FAQ Facts K100

By: Brian S. Brumfield

1.0 General Information

First sold in Germany in 1983. First US models available in 1985. ABS first available in 1987? The upgraded ABS-II was released in 1991?

- •K100: un-faired, moderate rider posture,
- •K100RS: sport fairing, 3/4 cafe rider posture,
- •K100RT: touring fairing & rider posture (taller/wider handle-bars).
- •K100LT: touring fairing & rider posture with major touring goodies.

1.1 Year-model Specifications

Engine:	Valves	Displacement	Horsepower/Torque @ RPM
1985	8	975cc	90bhp/203ftlbs @ 8000
1986	8		
1987	8		
1988	8?		
1989	8?		
1990	16?		
1991	16?		
1992	16?		
1993	16		
1994	16		
1995	16		

ABS Brakes	
1985	Not Available
1986	Not Available
1987	ABS-I
1988	ABS-I
1989	ABS-I
1990	ABS-I
1991	ABS-I
1992	ABS-I
1993	ABS-I (K1100)
1994	ABS-II (K1100)
1995	ABS-II (K1100)

Suspension:	Rear	Front
1985	Monolever	Telescopic Forks
1986	Monolever	Telescopic Forks
1987	Monolever	Telescopic Forks
1988	Monolever	Telescopic Forks
1989	Monolever	Telescopic Forks
1990	Monolever	Telescopic Forks
1991	Monolever	Telescopic Forks
1992	Monolever	Telescopic Forks
1993	Paralever	Telescopic Forks

```
1994         Paralever  Telescopic Forks
1995         Paralever  Telescopic Forks
```

2.0 Manuals

2.3 BMW Shop Manual

2.1 Clymer

$18 to $40 US. This is a fairly good manual. Some repair procedures have been omitted, such as the replacement of the oil sight-glass, but most major procedures are explained in a clear manner. The index does leave a lot to be desired.
Electrical diagrams are included for the year-models covered by the manual.

2.2 Chilton

3.0 Water/Oil Pump

- 3.1 Fluid Seeping from the underside of the Pump This may be what BMW considers to be a normal condition. Consult with a BMW mechanic. This could be either one or a combination of oil or coolant.

- 3.2 "Early Production" K100's have a water pump design problem that was later corrected. On the problematic pumps, the impeller is held in place to the it's drive shaft with a nut, threaded onto the shaft. This nut, and it's counterpart are notorious for breaking off of the shaft. In some cases the nut rolls around until it punches a hole through the pump cover, in others it just rolls around. If the impeller is not damaged it can be reused, requiring that the hole be "cleaned out" by running an appropriately sized drill-bit through it.

  Symptom: A high pitched squeal coming from the bike, sounds like a faulty fan belt on an auto. Sometimes there is a hole in the pump cover, and in this case it will leak fluid when the engine is shut down (it actually runs in this condition - not a recommended practice).

  The factory "running fix" was to change the pump's drive shaft with a tapped hole instead of a threaded shaft. The water pump's impeller is then held onto the shaft with a bolt, run into the shaft and torqued to specification.

Retro-fit/Fix:

- 1. Replace the pump assembly (may not come with a cover), $333 US.
- 2. Rebuild the pump assembly:

- a. shaft $120 US
- b. slipring seal $30 US
- c. pump cover $40 US
- d. assorted seals, etc. $10 US
- e. impeller $?? US

4.0 Electrical Accessories

- 4.1 Real Fuel Gauge
  - Not available on 1985 K100s without *extensive* modifications, including a new gas tank.
- 4.2 Volt Meter
  - Easily installed (*requires the removal of the gas tank). Useful item.
- 4.3 Heated Handlebar Grips
  - Approx $120 US, about 1 hour to install (*requires the removal of the gas tank). Very useful.
- 4.4 4-way Emergency Flashers
  - Approx $70 US, about 1 hour to install (*requires the removal of the gas tank). Very useful.
- * The main electrical box and "pig-tail" connectors for accessories are located directly under the fuel tank in the main electrical box.

5.0 Exhaust System

- 5.1 General Description
  - The factory K100 exhaust system is a tuned stainless steel set up, in a configuration that takes all four exhaust pipes into the muffler, as opposed to a four-into-one configuration like a header for an auto.
- 5.2 Cleaning
  - The stainless steel requires periodic cleaning to remove dirt build-up that can result in corrosion and rust.

    A yellowing/browning of the exhaust pipes is normal, and can be removed with cleaner. Polishing is not required, and actually could be considered a waste of time, but can add a little jazz to the overall appearance of the bike (if you're concerned with such things). A *light* coating of oil (such as WD40) will mostly burn-off, but help slow the yellowing process.

5.3 Heat Shield Problems

- 5.3.1 Rattles

•This is a very common irritation to K100 owners. The most common rattling problem is a loud, low/mid-RPM (around 2400) induced rattle coming from the lower left-hand side of the bike.

This design is plagued with problems that cause rattles, including:

1. Stainless steel brackets welded to the muffler which hold the nuts to secure the shield, deteriorate, rust, break, etc.
2. The stainless steel nuts may deteriorate.
3. The wavy washers used in conjunction with the small bolts which hold the shield on, flatten, resulting in loose bolts.
4. The bolts are fairly soft, and excessive tightening can damage the bolt heads.
5. The paint can come off of the shield, and may create a gap under the bolt heads/washers.
6. The heat shield may be lightly touching footpeg assembly, which requires a slight position change of the shield to remedy the rattle.
7. The side/center stand bumper may be badly worn, causing vibration between the muffler and stands.

•** The use of "Lock Tight" on the heat shield bolts is highly recommended not to mention very helpful **

•5.3.2 Solutions

•BMW has a retro-fit kit that replaces the standard heat-shield attachment hardware. The kit is about $90 installed and eliminates almost all of the above problems.

•Luftmeister and SuperTrapp sell new exhaust systems for around $400 that do not incorporate heat-shields, and consequently don't have any of these problems (and add horsepower to boot).

6.0 Clutch Cable

•6.0 General

•The cable is routed from the handle bars, under the fuel tank, down the left-hand frame, and is held in place with "tie wraps" and plastic cable restraints.

•6.1 Breaking

•There can be a couple of problems here. BMW says that the clutch cable should basically last the life of the bike, but some owners find that they have been through two or three cables.

•The most common problem is that the cable snaps right at the clutch lever, leaving the round "bearing" from the end of the cable in the clutch lever. This can be caused by:

1.A burr in the lever assembly that needs to be removed, but the most common problem is a maintenance issue,
2.The "bearing" that rides in the clutch lever is not lubricated well, or has gotten dirty enough that it doesn't rotate when the clutch lever is pulled. This kinks the cable each time the clutch lever is pulled, until it's strength is compromised to the point that it breaks (usually at an inopportune moment - syncro-shifting can be an invaluable skill!).

7.0 Throttle Cable

•7.1 Early model K100 Adjustment (years???)
These bikes use an inline expansion assembly approx. one foot down the cable from the right-hand grip; it usually ends up just in front of the leading edge of the gas tank (requires reaching through the fork holes in fairing, or just reaching around the forks behind the instrument pod.
•7.2 Later model K100 adjustment (years???)
The later models use a conventional lever mounted adjustment, such as the clutch cable adjuster.
•7.2 Don'ts

- •Don't try to adjust the cable in the vicinity of the throttle-bodies. This could throw-off the fuel cut-off (throttle closed) switch, causing fuel consumption problems and backfiring.
- •Don't try to adjust the cable at the grip/cable-head. The grip's teeth mesh and the "cable-puller" gear assembly have index marks which need to match to provide full throttle-range operation.

8.0 Tune-ups

•8.1 General Description
The K100 is an advanced vehicle, with electronic ignition and fuel injection, requiring minimal "tune-up" style maintenance. Sparkplug, oil, and air filter changes top the list of routine maintenance items. More in depth maintenance includes renewing the front fork oil, brake fluid and coolant, synchronization of the throttle bodies, tire balancing, and the "spline lube" operation.
•8.2 Don'ts
The "hall effect transmitter" can be adjusted to effect ignition timing changes, but this should not be done, and requires tools for finding piston Top Dead Center, and the primary ignition coil state. Bad idea - even if it looks like the only alternative, consult with a BMW mechanic!

9.0 Changing the Oil

•9.1 Capacity

The K100 holds approx. 4.0 quarts of oil (sometimes a little less).

•9.2 FIlter

The filter on the K100, while accessible requires a special tool to remove it (or finger spun by Arnold Schwartzennegger). The oil filter is housed in a "wet" (oil filled) reservoir, sealed by a plate and O ring assembly that is held on with three hex-head bolts. The bolts and plate are directly under the engine. The tool is an aluminum, ratchet-mounted cup that fits over the end of the filter. It can be purchased from BMW for about $18 US, or a suitable replacement can be found at a local auto parts store which may require slight modification (many $$ saved). For instance some have "ribs" on the outside for gripping, but the ribs increase the diameter of the "wrench" so that it does not fit in the reservoir containing the filter. The ribs can be filed off.

•9.3 Checking the Oil Level

The oil level on the K100 is not measured by means of a conventional dip stick. On the right-hand lower engine block is a "sight glass" which has a large red circle and a dot in the middle of it. The upper and lower portions of the circle represent the upper and lower oil level limits respectively. BMW recommends that the engine be at operating temperature, and the engine stopped for a few minutes, with the bike on the center stand on a level surface before the oil level is read.

10.0 Transmission Problems

•10.1 Symptoms:

Hard to find gears, a.k.a. "first, neutral, second, neutral, second, second, third."

1. These bikes require some degree of "positive" shifting force, which some people are not used to. Careful "conscious" shifting seems to eliminate this problem (if the following issues are not the cause).
2. The bike requires, as per standard BMW operating procedure, a "spline lube" every 12-20k miles (some say annually). This procedure eliminates a binding of the clutch disk and the transmission input shaft, which can cause shifting problems to start with. Further transmission problems may result as a consequence of not performing the lube. This requires the removal of the transmission.
3. The "set pin" on the shifter may have loosened. This results in hard shifting, with "slop" (excessive vertical play) in the shift lever, which may result in the lever ultimately coming in contact with an exhaust pipe. This problem requires removal and dis-assembly of the transmission.

•** The use of "Lock Tight" on this part is highly recommended **

11.0 Tires

•11.1 1985 K100RS. BMW recommendations are:
front: 110,90/18 (Metzeler ME33 Laser (V-rated))
rear: 130,90/17 (Metzeler ME88 Marathon (H-rated))
V or H rated tires work well on these bikes. A lot of riders prefer V in front and H in the back.
•11.2 Problems:
A larger series tire in the front, such as a 110,90/18 can make the front-end of the bike feel very heavy and sluggish in turns, and also very unstable under heavy, bumpy turns.

12.0 Gasoline

•12.1 Octane
The K100 seems to be fairly forgiving with various grades of gasoline. 87 octane is the minimum level that you should expect any performance from the bike at all with.
•12.2 Methanol
BMW does recommend the use of methanol gasoline with the K100 engine. Some owners say that the bike is a "pig" when running methanol, and others don't.
•12.3 Ethanol

BMW approves fuels with an ethanol content of up to 10%. Above that level, drivability, and starting and stalling problems (especially under high temperatures or altitudes) will occur. E85 fuel contains 85% alcohol (ethanol). Ethanol, as an oxygenate, causes excessive leaning of the fuel/air mixture. Extremely lean mixtures cause excessive prolonged combustion temperatures which will lead to engine damage like burned valves, plugs, etc. Only specially designed engines (installed in FFV - Flexible Fuel Vehicles) are able to run on high content ethanol fuels.

We hope this fully addresses your inquiry. If you have any further questions, please respond to this e-mail or contact the Customer Relations and Services Department at 1-800-831-1117. Our office hours are Monday through Friday from 9:00 A.M. to 9:00 P.M., Eastern Standard Time.

Regards,
BMW Motorrad USA

13.0 Oil

•13.1 Viscosity and Rating
•13.2 Synthetic vs Petroleum

14.0 Engine Problems

- 14.1 Hard Starting
- 14.2 Oil Consumption
- 14.3 Knocking Sounds
- 14.4
- 14.5

15.0 Purchasing Parts

- 15.1 General

Parts for the K100, like any BMW motorcycle, are expensive. From a dealer they are borderline criminal. There are some options to steer you from the impending economic peril that your motorcycle may be leading you toward, and some of those options are discussed below.

- 15.2 Mail Order

There are a few mail order houses out there for BMW hardware, some more reliable than others, including:

- Competition Accessories 1-800-543-3535

  Comp. Acc. also offers a *large* BMW catalog of parts, from key fobs to real factory micro fiche for your bike! It's well worth the $5!