

quattro quarterly

Spring 2011



Audi A6

Audi Q5 2.0T

Sporty Shorty

Win a 2012 STāSIS A4 2.0!

quattro quarterly

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Photo: Audi AG

Audi AG Winter Driving School, Seefeld, Austria

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Photo: Audi Press

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LUXEMBOURG

in A4 Avant TDI

by Andreas Dharmawan



WEEKEND GETAWAY

LUXEMBOURG IS SMALLER THAN THE State of Rhode Island, yet it has three official languages: French, German and Luxembourgish. It also has the highest density of global financial institutions and foreign government officials. Despite the fact it is one of the smallest nations in Europe, this country has amazing landscapes. The tiny center, Luxembourg City, sits on a plateau surrounded by deep lush gorges, and the rest of the country features forested hills and vast valleys. All of these attributes make Luxembourg a perfect long weekend getaway.

To accentuate our exploration, we got an eco car that drinks gasoline in the manner cactus drinks water, and yet it was still capable to instill tingling sensations in our weekend driving vacation. We rented an A4 Avant TDI from Europcar Rental Car Company at Frankfurt Airport. As soon as we reached the Autobahn heading towards Luxembourg, I knew immediately that this A4 was not my father's clunky diesel car.

The quiet engine at idle, the deep sporty growl when the accelerator was pressed and the exhilarating feeling as we passed others on the autobahn made us forget that this 2.0 liter TDI engine has only 136 hp but a rousing 236 lb-ft.

Our first stop was Légère Premium Hôtel located just off A1, less than 10 km east of Kirchberg, the modern city of Luxembourg that hosts many European Union buildings and financial institutions. This four-star business hotel has spacious and airy contemporary exterior and interior designs. The room incorporates the latest trend of efficient layout and open bathroom concept. To top that, the minimalist furniture in the room gives futuristic ambience and abundant space.

KIRCHBERG

After a few hours of rest, we started our exploration. For architecture students, Kirchberg is probably the best place to study

the latest trend of eco friendly modern architectures. Stringing both sides of avenue John F. Kennedy, the main street of Kirchberg, are glass buildings exposing the inner structures and offices in them, towers featuring gardens in the middle section and buildings made of materials that breathe to reduce heating and cooling energy consumption.

Furthermore, this district embodies the live, work and play urban layout. Entertainment complexes, residential buildings, office towers, schools and manicured parks are within walking distance from each other. It is purposely designed to reduce the energy consumptions by its inhabitants. Ornamental sculptures adorn open spaces in between buildings. The works of international eminent architects are well represented here.

The purposeful and sophisticated urban planning with the emphasis on providing a sustainable living reminded me of the similar eco initiatives that Audi has pioneered for many years. The sportiness of this A4 may be easily recognizable, but its efficiency becomes evident upon driving it. It is not one or two areas that Audi improves the efficiency of its cars, but rather an array of research and development in various areas covering aerodynamic, power plant, electrical system, body and mechanical construction, and manufacturing process and recyclability. It is worth noting that Audi is ahead of regulatory requirements with its recycling program.

This A4 only has a less than 0.28 coefficient of drag (Cd). The Audi AG Wind Tunnel Center in Ingolstadt has a lot to do with this impressive Cd. In this facility covering 10,000 meter squares and housing three giant wind tunnels, car models are evaluated and tuned for minimal drag. Hot spots under car models, along roof lines and at corners are eliminated. Less resistance means less energy is required and less CO₂ produced. According to EU standard cycle, the decrease of 0.04 Cd reduces the CO₂ emission by three grams per kilometer.

Losing weight also lowers fuel consumption. While Audi has been well known for its leading role in the use of aluminum, it is also making advances in the new high performance and ultra-hardened steel technology. At the Ingolstadt plant, the boric alloy steel blanks are slowly heated in a 23-meter oven. When the temperature of the blanks reaches more than 900 degrees Celsius, a robot places the glowing red blanks immediately in the specially designed press equipped with water-filled cooling pipes.

The shock-cooled process shapes the microstructure of the pressed piece in such a way that it exhibits three times greater tensile strength than the original material. One single wire of ultra-hardened steel with a cross section area of one millimeter square can suspend a 150 kilogram load. This enables Audi to use less steel in its cars without sacrificing rigidity and safety. The saving on CO₂ emission is not only on the road when the car is driven. The Ingolstadt plant now produces 21 percent less CO₂ by utilizing the new ultra-hardened steel manufacturing process.

Major European institutions can be found aplenty in Kirchberg, and they make Luxembourg the third capital of the European Union. Another important point of interest here is the Musée d'Art Moderne Grand-Duc Jean. One can just admire its sensational cluster of glass prisms and sweeping curves for hours. Heading downhill along a sneaky and narrow road behind the museum, we arrived at the Draï Echelen fortress — one of the few remaining fortresses that used to ring the city. From this vantage point, we could see the historic old city of Luxembourg perching on a plateau across a green gorge.

LUXEMBOURG OLD TOWN

Many people who visit the Old Town claim that they had traveled back in time to witness a thousand year history in about two hours by walking through Luxembourg's oldest quarters. It must be true because in 1994, UNESCO designated the city a World Heritage Site.

Photos: Andreas Dharmawan



LUXEMBOURG WEEKEND GETAWAY

The remains of centuries of fortifications by the best military engineers of the Burgundians, the French, the Spaniards, the Austrians and the Germanic Confederation give Luxembourg an enigmatic allure. Its high position surrounded by deep gorges and rivers at the bottom enabled its military advantages and importance in its past.

During its high time in history, there were three girdles of battlements. The inner most one was fortified by bastions. The outer most one was composed of an exterior wall hewn into the rock and the wall was reinforced by nine forts. The middle girdle had fifteen forts at most strategic places. It was one of the mightiest emplacements in the world, and it was nicknamed "Gibraltar of the North."

Today one can take a leisurely walk around the remaining walls on the east side of town and forts. Or, one can take a relaxing drive and stop at many mesmerizing vista points encircling the Old Town. Some vista points have panoramic views of deep ambrosial Alzette and Pétrusse valleys and beautiful tall arch bridges that connect the Old Town with the high points across the valleys. The Old Town skyline and the pastel-painted buildings draping the hill sides complete the view and make a picture-perfect postcard.

The eco features of this A4 that we experienced during our Old Town exploration were the Start-Stop system and Energy Recovery system. A fast and smooth Start-Stop system shuts off the engine when the car is at standstill and the clutch is pressed. In less than a split second after I relaxed my left foot to release the clutch, the engine started again ready for my next command. The system worked so fast and so reliable even in the hilly part of Luxembourg, that it was as if it read my mind.

In the extreme cold weather temperature, the Start-Stop system remains inactive until

the engine reaches the optimal operating temperature to reduce the unnecessary CO₂ emission. The system lowers fuel consumption by 0.2 liter per 100 km and reduces the CO₂ emission by five grams per kilometer.

The Energy Recovery system is invisible to the driver unless he reads the technical documentation of this car. Basically, it converts kinetic energy during deceleration into electrical energy. When the car accelerates again, the battery that stores the recouped energy gives the energy back to the engine relieving the alternator. The less the alternator is engaged, the less fuel the car consumes. The total combination of these eco features add up to a noticeable fuel saving and CO₂ emission reduction.

Architecturally and culturally, Luxembourg Old Town is a mix of Romancing and Germanic Europe. While Kirchberg features contemporary architecture, the Old Town has the Romanesque and Gothic architectures with the cobblestone streets. Today it is crowded by the best cafes, restaurants, hip lounges and bars. For shopaholics, pedestrian-friendly cobblestone Grand Rue and rue Philippe II in the center of Old Town offer a wide array of shopping experiences.

Luxembourgish cuisine reflects Luxembourg's position on the map. It is a fusion between the neighboring French and German cuisines, and more recently it is complemented by Italian and Portuguese influences as well. What highlighted our dining experience in Luxembourg was the exceptional attention to detail in presentation and quality of the food. Every ingredient was mixed and cooked just right to create a culinary delight.

At a nondescript La Brasserie at the corner of Rue Marie-Adélaïde and Route d'Esch outside the Old Town, we had our Luxembourg dining experience. Fillets of





broiled fish, baked mussels, sliced cherry tomatoes and sautéed asparagus were placed over a bed of couscous spread on a rectangular plate. Mango sauce with bacon bits was poured on the edge of the couscous. Who could think of such a mind-boggling combination! But the result was spectacularly amazing.

VIANDEN

Luxembourg is a home to about 130 Châteaux. Some are fortified castles, others are lavish mansions. So, our weekend getaway would not be complete without visiting one of them. We entered Vianden into our A4 navigation system and let the car guide us to the famous and large medieval Château de Vianden.

On the way to the Château, we had some fun with the efficiency program. This program shows all consumption-relevant data and actively provides recommendations on the ideal moment to change gear. Coupled with a TDI engine that produced abundant 236 lb-ft torque at as low as 1400 rpm, the gear change recommendation will maintain the most optimum engine speed over various driving conditions. This way the fuel consumption can be minimized by up to 30 percent depending on the driving style.

Another eco feature that most people do not think of is the front curvy LED daytime running light (DRL) and taillights. The LED lighting is noticeable for its dramatic ability to elevate the car image to Hollywood status. But the best benefits are not easily visible. While only one square millimeter in size, each LED generates more white light from electrical power than any other conventional light source.

In 2008, Audi performed a study on sold vehicles with LED lights. Since A4 LED DRL consumes only 15 watts, this translates to 0.2 liter per 100 km and four grams fewer

CO₂ emission per kilometer per car. Using the 2008 sales figure and average driving number based on dealer service records, ten million liters of fuel were saved and 25,000,000 kilograms of fewer CO₂ emission were produced in one year. Since then, LED lights are extensively used not only for DRL but also for taillights, headlights and interior lighting.

Additionally, LED has a virtually unlimited life cycle. It can be turned on and off up to ten times faster than a regular bulb. And this hundreds of a millisecond advantage of seeing LED brake lights sooner in emergency situations can actually save lives and reduce trauma.

As soon as we left the highly populated areas, the view opened up and we were greeted by autumn foliage colors covering the vast rolling hills. At this moment, there was nothing better to do than absorb the mesmerizing continuous frames of perfect postcards. After passing a few more small towns, we finally arrived at Vianden's main street, Grand Rue. This street climbs up a forested steep hill from the tiny bridge over River Our at the city center. We eagerly drove up this street following the sign for Château de Vianden.

Mightily sitting on high ground, the eleventh century castle of Vianden glowed in the dusk. The mixture of Romanesque, Gothic and Renaissance features of this castle made it a perfect place to have a Halloween party. Many kids and their parents dressed in scary, funny and medieval customs were dancing in a very tall, airy hall at the heart of the castle. Walking around the castle ground, we soaked in the fairy-tale panoramic view. The dark deep blue sky with an orange band of sunset highlighted the rolling lush hills with lights from small towns below. It was a great place to end our weekend getaway.

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