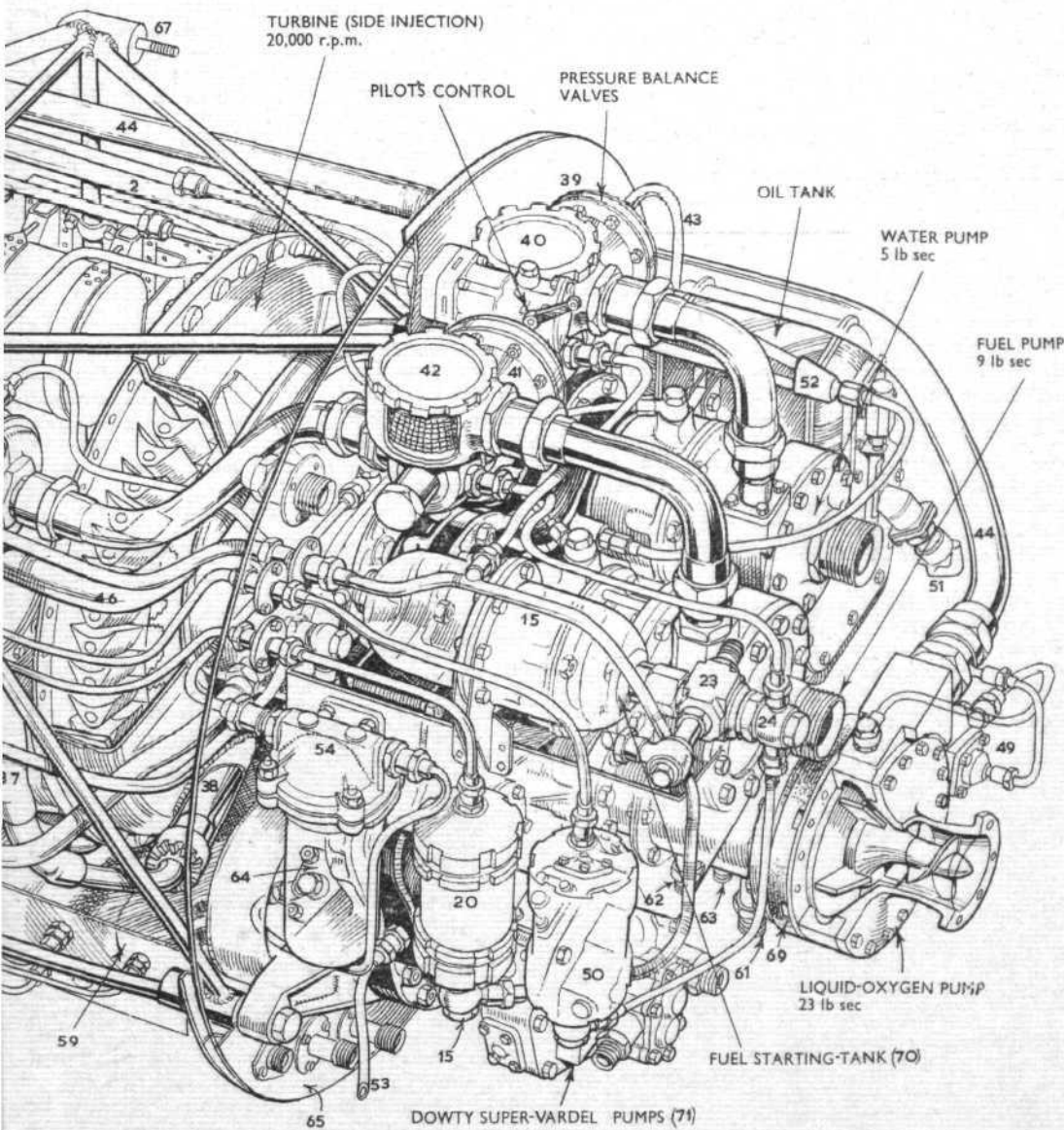


- 1 Gas-generator igniter oxygen.
- 2 Gas-generator igniter water in.
- 3 Gas-generator igniter water out.
- 4 Gas-generator igniter fuel.
- 5 Gas pressure.
- 6 Main gas-generator oxygen.
- 7 Cooling water in.
- 8 Fuel nozzles.
- 9 Cooling water out.
- 10 Gas-generator diluent water in.
- 11 Diluent-water injection into chamber.
- 12 Main-chamber igniter oxygen.
- 13 Igniter water in.
- 14 Igniter water out.
- 15 Main-chamber igniter fuel.
- 16 Gas pressure.
- 17 Main-chamber liquid oxygen.
- 18 Main-chamber water.
- 19 Main-chamber fuel.
- 20 Liquid-oxygen by-pass.
- 21 Water by-pass.
- 22 Fuel by-pass.
- 23 Liquid-oxygen pump.
- 24 Water pump.
- 25 Fuel pump.
- 26 Main flow-control pressure-balance valves.
- 27 Nitrogen pressure to control system.
- 28 Igniter plugs.

The large drawing below shows an "ultimate" form of Screamer, which does not, in fact, exactly correspond with any actually built. The flows of the various propellants are clarified in the diagram above.



KEY TO MAIN DRAWING (CONTD.)

- 22 Igniter cooling-water control.
- 23 Fuel starting-tank main filling and delivery valve.
- 24 Fuel starting-tank.
- 25 Fuel delivery via filter (50) to gas-generator pressure control.
- 26 Igniter fuel control.
- 27 Main gas-generator fuel control.
- 28 Main-chamber igniter fuel control.
- 29 Fuel delivery to main-chamber igniter.
- 30 Gas-generator fuel spray nozzle (3).
- 31 Cooling-water delivery to igniter body.
- 32 Igniter cooling-water return.
- 33 Igniter fuel delivery.
- 34 Gas pressure tapping.
- 35 Fuel delivery to gas-generator spray nozzles (30).
- 36 Cooling water circulating round chamber; delivery via (15), return via (19).
- 37 Combustion gas from gas generator to turbine.
- 38 Turbine injector nozzles (3).
- 39 Main water flow-control pressure-balance valve.
- 40 Strainer for (39).
- 41 Main fuel-flow control pressure-balance valve.
- 42 Strainer for (41).
- 43 Liquid-oxygen pump output-pressure to control (39) and (41).
- 44 Main liquid-oxygen delivery.
- 45 Main fuel delivery.
- 46 Main water delivery (after cooling circulation) (67) injected into combustion chamber.
- 47 Fuel by-pass return.
- 48 Water by-pass return.
- 49 Liquid-oxygen pump vapour bleed-valve.
- 50 Fuel filter in delivery line to gas-generator system.
- 51 Oil tank pressure-filling valve.
- 52 Oil tank and wheel-case breather system.
- 53 Wheel-case overboard vent.
- 54 Oil filter.
- 55 Fuel-cooled oil cooler.
- 56 High-frequency ignition generator (pressurized).
- 57 High-frequency igniter-plugs.
- 58 Pressurized ignition leads (7 lb/sq in).
- 59 Nitrogen reservoir (450 lb/sq in).
- 60 Tray containing nitrogen control valves.
- 61 Liquid-oxygen pump oxygen drain.
- 62 Liquid-oxygen pump bearing-oil drain.
- 63 Liquid-oxygen pump bearing-seal air-vent.
- 64 Oil pressure pump.
- 65 Firewall.
- 66 Turbine bearing-case vent.
- 67 Water cooling circulation, finally injecting into combustion chamber.
- 68 Heating fins to raise valve-body temperature.
- 69 Durestos insert to isolate bearing section from low temperature of liquid oxygen.
- 70 Same construction and operation as water starting tank.
- 71 Two, for aircraft services.
- 72 Piston recuperator type.