# Suzuki Baleno 1.0 Boosterjet SZ5 Road Test

Published: August 3, 2016

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Online version: https://www.wheels-alive.co.uk/suzuki-baleno-1-0-boosterjet-sz5-road-test/



Suzuki's New Baleno Looks Impressive.

Kim Henson puts it to the test, and explains the Boosterjet Technology employed in the version test-driven.

(Words and photos by Kim Henson).

(If you are interested in a different view of the Baleno, as judged by David Miles, please click HERE).

Suzuki's first car, the 360cc Suzulight, was built in 1955, and six decades down the line the company is well-known and respected, being especially highly regarded for building compact vehicles, at which it excels.

Of course, Suzuki has also produced motorcycles for a very long time and these well-

engineered machines have long been much-enjoyed by buyers. (On a personal note, when I was a lad I took my motorcycle test on a borrowed, small-capacity but big-hearted 1967 Suzuki 50, which I thought was fun to ride).

However it was in 1979 that the company really made its mark in Britain in terms of motor cars, when the highly successful three cylinder Alto made its debut here (and I was impressed when I road-tested one in September 1981).

Since then Suzuki has gone from strength to strength, with increasing sales here and around the globe.

In fact the firm produced three million vehicles in 2015, and is currently ranked as the ninth largest motor manufacturer in the world (also the third biggest in Japan, with a 15 per cent market share).

It is also a very major player in India, where, under the name of Maruti Suzuki India, it has been the biggest-selling car maker for the last 28 years, and where it takes a 48 per cent market share. Sales there in 2015 included 150,000 Celerios and 50,000 Balenos.



The five door Baleno, which is a slightly larger model than the Swift (yet smaller than the Vitara and S-Cross), is the most aerodynamic Suzuki ever produced, with a drag coefficient (CD) of just 0.299. This smooth newcomer is built at Maruti Suzuki's Manesar production facility in Haryana.

In due course the model will be exported to over 100 countries; it was recently introduced to the Japanese domestic market.

Suzuki has high hopes for the Baleno, with projected sales in the UK in the first full year being 3,500 examples (and 26,000 in Europe). It is now available for British buyers (from June this year).

## Clever Boosterjet Technology

The Baleno is the second model from the company (after the recently-introduced Vitara) to benefit from Boosterjet engine technology.




The new three cylinder, direct injection turbocharged (DITC) 1.0 litre Boosterjet motor used in the Baleno produces an impressive 111 bhp, with CO2 emissions of 105 g/km – an SZ5 version of this model, with five speed manual transmission, is the subject of my road test.

This new Boosterjet power unit is said to provide the same level of power and torque as a much larger normally aspirated engine – typically a 1.8 litre motor.

How does it do this? Let's look first at the fuel injection aspects…

In the Boosterjet motor, six-hole petrol injectors and high tumble port technologies (incorporating a straight inlet port and a complex shape piston crown design) are employed together. Fuel is injected at high pressure (35 Bar) directly into the combustion chamber during the air intake phase. A fuel-rich mixture forms in the vicinity of the spark plug, with a leaner mixture around the outer edge of the piston.

Fuel pressure is varied according to driving conditions, optimising atomisation of the fuel mixture and thus improving combustion efficiency.

Integral to the Boosterjet design is a small displacement, high torque turbocharger (made by IHI). It operates with a boost pressure of 1.0 Bar and, to near-eliminate delay (known as 'lag') in turbocharger power delivery, it is bolted directly to the cylinder head; in addition the exhaust manifold is built into the head's casting. This arrangement helps to ensure that there is optimum exhaust gas flow to the turbocharger, with minimal heat loss.

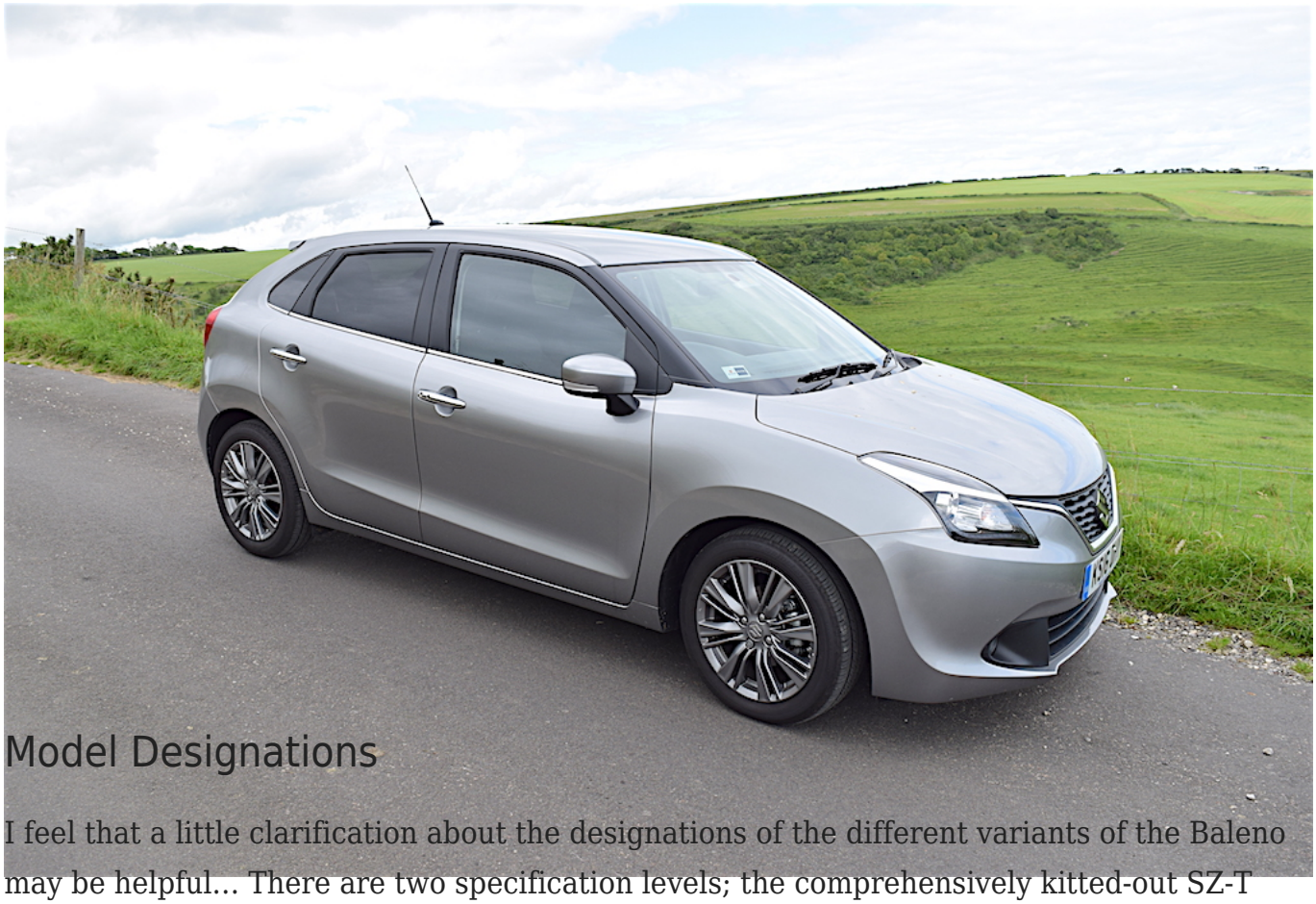
The turbo's wastegate valve is set up to remain open during normal driving, but to close to create higher boost pressure under heavy load conditions. This approach helps to reduce pumping losses, to further optimise power delivery and fuel consumption.

To prevent turbo 'stall' in situations where the throttle is closed and then rapidly re-opened again, an air by-pass valve is used.

The overall result is that power and torque delivery from this turbocharged Boosterjet engine are delivered at much lower engine speeds than normally associated with turbo models, enhancing performance, driveability, fuel economy and emissions.

As an alternative to the Boosterjet motor, the Baleno is offered with a 'Smart Hybrid Vehicle from Suzuki' (or 'SHVS') 1.2 litre 'Mild Hybrid' Dualjet power unit. This engine incorporates Suzuki's well-respected 'Dualjet' technology, and is rated for CO2 emissions at just 94 g/km. This version also employs a new and innovative belt-driven 'Integrated Starter Generator'

('ISG') system to supplement engine power during acceleration, in addition to generating electrical power through regenerative braking (which effectively harnesses kinetic heat energy, converting it into electrical energy).



## Model Designations

I feel that a little clarification about the designations of the different variants of the Baleno may be helpful… There are two specification levels; the comprehensively kitted-out SZ-T and the even better equipped SZ5.

Buyers opting for the 1.0 litre Boosterjet engine can choose between SZ-T or SZ5 trim levels, in either case in conjunction with a five speed manual transmission. Alternatively there is the choice of a six speed automatic model, offered in SZ5 form only.

By contrast the 1.2 litre Dualjet Baleno is offered only in SZ5 manual transmission guise.

# Very Smart – plus More Room For Passengers and Luggage...




During my time with the car, many people who studied it commented about the Baleno's attractive, well-proportioned styling. It features a 'Liquid flow' design theme, which we liked a lot too, and it has more interior and luggage space than the Swift. In fact, it is claimed that the newcomer provides the best 'tandem' measurement in its class; that is to say, the total distance between the front and rear seats. The new car certainly feels much more spacious – more of this anon.

I did a bit of research and found that the overall length of the Baleno is just 145 mm (5.71 in) longer than the Swift, and 50 mm (1.97 in) wider (as well as being a little taller), so it has a slightly larger 'footprint'. However, importantly this new Suzuki is still compact enough to drive easily in town, and to park without hassle.

Notably too, it is very fuel-efficient, with the Boosterjet SZ5 version (as tested) providing an enviable official Combined consumption figure of 62.7 mpg (the equivalent figure for the 'SHVS' model with manual transmission is even better, at 70.6 mpg).

## Let There Be Light(ness)

The Baleno is built around an all-new platform, developed under the 'SUZUKI NEXT 100' plan, announced at the 2015 Frankfurt Motor Show; this is the first model with this new generation platform to appear in Europe.

Importantly for fuel consumption and emissions performance, as well as the power to weight ratio, the body shell has been developed with the incorporation of many advanced lightweight construction technologies. These include the use of much high tensile steel, so that weight is significantly reduced without compromising structural rigidity (in fact this is improved…).

The body structure's smooth profile requires fewer joints, so correspondingly fewer reinforcements are required.

The result, says Suzuki, is an increase in body rigidity of around 10 per cent, coupled with a reduction in weight of approximately 15 per cent, taking the weight of the 'body in white' shell structure down to a remarkably low 196 kg (432 lb). This means that the Baleno has the lightest shell in the 'B' segment hatchback class.

Since weight-saving measures have also been applied to the vehicle as a whole, and include the mechanical, interior and other components, the car is the lightest hatchback in the 'B' sector (in one case by more than 200 kg, or 441 lb).

Why is all this so important? Less weight to move means less fuel is needed, emissions are lower too, the car is more nimble and all-round performance is improved.

In addition to the weight reduction measures, the Baleno's deliberately smooth body styling

helps to give a low drag coefficient of just 0.299, further easing the car's movement through the air and helping fuel consumption in addition to emissions performance.

A MacPherson strut front suspension set-up is employed, revised to give greater rigidity and improved stability. At the rear, conventional coil springs are used, plus an intermediate Torsion beam incorporating a stabiliser within its hollow profile.

All Balenos have ventilated disc brakes at the front. The SZ5 versions feature disc brakes at the front and rear, whereas on the SZ-T variants, drum brakes are fitted at the rear.

Interestingly, the main design and development work for the Baleno was carried out in Japan, but the suspension/steering tuning work was undertaken in Europe, with vital testing taking place in the UK by Suzuki's technical teams.

## Safe and Sound…

Safety features abound too, starting with the body shell, as already mentioned, which features Suzuki's 'Total Effective Control Technology' ('TECT') designed to aid occupant protection as well as low weight. By design, collision force energy is dissipated more efficiently through the new structure, thus improving overall crash safety. Six airbags are also provided as standard in all versions of the Baleno.

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Equipment levels are high, with all variants featuring (for example) Air Conditioning, USB and Bluetooth connectivity and Satellite Navigation (with 3D mapping that helps landmarks stand out), plus aluminium alloy wheels. The 'Smartphone Linkage Display Audio' (SLDA) system in all versions features a large (seven inch) touch panel display that will work even if the operator is wearing gloves.

The top-line SZ5 specification provides buyers with such extra systems as Radar Brake Support (employing milliwave radar – effective even at high speeds, in poor weather and at

night – to monitor the road ahead and assisting the driver in three stages/modes, 'Warning', Brake Assist' and 'Automatic Braking'!), Adaptive Cruise Control (which helps maintain a safe distance from the vehicle in front) and a 4.2 inch central colour trip display, among other features. The SZ5 also features an advanced information display, providing the driver with a wide range of information including engine output/torque data, fuel consumption, average speed, acceleration and brake operation and G-force tracking.

All Balenos have 'Guide Me' headlamps that remain on for a short time (adjustable for duration) after the car is locked/unlocked, helping the driver and passengers reach the vehicle or their own front door (for example).

So what about pricing? For manual transmission versions the SZ-T 1.0 Boosterjet model is listed at £12,999, and the SZ5 1.2 SHVS costs £500 more. Our SZ5 1.0 Boosterjet test car had a price tag of £13,999, to which £430 was added for the optional Premium Silver paintwork, making a total 'On The Road' cost of £14,429. With automatic transmission and in SZ5 form, the 1.0 Boosterjet weighs in at £15,349.

## Real Life...

On entering the car it was clear that a great deal of thought had gone into planning its interior, and everyday practicalities had been taken into account.

A good feature of the Baleno for many is the fact that both front and rear doors open wide, allowing easy entry to and exit from, the passenger compartment.

There is generous head and leg room for up to five adults to travel in comfort, and the seats proved to be accommodating and very comfortable on long journeys.

Storage compartments abound, with deep pockets in the doors (incorporating useful bottle holders in the front doors) plus a lidded storage box behind the conventional handbrake lever – which we liked for its positive action. In addition, there is a lidded, non-lockable glovebox, in which the car's unusually helpful and comprehensive handbook resides, and

built into the back of the front passenger seat is an elasticated pocket for holding road maps, etc. Just ahead of the gear lever are twin cup holders, and nearby are easily-accessible 12 volt and USB sockets.

The luggage compartment is practical too. Although the load sill is quite high off the ground, the main boot floor is flat and there are separate small storage compartments (handy for cameras, etc.), one on each side of the boot, plus a 'bag hook' on the left-hand side. Beneath the primary boot floor panel is a separate, full-width compartment, and beneath this again is an emergency tyre inflator kit (but alas no spare wheel).

The rear seat and luggage board can be re-positioned as required, to suit varying load-carrying requirements. The rear seat is divided two-thirds to one-third too, and the seat backs fold near-level with the boot floor, when required.

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Under the bonnet there was easy access to the engine for regular level checks etc, and we were impressed by the sturdy-looking flexible hoses, plus well-insulated/protected electrical cables, etc.

## We Have the Power…

At the outset I should mention that when it arrived the test car had just 600 or so miles on its clock, so I would expect that in time it would provide even better performance and fuel consumption. However, as it was, the car was particularly impressive in the way that it performed. It was lively from rest, through the gears (the gearchange is slick-acting too…), and accelerated briskly when on the move. Indeed, in almost all circumstances it was hard to believe that there was just a one litre, three cylinder engine at work. Okay, at very low revs it was possible to detect the unique engine note of a three cylinder unit, but this motor was smooth-running and eager to perform at all times.

At 70 mph in top (fifth) gear, the countryside rolled by with the tacho needle indicating just

2,500 rpm. Yet the engine pulled happily from far lower speeds when required, with maximum torque output applicable between 2,000 and 3,500 rpm.

The compliant suspension and safe, secure handling made the car a pleasure to travel in on the open road, for the driver and passengers. In-town driving was pleasant too, helped by nicely-weighted power-assisted steering and good visibility.

I liked the satellite navigation system and the clear screen it provided. On my first long trip in the car it did try to take me to Albania rather than Exeter, but in truth this was due to my own lack of familiarity with programming a destination into the system. All the same, I was glad when Exeter appeared on the real horizon, rather than Tirana… Nothing against Tirana of course, but my appointment was in Devon…

Incidentally, on this drive to Devon, the roads became muddy and it was necessary to use the screenwashers. I thus discovered that on this Baleno they feature three jets per wiper, providing particularly quick and effective clearing of the murk…

Other aspects I liked… The repeater indicators built into the door mirrors, and for me the high quality bright trims on the grille, tailgate and door tops (complementing the chromed door handles) were also welcome touches.



The aluminium alloy wheels looked particularly smart, but when I hand-washed the car, their intricate spoke design meant that proper cleaning of the wheels took a little time.

## Fuel-sipping

In the past I have often found that the real-life fuel consumption achieved when road-testing Suzukis comes pretty close to the 'official' Combined figure (and far closer, in percentage terms, than many other cars). So I was interested to see how the Baleno would do in this respect.

The result? Well the 'official' Combined MPG figure is 62.7 mpg. In reality, during my time with the car, over 421 miles, including a mixture of town driving, motorway and long-

distance main road driving, and winding lanes, the figure this Baleno achieved, and without resorting to any economy driving techniques, was a commendable 58.6 mpg. Well done Suzuki, again.




## VERDICT

Another VERY good Suzuki; in fact a great car – spacious, comfortable, practical, economical, great to drive.

So was there nothing I didn't like about it? Well personally I would still prefer to see a CD player as part of the specification, and a lower load sill for the boot would make loading/unloading heavy items a little easier, but that's about it.

If you are looking for a ‘B’ segment hatchback, you definitely need to have this Suzuki on your shortlist of models to consider.

FOOTNOTE: While I was photographing the car I was approached by a man who was walking his dog. He recognised the Baleno from photographs, but had never seen one ‘in the metal’. Having looked closely around the car and asking my opinion of it, he was genuinely and seriously interested and said that he was thinking of changing his car. As a result of our chance meeting, he told me that his next stop would be his local Suzuki dealer, saying that he would probably now buy one…!



## WHEELS-ALIVE TECH. SPEC IN BRIEF:

# Suzuki Baleno SZ5 1.0 Boosterjet five door hatchback

Engine: 16 valve, three cylinder, 998cc, direct fuel injection turbocharged petrol (Euro 6 compliant).

Transmission: Five speed manual gearbox; front wheel drive.

Power: 111 PS @ 5,500 rpm.

Torque (manual transmission version): 170 Nm (125 lb.ft) @ 2,000 to 3,500 rpm.

Performance:

0-62 mph: 11.4 seconds.

Top speed: 124 mph.

Fuel consumption ('Official' figures): Urban, 52.3 mpg; Combined, 62.7 mpg. (On test, over 421 miles of mixed motoring, average 58.6 mpg).

Emissions and taxation: CO2 105 g/km. VED Band B (£20 per annum after the first year).

Insurance Group: 11E.

Warranty: Three years/60,000 miles, plus One Year Suzuki Assistance, plus 12 years against perforation.

Service intervals: Annually/9,000 miles.

Dimensions: Length 3995mm (13.11 ft), Width 1745mm (5.73 ft), Height 1470 mm

(4.82 ft), Kerb weight 950 kg (2,094 lb), Luggage capacity 320 to 756 litres (11.30 to 26.70 cu.ft), or 1,056 litres (38.32 cu.ft) if loaded to the roof.

Price ('On the Road'): Manual gearbox version, £13,999 (with optional Premium Silver paintwork, as on our test car, £14,429).