

VFR Discussion → VFR TECH → Modifications



5th Gen Frankenviffer

Started by redmarque, Jul 27 2007 08:35 AM

Page 2 of 7

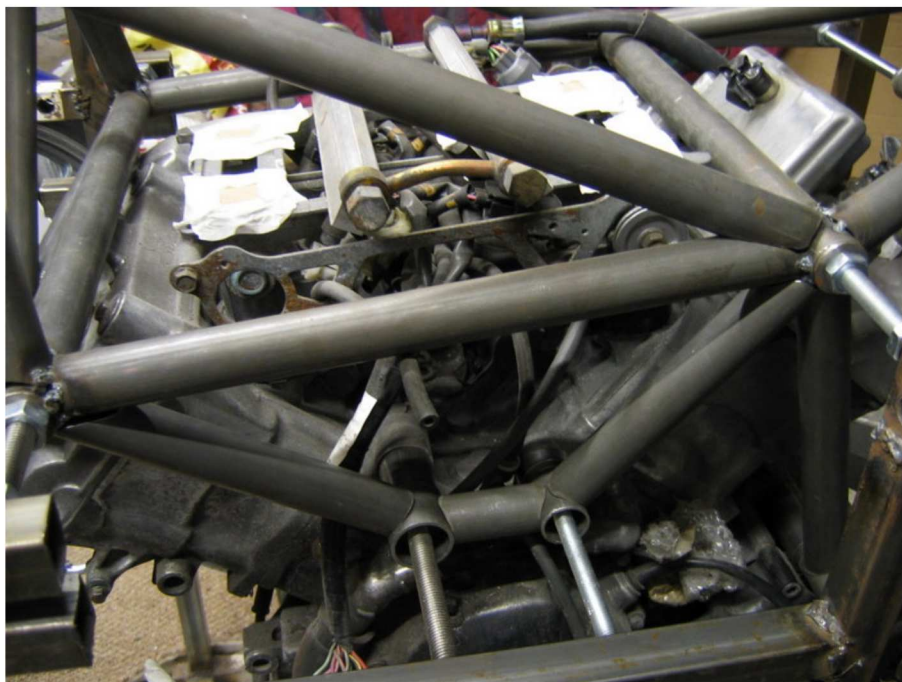
redmarque

Posted 22 October 2007 - 03:45 PM

Only a small update for now...

My ducati monster... :D Opps! franken VFR is coming on nicely...

Picked up the main engine carrier bushes on the weekend, so a few more tubes cut and fitted.



Had an initial quote for the custom yoke too - £500! <_<

Going to see if I can leave work early this week to visit the machine shop and discuss options.

(one of the engineers has built grasstrack bikes before, so hopefully I can get someone excited about making bikes)

I'm hoping that simplifying the design will bring the machining cost down.

Has anyone used <http://www.emachineshop.com?> (<http://www.emachineshop.com>)

Keep riding! :thumbsup:

Redmarque

The Phantom

Posted 23 October 2007 - 08:41 AM

tok tokkie, on Oct 23 2007, 05:12 PM, said:

You are going to have fun when it comes time to check the valves. Just lift the frame off the engine I suppose. I am just noting it - structurally your frame looks the berries; not compromising the frame to ease maintenance is fine by me.

I'm with Ralph, but given the effort that's gone into this so far I had to wonder whether it was perhaps a bit of an illusion. So I went back a page and found this.

Posted Image

I'm going to guess that with the bolts out the cam cover can be moved down and out?

Also enjoyed seeing this again (I just jump to the latest page so I forget what's gone before):



RedMarque, given the (so far) minimalist bodywork you seem to favour, what do you have in mind for the rear end? Because something that looks so right simply should not be covered :thumbsup:

May I suggest an LED tail-light with internal wiring in one of the rear horizontal tubes - if in the lower one it would certainly be unobtrusive.

Regarding www.emachineshop.com - I recall a guy from the VFR 'big list' who used them and was very happy with the result - IIRC it was for a mount for a camera/GPS/something. Sorry I can't give any more info than that.

Veefer800Canuck

Posted 23 October 2007 - 10:50 AM

The Phantom, on Oct 23 2007, 07:41 AM, said:

Regarding www.emachineshop.com - I recall a guy from the VFR 'big list' who used them and was very happy with the result - IIRC it was for a mount for a camera/GPS/something. Sorry I can't give any more info than that.

+1



Murray has it right, that was the tale.

<http://www.bytebroth...hop/Default.htm> (<http://www.bytebrothers.org/Reviews/eMachineShop/Default.htm>)

redmarque

Posted 23 October 2007 - 02:01 PM

The Phantom, on Oct 23 2007, 02:41 PM, said:

tok tokkie, on Oct 23 2007, 05:12 PM, said:

You are going to have fun when it comes time to check the valves. Just lift the frame off the engine I suppose. I am just noting it - structurally your frame looks the berries; not compromising the frame to ease maintenance is fine by me.

I'm going to guess that with the bolts out the cam cover can be moved down and out?

RedMarque, given the (so far) minimalist bodywork you seem to favour, what do you have in mind for the rear end? Because something that looks so right simply should not be covered :thumbsup:

May I suggest an LED tail-light with internal wiring in one of the rear horizontal tubes - if in the lower one it would certainly be unobtrusive.

Regarding www.emachineshop.com - I recall a guy from the VFR 'big list' who used them and was very happy with the result - IIRC it was for a mount for a camera/GPS/something. Sorry I can't give any more info than that.

Great info on emachineshop :thumbsup: thanks guy's. You should try their free cad software.. might inspire someone?

Valve clearances? wot r doze? no seriously the engine is bolted to the frame at 6 points with spacers, so disconnecting (labelled) wiring and rad plumbing will be a slight mission. I didn't want the overall structure compromised but the thought was there when I positioned the tubes. A sacrifice of having a rising rate linkage on the front shock/wishbones



The rear-end. - Yes i'm pleased with the shape too and after looking at a zx6r i'm confident that it's going to be strong enough for 2up.

Unfortunately those lovely tubes are going to be covered!

I've sourced some, wait for it... Vespa indicators and rear light from an ET4. don't worry as they won't be recognisable! 🤖 there shape will be changed by apatures in the bodywork. stop lamp will be upside-down and re wired with leds (I can feel another browser being launched and Vespa et4 typed in to google) +1 🙌

That (yawn) interesting book on motorcycle assessment (MSVA) states that indicators need to be at least 180mm apart on the rear and 240mm at the front!

Better get back to the angle grinder... Redmarque

redmarque

Posted 11 January 2008 - 06:01 PM

Well guys Happy New Year!

Thought i'd show you what's been going on in the redmarque garage....

The grider's been whizzing. 🤖

I've finally have a good engineering company on board with a cnc mill and an guy whom makes grass track sidecar outfits to do the tig welding.

I've finished constructing the rear sub-frame mounts

Fitted the rear shock ride-height adjuster (zx-9r shock)



Filled and primed the tank I do like this view :salesman:



Had fork bottom/axle clamps made
(sorry dodgy focus)



Constructed the fork and headstock jig





Sourced a CBR 600 F4i rear shock for the front sus, currently using a fireblade dogbone.
(Probably have to make a bespoke one later.)

Cut and jigged top and bottom suspension wishbones

I Hope these are going to be strong enough! 🙄



Hopefully all will be welded in the next few weeks. Wishbone bearing holders are being made this week along with top/base stem clamps.

Well thats' all for now! 🙄

redmarque

Posted 12 January 2008 - 03:20 AM

toro1, on Jan 12 2008, 01:04 AM, said:

It's looking good. Quite an undertaking indeed, this one is!

The tubing you're using looks to be about .065 wall -- are you shooting for a specific overall weight for the bike? Just curious, as I've worked on a few weight intensive projects over the years and know the huge benefits of lighter vehicles.

Tubes are 1.5mm so you were pretty close! Hopefully it will be way lighter than stock, but as i don't have finite element analysis and as I don't fancy it folding up on me first ride I've really been cautious with the construction especially on the double wishbones. I think if i was making another it would be nice to use larger bore Aluminium tube. I have no idea how much it will weigh - but will attempt the bathroom scales under each wheel when it's a bit further along. the fork clamps are steel and really need some serious lightening done before welding.

I've been thinking about getting the motor overbored to 836cc - TTS engineering do it in the UK for about \$800?

Any suggestions to where the torocharger could be fitted??

tok tokkie

Posted 12 January 2008 - 04:39 AM

Is the front suspension shock unit going to live down there? That is where John Britten fitted his rear suspension shock unit. All knowledgeable motorcyclists will immediately recognise who you are tipping your hat to there. If it is as it looks how are you going to invert displacement so upward deflection of the wheel results in compression of the shock unit?

What are your intentions about a radiator? Looks like plenty of space between the shock & engine for a conventional superbike radiator.

redmarque

Posted 12 January 2008 - 09:09 AM

tok tokkie, on Jan 12 2008, 09:39 AM, said:

Is the front suspension shock unit going to live down there? That is where John Britten fitted his rear suspension shock unit. All knowledgeable motorcyclists will immediately recognise who you are tipping your hat to there. If it is as it looks how are you going to invert displacement so upward deflection of the wheel results in compression of the shock unit?

What are your intentions about a radiator? Looks like plenty of space between the shock & engine for a conventional superbike radiator.

Hi Tok!

No the shock is dangling because the top mounting hasn't been fitted yet! Though i'll look into that option now you've mentioned it! I'm a bit worried about the radiator myself . I have a pair of 99 firestorm ones that I was thinking of mounting each side? (btw the direction of flow on firestorm rads is the opposite from a vfr) but recently i've looked at late model gsxr ones that are curved. There's alot less space when the exhaust is fitted - especially the stock system as there's quite a curve exiting the ports.

open to suggestions on radiator/s?

Redmarque

redmarque

Posted 17 January 2008 - 11:59 AM

tok tokkie, on Jan 12 2008, 09:39 AM, said:

What are your intentions about a radiator? Looks like plenty of space between the shock & engine for a conventional superbike radiator.

Tok, I've sourced a ducati 748/916 radiator which should fit below the front suspension linkage. should look good too as it has a nice curve to it. :thumbsup:

Guest_vfrider_*

Posted 17 January 2008 - 09:48 PM

redmarque, on Aug 6 2007, 08:30 AM, said:

Top of frame coming together - turned bushes hold tubes in place on threaded rod - airbox wil need a little diet to fit. Has anyone tried ram air modification with a VFR?

<http://www.redmarque...frametubes1.jpg> (<http://www.redmarque.com/bike/frametubes1.jpg>)

Yep, but a carbied model. May eventually try on EFI modded engine. Actually just a cold air source, not sealed.

Easy way, use the turn signal holes, with cut out signal lenses, and place a 2" OD flexible heater hose (metal) over turn signal snout on back. Curl up over fairing mount on side and down into side intake holes. Works and is very tight. But the hose is the secret, has body and flex.

Larry
VFRrider

redmarque

Posted 19 January 2008 - 09:16 AM

Took a trip to the Machine Shop this morning.... It felt like Christmas..

Loads of CNC'd Parts finished! :D

Yoke and Handlebar clamps. made from aircraft grade aluminium



Head Bearing holder Steel as will be welded to the frame.



Double Wishbone bearing holders Small bike bearings -with Steel reducers to 12mm



Top and Bottom Stem Clamps



Would have liked to have the sharp corners taken off but machining time is \$\$\$ - maybe later or MK2?

Next job to press all bearings in straight! 🤔

Can't wait to see what they will look like on the bike! 🤩

redmarque

Posted 19 January 2008 - 12:31 PM

Da Dah! :thumbsup:

Squeezed the bearings in using the vice.. it fits! Cinderella you shall go to the ball!



redmarque

Posted 21 January 2008 - 07:48 AM

FLYONWALL9, on Jan 19 2008, 11:44 PM, said:

THIS thing is SWEET! very very cool work....

nuff strokin your ego 🤩 I've got a Tyga 211 used rear fairing that may look sweet on that thing surely would be much less than what you can get a new one with that HIGH shipping charge.

Send me a PM if you wish

Thanks Fly. Was beginning to feel a bit despondent about the project. Please you like it so far. :thumbsup:
Your suggestion on a 211 Tail is most appreciated, but I've already plans for Fiber glassing my own design bodywork -
I started the project with a Suzuki SV upper fairing - I butchered it even more now! messing around with the shape
hopefully when I've finished with it, it won't look sv at all! Makes a good basis to work from as making a fairing shape
from scratch would be even harder! Making bodywork symmetrical is probably the biggest challenge 🤪

redmarque

Posted 05 March 2008 - 04:47 PM

Redmarque is Dark, mean and Moody today.

- Wishbones - rear sub frame - rear shock linkage - headstock - radiator and oil cooler mount are all with the welder!

So whilst i've been waiting and a with little time at work, I thought i'd scour fleabay for some top parts! today's arrival
was a lovely new pair of braking wave discs at a bargain price of £150 delivered! I've lined up some R1 calipers to
clamp these bad boys too! B)

All the photos are Black & White today - kinda arty-atmospheric! :thumbsup:



Next another good find and back to my original idea of stacked headlights - KTM RC8 meets Hayabusa! :joystick:



A few posts ago I had some cnc work done. Once the 7/8th handlebar tube was sourced in a length under 6 metres. the yoke/clamp/bar combo is coming together nicely.



5th Gen Master cylinder and clutch finished of with shorty pazzos



Now i do believe that scooters have a good use... hack the integrated indicators out and use for a experiment with tail unit shaping - after all this is going to be a road bike. 🤖 I never did understand why lindicators always look bad sticking out? 🤔



The type of idea i'm looking for will be a sleek blend around the back seat edge and narrowing down to the tank.



Would welcome some comments and suggestions? :thumbsup:

Ride Safe! Redmarque 

redmarque

Posted 20 March 2008 - 01:36 PM

Welding commenced today!

The frame finally is out of it's cage - there's now an empty space on the garage floor were a jig used to be!

How long have i waited for this day! :D

Here's James scorching metal with his water cooled tig welder - the hose off his helmet is used to supply "fresh" air from the waist pack behind his back - hope he didn't have a curry last night! 



having a workshop day tomorrow so watch this space! 🙄

Veefer800Canuck

Posted 20 March 2008 - 08:00 PM

It would be interesting if you weighed your new frame. Maybe someone else who has a loose stock 5th gen frame could weigh that as well for comparison?

tok tokkie

Posted 21 March 2008 - 11:51 AM

veefer800canuck, on Mar 21 2008, 03:00 AM, said:

It would be interesting if you weighed your new frame. Maybe someone else who has a loose stock 5th gen frame could weigh that as well for comparison?

7.6 kg without lower bearing race.

<http://www.vfrdiscussion.com/forum/index.p...e=16292&hl=> (<http://www.vfrdiscussion.com/forum/index.php?showtopic=16292&hl=>)

The frame looks gorgeous. Waiting to see the forks, not sure about them.

redmarque

Posted 21 March 2008 - 04:57 PM

I'll get on the scales with it on monday as i'm away until then. i'm guessing is under 5kg.

Dropped the frame over the engine before leaving home today. Good to 'see' what it would look like 🙄

forks are out of the jig now plus sub-frames welding is complete - will be over James workshop next Sat too carry on scissor linkage to connect yokes to fork.



redmarque

Posted 24 March 2008 - 03:24 AM

7Kg - The best I can do with bathroom scales!

It would be interesting to compare rear sub-frame /fork-yoke weight aswell if someone has these?

Veefer800Canuck

Posted 24 March 2008 - 08:24 AM

redmarque, on Mar 24 2008, 01:24 AM, said:

7Kg - The best I can do with bathroom scales!

I thought it would be close!

Now, the weight of the completed bike with a full load of fluids?

I'm guessing 460 Lbs, if you're going with minimalist bodywork.

redmarque

Posted 24 March 2008 - 09:30 AM

veefer800canuck, on Mar 24 2008, 01:24 PM, said:

Now, the weight of the completed bike with a full load of fluids?

What! on the bathroom scales!! 😄

redmarque

Posted 31 March 2008 - 02:29 AM

Forks welded! 😊



tok tokkie

Posted 31 March 2008 - 04:15 AM

I have the greatest admiration for what you are doing. Your forks are true to Norman Hossack in looks. That is the one weak point about the design - they don't look good to me. You had no choice; being constrained by the materials available to you (& Hossack in the original). Britten used carbon fibre & his forks looked great to me whereas the Confederate forks are similar but brutally ugly. The BMW cast aluminum are not pretty either. My favourite are the Vincent Girdraulic forged aluminum blades (not Hossack; a variation on conventional girder forks). I had a Vincent

and stripped the stove enameling off and polished up those aluminum blades - looked terrific. Like the Cyszsk (sp?). All of this is just comment & observation. Yours are going to look like what they are which is fabricated tubes. An honest design.

Did you have trouble with distortion of the steering stem bearing seats after the welding?

redmarque

Posted 31 March 2008 - 05:33 AM

tok tokkie, on Mar 31 2008, 10:15 AM, said:

I have the greatest admination for what you are doing. Your forks are true to Norman Hossack in looks. That is the one weak point about the design - they don't look good to me. You had no choice; being constrained by the materials available to you (& Hossack in the original). Britten used carbon fibre & his forks looked great to me whereas the Confederate forks are similar but brutally ugly. The BMW cast aluminum are not pretty either. My favourite are the Vincent Girdraulic forged aluminum blades (not Hossack; a variation on conventional girder forks). I had a Vincent and stripped the stove enameling off and polished up those aluminum blades - looked terrific. Like the Cyszsk (sp?). All of this is just comment & observation. Yours are going to look like what they are which is fabricated tubes. An honest design.

Did you have trouble with distortion of the steering step bearing seats after the welding?

Thanks Tok! It's in fact a variation on Norman's design, as ball and socket joints are replaced with the head stock (heavier but smoother steering)

I'm sure I could fabricate a lighter version, but as I've never built anything like this before it's safer this way. maybe i could pretty it up with a bit of fork cowlng?

The Kawa GT 550 headstock is heavy but functional - saved a massive amount of fabrication.

I'm really interested to see what difference this front-end makes to the handling with 15 degrees rake - it will probably be very quick? I have a GSXR steering damper on hand if it gets out of shape.

Bearings went in fine btw - such a big piece of steel didn't suffer from distortion.

Here's another pic of the progress...

suspension linkage mount on wishbone needs moving forward.

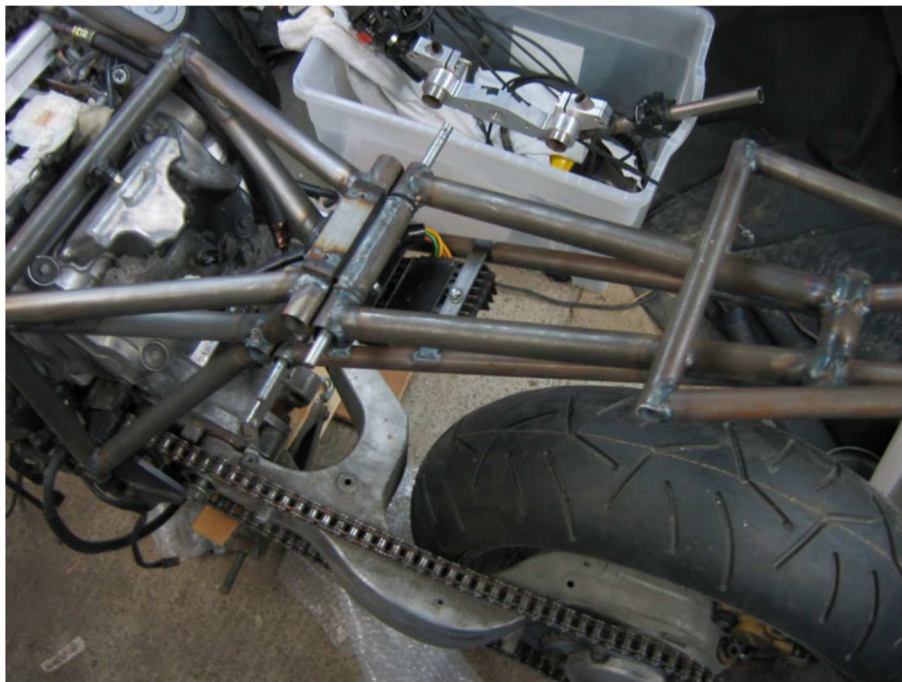


'Fun' With the battery location.

You can see why I'd like to remove some of the rear cam cover.



Found a good location for the reg/rec



tok tokkie

Posted 01 April 2008 - 03:43 AM

Page 8.22 of the workshop manual identifies that as the crankcase breather. A 'breather seperator' is bolted to the inside covered by a 'breather plate' torqued to 12 Nm with blue loctite. The rubber breather tube connects to the nipple on the front of that lump.

I assume you have taken off all the PAIR gubbins. Can you swop the front & rear cam covers around?

redmarque

Posted 01 April 2008 - 04:18 AM

tok tokkie, on Apr 1 2008, 09:43 AM, said:

Page 8.22 of the workshop manual identifies that as the crankcase breather. A 'breather seperator' is bolted to the inside covered by a 'breather plate' torqued to 12 Nm with blue loctite. The rubber breather tube connects to the nipple on the front of that lump. I assume you have taken off all the PAIR gubbins. Can you swop the front & rear cam covers around?

Fantastic Tok - that gives me an idea... I could re-locate the 'breather seperator' or make it 20mm shorter.

I'm leaving the PAIR system on until the bike's been though the UK MSVA testing - they do an emissions test 🙄

As to changing the cam covers around - there would be frame interference issues with the 'breather separator' lump.
good idea though 😊

redmarque

Posted 04 April 2008 - 06:16 AM

Scaring after operation on rear cam cover

OK I hope this works! plucked up the courage to remove an inch from the crank case breather lump. Hopefully the removal will only cause slight pulses into the airbox? A small expansion tank could be the fix for this. 😊

There's now enough room for the battery across the frame, plus clearance for the fuel pump banjo and return pipe.

Posted Image

The Phantom

Posted 04 April 2008 - 08:52 AM

redmarque, on Mar 31 2008, 08:33 PM, said:

maybe i could pretty it up with a bit of fork cowling?

This Aprilia concept bike might inspire some ideas...



Looking good, RM. The frame is almost too sexy for the swingarm 😊

redmarque

Posted 04 April 2008 - 08:56 AM

Love the Aprilia Concept! Fork cowls like this would break the tube lines well, thanks Phantom! 😊

My Radiator and oil cooler location are roughly the same location too.

redmarque

Posted 11 April 2008 - 02:53 PM

First time sitting on the Hossack Viffer today!

Slightly apprehensive about mounting the bike - Wondered whether the handlebar position would be a long stretch?
Bars are about 2-3 inches lower than standard and roughly the same distance from the back of the tank

Handlebar and front shock mount has now been fully welded (needs support struts like the front base tube)

Custom bolt and plugs to locate the stem clamps fabricated.

Stainless steel main engine bolt and front wishbone pivot bolts made

Still on target for the 1388mm (54.645 inch) wheelbase!

