

Suzuki 750 Carbon Plastic Frame Motorcycle
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Introduction:

This bike was inspired by a small, black and white photo in an old Cycle Canada magazine. It showed a carbon plastic framed motorcycle built by a company called DOME. I really liked the idea of blending the frame and bodywork into one continuous form. Although the original bike had a Honda engine in it, I decided to use a Suzuki GSX750S New Katana (Tamiya 1:12 scale 14034) as the base kit.

I had a few different options that I considered when building the model:

- add a small fairing from the Suzuki kit or leave bare as per the photo
- make a race bike, show bike or street legal bike
- paint/decals to give graphite fibre look to body or paint solid
- use a variety of colours or limit to just a few

In the end, I decided to build a stripped down, street legal, solid painted model. The intent was to have only three main colours on the bike:

- black for most of engine, the exhaust pipes and seat
- blue for body/frame, wheels, headlight and front fender
- shades of silver for everything else

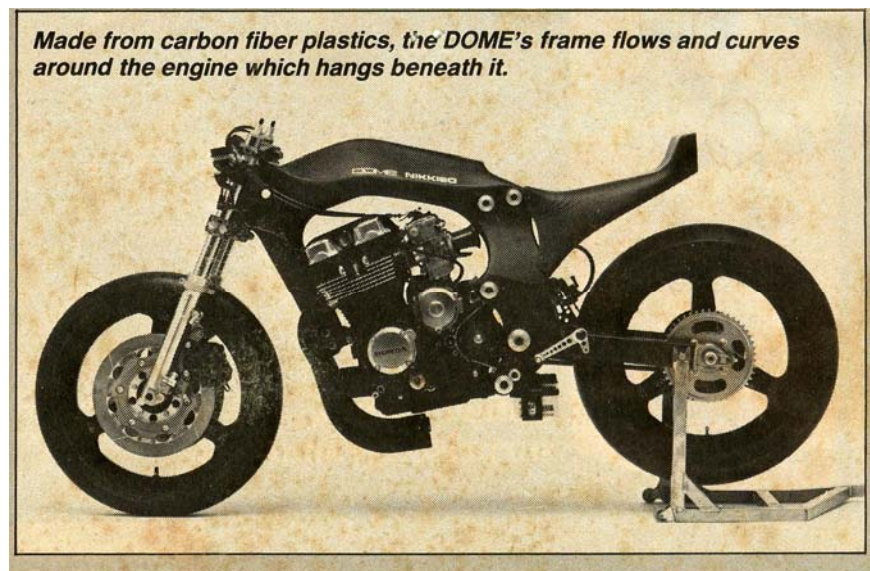


Figure 1 - The photo from Cycle Canada

Build Notes:

These notes are organized into various components of the bike.

Frame/Bodywork:

The frame was glued together and then the back portion and the bottom piece were removed. The bodywork was then built up using sheet styrene cut to approximate shape and then glued on. The seat and back portion of the frame/body was made to be removable and was also made using sheet styrene. A great deal of puttying, sanding, priming, puttying, sanding, priming, etc. was done until the frame/body was the right shape. Much of the engine had to be constructed while in place because it would not fit into the frame with all the parts. A lot of test fitting of the engine, swing arm and front forks was done to make sure that there was enough clearance once all the pieces were put together.



Figure 2 - Frame/Body during building

Wheels and Tires:

The Suzuki Katana 750 wheels were used, painted the same as the body/frame. Detail painting of the air valves was done. The wheel weights were pop can aluminum cut to different sizes, superglued to the rim and painted with a chrome silver stripe.



Figure 3 - Front (left) and rear (right) wheels showing wheel weights and air valves.



Figure 4 - Detail showing wheel weight.

Front forks:

The front fork tubes were replaced with polished 3.2 mm (1/8") diameter aluminum as described on the tips section of my website (www.eajonesque.com/tips.html). The front brakes had backing added to make them more accurate. The front fender was assembled and painted before adding the forks.

A new wheel axle bolt was made by threading a brass rod with a 0-80 screw thread on both ends and attaching a brass nut to one end. The nut was painted chrome silver after attaching the wheel. A similar process was used to create a new front steering pivot bolt.

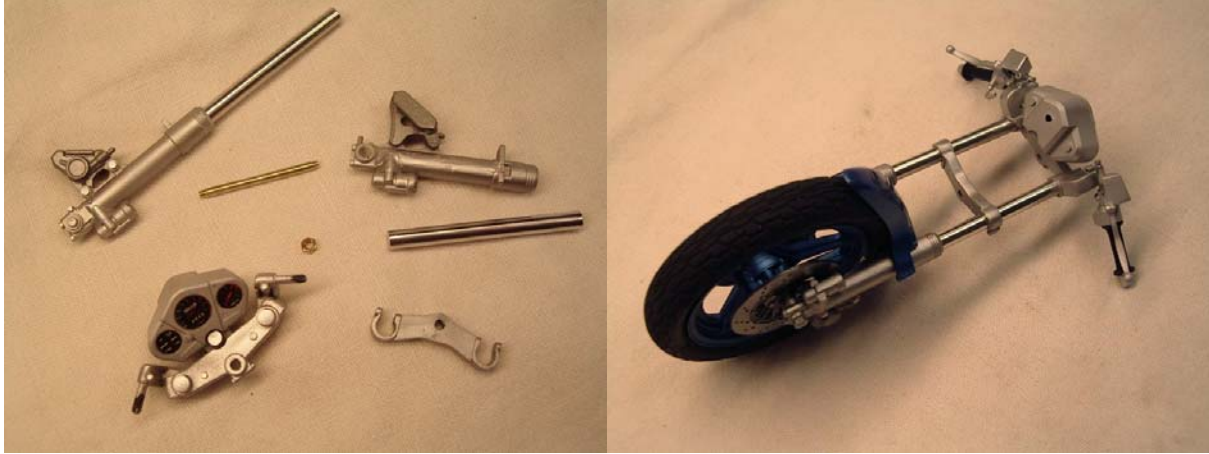


Figure 5 - Front fork pieces and then assembled.



Figure 6 - Completed front fork.

Rear suspension:

The backside of the swingarm was filled in with sheet styrene. The single shock linkages were removed from the swing arm and the various mounting bolts were replaced with 00-90 bolts and nuts. The shock itself was replaced with aluminum tube and rod to make it more realistic. A rear wheel axle bolt and swingarm mounting bolt were made in the same way as the front axle.

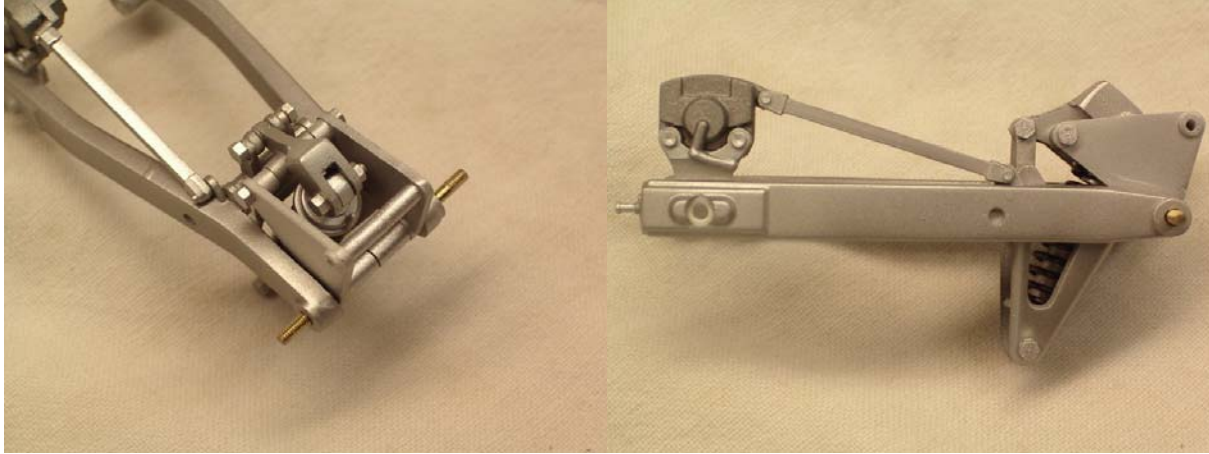


Figure 7 - Rear swingarm with 00-90 nuts and bolts



Figure 8 - Swingarm with chain, wheel and brake disk attached.

Engine and Drive Train:

The engine was built basically stock. The airbox was not used and velocity stacks taken from a Tamiya Formula 1 Cosworth engine, painted with thinned bottle semi-gloss black shot through an airbrush. The carb tops were painted with Alclad chrome and the body of the carbs was Metalizer magnesium.



Figure 9 - Carbs with velocity stacks. Exhaust with brass tubing muffler.

The exhaust pipes were taken from the Suzuki Katana Custom tuned kit, which is a 4 into 1 system. The muffler was replaced with 11/32 diameter brass tubing and painted with Testors Metalizer aluminum paint over a gloss white undercoat.

Two double ignition coils were scratchbuilt from round and square styrene rod and located under the rear part of the gas tank. Small black plastic tubing that is included in most Tamiya kits was used for spark plug wire.

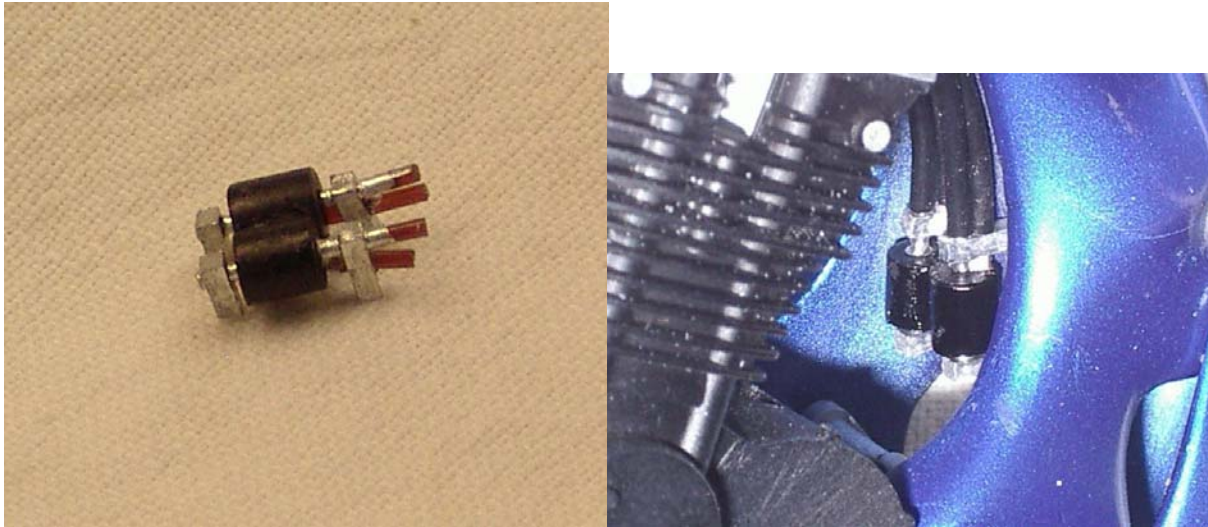


Figure 10 - Scratchbuilt ignition coils, mounted underneath gas tank area.

All the bolt heads on the engine were detailed painted with silver enamel.

Handlebars and Controls:

The handlebar was detailed with more accurate diameter throttle and clutch cables. Many throttle cables go into a steel 90° bend before being attached to the flexible cable housing. These can be made using 34 gauge wire, and .64 mm (0.030") styrene hex

rod and 1.0 mm (0.040") styrene rod. A similar system was built for the connection to the carburetors.

High performance bikes usually replace the rubber hydraulic hoses with stainless steel braided hoses. The front and rear brake lines and the hydraulic clutch line were all replaced with simulated braid. The lever connectors were scratchbuilt banjo joints, attached with a 1 mm Galtran brass hex head bolts, with .64 mm (0.030") styrene rod joints. The lines were made of cloth fishing line painted with chrome silver.

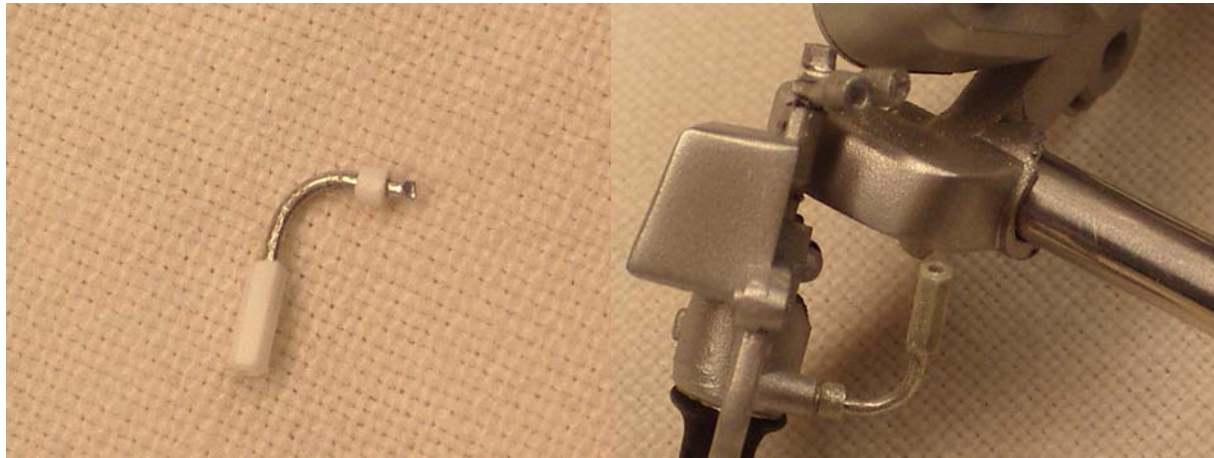


Figure 11 - Throttle cable connector. Throttle cable in place, along with brake line banjo connectors.

The instrument dial decals were added to the panel and then three coats of Future floor finish were added to give a glass like finish. A piece of pop can aluminum was polished using paint polishing pads until it had a mirror like finish. The rear view mirror was then cut out and fitted to the holder, which came from the spare parts box. Just below the instrument panel is a location for the ignition key. Two keys were made from pop can aluminum and a slot cut into the round area. The ignition key was then coated in thick superglue to build up the thickness, then painted gloss black. The result is some really neat keys to add detail to the area.

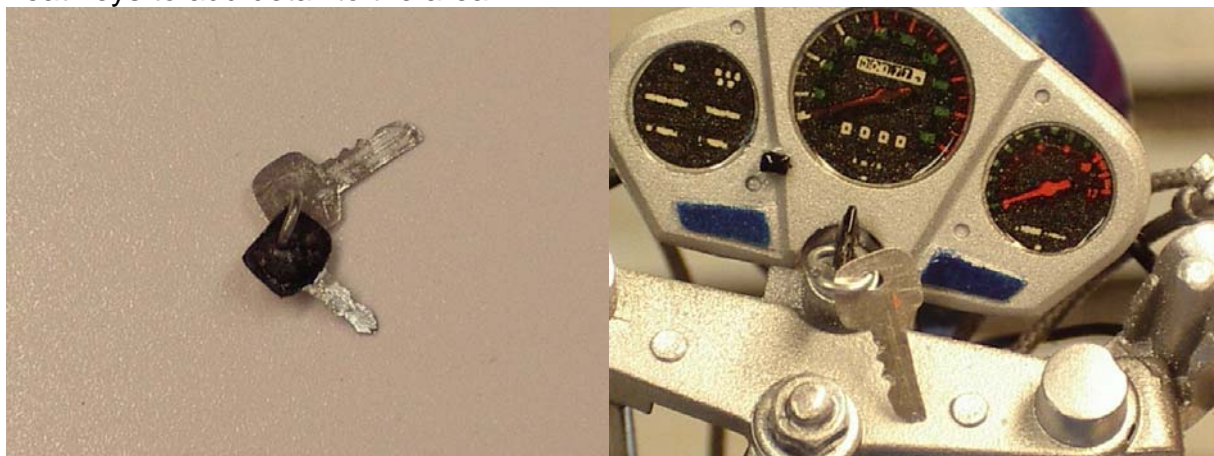


Figure 12 - Ignition key on key ring

Other:

The oil cooler from the Katana Custom Tuned kit was added, with a mounting bracket made of pop can aluminum. Fittings were made of 1.5 mm (0.060") styrene hex rod and the oil lines were made from silver painted cloth fishing line.

The seat was built by first creating a styrene sheet pan, rounded in shape to match the front fender profile. On top of this, a two part epoxy was added and shaped to give smoothed edges and then painted flat black.

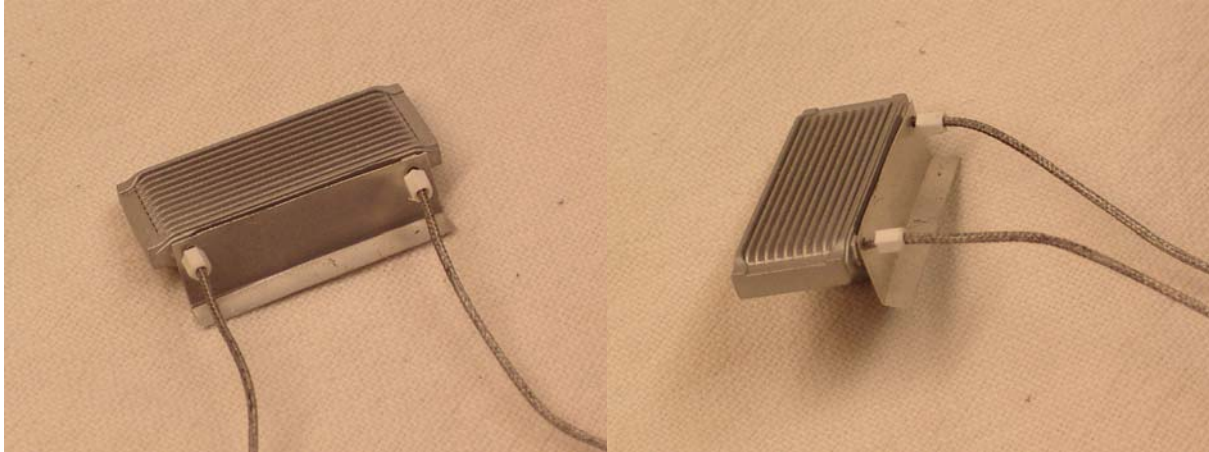


Figure 13 - Oil cooler with aluminum pop can mounting bracket and hex rod fittings

A black battery was taken from the parts box and mounted underneath the seat. A mounting pan bracket was made from pop can aluminum to hold the battery and a strap of black electrical tape with wire loops holds the battery secure. Terminals were made of thicker aluminum sheet and superglued in place. Red and black wiring was connected to the positive and negative terminals, respectively.

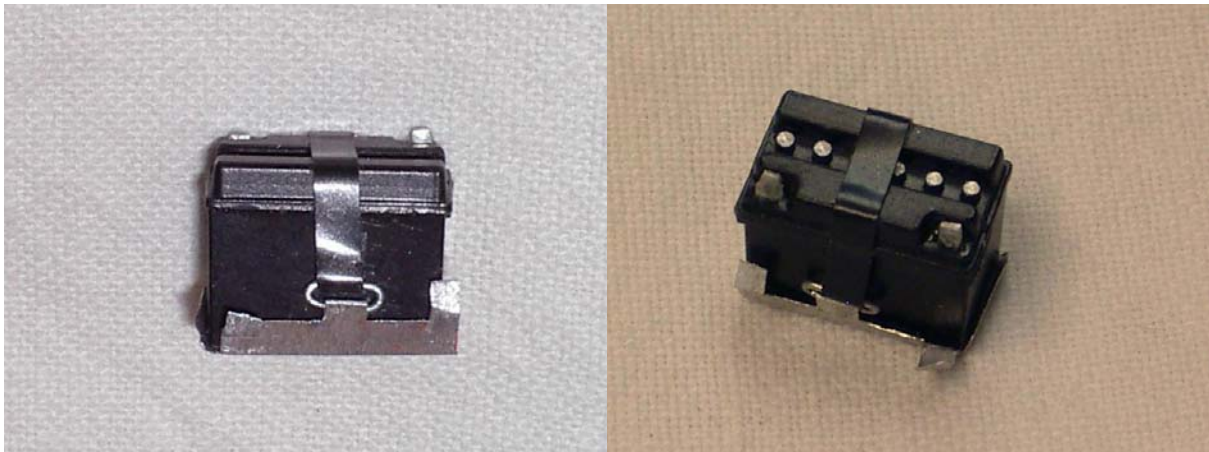


Figure 14 - Battery with mounting bracket and hold down strap.



Figure 15 - Completed battery top view. Bottom view showing mounting pan/bracket and back end of ignition coils.

Paint:

All the paint used on the body/frame was decanted from Tamiya cans and shot through my airbrush. The body/frame was primed with Tamiya sandable primer. This was followed by 2 coats of Gloss Aluminum and then 2 coats of Mica Blue. Minor wet sanding, using 800 grit paper, was done to some rough areas. This was followed by 3 coats of clear. After letting the paint cure for a couple of weeks, it was polished using 3600 to 12000 grit polishing pads/cloths and Novus polishing liquids.

The engine was painted with Tamiya black semi-gloss bottle paint through my airbrush. This gives a very satin sheen to the main engine parts. The silver parts were painted with Alcad paints – chrome (brake disks), white aluminum (engine covers), aluminum (front forks, chain guard) and duraluminum (rear swing arm, kickstand). Smaller areas were brush painted with Tamiya flat aluminum or metallic grey.



Figure 16 - Body/Frame pieces after painting.

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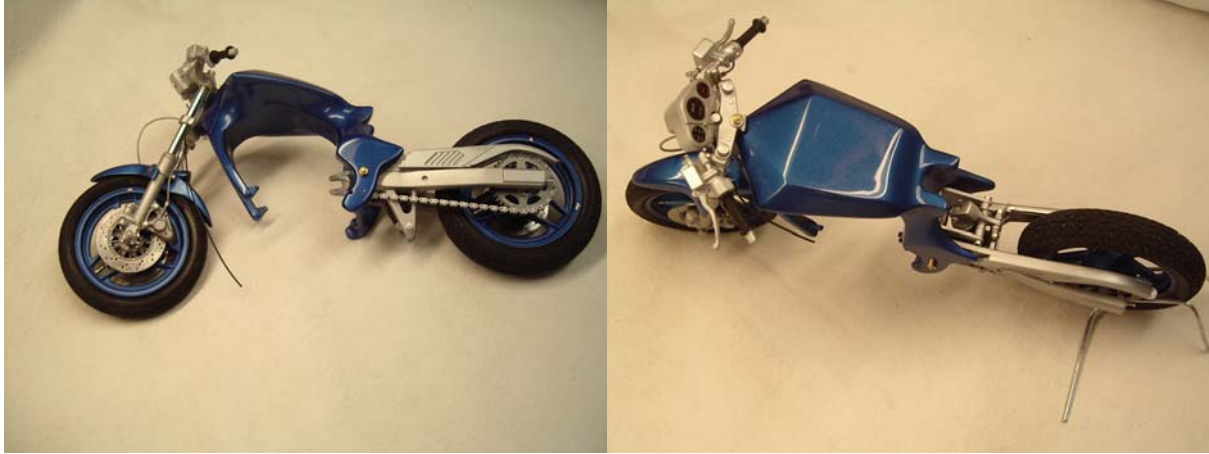


Figure 17 - During final assembly