

1. Introduction

The CFM56 Compressor Washing Package consists of two stainless steel pressure vessels, each having a capacity of 34 litres (7.5 gal). Each vessel is equipped with a sight glass indicating the level of fluid, a filler cap, gauze strainer, pressure relief valve, nitrogen inlet valve, fluid outlet valve, pressure gauge and drain plug.

The maximum working pressure of each vessel is 5.44bar (80psi). The vessels are mounted in tandem within a welded, tubular steel frame which forms a transportation trolley. Two pneumatic tyred wheels run on a solid axle which is welded to the frame. Two rubber feet support the front of the trolley and these act as a brake when the rig is stationary.

The fluid in the pressure vessels is pressurised by a nitrogen cylinder, which is mounted in the upright position in front of the pressure vessels. The nitrogen supply to the pressure vessels is controlled by a regulator. The reduced pressure is distributed to the top of each vessel via a 'Y' piece connector. A non-return valve, fitted prior to the nitrogen inlet valve on each vessel, prevents fluid entering the nitrogen supply lines should the rig be tilted rearwards during operation. When the vessels are pressurised, fluid is forced up an outlet stack pipe to an outlet ball valve. During pressurisation and during the washing process, the nitrogen bubbles through the fluid creating agitation. This is particularly useful if the solution being used requires extra mixing. The washing solution is contained in one pressure vessel, and the other vessel is intended for the rinsing fluid. A 15 ft long, ½" nominal bore fluid delivery hose terminates in a ½" BSP union nut.

Leading particulars

Part number	JMP/CFM56/D/1535/C100
Length	1245mm (49")
Width	686mm (27")
Height	1092mm (43")
Weight (dry)	102.2kg (224lb)
Number of fluid vessels	2
Fluid capacity (each vessel)	34ltr. (7.5 Imp gal.)
Number of nitrogen cylinders	1
Nitrogen cylinder capacity	1769ltr. (62 cu ft.)
Nitrogen charging pressure (at 15°C)	172.4bar (2500psi)
Nitrogen cylinder test pressure	334bar (55psi)
Tyre pressure	3.8bar (55psi)
Inner tube	12"

Cover: The cover shows the C300 version of the rig.

A.T. Juniper (Liverpool) Limited

Marshall Works, 5-17 Bleasdale Road, Allerton, Liverpool L18 5JB
Tel: +44 (0)151 733 1553 or +44 (0)151 609 0428

Also at: Ash House, Prenton Way, North Cheshire Trading Estate, Wirral CH43 3DU

Email: gse@juniper-liverpool.com Web: www.juniper-liverpool.com

The washing solution is delivered to the engine via two stainless steel probes which are stowed in holsters attached to the handles of the rig. Each probe has been calibrated to give a flow of 4 L/min when the operating pressure is set at 3.5bar (50psi), i.e. over two minutes the two probes will deliver 16 litres.

2. Rig preparation for wash

- Ensure nitrogen cylinder is fully charged to maximum of 172.4bar (2500psi) and high pressure regulator valve is turned fully anti-clockwise.
- Ensure inlet and outlet ball valves are in the closed position (across the direction of flow).
- Fill respective vessels with recommended fluids (eg: vessel No.2 with demineralised water, vessel No.1 with demineralised water and Turboclean 2 detergent at a ratio of 4:1).
- Close and tighten filler caps.

3. Rig operation

1. Rotate the nitrogen cylinder valve hand wheel anti-clockwise to turn on the nitrogen supply.
2. Open relevant vessel nitrogen inlet ball valve (in line of direction of flow).
3. Rotate high pressure regulator valve clockwise until desired pressure is reached.
4. Open relevant vessel outlet ball valve for desired wash period.
5. On completion of wash period, close relevant vessel outlet ball valve and nitrogen inlet ball valve.
6. Repeat operations 2 to 5 for rinsing cycle using relevant vessel and valves.

THE JUNIPER MOBILE COMPRESSOR WASHING RIG JMP/CFM56/D/1535



AIRCRAFT SERVICE EQUIPMENT



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Rig variations

C100

Base version of rig supplied with:

- One CFM56-3 short probe set - (the original rig was supplied with old type wash probes - JMP/CFM56/D/1524. These probes have now been superseded by probe set no: JMP/CFM56/D/4538).

Note: The original rigs were also supplied with a DC48 charging valve which has now been superseded by the Schrader charging valve (SM297).

C200

As base version with the addition of:

- Two sets of CFM56-3 short engine wash probes (JMP/CFM56/D/1524), now superseded by two short wash probe sets no: JMP/CFM56/D/4538.
- Two twin delivery hoses (JMP/CF6/A/4087).
- Schrader charging valve (SM297).

C300

As base version with the addition of tooling to wash the BR710 and BR715 engines instead of the CFM56-3 short wash probes:

- Hand held lance (JMP/BMW/A/4511).
- New delivery hose assembly (JMP/BMW/HL/4512) to replace the hose supplied with the base version of the rig.
- Adaptor (JMP/BMW/A/4968).

Note: The BR710 engine is fitted to the Bombardier Global Express, Gulfstream V and BAE Systems Nimrod MRA4; and the BR715 engine is fitted to the Boeing 717-200 aircraft.

C400

As base version with the addition of:

- Probe stowage brackets to accommodate one probe set on port side of rig above the stowage box.
- CFM56-3 short probe set (JMP/CFM56/D/4538).
- CFM56-7 short probe set (JMP/CFM56/D/4462).
- Two new safety valves (JMP/PR/A/4933/4), set at 80psi.
- New delivery hose to replace base version (JMP/CFM56/HL/6309), ½" NB x 16ft 6" long.
- New Tema coupling - delivery hose end fitting (SM474).
- Twin delivery hose stowed in box (JMP/CF6/A/4087).
- Updated version of engraving and decal set.

C500

As C400 version except:

- Supplied with the CFM56-2&5A short probes only (JMP/CFM56/D/4435).

C600

As C400 version except:

- Supplied with the CFM56-7 short probes only (no CFM56-3 probes).

C700

A variation of the JMP/SHWR/D/0376/C800/BH rig, with the following replacement and additional parts:

- CF34-10E Short probe set - JMP/CF34/D/6000.
- Bleed hose set at 60psi (¼"NB x 16ft) shrink-wrapped with delivery hose (½"NB x 16ft).
- Twin delivery hose (JMP/CF6/A/4087).
- Tooling hose assembly (JMP/STD/A/6877/SH2) for AE3007A engine ending in ¾" UNF adaptor.
- Hand held wash lance (JMP/BMW/A/4511).
- 20ft Extension delivery hose (JMP/CF34/A/6569) with trolley hook stowage (JMP/CFM56/A/6934) at rear of rig.
- Pressure regulating valve 0-100psi (SM709).

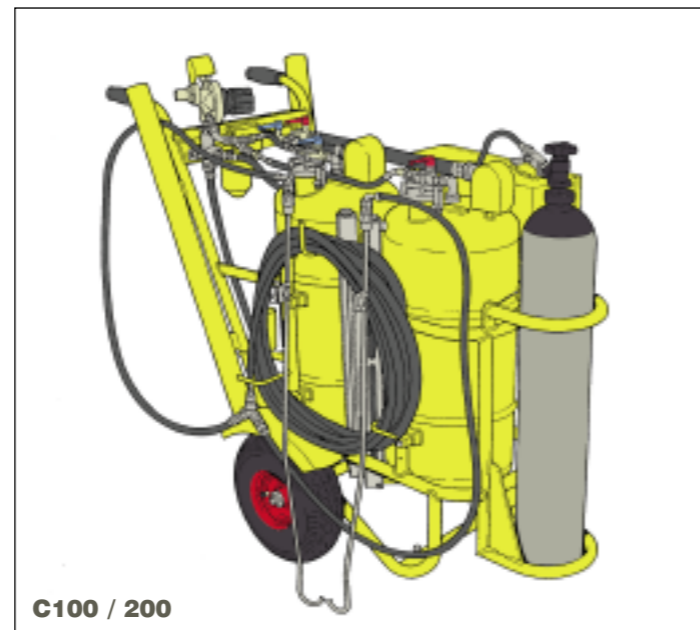
C800

As C600 version except:

- Not supplied with probes, but probe stowage is fitted. Any probe sets required are optional extras.



C300



C100 / 200



C600



C300



C600



C700