

Belcher Bits BK-11: Vought Regulus I 1/48

Background

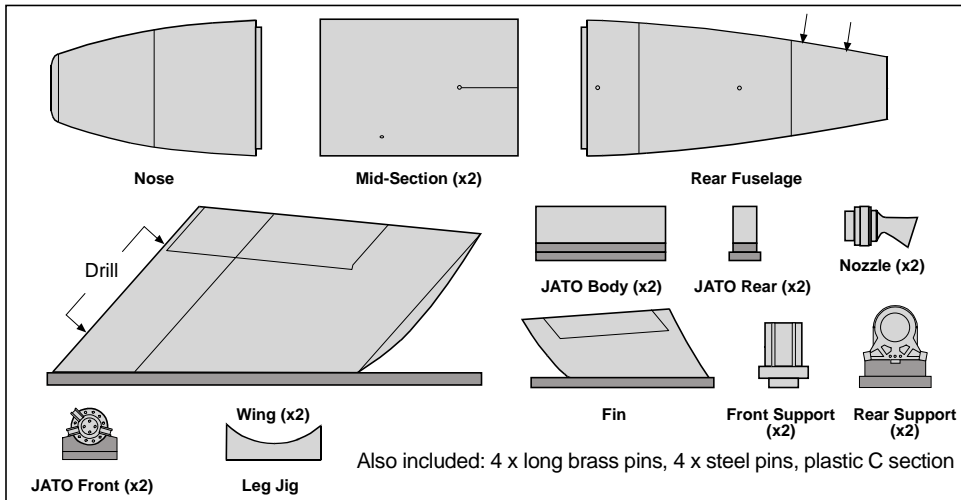
During WWII, the USN started looking at cruise missiles. Low priority changed in 1947 when the USAF started development of the Matador and not wanting to be left behind, the Navy started the Regulus project to deliver a nuclear warhead using a submarine launched missile. Initial trials used the JB-2 Loon (a copy of the German V-1) but the larger Regulus missile with its J-33 engine promised longer range and a heavier payload. The first launch occurred in 1953 from the USS Tunny, a modified Gato class submarine. Three purpose-built SSG submarines were completed, the last (USS Halibut) having an extremely large hangar which held 5 (!) Regulus missiles. These submarines completed 40 deterrent patrols in the Pacific between 1959 and 1964, before being replaced by SSBNs.

The Regulus missile had folding wings (to better fit in the submarine hangars) and used 2 x 33000lb JATO boosters to launch from pivoting launchers, although some Regulus were catapulted from carriers using a disposable trolley. Early test missiles were fitted with retractable landing gear for training. These and later obsolete tactical Regulus missiles were converted to KDU-1 target drones.

Assembly

Like all resin kits, remove the parts from their bases / sprues and wash thoroughly to remove any release agents. The two mid-section halves have one flat face, while the nose and rear fuselage are raised on cylindrical standoffs which are designed to fit inside the ends of the middle section, so clean those ends up and test fit everything.

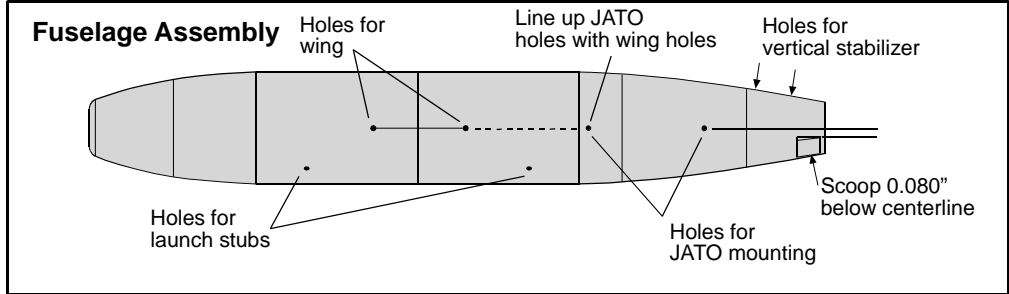
Note the midsection parts have two small holes with scribed lines attached, and two small holes closer to the other end. Match up the flat ends of the midsection halves lining up those lines, and keep the other holes (where the launching stubs go on the bottom) and glue together; use a V-block if you have one, or against a straight edge on a flat surface. Glue on the nose section and the rear fuselage. The two holes on each side of the rear fuselage are where the JATO units attach, and they should line up with the lines on the mid sections. Also remember that the two small holes near the tail are for attaching the vertical fin, and those holes go on the top of the fuselage. Fill the seams. Those holes with the lines indicate where the wings attach. See Fuselage Assembly sketch.



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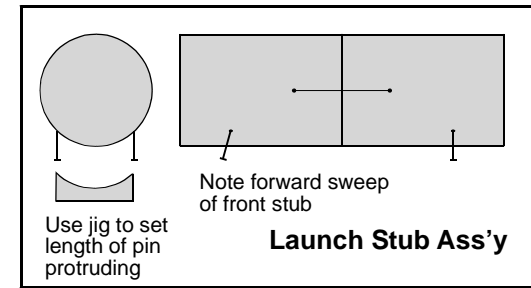


Assembly cont'd.

Drill the wing, vertical stab and JATO holes to 0.028" (#70) diameter; that way, you can use ends cut off the supplied brass pins to reinforce all the joints. The holes on the bottom, though, for the launch stubs are a bit more complicated.

The missile has no landing gear per se. It was held into its launch rails with small stub legs, which slid in tracks in the launchers. These stubs can be represented by the heads of the brass pins, sticking out of the stub holes in the bottom of the fuselage. These holes have to be drilled at the indicated locations, but oriented vertically, not at right angles to the fuselage. Furthermore, the front stub legs need to be angled slightly forward. See the Launch Stub Assembly sketch as a guide.

Drill the stub holes as shown, about 0.12" deep. Its better not to drill too deep as you don't want to drill through into the open center of the fuselage, because then the pins can be pushed in too far. Work individually, cutting the pins over-long and using the jig to set the protrusion amount, trimming the pins as required. Use cyano to glue the pins in position. It is possible to do



this after painting, but then you are doing a lot of handling of the finished model, and using cyano to glue in the legs. I found it was better to do this at this stage and just be careful not to bend the stubs during the rest of the build.

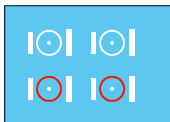
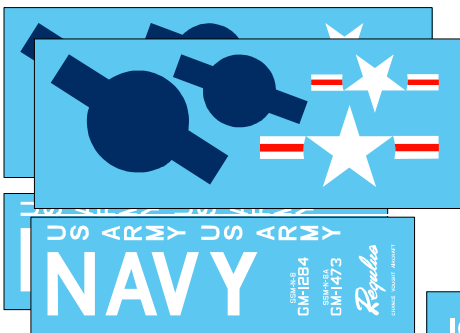
Cut two lengths of the C channel supplied to 0.25" long and taper the edges so one end is flat. Wrap a piece of sandpaper around a round object and lightly sand the back face. Glue where shown above, just slightly ahead of the tail end and about 0.080" below the mid-point. Lightly sand to round off the top and bottom edges. These represent two scoops which cooled the exhaust area.

Separate the wings from the pour stub and clean up the leading edge of the wing; same for the vertical stab. Using the same size drill, drill out the wing and stab mounting holes and insert lengths of the brass wire. Tack the wings in position; the wire will help reinforce the butt joints. Make sure the wings are aligned with each other and finish gluing. Do the same for the vertical stab, checking that it is at right angles to the wings. Fill any seams.

Because the JATO units cover some of the markings, you must paint and decal the model before installing the JATO units. See the sketches at right. Colour scheme choices are limited!

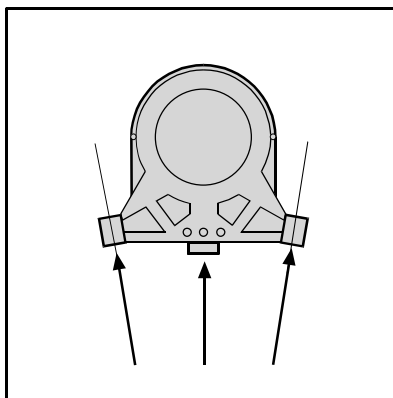
Decals

Two each large and small stars and bars (with and w/o blue background) and two each NAVY, serial numbers and name logo. Please ignore the US ARMY markings; they were included for another project. The static port markings on the small supplemental sheet go just ahead of the stars and bars on the nose. The all-white set is for the red KDU drone.



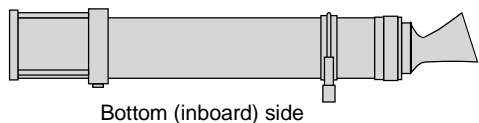
JATO Booster

First step is to remove the casting sprue and drill three holes in the rear support parts. The center hole is for a brass wire as in earlier construction. The other two holes are slightly smaller in diameter (0.025" or #72 drill). These are drilled through the outer arms and are angled out as shown in the sketch at right. These will be for the pins representing sway braces which will be installed right at the end. For now, just glue in a short brass rod in the center hole.



Booster assembly is pretty straightforward. Remove the pour stub other JATO parts; the seam left will go on the bottom (inboard side) and be nearly invisible. Glue the Front Support to the JATO Body, with the two bars on the bottom side. Drill a hole in the raised block on the bottom for a brass wire and insert. Glue the JATO Frontpart onto the Front Support, matching up the clamps with the bars. Glue the Rear Support to the JATO Body, lining up the brass wires. Glue the JATO Rear to the rear of the Rear Support. Glue the Nozzle to the end of the JATO Rear, with the nozzle pointing up. Paint the JATO units light grey.

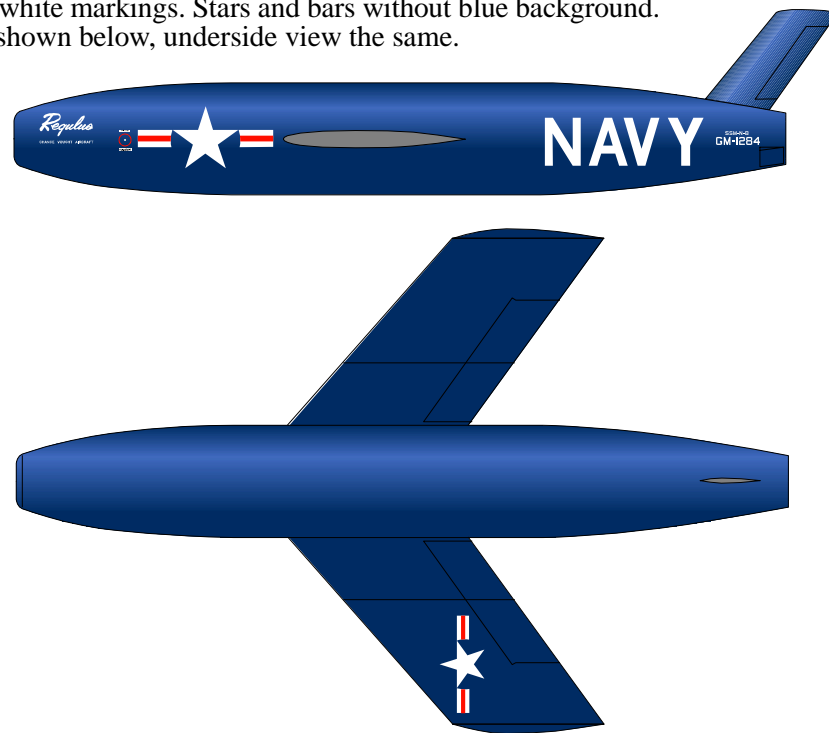
JATO Assembly



Stick two steel pins through the drilled holes in the Rear Support arms, with the heads down. Glue the JATO units in place using the brass pins in the holes previously drilled in the fuselage (you may need to open up these holes as they may be covered by a decal). When dry, carefully slide the steel pins down until the heads touch the surface. Apply a tiny drop of cyano to the pin and, leaving about 0.03" protruding from the arm of the Rear Support, cut off the rest of the pin.

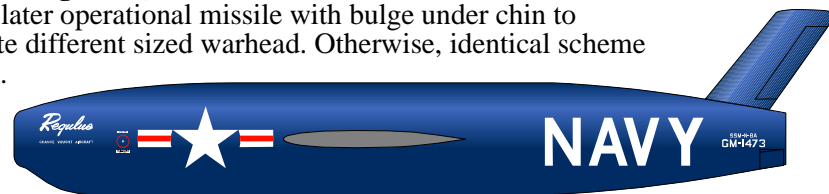
1. SS-M-8 Regulus I, GM-1284

One of the early operational missiles. Overall Gloss Sea Blue with white markings. Stars and bars without blue background. Top view shown below, underside view the same.



1. SS-M-8a Regulus I, GM-1473

A later operational missile with bulge under chin to accommodate different sized warhead. Otherwise, identical scheme to 1 above.



1. KDU-1 Regulus I, s/n unknown

Some Regulus missiles were built as KDU-1 target drones and were essentially identical to early tactical missiles. Overall red with white wing tops. Blue backgrounds to stars and bars.



References

1. **Regulus: The Forgotten Weapon**, David Stumpf, Turner Publishing, 1996
2. <http://www.designation-systems.net/dusrm/m-6.html>