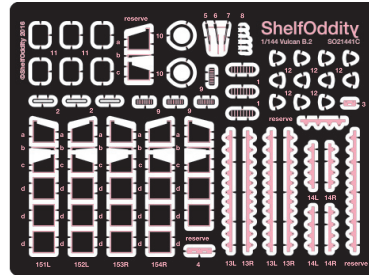
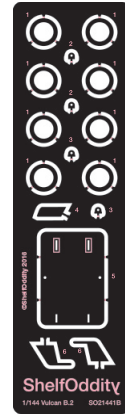
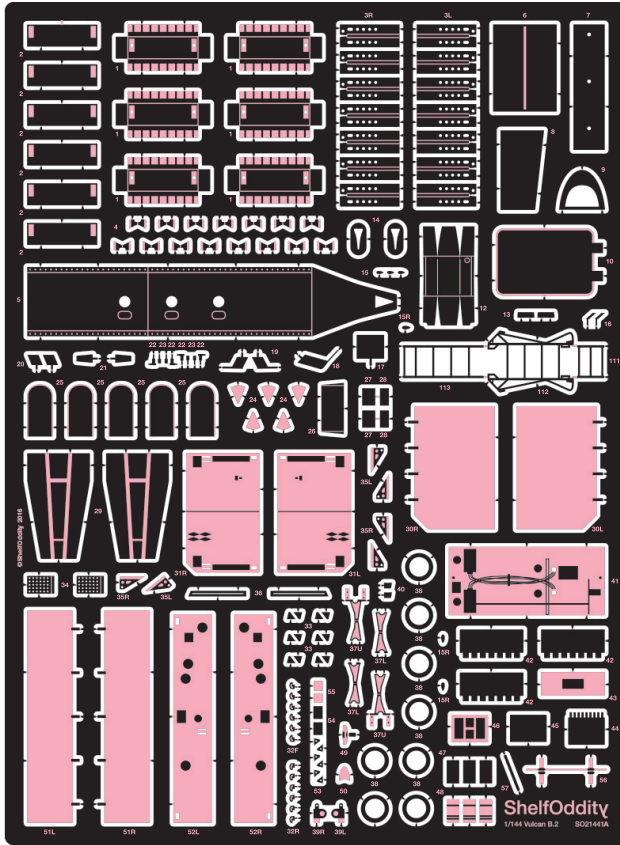


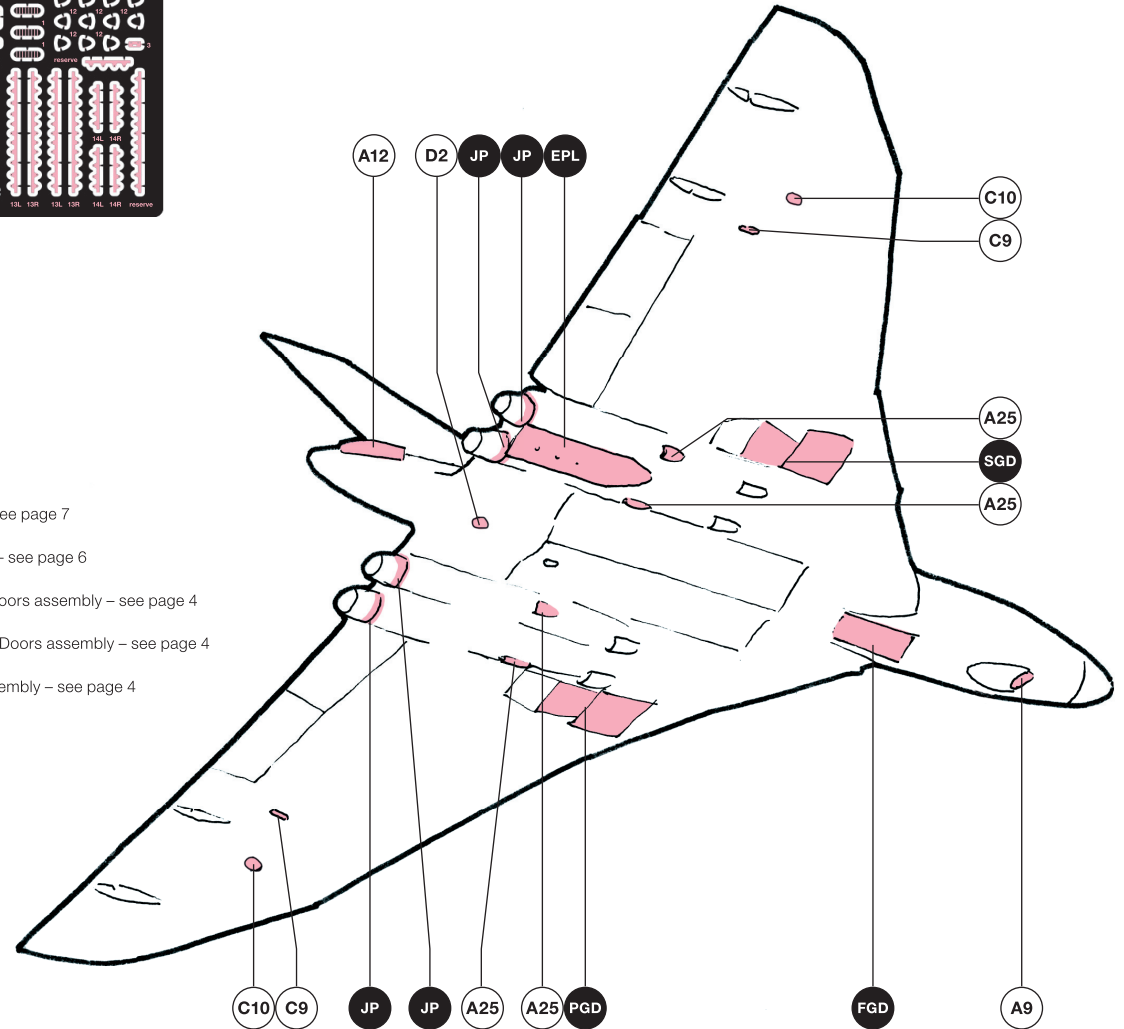
# SO21441

## 1/144 Vulcan B.2 for GWH kit

Shelf  
Oddity



- JP** Jet Pipe assembly – see page 7
- EPL** ECM Plate assembly – see page 6
- PGD** Portside Main Gear Doors assembly – see page 4
- SGD** Starboard Main Gear Doors assembly – see page 4
- FGD** Front Gear Doors assembly – see page 4



This comprehensive photo-etched detail set is designed for the GWH kit (or its Pit Road guise). It features four brass frets in three thicknesses: small 0.2 mm, main and small 0.1 mm plus the ultra-fine 0.05 mm. Additionally there are nine small resin parts included.

As the proposed area of modification is rather extensive, this set is recommended for experienced builders.

# SO21441

## 1/144 Vulcan B.2 for GWH kit

We have focused on external details here – Vulcan cockpit is basically invisible through the small windows and the detailed resin bomb bay is available from Retrokit range.

To allow for better clarity we have introduced a number of sub-assemblies which are explained under two first main illustrations of this manual.

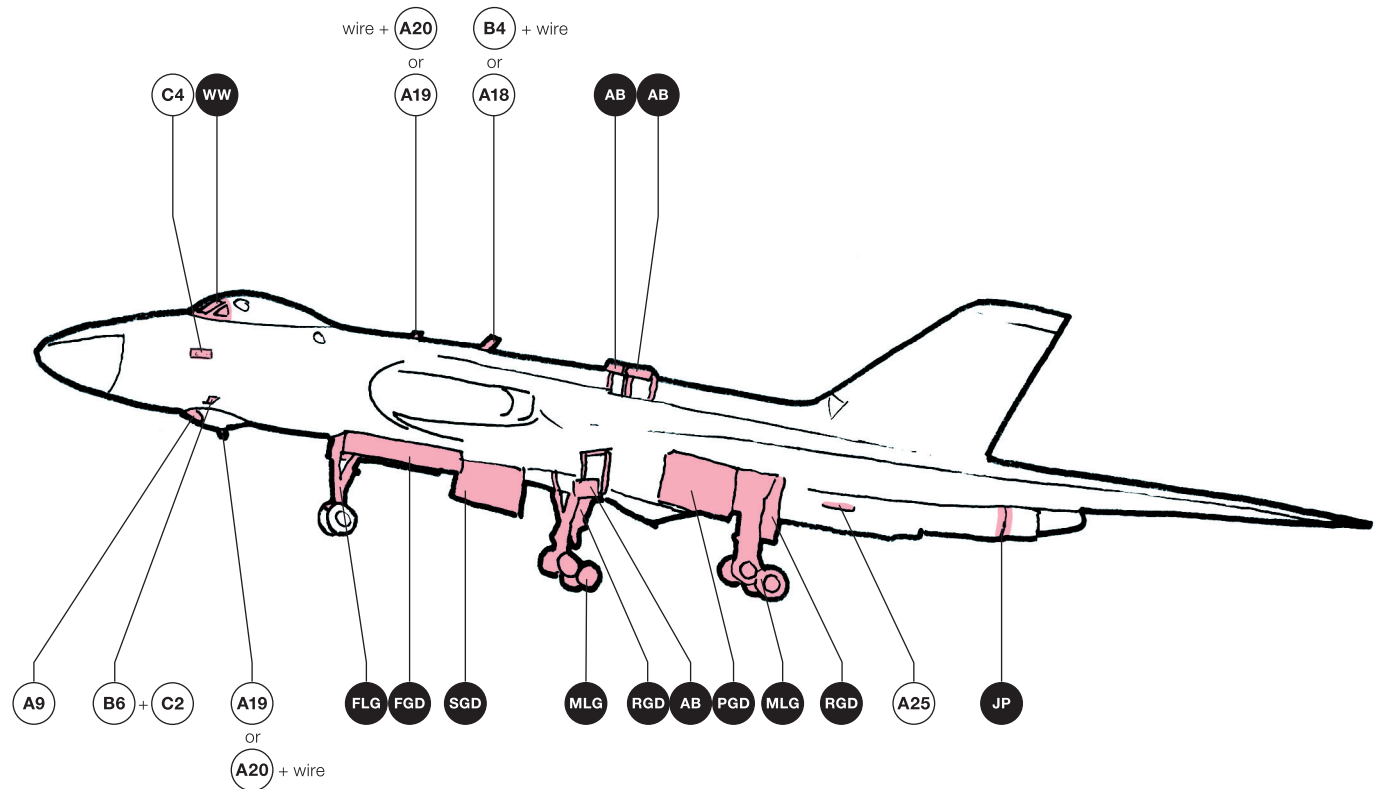
Note the C fret is made of 0.05 mm thin brass, some parts are just half-thin – 0.025 mm. Use fresh knife blade only to cut parts from the fret.

The small resin bits, actually cupolas, come in three diameters: three 1.0 mm size ECM plate antennae (R1), two 0.8 mm size main landing gear bay forward lamps (R2) and four 0.6 mm size landing gear bays smaller lamps (R3).

As it became our custom we thought about your favourite modelling aid – the Carpet Monster. The smallest brass parts are usually repeated on the frets.

Further refinement of your kit may come from the Master company product range – a turned brass refuelling probe boom AM144-010. Not all Vulcan airframes (and not at all times) have been fitted with the probe so check your references please.

If you do not wish to spend too much time on your Vulcan but still want some PE on it – please check our SO21442 Vulcan B.2 light set. It contains only the most prominent and visible parts.



**WW** Windscreen Wipers – see page 11

**AB** Air Brake assembly – see page 3

**FLG** Front Landing Gear assembly – see page 9

**FGD** Front Gear Doors assembly – see page 4

**MLG** Main Landing Gear assembly – see page 8

**MLG** Rear Main Gear Doors assembly – see page 4

**PGD** Portside Main Gear Doors assembly – see page 4

**SGD** Starboard Main Gear Doors assembly – see page 4

**JP** Jet Pipe assembly – see page 7

# SO21441

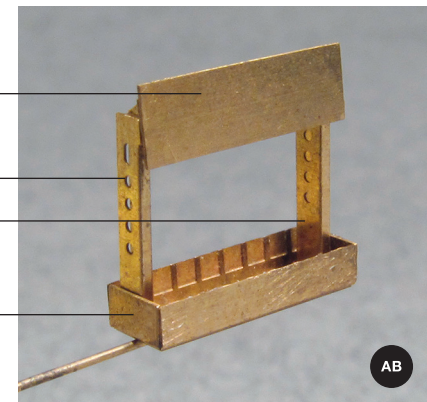
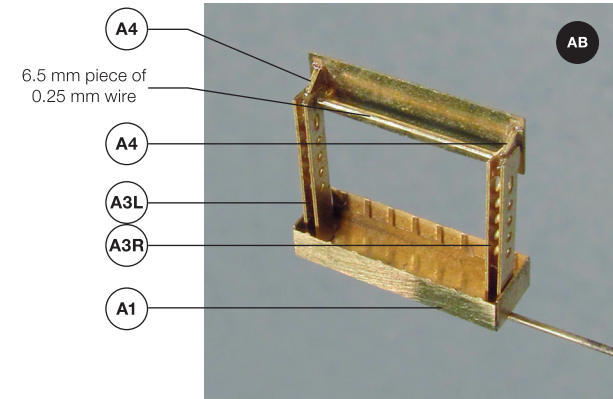
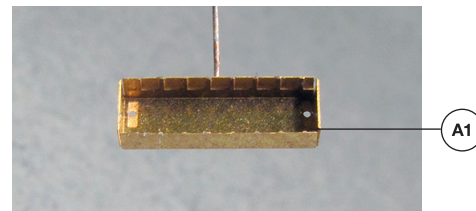
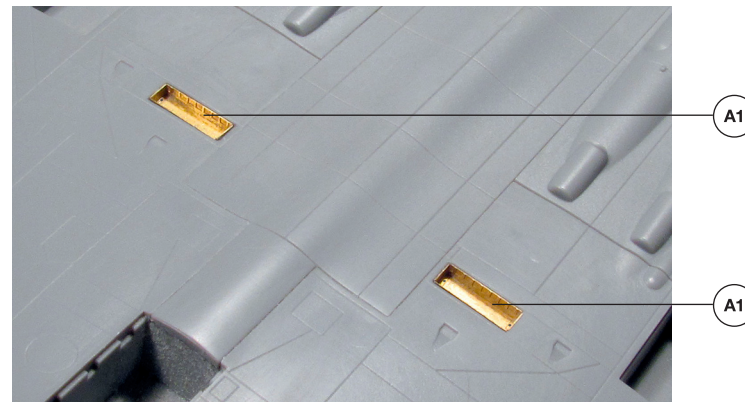
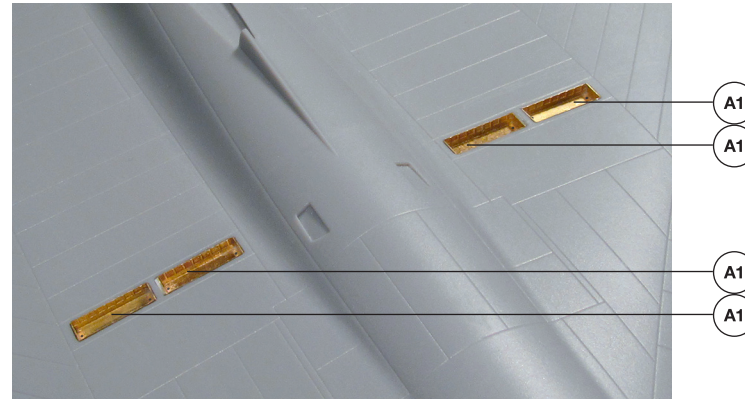
## 1/144 Vulcan B.2 for GWH kit

Work on this Vulcan set begins from a bit unusual detail – the air brake bays (parts no. A1).

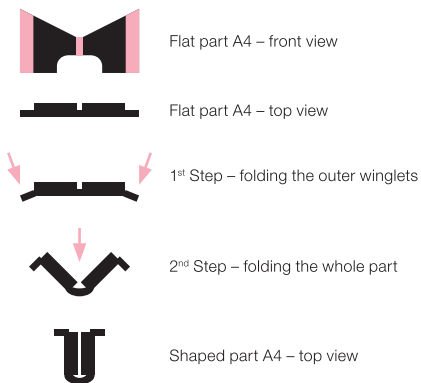
It is easier to fit them before joining the lower and upper fuselage parts of the kit. All the bays and all the air brake assemblies (AB) are identical and interchangeable.

Note the recesses inside each bay go to the rear of a plane.

Folded air brake hinges (A4) should go into the slit in the upper part of the air brake supports (A3L, A3R).



**!** The drawing below shows the way of folding A4 parts. Not to scale.



**!** Air brake bay feature two 0.3 mm holes. The openings may be used to fix the brake assembly with 0.25 mm wire into the bay.

**!** Supports 3L and 3R should be folded to keep the fold-lines inside of the part. If bent in other way the brass will break. While making the second fold it is recommended to use the popular modelling blade.

# SO21441

## 1/144 Vulcan B.2 for GWH kit

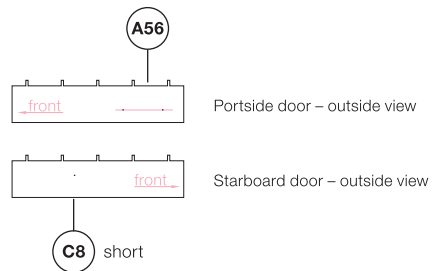
When your Vulcan is already fitted with air brake bays it may be convenient to work with more obscured details before going into all kinds of protruding antennae and doors.

Some people say the lower part of the finished model is practically invisible when displayed on the shelf, but hey – we have recently been called *Shelf Insanity* and we kinda liked it. To match this description here are the Vulcan landing gear bays fittings.

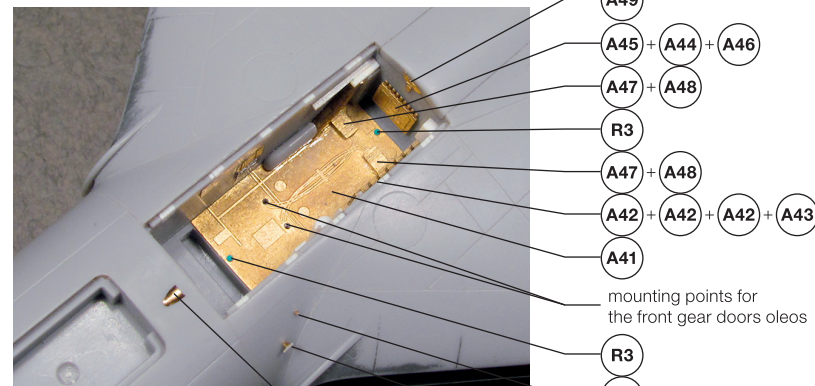
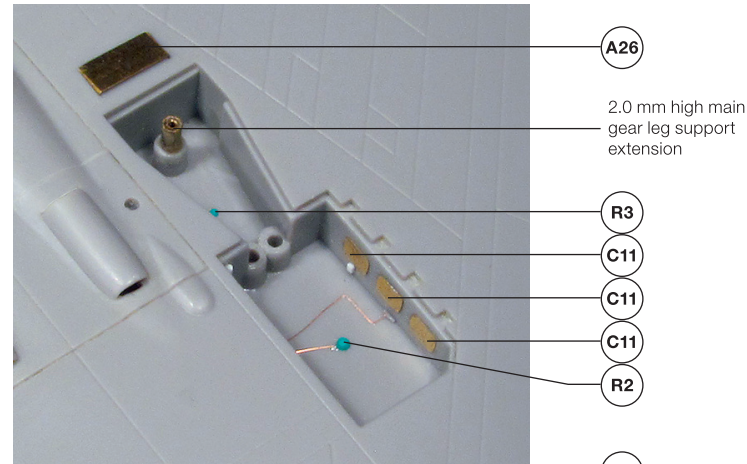
There are a few additional parts present on the pictures – these are just a suggestion what can also be added from your spares box.

One more thing to note about GWH/PitRoad kit: it is a depiction of a museum machine with unpressurised (and therefore shortened) landing gear oleos. Additionally all three legs are placed too deep in their respective wells. One of the possible solutions is shown in this manual.

During the later years of Vulcan service two antennae were placed on both front gear bay doors. The location of those parts (included in this set) is shown below.



! Drawings keep 1/144 scale when printed on A4 size paper without "fit to page" option.

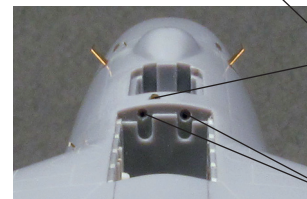


mounting points for the front gear doors oleos

R3

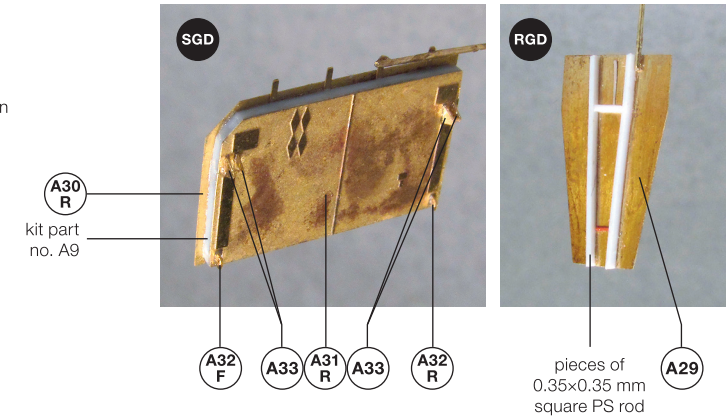
C8 long

A23 + wire



new localisation of mounting points for the front gear leg

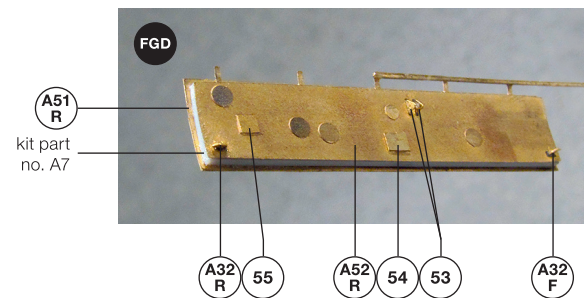
! The lower periscope fairing (D1) is located slightly off the main fuselage axis.



! The portside main landing gear bay front door has mirrored layout. Use kit part no. A10 and etched parts (A30L, A31L) accordingly.

! Remove mounting stubs from kit parts A9 and A10 before proceeding with the photoetched parts.

! Rear landing gear bay doors are identical.



! The front landing gear bay portside door has mirrored layout. Use kit part no. A8 and etched parts (A51L, A52L) accordingly.

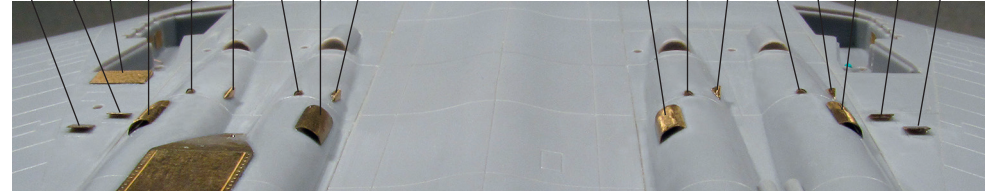
! Remove mounting stubs from kit parts A7 and A8 before proceeding with the photoetched parts. The respective holes around the front landing gear bay need to be filled.

Once the landing gear bays are ready we can move on to external details spread around the whole airframe. As the Vulcan topside is rather empty in terms of detailing we let ourselves go on the bottom. At first glance those parts may seem invisible, but when looking at your model from the maintenance crew eye-level there is a lot going on underneath.

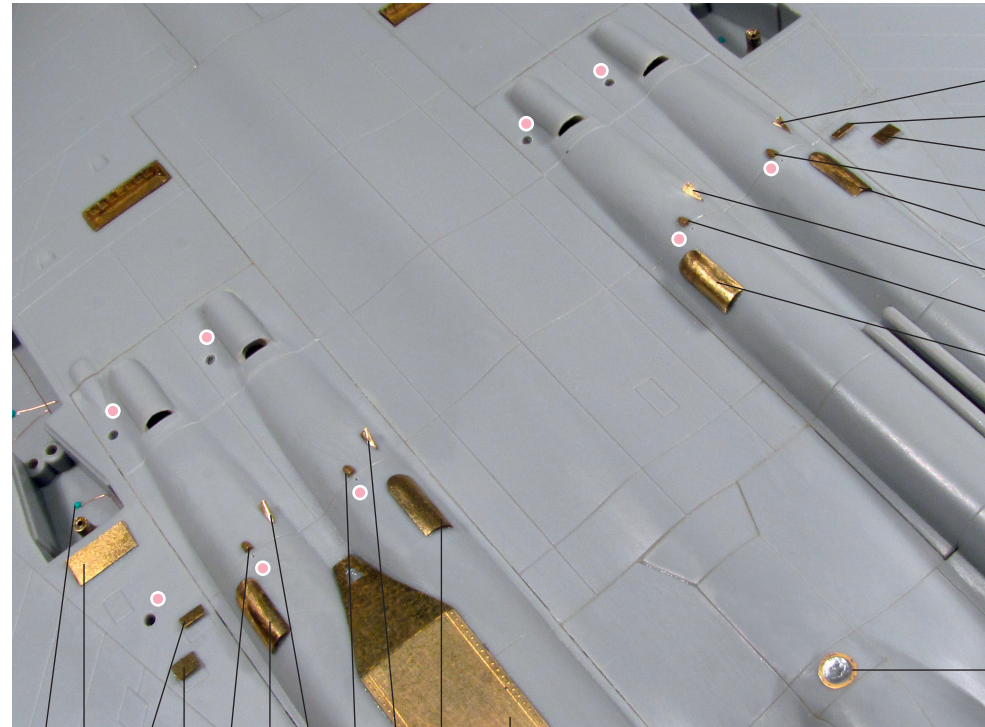
The air-scoops (A24) need to be gently folded to form a pyramid-like shape. The biggest outlet fairings (A25) can be formed using the dental tool visible on the photo below (placed on the cutting mat). The smaller fairings (C12) should be treated in a similar way.



A27 A28 A26 A25 C12 A24 C12 A25 A24



A25 C12 A24 C12 A24 A25 A28 A27



A24  
A28  
A27  
C12  
A25  
A24  
C12  
A25

While placing PE details in the engine bay area you can also consider making a few openings. Some of them are marked with a pink dot on a side photo. This is where the oil and dirt streaks originate from.

The light is made of freshly-cut-flowers wrap – the aluminium foil acts as a reflector and cellophane as a light transparency. The photo-etched frame (D2) holds everything in place.

# SO21441

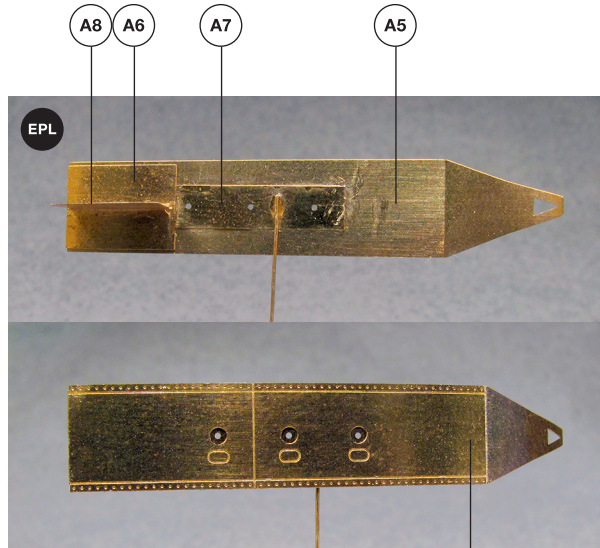
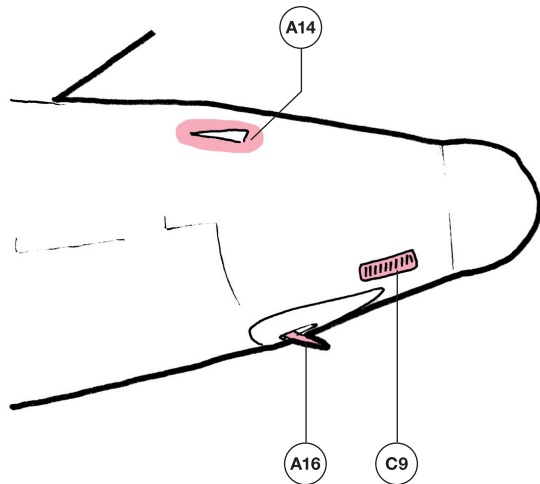
## 1/144 Vulcan B.2 for GWH kit

The ECM plate is one of the prominent model features. It replaces kit's part no. 22.

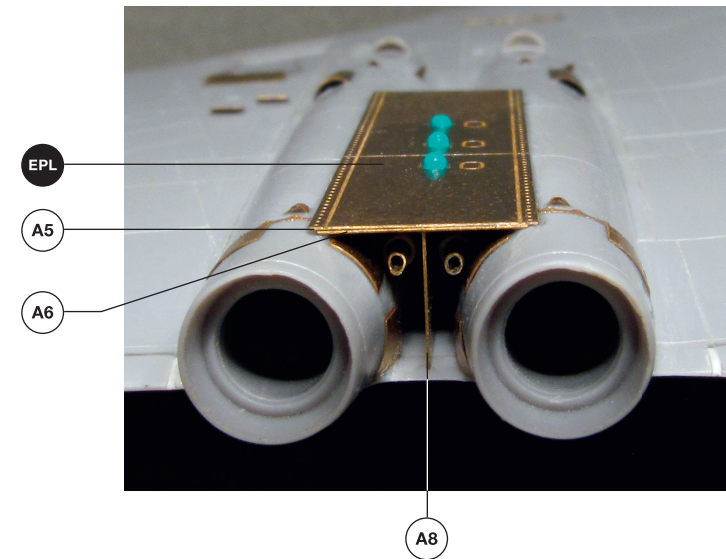
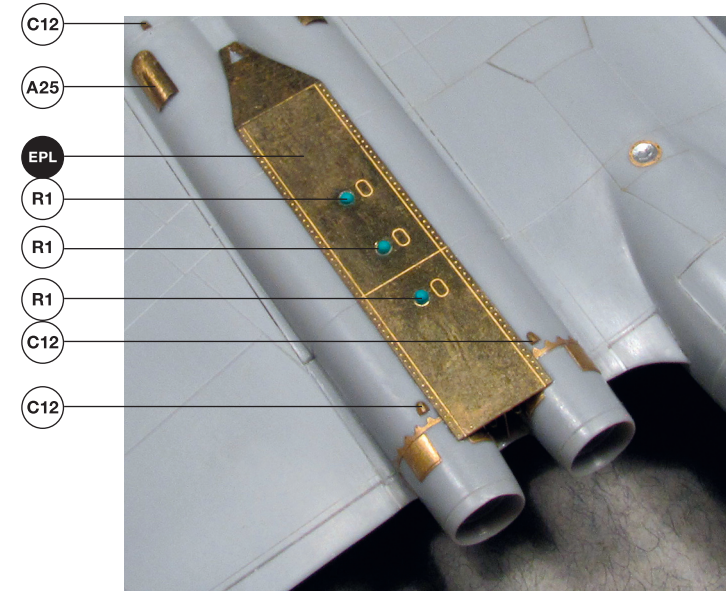
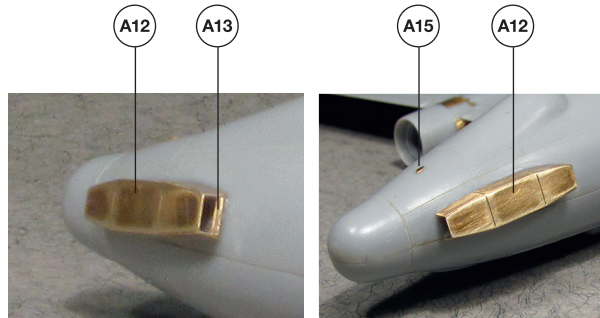
Let us start the assembly with placing the rear backplate (A6) to the backside of the main ECM panel (A5). It should be aligned to the centreline and to the back edge of the main panel (A5). Then the second backplate should be attached along the centreline literally touching the front edge of the already mounted backplate (A6). The holes in A6 should be aligned with openings of the main panel (A5) creating a kind of sockets for the ECM antennae. The sockets can be filled with the largest resin bits (R1).

Finally the vertical spar (A8) goes into the slit in the rear backplate (A6). It should be mounted at straight angle to the main panel (A5).

The ECM bay cooling inlet (A12, A13) is another folding and shaping exercise but it adds great depth to this part of the model.



! Backplate (A7) is visible through the holes in the ECM panel (A5) making sockets for resin parts (P1).

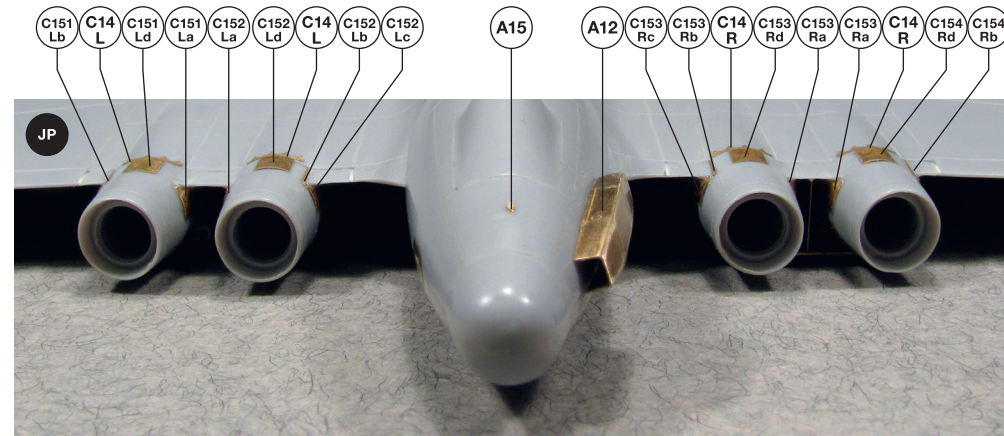
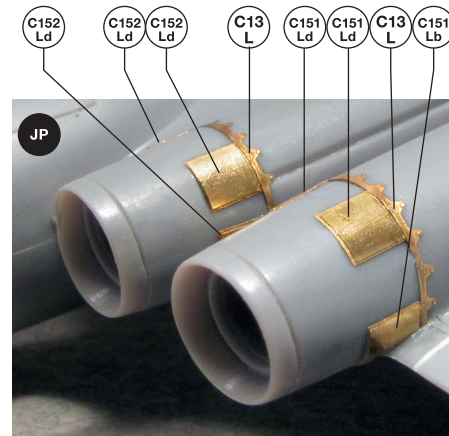
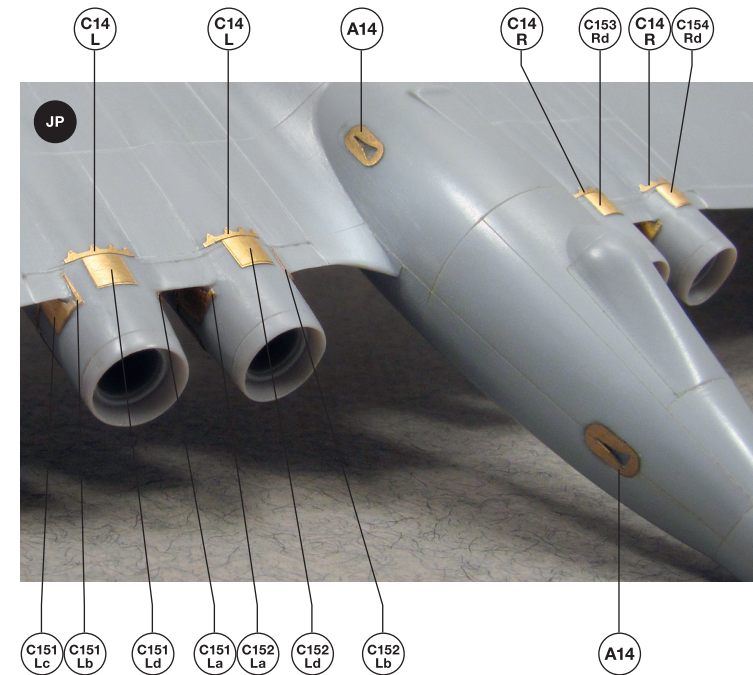
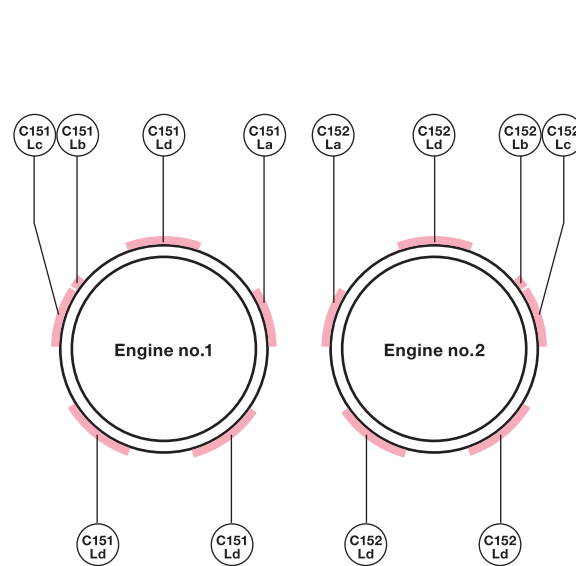


The jet pipes of Vulcan engines are a bit tedious venture. The assembly seems complicated on the pictures but it is a quite straightforward process actually.

As GWH kit seems to be a representation of Olympus 201 powered machine (though you have to skew the outer pipes by yourself) the quite prominent feature of '201' jet pipes, the thermocouple fairings (C151-C154), begs to be added. The fairings are made of the fragile 0.05 mm thin brass foil but after prior careful shaping they are relatively easy to apply.

The drawing beside this text is a simplified scheme of placement for portside engines (C151L, C152L). Starboard layout (C153R, C154R) is mirrored.

One of the NACA-style inlet panels (A14) helps to mask the fuselage joint line which goes directly through the panel. The other is just a same-shape companion. It is recommended to carefully scrap the inside of the panels with a knife blade and then place the brass parts (A14) into the created recess.



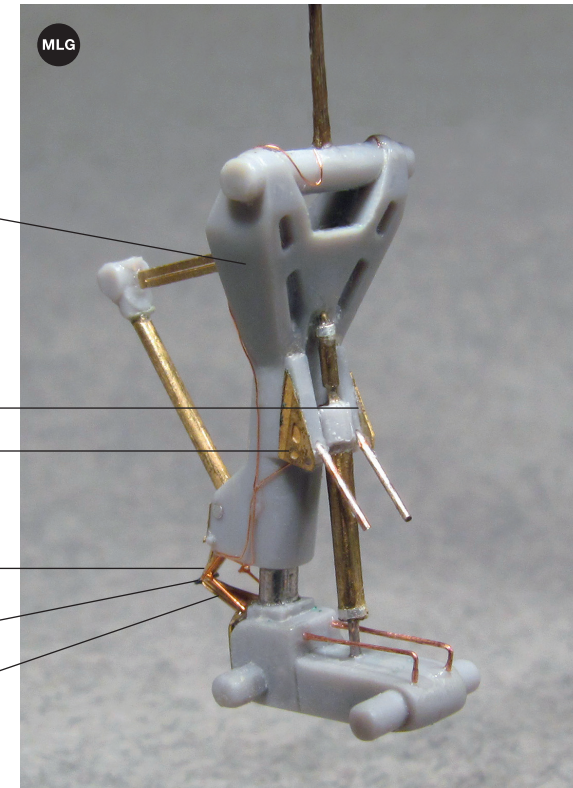
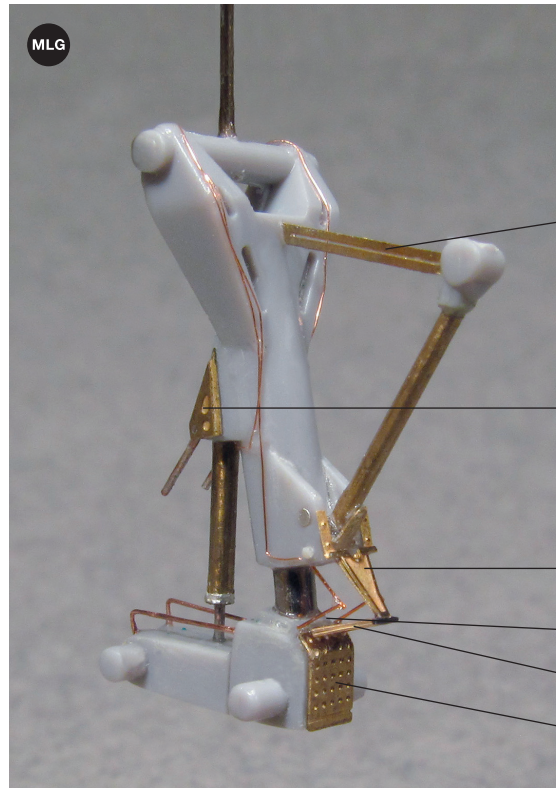
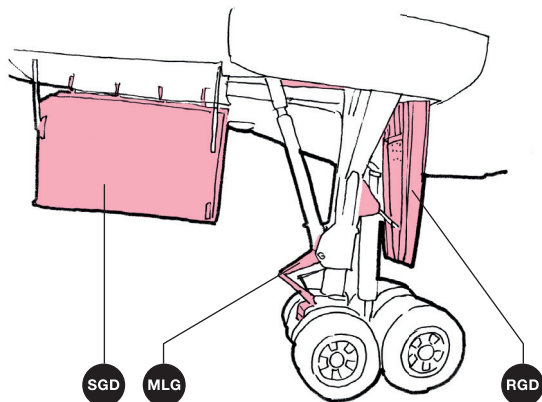
Once all the flat or partially-hidden parts are completed let us take a look at the protruding bits.

First – the main landing gear. The oleos in MLG legs present in the kit are too short. In order to present your model in correct, slight nose down, position it is recommended to extend the oleos using e.g. thick syringe needle as we have done.

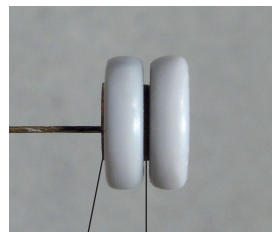
The oleo scissors are made of two halves – upper (A37U) and lower (A37L) one. They need to be folded before attaching to the MLG legs. The scissors hinge is made of 1 mm long piece of 0.15 mm wire.

There are a few other additional parts present on the pictures – these are just a suggestion what can also be added from your spares box.

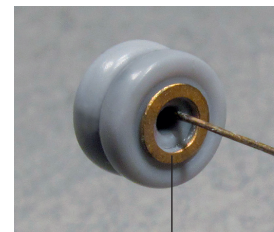
The wheels are visibly separated by the brake discs in a real thing. To represent it we have added 0.2 mm thick inner (B1) and 0.1 mm thin outer (A38) discs to each wheel assembly.



- A36
- A35 L
- A35 R
- A37 U
- 1 mm piece of 0.15 mm wire
- A37 L
- A34



- A38
- B1



- A38

! Both main landing gear legs have identical layout. The oleo scissors are not mirrored!



# SO21441

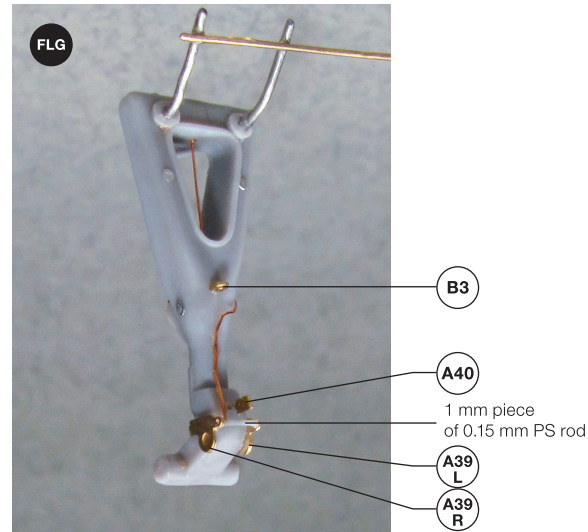
## 1/144 Vulcan B.2 for GWH kit

After jet-pipes and the main landing gear, the front landing gear leg assembly seems to be a breeze.

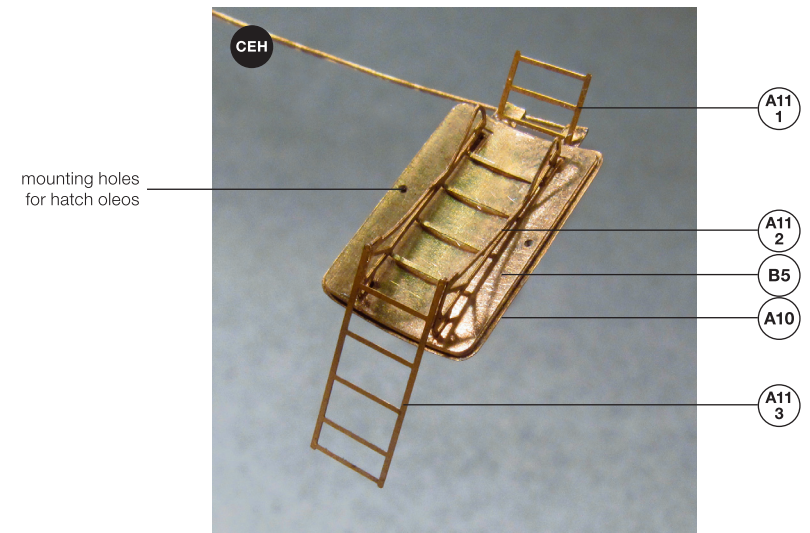
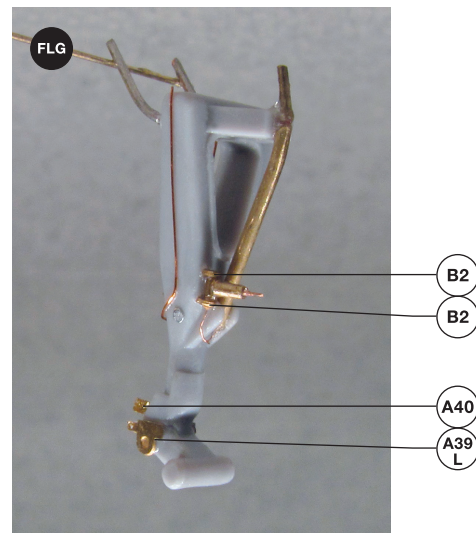
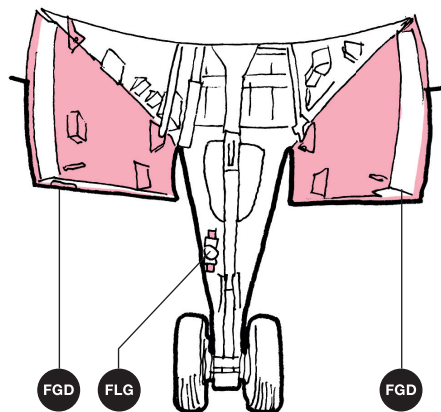
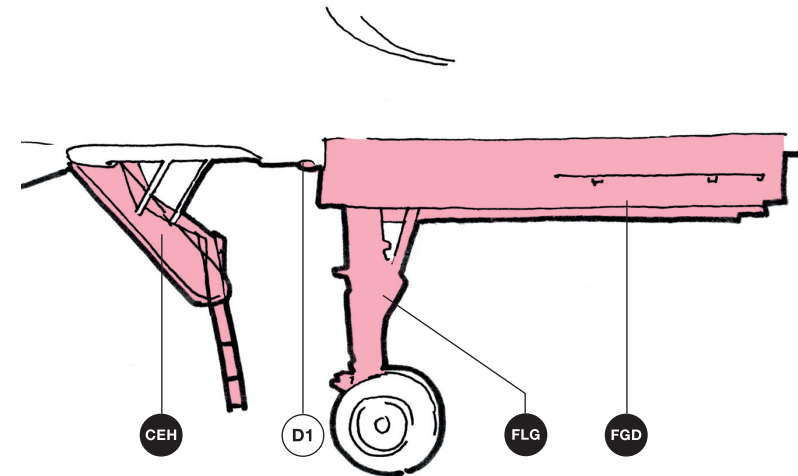
There are a few other additional parts present on the pictures – these are just a suggestion what can also be added from your spares box.

The crew entry hatch requires a bit more attention. Both outer and inner parts of the hatch need to be shaped before joining them together. The inner part of the hatch is made of 0.2 mm thick brass to replicate the considerable bulkiness of the real thing.

The upper ladder (A111) should not be attached to the hatch cover – it should be placed inside of the hatch. Its arrangement on the photo (CEH) is just for presentation purposes.



! Part A40 is off the FLG leg symmetry axis. It is moved to the portside.



# SO21441

## 1/144 Vulcan B.2 for GWH kit

Few bits and pieces is distributed on the front fuselage and outer wings sections.

A small update for the ram-turbine is provided in form of its rear arm (A57) originally protruding from the surface at the rear-side of the turbine door.

Grills (C1) have to be moved from their position marked on the kit. The same thing is valid for the main pitot probes (B6+C2).

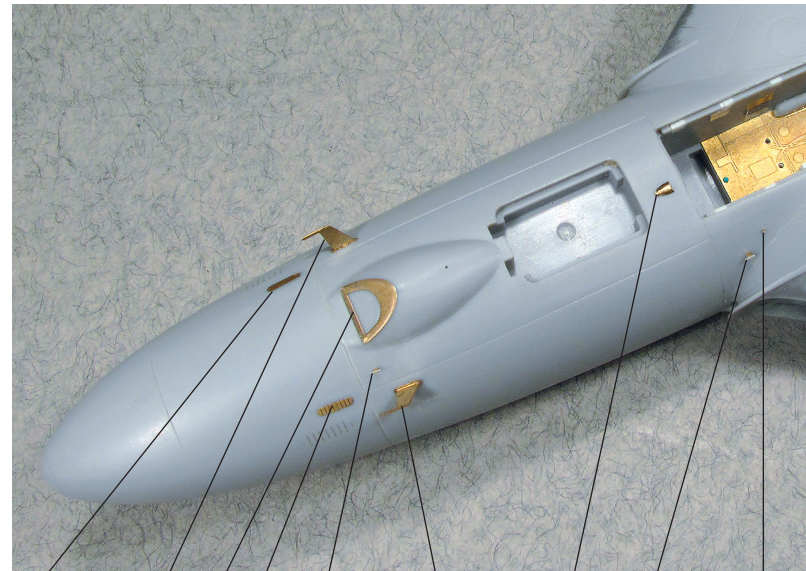
The bomb aiming window frame needs to be fitted flush to the front of its bay.

Note that the main air intakes splitter plates are way too big in the kit and need to be considerably reduced.

Landing light (C10) and small vent (C9) are symmetrically placed on the portside and the starboard. The straight edge of the landing light frame should be perpendicular to a centreline of the plane.



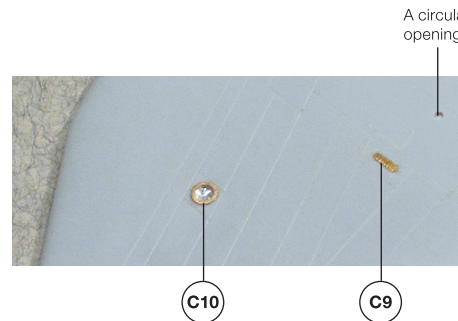
Probe A22 can be replaced by a combination of brass support (A23) and 0.8 mm long piece of 0.2 mm PS rod or wire.



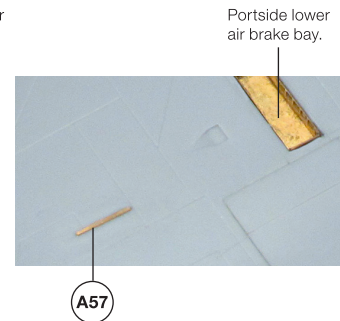
C1  
C2 A9 C1 A23+wire C2  
+ B6 or A22 + B6  
D1 or A50 A23+wire C8 long or A22



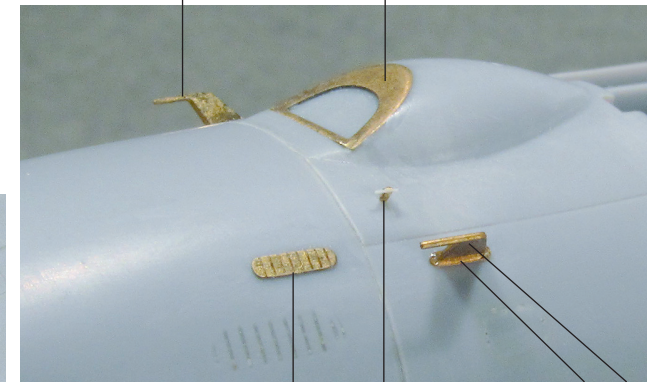
A15R A15 B6 D1 A9  
A circular opening.



C10 C9



A57



C1 A23+wire C2 B6

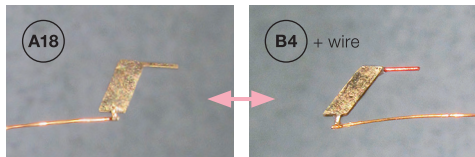
# SO21441

## 1/144 Vulcan B.2 for GWH kit

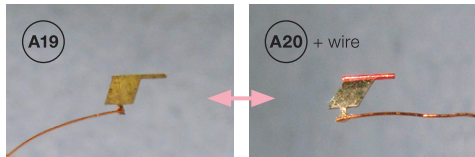
Vulcan nose is adorned by two ultra thin access panels (C3, C4). They are raised on the real plane and we thought that 0.025 mm thin brass foil will be a good representation. Note, there are a few panel lines missing on the nose cone in the closest vicinity of both panels.

Another use of this very delicate material are the windscreen wipers. The wipers are one of the few subtle hints that despite its futuristic shape Vulcan was a subsonic machine.

Antennas A18 can be replaced by a combination of brass support (B4) and 1.5 mm long piece of 0.2 mm PS rod or wire.



Antennas A19 can be replaced by a combination of brass support (A20) and 2.0 mm long piece of 0.2 mm PS rod or wire.



There are two more kinds of antennae included in the set (A17 and A21). Check your references for their placement.

### Main sources:

Tim Laming – The Vulcan Story  
Vulcan – Aeroplane Icons

