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The Ultimate 800GS

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PROJECT BIKE

BMW F800 GS

ADVENTURE?

by Bret Tkacs



Just like *Goldilocks and the Three Bears* the BMW F800GS is “just right” with enough comfort for the pavement, but still light enough to be fun in the dirt. But, the BMW G650GS is too small for high-mileage days in comfort, and the R1200GS is too cumbersome when the road turns to trail. As much as I like the F800GS there is always room for customizing. As anyone infected with farkling disease will attest, every bike starts as a blank canvas where one can dump their life savings and spend the children’s inheritance. If you hang out at any ADV rally or local BMW shop, you’ll eventually hear “when is BMW going to build an F800GS ADventure?” So, I took things into my own hands and built

my own F800GS ADventure.

The F800GS is a superb starting point, but needs some help for use as a long distance adventure companion. I weigh in at 190lbs without gear, so the already under-sprung forks were in dire need of help, the damping was off and the rear shock would need attention as well after a year of hard use. The seat was designed by an angry *fraulein* as a medieval torture device, and the fuel capacity at 4.2 gal (with a range of 180–200miles) was barely acceptable for street touring. So it was up to me to prop up the world’s economy single-handedly and begin building my own F800GS ADventure using the best-of-the-best components available.

PHASE ONE: TURN THE GS INTO A SERIOUS MILEAGE BURNER....



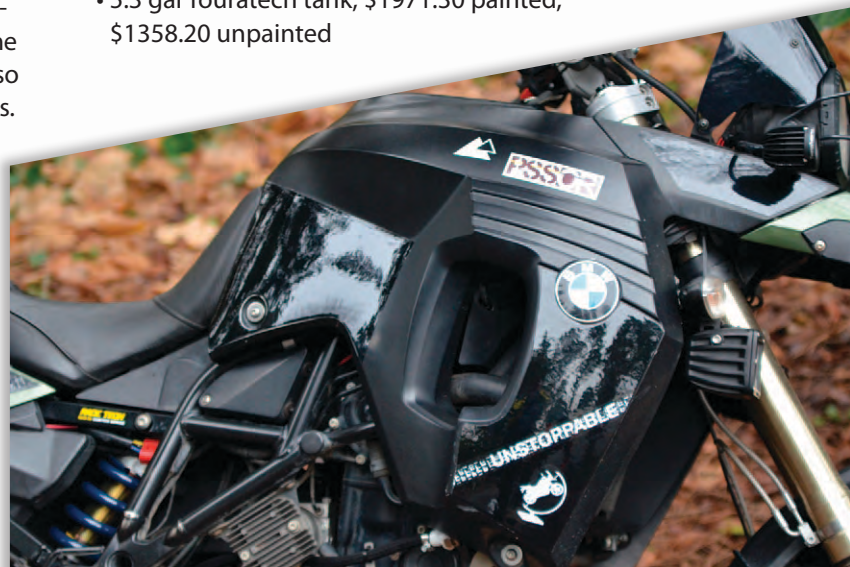
According to Paul Guillien (GM at Touratech U.S.A.), BMW told Touratech in 2008 they had no intentions of building an F800GS ADventure. According to Paul, this was one of the reasons Touratech committed to building the 5.3 gal big tank for the mid-sized GS. Installing Touratech’s 5.3 gal tank gives the F800GS a total capacity of 9.5 gal, beating out the R1200GS Adventure by .6 gal and raising the range to 400 miles (give or take 50 miles). This was by far the most expensive and challenging of the improvements, taking nearly an entire day to finish as the whole rear of the bike had to be disassembled so that I could drill the tank to tap in new fuel lines. If you are the type that gets quezy at the sight of your beloved GS spread all over the garage floor, you may want to have someone else do it. But, with time, patience and a digital camera it can be done by anyone with mechanical aptitude. Once installed removing the big tank is easier than removing the OEM body work. The 5.3 gal Touratech tank provides much better weather protection and settles the front end on high speed runs, mak-

ing it handle the road more like the road-biased R1200GS, with no more squirmy front end at high speed. The tank is made of a nearly indestructible material called Polyamide Nylon which wraps the radiator eliminating the need for a set of crash bars, making the weight penalty almost a wash. The only significant drawbacks are the tank is much wider than the stock bike,

making it more difficult to lock my knees into when standing up on the trail, and it leaks from the fill cap when the bike falls over. However, fully fueled the F800GS still carries its weight lower than the R1200GS Adventure. With Rotopax mounts on both of the factory aluminum touring boxes, I now have a fuel capacity of 11.5 gal, which will be useful when I tackle the McKenzie Trail in B.C. Canada (450 miles off road with no fuel available).

Verdict: The “Big Tank” is an expensive and time-consuming install and not for the faint of heart. Fit and finish could be better but a big tank is a must have to call the F800GS an “Adventure.”

- 5.3 gal Touratech tank, \$1971.30 painted, \$1358.20 unpainted





Next, I quieted down the cockpit with an MRA Touring Screen, and improved my comfort with Sargent's excellent World Sport Performance Seat. There are taller shields on the market, but since there are a lot of trails in this bike's future a shorter shield was a must for safety. The Sargent seat has performed amazingly during 600+ mile days, and the MRA shield is a must-have. As a bonus, the Sargent comes with a small compartment built into the seat pan that holds my tool kit.

Verdict: The Sargent World Performance Seat is a must-have with great fit and finish and outstanding customer service. And, the Touring Screen works great at creating clean air flow and is one of my all-time favorites.

- World Sport Performance Seat, \$459.95
- MRA Touring Screen, \$169.99

Lighting is one of two major weaknesses of the F800GS; the second is the relatively weak 400 watt alternator (the R1200GS has a 600 watt output), not a great combination.

To address this problem I called up Kurt, of Black Dog Cycle Works, and ordered up an Ultra-Slim Ballast HID conversion for the low beam, and installed a set of the excellent Rigid D2 LED lights using a set of CVM machined light brackets that mount directly to the frame. I also tucked the lights inside the turn signals where they are well protected.

The HID conversion was easy to install and did not require any modification to the factory wiring. With the HID and Rigid D2s having a very low voltage draw, I had power to spare so I added a set of Twisted Throttle's Denali D2s for day runners—these don't give me much additional lighting over the HID conversion but are great for being seen.

To thwart off pesky rock dings, I added a Touratech steel headlight guard. This is a screen design that does not obscure light output like the more common Plexi or clear plastic style guards, which also collect dirt on both sides of the guard as well as the headlight, creating three layers of dirt blocking the light.

Verdict: HID conversion is a must-have. If I run all the lights at once cars burst into flames as I pass by (not really but it seems they should), all of this with power left over to run heated grips, GPS, and a heated jacket. The Touratech headlight guard works as intended but creates a checkerboard lighting effect.

- Ultra-Slim Ballast HID, \$74.95 (bargain-winner and a must-have!)
- Rigid D2 LED lights, \$360.05
- Denali D2 LED lights, \$359.99
- Touratech Steel Headlight Guard, \$99.50



STAGE TWO: GOING OFF-ROAD

My F800GS ADventure is destined to have a split personality, spending equal time on pavement and uncharted dirt roads. I needed a GPS that would work well in both situations and picked up the new Garmin Montana 600 with a power cradle using an SW Motech vibration damping GPS mount from Twisted Throttle. My first impressions about the Montana were lukewarm, but the more I use it the more I like it. The only notable issue is that vibration will bring up a message telling you it can't charge the battery and you need a genuine Garmin battery. The fix is simply to place two foam ear plugs in the battery cover which holds the battery tight but does not break the waterproof seal.

Verdict: The Garmin Montana is a good compromise as a do-it-all GPS and well worth considering, but can be a little glitchy; the SW Motech mount is a solid well-made mount that works well.

- Garmin Montana 600, \$549.99 (does not include maps)

Just for fun, I installed a Kaoko throttle lock available through Twisted Throttle. To operate this you have to spin the throttle lock, located on the outside of the throttle grip, which creates friction and holds the throttle open. It works okay and allows you to relax the throttle hand on those long runs between stops... it works but isn't my favorite design.

Verdict: Easy to install and stays tucked out of the way when not in use, cumbersome to use.

- Kaoko Throttle Lock Cruise Control, \$125.00

Like many fuel-injected bikes the F800GS is cursed with an abrupt on/off power delivery, which is far from optimal when riding in technical situations. On pavement this is easy to work around with smooth

use of the controls, but off-road it is far more intrusive. I tried several inexpensive gadgets and "fixes" without success and decided I had to bite the bullet and just go all the way; I installed a full Remus Hexacone exhaust (no catalytic converter), Power Commander V and a K&N air filter. The result is a bike with very smooth power delivery and a very sexy sound while keeping the dB output near stock. In fact, the Remus is street legal when measured with a dB meter, coming in at only 1 dB over my reading for the stock muffler without a catalytic converter. Also, the stock plastic left heel guard was swapped for a light-weight steel model from Black Dog Cycle Works.

Verdict: A true fix to the abrupt throttle issue while creating more "soul" (and by "soul" I don't mean loud).

- Remus Exhaust System, \$1295.00
- Power Commander V, \$379.95
- K&N air filter, \$43.21
- Black Dog Cycle Works heel guard, TBD

With me weighing more than BMW's average test pilot, and the addition of 5.3 gal of fuel, it was time for a serious suspension upgrade. The front end got a set of Bitubo fork cartridges, which improves the damping effect, although is still only preload adjustable. The Bitubo comes as a complete kit including a set of .6 kg springs (stock is .44 kg), but these were still too light for the loads I would be hauling. A set of .89 kg springs from Race Tech, as well as a custom-built G3 shock with preload adjuster, did the trick. The G3 Shock does not offer compression adjustments but is built and valved for you when ordered, so is just about dead-on after installation. On the road, the difference is night and day with the F800GS now holding the road as well as any R1200GS. But, off-road there is still a compromise with the heavier front springs being a too stiff for deep sand and mud.

Verdict: Both the Bitubo and Race Tech components are high quality pieces and work well overall.

Unfortunately there is still no way to set this bike up perfectly for both pavement and dirt, and the limited adjustability of both brands compound this. The Bitubo cartridges only offer spring preload and the RaceTech G3 Shock has spring preload and rebound (same as stock).

- Bitubo cartridge kit, \$699.00
- Race Tech springs and spring guide, \$149.99 + \$49.99
- Race Tech G3 Shock with remote preload adjuster, \$949.99



The wheels on the F800GS are known for bending very easily, and my bike was no exception. With my front rim having been straightened on several trips with a rock or hammer, it was time to get a rim that was up to the task. Touratech carries a rim built by Excel as a heavy-use upgrade for the stock hoop. One evening of lacing up the new spokes and truing the wheel and I was ready to go.

Verdict: Expensive but a quality item necessity if you plan to spend time on rough off-road conditions. Many F800GS owners have claimed to have bent their stock front rims on pot holes while riding on paved roads.

- Excel (21" x 2.15") front rim, \$424.00

Next it was time to armor the belly of the beast. To date, I have already shredded several popular skid plates on the F800GS, so I turned to Black Dog Cycle Works once again for a solution. They had exactly what my mid-sized ADventure needed. When Kurt says his stuff is "heavy-duty" he means it; this skid plate weighs in at over three times the weight of any other skid plate I know of for the F800GS. I think this skid plate was built to protect against land mines and IEDs as well as trail hazards.

Verdict: this is the ultimate protection for the belly of the F800GS, but it comes with a price... weight! With mounting hardware and the skid plate it weighs in around 10 lbs! (the BMW/Touratech skid plate is under 3lbs).

- Black Dog Cycle Works skid plate, \$324.00

To protect the digits I picked up a set of Barkbuster hand guards from Twisted Throttle. These have a strong aluminum backbone with replaceable plastic shields. I chose the "Storm" plastics which provide ample weather protection on the road and good protection against branches and flying rocks when on the trail. As a bonus Barkbuster bar end weights help to stave off highway vibration.

Verdict: the Barkbusters are hard to break and easy to repair. The bar end weights seem to help stave off the numb hand syndrome when riding at high speeds for long distances.

- Barkbusters with Storm plastics, \$170.00
- Barkbuster bar end weights, \$45.00

A set of SW-Motech on-road/off-road footpegs provide a larger foothold, with cleats for standing off-road. What's cool is that they also have rubber inserts that can be used for road travel. A Wunderlich folding shift lever addressed the solid OEM shift lever that pretzels easily (shame on you BMW) when the bike lays down off-road. I chose the non-adjustable Wunderlich lever so there would be less possibility of failed bolts, also being made of steel it could be bent straight many times, if needed, without breaking. The OEM lever is now strapped to the inside of the frame as a spare.

Verdict: The SW-Motech footpegs are a good compromise and may be perfect for the 70/30 Adventure rider. For serious off-road I would still prefer a larger peg that is humped in the center like a true dirt bike cleated peg. The Wunderlich shift lever is simple and durable, highly recommended.

- SW-Motech on road/off road foot pegs, \$158.99
- Wunderlich folding shift lever, \$45.00

With the extra weight of the F800GS ADventure, and knowing it will be heavily loaded in off-road conditions, I included a WARN XT17 portable motorcycle winch (8 lbs) to compliment my manual PSSOR motorcycle recovery system. **For mounting the winch I am using a Black Dog Cycle Works multi-function rear rack with a WARN winch adapter. The rack is also drilled to accept Rotopax Fuel/water containers when the winch is not onboard.**

Verdict: The XT17 is like insurance, most people who buy them will have no intention of using them, but the one time you truly need it, it will be priceless. The cost to get a tow truck or crew of people to where you may have slipped off the road/trail will cost you as much as the winch. Call it piece of mind.





WARN XT17 portable motorcycle winch, \$549.00

- Black Dog Cycle Works multi-function rear rack, \$135.00
- Black Dog Cycle Works WARN winch adapter, \$79.00

With the main shortcomings now addressed I turned to the small stuff: a Touratech oversized sidestand foot, so the bike would not fall over on soft ground; a front sprocket cover to protect the engine in the case of a broken chain; and a chain guard. For traveling, a centerstand is a must for maintenance and ferry crossings and, of course, it also makes for an all-important bottle opener. The SW-Motech centerstand tucks out of the way nicely compared to the BMW centerstand, but with a trade-off. The SW-Motech centerstand uses two small feet, whereas the BMW centerstand uses long tube feet which are more stable on soft ground.

Verdict: it is often the details that personalize the bike, although having an oversized sidestand foot and centerstand are critical.

- Touratech large sidestand foot, \$35.90
- Touratech front sprocket cover, \$81.80
- Twisted Throttle chain guard, \$69.95
- SW-Motech centerstand, \$184.99
- Bag mounted bottle opener, \$7.50

PROJECT SUMMARY

Given all the changes and added protection, this mid-size ADventure now weighs about the same as a stock R1200GS, but still under the R1200GS Adventure when similarly equipped and at less cost. Building an adventurer's bike is a personal experience and for every change there is a price or compromise. In this case the compromise is the additional weight of the bike as well as a big hole in my pocketbook. When building your next adventure bike start with how you intend to use it before setting the budget. Although this may be my ultimate adventure bike today, tomorrow may take me to new places where I want something simple and light... or maybe I'll want a mega pavement burner. For now, when I'm asked about my dream adventure bike, I just point at the F800GS ADventure and say "there it is, I have it!" **ADV**

PARTS LIST

Product	Website	Cost (USD)
5.3 gal tank	Touratech-usa.com	\$1971.30 painted \$1358.20 unpainted
Steel headlight guard	Touratech-usa.com	\$99.50
Garmin Montana 600	Touratech-usa.com	\$549.99
Excel (21" x 2.15") front rim	Touratech-usa.com	\$424.99
Large sidestand foot	Touratech-usa.com	\$35.90
Front sprocket cover	Touratech-usa.com	\$81.0
MRA touring screen	Twistedthrottle.com	\$169.99
Denali D2 LED light	Twistedthrottle.com	\$359.99
Kaoko throttle lock cruise control	Twistedthrottle.com	\$125.00
Barkbusters with Storm handguards	Twistedthrottle.com	\$170.00
Barkbuster bar end weights	Twistedthrottle.com	\$45.00
SW-Motech on-road/off-road foot pegs	Twistedthrottle.com	\$158.99
Chain guard	Twistedthrottle.com	\$69.95
SW-Motech centerstand	Twistedthrottle.com	\$184.99
Ultra-Slim Ballast HID	Blackdogcw.com	\$74.95
Rigid D2 LED lights	Blackdogcw.com	\$360.05
Remus exhaust system	Blackdogcw.com	\$1295.00
Left heel guard	Blackdogcw.com	\$TBD
heavy-duty skid plate	Blackdogcw.com	\$324.00
Multi-function rear rack with WARN winch adapter	Blackdogcw.com	\$135 + \$79
Bag mounted bottle opener	Blackdogcw.com	\$379.95
Power Commander V	Cvmtouringaccessories.com Powercommander.com	\$50.00 (approx.)
World Sport Performance Seat	Sargentcycle.com	\$459.95
Folding shift lever	Wunderlichamerica.com	\$45.00
.89 kg springs and spring guide	Racetech.com	\$149.99 + \$49.99
G3 shock with remote preload adjuster	Racetech.com	\$949.99
K&N air filter	Knfilters.com	\$43.21
XT17 portable motorcycle winch	Warn.com	\$549.00
F800GS cartridge kit	Bitubo.com	\$699