

2014 Mitsubishi Outlander PHEV

from Agostino Mitsubishi

Test 1.

Purpose of test: To test "EV only" range of the vehicle.

June 11, 2014 - Adelaide, South Australia

Weather fine, temperature: 16 deg C.

Passengers: Driver only + 20kg luggage

Outlander PHEV set to Eco Mode. Regen. Braking set to: B3

Driving was "Economical smooth" up to 60Km/hr with no hard acceleration on Adelaide metro roads - no hills.

Air-conditioner: switched off. Lights: Auto (on for last 15 mins of driving).

Main Battery pack: Fully Charged at Odometer: 2920Km

Odometer at start: 2920Km

Odometer at finish: 2972Km (52Km)

EV Range at "Ready" indicated: 54Km which dropped to 52Km within 0.5Km of driving.

EV Range when from: "1" to "--" at 52Km then within seconds the ICE started.

This was the end of the test.

After this the engine came on and off in combined hybrid mode for 5 Km more.

A full charge after this test used 9.8Kw of Off-Peak power at 14.87 cents/KWh.

Cost for this charge: **\$1.46** (2.8 cents/Km).

The result of this test is the power usage for 100% EV: **188.46Wh/Km**

This trip was 100% electric for a total of **52Km**

The windscreen sticker shows: 134Wh/Km and 52Km range.

I feel that this power usage would be near impossible to achieve with normal stop start driving.

One strange thing that I noticed was the **Petrol + EV Range** figure during the test.

It started at: **477Km** then gradually rose to **631Km** at the 34Km mark and then gradually dropped to **617Km** at the 52Km mark. The only explanation I can suppose is that it takes a while to determine the driving style.

Test 2.

Purpose of test: To test PHEV operation in hilly terrain on standard roads.

June 13, 2014 - Adelaide, South Australia

Weather: Raining - wipers on and air-conditioning on.

Passengers: Driver + one passenger - no luggage

After a full overnight charge...

This test took the Mitsubishi Outlander PHEV to the hills, but not on any freeway.

After a few Km on the metro roads(flat) we went to the hills via Greenhill Road to Mt Lofty and then across to Stirling and then back down to the metro area.

Odometer at start: 3086Km

Odometer at finish: 3186Km (100Km)

EV range at start: 52Km (this dropped to 49Km at 0.5Km travel)

Total range at start: 489km

After 20Km of driving:

EV Range (remaining): 7Km

Total range (remaining): 466Km

18.1 kWh/100Km (instantaneous)

0.7 L/100Km

96% EV

After 29km of driving:

EV Range: ---- Km

Total range: 461Km

18.2 kWh/100Km (instantaneous)

0.5 L/100Km

97% EV

After 52Km of driving:

EV Range: ---- Km

Total range: 420Km

19.1 kWh/100Km (instantaneous)

11.6 L/100Km

71% EV

After 84Km of driving:

EV Range: ---- Km

Total range: 327

3.1 kWh/100Km (instantaneous)

7.6 L/100Km

64 % EV

After 100Km of driving (end of day):

EV Range: ---- Km

Total range: 321

17.9 kWh/100Km (instantaneous)

7.4 L/100Km

60 % EV

This figure of "60% EV" is interesting and shows the value and gain of the regenerative efficiency of the hybrid/electric system.

Even though the 52Km EV range had been expended the vehicle continued to gain small amounts of "EV range" due to the regeneration coming from deceleration and braking.

The gain from regeneration: 8%.

Test 3.

Purpose of test: To test PHEV operation in hilly terrain on mainly freeways.

June 17, 2014 - Adelaide, South Australia

Weather: Fine - some air-conditioning, 13deg.C outside, 24deg. C inside.

Passengers: Driver + one passenger - no luggage

Full charge on the night of June 15 (10kWh) then 18Km on June 16.

This test took the Mitsubishi Outlander PHEV to the hills, and using only freeways.

After a few Km on the metro roads(flat) we went to the hills via South Eastern Freeway to Murray Bridge and then back down to the metro area.

Odometer at start: 3204Km

Odometer at finish: 3382Km (178Km)

EV range at start: 36Km

Total range at start: 416Km

After 23Km of driving:

EV Range (remaining): ----Km

Total range (remaining): 409Km

18.3 kWh/100Km (instantaneous)

2.1 L/100Km

95% EV

After 92Km of driving (at Murray Bridge):

EV Range: 1Km

Total range: 294Km

1.0 kWh/100Km (instantaneous)

5.2 L/100Km

68% EV

After 167Km of driving (at the Glen Osmond Toll Gate):

EV Range: 15 Km (after high regen. coming down hill)

Total range: 192Km

1.0 kWh/100Km (instantaneous)

6.6 L/100Km

56% EV

After 178Km of driving (arriving home):

EV Range: 2 Km

Total range: 191Km

3.0 kWh/100Km (instantaneous)

6.1 L/100Km

61% EV

The figure of "61% EV" means that there was over 108Km EV driving for the day.

Summary

The above real-life tests show figures from the vehicle's centre display.

Driving the vehicle was a delight, being very comfortable and very powerful and extremely quiet.

Under high acceleration the engine was quite easy to hear, but not objectionable.

There was no problem keeping up with traffic at freeway speeds, in fact, the speed had to be continually checked due to the effortless quiet operation.

The charging system was simple and automatic in operation, basically just plug-in the supplied cable between the vehicle and standard household outlet and turn the power on.

Please check the Mitsubishi website for all vehicle specifications.

Many thanks go to Alex Payne and Steve Chapman of Agostino Mitsubishi of Nailsworth, SA for the loan of the test vehicle.

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