# Suzuki S-Cross Full Hybrid – First Impressions

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## Kim Henson samples the latest version of Suzuki's popular S-Cross SUV…

Suzuki has just introduced to motoring writers their new 'Full Hybrid' variants of the S-

Cross, as distinct from the ‘Mild Hybrid’ versions of the all-new S-Cross model which arrived late in 2021.

## Perspective

Before looking in more detail at the newcomer, it is interesting and useful to see how Suzuki is doing in what is a challenging time for car makers generally. The situation was outlined to writers present at the launch of the latest S-Cross by Ed Norman, Head of Product and Planning at Suzuki U.K…

He told us:

Production cuts due to shortages of vital components have been a dominant theme across the industry, and consequently car sales are far lower than in previous years.

In the U.K, annual sales have fallen from 2.3 million to 1.5 million, and in the first quarter of 2022 sales by volume decreased by 47.5 per cent.

That said, this year so far Suzuki’s U.K. market share of 1.2 per cent (the same figure as in 2021) has held, and customer orders would have raised this to 2.0 per cent if production/supplies of vehicles had allowed.

In the global context, it is worth noting that Suzuki sells 2.9 million cars annually, and in India alone the figure is 1.6 million, with the firm taking 49 per cent of the market there.

Back at home in Britain, Suzuki is well-regarded by buyers of its cars, and in a recent Institute of Customer Service survey, customer satisfaction ratings put the firm at No. 1 in the automotive sector, and within the top five companies within *all* sectors.

In addition, Suzuki is rated highly by its dealers too. In a recent National Franchised Dealers Association (NFDA) survey, Suzuki was ranked sixth overall, after Lexus (top), Mercedes, Kia, BMW and Toyota.

## S-Cross from December 2021

Since the launch of the new S-Cross 'Mild Hybrid' model in December 2021, the well-received model has endured a roller-coaster ride in terms of production and, consequently, sales.

Ed Norman said that during the first quarter of 2022, Suzuki was receiving around 200 orders per week for the newcomer, but the second quarter of this year saw production cuts due to the restricted availability of some components, frustratingly resulting in a lead time of six months for would-be buyers wanting to acquire an S-Cross.

However, better news is on the horizon for the model, with production now in full swing…

## S-Cross Full Hybrid

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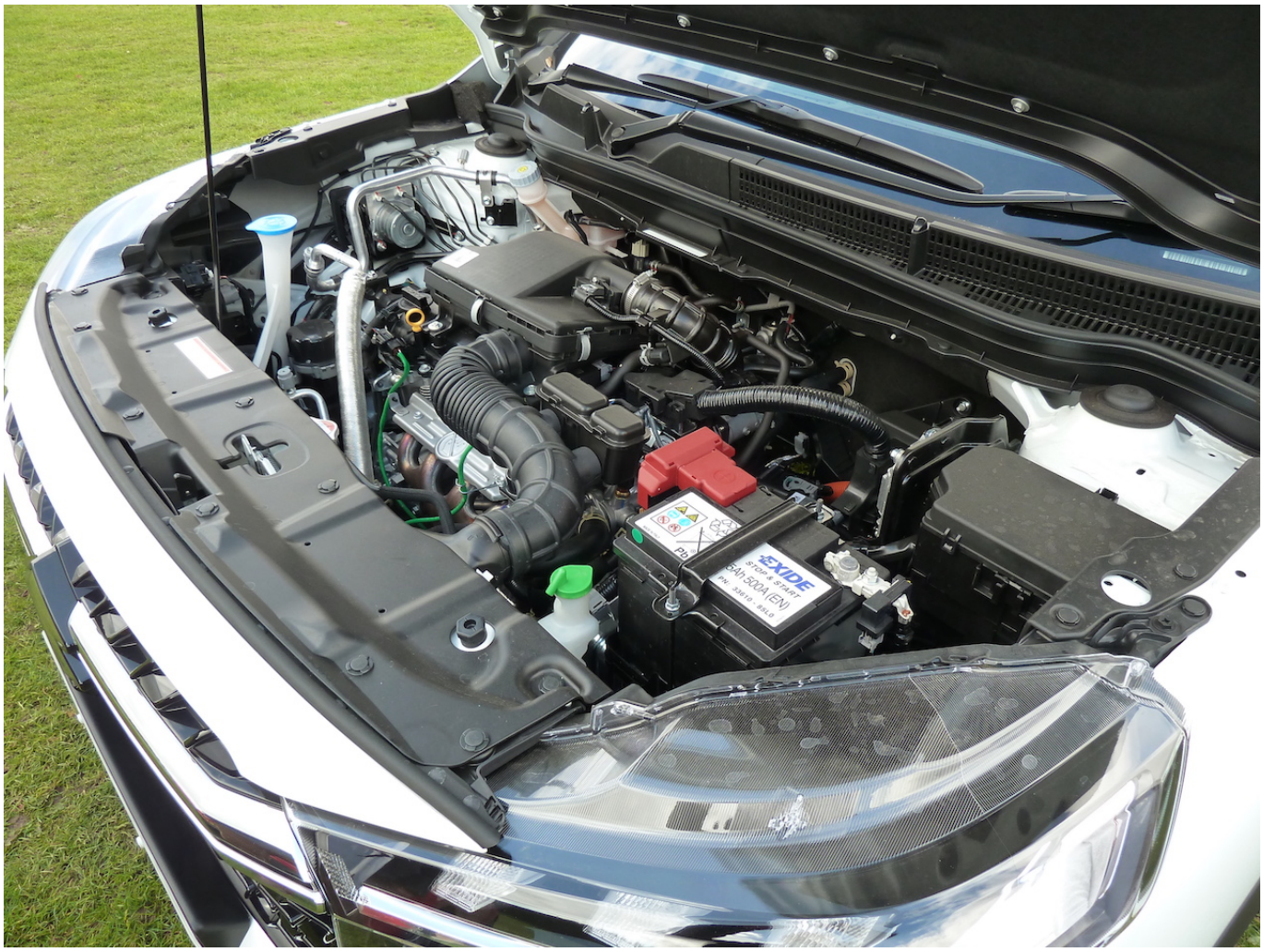
The latest version of the S-Cross, built at Magyar, Hungary, incorporates Suzuki's 'Full Hybrid' technology, and is the fourth of the company's cars to feature this.

What does this mean? Well first I'll start with what hasn't changed… The new vehicle is similar in appearance, concept and body construction to the all-new S-Cross that was introduced at the end of 2021. In turn this featured strong, dynamic exterior styling plus greater interior space and practicality, also improved standard equipment and safety features, compared with previous generation S-Cross models.

However, the big change is that whereas until now the drivetrain incorporated a 1.4 litre Boosterjet engine and 48 volt Mild Hybrid drivetrain (and this continues in the latest versions equipped with a conventional manual gearbox) the new Full Hybrid versions, on sale from October 2022, feature Suzuki's efficient 1.5 litre K15C naturally-aspirated four cylinder engine, working in conjunction with a 140 volt power supply with EV (Electric Vehicle) mode. This engine and 140 volt Full Hybrid set-up was first used on the Vitara

earlier this year.




The Full Hybrid variants are fitted with Suzuki's state-of-the-art six speed Auto Gear Shift (AGS) transmission (essentially an automated manual transmission). The upper two ratios are both 'overdrive', i.e. less than 1:1.

The unit is much lighter than a conventional torque converter type automatic transmission, and incorporates steering wheel mounted 'paddles' to enable manual ratio changes to be made if preferred.

(It is worth mentioning that all Suzuki cars sold these days benefit from Hybrid/electric technology, including 12 volt/48 volt ‘Mild Hybrid’, 140 volt ‘Full Hybrid’ and Plug-in Hybrid (PHEV) models).

Two variants of the Full Hybrid S-Cross are available, the comprehensively-equipped ‘Motion’ (costing £26,749) and the ‘Ultra’ (priced at £31,549), which additionally features ALLGRIP Select four wheel drive, 17 inch polished aluminium alloy wheels, leather upholstery, built-in satellite navigation employing a centrally-positioned 9-inch screen, a huge panoramic sliding sun roof and an impressive 360 degree view camera.

Standard equipment on both the new Full Hybrid models includes (as examples from a long list): Suzuki Connect services, Smartphone connectivity, a rear parking camera plus parking sensors at the front and rear, keyless entry and start, also climate control air conditioning, plus a wide array of safety measures including Dual Sensor Brake Support, Blind Spot Monitor, Rear Cross Traffic Alert, Traffic Sign Recognition, Lane Departure Warning and Prevention, Adaptive Cruise Control and seven airbags, including a Driver's Knee Airbag.

One aspect of Suzuki's approach to would-be buyers that I like a lot is the fact that, with the exception of metallic paint finishes (costing £550), there are NO other options to consider when working out the cost of the vehicle. The prices include a great deal of standard equipment that would cost extra in many/most competitor models.

## Why 'Full Hybrid'?

The higher voltage drivetrain in the new Full Hybrid models is more efficient (compared with 'Mild Hybrid' variants) in the way it operates in conjunction with the petrol engine, and provides an EV mode.

Maximum power delivery for the Full Hybrid models is rated at 115 PS, and maximum torque produced is 138 Nm (101 lb.ft) at 4,400 rpm.

The Motion (front wheel drive) operates with low emissions of 118g/km (WLTP protocol) and the official Combined fuel consumption (WLTP) is quoted at 54.3 miles per gallon.

By contrast the Ultra (with ALLGRIP Select four wheel drive) produces CO2 emissions of 132 g/km, and the Combined mpg figure is 48.7.

Emissions and fuel consumption are helped by low vehicle weight, and in the case of the S-Cross, Suzuki engineers have employed high tensile steel and other weight-saving measures within the body shell. The front wheel drive models weight just 1,308 kg (2,884 lb), with the Ultra ALLGRIP model weighing just 70 kg (154 lb) more. It is worth noting too that emissions for this model are commendably low compared with most comparable all wheel

drive vehicles.

At the heart of the Full Hybrid models is a 140 volt lithium-ion battery and inverter, plus a new Motor Generator Unit (MGU). This belt-driven assembly acts as a starter motor and a power generator, and is located on the output side of the AGS transmission, so that output from the MGU is transmitted straight to the driveshafts, filling the 'torque gap' experienced during gearchanges, thereby aiding transmission smoothness. A chain-driven reduction gear is incorporated, which reduces the rotational speed of the MGU to increase the amount of torque applied directly to the car's wheels.

The MGU assists the petrol engine during start-off, and works together with the 140 volt battery. This stores electrical energy recovered during deceleration and braking, and features an idle stop function that works via the MGU.

The Engine Control Unit (ECU) uses engine speed and throttle position to assess when the driver will accelerate, then applying electric motor assistance to provide additional torque.

In addition the hybrid set-up collects kinetic energy and generates electricity by stopping the engine and disengaging the clutch during deceleration, thus increasing the EV driving range.

The system does all this automatically, and there is no need nor facility to 'plug in' the car to a mains electricity supply; it's a very clever self-charging system.

All the Full Hybrid S-Cross models feature two selectable drive modes; Standard and Eco. A single switch facilitates changing between the modes, depending on conditions, and in addition can increase the frequency of EV motoring.

In Standard mode, power is prioritised; the MGU more often helps the petrol engine to permit more enthusiastic driving enjoyment.

In the Eco setting, fuel economy is prioritised, and the air conditioning system will not

operate.

In addition to the 140 volt hybrid system battery, there's a 12 volt lithium-ion battery plus a 12 volt conventional lead-acid battery, to operate lower voltage systems such as the lamps, instrumentation and heating/air con.

When driving in Standard mode, the driver can select any one of the four settings for the ALLGRIP Select four wheel drive system. These include Auto (front wheel drive only, by default), Sport (optimises engine response and cornering performance), Snow (providing traction and stability on very slippery surfaces) and Lock (for extricating the car from snow, sand or mud; a limited slip differential is built-in, to brake a slipping wheel and transfer torque to those wheels having grip).

By contrast, with the car set to Eco mode, only the Auto setting can be used.

The ALLGRIP Select system made its debut in the first S-Cross in 2013, and is a proven set-up. Importantly, during development of today's system, it has been enhanced by adding a 'feed forward' function. This allocates torque to the rear wheels even before any slippage occurs. The system controls the vehicle to prevent grip being lost, rather than reacting to that situation (as occurs with conventional four wheel drive systems). Brilliant.

A 'Hill Hold Control' facility is also provided; this prevents the vehicle from rolling backwards, for two seconds.

## Running Gear

The S-Cross is fitted with MacPherson strut type front suspension, optimised for rigidity and driving stability, while at the rear there's a cross-beam set-up, again optimised to provide superior rigidity and ride comfort.

Braking is by ventilated discs at the front, with solid discs at the rear.

A welcome feature for many drivers (myself included) is the fact that there’s a manually-operated conventional parking brake.

## Driving

My test drive was in the range-topping Ultra variant of the latest Full Hybrid S-Cross, with the ALLGRIP Select four wheel drive system. The cost of the vehicle as tested was the list price of £31,549, as it was finished in non-metallic White. For any of the other five colours available, all metallic, an additional £550 is payable, making £32,099 in total.

With three adults on board for the test drive, we were all impressed by the spacious interior, providing good head and leg room in both the front and rear. In addition, both the front and rear doors opened wide, allowing easy entry to and exit from the vehicle.

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From the driving seat I liked the clear instrumentation (always a feature of Suzukis), with an information panel (providing mpg and range information etc.) set between the two main dials ahead of the driver. Clear too was the standard-fit sat nav system, with its nine-inch screen clearly showing our route, and it seemed easy to programme too.

The seats proved to be comfortable in the front and back of the car, and the ride quality was controlled and smooth, even over some broken surfaces we encountered on the test route. Our rear seat passenger spoke favourably about the space and comfort available to rear seat occupants.

I liked the perfectly-weighted power-assisted steering, the excellent steering lock for tight manoeuvres, and the stable feel of the car on motorways, main roads and winding lanes. Braking was effective and progressive, and as already mentioned I am a fan of the 'traditional' manually-operated parking brake, which worked well.

On paper the S-Cross ALLGRIP Select is not a fast car by today's standards, with a zero to 62 mph acceleration time of 13.5 seconds, and a top speed of 108 mph. In reality though, on today's congested roads and with a national limit of 70 mph, I feel these figures are somewhat academic.

More importantly, in any case I found that the car gained speed quickly and quietly when on the move, indeed it was an eager performer, if not a sports car (it's not meant to be!), so overtaking was easy, and the extra urge provided by the Full Hybrid system was appreciated by this driver.

Starting from standstill, and accelerating gently, the car initially operates in EV mode only, but if more acceleration is required and the accelerator is depressed further, the petrol engine seamlessly cuts in to up the pace.

The transition between EV and petrol operation, and the activation of the regenerative electrical charging system, were smoothly delivered – and in fact undetectable to this driver. The clever system just worked well.

Fast cruising was enjoyable and hushed. At 60 mph just over 2,000 rpm was indicated on the tachometer.

Although I was unable to fully explore the Suzuki's handling and roadholding during our test drive, it felt controlled and stable during twisting sections of road.

Investigation of the luggage compartment revealed a spacious load bay, even with the rear seats all occupied (and there's an additional shallow tray beneath the main boot floor). However it is a simple matter to fold forward sections of the rear seat back, to provide greater space. With the rear seatbacks folded the floor isn't completely flat, but nearly so (the rear seat base doesn't tilt). According to Suzuki's figures the capacity of the 'boot' ranges between 293 and 665 litres (10.35 and 23.48 cu.ft).

## When the Going Gets Tough

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The S-Cross is not intended to be an out-and-out off-road vehicle, but the ALLGRIP Select four wheel drive system provides additional reassurance for those living in the country (especially when the roads are slippery) and/or if the car is required for occasional forays across wet or muddy showgrounds etc.

However, during the launch of the Full Hybrid models, Suzuki laid on an opportunity to

drive the cars ‘off-road’ on a mixture of grass, deep mud, steep slippery slopes and along wooded rough tracks.

At the start of the exercise the ALLGRIP Select drive system was switched via the ‘Snow’ mode to ‘Lock’, and the test route was started. With the vehicle on normal road tyres, the rough and slippery ground was covered, efficiently and easily, at walking pace (there was no need for fast driving). The car just fed power to the wheels as required to prevent slippage, and good progress was made through the mire.

It is true that most owners would never subject their S-Cross to such treatment, but the fact that the cars on this test worked so well to maintain progress (driver error apart, in some cases!) speaks volumes for the cleverness and efficiency of the all wheel drive system.

The official Combined fuel consumption figure for our test vehicle is 48.7 miles per gallon. With two different drivers we achieved an average of 46.2 mpg, pretty close I feel, especially as it included some fast motoring and in-town slow progress.

I should also mention the fact that the official Combined fuel consumption figures for the Full Hybrid S-Cross models are some way ahead of many competitor models, in a positive way.

## VERDICT

Regular readers may know that I have liked previous generation S-Cross models, and this one is better still I feel.

The Full Hybrid variant is effective, likeable, practical, comfortable, fuel-efficient and promises to be easy to own and to live with, including in terms of reliability.

The car represents good value for money, especially with four wheel drive and a full range

of equipment included in the price.

## Wheels-Alive Tech. Spec. in Brief:

## Suzuki Full Hybrid S-Cross ALLGRIP

Price as tested (with solid white paintwork colour): £31,549

(For single tone metallic paint colours add £550)

Propulsion: K15C, 1462cc four cylinder petrol plus 140 volt Full Hybrid system, driving through an Auto Gear Shift (AGS) six speed transmission

Power: 115 PS @ 6,000 rpm

Torque: 138 Nm (101 lb.ft) @ 4,400 rpm

0 – 62 mph: 13.5 sec

Top speed: 108 mph

CO2 emissions: 132 g/km (WLTP)

Combined fuel consumption: 48.7 mpg (WLTP)

Actual fuel consumption achieved on test drive: 46.2 mpg

Fuel tank capacity: 47 litres (10.34 Imp. gallons)

Approximate range on our achieved mpg: 475+ miles

Dimensions:

Length: 4,300 mm (14.11 ft)

Width: 1,785 mm (5.86 ft)

Height: 1,585 mm (5.20 ft)

Ground clearance: 175 mm (6.89 in)

Kerb weight: 1,378 kg (3,038 lb)

Max. towing weight (braked trailer): 1,200 kg (2,645 lb)

Luggage capacity: 293 to 665 litres (10.35 to 23.48 cu.ft)