

1984 Honda VF750 Interceptor Superbike
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Introduction:

This bike was inspired by a small, black and white photo in an old Cycle Canada magazine. It showed Rueben McMurter on a Honda Interceptor Superbike. The intriguing thing to me was that one of the sponsors was Royal City Cycle, then the largest bike dealership in Guelph. After some research, I found that the bike still existed in the hands of Bar Hodgson, who runs the Motorcycle Supershows in Toronto and originally sponsored the bike in return for taking possession at the end of the 1984 season. Rueben placed third overall in 1984 on the AMA superbike circuit, a remarkable achievement for a privateer. It led eventually to Rueben getting a factory sponsored ride in subsequent years.

Most of the details came from photographs and measurements I took of the actual bike. Many thanks to Bar Hodgson for giving me access to the bike. I also had some material from a couple of motorcycle magazines printed back in 1983 and 1984. They outlined the fact that you could buy parts for your own superbike from Honda America. Many of these parts ended up on the real bike.



Figure 1 - The photo that started it all

The bike that I measured and photographed in the fall of 2004 differs from the bike in the pictures in a number of ways:

- the front fender is shorter and has no side braces
- the oil cooler bracket is not sheet metal
- the radiator overflow tank is inside the faring
- the gear shift lever is just turned backwards and there is not a linkage arrangement

Build Notes:

These notes are organized into various components of the bike. Almost all the bolt head details on the kit pieces were replaced with Galtran detail brass hex head parts of the appropriate size. Scale nuts were also made of hex shaped Plastruct rod. Many of the race bike components used hex head set screws. These were simulated by drilling a fraction of a millimeter into the end of round Plastruct rod. The rod was then sliced off at the correct length.

When I visited the bike, it seemed to be held together with tie wrap! This was simulated using white and black electrical tape, cut into thin strips. These were then wrapped around the piece and a drop of superglue added to keep everything in place.

Bodywork:

The bodywork (fairing, gas tank, side covers and both fenders) were left essentially stock. However, to show off some of the interior details, the side covers were designed to be removable. The back side of a no. 11 blade was run over the seam to remove the side cover from the gas tank and rear fender. Mounting pins from 1mm styrene rod was added to the back of the side covers. Matching mounting plates/brackets were added to the frame, gas tank and rear fender to allow the side covers to be attached and removed from the model.

The fairing had decorative grillwork on both sides, at the bottom rear. These were molded into the plastic and were not very realistic. This area was thinned from the back using a motor tool. The molded grillwork was then removed. Small pieces of 0.3 mm diameter steel wire was cut to length and glued into place using 24 hour epoxy. This type of epoxy allowed the pieces to be repositioned for quite a long while.

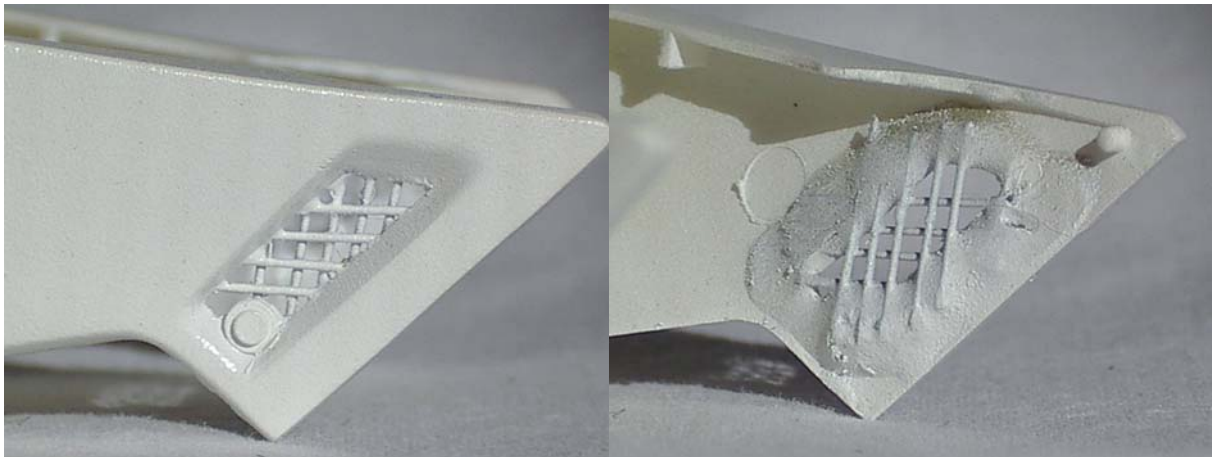


Figure 2 - New fairing grill

The seat was treated to make it appear to have a leather-like appearance. This technique is explained on Ken Hartlen's motorcycle modeling site at <http://www.interlog.com/~khartlen/tips/seats.htm>.

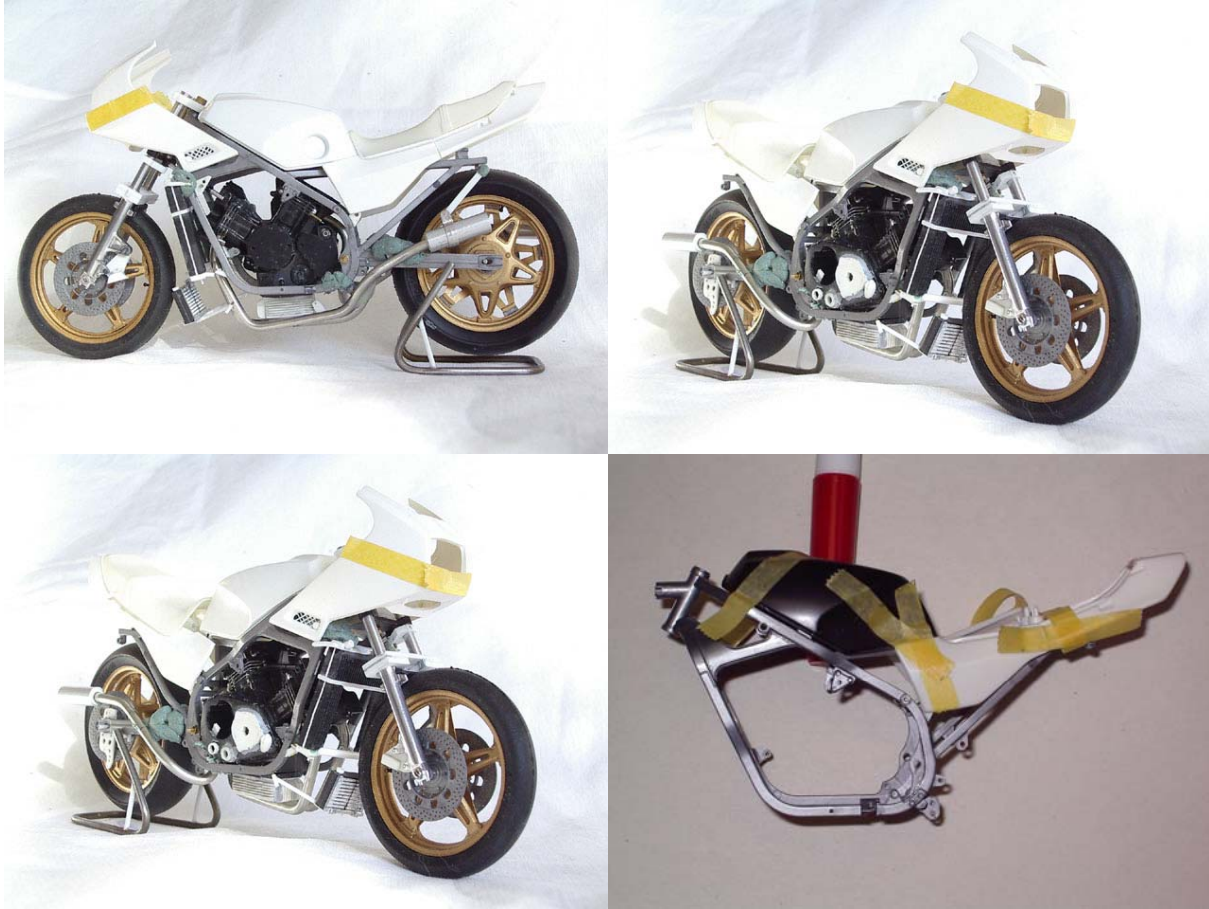


Figure 3 - First mockup of body pieces

Tamiya paints were used on all body parts. The paints were sprayed out of the can into a small jar and then this paint was shot through my Badger 350 airbrush. All body parts were primed with Tamiya white primer, then sprayed with two coats of Tamiya white. The red and blue areas were masked off, then one coat of clear was laid on to seal the edges. The red and blue were followed by two coats of clear. This was then sanded out using fine polishing paper, starting at 3600 grit and finishing with 12000 grit. The surface was then treated to Novus polish numbers 3 and 2 and after the decals were added Novus number 1.

Body Markings:

Since all the markings on the bike were very old (the bike last raced in 1984), non standard sizes or custom to the bike, none of the decals were available from current or aftermarket decal sheets. All but two of the markings were, therefore, custom designed and printed on either white or clear decal paper, sprayed with Krylon Crystal Clear and applied to the bodywork. All the decals were designed using MS Paint program. Some of the decals were found from manufactures website, others were designed from scratch, and most were taken from digital photos of the actual bike and then modified. The lettering for Royal City Cycle, being white, was made by applying dry transfer

lettering to a clear decal sheet. It took two sheets because there are a lot of 'C's and 'Y's in the words and only a few of these on a dry transfer sheet.

The number plates were modified from a digital photograph and printed out on glossy photo paper. The back side was sprayed silver to simulate the aluminum material of the plate. The tachometer, speedometer and oil temperature gauge were made in a similar fashion.

Front forks:

The front forks on the actual bike were modified from the stock bike kit parts. The molded on brake calipers were removed from the fork using a razor saw and utility knife. Since the caliper mounting plates and other pieces will be a different colour than the forks, all the pieces were made modular to allow disassembly for painting, very much how the real bike was built.

The brake caliper mounting plates were built using sheet styrene of various thicknesses and building up in layers where needed. Small locating pins (0.5 mm styrene rod) were added to the forks and matching holes drilled in the plates, allowing disassembly. The brake calipers themselves came from the Tamiya Yamaha FZR750R kit (14058), which were carefully cut out from their mounting bracket.

The fork brace molded into the fender was sanded off completely and the side braces removed from the fender. Another Interceptor kit yielded a second fender from which the fork brace was cut off. Mounting pins were added to the fender and matching holes drilled in the brace to line up the pieces. The upper fork brace was built from two layers of sheet styrene and detailed with scale bolt head and rod.



Figure 4 - Separated fork brace (above) and original (below)

The forks were carefully drilled out to the proper diameter so that 3.2 mm (1/8") diameter aluminum rod could be used for the fork tubes. Polishing these rods gives an excellent replica of the real fork tubes. The upper triple clamp was built from layers of sheet styrene, filed and sanded to shape and clamping bolts added.



Figure 5 - Various pictures of the front fork pieces and assembly

A steering damper was built from 1.6 mm (1/16") aluminum rod and 2.4 mm (3/32") aluminum tube. The front end of the damper was attached to a mounting bracket made out of sheet styrene and attached to the left fork. The rear was attached to a small mounting plate added to the upper left side of the frame.

Safety wire was added to each side of the front brake parts as per the real bike. These were made by wrapping very thin wire around a bolt head, twisting the ends together and then wrapping the remaining around the second bolt head. A tiny drop of super glue usually held it in place.

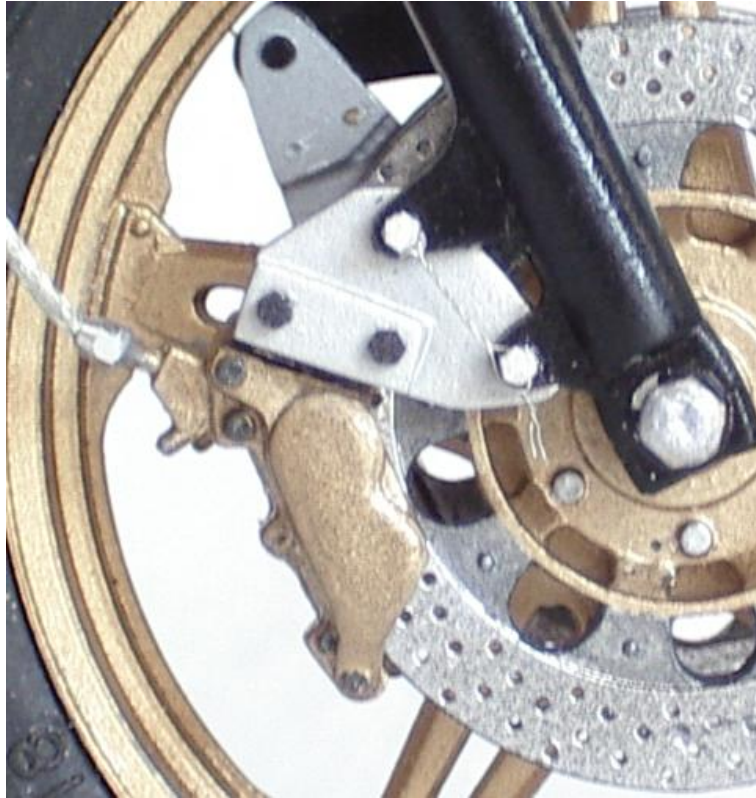


Figure 6 - Safety wire on right front brake

The brake disks were taken from a Ducati 900SS kit, as these were the correct pattern. The u-shaped areas were cleaned out, the disks were thinned and all the venting holes were drilled out. The disks were painted with Alcad chrome, which was left for the brake pad contact area. Steel and black were painted on the other parts.



Figure 7 - Before (left) and after (right) brake disks

Rear suspension:

The swing arm from the kit had a gap in the back. This was filled with styrene sheet. The hole for the shock was also too large and was filled in as well. The mount for the

shock was filled in as the shock was made differently. The chain tension adjusters were removed using a file and new ones made from sheet aluminum. The adjustment bolt and nut were added.



Figure 8 - Comparison of before and after modifications to swing arm

The rear brake caliper was scratchbuilt using styrene shapes and mounted to a styrene mounting plate with the correct holes pattern. The brake rod was made of styrene rod, with styrene nuts and an aluminum banjo joint. Safety wire was added to the bolt and nut used to mount the rod.

The rear shock body was taken from the kit. The slider was replaced with aluminum rod. The linkage arms were removed from the lower mounting bracket and new ones made of sheet styrene. The rear suspension was intended to work. However, it turned out that the joint to the frame sides were too weak and so the whole thing was glued together. A Detail Master braided line ran from the shock to a remote reservoir mounted on the right side of the bike, just under the faring. This reservoir was made of styrene rod, detailed with an air valve, painted mica red over a silver base, detailed with a custom Fox decal and mounted using white 'tie wrap'.

Engine and Drive Train:

The superbike engine is a specially prepared one that differs quite a bit from the stock Interceptor engine. The left side cover plate was sanded smooth and then an inspection hole cover and a large inspection bolt were both added. The cover for the front chain sprocket had three large openings cut into it. A banjo joint for the hydraulic clutch was made and a number of detailing bolts were added. A circular shaft end was added to the engine case just above the front sprocket.

The right side engine cover was also sanded smooth. A front cover, made of polished bare white styrene was made and attached to a mounting boss of the same shape. An oil dipstick made of plastic rod was added to the front of this case. The dry clutch plates were made from sheets of 0.8 mm thick styrene, with 0.25 mm styrene between the plates. A protection cover was built up of 0.5mm thick sheet, with rod added for the mounting bolts. Two holes in the lower part of the cover were drilled. One had a small

raised boss and an aluminum rod inserted into the hole. The other hole had a slightly larger raised boss added. An oil level inspection window was made by polishing a section of clear sprue and adding a dry transfer level line.

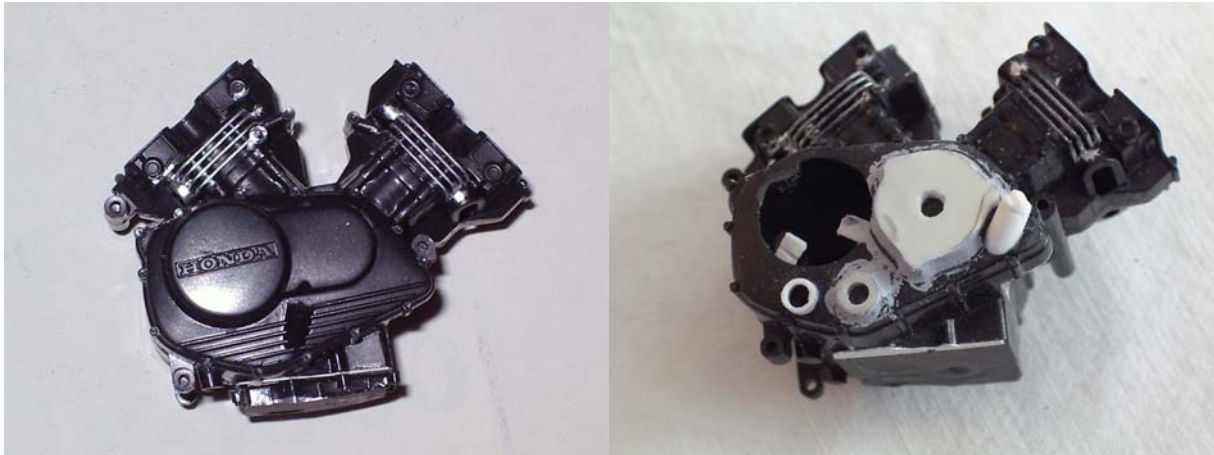


Figure 9 - Before and after pictures of right side engine cover

Six plates were made for the dry clutch using sheet styrene and separating with spacers from typewriter paper. The clutch guard was made from sheet styrene and rod, with some putty to smooth the joints. The clutch plates were joined to an outer plate that was from a resin cast of a Tamiya Honda RS500 clutch.



Figure 10 - Dry clutch and clutch cover

The molded on coolant lines were removed and replaced with the appropriate sized aluminum rod, bent to shape. This was especially noticeable on the left side of the engine.

There is an extra set of oil lines on the right side of the engine that supply the camshafts with additional oil. These were simulated using Detail Master connectors and braided wire. A 'Y' joint was scratchbuilt from plastic.

The left side engine cover had the chrome removed, the Honda symbol sanded off and two inspection bolts added. The electrical line from the alternator was added and routed up under the gas tank. An electrical connector was made from two sizes of styrene rod. The smaller wires were made from 0.2 mm (0.0075 inch) diameter wire, painted different colours. The cover for the drive sprocket had a number of holes opened up and detailing bolt heads added. The clutch hydraulic line had a scratchbuilt banjo joint and Detail Master braided line and fitting added.



Figure 11 - Drive sprocket cover and hydraulic clutch

The real bike had a special deep, finned oil pan with special fittings for an oil cooler. The original oil pan was cut off the engine block and a new one scratchbuilt by layering different thickness of styrene sheets together. Mounting plates for the oil cooler lines and the oil return line from the oil breather tank were also added. An oil pan drain plug was added from a R.B. Motion bolt head. A hole drilled with a #80 drill was made in the bolt head and in one of the cooling fins. A safety wire was then strung through the holes.

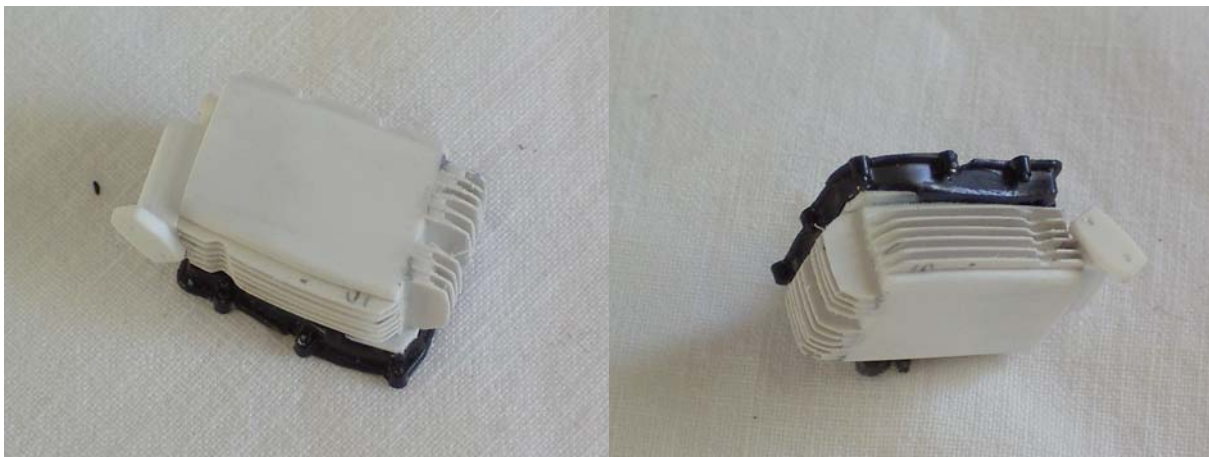




Figure 12 - Scratchbuilt oil pan

The chrome was removed from the upper cylinder covers because the racing engine had black covers. The new engine side covers and the cylinder head covers were painted with semi-gloss Tamiya black paint shot through an airbrush to give it a mottled finish as seen on the real bike engine.

The exhaust pipes were scratchbuilt from solder with styrene plastic engine mounting brackets. Mounting studs of 1mm diameter wire were added to the engine block, onto which the brackets were slipped. A Plastruct hex rod was added for the mounting bolt. The various expansion springs were made of 34 gauge wire wrapped around a #76 drill. The spring mounting brackets were made from 34 gauge wire and super glued to the various locations on the pipes. Once the pipes were installed, the springs were stretched between the mounting brackets. Pop can aluminum supplied the mounting tabs for the rear part of both pipes. There were a couple of welded joints on the pipes that were simulated by dabbing on white glue using a toothpick. The mufflers were made from 9/32" diameter aluminum tube, filled in with the appropriate diameter styrene tubes. Scale Motorsports photoetched items supplied the muffler rivets. The pipes were painted using Tamiya flat black paint using a brush and then weathered with black, white and rust pastels.



Figure 13 - Exhaust pipes from solder

The original intent was to have a detailed chain made from an Acu-Stion photoetched detail kit. However, this chain is time consuming and frustrating to build and was left off. A one piece chain and sprocket was taken from a Tamiya Yamaha FZR750R kit (14058).

Frame:

The frame had additional brackets added to mount the radiator, side covers and steering damper. The left side of the frame was separated so that the engine could be added after the frame had been painted. All the mold lines were sanded smooth and welds were simulated at various joints using tube styrene glue, allowing it to set slightly and then imprinting with a wire or toothpick.



Figure 14 - Frame showing additional brackets and separated left side piece

A mounting plate for the left foot peg was made of sheet styrene. The footpeg itself had a 1.5 mm plastic rod added to the end. A 2 mm square rod had a groove cut into it to mount the footpeg. A brass bolt was added to increase the detail. The gear shift lever

was turned around to face backwards. Detailing in the form of hex head bolts and allen head bolts were added to all these parts.

Similar to the right side, a mounting plate was made for the right side footpeg. A brake pedal was scratchbuilt from sheet styrene and a peg added. The rear brake master cylinder was modified to add two mounting tabs, a connection to the brake fluid reservoir and a banjo joint for the rear brake line. A u-shaped bracket made of pop can aluminum was bent to attach the brake pedal to the brake master cylinder. The reservoir was scratchbuilt from plastic rod, and grooves were added to the circumference of the cover. Some 1 mm thick plastic sheet provided a mounting tab to the frame under the side cover. A brake pedal return spring was made in a similar fashion as the exhaust pipe expansion springs. This was fed through the appropriate hole and mounted as on the real bike.

Wheels and Tires:

The bike used special Astrolite wheels, which are constructed by riveting two plates together that have the correct five spoke pattern on them. The front wheel on the real bike is a 16 inch diameter and the rear is 18 inches. Three tries were made to scratchbuild the wheels using existing rims and sheet styrene. This proved unsuccessful and wheels were taken from the Tamiya Honda RS1000 Endurance kit (14014). These provided the correct five spoke pattern, however the riveted rim was missing and the front wheel was an 18 inch diameter.

Tires were taken from one of several GP bike kits and the tread sanded down to remove the mold line and the shiny texture.

Handlebars and Controls:

The handlebar was made out of the proper diameter wire bent to shape. The handlebar was mounted on blocks cut out of 2 mm thick styrene. The top of the blocks had small holes drilled into them to accept black allen screw heads. The handlebar grips were taken from the kit. A resin copy of a Ducati 900SS (14025) brake lever was made. This was detailed with a new reservoir top, mounting hardware and throttle cables. The stock kit hydraulic clutch lever was detailed with mounting bolts and a banjo fitting. A scratchbuilt kill switch was added to the left side.

Other:

The radiator on the racing bike was one piece, as opposed to the two pieces of the street bike. The radiator was made by modifying two rads from a Tamiya Lotus Formula 1 race car. The rads was separated and sheet styrene added to make them thicker. Pieces were then cut out to give the proper upside down U shape of the radiator. Sheet styrene also provided the bottom and top of the rad, with the appropriate contours. Styrene rod was used for the connection tube and the three hose connections.



Figure 15 - Mostly scratchbuilt radiator

Pop can aluminum was used for the side pieces and the proper number and diameter holes were drilled. The rad was painted a dark gray (combination of flat white and black). The pop can aluminum also provided the radiator shroud and protection plate. These were sprayed Tamiya gloss black and attached with superglue. The hoses were plastic coated wire, with Bare Metal Foil clamp straps and small pieces of aluminum rod for the hose clamp screws.

The radiator was had two small styrene rods added to the two bottom legs. These were used to mount the radiator to small plates, which were then attached to brackets added to the frame. Bolts and nuts were added for detailing. An overflow line of clear plastic tubing went from the radiator cap up into the fairing. A final overflow line was then routed down beside the engine and attached with black 'tie wrap'.

Oil cooler

The real racing bike had a large oil cooler located below the radiator. The model oil cooler was taken from a Tamiya 1/12 scale Lotus Formula 1 oil cooler and was made slightly smaller. Two styrene hex rod nuts were added for joining with the oil lines. The oil lines were Detail Master braided line and fittings, painted with clear red and blue, where appropriate and routed to the left side of the oil pan. Some more 'tie wrap' secured the lines to the bracket.

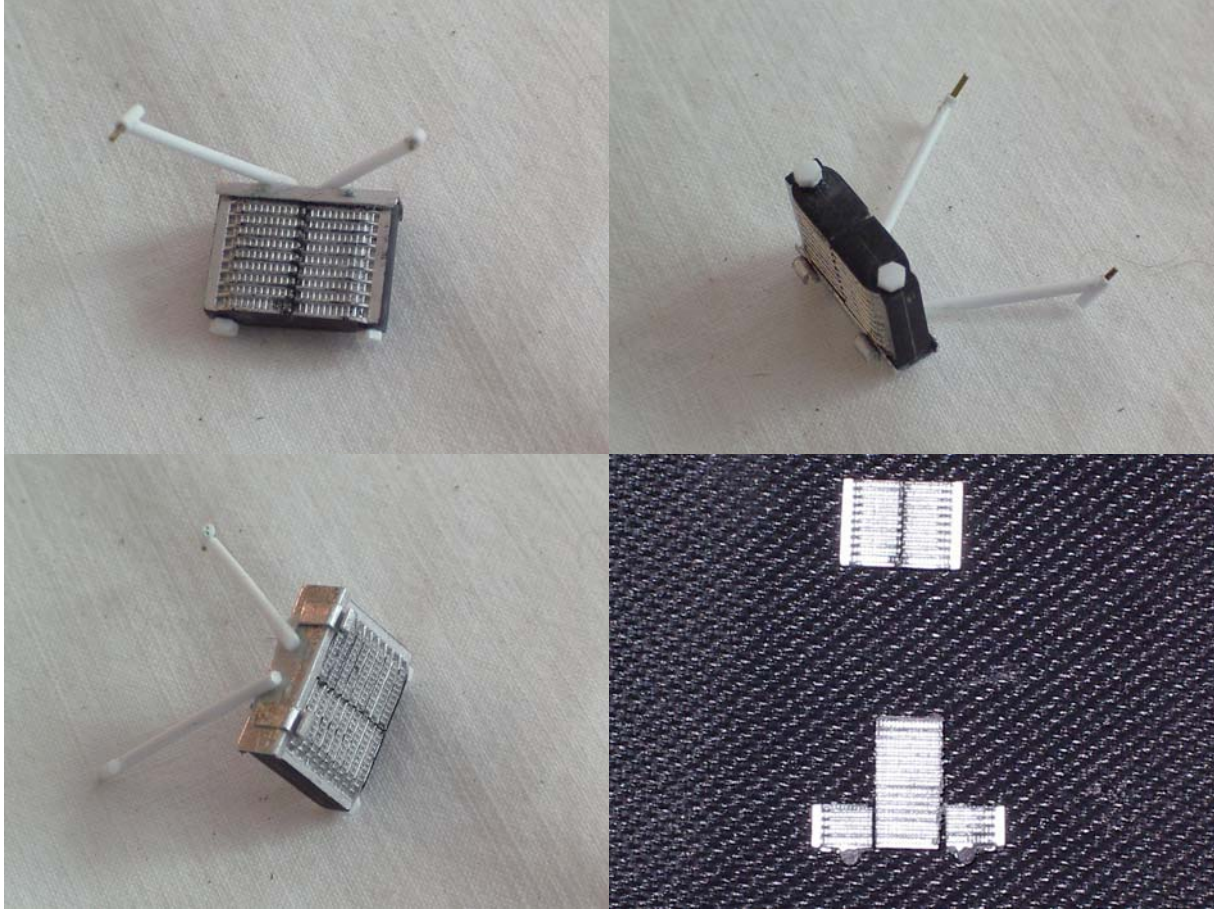


Figure 16 - Oil cooler and mounting bracket

The oil cooler was mounted to plate made from bending aluminum sheet and included the hooks for the straps. Styrene rod was used to attach the oil cooler to the frame. White 'tie wrap' secured the oil cooler to the bracket.

Oil breather tank

The bike had a comprehensive engine breather system, where venting points on the top of each cylinder and down near the drive sprocket were connected using clear plastic tubing. The tubing then all collected into an oil breather tank located on the left side of the bike just under the seat. The tank was made of layers of sheet styrene and tube glue was used to simulate the rather messy corner welds. A styrene hex rod nut was added on the bottom for the oil return line and two joints for the clear tubing at the top. The side was detailed with a custom decal and the tank was mounted using 'tie wrap'. The oil return line was made from Detail Master braided line and fittings and ran to the back of the oil pan.

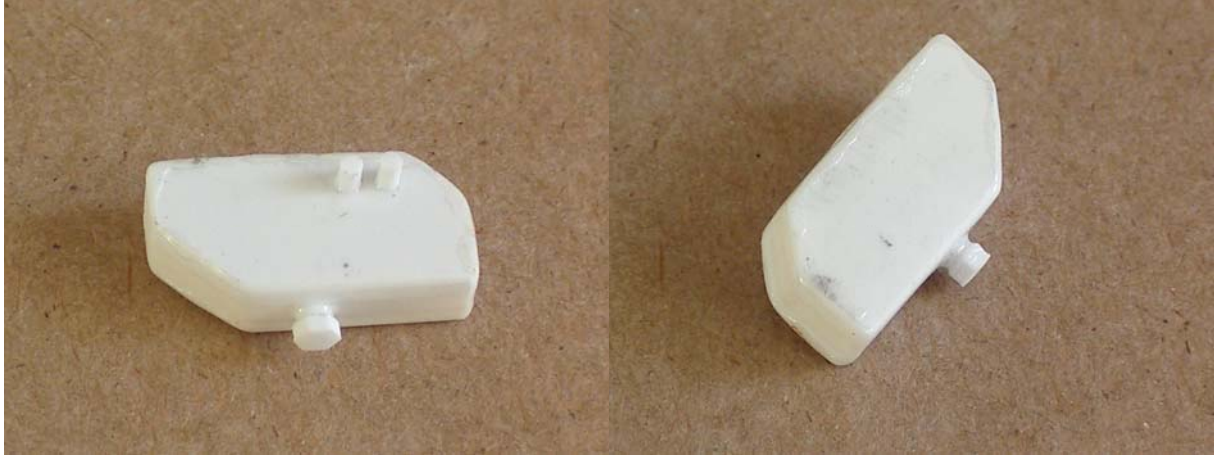


Figure 17 - Scratchbuilt oil breather tank

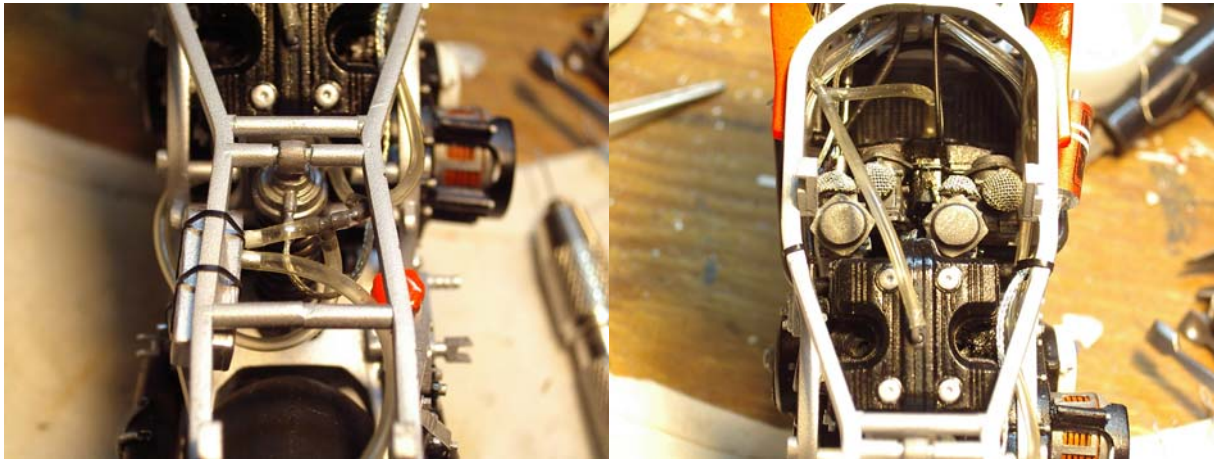


Figure 18 - Oil breather lines before gas tank installed

The oil breather lines were made from 1 mm (0.40 inch) outside diameter clear tubing, connected using 'T' joints of styrene plastic and routed to the correct place on the engine. Since the engine connections would be hidden under the gas tank, these were not detailed accurately. The breather tube just above the drive sprocket had 34 gauge wire wrapped around it to relieve the stress on the tube, just as on the real bike.