

Technical Presentation



BURGMAN

2013 model

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Introduction

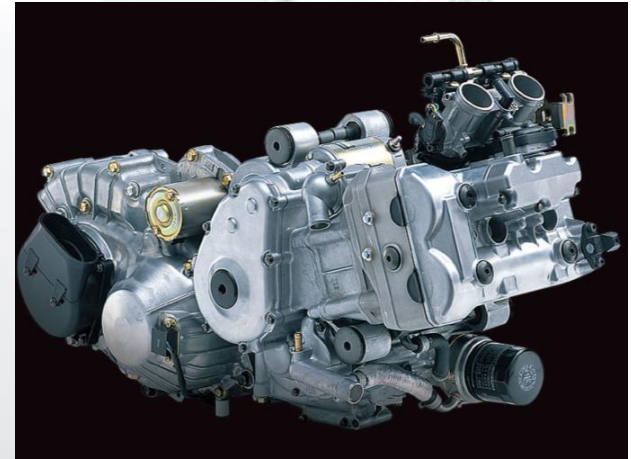
Introduction



Way of Life!

Quick look back on BURGMAN 650 history

Introduced in 2002 as a flagship scooter of Suzuki, with the world's largest scooter engine and the world's first innovative electrically controlled CVT with selectable power modes.



Quick look back on BURGMAN 650 history

The Product concept was;

“King of comfortable cruising”

1. Comfortable to cruise.

638cm³ parallel twin, SECVT, rubber mounted engine, engine balancer for low vibration, High-tensile pipe frame and aluminum swingarm, adjustable backrest

2. Easy to operate.

Automatic transmission, low seat height with sculpted floor board, Multi function instrument.

3. Great utility features.

Large underseat compartment, three front compartments, DC outlet, brake lock

Introduction



Way of Life!

Quick look back on BURGMAN 650 history

Executive version was introduced in 2004, equipped with ABS brakes, electrically adjustable wind screen, electrically retractable rearview mirrors, seat heater, and grip heater.



Introduction



Way of Life!

Quick look back on BURGMAN 650 history

The series total exports reached 83,000 units in 2012.



Burgman 650 Executive

(European spec)



Burgman 650

(US spec)

2002	8,271
2003	9,083
2004	10,162
2005	6,668
2006	11,751
2007	9,780
2008	10,306
2009	5,254
2010	4,404
2011	4,640
2012	2,707
TOTAL	83,026

*Above is the export numbers from Japan.

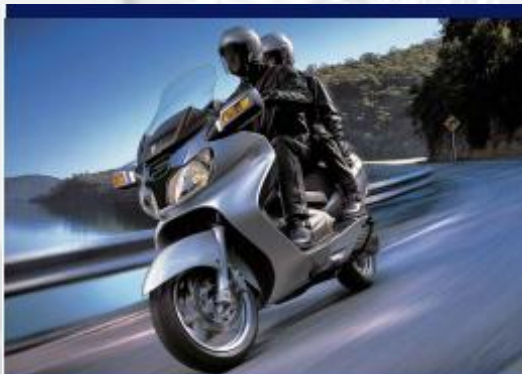
Introduction



Way of Life!

10 years of BURGMAN 650

Loved by fans all over the world, its comfortable ride and luxury features are highly appreciated by customers worldwide.



Complaints from customers of previous BURGMAN650

- **Difficult to maneuver**

The friction of the clutch make difficult to maneuver.

- **Outdated styling design**

Styling design has been unchanged for 10 years, styling became outdated.

Product concept of New BURGMAN 650

The Product concept is unchanged.

“King of comfortable cruising”

1. Comfortable to cruise.
2. Easy to operate.
3. Great utility features.



Solve the complaints from customers.

Added feel of luxury.

New features

- 1. All new styling design.**
- 2. Improved fuel consumption* (15%)****
 - *Measured in the Suzuki's internal test.
 - **Only in Drive mode
- 3. Reduced drag friction. (35%)**
- 4. Redesigned instrument panel.**

Styling design

Styling design

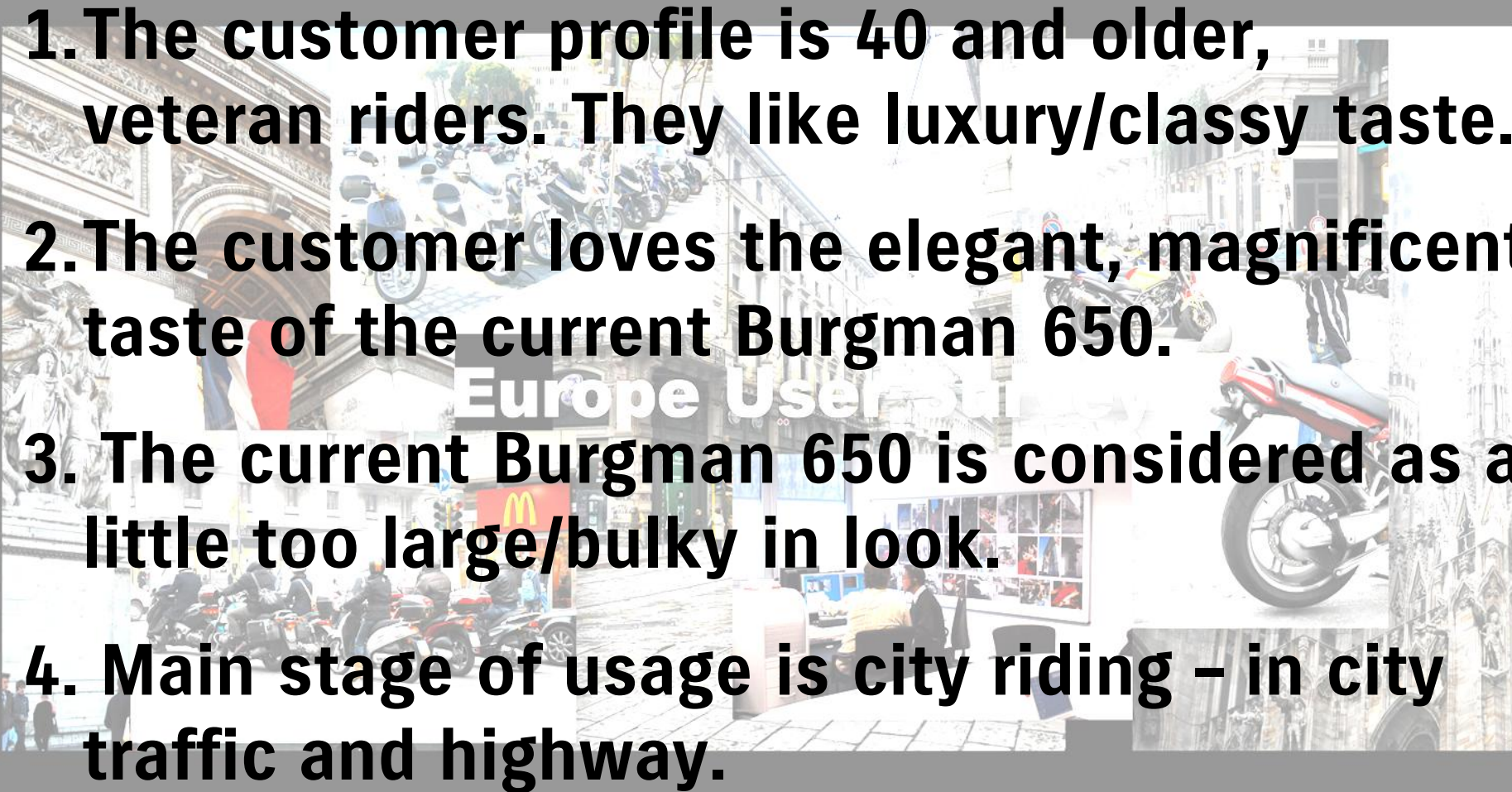


Way of Life!

To start the project, we collected voices from customers.



We found the key factors in hearing voices from customers.

- 
- 1. The customer profile is 40 and older, veteran riders. They like luxury/classy taste.**
 - 2. The customer loves the elegant, magnificent taste of the current Burgman 650.**
 - 3. The current Burgman 650 is considered as a little too large/bulky in look.**
 - 4. Main stage of usage is city riding – in city traffic and highway.**

Styling Concept

Valiant & Elegant

Valiant

Unmatched presence as top model of BURGMAN Series.

Elegant

Upper class, luxury feel as tradition of BURGMAN series.

Styling design



Way of Life!

With that concept in mind, styling designer draw a variety of sketches.

Phase1



Phase2



Phase3



Styling design



Way of Life!



Styling design



Way of Life!

The surface is carefully sculpted to create elegant flavor.



Surface

Valiant & Elegant

Styling design



Way of Life!



The surface design theme is “touch of silk”.

Styling design – Old/New comparison



Way of Life!

Side



- Enhanced character line, slanted front face.
- Black plastic parts designed for compact-looking.
- Reduce the volume in rear section.
- Reshaped and up-slang muffler.

Styling design



Way of Life!

Front



Previous

Enlarged headlight

Sharper and more elegant

Black plastic parts

Compact and sporty looking

Enhanced character line

Sharper looking

LED position lights

More visible and add accent

Black wheels

Add accent



New

Styling design



Way of Life!

Rear

Newly designed tail lights

More elegant

Black plastic parts

Compact and sporty looking

Newly designed muffler

Newly designed, up-slang mounted muffler for sporty look.

Painted front compartment

Modern and luxury looking



New



Previous*

*This picture is Japanese spec

Styling design



Way of Life!

Instruments

Enlarged indicators

Easier to read

Reviewed lens angle

Less reflection for ease of reading

Analogue meters

Designed with the taste of a luxury sedan

White back light

Luxury looking

Eco drive indicator

Newly added



Previous



New

Styling design



Way of Life!

Lights



Detailed texturing

Engine & Transmission design

Engine & Transmission



Way of Life!

Refinements to improve fuel consumption

Valve springs

Reduced spring tension force.

Piston rings

Reduced tension force

Final drive gear

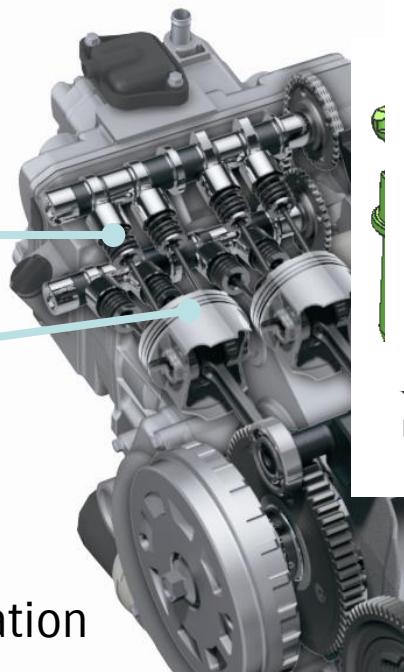
A low-torque bearing with deep indentation

Fuel injectors

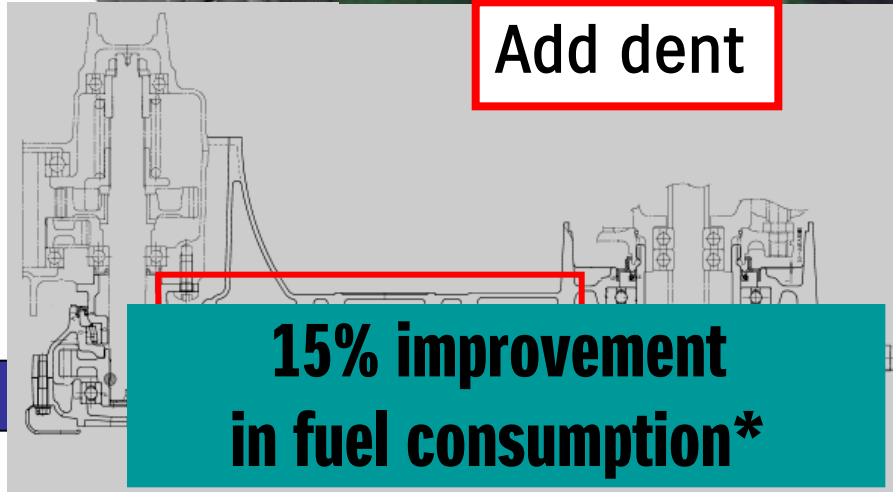
Reduced injector size and reduced atomized particle size.

ECM

Changed setting of CVT control
Reviewed ignition and injection timing



Add dent



*only in Drive mode

Engine & Transmission

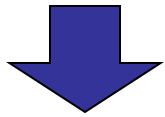


Way of Life!

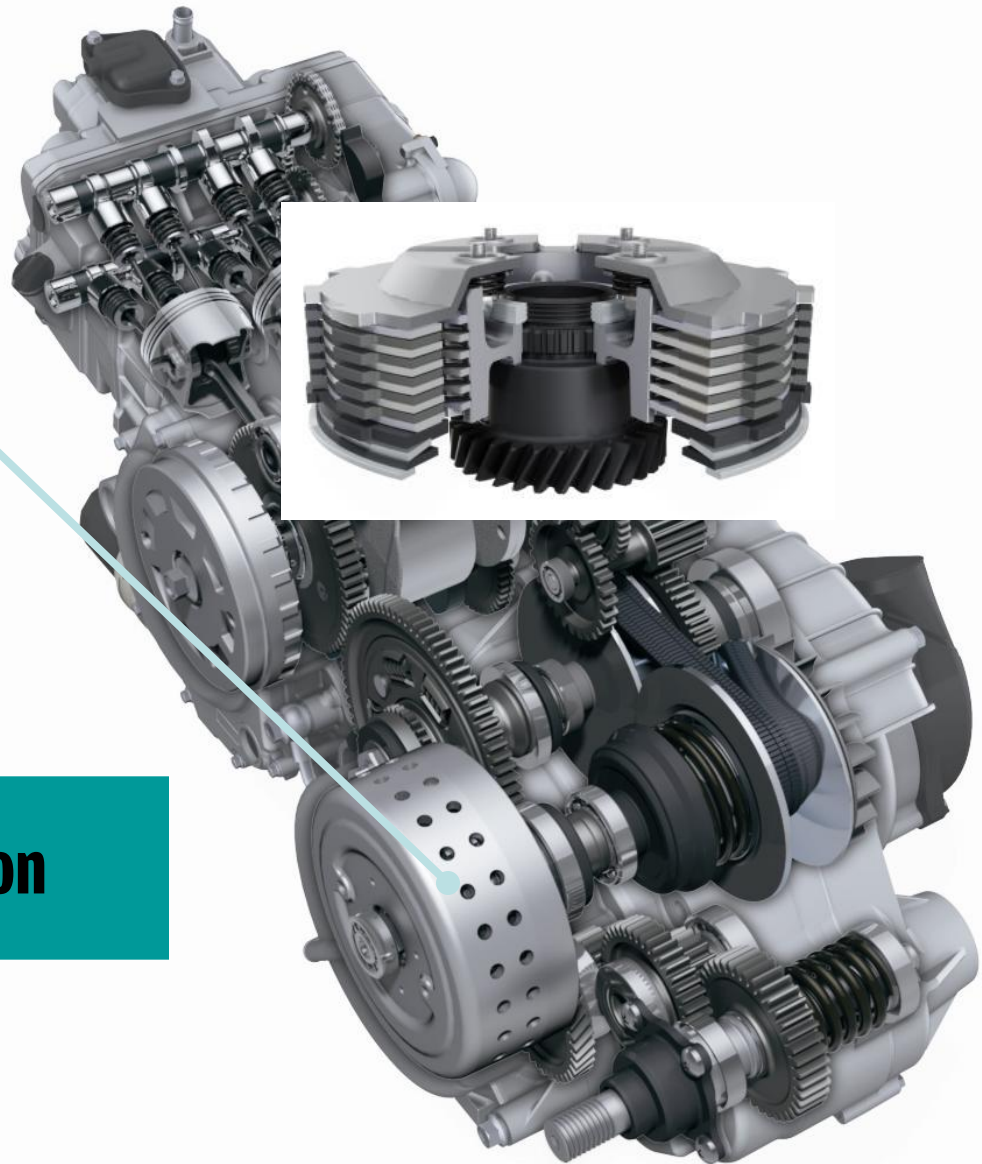
Refinement to reduce drag

Clutch plates

Changed the materials of contact surface of the plates and changed the surfaces of the plates to make it easier to separate the plates from each other.



35% reduction in drag friction



Engine & Transmission

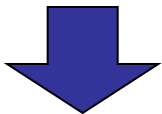


Way of Life!

Refinement for comfort

SECVT setting

The acceleration / deceleration shock has been reduced by reducing the engine rpm at low speed.



**Easier to control
at low speed***

*only in Drive mode

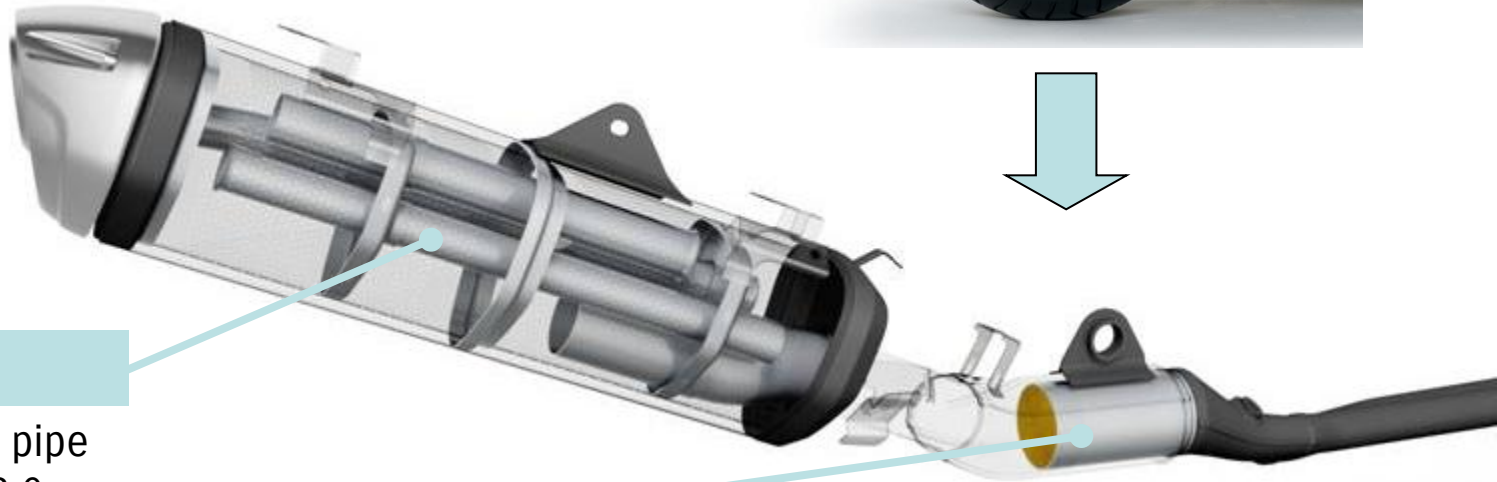
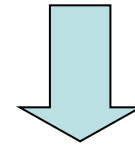


Engine & Transmission



Way of Life!

Newly designed exhaust system

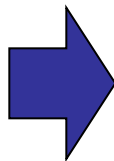


Internal pipe

Reduced size of the pipe
(L2) $\phi 31.8 \Rightarrow$ (L3) $\phi 28.6$

Catalyst

Changed length
(L2) 100mm $\Rightarrow$ (L3) 120mm
moved forward



Conform to EURO 3

Electrical design

Instruments

Freeze indicator

Light comes on below 3°C or lower. (37.4°F or lower)



Clock

Lights on at all times when the ignition is in the "on" position.



Oil indicator

• Oil change indicator

Remind you to change the engine oil.
Interval setting is adjustable.

• Oil level indicator

Light comes on when the engine oil level is below the normal operating range.

LCD central display

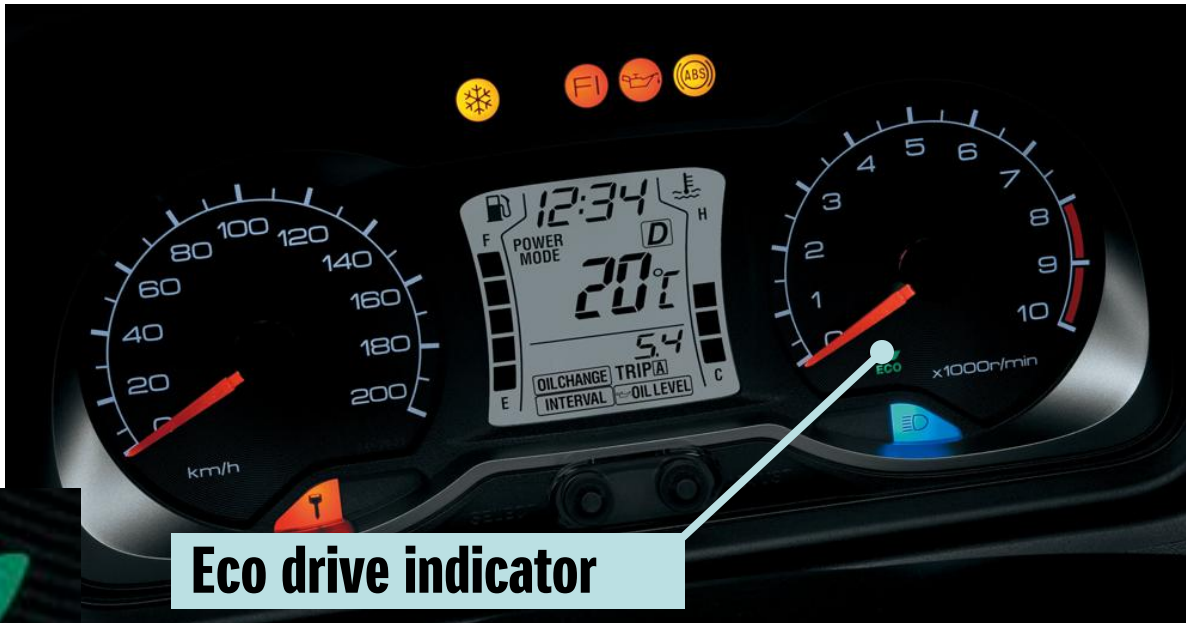
Able to display 3 patterns

- Outside air temperature
- Fuel consumption
- Gear position (for Manual mode)



Instruments

Eco drive indicator (only in drive mode)



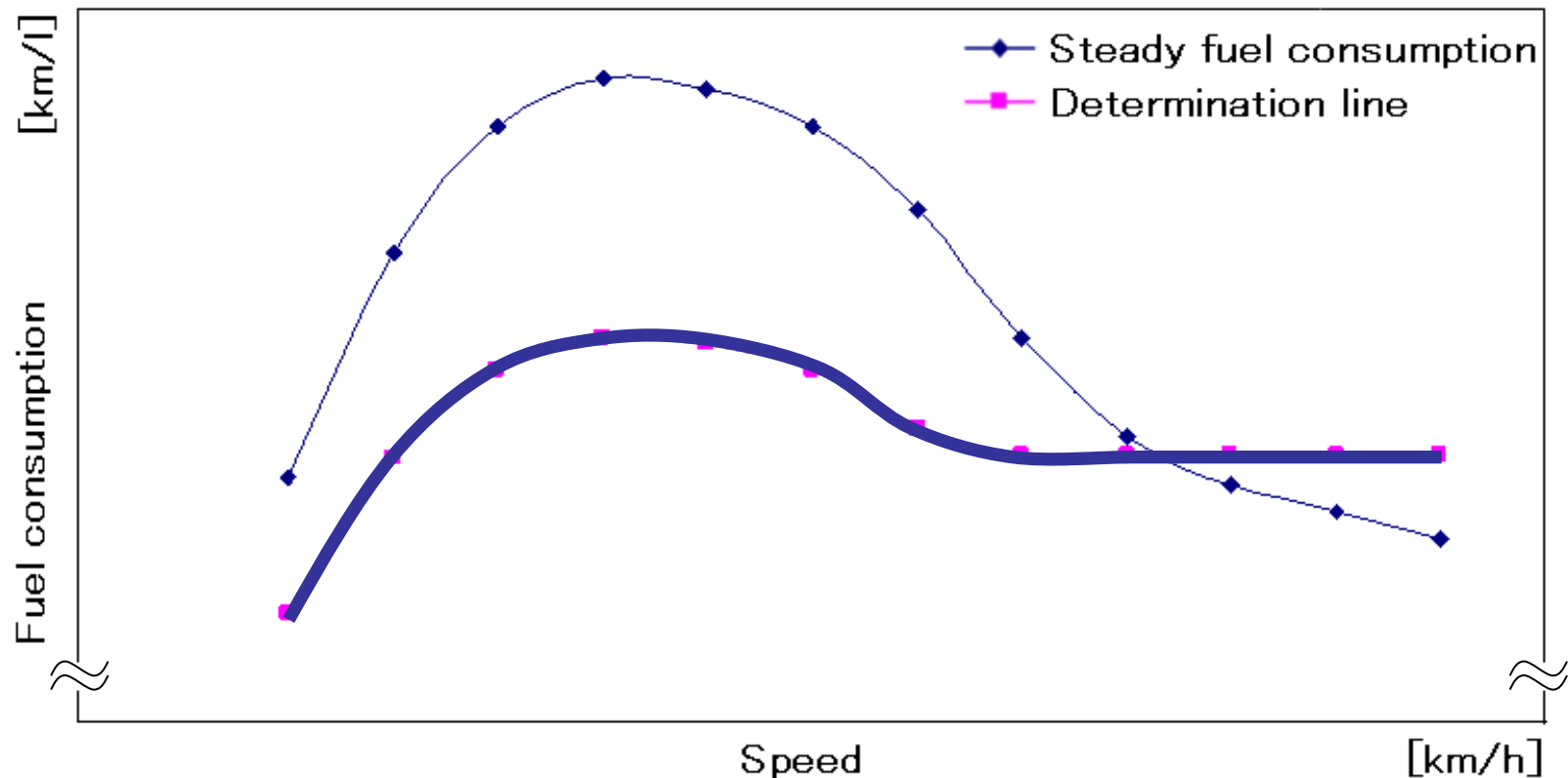
Light up when the vehicle is operated in a fuel-efficient manner – and may help riders learn techniques to improve their fuel economy.*

*The Eco drive indicator does not automatically improve fuel economy but may help riders refine their riding efficiency and improve fuel consumption. Fuel consumption may vary depending on traffic conditions, such as the frequency of starts from stop, distance driven, rate of acceleration (throttle use), chosen speed, and maintenance.

Instruction VIDEO This is how eco drive indicator works.

Insert the instrument function explanation video

Eco drive indicator (only in drive mode)



- Judge fuel consumption every 0.2 seconds by sensing speed and fuel injection time
- Light up when fuel consumption is over determination line

Eco drive indicator (only in drive mode)

Situation	Lighting condition
Over determination line (chart of previous slide)	On
Deceleration	On
Idling	Off
Sudden acceleration	Forcibly off*
Sudden braking	Forcibly off*

*Even if the actual fuel consumption is over the determination line

Wire harness



Pre-wiring harness added under instrument panel.

Easy to install/remove navigation unit

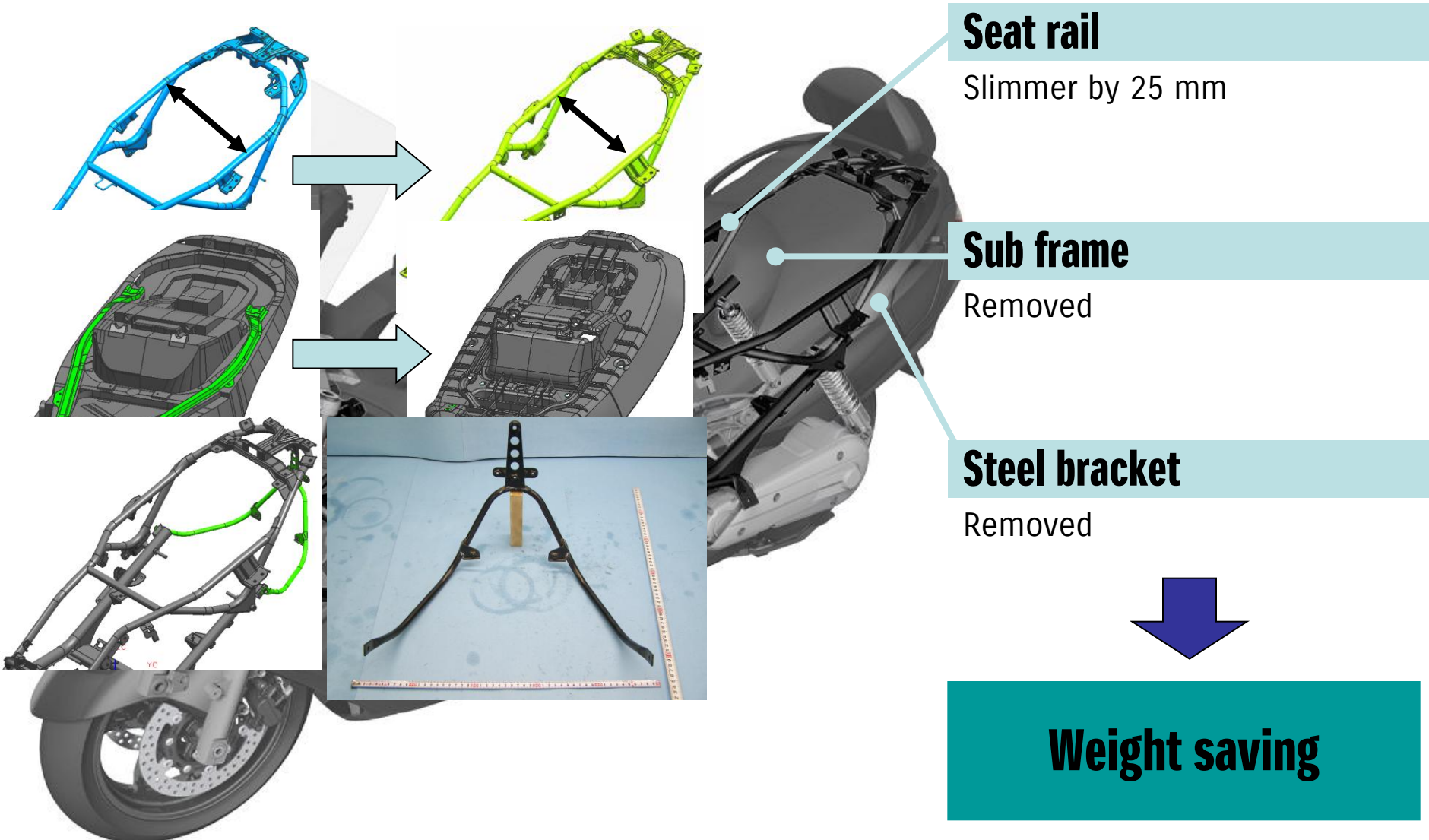
Chassis design

Chassis design



Way of Life!

Rear section



Chassis design



Way of Life!

Floor boards and floor mat

Front floor mat

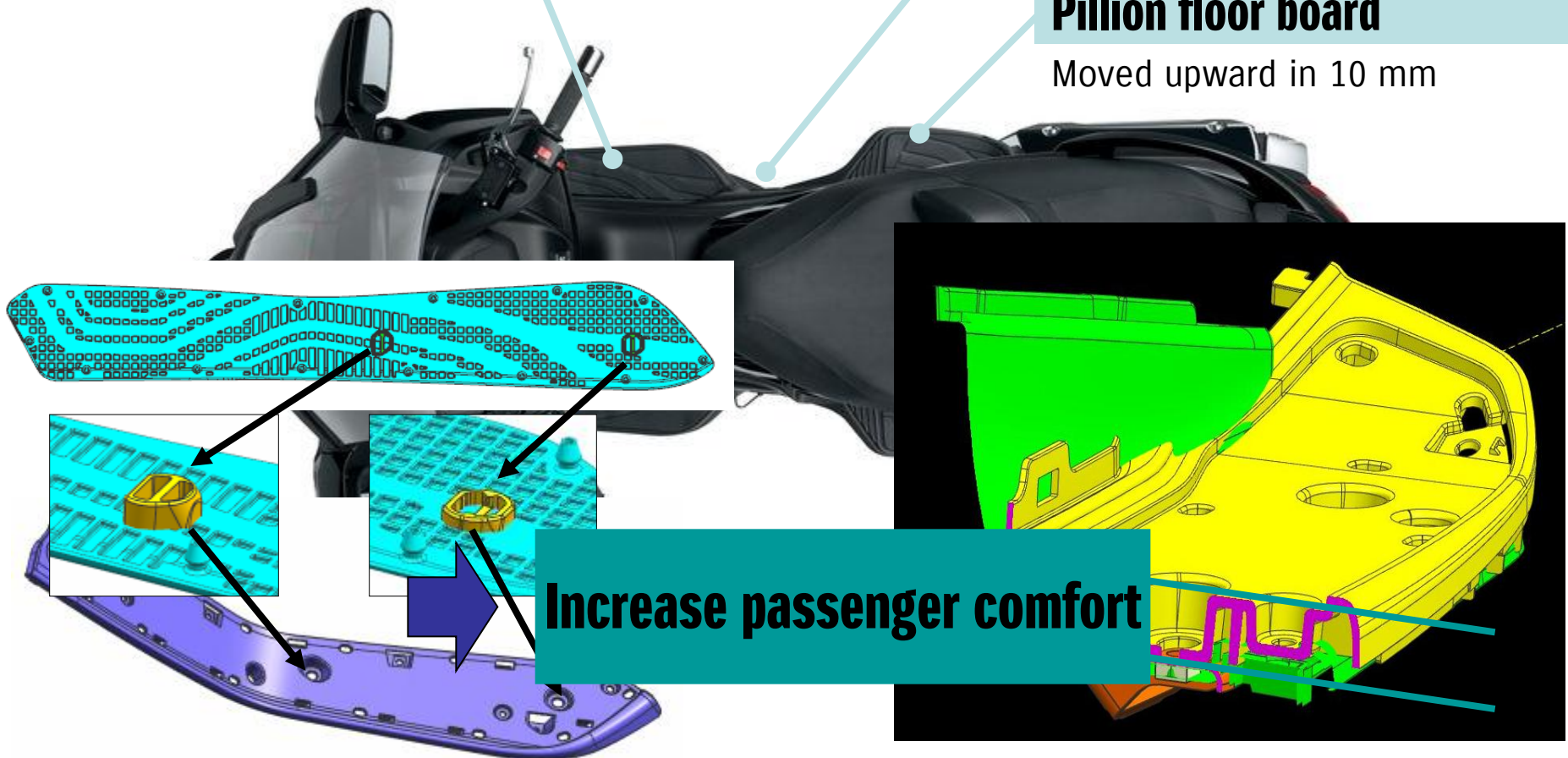
Added stopper boss to prevent from slide.

Cut floor board

Designed to reach ground easier

Pillion floor board

Moved upward in 10 mm

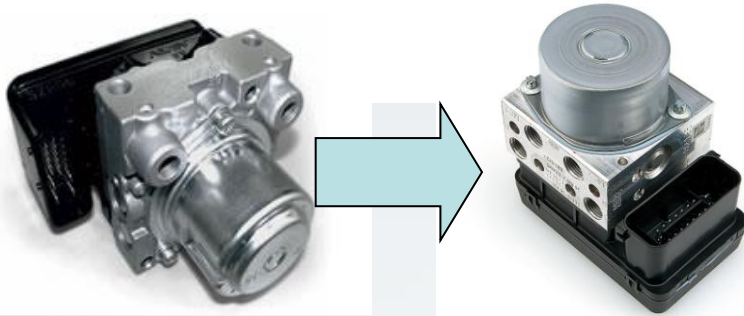


Chassis design



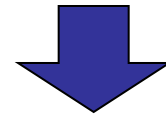
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Brakes



ABS unit

Smaller and 55% lighter unit

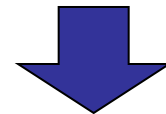


Weight saving

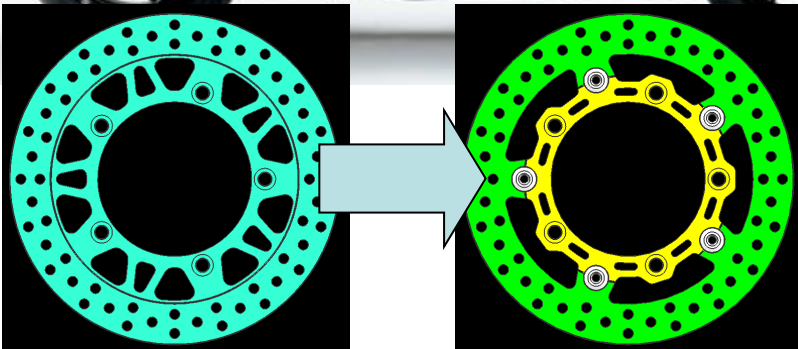


Brake discs

Changed from solid type to floating type



Stable performance



Chassis design

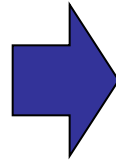


Way of Life!

Brakes

Brake lock lever

Relocated from right-under of the front compartment to left-under of the seat



Improved accessibility

Better looking



Test in Europe



Way of Life!

Along with the development, we conducted test in Italy.



Test in United States



Way of Life!

After the test in Italy, we conducted test in United States, too.



Equipments

Equipments



Way of Life!

Storage

Underseat compartment

50L in capacity, it can hold two full-face helmets.

Illumination light

Added convenience in nighttime use.

Cable lock

Cable lock wire is enclosed to hold a helmet outside the compartment to make space for luggage inside.



Equipments



Way of Life!

Storage



Push-to-open compartments

1.3 L in capacity each

Lockable compartment

5.2 L in capacity can hold two 500ml bottles.

Changed internal shape into less jumping out

DC outlet

Relocated to accept more various size of sockets



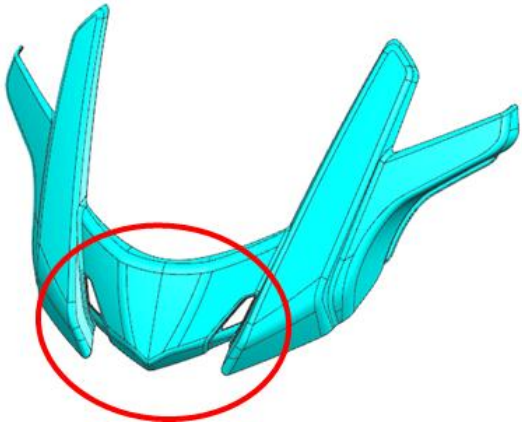
Wind screen

Electrically adjustable

Riders are able to adjust the screen to suit to their height easily.

Wind screen cover

Added holes as a result of various times of wind tunnel tests.



Equipments



Way of Life!

Wind tunnel tests

To accomplish great wind protection, wind tunnel test was conducted.



Other standard equipments



Rearview mirrors

Electrically retractable

Backrest

Adjustable by 50 mm back and forth



Equipments only for Executive model



Grip heater

Selectable in five different temperature



Seat heater

Both rider and passenger available



Passenger backrest

Comfortably holds the passenger

Equipments



Way of Life!

Genuine accessories



Top case



Side visor



Chrome front garnish



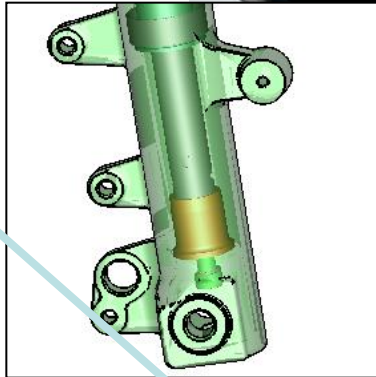
Tunnel bag

Others

Refined for easy maintenance

ABS sensor bracket

Integrated with outer tube of the front suspension to avoid the sensor falling off when taking off the front tire.



Maintenance lid

Newly added maintenance lid makes it possible to refill the engine oil and the coolant without removing the entire leg cover.



Previous model



Comparison - New vs. Previous

*Figures in <> are for Executive model.

Specifications	2013	2012
Overall length	2265mm (89.2in)	2260 mm (89.0 in)
Overall width	810mm (31.9in)	810 mm (31.9 in)
Overall height	1420mm (55.9in)	1435 mm (56.5 in)
Wheelbase	1585mm (62.4in)	1595 mm (62.8 in)
Ground clearance	125mm (4.9in)	130 mm (5.1 in)
Seat height	755mm (29.7in) <760mm (29.9in)>	750 mm (29.5 in)
Curb mass	275kg <277kg>	269kg (593lbs) <277kg (611lbs)>
Displacement	638 cm ³ (38.9 cu. in)	638 cm ³ (38.9 cu. in)
Max output	40.5kw/7,000rpm	40.5kw/7,000rpm
Max torque	62Nm/5,000rpm	62Nm/5,000rpm
Fuel consumption	21 km/L in WMTC	N/A
Transmission	SECVT	SECVT
Front tire	120/70R15M/C 56H, tubeless	120/70R15M/C 56H, tubeless
Rear tire	160/60R14M/C 65H, tubeless	160/60R14M/C 65H, tubeless
Fuel tank capacity	15.0 L (4.0/3.3 US/Imp gal)	15.0 L (4.0/3.3 US/lamp gal)
Underseat storage	50 L	56 L

Comparison - New vs. Previous

Equipments	2013	2012
Electrically adjustable screen	○ (Standard equipment)	Executive only
Electrically retractable mirrors	○ (Standard equipment)	Executive only
Adjustable backrest	○	○
LED position lights	○	×
Underseat compartment can hold two full-face helmets	○	○
DC outlet	○	○
Seat heater	Executive only	Executive only
Grip heater	Executive only	Executive only
Passenger backrest	Executive only	Executive only
Fuel consumption meter	○	○
Thermometer	○	○
Eco drive indicator	○	×
Freeze indicator	○	○
Oil level and change indicator	○	○



Way of Life!

A white Suzuki scooter is shown from a front-three-quarter view, riding on a dark asphalt road that curves through a lush, green, hilly landscape. The rider is wearing a black helmet and dark clothing. The background features a blue sky with scattered white clouds and a blurred green hillside, suggesting motion. The road has yellow double lines and a white shoulder line.

Thank you