Objectives

The Embraer 170/190 and Bombardier CRJ have been used as a base example to illustrate the framework of the aircraft specific modules that cover the standardized fueling procedures for an aircraft type.

By the end of these lessons, fueling personnel will be able to:

- Explain the significance of aircraft characteristics on refueling operations.
- Describe pertinent fuel system specifications and list any common options or procedural variances.
- Identify location of static electricity bonding points, fueling adapters and panels.
- Describe fuel panel layout and demonstrate panel and fuel system tests.
- Explain the automatic fueling procedure.
- Explain the manual fueling procedure.
- Demonstrate an awareness of defueling controls.
- Demonstrate an awareness of gravity refueling procedures (Embreaer and CRJ only).

Key topics

The aircraft-specific training consists of two parts which can be made available separately to learners based on operational needs:

Part A: Automatic Refuel

- Familiarization with physical characteristics of this aircraft, including size and engine configuration
- Location of refueling equipment
  - Tank 1 (left) integral fuel wing tank
  - Tank 2 (right) integral fuel wing tank
  - Authorized bonding points
  - Fueling adapter
- Refuel/defuel control panel
  - Refueling switch
  - Refueling closed lights
  - Refuel selection switch
  - Display
  - Power selection switch
- Wing fuel tank vents
- Wing pressure relief valves
- Gravity refueling points (EMB & CRJ only)
- Defueling open light
- Defueling switch
- Increase/Decrease switch
- Tank selection/Test switch
• Performing an Automatic Refuel
  - How to prepare the aircraft and the immediate area around the aircraft for the refuel
  - How to set the controls and check indicators on the refuel control panel prior to starting the refuel for an Automatic refuel
  - What to monitor while the refuel is in progress
  - How to complete the refuel safely

➢ Topic Quiz

Part B: Manual Refuel

• Location of refueling equipment (recap)
• Reasons to use the manual fueling mode
• Performing a Manual Refuel
  - How to set the controls and check indicators on the refuel control panel prior to starting the refuel for a manual refuel
  - What to monitor while the refuel is in progress
  - How to complete the refuel safely

➢ Progress Quiz

• Overview of procedure and safety precautions to be obeyed when performing gravity refuel *(Embraer & CRJ only)*
• Awareness of defueling controls

Refueling Panel Embraer 170/190
Refueling Panel Bombardier CRJ

The Manual Refuel Procedure – Preparation and Refuel

Away from the refuel panel the manual refuel procedure is exactly the same as the automatic procedure so this and the following screens will concentrate on actions you will take at the refuel panel itself.

This training scenario CRJ 200 manual refuel requires all three tanks to be filled. Power has already been applied at the refuel panel and you have performed all of the relevant refuel panel tests.

Study the instructions on the clipboard and then select the required DEVICE on the refuel panel. If you select the correct device, it will react and you will earn a tick in the box opposite for that task.

Instructions to follow

With DEADMAN already applied:

1. Turn the MODE SELECTOR switch to FUEL MANUAL.
2. Set REFUEL SOV toggle switches for the wing tanks to ON.
   This will initiate manual pressure refueling.
3. Check that the SOV OP indicator light for the wing tanks come on.
4. Check wing fuel displays start to increase equally.