

# K1200RS Tips Page

## Abridged Edition

(compiled by [Larry Wilbers](#) 12/7/2000 5:58 AM)

### Introduction

Advice about motorcycling is tricky. What works for one rider may not for another. No two riders have the same ideas about how they want to ride or what they need to do so.

Many of the tips that follow may solve more than one problem. On the other hand, they may not represent the answer for a seemingly appropriate problem.

Use the Tips to generate your own ideas about a problem or technique and not as rigid recipes for the best results.

Note that the new or revised comments and information are italicized and are located at the beginning of each section.

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**Specs**

Engine Type	Four stroke in-line 4-cylinder engine / "flying brick" or "brick on its side"
Bore and Stroke	70.5 mm x 75.0 mm
Displacement	1171 ccm
Piston Speed at Red Line	Fastest of any production motorcycle engine
Horsepower	130 Bhp @ 8750 rpm (claimed)
Torque	85 lb.-ft. @ 6750 rpm (claimed)
Compression Ratio	11.5:1
Valves	4 per cylinder, 8 x 26.5 mm intake / 8 x 23 mm exhaust
Valve Actuation	Dual over head cams (DOHC), chain driven
Valve Timing	Intake opens 3 degrees before TDC Intake closes 27 degrees after BDC Exhaust opens 311 degrees before BDC Exhaust closes 1 degree before TDC
Cooling System	Water-cooled by twin radiators with side exhaust ports/ oil cooled by 1 radiator
Engine Oil Capacity	3.7 quarts of API class SF, SG, or SH; CD or CE
Engine oil filter	Spin-on Micronic filter cartridge
Air Filter	Paper-type element
Charging System	14 V, 70 Amp alternator (840 W)
Battery	BMW Mareg 12V-19 Amp/h low maintenance
Fuel Tank	Polyamide tank with enclosed fuel pump and filter
Fuel Demand	Premium unleaded fuel, 90 (AKI)

Fuel Capacity	5.5 US gallons (20.8 liters) including 1 gal. (3.8 liters) reserve at low fuel light indication
Fuel Mileage	40 mph (range is low thirties to low fifties)
Battery	12V 19 Ah
Clutch	165 mm, single dry plate with hydraulic actuation
Gear Box	Getrag 6 speed, Helical-cut gears with tensioner primary drive
Gear Ratios	1st gear — 3.86:1
	2nd gear — 3.02:1
	3rd gear — 2.39:1
	4th gear — 1.96:1
	5th gear — 1.70:1
	6th gear — 1.51:1
Final Drive	Shaft
Final Drive Ratio	2.75:1 ratio spiral bevel gears
Drive System	Enclosed drive shaft with two universal joints and integral torsional damper
Clutch	Single plate, dry, hydraulic actuation
Engine Mounts	Rubber
Frame	Chill-cast aluminum load bearing welded aluminum/with honeycomb-cell-structure for greater strength, vibration quenching
Front Suspension	Telelever with leading link pivoted centrally on main frame; with gas-filled spring damper strut / Telelever factory adjusted for 90% removal of front-end-dive
Travel/Dimensions	4.53 inches (115 mm)
Rear Suspension	Patented BMW Paralever with new swing arm / roadside rear shock pre-load and damping adjustments, single-tube gas-filled shock, variable rebound damping
Travel/Dimensions	5.01 inches (150 mm) / progressive spring, 7 positions
Brakes	ABS II, hydraulic, dual/single discs with Brembo calipers
Front Brakes	Two 4-piston, fixed calipers with floating rotors, wear compensation
Front Rotors	Dual 12.0 inch (305 mm) floating rotors

Actuation	Hydraulic, DOT 4 fluid type
Rear Brakes	2-piston, fixed caliper with rigid rotor
Rear Rotor	Single 11.2 inch (285 mm) diameter fixed rotor
Actuation	Hydraulic, DOT 4 Fluid type
Brakes	ABS II, hydraulic, dual/single discs with Brembo 4 piston calipers
Wheels	Cast light alloy wheels with double 5 spoke design
Front Wheel	3.50 x 17 MT-H2
Rear Wheel	5.00 x 17 MT-H2
Front Tire	120/70 -- ZR 17 tubeless
Rear Tire	170/60 -- ZR 17 tubeless
	628 lb. (285 kg) wet
Curb Weight	586 lb. (266 kg) dry
Maximum Load	1102 lb. Gross vehicle weight (rider and passenger and/or luggage)
Wheel Load Limits	Front = 441 lb. (200 kg)    Rear = 705 lb. (320 kg)
Top Speed	153 mph (231 kph)
Quarter Mile	11.7 @ 120 mph (182 kph)
Measured Back Wheel Horse Power	114
Measured Back Wheel Torque	78
Service Intervals	Every 6,000 miles
Tire Pressures	36/42 psi
Overall Length	88.6 inches (2250 mm)
Overall width	33.5 inches (850 mm) over mirrors
Wheelbase	61.0 inches (1549 mm) un-laden
Ground Clearance	5.7 inches (145 mm) un-laden 30.3/ 31.5 inches (770/800 mm) with standard seat
Seat Heights	31.1/ 32.3 inches (790/820 mm) with comfort seat
Handlebar Width	26.8 inches (680 mm)
Steering Angle	62.7 degrees, un-laden
Front Wheel Trail	4.9 inches (124 mm) with rider
Front Brake and Clutch Levers	4 positions
Windshield	4 positions using standard screen and comfort screen options
Seat	4 positions using standard seat and comfort seat options

Foot Pegs	2 positions
Shift Lever	Variable height adjustment with two adjustment points (one for major and the other for minor adjustments)
Handlebars	Several inches of fore-aft adjustment and high-low adjustment using standard bar riser and comfort bar riser options (2000 models come with bar riser option)
Headlight	Asymmetrical low beam, load adjustable, with parking light
Signal Lights	Emergency flashers, self cancelling turn signals
Horse Power to Weight Ratio	0.207 (wet)
Tool Kit	Under seat storage, includes tire repair kit with inflation cartridges
Accessory Outlets	One OEM; second site for add on
Security	Integrated ignition and steering lock
Single-Key Lock System	Ignition, steering, fuel cap, seat storage compartment locks, (optional) saddlebags
Rider Information Display	Fuel and coolant-temperature gauges, digital clock, ABS fault, low fuel warning light, turn signal indicators, gear (1-6 plus N)
Horse Power to Weight Ratio.	The K12RS HP/lb. ratio is 0.207 (130/628 wet = 0.207). With a 175-lb. rider it decreases to 0.162. The new R1100S is slated for 98/504 wet = 0.194 and 0.144 with the same rider. The K12RS has more ponies per pound than the S and you can tell.
Delivered Horse Power	Rear wheel horse power has been reported between 94 and 118. Consider that ram air effect cannot be measured on a dyno. Somewhere around 104 may be correct if based on the most commonly reported figure.

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## **BMW Options**

Comfort seat.

Comfort windscreen.

Comfort bar risers.

Tank bag with map pocket and rain cover.

Tank bag electrification unit; system bags.

Tail rack and soft case.

Wide back wheel (5.5 inches).

Accessory back running lights.

Two different alarm systems (a remote control version is available).

Heated grips with high and low settings (get the Euro-switch for no additional charge).

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### ***Reviews and Comments***

#### ***On The Level, September, 1999***

*"For those it suits, the KRS is the bomb. This is BMW's GT motorcycle, made to swallow up the sweepers on a Sunday afternoon blast. A joy for those with the skill to use it."*

#### **The K12RS corrects some of the shortcomings of the previous K11RS:**

1. Minimal vibration;
2. Minimal engine heat on the rider (none with leathers);
3. Gearbox is total perfection;
4. Handling is responsive and sport-bike-like.

#### **A Different Beast!**

When the K12RS first came out some BMW enthusiasts were disappointed with departure from the previous K-bikes. The stock bike is best ridden in a sport riding position that is fine for those who want a more aggressive style.

However, this requires a change in riding style for traditional BMW enthusiasts.

BMW now offers a comfort windscreen, comfort bar risers, and a comfort seat. These make for more traditional touring riding position and wind protection. In addition, there are other after-market-items, such as peg lowering kits, to move the ergonomics even more in this direction.

#### **Best Euro Bike, 1998**

The German motorcycle magazine "Motorrad Reisen und Sport" annual reader survey chose the K12RS as the Best Euro Bike. 42.2% of the votes went to the K12RS with the Triumph T595 coming in a distant second with 16.6%.

## **Fastest BMW**

Car and Driver, a summer issue, 1998, has a short piece about the fastest BMW being one with two wheels.

## **Best Deals Gap Time**

One owner (JR) has recorded a Deals Gap time of 10.59. He has since acquired an R11S, but we are unaware of a time on that bike.

## **Motorcycle Consumer News 10k Long Term Test**

Loved the handling even with the bike fully loaded.

Raved about the Telelever suspension and resultant lack of dive.

Complained about buffeting with the screen up, but praised it in this position for staying warm.

## **Motorcycle On-Line's K1200RS Road Test**

See <http://www.motorcycle.com/mo/mcbmw/98k12rs>.

## **Short Review**

Motorcyclist Magazine's major complaint was poor ergonomics. However, the reviewer was 5' 7" tall.

## **Rider Magazine (10,000 mile test on a pre-production bike)**

Positive comments about the engine, adjustable wind screen, and tire mileage.

Noted a gas mileage of 39 mpg, but commented that the bike was ridden hard.

## **An Evolutionary Step**

The K12RS is an all-new-from-the-ground-up bike. As with any new product, problems are not unheard of with the initial production. BMW has been exemplary in addressing problems. For those interested in purchasing the bike, the problems have been solved on the current production bikes and all fixes on earlier bikes are covered under warranty. My bike has nearly 38,000 trouble free miles.

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## **Accessories**

### **Comfort Wind Screen from BMW**

The part number is 46 63 2 347 650. It is taller and wider than the stock screen. And is great for cold weather riding or the taller rider.

### **Electronic Cruise Control? Maybe**

BMW electronic cruise control. The circuit for this accessory is reported to be in the K12RS electronics. The

complete package is on the new K12LT.

A few owners have added after-market-electronic cruise controls.

### **BMW Parts Numbers (not a complete list)**

Comfort wind screen, part no. 46 63 2 347 650. (Taller and wider than the stock screen.)

Comfort Seat with more foam padding is 2 cm thicker for the captain and 1 cm thicker for the pillion, part no. 52 53 2 347 311, about \$224.00.

Comfort Bar Risers, part no. 71 60 2 337 330, about \$118.00.

Two different alarm systems, the remote system is about \$188.25.

Auxiliary rear light set, part no. 63 21 1 468 253, about \$77.00.

Smooth foam grip set, part no. 32 72 1 467 640, about \$9.50.

Repair manual (does not include electronics), part no. 01 51 9 799 595, about \$120.00.

Grooved foam grip set, part no. 32 72 1 468 031, about \$9.50.

T-shirt with the silk-screened K12RSs is 99000001065.

A 5.5 inch-wide rear wheel option is available.

### **M Verholen (Germany)**

Great after market mods with jewel-like machining are available from Germany: bar backs (several different sizes), and both captain and pillion peg lowering kits. Several kits for the captain pegs. A newer model offers quick changes for transition between sport and tour. The original captain kit has an adapter for changing the shift lever position to go with the lower and more forward peg placement (the kit moves the pegs 1.17 inches down and 1.17 inches forward, with minimal increase in lateral positioning). Also available is a clamp-on back luggage rack platform that clamps onto the BMW stock luggage rack. These products are made in Germany. Great interactive web page. Approximate cost of the above (exchange rate for 1/24/98): Captains foot rest adjuster--\$150; Pillion's foot rest adjuster--\$150; Luggage bridge--\$152; Handle bar adjuster 50 mm, 65 mm, 80 mm, or 100 mm--\$106.

<http://www.verholen.de>

### **Tail Rack Soft Bag**

BMW bag for the back luggage rack is available.

<http://www.motorrad.bmw.de/erlebniswelt/motorrad/bruecke.html>

### **Shocking Tank Bag**

The BMW tank bag electrification kit mounts on the back of the bag, facing the rider. There are two outlets

and a light. It's great for using radar, electrical clothing, etc. Cost advertised by Competition Accessories is about \$ 150. (1997)

### **Oil Cap with Style**

RCU Designs sells a new tamper resistant oil filler cap that is black with the Roundel in the center. A special key is needed to remove it. Check with the BMW dealership in Salt Lake City. Attractive and well made.

### **Lighting**

A BMW auxiliary running light plate is available. This goes behind the license plate and adds two red, round, running lights, each about 2" in diameter. The plate is black and unobtrusive.

### **Horns**

Fiamm horns fit the bike. Replace the OEM with one or two. It's available at Pep Boys for \$13.00. One version is rated at a whopping 130 decibels. Replacement goes where the OEM sits. It requires removal of the factory plug and replacement with standard tabs.

### **BMW Tank Bag**

Good reports coming in about the BMW tank bag. Easy on and off and at highway speeds it provides a good place to rest your upper body. The hinged design allows easy access to the gas tank.

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### **Problems and Warranty**

#### **Spotting Muffler**

The original brushed aluminum muffler spots easily. Cleaning can be a chore. However, the brushed aluminum cover looks good on the bike. Keep the spots off by coating the cover with a spray-on-silicone-lubricant. Use the light as oppose to heavy type. This works for cleaning also.

BMW now has a replacement cover in chrome and a replacement tip needed for the new cover. The replacement tip is painted black. The paint can be removed with polishing to exposure the stainless steel. Some owners had the original cover polished.

Caution: Many prefer the brushed aluminum muffler cover. Removal may result in its damage. Make sure you want to go to stainless steel.

#### **Wandering Tires**

If the bike feels like its hunting in turns, you may have a loose Paralever. Check all bolts.

#### **Burping Coolant**

Air in the cooling system may cause coolant to flow out of the reservoir under the seat. The coolant may run down onto the drive shaft housing and may collect in the tool kit storage area for the tool kit. Air may be

introduced during the annual service when it is changed.

Refilling the reservoir is probably wise if the coolant level is below the minimum mark when the engine is warmed up. Don't add more than is needed to get it into the safety zone as it takes awhile for the air to get worked out and more spillage is likely.

### **Low Idle and Cold Engine Stalls**

The problem on my bike was caused by incorrect throttle cable adjustment. The computer programming software was trying to correct for this and this resulted in low rpm at idle and stalling with a cold engine. The throttle cable was properly adjusted and the problem fixed.

Another owner was experiencing similar problems due to a sticking throttle cable.

### **Extended warranty.**

If you do high mileage this may be a good bet. My bike had 36,000 miles after two years. The extended warranty gives it 4 more years with unlimited mileage and is transferable. .

### **Suspension Settings and Rough Pavement**

The base plate on my side stand was bent after hitting a deep pothole. I surmised the suspension bottomed out and apparently the side stand was then thrown downward toward the on coming trailing edge of the pothole. The base plate then caught and caused the bike to jump to one side. There was never a risk of losing control. However, it wasn't until the bent plate was discovered that the reason for the sideways hop was evident. Replacement was easy and needed since the spring mechanism was also damaged. I now have the suspension set near max for sport rides.

### **Vinyl Protection**

Use vinyl tape to prevent the seat from rubbing against the tank paint.

### **Gas Leak**

Leaking gas tanks gaskets/deformed tanks. This was a warranty recall issue. The newer tanks are rumored to be 1 mm thicker and have a redesigned seal. The part number has not changed. The tanks apparently leaked only in extreme heat and when full. Mine was updated in February 1999, even though there were no previous problems. This is a free warranty fix.

### **Fan Problems**

Fans were a problem on some of the early production bikes. This is a free warranty fix. If fan goes out, don't let the bike overheat.

### **Snurf Balls**

Having trouble keeping your new windshield in the high position over rough pavement. Try stuffing a Snurf ball underneath, between the two humps that house the speedometer and tachometer. As the windscreen breaks in, it becomes more resistant to bumps and the ball is no longer needed.

## **Blown Seals**

Some leaking fork seals reported. If bothersome, these will be replaced under warranty. This is most likely to show up under hard down-hill-braking.

## **Clutch Slipping?**

A loose actuator screw may be the problem. There is a service bulletin describing how to fix this. Tighten the screw and use Loctite for a secure fit. Or see your dealer, as this is a warranty issue and will be fixed free of charge.

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## **Rumors**

### **A Limited Edition Classic?**

There's a rumor about the 2001 K1200RS being the end of the line.

The thinking. The K12RS engine is as big as it can get. Bore and stroke dimensions cannot be increased.

Then there is the oft-heard complaint that the big Hondas are too big. Many fondly recall the old four cylinder Gold Wings.

And then there is Honda Motorcycle Company heading the other direction with a V-6 ST and an 1800 cc Gold Wing.

A 4-cylinder boxer engine would be shorter than the current inline 4. This would allow a shorter frame/wheel base and the ability to increase displacement. The engine would be water-cooled.

Another advantage would be shared parts with the 2 cylinder versions.

### **Most Recent Recall Notice (11/19/99)**

"The following items require immediate attention:

1. The sealing plugs in the cylinder head can work loose allowing coolant to escape. In extreme cases the engine could suddenly lose all coolant. (Affected VIN number range is ZA21803 to ZA22694).
2. Also, the clip that secures the oil thermostat can work loose. Under some circumstances, engine oil can leak and find its way to the rear wheel, which in turn can place your safety at risk. (Affected VIN number range is ZA20000 to ZA34226)."

Softer Throttle Spring on 99 and Later Models

My shop checked to see if one was available. The rumor is that the 99 bikes have softer springs.

The entire throttle body carries a single BMW part number and there has not been a change in the number since the earlier years. However, this does not mean that a softer spring has not been substituted.

## **Lower Captain Pegs**

Standard foot pegs for the R1100S are said to fit on the K12RS and increase legroom. Check this with your dealer before purchase.

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## **Engine and Drive Train**

### **Clean Magnets**

Changing the rear drive oil. One way to determine amount to be replaced is to measure that which is removed. Also, clean the magnet of any metal debris.

### **Leaking Fluids**

A leaking clutch slave resulted in warranty replacement of a new clutch and transmission. The leaking fluid attacks the transmission seal and it is reportedly easier to replace the transmission.

### **Horse Power to Weight Ratio**

The K12RS HP/lb. ratio is 0.207 ( $130/628$  wet = 0.207). With a 175-lb. rider it decreases to 0.162. The new R1100S is slated for  $98/504$  wet = 0.194 and 0.144 with the same rider. The K12RS has more ponies per pound than the S and you can tell.

### **Delivered Horse Power**

Rear wheel horse power has been reported between 94 and 118. Consider that ram air effect cannot be measured on a dyno. Somewhere around 104 may be correct if based on the most commonly reported figure.

### **Use Mobil 1 Motorcycle Oil, not the Automotive Stuff**

Mobil 1 Automotive is SJ rated. Mobil 1 Motorcycle is SH rated. These appear to be different oils. SJ is reportedly slicker, giving a small improvement in fuel consumption. SH has more zinc, which prevents galling with oil film failure. BMW requires the use of SH rated oil. It is a warranty requirement.

I use the BMW full synthetic.

### **Oil Consumption at High RPMS**

Watch for increased oil consumption at sustained high speeds.

### **Rubber Gasket!**

Make sure the rubber gasket on the oil filter is removed with the old filter. Leaving it on could lead to oil loss and engine failure.

### **When to Change Oil**

Car and Driver (June), reports that you should use a quality motor oil (doesn't make much difference which one), and change the oil and filter when indicated by the owners manual and not before.

## **Mixing Dino and Synthetic Oils**

Honda makes a 10W40 50/50 mix for high performance riding. Change oil as indicated in your manual, keeping in mind the listed exceptions. Always change the filter at the same time.

## **Oil Filters**

Mobil 1 oil filters are available

## **Oil Filler Cap**

RCU Designs sells a new tamper resistant oil filler cap that is black with the Roundel in the center. A special key is needed to remove it. Check with the BMW dealership in Salt Lake City.

## **Oil Consumption**

Oil consumption is being reported as nil after the 600 miles break-in period (experience of 3 owners), and some have reported no consumption at all. Mine continued to use oil until 20,000 miles, although at ever decreasing amounts.

## **Good Vibrations**

At speed vibration is nil except for a slight buzz at 75 (in sixth).

## **Oil Filler**

How to get oil into that vertically mounted cap. The filler spout would be great if only it were disposable. On the road, while touring, I use a sport-water-bottle purchased at a convenience store (your choice of water brand). Let the bottle dry out and then put in your favorite oil. When needed, squirt in the appropriate amount. Best to buy the bottle type that has a second cap. In addition, I put mine in a zip lock bag before putting it in the luggage. The squirt cap seems not to leak though. Also mark the bottle as poison.

You can just take along the cap and put it on an oil bottle purchased at a gas station.

Additionally, Harley-Davidson sells an attachment that fits on the mouth of a standard oil bottle. Its several inches in length and does the job well. I use one when adding oil at home.

Caution: Some plastics will degenerate with oil contact. Try to use a new squirt cap and be careful not to catch the cap on the edge of the oil-filling hole. The latter can result in the tip being pulled off and dropped into the engine.

## **Gas Mileage**

Varies as expected with riding style. I'm getting 45 mpg with mixed riding. The fuel gauge needle stays in the paint until well past 100 miles while touring at constant speeds and the estimated touring range is 250 miles. Another rider reports about 42 mph but admits to not being throttle shy. I averaged 52 mpg on the Natchez Trace doing 10% over the limit. At 90 mph, another rider reports 35 mpg.

## **Dry Clutch**

Does your bike sound like a box of rocks at idle? This is normal for a dry clutch.

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## ***Riding Position, Ergonomics, and Saddles***

### ***Tank Bag Induced Muscle Strain***

*For some riders, the BMW tank bag limits forward movement of the upper torso. On long trips this may result in riding in a somewhat fixed position and muscle strain.*

### ***Better Grips for Less Fatigue***

*The throttle has a strong spring and may cause fatigue.*

*Getting a better grip helps decrease effort and improves control.*

*A cheap fix is to cut sections of bike inner tube, roughen with a wire brush, apply a thin coating of shaving cream to the stock hand grips, and then slip the inner tube segments over the stock hand grips. Make sure the tube diameter is small enough to ensure a tight fit. (Note: This also increases heat output by the heated-hand-grips.)*

*Another method is to rap the throttle grip with a strip of opened bicycle-inner-tube and secure the end with Shoe-Goo. This increases the diameter of the grip and results in more leverage. (Note: I have used this in a pinch after developing a sore shoulder on a trip.)*

### ***Foot Control Levers***

*You should not have to excessively pivot your left foot, reposition it on the peg or otherwise move from a comfortable position. The K12RS shift lever has two adjustment mechanisms. One is used primarily to make the major adjustment between high and low peg positions. The other is for fine adjustments.*

*Missing up shifts? Move the lever down. Missing downshifts? Move the lever up. As far as the brake lever is concerned, this should be covered easily.*

*Still having problems? Consider what type of footgear you use. Sport bikers usually wear boots with little in the way of heel height above the sole. This allows easy fore and aft positioning.*

### ***Faux Fleece Seat Cover***

*Bath mat sheep skin. Use non-slip pad material and attachment straps as needed. Consider using this as a cover for heating pads (heated seat).*

### ***Adjustable Seat Latch***

*The two bolts may be loosened to adjust the location of the latch. The seat should latch without any sloppiness / movement.*

### ***Elbows on Knees***

You may want to adjust your riding position so that your elbows can rest on your knees when in a tuck position. This takes weight off of your back and forearms. So adjustment of your seating position, fore or aft, may be required in addition.

### **Lower Captain Pegs**

Standard foot pegs for the R1100S reportedly will fit on the K12RS and increase legroom.

### **Fleece Seat Cover**

This will keep your back end cool and dry in the summer and warm in the winter. Get the real stuff.

### **Cramped Ergonomics?**

The ergonomics may feel cramped when you first ride this bike. Some have made immediate modifications while others have gone through a period of discomfort/rider-break-in. Still others have found the bike comfortable from the beginning with no break-in period needed. Because the riding position is different from most other BMWs, it is recommended that you ride the bike for awhile before making major changes. This will give your body a chance to adjust (rider-break-in).

### **Leg Cramps**

The K12 riding position is different from most other bikes and may take some getting use to. Some have reported discomfort after 2 hours (cramps in the thighs). This resolves after more riding experience. I had this problem in the beginning. It was helped by taking frequent breaks, setting the saddle height in the high position, and by making a conscious effort to relax the thigh muscles. This break-in cramping happens more often if you are a runner or bicyclist. It is similar to the hand cramps experienced by new riders and partly due to no relaxing the involved muscle groups. It will pass.

### **Alter Your Riding Position on Tours**

Consider alternating your riding position and ergos on long trips to increase touring comfort and range. For example, handlebars in a full forward position for awhile and then in back a bit. Also see the different riding positions listed above.

### **Bar Backs**

Most require loosening of the cables and wires going to the handlebars. Some minor adjustments needed for the BMW version. The latter are recommended.

### **How tall are you?**

K12RS owners I know range from 5' 4" to 6' 5" in height.

### **BMW Ergo Options**

BMW now sells its own handle bar risers and a thicker / comfort-saddle (2.0 cm. for the captain and 1.0 cm. for the pillion). No peg lowering kits as the thicker saddle and handlebar extenders address the problem of tall riders.

## **Saddle and Handlebar Adjustments for Sport Riding**

Moving the saddle from the low to high position moves your center of gravity (COG), higher and forward. This makes it easier to lie on the tank. Moving the bars forward moves your COG forwards and also make it easier to get on the tank. Consider a tank pad if you don't have a riding suit with chest armor/pad (Dainese makes an under the suit vest with back, rib, and chest armor/padding).

### **Consider Changing Ergos in Summer and Winter**

Use the low seat position for winter riding. This moves your legs closer to the side fairing pockets, increases relative windscreen height, and traps engine heat under the saddle. And with the bars in the same position, it results in a more upright riding position to accommodate winter riding gear. For summer riding, move the seat to the high position for the opposite effects.

### **OEM Saddle**

Ride on the stock for awhile before going after market. Many have found the stock seat provides the best comfort after the butt gets use to it (rider-break-in). This may need to be repeated each spring.

### **Re-tighten Bar Backs**

Remember to retighten the bar backs after a short time to compensate for the teeth becoming fully seated. Use correct torque only. Over tightening is forever.

### **Best Non-BMW After-Market Ergo Mods**

Great after market mods with jewel-like machining are now available for bar backs (several different sizes), and both captain and pillion peg lowering kits. The captain kit has an adapter for changing the shift lever position to go with the lower and more forward peg placement (the kit moves the pegs 1.17 inches down and 1.17 inches forward, with minimal increase in lateral positioning). Also available is a clamp-on back luggage rack platform that clamps onto the BMW stock luggage rack. These products are made in Germany. Great interactive web page. Check it out at <http://members.aol.com/mverholen>

### **Use real road experience to determine clip-on (handlebar settings)**

Putting the bike on the center stand puts the back end up in the air. This may lead to putting the bars back further than needed. Also remember the wind at touring speed will support some upper body weight. You can try to level the bike with small blocks of wood under the front and back tires when checking ergonomics in the garage.

### **Balancing Act**

A) Handle bar position effects the rider's center of gravity (RCOG). Move the bars forward and your center of gravity is also moved forward. Move the bars back and the reverse is true. Ideally, RCOG should be over the pegs for long distance riding in the sport-touring riding position (as opposed to the formal touring or cruiser riding positions with the feet forward and the back perpendicular to the ground).

B) Moving the bars forward moves your elbows closer together. Your hand angles change and the amount of

medial or lateral bending of the wrists required to grasp the bars. As you move your hands forward, the forearms become more parallel to each other. This may be important on the K12RS, as the bars can not be adjusted by rotating in a horizontal plane, only fore and aft, up and down.

C) Arm strength is greatest at near complete extension. However, you don't want the arms locked straight out as this hampers steering ability and increases jarring from pavement bumps.

D) Leverage. Moving the bars forward lengthens the distance to the pivot axis of the steering assembly. This may result in more leverage and less effort. OTOH, steering may feel slightly sluggish, as the bars need to be moved further to accomplish the same amount of rotation. Think in terms of having a smaller or larger steering wheel in your cage.

E) Moving the bars forward also seems to make it easier to slide back in the seat. With the bars in the full back position, my position on the seat is all the way forward. With the bars in the mid- or full forward-positions, my seating is in the mid-range and moving both back and forward on the seat is easier. This may have to do with the RCOG. However, the more forward bar position also results in more hip flexion and this may contribute.

### **Rider's Center of Gravity (RCOG)**

Adjust your riding position so your center of gravity is over the pegs. This allows for good mobility in seat, ease in getting off of the seat, and lessening of fatigue on long rides.

Set the bike on the center stand and make level it with blocks under the front and back wheels. Sit on the bike with your hands over, but not gripping the handgrips. Now rise off the seat using your leg muscles only. You should be balanced just after coming off the seat. Rise and lower several times to get a better feel.

If your center of gravity is forward of the pegs, that is you tend to fall forward when coming out of the seat, you have several choices.

Move the pegs forward (peg lowering plates, all of which also move the feet forward).

Move back in the seat.

Put the seat in the low position.

Move the handgrips aft (the simplest to do-just remember to torque the bolts, but don't over torque!).

A combination of changes may be needed.

If your center of gravity is behind the pegs, that is, you tend to fall back when coming out of the seat; you will have the reverse choices.

Move the grips forward.

Move the pegs to the high position (one rider over 6' is more comfortable with the

pegs moved up!).

Lean farther forward.

Move the seat to the high setting.

Again, a combination of changes may be needed.

## **Handlebar Position**

Most riders are comfortable if they can lean forward into the wind. At speed, weight on the handlebars should be minimal as air flowing over the windscreen holds you up. Consider a set of bar back adapters to move the bars aft if the stretch forward is too extreme. Also consider that the wrists should be nearly straight when holding onto the grips. This will help prevent that carpal tunnel thing.

## **The Handlebar Levers**

These should be adjusted so that the tips of your fingers easily slip over them.

Does your left heel touch the top of the side stand lever?

This becomes more of a problem if peg-lowering plates are installed. One owner removed the rubber cap and cut off 1/2 inch.

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## ***Tires, Wheels, and Suspension***

### ***Mixing Tire Types***

*Some riders are using D205/D207 combination, front/back. Dunlop approves of this set up. It works well if you cook the front tire long before the back D205 and you change both tires at the same time.*

### ***Tire Pressures Hot and Cold***

*Some have recommended higher front tire pressures than indicated in the owner's manual. These have been reported as high as 2.8 barr (40 psi). But what does this mean on a tire that's been ridden at near ton speeds for a significant period of time. Most of the bike's weight is up front. Does this result in the hot front tire with a recommended 36-psi cold pressure equaling the hot pressure of the larger back tire with a recommended 42-psi cold pressure?*

### ***Tire Pressure, Suspension, Riding Position, and Steering Response.***

*Increasing running tire pressure results in harder overall suspension performance.*

*Decreasing tire pressure does the opposite.*

*Moving forward on the bike, as results when you move the seat to a higher position and thus more forward position or when you lower the bars, puts more weight on the front suspension and compresses the shocks.*

*The overall effect is less rake (a steeper fork angle from horizontal). And this causes the bike to steer quicker.*

*The opposite happens when you move your weight towards the back of the bike or add a pillion or luggage.*

*Getting on the tank thus makes for quicker steering and the bike feels overall more responsive. And putting a passenger on the back will make the bike feel sluggish.*

*However, the front-end geometry is a combination of castor, rake, and trail that are carefully chosen to provide the best combination of straight-line tracking and responsive steering without producing a twitchy or unstable steering/tracking.*

*It is generally thought more rake results in greater straight-line tracking and less results in more responsive steering. Thus we usually see more rake on touring or cruising bikes and less on race bikes.*

*But rake does not operate in a vacuum, as castor and trail also contribute to the front-end performance characteristics.*

*Thus, while increased running tire pressure with resultant increased tire diameter causes increased rake, at 42 psi cold, it also causes the front end to get twitchy with my bike set up.*

### ***Tire Pressure***

*Current general consensus recommendation is for 40/40. These are suggested based on a antidotal reports that the bike handles better with this set up.*

*36/42 psi is recommended in the manual.*

*My experience is the following:*

*36 to 38 psi in front have little effect on the feel for how the bike handles.*

*40 psi in front improve handling but makes for a harsher ride.*

*42 psi in front result in unstable or twitchy steering.*

*42 psi in the back tire cause it to square off.*

### ***Tire Pressure and Mileage***

*My experience is that front pressures from 36 to 40 and back tire pressures from 40 to 42 psi show little difference in tire mileage.*

### ***New Tires***

*Have a gravel road nearby with cracked-rock type gravel? A few minutes will take off the shiny even on the edges.*

### ***Flats***

*Low rear tire pressure will show up as sluggish handling with small angle turns and the front end diving too*

quickly into large angle turns. I have done expressway speeds with only 15 psi in the back (not on purpose!). This results in beading of the rubber and a distinct smell (burning rubber). Also, at night, oncoming drivers will flash their lights at you since the low rear tire moves the headlight angle up. The tire was plugged at an auto tire shop, but continued to leak slowly.

A leaking back tire can lower a parked bike enough to allow it to fall to the right if you are on uneven pavement. For overnight parking, use the center stand.

Plugging a flat tire. The package insert (located in the small plastic green box in your tool kit) indicates a top speed of 37 mph and maximum distance of 250 miles on a plugged tire using the kit.

## **Clear Coat**

The newer bikes have a clear coat over the wheel paint. Cleans easier and has a different look than the original flat finish.

## **Shock Absorbers**

There are a number of after market shocks for the K12RS. Its best to try a fitted bike before making the change as these are expensive.

White Power with adjustable pre-load and rebound damping.

Prices:

Front, 03-06R944, \$515

Rear, 03-06R934, \$531

Works Performance (Chatsworth, California, USA), front and rear, rumored to be adjustable, may be rebuilt, around \$1,000/pair.

The OEM shocks are recommended.

## **Fork Seals**

There is now a new fork seal made of a different material. Said to work better than the first version.

## **Bent Rim?**

Have a bent rim? Send an e-mail to: [WireWheels@aol.com](mailto:WireWheels@aol.com)

Tim Bond is a member of IBM WR. The wheel can be shipped to him for straightening.

## **Balancing Act**

The balancing adapter tool for the back wheel may be purchased from your dealer. Order BMW part # 90 88 6 363 618. The adapter bolts onto the wheel with four bolts (included or those from the bike?). It can be used for both static and dynamic balancing.

## **Wheel Detail**

Wheels off for new tires? Why not detail them? However, cover the axle hole on the front wheel to prevent water and other substances from getting on your bearings. While you're at it, clean the loose brake dust out of the brake calipers.

### **Taking the Wheels Off**

How to protect the paint when you take the front wheel off. Taking the front wheel off requires removal of both brake calipers. The manual says to protect the rims with tape. Another solution is to put a zip lock bag between the rim and the brake caliper during removal. The brake can then be put in the bag and the bag partly closed. This prevents the brake from scraping the fork paint also. Vinyl tape would also work well as it is easy to remove.

Caution: don't actuate the brakes with the wheels off!

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## **Side and Center Stands**

### **Adjusting Forward Travel of Side Stand**

This has been suggested by some to add further stability against forward roll when parking downhill. They suggest accomplished by grinding down the metal at the stop point on the side stand assembly. This will cause the lean angle to increase such that firmer footing is required to prevent the stand from sinking. However, it will also make those stops on the berm easier (stopping on the berm is not suggested except when it cannot be avoided).

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## **Wind Screen and Wind Noise**

### **Wilbers' Wind Dots**

These are surface guards made by Shepard Industries. They are made of clear plastic and are dome shaped.

Apply these to the trailing edge of the comfort screen (about 1 inch apart) and on the side of the helmet over the ear areas (again, about 1 inch apart), to reduce wind noise. Experiment with placement.

The Wind Dots work by disrupting the build up of low air pressure zones and by forming a thin layer of turbulent air that fast moving air can move over smoothly.

### **The Colder the Better**

Cold water works well to clean bugs off of the windscreen and fairing. In fact, BMW recommends it alone and also soaking the screen with a damp-cloth, if needed.

## **Silicone Conditioning**

Silicone will hide minor scratches in the windscreen and make it easier to clean off bugs with cold water.

## **Screen Removal**

Devise something to compress the prongs on the fasteners. I use a makeshift tool consisting of an acorn nut attached to the end of a pair of tweezers. This allows the prongs to be compressed and forced into the hole. A flat head screwdriver is then used on the other end of the fastener by inserting it into the slot between the bracket and the flat end flange of the fastener and gently twisting. This pulls the fastener out far enough to be removed by hand. The bracket hole liners may be better secured with a reversible adhesive such as Shoo Goo. This keeps them from flopping out when the screen is removed. The fasteners may be reused as long as the tip remains in good shape.

## **Comfort Wind Screen from BMW**

The part number is 46 63 2 347 650. This is taller and wider than the stock screen.

## **Negative pressure induced wind flutter**

Most of the wind noise I experience is due to negative pressure induced wind flutter/pop. Earplugs seem to take care of most of the other wind noise. The negative pressure occurs behind the stock windscreen due to air pressure being greater on the front of the screen than under it. As the difference between the two pressures increases, an amount of pressure difference is reached that causes the high-pressure air to pop into the low-pressure area.

The vent on the stock shield is an attempt to decrease this effect (as are the cat eyeholes on the stock ST1100 screen). To completely eliminate this flutter, you can remove the screen completely and your helmet (and ears), will be in clean, quiet air. I've modified a stock screen by cutting out the central portion from the top down to within an inch of the vent. This results in a tremendous improvement.

## **Riding position and wind noise**

The turbulence occurs in a defined zone. You can try to move your head either above or below it. The comfort seat in the high position moves the rider's head up and the stock seat in the low position moves it down. Handlebar position changes the attitude of the rider's torso and also affects where the head is.

And changing screen position moves the zone of turbulence.

Moving your head forward and into the low-pressure space behind the windscreen also decreases turbulence. This is due to decreasing the volume of air available for low pressure to develop.

The 2000 BMW 328Ci has vortex generators along the upper edge of the side view mirrors to reduce wind noise. Could a similar set-up work on the windscreen?

## **Silent Speed**

Wind noise is reported as very minimal when at 120 plus.

## **Wind Noise**

The amount of noise changes with cross winds, type of jacket collar, type of helmet, and helmet position. Also tank bags, seat position, helmet visor open or closed, and the windscreen in the up or down position. Think in terms of blowing air over the mouth of a Coke bottle.

## **Plugged Ears**

Use a variety of types depending on length of ride and need to hear surrounding traffic. These take care of most of the wind noise. Best comfort and noise reduction requires the plugs to just barely press against the eardrums. It takes some practice and patience to get them just right. Before inserting the plugs, roll them between your forefinger and thumb and then stretch them length-wise. This allows for easiest insertion and less need for adjustment.

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## **Saddle Bags and Other Luggage**

### **New Left System Case Design**

The new case has a deep indentation near the end of the muffler to prevent heat damage.

### **Three Mounting Points for System Cases**

There are black plastic bumpers by the pillion pegs. Their thickness may be altered to adjust for sloppiness or inability to mount the cases.

### **Givi Top Case**

There are two ways to mount the Givi top cases. With the Traveler II, 28 liters capacity, there is an adapter plate supplied by Givi. It attaches directly to the standard BMW K1200RS tail rack. It is constructed of heavy metal and very sturdy. A rubber pad protects the BMW tail rack finish. A plastic adapter plate is added to the metal one. The latter has the snap-on structures that allow easy removal and attachment of the top case. It also has numerous attachment points and can be left on without the top case to attach odds-and-ends. A single lock secures the case to the tail rack adapter and unlocks the case. The Traveler II has an tail light option with an automatic electrical connection device that allows the light to work without doing a wiring job each time the case is taken off or put on. This might be used to power a lightweight CD player and changer if you were so inclined. Speakers could also be fitted to the front of the top case or a plug-in jack for ear phones/helmet speakers. The brake light option may also be available with the larger top cases. (To use the case light as a brake light, attach the supplied extension wires to the brown wire and the yellow and gray wire of the tail light. ñTo use the light as a running light, use the brown wire and the gray and black wire.) The Traveler comes in black/graphite and has an "aerodynamic" shape. This makes a good match with the system cases and the black plastic on the bike. To further the integration, I put a BMW emblem over the GIVI emblem on the top of the case. Covering the attachment-side of the GIVI emblem with vinyl tape (for easy removal) and then a blob of Shoo Goo works. The emblem was taped in place while the Shoo Goo dried. I also added a backrest pad, another option, for my wife. This is secured with supplied bolts. The case is large enough to hold an XXL full-face helmet. My wife and I have done overnights with the top case as our only luggage. The position of the top case is adjustable, fore and aft. This is accomplished by moving the location of the plastic plate on the metal plate. This allows the backrest pad to be adjusted for the pillion and

positioning of a heavy load far forward. Luggage weight should be limited to that specified by BMW. Givi also makes several larger cases. These are wide and low as opposed to tall and narrow. My personal opinion is the Traveler II looks better on the bike but cannot carry the volume or weight that the larger cases can. Also, I have not seen the larger cases in the black color that matches the system cases. If you go to one of the large cases, opt for the Givi mounting hardware that does not use the tail rack. Caution: The bolts holding on the BMW tail rack will vibrate loose if nothing is done to secure them. I tried a bolt locking liquid and this failed. The bolts were then secured by coating them with a thin layer of Shoo-Goo prior to insertion and there has been no loosening since.

### **Fragile BMW Cases?**

I've had no problems with the BMW system cases. For commuting, however, I use a Givi Traveler II top case (28 liters) because it doesn't widen the profile of the bike. One owner's bike has been down twice and the right system bag saved the bike from significant damage both times and was still usable. The second time resulted in the pavement grinding through the plastic. Vinyl tape corrected that problem.

So the bags are sturdy enough to protect the side of the bike in low speed crashes.

On the other hand, and thankfully, impact with another vehicle results in the bag coming apart or falling off. This is a good thing. Better to lose the bag than have the entire bike go down.

### **Non-Slip Pad**

K-Mart sells a non-slip pad, 72" X 24" for about \$5. Look for it in the automotive section. Cut a piece that fits on the pillion area of the seat and use it to keep your duffel bag or other soft luggage from slipping around when strapped on the saddle.

### **Rear Soft Bag**

BMW has a soft-top case/bag that can be attached to the back luggage rack or the pillion portion of the saddle. It has a twenty-two liter capacity. There are 3 outer pockets and a rain cover to supplement the water-repellent black outer covering. The bag has two attachment systems. With the rack, it locks onto the bike behind the seat leaving room for a passenger. It also has straps, which allow the bag to be mounted on the seat without the bracket. Four elastic bands with clips for under the edge of the seat secure the bag sideways where a passenger would normally sit. \$\$\$

<http://www.motorrad.bmw.de/erlebniswelt/motorrad/bruecke.html>

### **Bicycle Rear Bag**

A 650 cu in. rear rack bag is available through Performance Bicycle. You can mail order this with a 1-800 number. It has four Velcro tie down straps that securely fasten it to the tail rack of the K1200RS. Features 3 zippered outer pockets, foam-lined expandable main compartment with removable dividers. Main storage area is pleated for extra room. Holds most U-locks, a six pack of beer with ice, tinted face shield, camera stuff, maps, a rain suit and rubber boots, or etc., but not all at the same time. It is made of 600D rip-stop nylon with a capacity is 650 cu. in. and a choice of black or blue. Detachable carrying strap. Cost is about \$40.

### **Rear Rack**

A factory black rear rack that attaches to the top of the silver "RS" rack is available. It has good strength and lots of places to hook things. See M Verholen.

### **Loose Rear End**

Shoo Goo your saddle bag and tail rack bolts. These may vibrate loose otherwise. I've used Loctite without success.

### **Ready to Rumble**

Consider the Eclipse Rumble pack for back seat storage.

### **An Extra Belt for the Road**

The bike belt is a nylon belt with 4 rings on it. It has plastic buckles on each end that snap into holders bolted near the rear foot pegs. It goes across the rear portion of the seat. Easy to install and remove. You can then use the rings to tie stuff down (that is, pass your loop from the tail rack through the rings to secure your bag on the rear seat).

### **Secret Compartment**

The compartment on the bottom side of the seat in the pillion area is a great place to store the owner's manual, other papers, and the rubber funnel. Add a zip-lock bag to put the funnel in after use.

### **RKA**

The RKA sport bag and the RKA radio bag has been used on the K12 with great success.

### **Mod Top Case**

One owner has mounted a modified RT top case to the luggage rack.

### **What's that Smell**

This applies only to the earlier system-cases, as the new cases, coming out in 2000, should not be affected.

Some reported burnt left saddlebags with one actually going into flames. I don't have a good handle on this problem, but the left bag should clear the muffler by about 1 inch. One observer reported that bags with more heat tape seem not to have this problem. I don't know the difference between less and more at this time. There is some concern that putting too much weight in the left bag causes it to bend downward, something I have not observed. Reportedly a homemade support rod extending between both bags can keep the left bag away from the muffler.

**DON'T LET THE BIKE IDLE FOR LONG PERIODS WITH THE BAGS ON, ESPECIALLY IN HOT WEATHER.**

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### **Repairs and Maintenance**

## **Fairing Removal and Attachment**

Not all of the bolts are of the same type or length. Make a drawing of the fairing and place the bolts on it where they belong. Also, when attaching the fairing, don't over tighten the bolts. The fairing plastic is soft and will compress and crack with firm pressure. If you're worried about the bolts working out, put a little Shoo-Goo on each bolt before inserting. One application will last for many attachments.

## **Peg Pads**

The front peg pads, especially the left one, will wear before the back ones. To get longer life from the pads, switch the left and right peg and then fore to aft. A metal strip, with two nuts welded to it, is contained in the pads. Unscrew both bolts before removing. Avoid bending the metal strip.

## **Shop Manual**

The official BMW shop manual is out. \$110 mail order.

## **Low Speed and Standing Drops**

Damage can range from minimal to several thousand dollars. With the saddlebags on there is often very little damage. One fellow had his drop over when parked on soft ground. Over \$3,000 worth of damage resulted. The red bikes require a clear coat over the base coat. BASF paint is used (OEM). The European color code for the Marrakech Red is 733 (found on the rear fender under the seat).

## **New Color**

Cost of repainting the entire bike in a custom color is about \$ 1,800 (in 1998) at Holt BMW in Athens, Ohio (a dealership that specializes in painting and does outstanding work). The paints that change color with different lighting cost more.

## **Squeeze Play**

Don't squeeze that brake lever or push the brake pedal. That is if you removed the wheels. A way to prevent disaster is to put a piece of wood in-between the brake pads. Then, even if someone tries to activate a brake, you are protected.

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## **Lighting, Electrical, Batteries**

### **Heated Hand Grips**

Don't put anything inside the bar ends. There are exposed wires for the heated grips.

### **Hypnotic Lights**

It may just be me, but I find the flashing Hyperlites distracting. I've followed bikes with them and found myself not paying attention to the brake light or turn signals. On the other hand, they may be very effective when stopped to keep cars at bay.

## **Light Leverage**

Many riders are unaware that there is a headlight adjustment lever. This may be used when riding two up.

## **Burn Out**

If your low beam head light bulb burns out, you can use the high beam without causing problems for oncoming drivers. Push the head light adjuster lever down to the lower position.

## **Hyperlites**

One owner has mounted the lights on the small side reflectors of the back fender. Wires run under the fender. Good visibility reported in this position.

## **Driving Lights**

Mount under the oil cooler cowling, on the lower forks or under the turn signal pods. Site depends on size of lights and available brackets.

Get the Euro switch cluster for no charge when you add heated grips [part # 61 31 2 305 771]). The switch may be used to control the driving lights. It allows for three switch settings with one usable as an off position.

## **Rear Running Light**

A BMW auxiliary running light plate is available. This goes behind the license plate and adds two red, round, running lights, each about 2" in diameter. The plate is black and unobtrusive.

## **Osram**

<http://www.osram.de/>

## **Light Labor**

Change all bulbs when you need to replace one of the headlight bulbs if you use the shop manual procedure (indicates extensive disassembly)

It is apparently possible to change bulbs without taking off the fairing.

## **Head Lamp Cover Up**

Replacement of headlight lenses requires purchase of the entire assembly at a cost of about \$250. You may want a protective cover.

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## **Custom**

## **Detailing Decals**

Decals and extra mirrors may be applied over vinyl tape for easy removal later.

## **Custom Ideas**

Customizing has included painting the entire exhaust canister black (powder coat technique), application of checker board decals to a red bike, painting the wind screen to match the body color, and covering the rear swing arm pivot holes.

## **Heel Problems**

Does your left heel touch the top of the side stand lever? This becomes more of a problem if peg-lowering plates are installed. One owner removed the rubber cap and cut off 1/2 inch.

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## **Mirrors**

### **Adjustment**

Mirrors should be adjusted to give a view of what's behind you and to a lesser extent what's beside you. The head check should be used for the blind spot.

### **Convex Swivel**

Convex swivel mirrors are available and can be mounted on the turn signal pods or topsides of the windscreen. Try Sport Touring Accessories at 1 800 889-5550 for the type with a stalk.

Off set convex swivel mirrors are also available at some automotive departments. These correct for the angle of the mounting surface on the backs of the turn signal pods.

Attachment can be reversible. Take the covering material/paper off of the adhesive pads on the mirrors. Place slippery side up on a flat surface. Then cover with black vinyl tape. Cut the tape off around the covering material/paper. Then attach to the adhesive pad on the back of the mirror (the pad goes against the nonadhesive side of the vinyl tape). Peel off the covering material and apply to the turn signal pod. The vinyl tape can be peeled off of the pod without leaving behind part of the adhesive pad.

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## **Handling and Performance**

### **ABS and Washboard**

Braking on a washboard road surface may confuse the ABS and this may result in poor handling/braking.

### **Gravel**

Progressive oscillation occurs in loosely packed gravel with the K12RS (personal experience). Try less pressure on the bars and more weight on the pegs. Some recommend standing on the pegs.

### **Head-Shake**

This may be due to certain front-end geometries and weight distributions. (A similar phenomenon occurs on some bicycles. My Schwinn used to do this when coasting down hill. It would stop when my weight was moved back on the saddle or I started peddling.) A progressive oscillation is characteristic and occurs while coasting with little bar input and when riding in loosely packed gravel. It can be separated from out-of-balance tires. The latter causes a non-progressive shake. However, if a bike has susceptible front-end geometry, a combination of the two may exist and separating things out may be difficult. The progressive oscillation is sometimes associated with certain tire types.

Headshake of the progressive oscillation type does not appear to be a problem on the K12RS.

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## **Exhaust Systems**

### **Silicone Muffler Protection**

Apply before and after trips (catch the muffler while it's still hot after a trip for best results). My aluminum looks better and better.

### **Removing the Stock Cover**

See: <http://www.ibmwr.org/ktech/k12rs-heat-shield.shtml>

See IBMWR K-Tech page.

Removal and replacement is not recommended unless there is significant damage to the existing cover.

### **Wudo Voodoo**

Wudo sells a stainless steel muffler cover for \$257. A polished muffler tip is also available.

### **Cleaning**

Try Mother's Aluminum Polish. This also spiffs up the stainless steel exhaust components.

### **Warranty Replacement Muffler**

This is stainless steel with a black tip.

### **After Market**

[See IBMWR K-Tech page.](#)

The current Staintune sport and touring systems (about \$1300), consist of a number of slip-together components. These have oxygen sensors, but not catalytic converters. Poor idling and backfiring with deceleration reported with the sport system. Modified systems are rumored to be in the works.

The Remus has a single slip fitting and costs less than the Staintune (\$689). Sport and touring systems are available. Reported to sound totally cool and deep throated. No catalytic converter - - four into a collector

box/pre-muffler and then into a single exhaust pipe. The cost is slightly over \$1,000.

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## **Brakes**

### **ABS Faulting**

If the ABS lights indicate a fault, that is alternate flashing of the two lights, it may be due to incorrect gap size between the ABS sensor and the ABS rotor on the wheels. The needed gauge is in the tool kit. Damaged teeth on the ABS rotor will also cause the fault light function to activate.

### **Brake Wear**

My back brake pads were replaced at 18,000 miles due to wear.

### **Adjustable Ergos**

All points on the brake system are adjustable on the K12RS.

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## **Cleaning**

### **Glass Wax**

A silicon lubricant will clean, preserve, polish, and protect many of the non-painted surfaces. This includes the windscreen and the aluminum muffler cover. Water now beads on the muffler cover and the windscreen looks brand new.

### **Air Flow**

Wash, wax, and polish in the direction that air moves over the bike. Don't use circular motions as this results in cobwebs.

### **Kiwi**

I recommend Kiwi liquid wax for care of the paint.

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