The 1994-2000 F650Log.pdf v.2.1 (Nov'01)

– David Braun http://www.deathstar.org/~flash

This isn't "John Muir Does the F650." Anyone who doesn't know what feeler gages are, much less how to use them or who doesn't own an F650 service manual will find this document to be of little help. No one-page tutorial exists on how to maintain a motorcycle. This is a just maintenance log sheet. The intent was to make a fast and simple document to facilitate servicing your bike, making available the important numbers to preclude digging through manuals with dirty paws.

After reviewing the factory manual and maintenance procedures, I felt that something was missing. What was missing was the easy-reference checklist that used to come with BMW motorcycles. Furthermore, the factory manual makes no reference whatsoever to lubricating the steering head, swing-arm or wheel bearings. Previous models performed this during the “inspection” and just checked these items during the “service.” The factory manual makes it difficult to find necessary specifications, like the spark plug number for instance. The factory manual doesn’t tell you some things which it should like the fact you need a 30mm socket for some things and two 22mm sockets for others. The factory manual doesn’t remind you to get certain parts and supplies before you start. For that matter, the page numbers in the factory manual maintenance index are wrong. Thanks a pantload, BMW.

The idea of this form is to print out several copies. Sixteen copies will be required to take you 96,000 miles assuming that you don’t burn copies for “annual” stuff. I took what I felt was all of the good information from the maintenance section of the BMW F650 service manual and put it in what was intended to be a user-friendly format. There is no column for the 600-mile service because the dealer generally does that and it only happens once. The increments after that are level II “Service” at 6,000 miles (10,000 km) and even multiples thereof, and level III “inspection” at 12,000 miles (20,000 km) and even multiples thereof. Past models of BMW motorcycles called for an “inspection” which was a bit more intense than the “service” with additional items requiring disassembly or fluid changes. These were merely “check” items at the service intervals. BMW screwed up, IMHO, when they did not specify re-packing certain bearings as in the past. So I added some of these items to the level III inspection. The annual items are pretty much no-brainers unless you hardly ever ride or store the bike for long periods.

There is a “Page” column that refers to the actual page number in the maintenance section of the factory service manual.

The “Item” column is pretty straightforward. I used check boxes so that you can have a record of what you actually did. It is sometimes beneficial to flip back through the old logs and see what item needed frequent attention as opposed to just a check.

The Valve Clearance/Shims item has places for entries for each valve to log what you found when you measured using feeler gauges OR if you measured the shims. If you check the "Clearance" box, you might just put a check mark next to a given valve if it was between 4 & 6 thousandths of an inch (0.10 - 0.15 mm). Or, if the 0.004” feeler just barely went in, you might mark “0.004-“ to indicate that valve was barely within spec on the tight side. If the 0.006” feeler gauge slips right in but 0.007” will not, you might mark “0.006+” to indicate that the valve was ok, but on the fat side. Alternately, after the first time you pull the cams you might want to measure all the shims with a micrometer and write the size of the shim that is presently installed in that position. Look for the number stamped on the shim first, because it may still be visible. In that case, check the "Shims" box so you know what the numbers mean that you're looking at a few months later. Shims come in 0.05mm steps (0.002"), which is why the clearance range is listed as such.

Since cleaning the oil tank screen is pretty much a waste of time, I made that a quasi-separate item. I plan to do that again at the 24k just to see what happened. Many folks install an after-market throwaway fuel filter so I put that on there as a 12k replaceable item. I put the fork oil spec at 10 wt. which many folks believe is preferred over the factory spec of 7.5wt.

There are sometimes check boxes for “Check” and for “Adjust” inside the item column just in case you think the distinction is important to log. There are a few spots to enter measurements you make or mark when you renew things.

The column “Tool/Part/Spec/Note” generally contains stuff that you will probably want to have at your fingertips when you prepare and/or do the actual work

Steve #417 wanted me to mention that, "the book does not show a black nylon shim that fits between the swing arm pivot and the frame mount on both sides. The swing arm nut is a nylock type and should not need to be re-torqued unless it has been disassembled. The shock linkage arms attached to the swing arm and lower shock mount also have non-captured needle bearings that are not sealed as well as the swing arm bearings. They will fall out when cleaned and re-lubed so a caution statement might be needed if you can squeeze it in somewhere."

When I use the form, I appropriately check the boxes for the stuff I actually do as I go along. If I skip something with no intention of doing it this week, I circle the checkbox to attract my attention to it when I look in my log. For example, I didn’t lube the swing-arm bearings at the 12k service that I just performed because I plan to lube the swing-arm bearings and shock linkages when I have the wheel off for the next tire change and upcoming chain & sprocket replacement. Each sheet goes in the log on top of the stack so that when I open the binder the most recent log is staring at me. No, this form doesn't pack well on the bike. However, it does fit nicely in a three-ring binder with the service manual and parts diagrams.

Basically, what I wanted was the maintenance document that used to be in my R80G/S user’s manual. It told me what to do, when to do it, what I’d need to do it and I had FAITH that it would maintain my bikes. And it did. Too bad it doesn't fit under the seat. Thanks again, BMW. I set up this form so that it prints on a single US letter-sized page with room at the top to punch holes for placing the pages in a three-ring binder. It has a little bit of room for other notes. And of course the whole back is blank for anything really long-winded. If it doesn't print properly for you, complain to Bill Gates.

Finally, I would like to express a word of gratitude and acknowledgement for their contributions to the Chain Gang Inmates who proofread and added their ideas and input to this document: Chris in Santa Cruz, Harl #380, Steve #417, Rich #230 and Todd #389. Also, thanks to Mark #403 for converting the original Excel file to Word in order to get over a MicroSloth issue with (not) printing the checkboxes even though it ended up in a reliable non-MicroSloth PDF format because of some other unidentifiable MS-BS. Thanks to Webmaster Johnathan for posting this on F650.com.

94-'00 F650 Log v.2.1 **Date:** **Odometer:** by http://www.deathstar.org/~flash

II - Service 6,000mi 10,000 km	III - Inspection 12,000 mi 20,000 km	IV Annual	Page	Item	Tool / Part / Spec / Note
☐	☐		10	Valve Clearance ☐/Shims ☐ Rex: Lex: Lin: Rin:	0.10-0.15mm = 0.004-0.006" 90 88 6 116 570 crank stop bolt
☐	☐		12	Replace Spark Plugs - NGK D8EA=#2120	20 Nm, gap :0.6-0.7mm, .024-.028"
☐	☐		12	Clean Air Filter ☐, Pull Airbox Drain Plug ☐	washable foam-type air filter oil
☐ ☐	☐ ☐		12 n/a	Adjust Clutch Free Play Lube Clutch & Brake Lever Pivots & Nipples	2mm at lever, lower arm: 2.75" either powdered graphite or white lithium grease
☐	☐	☐	13	Oil Change	2.2 qt w/ filter
☐	☐		14	Oil Filter Change ☐, Clean Oil Tank Screen ☐	11 00 2 317 015 oil chg. kit
	☐		15-16	Fork Oil Change	600cc per leg, 10 wt., 6x10 Cu washers, O-rings
☐	☐		17	Coolant Check	
		☐	18	Change Coolant (non-nitride, non-silicate)	1.5qt: 50% mix, Loctite 243, 6x10 Cu washer
☐	☐		18	Clean Petcock Screens	
☐	☐Replace		n/a	Fuel Filter - Inspect ☐/Replace ☐	
☐	☐		19-20	Adjust Idle Speed ☐, CO ☐	1300-1400 rpm, CO: 2.5% -0.6%
☐	☐		21	Check Brake Lines & Fluid Level	DOT 4
☐	☐		22-23	Check Brake Pads ☐ (1.5mm min. thickness) Replace Front ☐ / Replace Rear ☐	F:EBC209,Galfer172G1532-green,FerodoFDB2006 R:EBC213,Galfer165G1054-black,FerodoFDD2005
☐	☐		23	Brake Disks Thickness F: R:	min thickness: 4.5mm, 0.177"
		☐	24	Change Brake Fluid	DOT 4
☐ Check	☐ Check ☐ Replace		24	Inspect Front & Rear Wheel Bearings Replace at 24k-mi/40k-km multiples	6203-2RS: 2 per wheel,1:30x40x7 rear seal 6204-2RS: carrier, seal 30x47x7. 1:40.x50x4 frt.seal
	☐		n/a	Lube Speedo & Tachometer (RPM) Cables	Moly Grease
☐	☐		25	Check Spoke Tension	Runout Limit = 2mm, 0.078"
☐	☐		25	Chain & Sprockets Check ☐ /Renew ☐ 16/47 520-110, 30mm socket, Loctite 243, Front sprocket o-ring, 18x3.5, 23 00 2 343 260	F:100Nm, Fr. lock washer: 23 00 2 343 472. R:25Nm, 6 ea.: M8x30 bolts: 36 31 2 345 496, M8 nylock nuts: 36 31 2 345 495
☐	☐		26	Chain Tension Check ☐ /Adjust ☐	20 - 30mm, 1" +/- 0.25", axle:100Nm
☐	☐ Lube		27	Steering Head Bearings Check ☐/Adjust ☐	100Nm, 30mm socket = 1 3/16"
☐	☐	☐	28	Battery - Refill ☐, Lube Terminals ☐	Distilled water, YB12AL-A
☐	☐		29	Lube:Stands☐, BrakePedal☐, ChainRollers☐	Multi-purpose grease
☐ ☐ ☐ Tighten ☐ Tighten	☐ ☐ ☐ Lube ☐ Lube	☐ ☐ ☐ ☐	29	Check/Tighten: Engine Mount Bolts Check/Tighten: Exhaust Mount Bolts Swing-arm Pivot Bolt/Bearings Shock & Linkage Bolts/Bearings	50Nm two: 22mm sockets = 7/8" 10mm Allen