P&M Aviation Ltd
Unit B Crawford St.
Rochdale Lancashire OL16 5NU
flying@pmaviation.co.uk
Tel: 01706 655134

SERVICE BULLETIN NUMBER CT 125 including MODIFICATION M186
ISSUE 1 PAGE 1 of 6

TITLE	Fuel System
CLASSIFICATION	The CAA have classified this bulletin as Mandatory.
COMPLIANCE	Fuel flow check before further flight. Modify system within 25 hours or 6 months, whichever is earlier.
APPLICABILITY	All UK registered CT2K aircraft.

INTRODUCTION -

The CT2K is fitted with a Right/Left fuel selection valve. There are 2 issues with the system:

1) Continuous sideslips greater than the dihedral angle of the wing (1.5 degrees) can result in a large amount of unusable fuel in the lower wing tank.

2) There has been one known instance of malfunctioning of the fuel valve caused by damage and displacement of the internal sealing O-rings.

ACTION –

1)Fuel flow and valve function check.

With approximately 10L fuel in each tank:

1.1) Turn the fuel selector OFF. Open the gascolator drain. After a few initial drops, the flow must stop. If any fuel flow continues, the selector valve is faulty and must be replaced.
1.2) With a measuring jug under the gascolator drain, select the RH tank. Check the fuel flow exceeds 36 litres per hour (600 cc/minute).
1.3) Repeat for the LH tank. The valve must operate smoothly over the 3 positions.

If the fuel flow from either tank is under 36L per hour, the system must be investigated and the cause found. It could be the valve, piping, fuel feed tank strainer, filter, flowmeter or fuel cap vents.

2) Fuel cross feed modification m186.

Modification M186 has been introduced to interconnect the wing tanks using two tee pieces.

The modification kit comprises a link tube, 2 steel tee pieces, six hose clamps and a fuel selector placard. See drawing CTMOD M186 ASSY.

Both fuel cap vent bottom edges must be exchanged for those with square cut lower edges. See drawing KA7020060 ASSY MOD M186.

Tools required include:

Allen key for panel screws.
1 pair clamps with smooth jaws for clamping off fuel pipes
Small screwdriver for hose clips (or special O clip tool if using O clips for fuel hoses)
Knife or cutters for fuel hose
10mm spanner for tank cap vents.

Implementation:

2.0) Remove central console panel upper section. For improved access, remove both instrument panels.
2.1) Clamp off the feeds from the two wing tanks.
2.2) Cut the two tank feed pipes approximately 100mm above the top of the fuselage tunnel and fit 2 tee pieces with a link tube between them (see fig 1).
2.3) The fuel tank vents must be replaced with vent caps having square cut bottom edges, so as to create the same pressure at each tank vent, as in fig 2.
2.4) The fuel tank selector placard must be replaced with the type shown in fig 3.
2.5) Check fuel feed and valve function as in (1) above, test the valve in all 3 positions. Check all joints for leaks.
2.6) Check any disturbed wiring etc. is correctly routed and clear of rudder cables.
2.7) Refit panels.

Note:

After the modification, the fuel should feed reasonably evenly from both tanks. Imbalance in flight can be corrected by flying with a little sideslip for a while.

If one tank runs dry, the fuel will continue to feed unless a continuous sideslip is applied with the remaining fuel in the lower wing tank. In this case, fuel will also disappear from both the sight gauges.

In general, the primary fuel quantity indication is by use of the sight gauges. If fuel appears at one or both sight gauges, the engine should be able to pick it up.

The aircraft should be parked wings reasonably level, otherwise the fuel will cross feed to the low tank and may be lost through the tank vent.

P&M Aviation Ltd
Unit B Crawford St.
Rochdale Lancashire OL16 5NU
flying@pmaviation.co.uk
Tel: 01706 655134

Fig 1 Tee pieces installed approximately 100mm above the top of the tunnel.

Fig 2, tank vent cap with square cut bottom edge.

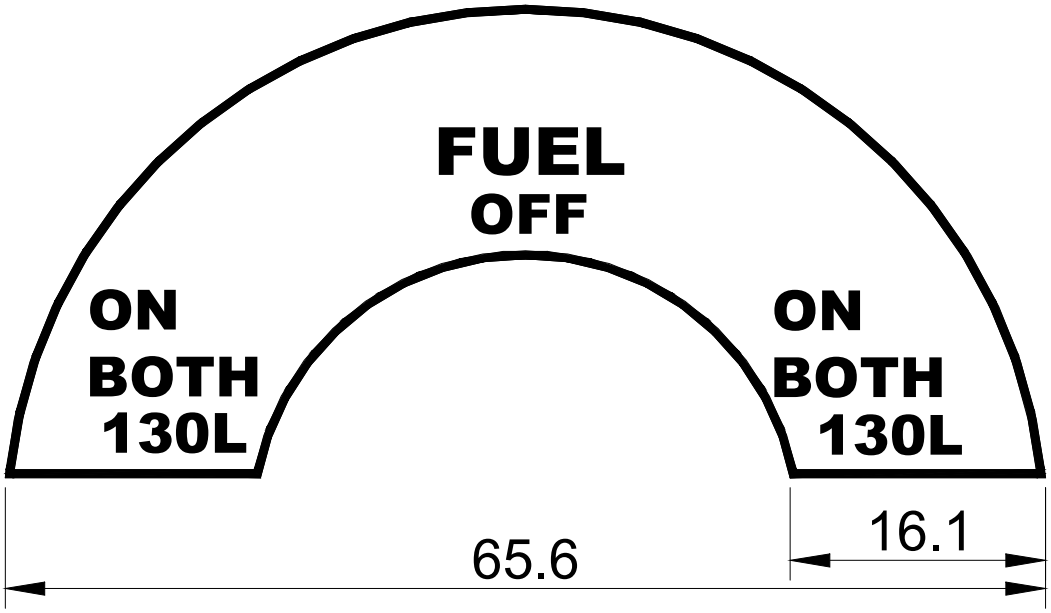


Fig 3 Fuel Selector Placard for Interconnected Tanks

Continued Airworthiness:

Every 100 hours or at Permit revalidation, whichever is earlier, with the link pipe temporarily clamped off, check fuel system as in action 1 above.

Be sure to remove the link pipe clamp before return to service.

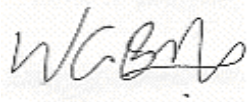
Documentation:

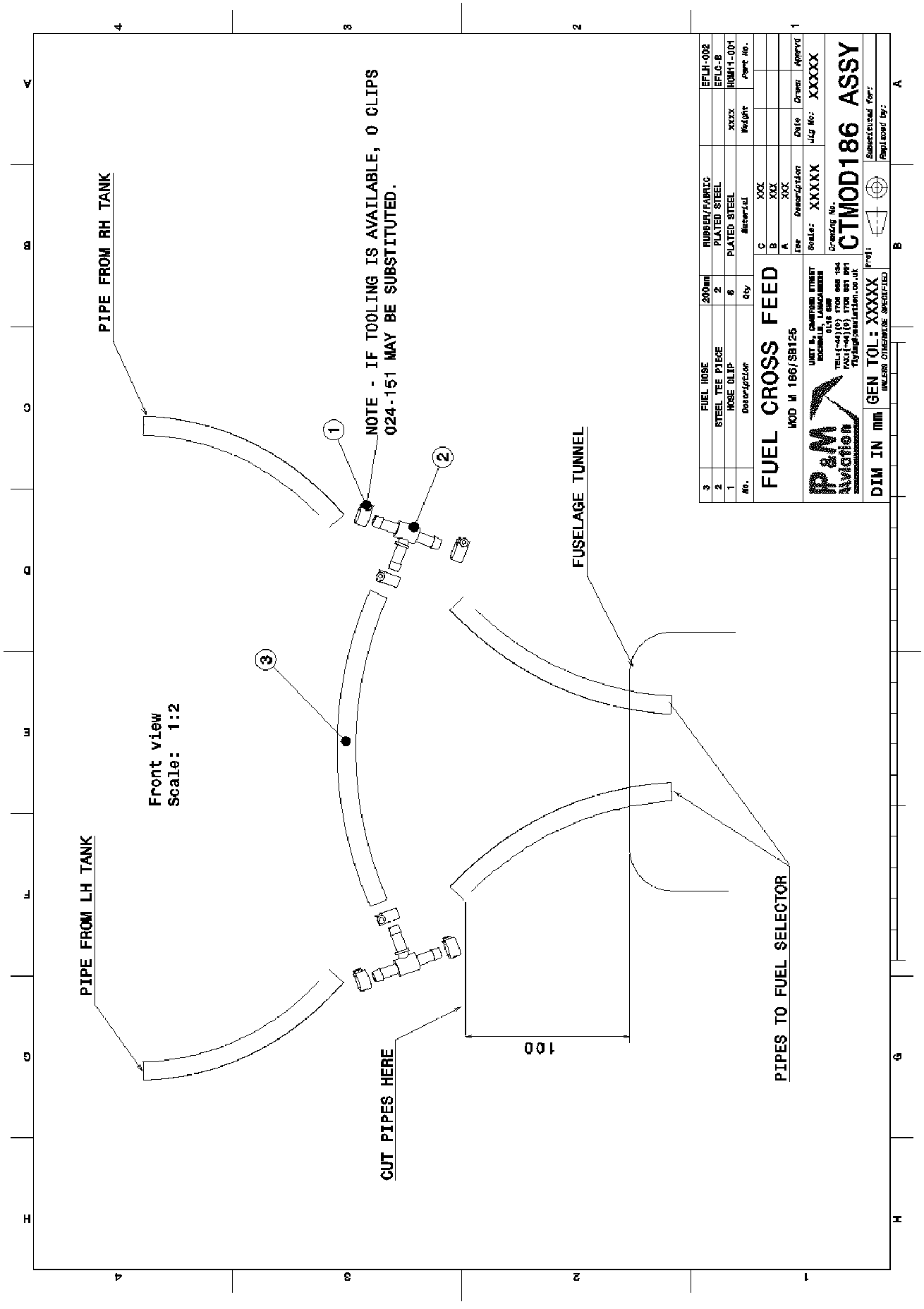
This service bulletin must be attached to the operator's manual.

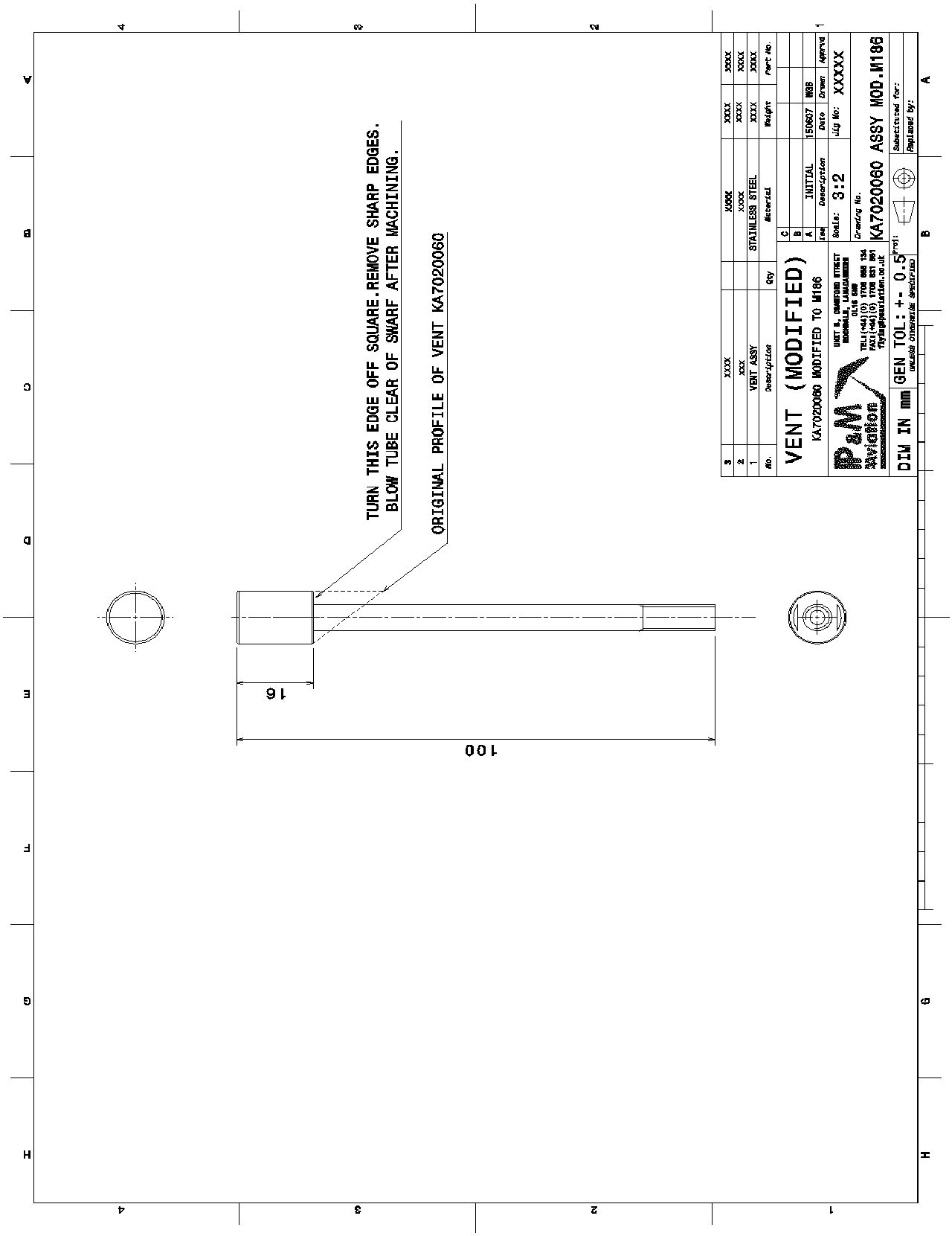
When the above inspections are carried out, the aircraft technical log must be signed off by a BMAA or Factory approved inspector, " service bulletin CT 125 (fuel feed) carried out".

When modification M186 (fuel cross feed) has been installed, a BMAA inspection signature must be provided " modification M186 (fuel cross feed) fitted", independent from the person who carried out the work.

ISSUED BY	**W.G.Brooks** **DATE 2nd July 2007**

Approved		Date 02/07/07	Checked		Date 03/07/07


PIPE FROM RH TANK
NOTE - IF TOOLING IS AVAILABLE, O CLIPS
024-151 MAY BE SUBSTITUTED.
FUSELAGE TUNNEL
Front view
Scale: 1:2
PIPE FROM LH TANK
CUT PIPES HERE
100
PIPES TO FUEL SELECTOR
FUEL CROSS FEED
MOD M 186/SB125
CTMOD186 ASSY
DIM IN mm
GEN TOL: XXXXX


TURN THIS EDGE OFF SQUARE.REMOVE SHARP EDGES.
BLOW TUBE CLEAR OF SWARF AFTER MACHINING.
ORIGINAL PROFILE OF VENT KA7020060
16
100
VENT (MODIFIED)
KA7020060 MODIFIED TO M186
P&M Aviation
KA7020060 ASSY MOD.M186
Scale: 3:2
Drawing No.
Mtg No: XXXXX
DIM IN mm
GEN TOL: +- 0.5