Figure 14-39. *The graphic depiction of the fuel system on this electronic centralized aircraft monitor (ECAM) fuel page includes valve position information.*

transport category aircraft as shutoff valves. While many are motor operated, there are several applications in which gate valves are hand operated.

Cone Valves

A cone valve, also called a plug valve, consists of a machined valve housing into which a rotatable brass or nylon cone is set. The cone is manually rotated by the pilot with an attached handle. Passageways are machined through the cone so that, as it is rotated, fuel can flow from the selected source to the engine. This occurs when the passageway aligns with the desired fuel input port machined into the housing. *Figure 14-41* shows a cross sectional view of a cone valve. The cone can also be rotated to a position so that the passageway(s) does not align with any fuel input port. This is the fuel OFF position of the valve.
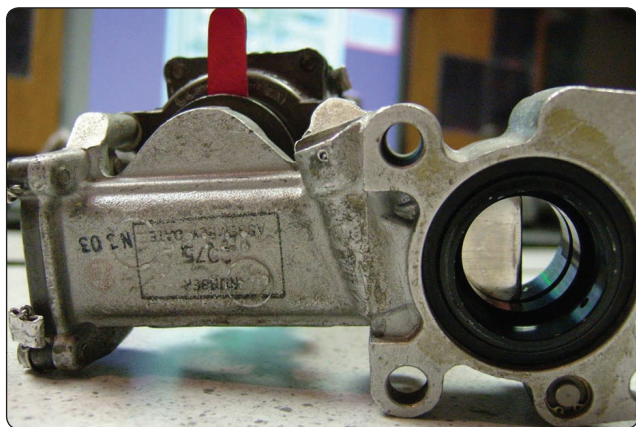

Figure 14-40. *This motor-operated gate valve has a red position indicating lever that can be used by maintenance personnel to identify the position of the valve. The lever can be moved by the technician to position the valve.*
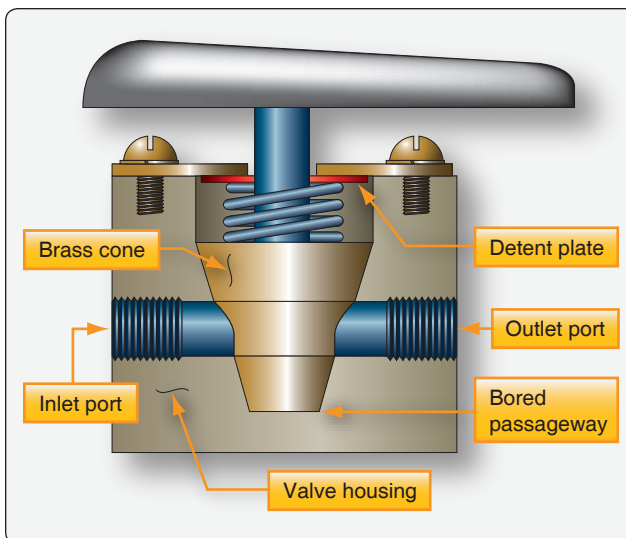

Figure 14-41. *A cone valve is open when the bored cone aligns the inlet and the outlet ports. It shuts off the flow when the un-bored portion of the cone is aligned with the inlet port(s).*

Poppet Valves

Selector valves are also commonly the poppet type. As the handle is rotated in this valve, a cam on the attached shaft lifts the poppet off the seat of the desired port being selected. At the same time, spring-assisted poppets close off the ports that are not selected. Detents lock the valve into position when the cam pushes a poppet fully off of its seat. There is also a positive detent when the cam engages none of the poppets, which is the OFF position of the valve. *[Figure 14-42]* Note that a similar mechanism is use in some selector valves, but balls are used instead of poppets.
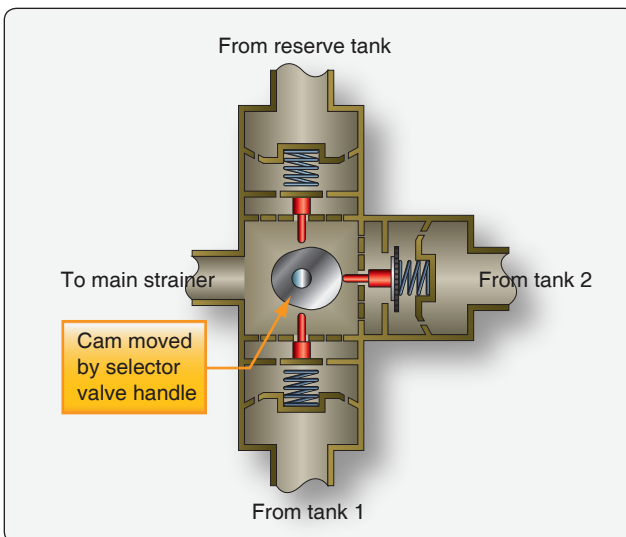

Figure 14-42. *The internal mechanism of a poppet-type fuel selector valve.*