

The first location for **"ACCESSIBLE, CARGO AIRCRAFT ONLY"** shipments (if carried).

**WARNING: ANY POSITION MAY CONTAIN HAZMAT!**

Definitions:

- **"CARGO AIRCRAFT ONLY" (CAO)** shipments are hazmat that would not be authorized aboard a passenger-carrying aircraft. CAO shipments requiring in-flight accessibility by the crew ("ACCESSIBLE") will be loaded in the red hashed position. Additional CAO positions on the main deck may added by creating a walkway between subsequent positions.
- **"PASSENGER QUANTITY SHIPMENTS"** are hazmat shipments that would be authorized aboard a passenger-carrying aircraft. They may be loaded anywhere in UPS aircraft.

### NOTOC ENVELOPE




**For Reference Only,** some configurations may vary.

# CONSIDERATIONS FOR ARFF WHEN RESPONDING TO UPS AIRCRAFT

BOEING
**747-400F**

## RESOURCES:

- Seek local UPS management personnel as soon as possible for on scene assistance to incident command. Call UPS Flight Control (502-359-5100) if contact info is not available.
- Contact UPS Aircraft Maintenance control for technical assistance/gaining access (502-359-0001). A mechanic can also be requested for on scene assistance
- Hazmat information is located in the cockpit (NOTOC envelope). See crew, or request a copy from UPS Flight Control (502-359-5100)
- These considerations do not preclude the use of best judgment by the incident commander

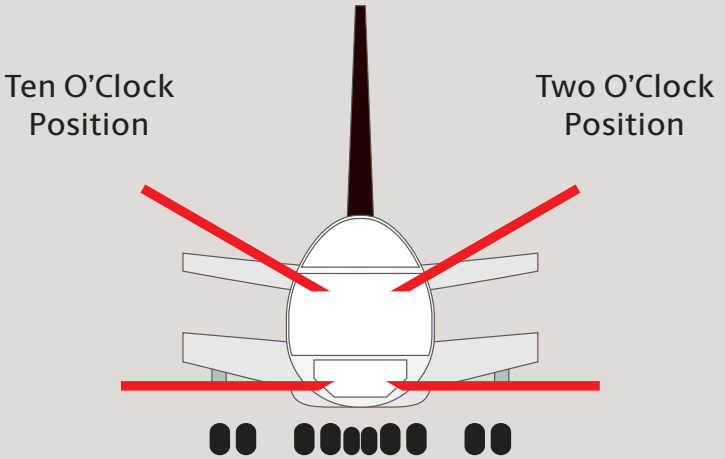
## SAFETY:

- **Landing gear:** consider underneath the aircraft as a collapse zone until determined to be safe.
  - Gear pins are located in the cockpit. Consult mechanic/aircraft maintenance for guidance
  - If unable to install gear pins, landing gear may be unstable
- **Engines running:** use extreme caution around operating engines
  - Inlet and exhaust hazards
  - Foreign object debris ingestion can cause catastrophic engine failure
- **Hot brakes:** do not approach from side, front, or rear
  - Approach wheels at a 45 degree angle
  - Beware of tire bursting and thermal fuse plug discharge due to heat
- **Prevent rolling:** ensure parking brake set, or install chocks on nose gear
- **Tail tipping:** weight of water/foam injected into fuselage can cause tail tipping.
  - Monitor nose strut extension and tire bulge changes for indicator of tipping

## TACTICAL CONSIDERATIONS (AFTER RESCUE OF CREW):

- Use thermal imaging camera to locate fire within fuselage
  - Note: research shows that thermal imaging may not show fire within a unit load device (ULD) container though the fuselage, until the fire breaches the container
- Starve fire of oxygen (close doors/windows/hatches)
- Pierce fuselage
  - Use the longest available piercing device to reach into a ULD container
  - Piercing depths vary from 12 to 58 inches depending on aircraft, container design, and location on aircraft. Average depth is about 26 inches
- Apply appropriate extinguishing agent
- When discharging halotron into cargo area, avoid ventilating as much as possible

## PIERCING LOCATIONS




## NOSE CHOP
(IF NO POWER)


### Additional Aircraft Information

- **AIRBUS:** https://www.airbus.com/aircraft/support-services/airport-operations-and-technical-data/aircraft-rescue-firefighting-charts.html
- **BOEING:** http://www.boeing.com/commercial/airports/rescue_fire.page

# BOEING 747-8F

UPS Aircraft Rescue Firefighting Guide

**Max. Payload:** 307,600 LBS

**Main Deck:** 34 Containers
**Lower Deck:** 12 Containers

**Max. Fuel Load:** 379,400 LBS
56,600 GAL
(214,300 L)

**Range:** 4,200 NM

**Cruising Speed:** 487 KTS/560 MPH

**Engines:** GEnx-2B


**For Emergency Responders;
Direct Contact Numbers to
UPS Flight Operations**

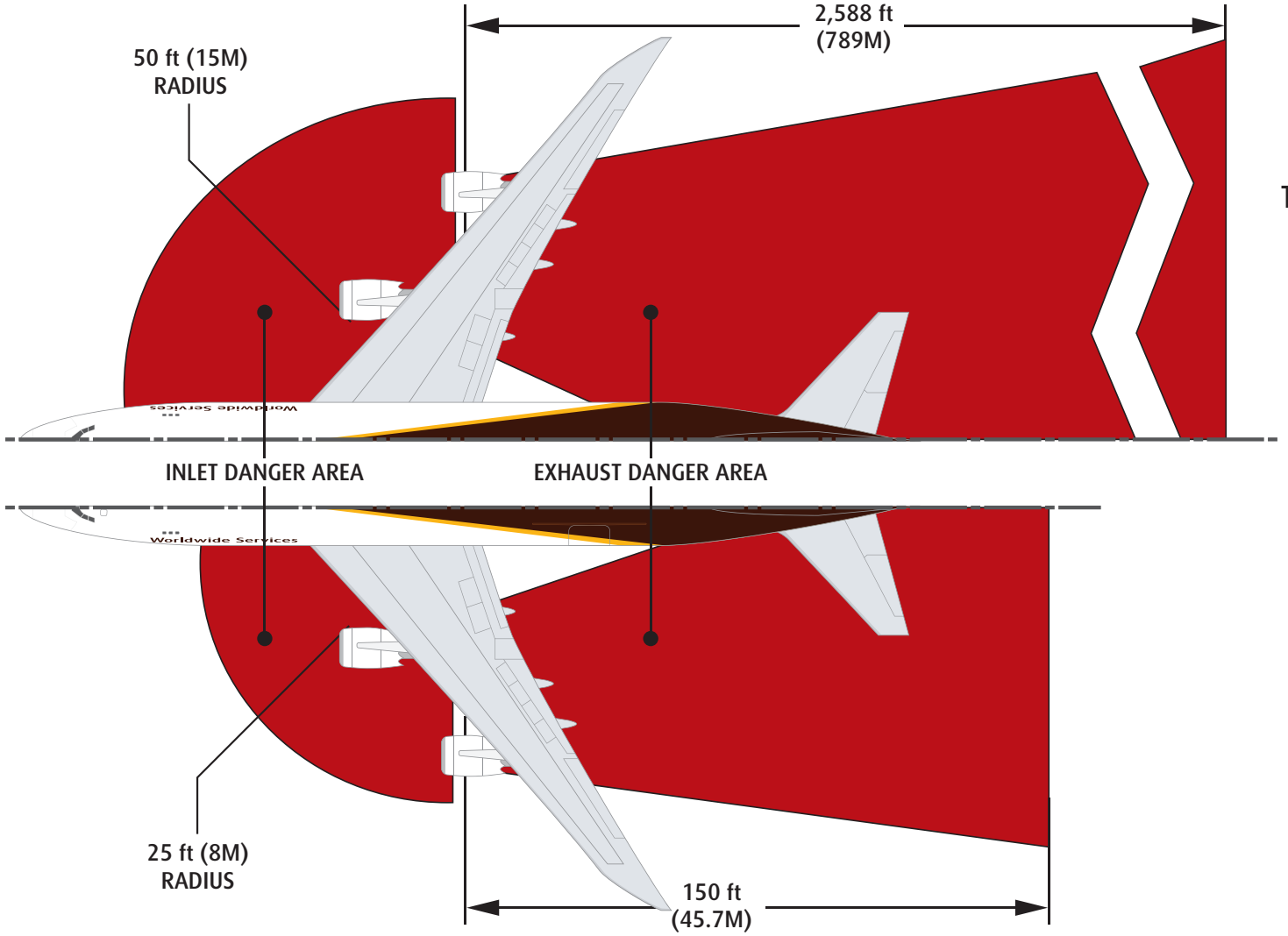
UPS System Operations: 502.359.5350

UPS Flight Control: 502.359.5100

UPS HAZMAT Support Center: 502.380.1800
800.554.9964

# INTAKES AND EXHAUST

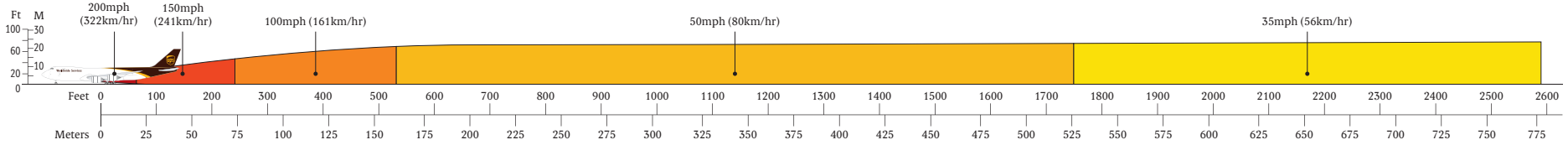
BOEING
**747-8F**




**CAUTION**

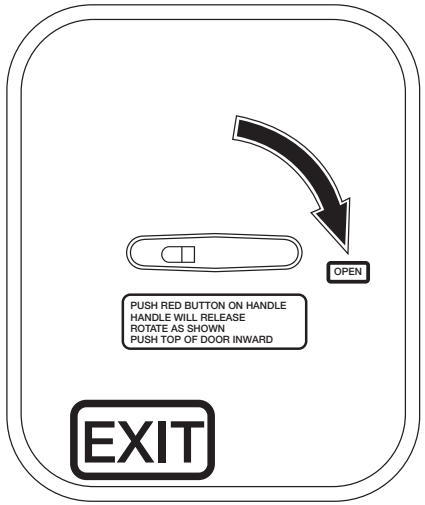
Typical Intake & Exhaust Hazards

## TAKE OFF THRUST VISUALIZED



# EMERGENCY RESCUE ACCESS

BOEING
**747-8F**




HATCH DETAIL



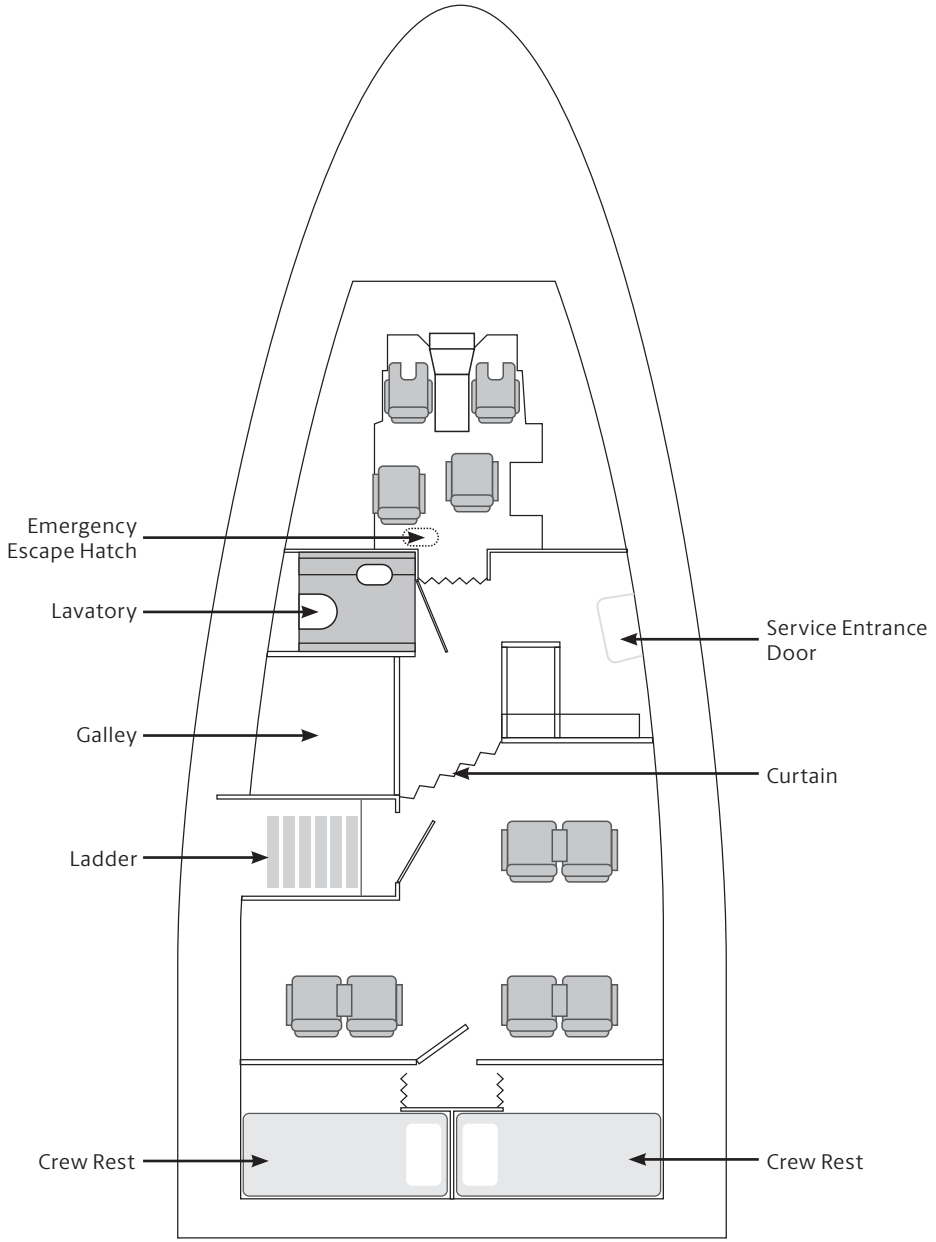

**A) CONTROL CABIN/LOUNGE FLOOR LEVEL TO GROUND**
**WHEELS RETRACTED: 18 FT 4 IN. - WHEELS EXTENDED: 24 FT 6 IN.**
**B) UPPER DECK CREW DOOR HANDLE**
**WHEELS RETRACTED: 20 FT 4 IN. - WHEELS EXTENDED: 27 FT**
**C) PASSENGER CABIN FLOOR LEVEL TO GROUND**
**WHEELS RETRACTED: 9 FT 10 IN. - WHEELS EXTENDED: 16 FT**
**D) ENTRY DOOR HANDLE**
**WHEELS RETRACTED: 13 FT - WHEELS EXTENDED: 19 FT 2 IN.**
**E) CREW OVERHEAD ESCAPE HATCH**
**WHEELS RETRACTED: 25 FT 10 IN. - WHEELS EXTENDED: 32 FT**

**For Reference Only,** some configurations may vary.

# EMERGENCY RESCUE ACCESS

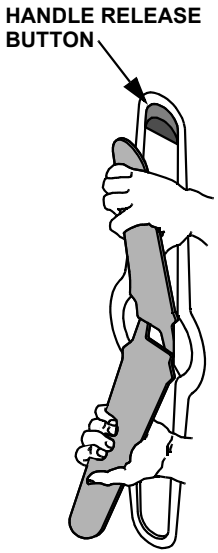
BOEING
**747-8F**

**MAXIMUM SEATING CAPACITY FOR FLIGHT:**
TEN (10) PEOPLE




**For Reference Only,** some configurations may vary.

## 1 ENTRY DOORS EXTERNAL HANDLE (2)

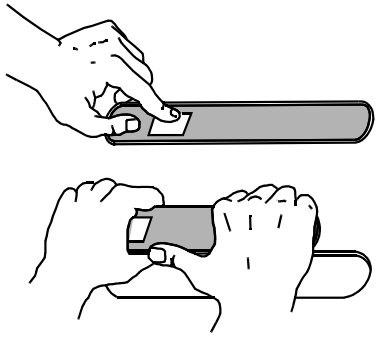



**TO OPEN DOOR:**

1. PUSH HANDLE RELEASE BUTTON AND PULL HANDLE FROM RECESS.
2. ROTATE 180° IN DIRECTION OF "OPEN" ARROW.
3. PULL DOOR OUTWARD

**NOTE: OPENING A DOOR FROM THE OUTSIDE DISENGAGES THE EMERGENCY EVACUATION SYSTEM AND THE ESCAPE SLIDE WILL NOT DEPLOY.**

## 2 CREW OVERHEAD ESCAPE HATCH EXTERNAL HANDLE



**TO OPEN HATCH:**

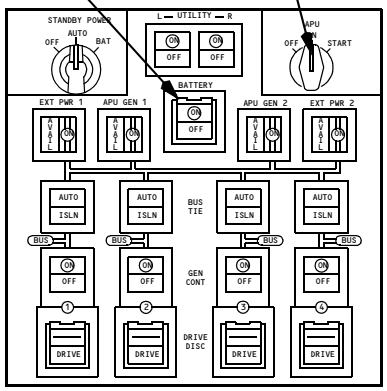
1. PUSH RELEASE TRIGGER ON HANDLE (HANDLE WILL SPRING OUT FROM RECESS APPROXIMATELY 3 INCHES).
2. ROTATE HANDLE 180° CLOCKWISE.
3. PUSH HATCH INWARD.

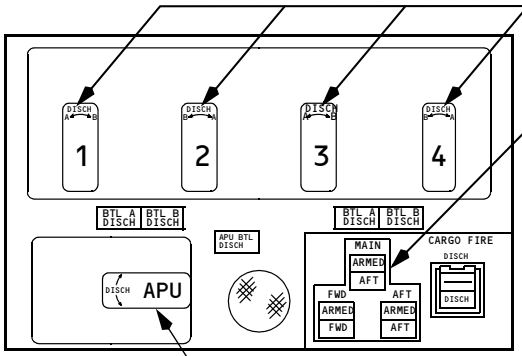
## 3 CUT-IN AREAS

**NOTE: CUT-IN AREAS REQUIRE METAL CUTTING PORTABLE POWER EQUIPMENT. BECAUSE OF TYPE OF STRUCTURE AND POSSIBLE INJURY TO PERSONNEL WITHIN, IT IS RECOMMENDED THAT MAJOR EFFORT TO GAIN ACCESS BE DIRECTED TO HATCHES AND DOORS. URGENCY OF SITUATION WILL DICTATE THE NECESSITY FOR A CUT-IN.**

APU SELECTOR - ROTATE OFF

BATTERY SWITCH - PRESS
NOTE: ON SYMBOL IS REMOVED



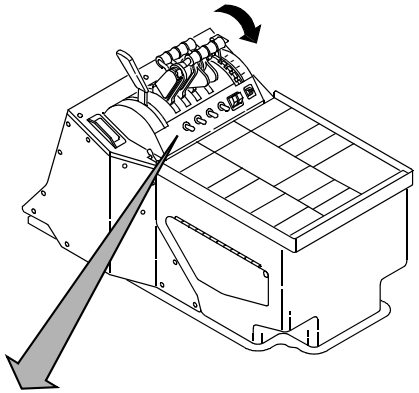



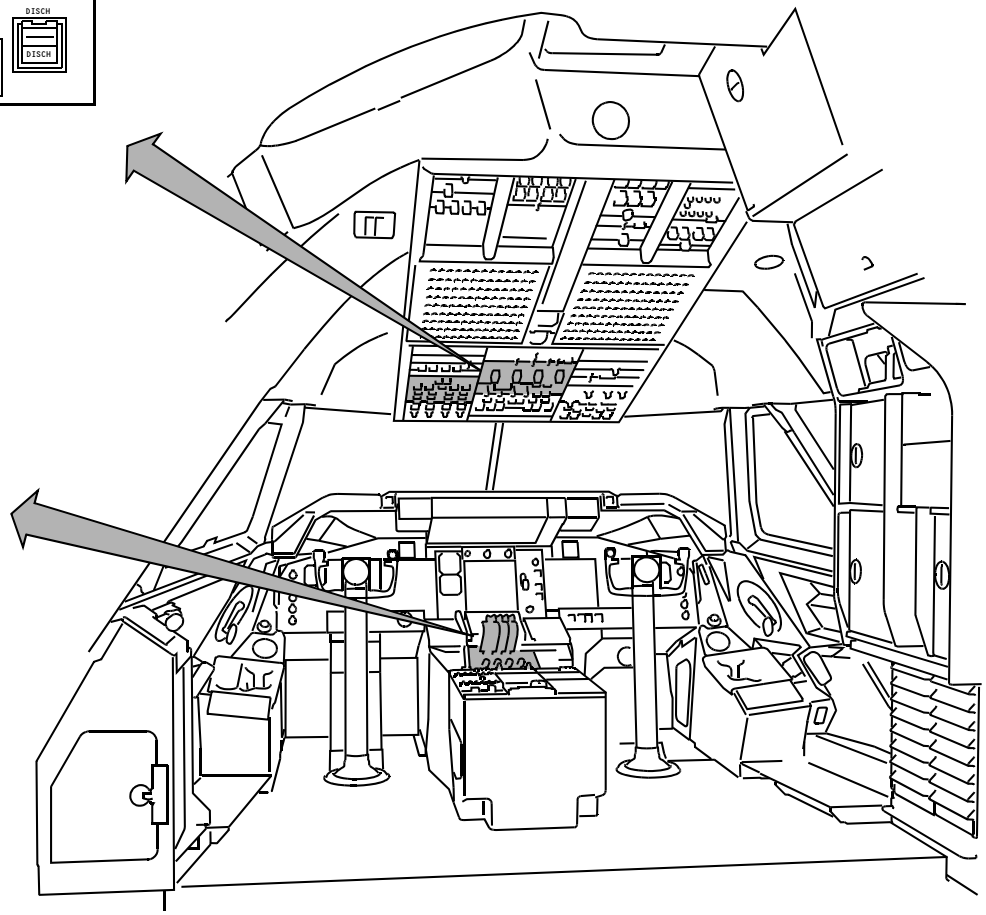

ENGINE FIRE T-HANDLES - PULL
(IF NOT ILLUMINATED, MAY REQUIRE PUSHING AND HOLDING THE BUTTON UNDER THE SWITCH TO RELEASE)

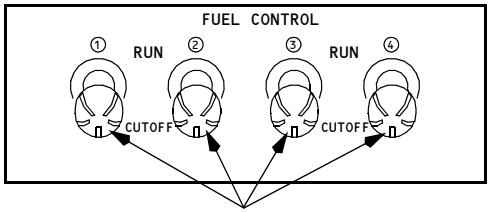
MAIN DECK EXTINGUISHERS AVAILABLE ON FREIGHTER VERSION

APU SWITCH - PULL
(IF NOT ILLUMINATED, MAY REQUIRE PUSHING AND HOLDING THE BUTTON UNDER THE SWITCH TO RELEASE)

THRUST LEVERS - RETARD

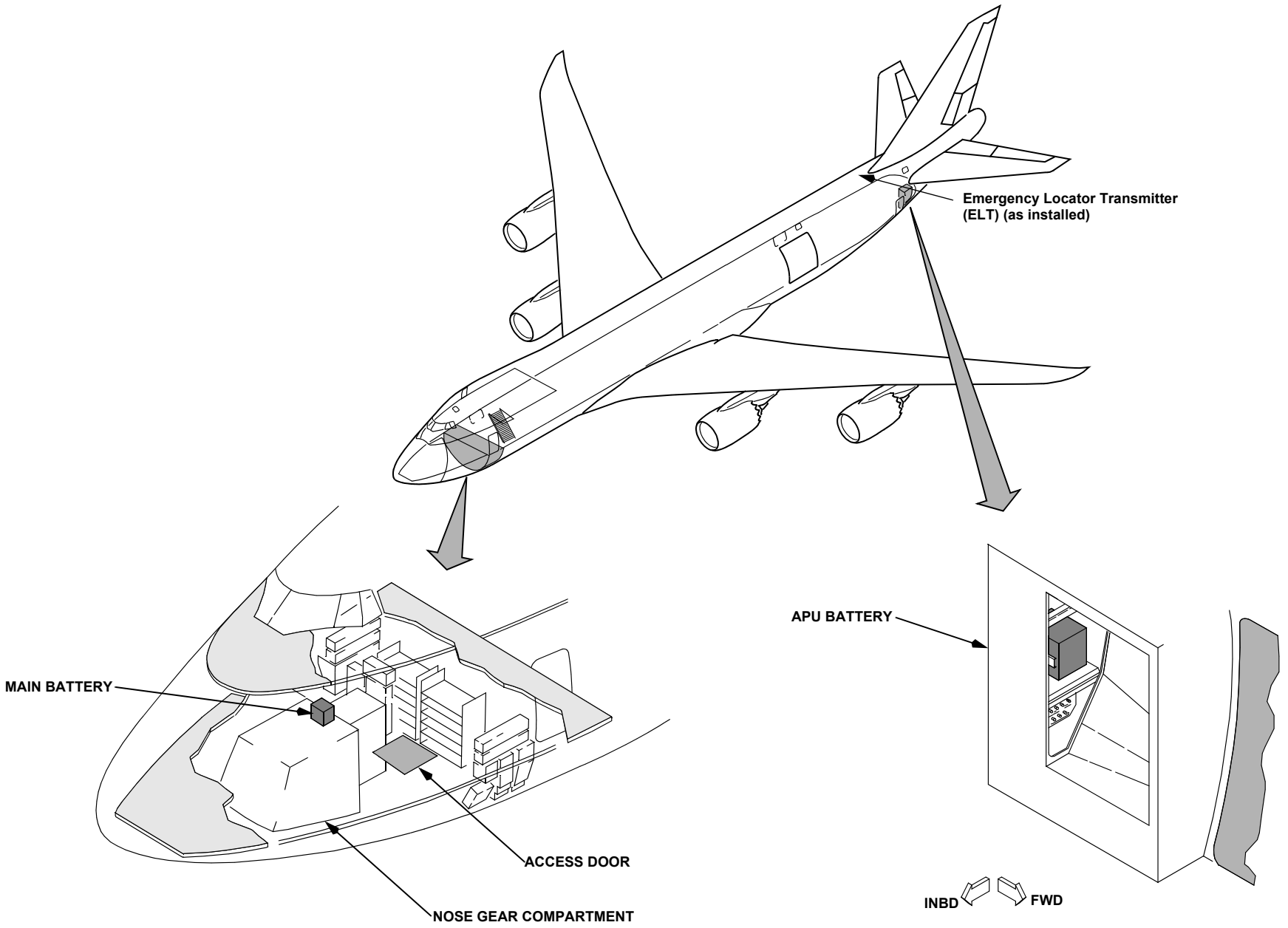







FUEL CONTROL SWITCHES - CUTOFF

CRITICAL SWITCH LOCATIONS AND THEIR OPERATION ARE SHOWN WITH THE EXPANDED VIEWS OF THE CONTROL MODULES.

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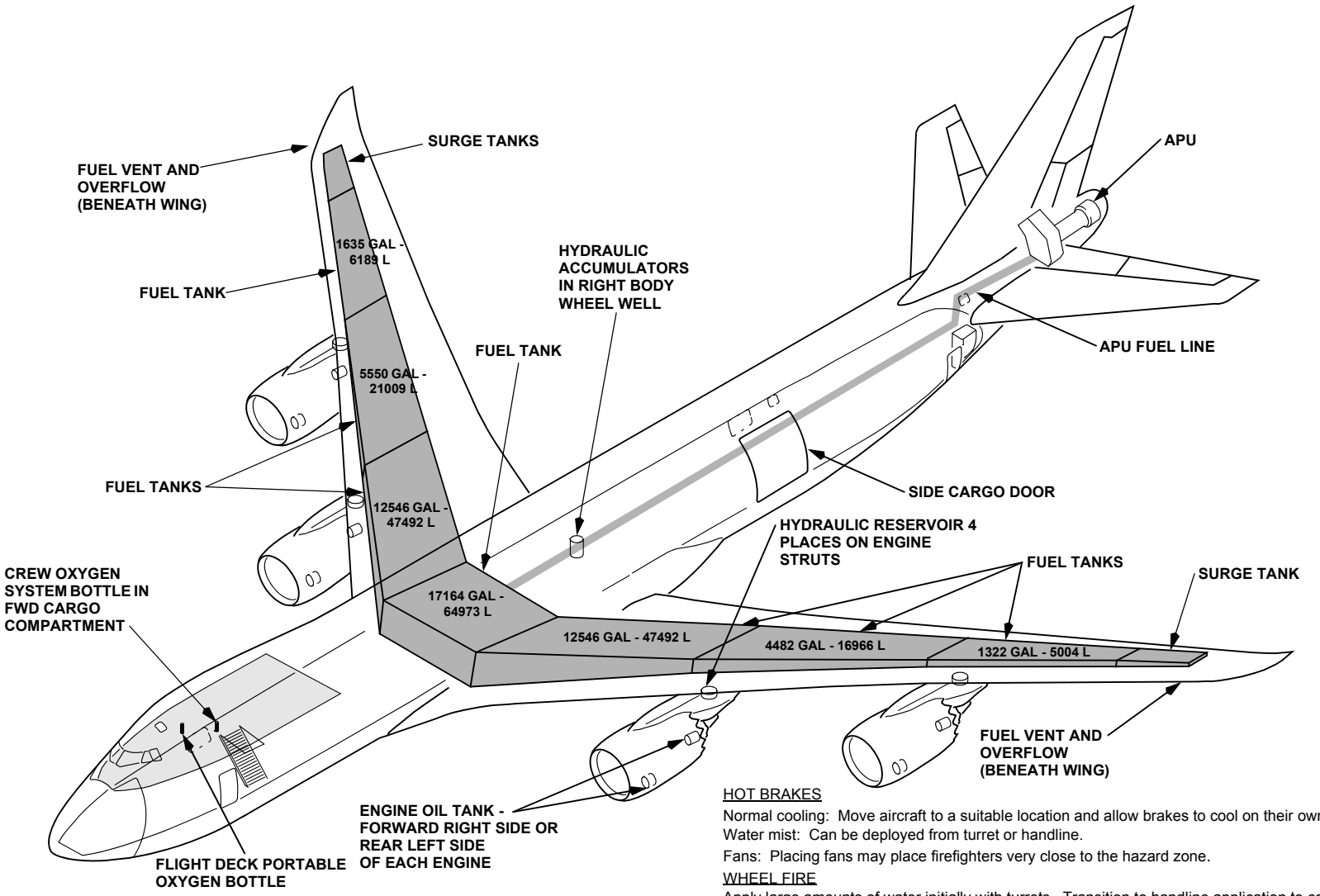
# FLAMMABLE MATERIAL LOCATIONS

BOEING
747-8F




**CAUTION:** **Rescue crews wearing full PPE to include SCBA's must use caution when moving across sections of aircraft that have been exposed to fatigue or fire as the result of an accident. Crews need to verify the integrity of the surface area before moving their weight and equipment across it. Signs could include but are not limited to deformity of structure, visual signs of flame impingement or uneven surfaces. Surface integrity can be checked with a pike pole, axe or any instrument used to sound surfaces for integrity.**

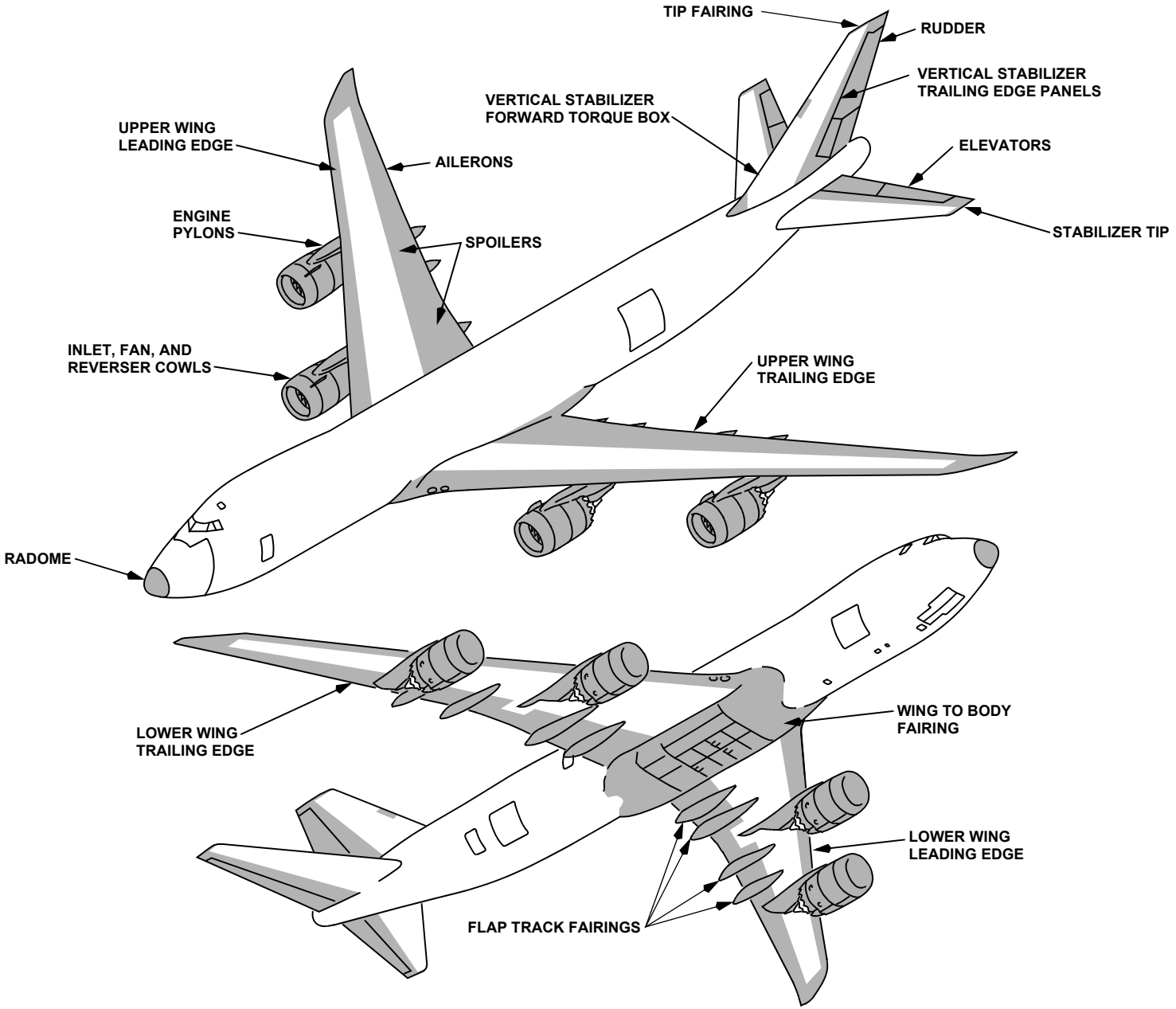
HOT BRAKES

Normal cooling: Move aircraft to a suitable location and allow brakes to cool on their own.
Water mist: Can be deployed from turret or handline.
Fans: Placing fans may place firefighters very close to the hazard zone.

WHEEL FIRE

Apply large amounts of water initially with turrets. Transition to handline application to continue and maintain a cooling effect.
**Wheels are equipped with fusible plugs designed to melt and deflate the tire when the temperature is excessive.**

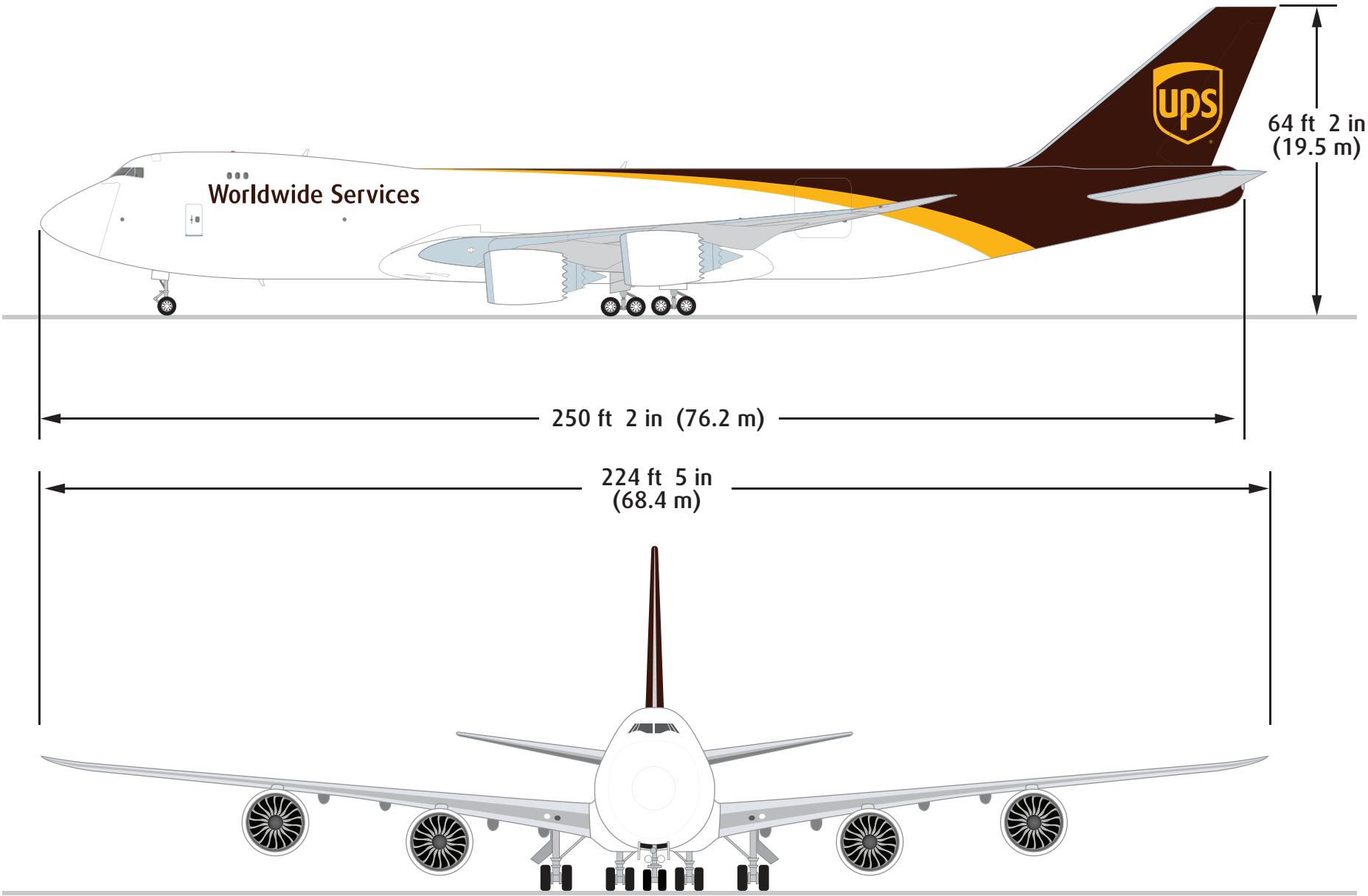
**WARNING:** **Approach landing gear trucks from forward or aft at a 45 degree angle when approaching hot brakes or fighting a wheel fire, as rims and tires may pose a fragmentation hazard.**



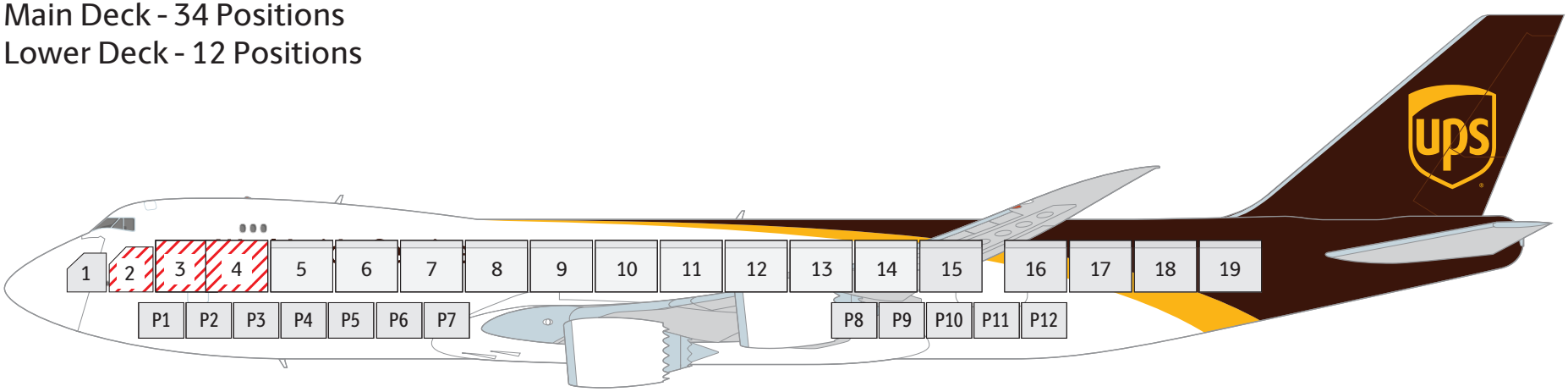

**For Reference Only,** some configurations may vary.

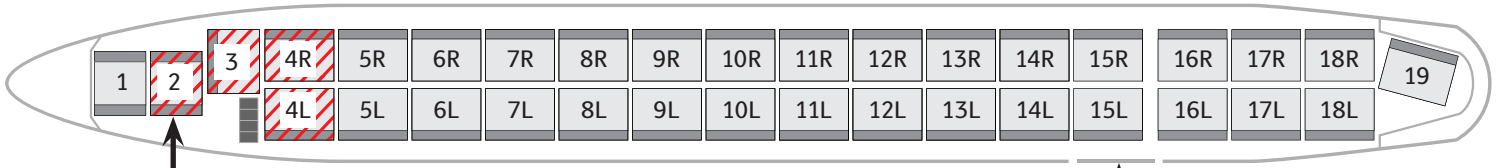
# AIRCRAFT DIMENSIONS

BOEING
## 747-8F



Main Deck - 34 Positions
Lower Deck - 12 Positions




**Main Cargo Door**

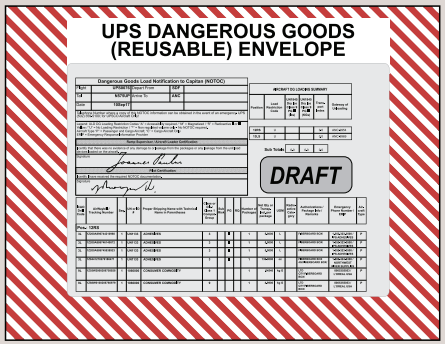
The first location for **"ACCESSIBLE, CARGO AIRCRAFT ONLY"** shipments (if carried).

**WARNING: ANY POSITION MAY CONTAIN HAZMAT!**

Definitions:

- **"CARGO AIRCRAFT ONLY" (CAO)** shipments are hazmat that would not be authorized aboard a passenger-carrying aircraft. CAO shipments requiring in-flight accessibility by the crew ("ACCESSIBLE") will be loaded in the red hashed position. Additional CAO positions on the main deck may added by creating a walkway between subsequent positions.
- **"PASSENGER QUANTITY SHIPMENTS"** are hazmat shipments that would be authorized aboard a passenger-carrying aircraft. They may be loaded anywhere in UPS aircraft.

## NOTOC ENVELOPE



# CONSIDERATIONS FOR ARFF WHEN RESPONDING TO UPS AIRCRAFT

BOEING
**747-8F**

## RESOURCES:

- Seek local UPS management personnel as soon as possible for on scene assistance to incident command. Call UPS Flight Control (502-359-5100) if contact info is not available.
- Contact UPS Aircraft Maintenance control for technical assistance/gaining access (502-359-0001). A mechanic can also be requested for on scene assistance
- Hazmat information is located in the cockpit (NOTOC envelope). See crew, or request a copy from UPS Flight Control (502-359-5100)
- These considerations do not preclude the use of best judgment by the incident commander

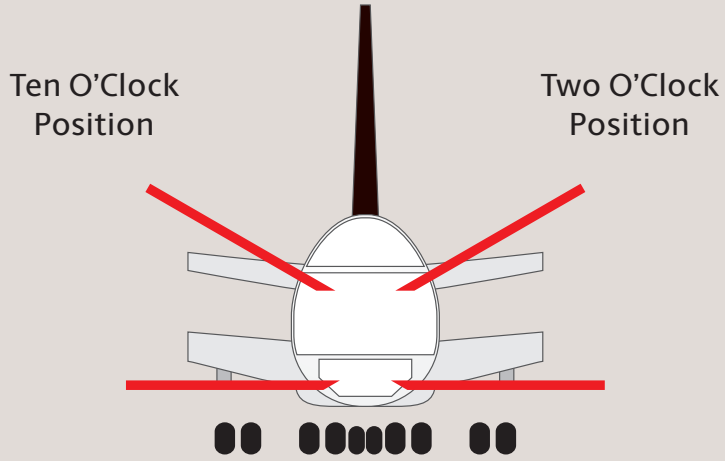
## SAFETY:

- **Landing gear:** consider underneath the aircraft as a collapse zone until determined to be safe.
  - Gear pins are located in the cockpit. Consult mechanic/aircraft maintenance for guidance
  - If unable to install gear pins, landing gear may be unstable
- **Engines running:** use extreme caution around operating engines
  - Inlet and exhaust hazards
  - Foreign object debris ingestion can cause catastrophic engine failure
- **Hot brakes:** do not approach from side, front, or rear
  - Approach wheels at a 45 degree angle
  - Beware of tire bursting and thermal fuse plug discharge due to heat
- **Prevent rolling:** ensure parking brake set, or install chocks on nose gear
- **Tail tipping:** weight of water/foam injected into fuselage can cause tail tipping.
  - Monitor nose strut extension and tire bulge changes for indicator of tipping

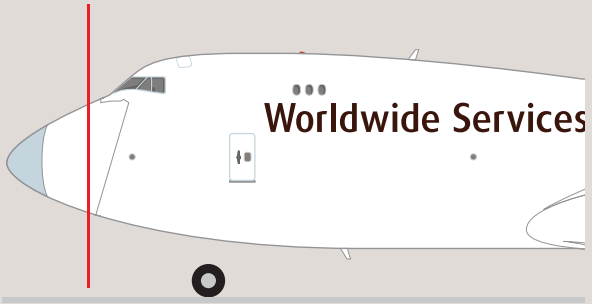
## TACTICAL CONSIDERATIONS (AFTER RESCUE OF CREW):

- Use thermal imaging camera to locate fire within fuselage
  - Note: research shows that thermal imaging may not show fire within a unit load device (ULD) container though the fuselage, until the fire breaches the container
- Starve fire of oxygen (close doors/windows/hatches)
- Pierce fuselage
  - Use the longest available piercing device to reach into a ULD container
  - Piercing depths vary from 12 to 58 inches depending on aircraft, container design, and location on aircraft. Average depth is about 26 inches
- Apply appropriate extinguishing agent
- When discharging halotron into cargo area, avoid ventilating as much as possible

## PIERCING LOCATIONS




## NOSE CHOP
(IF NO POWER)




### Additional Aircraft Information

- **AIRBUS:** https://www.airbus.com/aircraft/support-services/airport-operations-and-technical-data/aircraft-rescue-firefighting-charts.html
- **BOEING:** http://www.boeing.com/commercial/airports/rescue_fire.page