

## GS 650 GX/GZ/MD. Katana

Ask anyone what was the first Katana; the reply will usually be hotly contested between the 1000 or the 1100. The truth is it was the GS 650GX. It carried the factory code for prototypes of ED 1 (EURO DESIGN 1) The 1100 ED 2.

When first shown at the Koln (Cologne) motorshow in 1980. Along with the 1100. The 650 was a working machine. It showed many novel features, 2 tones Sculptured seat, large fuel tank, Shaft drive and in understated Silver picked out with an avant -garde. Red, which included the gear indicator, clocks face, Brakes, as well as suspension, which was fully adjustable for damping and rebound. All this was as a result of the machine designed as a tourer.

The 650 engines were introduced in the GT variant months earlier. Many articles state it was a development of the GS 550. In fact it shares very little with that machine. The 650 has plain bearing crankshaft, the gearbox is a direct drive 5 speed. The clutch operates over not through. , And of course the shaft!

The production model differs from the prototype in not many ways; the seat on the prototype was designed with integral grab handles. The Original drawings of the ED-1 saw a fairing much like that of the ED-2. This however didn't make it past the drawing stages, though brackets were fitted on prototypes.



Rare picture of prototype, note lack of rear brakes, normal GS range clocks, no stands, lack of orange brakes, pre 1981 indicators, fairing bracketery, and wild drop bars. The seat also incorporated a grab rail.

Registration number indicates Munich ED-1

### Living with the 650.

The 650 is probably the most neutral riding position of the entire Target design Katana's and their derivatives. The normal style bars in original form rise slightly from the top yoke, but can easily be altered to suit individual needs. The foot pegs are more forward than Katana style but more rear set than a tourer.

The large 5 gallon tank gives a range of 225-250 miles of the commonest unleaded.

The seat, which is wide but lowered at the front, also provides a comfortable seat for the pillion.

It has presence and weighs in. but as soon as the wheels turn it is stable as easy to manoeuvre as any little 125.

Adjustment of the clutch is critical for smooth gear changing even though clutch less shifting both up and down can be effortless around 3-4000 rpm, the cable adjustment takes the strain. The operating adjustment is

best with less free play than advised in the manuals. OE Cables are far better than the aftermarket ones. The gearbox gives off a whistley whine from the shaft take off reminiscent of a turbo. This is actually because of the direct drive and is also common on the Yamaha XJ range. While on the subject, there are 2 drain plugs for the oil, the main one on the sump pan the second located under the gearbox but filled up through the normal cap after running the engine for a few minutes. The total to refill is therefore over the stated figure on the crankcase and is nearer 3.5 litres with filter change. Some 650 's have been known to suffer from 2<sup>nd</sup> gear problems, sometimes its just the clutch adjustment, another reason is simply the gear lever suffering from excess play, due to there not being a bush fitted consequently where the lever attaches to the frame wears oval, resulting in a less than positive selection. Also dirt fills the misshapen part with the same effect. Another cause is the lever is held on with a washer and circlip, but the washer, which acts as spacer is left off so there is side ways play.

If the gear is worn, it usually indicates a previous riding style which revved through the gears rather than using the torque which there is in abundance meaning the 650 will pull from standing /walking pace in any gear smoothly without fuss, or stutter. The a nominally of this gearbox is that both 2<sup>nd</sup> and 5<sup>th</sup> are on the same spline so both of the mostly used gears can be subject to more wear, than usual.

Electrics are common to all GS'S of this era and are easy to operate with the usual gripes about the combined indicator / high beam joy stick. Horn/flash. Though some (me) like it! The only glitch is the well-documented Regulator/Rectifier, which in standard form overheats and fails sometimes taking the alternator windings with it. The solution is to fit a Honda Superdream item. Remembering to join the Black/ Red wires on said item together. Then to power source. The Green is Earth, each yellow direct to the alternator missing out the Green/white wire that Suzuki deemed necessary to bring in the third phase through the loom.

Always run with the headlamp on as this draws heat from Reg /rec No matter what Reg/ Rec is fitted. This is because the system is designed to be used with lights on as per the majority of the Globe.

After 30,000 miles it isn't unknown for the 650 to show signs of burning oil, from start up and loss over a long run, the reason being the valve stem oil seals material, much in common with early Z1 Kawasaki from which the GS engine is very similar. The oil loss will find a level then not seem to worsen. Renewing the seals will cure the problem; However the GS 650 engine is extremely "bullet proof" with many examples covering 100,000's of miles with regular servicing. Don't forget this engine was also designed for the XN 85 Turbo, so has been over engineered in many ways.

Servicing the engine is Straightforward Shim over bucket, changing the shim to the next size up or down, as required. These stay in tolerance for 10's of 000's of miles. Airfiter is a foam washable affair. Sparkplugs are standard DR8 ES from the cheaper end of the range and are best changed at 6000miles intervals.

Brakes are as per the rest of the 80's Katana range and are adequate for normal riding especially with braided hoses fitted. Changing the pads is a straightforward process as the rubber boots protect the pistons from road grime. The sliding pins should be taken out cleaned and regreased to keep pad wear even.

The Shaft drive means no faffing about with chains and rear wheel removal is very simple. The Rear spindle can however due to the lack of need to lube or maintain, become seized in the swing arm or spacer. A simple coating of Copperslip when changing the wheel will eradicate this.

Tyres last depending on make/type; front 15,000 miles rear 12,000 miles.

Recommended is Bridgestone BT45. , Metzeler Lasertec. For normal usage, prices about £145.00 pair.

High mileage choice Continental TK16 Front TK17 Rear. Cost much the same.

With standard exhaust or the aftermarket versions it may be easier to remove the top shock absorber mounts and drop the swing arm to the floor to aid spindle removal.

The aftermarket choices are still quite reasonable with Jama offering the Marshall Deeptone. Motad offering their basic Motad option, while the model still remains of other listings. Prices are about at £160.00.

When released in 1981 it was ground breaking when compared to the machines of the day. The stepped seat lowered the riders stature and weight , striking colours, made it look like it went, and the Moto Guzzi V50's XS650 /750 last days of Norton / Triumph ,all looked dated. To Quote Bike magazine October 1981 "When katanas first appeared, seasoned hacks were heard to speculate that their startling exteriors doubtless hid whatever they lacked in handling and performance. Not so. Mike Clements" ( A tester)"finds the flashest Jap 650 is more than a pretty face." The same is still true, Jack of all trades and still mastering them 25 years on!

## **Model History.**

To best explain the designation of GX or GZ a brief explanation of the Structure.  
**G** = MOTORCYCLE **S**= 4 STROKE **650** Engine CC **G** =SHAFT **X**=1981 **Z**=1982 **D**=1983

**Suzuki GS650 GX** arrived in the UK , June 1981 in Silver with orangey red seat etc. and received rave reviews . On sale for £1728.

This model came with no Anti Dive , Yoke mounted, Choke cable,

**GS650 GZ** Arrived in 1982 in Silver with orangey red seat etc, prices remained much the same . There were model updates, Oil sump capacity increased. A fuel gauge was added , the choke became positioned under the left switch gear.

The Cam Cover gained an extra bolt at the front by the cam chain tunnel to solve a weeping of oil. Also the arrival of the Anti dive. A Side stand warning light was also fitted in the rev counter.

Went on sale until 1983 when some where discounted to clear, £1375 .

**GS650 MD** 1983 available in Silver or Red and Silver. This model wasn't imported in to the UK but found their way on to our shores via Grey Importers. This model is a US Designation. The use of M was to harmonise it with the 550. Kat. So as not to confuse the American market.

Differences are few but noticeable , as per GZ but the addition of a Bikini fairing and 3 spoke wheels ala SD range 1100/750.



**GS 650 G** on side panel indicates Japanese home market machine. These have been imported to our shores via the Grey importers , as previously registered machines in Japan.

The models are as above but with the differences of the Lack of Oil cooler. The Sub Frame is 1.5inches shorter, meaning a Euro model seat doesn't fit though that from a 550 Kat will. The addition of a 80 km/h red warning light si also included to satisfy the Japan speed restrictions. Also lower BHP .

The Katana symbol was also missing with just GS650G on the side panel . This was because in 1981 the Sword symbol was considered too aggressive for the Japanese market.

Some other European markets received Red colour ways with black seats these have also arrived here as immigrants, over the years .



**A guide as to what to pay.** There is no price differential between the models now .

Project /non runner /spares repairs.	£100 - £250
Fair -good condition with MOT /TAX	£400- £650
Very Good -Excellent Private	£800- £1200
Classic dealer-Mint	£1500 -£1750

. However its worth what you are willing to pay.

Many parts from the 650 GT (tourer) are interchangeable. Most parts are available from Suzuki agents,

Some parts are discontinued , ie; Seat bases . ( **Which the KOC is remanufacturing in glass fibre**). Parts do however appear as old stock is located and sold on.

Suzuki GS 650 G /X/Z/D/

## Spec Sheet.

Overall length	2188 mm
Dry Weight	218 kg
Engine Capacity	673 cc
Bore & stroke	62.0x55.8
BHP	73 . (68. Import)
Valve clearance (inlet & exhaust)	0.03mm -0.08mm
Engine oil capacity (with filter change)	3200ml(GX) 3600ml (GZ/D) 10/40w
Fork oil capacity	255ml (GX) 246 ml(GZ/D)
Brakes (Front /Rear)	FA 65 / FA 36
Tyre size front	3.25H19 (100.90.19)
Tyre size rear	425H17 (120.90.17)
Tyre pressures front psi	Solo 28. (2.0 bar) dual same
Tyre pressures rear psi	Solo 32 (2.25 bar) dual 40 (2.8bar)
Final bevel box capacity	200-220ml Hypoid 90w
Battery	YB14LA2
Spark plug	DR8 ES (DR8ESL)
Fuel tank capacity	23litres (5 Reserve)
Main jet	#110
Pilot jet	#42.5
Fuel level	5.0+/-1.0
Mixture screw	1.5 t.o (turns out)
Float height	22.4 +/-1.0mm
Air filter	Clean every 1500miles (3000km) in non