

CHAPTER 4

Fuel System, Layout and Construction

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4.1 INTRODUCTION

See Fig 4.1.

The FV 430 series (Mk 2) fuel systems consist of:

- a. **Twin Fuel Tanks.** Both fuel tanks are inter-connected via the fuel tap, which is located on the collector tank. The fuel sender unit is located in the R/H tank, and the gauge shows total quantity of both tanks.
- b. **Collector Tank Assembly.** See Fig 4.2. Located beneath the rear section of floor panelling. Fitted to the collector tank is:
 - (1) Electrical fuel pump, incorporating the primary filter.
 - (2) Fuel tap.
 - (3) Spill valve, used to drain water or sediment from a dropped recess in the base of the tank.
 - (4) Drain valve.
- c. **Vent Valve.** Mounted on top rear of the hull directly above the rear door. It allows fumes to vent to atmosphere or air to replace used fuel, but prevents fuel spillage if the vehicle tips to one side.

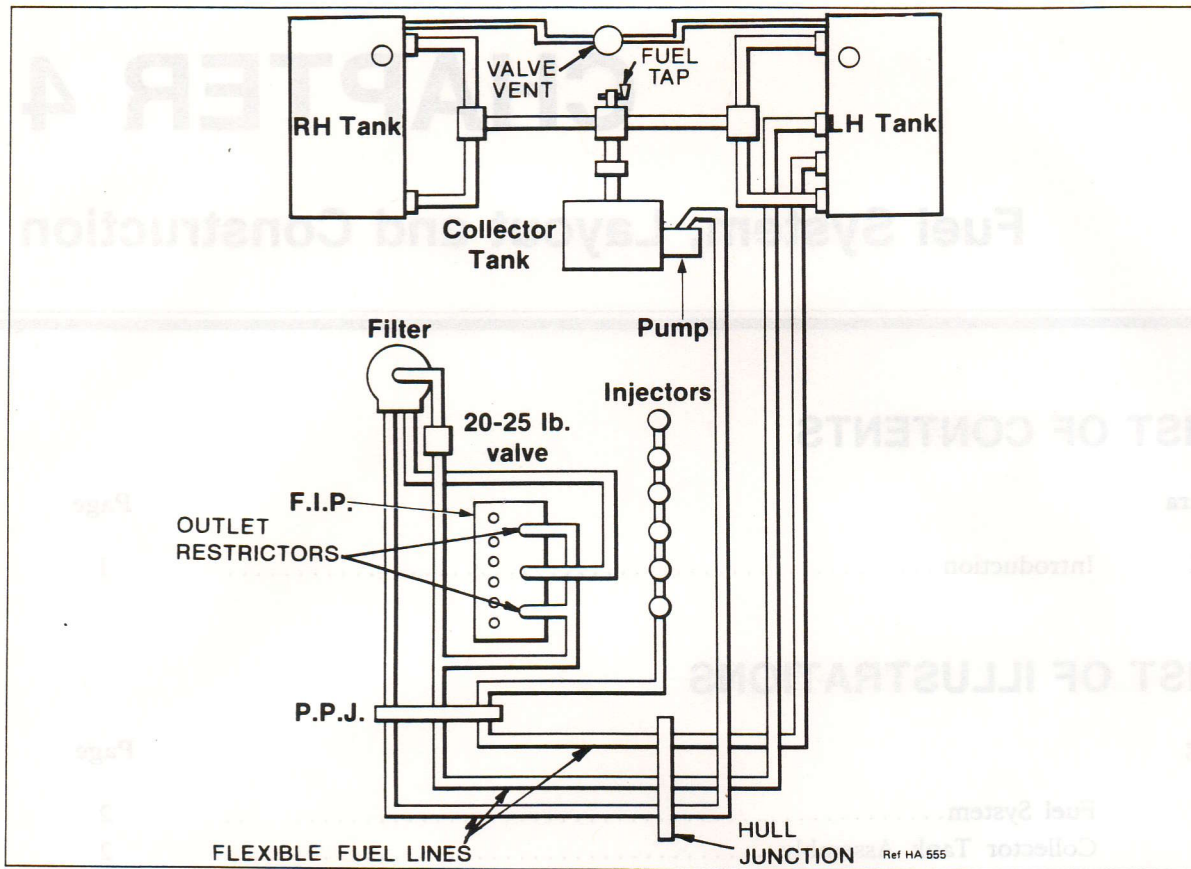


Fig 4.1 Fuel System

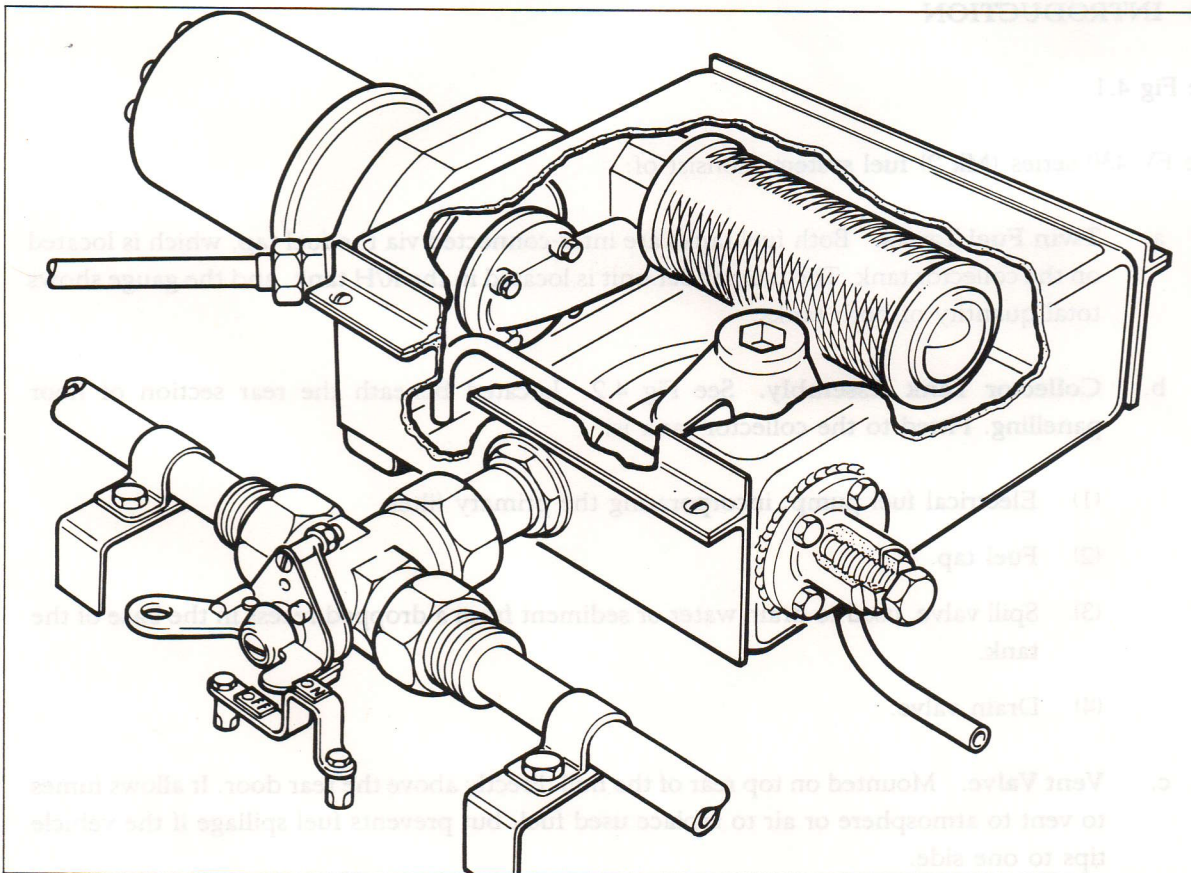


Fig 4.2 Collector Tank Assembly

- d. **Secondary Fuel Filter.** This is mounted on the pack frame above the rear alternator.
- e. **Fuel Injection Pump.** The FIP has been adapted to be used with fuels other than diesel (multi-fuel). One of the main changes was to supply the FIP with lubricating oil from the main engine oil gallery. An electrical solenoid is fitted to move the rack between the fuel and no fuel positions. The FIP is fitted with a hydraulic governor which contains its own supply of oil (OM 15).
- f. **Injectors.** The injectors are fitted to the right hand side of the engine block and project into the combustion chambers. All leak-off fuel is returned to the L/H fuel tank.
- g. **Pressure Relief Valve.** This is fitted to limit the FIP fuel gallery pressure to 20-25 lbs in². The pressure build up is caused by a restriction in the FIP fuel outlets. The pressure is needed to ensure complete filling of the pumping elements during high speed operation and to counteract the lubricating oil pressure. Excess pressure is returned to the L/H tank.

NOTES:

- 1. FV 433 and FV 434 have a single fuel tank, no collector tank assembly or fuel tap.
- 2. Care must be taken to connect fuel lines correctly at the PPJ. Failure to do so will allow the power pack to run on unfiltered fuel.