



# CONWAY . . .

\* Items so marked will be found only in the external view at lower right.

**Compressors** 1, blade retaining pin; 2, l-p shaft front bearing; 3, spacer ring; 4, inter-stage seal; 5, l-p shaft; 6, driving splines; 7, rotor assembly retaining nut; 8, l-p shaft rear bearing; 9, l-p intermediate shaft; 10, l-p thrust bearing; 11, by-pass duct entry; 12, h-p intake guide vanes; 13, h-p shaft front bearing; 14, h-p shaft front section; 15, h-p shaft rear section; 16, h-p outlet guide vanes; 17, thrust bearing.

**Turbines** 18, air-cooled h-p nozzle guide vanes; 19, air-cooled h-p rotor blades; 20, h-p turbine bearing; 21, h-p turbine shaft; 22, 1st-stage l-p guide vanes; 23, 1st-stage l-p blades; 24, 2nd-stage l-p guide vanes; 25, 2nd-stage l-p blades; 26, l-p shaft bearing; 27, l-p shaft.

**Combustion** 28, h-p delivery air; 29, by-pass flow; 30, combustion chamber inner casing; 31, flame tube; 32, flame tube interconnector; 33, flame tube snout; 34, flame tube support; 35, discharge nozzle; 36, fuel burner head; 37, igniter plug.

**Fuel system** 38\*, fuel supply pipe; 39\*, h-p fuel cock; 40\*, fuel control unit; 41\*, throttle control; 42, main burner manifold; 43, primary burner manifold; 44, fuel pressure transmitter; 45, fuel drains tank; 46, drain-tank vent; 47, fuel-heating system air supply; 48, fuel-filter differential-pressure switch; 49, ram-air pressure to acceleration control unit; 50, ram-air tapping to altitude sensing unit.

**Air systems** 51, pressure air supply to aircraft services; 52, l-p air supply to aircraft anti-icing; 53\*, hot air to anti-icing air-inlet manifold; 54\*, anti-icing air regulator; 55\*, anti-icing air to turbo-compressor (121) inlet; 56, anti-icing air supply manifold; 57, inlet-guide-vane anti-icing air in; 58, inlet-guide-vane anti-

The engine depicted in these illustrations is the Rolls-Royce Conway RCo.12 Mk 508, standard powerplant of all versions of the Boeing 707-420. As installed in that aircraft (right) the engine carries a turbo-compressor above the compressor casing, and this is not shown in the cutaway above. It is possible that en-route pressurization could be provided by bleeding at the point marked 52. At upper right is seen the reverser (flow, upper left to lower right), the doors of which are drawn in the closed position for full reverse. Previously the reverser exits were faired by doors, but these have now been deleted

icing air out; 59, 1st-stage stator anti-icing air in; 60, 1st-stage stator anti-icing air out; 61, anti-icing air outlet collecting manifold to aircraft services; 62, h-p bleed-air collector manifold to aircraft services; 63, l-p bleed for engine cooling and sealing; 64, l-p cooling-air manifold (from 63); 65, l-p cooling-air to intermediate casing via tube (69) and holes (68); 66, l-p cooling-air transfer tube; 67, l-p cooling-air outlet collector duct; 68, l-p cooling-air transfer holes; 69, cooling-air separator tube; 70\*, cooling-air outlet; 71, l-p cooling-air manifold surrounding nozzle box; 72, cooling-air pressure balance pipe; 73, inter-stage pressure vent between shafts; 74, thrust-housing vent; 75, inter-stage sealing-air bleed holes; 76, inter-stage sealing air via shaft to front end; 77, h-p cooling-air bleed holes; 78, h-p cooling-air flow; 79, h-p cooling-air transfer holes; 80, h-p cooling-air transfer manifold; 81, h-p cooling-air outlet to by-pass duct; 82, combustion-chamber cooling air; 83, cooling-air duct to h-p turbine; 84, h-p turbine cooling-air manifold; 85, cooling-air flow; 86, cooling-air transfer holes; 87, l-p turbine cooling-air transfer tube; 88, l-p inter-stage seal; 89, by-pass air to cool rear face of l-p turbine; 90\*, l-p cooling-air to oil cooler.