



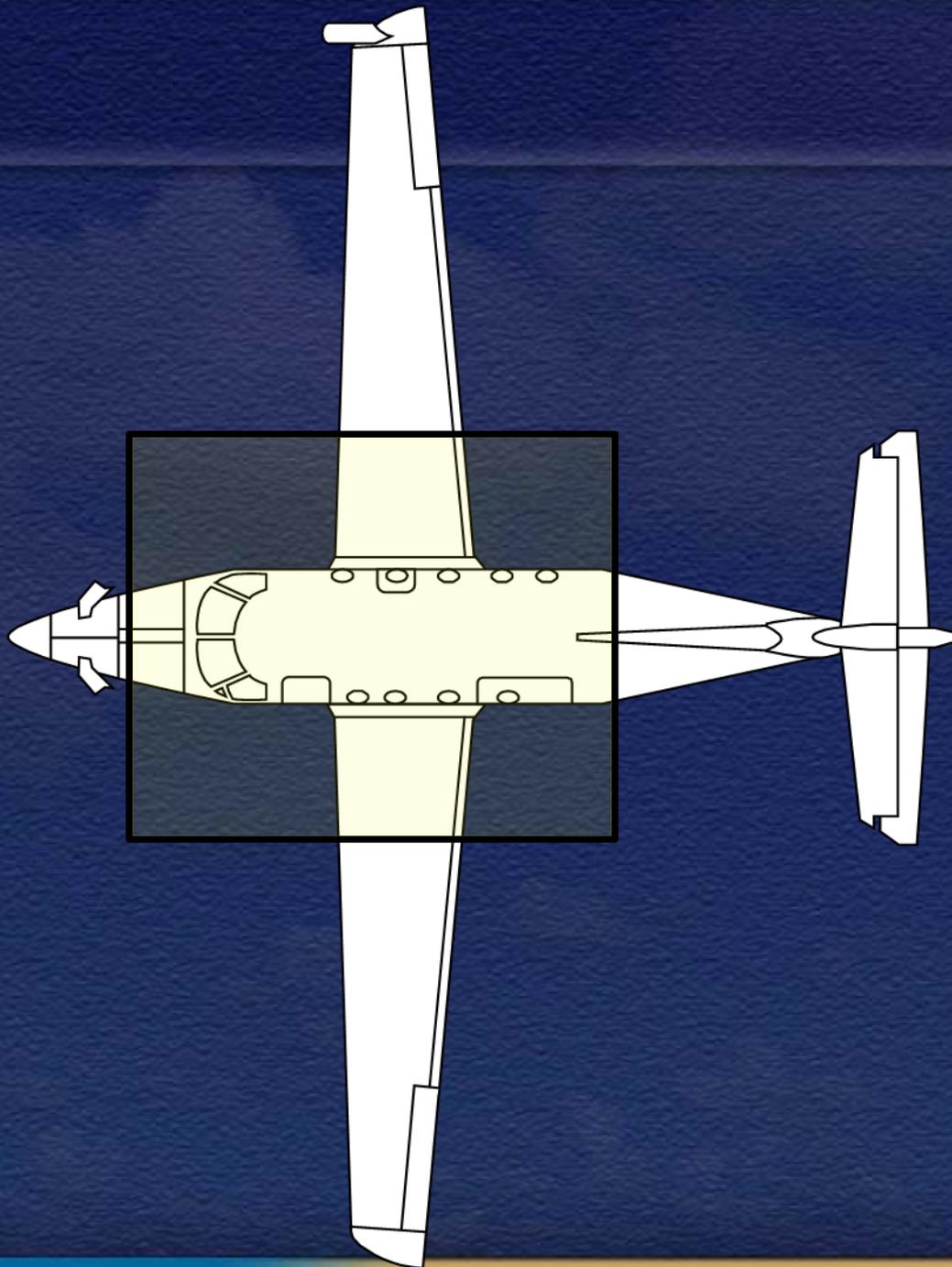
NTSB National Transportation Safety Board

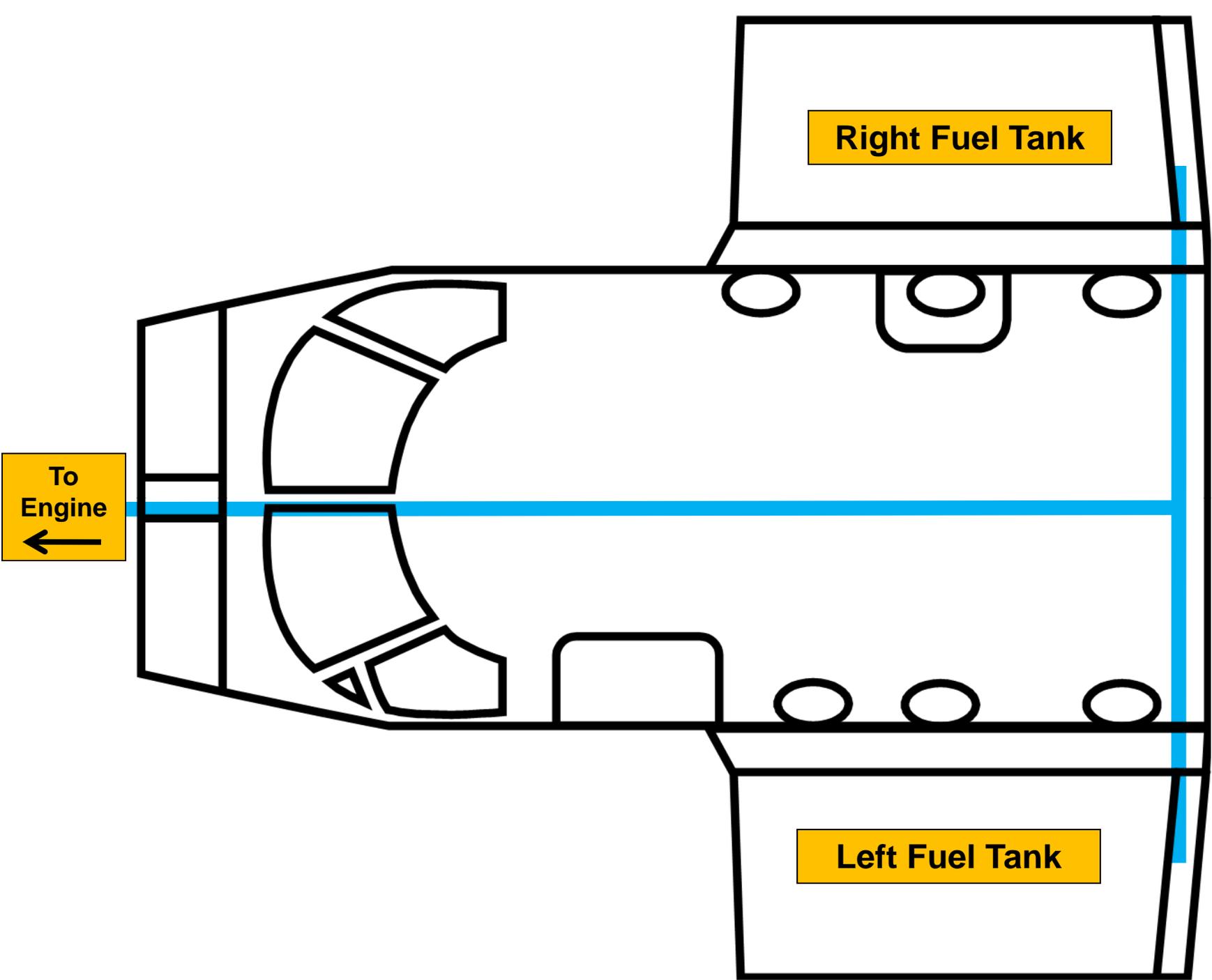
Office of Aviation Safety



PC-12 Fuel System

Airworthiness
presentation



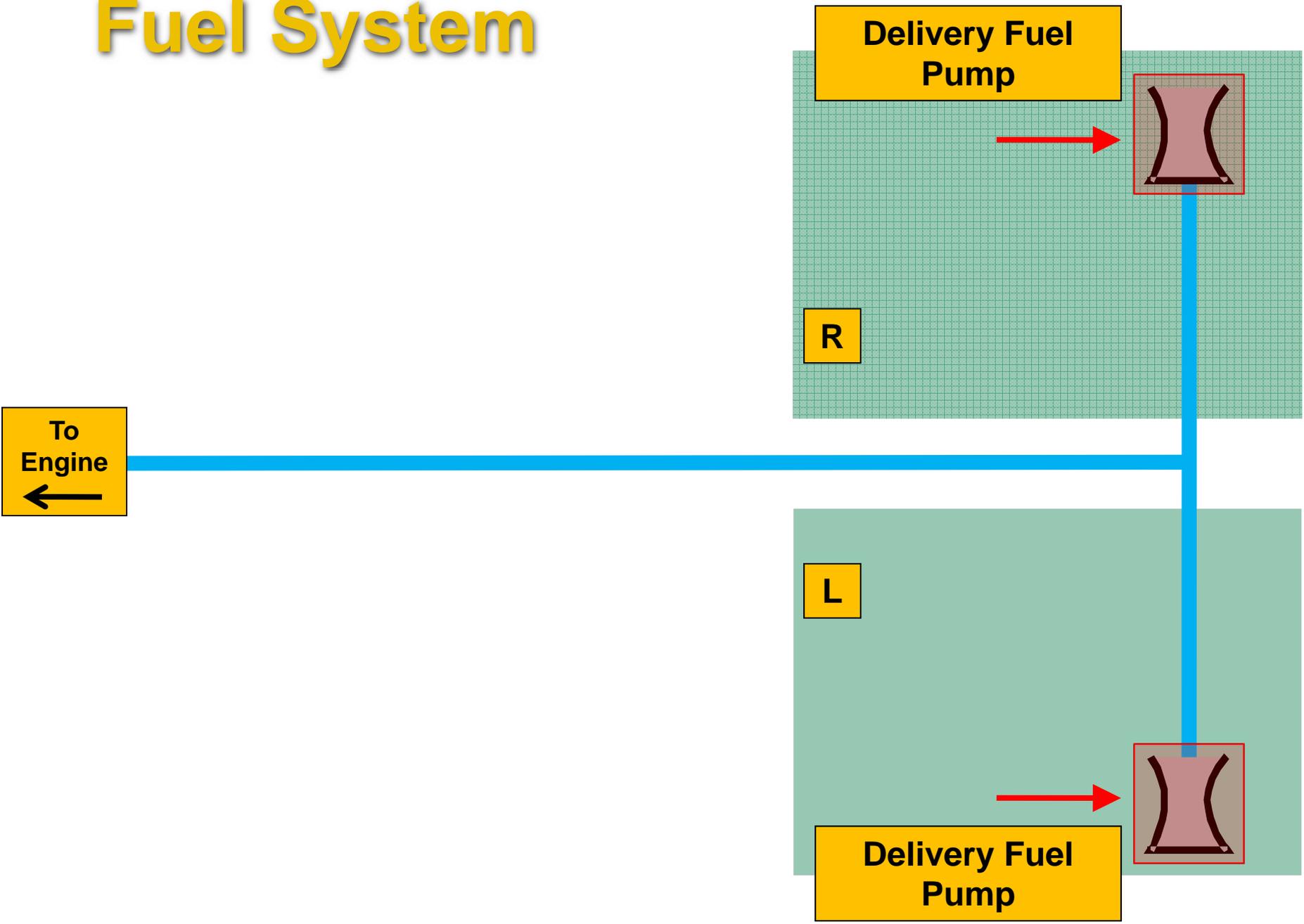


Right Fuel Tank

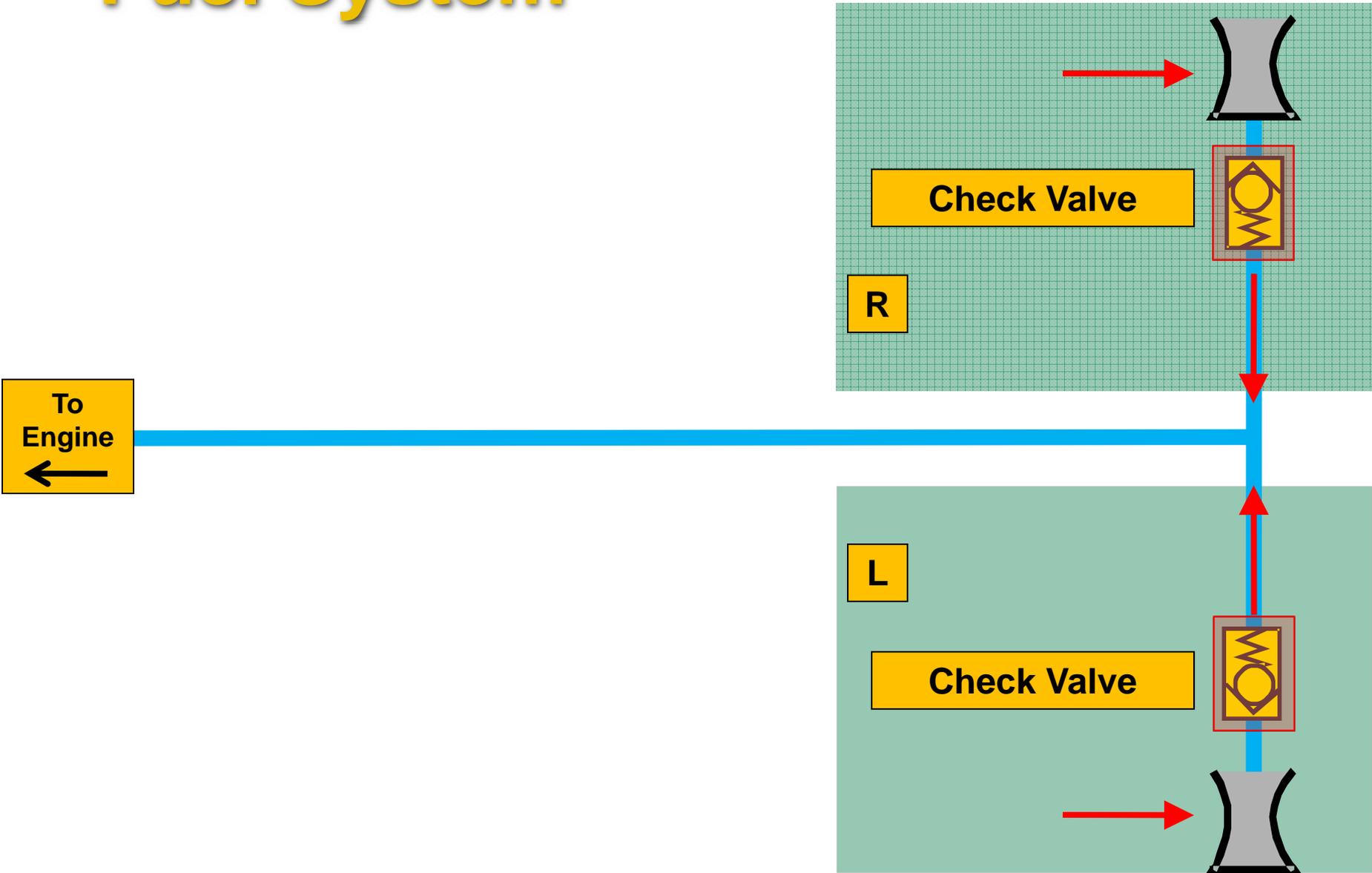
To Engine
←

Left Fuel Tank

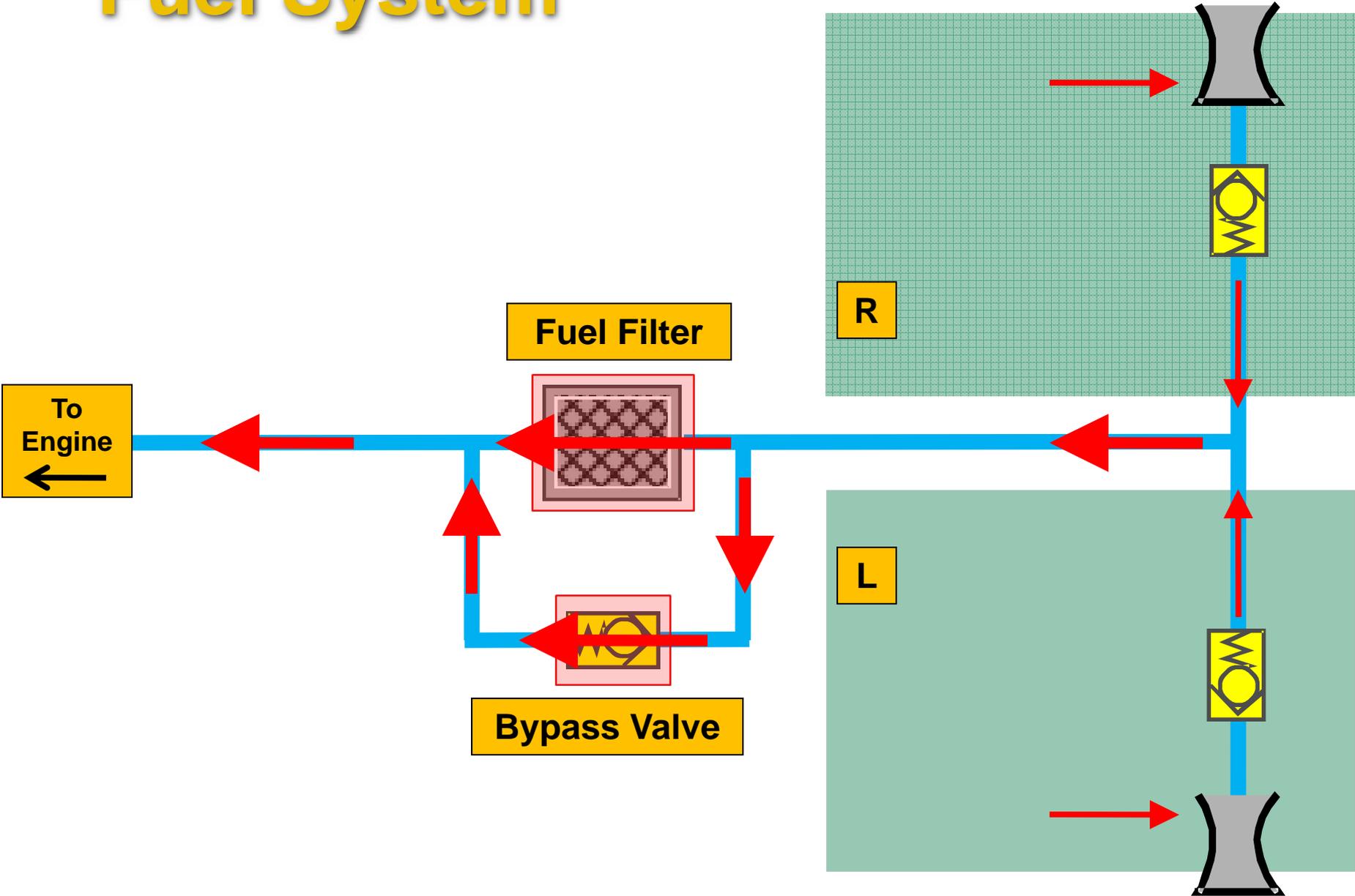
Fuel System



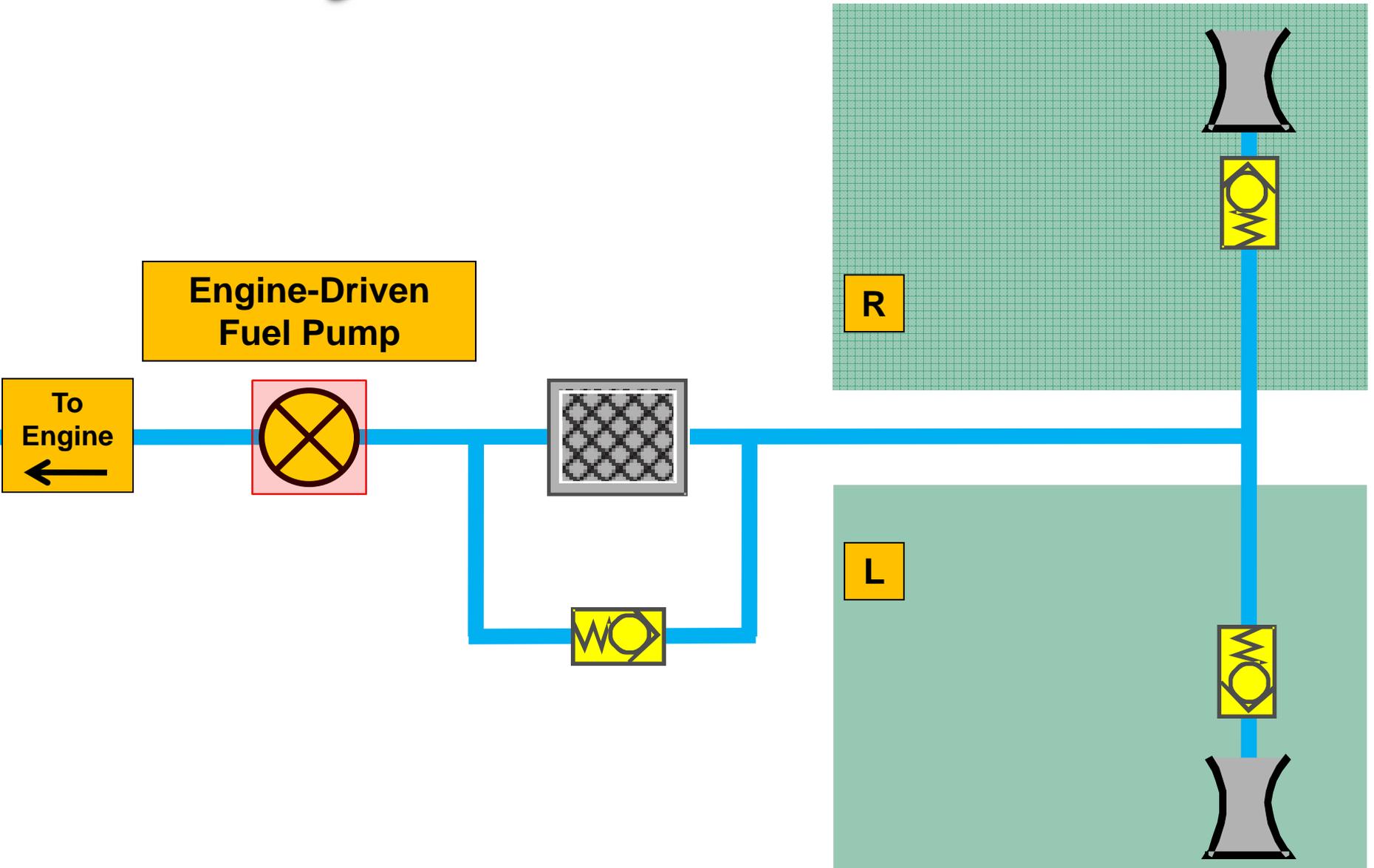
Fuel System



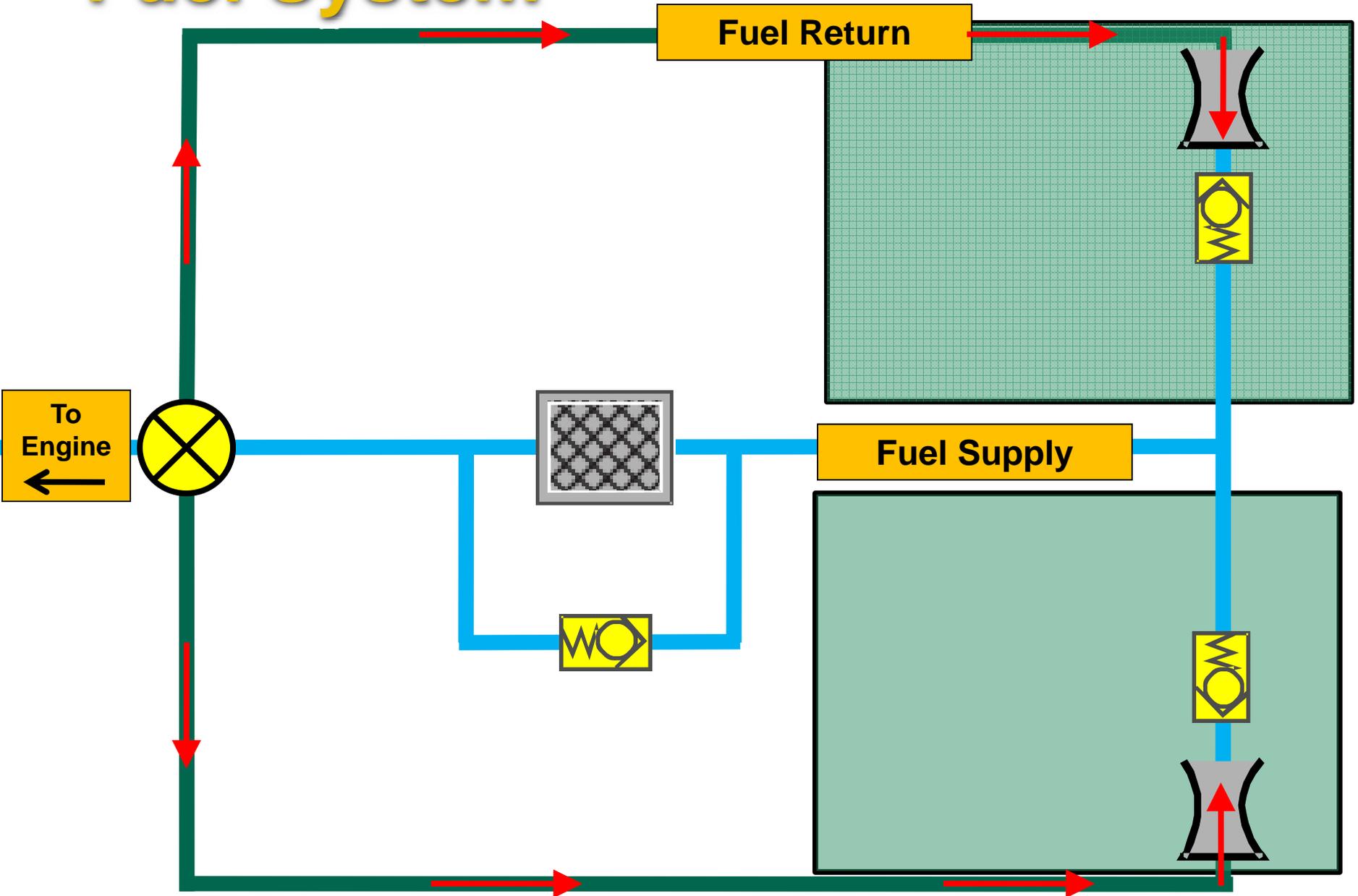
Fuel System



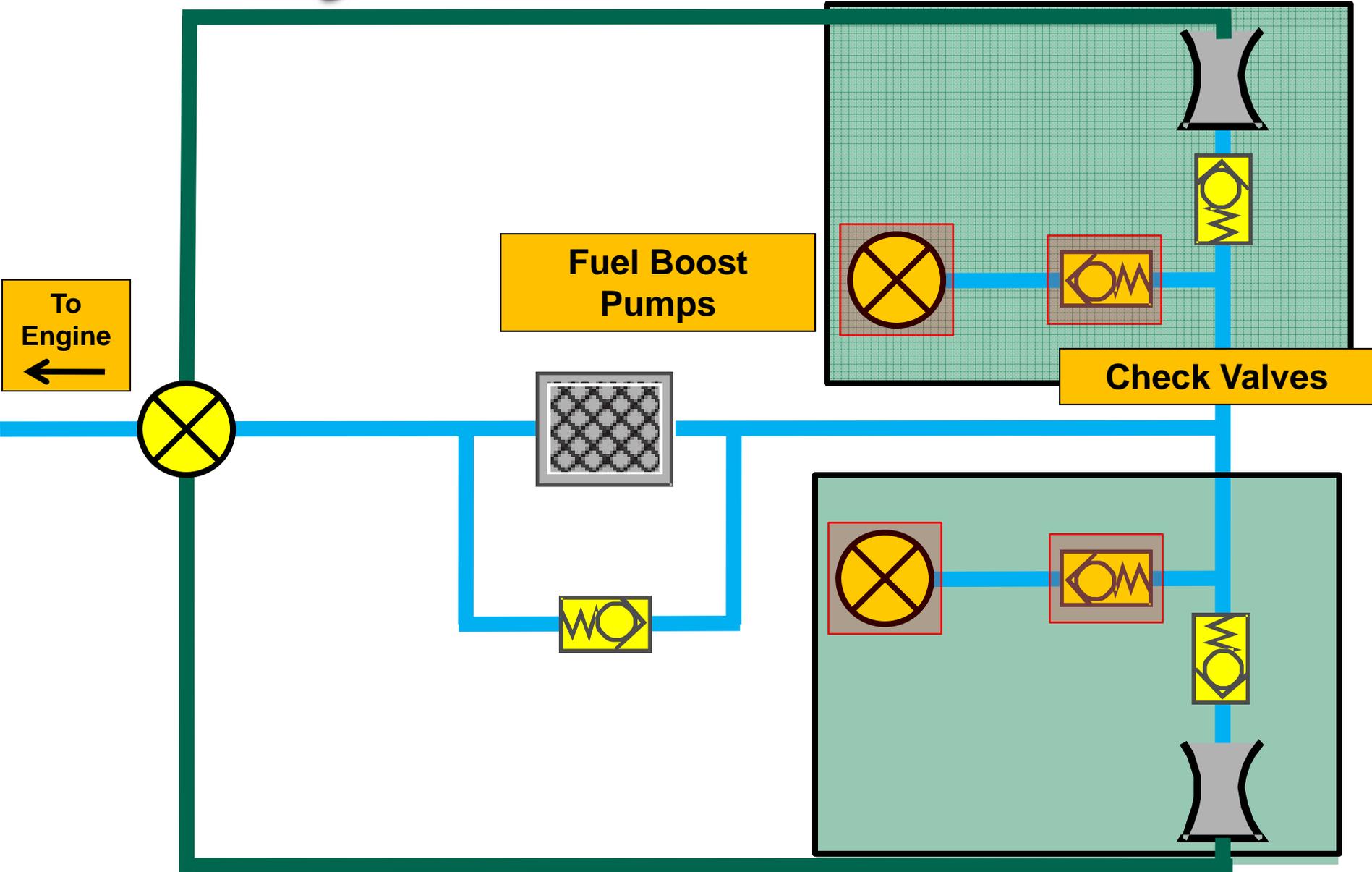
Fuel System



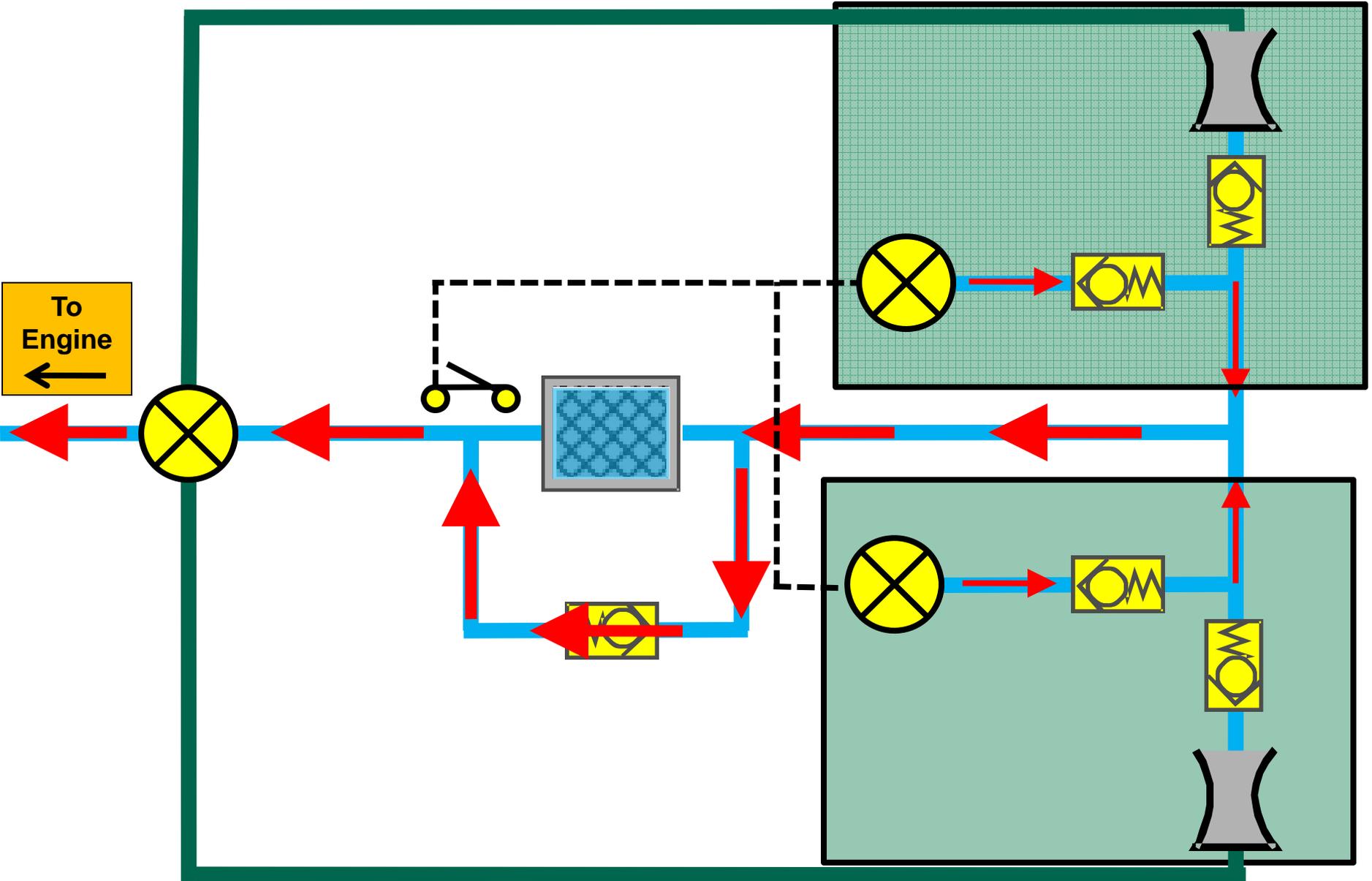
Fuel System



Fuel System



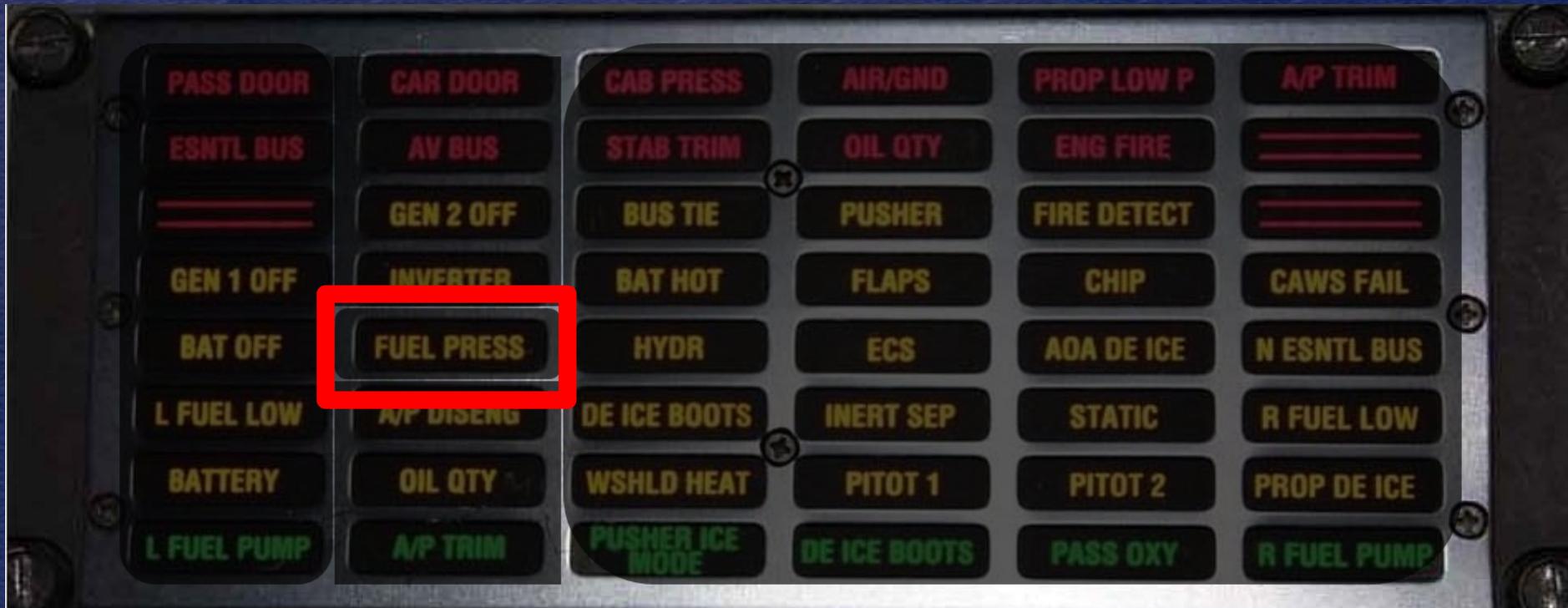
Fuel Low Pressure



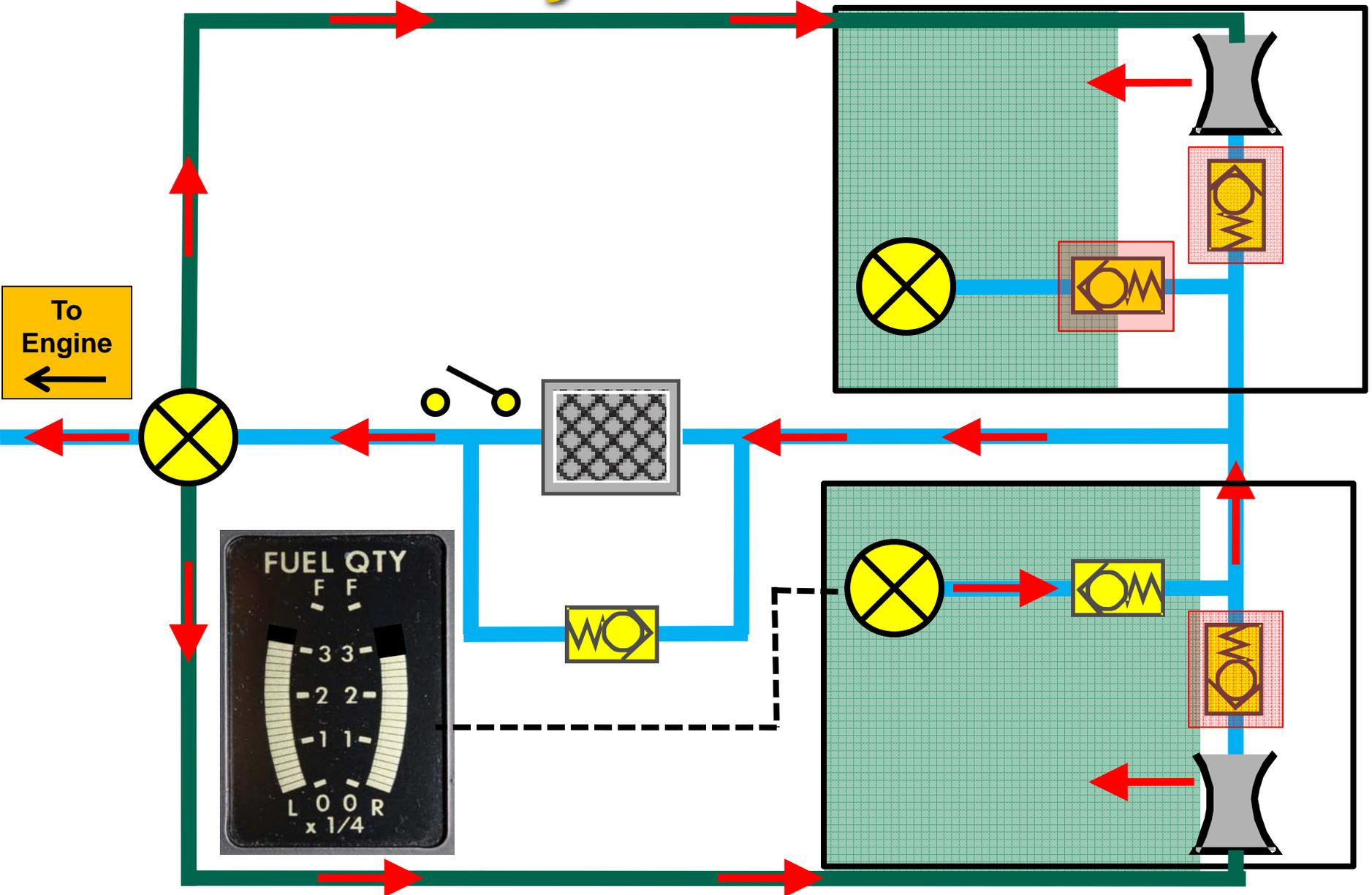
Fuel Low Pressure



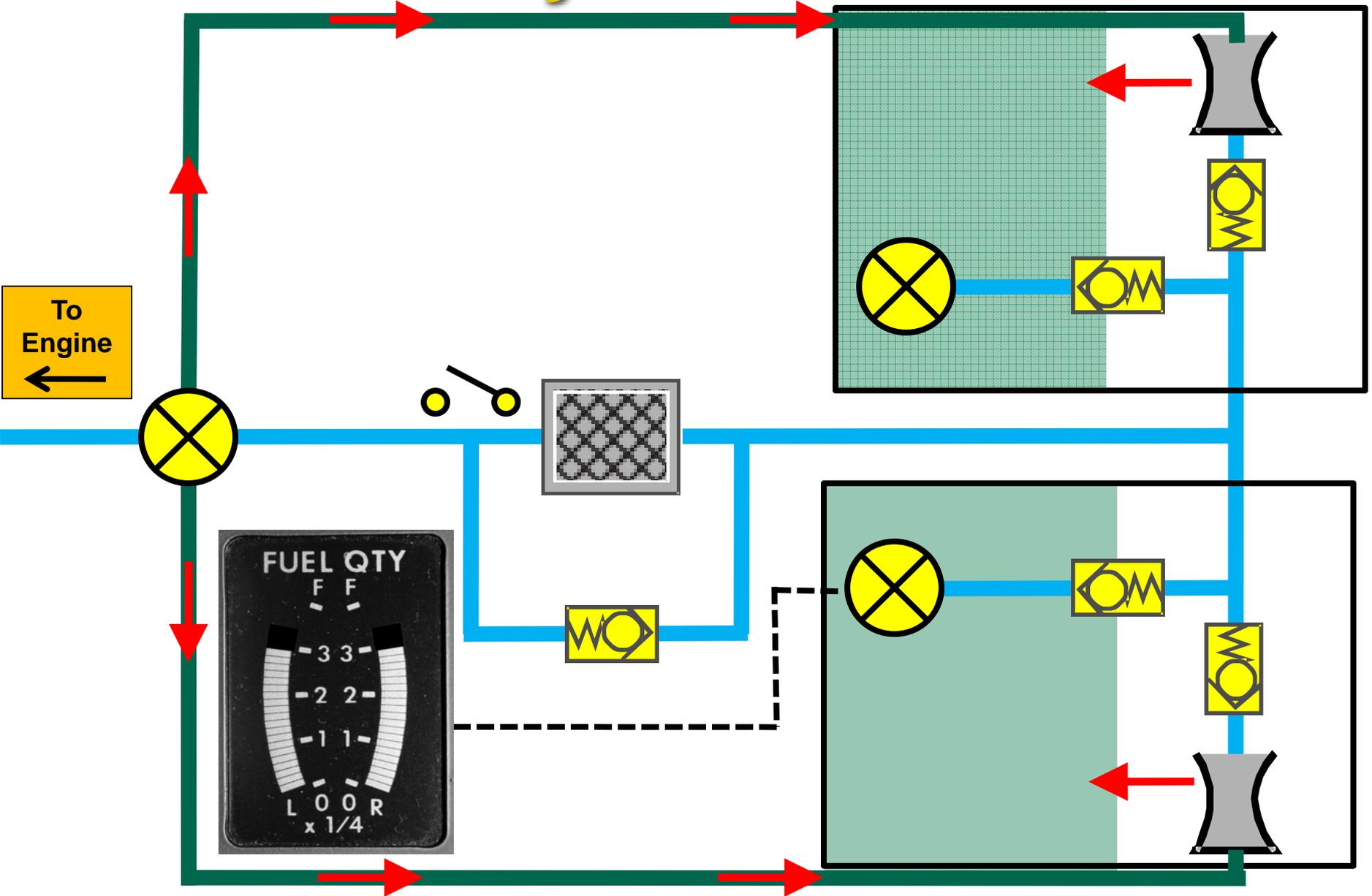
Fuel Low Pressure



Fuel Quantity Imbalance



Fuel Quantity Imbalance



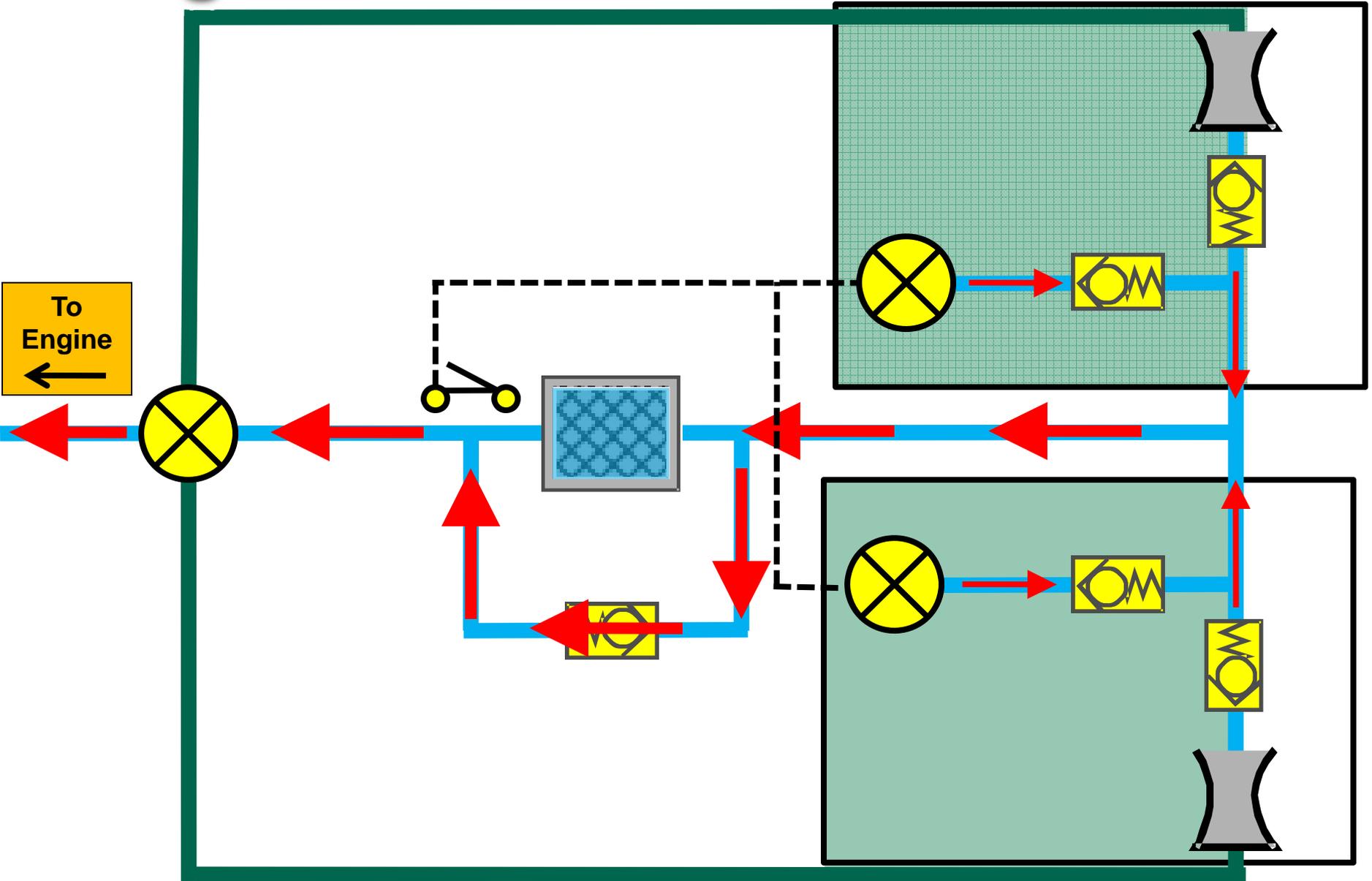
Accident Scenario

- Low fuel pressure 1 hour 13 minutes into flight
- Corrected through fuel boost pump operation
- No fuel pressure cautions
- Annunciators first indications of anomaly

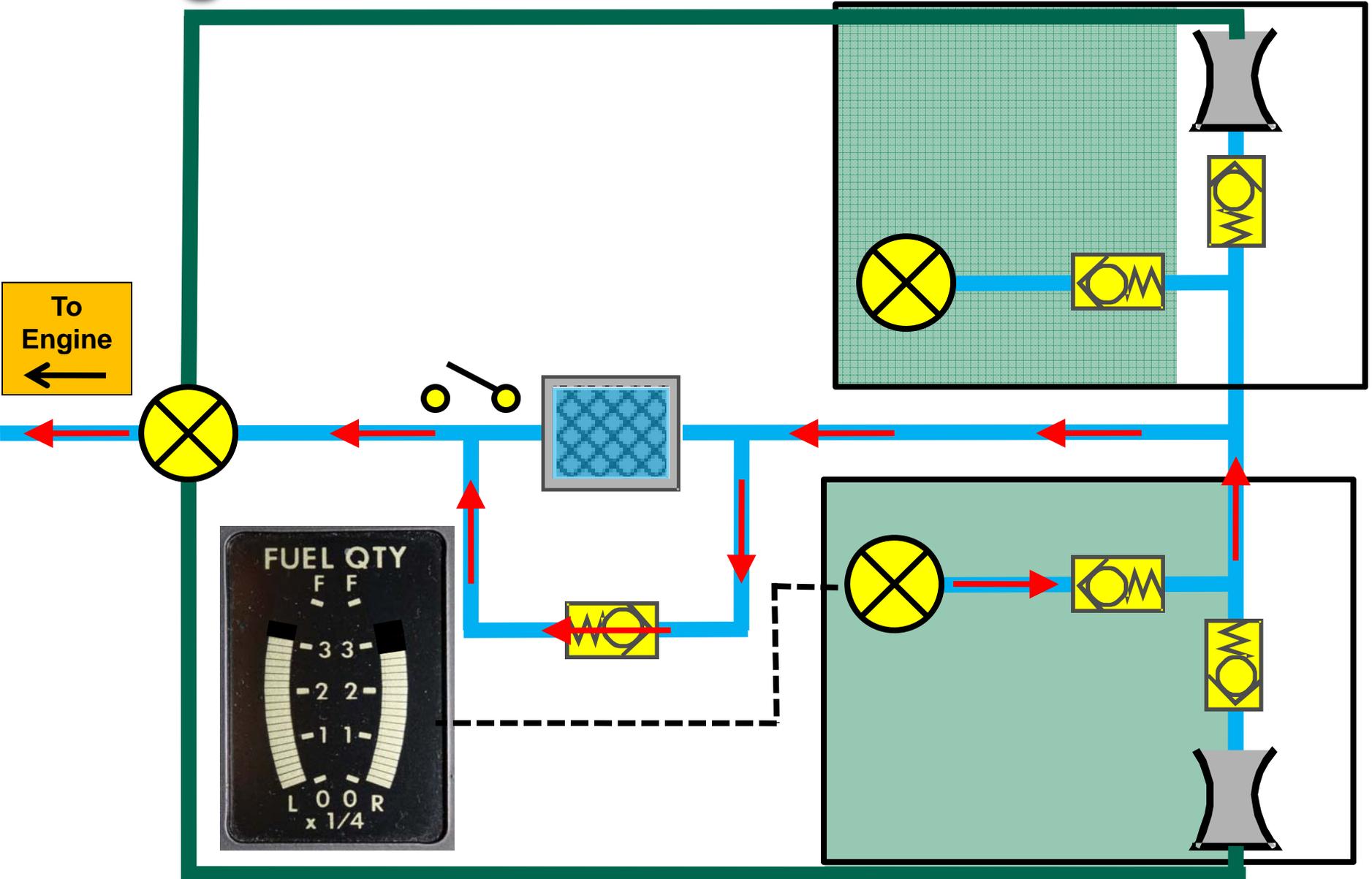
Accident Scenario

- Low pressure state
- Described in checklist
- Occurred on previous flights
- Lack of FSII
- Ice accumulation
- Ice/water might have been found if pilot performed preflight inspection

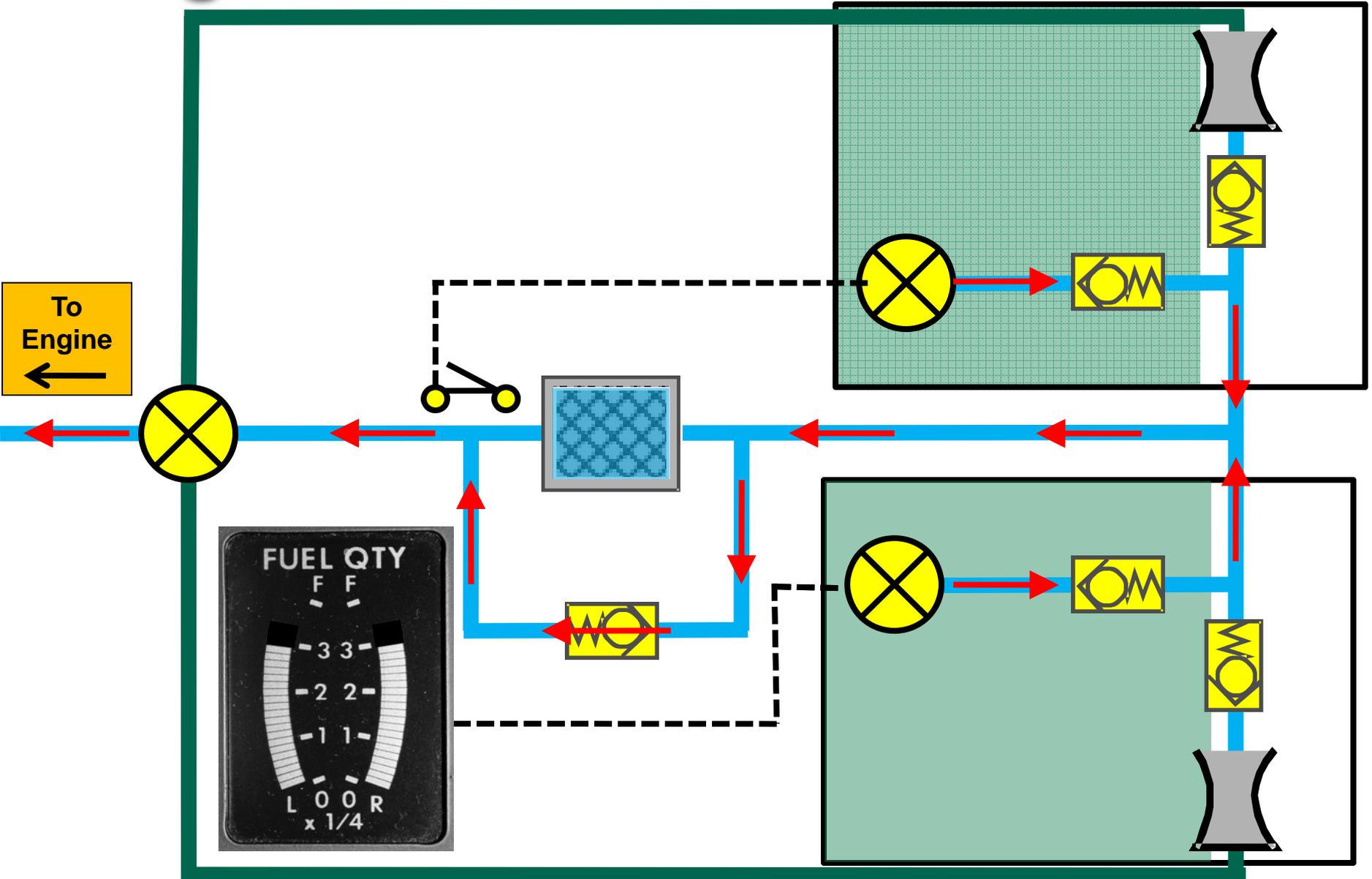
Flight Time - 1 Hour 13 Minutes



Flight Time – 1 Hour 18 Minutes



Flight Time - 1 Hour 21 Minutes



Accident Scenario

- Performance of fuel system degraded over time, resulting in significant fuel imbalance
- If pilot had added FSII, low pressure state and subsequent imbalance would not have developed

Accident Scenario

- By 1 hour 52 minutes, imbalance about 25% of one tank's capacity
- Pilot likely recognized fuel imbalance before this point
- Pilot attempted to manually balance fuel through activation of left boost pump
- Similar actions observed later in flight

Flight Time - 2 Hours 17 Minutes



Safety Issues

- Fuel filler placards not required to advise necessity for FSII
- FAA guidance on fuel system icing prevention does not include information on need for FSII



NTSB