MODEL INFORMATION

MODEL NAME: Vulcan S ABS
MARKETING CODE: EN650B
VERSION: 8th April 2015
STYLISH, URBAN MOTORCYCLE FOR NEW RIDERS, FEMALE RIDERS

The Vulcan S is not your average cruiser. It stands apart, with its Parallel Twin engine, unique frame and suspension layout, and its very non-traditional looks. Designed for independent-minded riders, it does not require the rider to conform to any heard-mentality fashion or lifestyle. Special attention paid to ensuring high levels of fit & comfort, and confidence in riding make the new Vulcan an attractive option for new riders and female riders looking for a stylish, accommodating motorcycle. Accessible in all senses of the word, with the Vulcan S riders can come as they are, and just get on and go.
CONCEPT AND ADVANTAGES

Trend-Setting Design
- Unique styling with a modern flair
- Inverted triangle headlamp highlights unique styling
- Tight-fit rear fender
- Unique wheel design
- Distinctive offset laydown single-shock
- Powerful & clean-cut under-engine muffler
- Original multi-function instrumentation

Overseas Model Shown

Fit & Comfort
- Low seat height is reassuring in stop-and-go city traffic
- Slim chassis facilitates reach to the ground
- Thickly-padded sculpted seat offers great hip support
- Relaxing, foot-forward riding position

Adjustable 3-position footpegs:
- Standard
- 1” forward
- 1” back
*Alternate shift linkage rods sold separately.

Adjustable clutch/brake levers
Numerous accessories enable even better fit & comfort
- Fit: Handlebar (44 mm back), reduced-reach seat (53 mm closer), comfort seat (for larger/taller riders)
- Comfort: Windshields (large, medium), passenger seat (STD in Europe) and backrest
- Many other accessories available

Confidence in Riding
- Powerful, yet easy-to-control engine
- Difficult to stall (ample low-mid range torque)
- Smooth power delivery, smooth acceleration (Parallel Twin)

- Easy to manoeuvre
- Light handling (18”/17” radial tyres, low centre of gravity, centralised mass)
- Easy to pull into/out of garage (lightweight design)

- Stable
- Highway riding (long wheelbase)

- Reassuring
- Long range (14 litre fuel tank + good fuel economy)
KEY FEATURES

**Low seat height** - P.12
Low seat and slim overall design make it easy to reach the ground with both feet, contributing to rider confidence.

**Comfortable seat** - P.13
Sculpted seat design with thick padding offers excellent comfort and good hip support.

**Long range** - P.20
14 litre fuel tank and good fuel economy translates to a reassuringly long range.

**Adjustable clutch/brake levers** - P.12
Multi-position levers allow riders to adjust lever position to suit hand size and preference.

**Easy-to-read instrumentation** - P.10
Original-design instrumentation cluster features an analogue-style tachometer and multi-purpose LCD. Convenient features keep riders fully informed of operating conditions.

**Adjustable footpegs** - P.12
3-position footpegs allow riders to adjust foot position to suit size and preference.

**Slip back bone-style rear frame** - P.12,19
Rear frame design contributes to the slim chassis design and easy reach to the ground.

**Linkage-equipped offset laydown single-shock** - P.19
Highly distinctive single-shock rear suspension contributes to the trend-setting styling. Linkage allows a longer stroke, adding to riding comfort.

**Modern, urban styling** - P.5
Flowing style with long-and-low stance and modern elements like the original headlamp and cast wheels with five spoke pair design give the Vulcan S very non-traditional cruiser looks.

**Accessories** - P.14
Numerous accessories make it easy to tailor-fit riding position, or increase riding comfort.

**Rear wheelbase** - P.19
Long wheelbase offers a balance of light handling and superior highway stability.

**Under-engine muffler** - P.6,17
Muffler located under the engine contributes to a low centre of gravity, and is tucked out of the way, making it easier to reach the ground when stopped. The muffler’s design conveys both power and style.

**Easy-to-control 649 cm³ liquid-cooled, 4-stroke Parallel Twin** - P.16
Compact engine tuned for low- and mid-range performance offers an easy-to-control character and gratifying acceleration.

**Relaxed, foot-forward riding position** - P.13
The compact engine and slim frame result in a design that is narrow at the knees and feet. Forward-positioned footpegs are ideal for relaxed, cruiser-style riding.

**Light handling** - P.18
Low overall weight, fine-tuned chassis rigidity balance, 18"/17" radial tires and suspension settings result in a bike with light, easy handling and easy maneuverability.

**Large disc brakes** - P.20
Large-diameter disc brakes balance ample stopping power with easy control for beginning riders.

**ABS** - P.20
Models with front and rear ABS are also available in certain markets.

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As the kind of bike a rider chooses to ride is often a reflection of the rider’s character, so too the bike’s styling reflects the rider’s tastes. For riders who prefer not to follow the crowd, the unique design of the Vulcan S offers a stylish, modern alternative to the traditional cruiser image.
Styling elements

* Curved, flowing style blended with a powerful, long-and-low stance and modern elements creates a unique, eye-catching design.

* Inverted triangle headlamp contributes to the Vulcan S’s fresh, unique design. A position lamp is built into the upper portion of the headlamp unit. (Photo 1)

* New tear drop-style fuel tank adds a cruiser-style touch. (Photo 2)

* Tapered handlebar is fatter in the middle, contributing to a strong appearance of the handle area.

* Tail fender shaped to hug the rear wheel as closely as possible, creating a compact cruiser-style design. The design was made possible in part by the offset laydown rear shock. (Photo 3)

* LED taillight contributes to the compact tail design and adds to the bike’s modern image. (Photo 4)
TREND-SETTING DESIGN

* While European models feature seating for two, Australian and North American models come standard with a solo seat that complements the low rear fender design. (Photos 5-6)

* Rounded turn signals fore and aft match the bike’s overall design.

* Inner fender unitised with the chain cover contributes to the stylish design.

* Metal plates added to various components, including the radiator shrouds, cylinder head cover and swingarm pivot cover, contribute to the high-quality image.

* Attention given to detailed parts and care taken to ensure clean welding lines result in a high-quality finish.
Engine

* The Vulcan S’s unique Parallel Twin engine configuration creates an image very different from the traditional cruiser. (Photos 7-8)

* Attractive bend of the exhaust pipes and an under-engine muffler arrangement contribute to the Vulcan S’s attractive styling. (Photos 9-10)

* Finish on the cylinder head is similar to air-cooled fins, contributing to a tough-looking appearance.

* Slim radiator design matches the cruiser-style image.

* Dual-wall exhaust pipe design gives the header pipes a fatter appearance for a strong image.
Frame

* Elegant pipe perimeter frame is a key component of the Vulcan S’s identity. The bike's bodywork accentuates the frame, rather than hiding it.

* The design of the frame, rear suspension and swingarm create an integrated line running from the front of the bike to the rear hub.

* A pipe frame of high-tensile steel gives the bike a lightweight appearance. 3D analysis was used to achieve the target rigidity and stress values.

* Offset laydown rear single-shock suspension is a distinctive styling element, contributing the trend-setting design. (Photo 11)

* The swingarm’s D-shaped cross-section gives it a pipe-like design that matches the frame, and contributes to the high-quality appearance. (Photo 12)

* The 1,575 mm wheelbase adds to the bike’s cruiser-style long-and-low design.
**Wheels**

* Original design of the cast wheels uses 5 spoke pairs to create a cruiser-style image with a strong impact. (Photo 13)

* 18-inch front wheel is complemented by a 17-inch rear wheel.

**Instrumentation**

* Compact, stacked instrument cluster matches the bike's overall design and features an easy-to-read layout. Analogue-style tachometer and multi-function LCD screen use blue LED backlights for excellent visibility at night. Features include a fuel gauge, digital speedometer, clock, odometer, dual trip meters, remaining range, average/instant fuel consumption and the Economical Riding Indicator. (Photo 14)

* Key cylinder is located at the front of the fuel tank, creating a very clean cockpit area. The position also greatly facilitates access and ignition operation.
Feeling comfortable—especially for a new rider—is one of the key factors when choosing a motorcycle. The Vulcan S was designed to be accommodating for a wide range of riders from short to tall. Complementing the relaxed riding position, adjustable footpegs and levers, and a number of accessory components allow riders to custom-fit their bike to suit size and preference.
Low seat height

* Being able to easily put your feet on the ground when stopped is one of the most important factors in feeling comfortable on a motorcycle. At 705 mm, the Vulcan S’s low seat is very accommodating.

Slim chassis design

* Compared to a V-Twin engine usually seen in cruisers, the Vulcan S’s Parallel Twin engine enables a slimmer space between the rider’s legs.

* Slim, backbone-style rear frame contributes to the easy reach to the ground. Please also see Slim, light-handling chassis below.

Custom-fit adjustability

* Footpeg position is adjustable with three positions available: STD, 25 mm forward, 25 mm back. (*Alternate shift linkage rods, sold separately, are necessary when changing the position from standard.)

* An accessory handlebar positions the handle grips 44 mm closer to the rider.

* Accessory reduced-reach seat that positions the rider 53 mm closer to the tank and controls accommodates shorter riders.

* Accessory comfort seat offers a more spacious seating position for taller/larger riders.

* Brake and clutch levers can be adjusted to suit the rider’s hand size and preference.
Comfort

* Seat design with thick, 62 mm padding offers a wide surface and excellent hip support, ensuring ample comfort for city riding and short tours. The seat bracket is rubber-mounted, reducing vibration transferred through the seat. (Photo 16)

* Footpegs are positioned for foot-forward control, creating a relaxed cruiser-style riding position.

* Handlebar is rubber-mounted to reduce vibration transmitted through the handle grips.

* Rider footpeg stays are rubber-mounted, and the footpegs are rubber-coated to further reduce vibration.
Accessories

* In addition to the accessories mentioned above, numerous other accessories allow riders to add comfort for longer rides (windshields, gear position indicator, DC socket), carry luggage (luggage racks, saddlebags) or accommodate passengers (passenger seat, footpegs, backrest).

- Windshield (large, medium)
- Gear position indicator
- DC socket
- ETC (Japan market only)
- Leather saddlebags
- Luggage rack
- Solo luggage rack
- Passenger seat
- Comfort seat, rear
- Passenger footpegs
- Passenger backrest
- Helmet lock

* Other accessories allow riders to customise the look of their ride.

- Light bar with sub lamps
- Chrome handlebars (standard, close-position)
- Chrome clutch cover
- Black clutch cover (with Kawasaki logo)
- Exhaust pipe cover
- Muffler body cover
- Tank decals

* Model shown with accessory parts.
* Accessories subject to change without prior notice.
Both the engine and chassis were designed to offer new riders confidence. The compact Parallel Twin engine has a very accommodating character, delivering feel good power while being easy to control. The chassis is slim and lightweight, thanks in part to the compact design of the engine. Light, easy handling is complemented by a reassuring low seat height and a slim design that makes it easy to reach the ground. The low overall weight is apparent as soon as you lift the bike off its side stand, making the Vulcan S one of the most accessible bikes for new riders available.
Engine performance

- Liquid-cooled, DOHC, 8-valve 649 cm³ Parallel Twin with fuel injection delivers smooth, responsive performance, especially in the low and medium rpm ranges. The engine was tuned for rider-friendly power characteristics that will inspire confidence in new riders. The Vulcan S offers smooth starts from a standstill, smooth acceleration, and a satisfying pull when accelerating. The strong acceleration facilitates highway merging and passing.

- Particular attention paid to the intake ports and camshaft profiles, and long-type intake funnels result in strong low-mid rpm performance, contributing to the smooth acceleration and good pull feeling.

- Large-bore ø38 mm throttle bodies feature sub-throttles for high power output with smooth, sensitive throttle response.

- Crankshaft design includes a heavier flywheel mass. This contributes to the easy-to-control engine character: the engine is smooth when rolling off the throttle, and it is difficult to stall, which facilitates pulling away from a stop.

- Under-engine muffler design contributes to strong torque in the low-mid rpm range. This facilitates control at lower rpm and contributes to the enjoyment of the Vulcan S.

- Lightweight drive chain offers less mechanical loss and lower weight than a belt drive.
Compact engine design

* The Vulcan S's 649 cm³ liquid-cooled power unit is loaded with innovative technology that enabled its compact design to be realised:

> Triangular layout of the crankshaft and transmission shafts makes the engine very short front-to-back.
> Transmission input shaft, output shaft and change drum are contained in a “cassette”-style package that both allows a compact layout and facilitates transmission maintenance chores.
> Semi-dry sump design reduces engine height.
> Plated, linerless cylinder is lightweight, and the narrow cylinder pitch reduces engine width.
> Under-engine muffler improves mass centralisation and lowers the bike's centre of gravity.
CONFIDENCE IN RIDING

Slim, light-handling chassis

Together with the compact engine and backbone-style rear frame, the frame’s design realises a package that is slim, low, lightweight and compact.

- The compact engine allows use of a slim, minimalist frame, resulting in a design that is narrow at the knees and feet.
- 3D analysis was used to achieve the ideal stiffness balance for the frame, contributing to the superb handling characteristics.

- The frame is constructed of high-tensile steel, contributing to light weight.
- The layout of the offset single-shock rear suspension allows the battery to be located beside the shock instead of beneath it. This elegant arrangement allows a lower seat height as well as a slim design.
- As much as possible, the exhaust was kept under the engine, ensuring a slim chassis and an unobstructed reach to the ground.
CONFIDENCE IN RIDING

* The Vulcan S’s low weight and low centre of gravity make it highly manoeuvrable, whether riding, paddling in a parking lot, or walking beside the bike.

* Slim backbone-style rear frame design allows all components to be positioned close to the bike centreline.

  > Instead of using seat rails, a single beam (formed from interlocked C-section pieces) is used. The slim design enables a more comfortable seat construction.

  > Separate pivot plates contribute to the slim chassis design. At the swingarm pivot, the lower part of rear frame is supported by two sleeves through which the swingarm bolt passes. This enables a narrower design between the rider’s feet, facilitating the reach to the ground.

* Separate sub-frames provide support for the rear fender. On European models, the passenger footpeg stays are integrated with the sub-frames.

* Rigid-mount engine is a stressed member, contributing to the frame’s idealised rigidity balance, and to the bike’s excellent handling and stability.

* Frame geometry (caster is 31°, trail is 120 mm) was set for easy-to-control, light, natural handling.

* Footpegs are positioned such that they do not touch down easily, enabling stress-free cornering.

* Wheelbase of 1,575 mm was chosen for a balance of light handling and superior riding stability.

* The same characteristics that make it fun to ride (light handling and relaxed, rider-friendly ergonomics), also make the Vulcan S ideal for new riders.

Suspension

* Both front and rear suspension settings prioritise ride comfort.

* Telescopic front fork contributes to the bike’s easy-to-control, light and natural handling.

* Offset laydown single-shock rear suspension is equipped with linkage to enable a longer stroke for increased ride comfort.

* The rear suspension arrangement also contributes to the bike’s compact design, freeing up space for a large-volume silencer under the engine.

* Rear shock features adjustable preload, with 7 positions to suit rider size and payload.
CONFIDENCE IN RIDING

Brakes

* Large ø300 mm front disc is slowed by a two-piston caliper.
  (Photo 18)

* At the rear, a ø250 mm disc is gripped by single-piston caliper.
  (Photo 19)

* The brakes provide ample stopping power, while offering easy control for new riders.
* Customers looking for an added degree of reassuring braking performance can also choose models with front and rear ABS (available in certain markets).
* The compact ABS unit contributes to the lightweight chassis, and is conveniently tucked away under the rear shock, which ensures a slim construction beneath the seat.

Wheels/Tyres

* Wheel sizes (18-inch for the front, 17-inch for the rear) are closer to those found on a sport bike than a typical cruiser model (which often have much larger front wheels). The smaller front wheel contributes to the Vulcan S’s natural, light handling.

* Tyres were selected to offer a balance of light handling and a powerful image. Sizes measure 120/70R18 in the front, 160/60R17 in the rear.

Long range

* With its 14 litre fuel tank capacity and the Parallel Twin engine’s good fuel economy, the long range offered by the Vulcan S means riders can go longer between fill-ups—convenient in town, and reassuring when out on a daytrip.
**COLOUR(S)**

* Metallic Matte Carbon Gray

*New Matte Orange*
# SPECIFICATIONS

## EN650BGF

### ENGINE

<table>
<thead>
<tr>
<th>Type</th>
<th>Liquid-cooled, 4-stroke Parallel Twin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement</td>
<td>649 cm³</td>
</tr>
<tr>
<td>Bore and Stroke</td>
<td>83.0 x 60.0 mm</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>10.8:1</td>
</tr>
<tr>
<td>Valve system</td>
<td>DOHC, 8 valves</td>
</tr>
<tr>
<td>Fuel system</td>
<td>Fuel injection: ø38 mm x 2 with sub-throttles</td>
</tr>
<tr>
<td>Ignition</td>
<td>Digital</td>
</tr>
<tr>
<td>Starting</td>
<td>Electric</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Forced lubrication, semi-dry sump</td>
</tr>
</tbody>
</table>

### DRIVETRAIN

| Transmission | 6-speed, return |
| Final drive | Chain |
| Primary reduction ratio | 2.095 (88/42) |
| Gear ratios: 1st | 2.438 (39/16) |
| 2nd | 1.714 (36/21) |
| 3rd | 1.333 (32/24) |
| 4th | 1.111 (30/27) |
| 5th | 0.966 (28/29) |
| 6th | 0.852 (23/27) |
| Final reduction ratio | 3.067 (46/15) |
| Clutch | Wet multi-disc, manual |

### FRAME

<table>
<thead>
<tr>
<th>Type</th>
<th>Perimeter, high-tensile steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheel travel: front</td>
<td>130 mm</td>
</tr>
<tr>
<td>rear</td>
<td>80 mm</td>
</tr>
<tr>
<td>Tyre: front</td>
<td>120/70R18M/C 59H</td>
</tr>
<tr>
<td>rear</td>
<td>160/60R17M/C 69H</td>
</tr>
<tr>
<td>Caster (rake)</td>
<td>31°</td>
</tr>
<tr>
<td>Trail</td>
<td>120 mm</td>
</tr>
<tr>
<td>Steering angle (left/right)</td>
<td>35° / 35°</td>
</tr>
</tbody>
</table>

### SUSPENSION

<table>
<thead>
<tr>
<th>Type</th>
<th>ø41 mm telescopic fork</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front: Type</td>
<td></td>
</tr>
<tr>
<td>Rear: Type</td>
<td>Offset laydown single-shock, linkage-equipped, with adjustable preload</td>
</tr>
</tbody>
</table>
## SPECIFICATIONS

### EN650BGF

#### BRAKES

<table>
<thead>
<tr>
<th>Type</th>
<th>Caliper</th>
<th>Front: Type</th>
<th>Caliper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single ø300 mm disc</td>
<td>Dual-piston</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single ø250 mm disc</td>
<td>Single-piston</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### PERFORMANCE

<table>
<thead>
<tr>
<th>Maximum power</th>
<th>35 kW (48 PS) / 7,900 min-1 (AUS LAMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum torque</td>
<td>57 N.m (5.8 kgf.m) / 3,800 min-1 (AUS LAMS)</td>
</tr>
</tbody>
</table>

#### DIMENSIONS

<table>
<thead>
<tr>
<th>Overall length</th>
<th>2,310 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall width</td>
<td>880 mm</td>
</tr>
<tr>
<td>Overall height / High position</td>
<td>1,100 mm</td>
</tr>
<tr>
<td>Wheelbase</td>
<td>1,575 mm</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>130 mm</td>
</tr>
<tr>
<td>Seat height</td>
<td>705 mm</td>
</tr>
<tr>
<td>Curb mass</td>
<td>226 kg (EN650B: Single-seat)</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>14 litres</td>
</tr>
</tbody>
</table>

The specifications mentioned here apply to and have been achieved by production models under standard operating conditions. We intend only to give a fair description of the vehicle and its performance capabilities but these specifications may not apply to every machine supplied for sale. Kawasaki Heavy Industries, Ltd. reserves the right to alter specifications without prior notice. Equipment illustrated and specifications may vary to meet individual markets. Available colours may vary by market.
Vulcan S ABS 2016 Questions

1. Does the Vulcan S have adjustable foot pegs?
2. Is the Vulcan S designed for a solo seat?
3. What is the shape of the headlight?
4. Does the Vulcan S have tapered handlebars?
5. What shape/style is the Vulcan S fuel tank?
6. What style of rear suspension does the Vulcan S have?
7. What style are the wheels on the Vulcan S?
8. Does the Vulcan S have a digital or analogue speedometer?
9. What is the seat height of the Vulcan S?
10. Do you need to change the shift linkage rod if you change the adjustable foot pegs?
11. What is the thickness of the seat padding of the Vulcan S?
12. Is there a wide range of accessories available for the Vulcan S?
13. What is the engine configuration of the Vulcan S?
14. What benefit does the under engine muffler on the Vulcan S provide?
15. What size is the front disc brake on the Vulcan S?
16. Where is the ABS unit located on the Vulcan S?
17. What is the fuel tank capacity?
18. What 2 new colours does the 2016 Vulcan S come in?
19. Is the Vulcan S electric or kick start?
20. What is the ground clearance for the Vulcan S?
21. Is the Vulcan S learner legal in Australia?

Please refer to the 2015 Vulcan S Model Information for further information

Answers next page.
### Vulcan S ABS 2016 Answers

1. Yes, 3-positions (standard, 25 mm back and 25 mm forward)  
2. Yes, in Australia the Vulcan S has a solo seat as standard.  
3. Inverted triangle (position lamp is built into the upper portion)  
4. Yes, the handlebars is fatter in the middle.  
5. Teardrop styled fuel tank  
6. Off-set laydown rear single shock suspension  
7. Cast wheels with 5 spoke “Pairs” (18” front and 17” rear)  
8. Digital speedometer  
9. Seat height is 705 mm  
10. Yes, the rods are sold separately  
11. 62 mm thick seat padding  
12. Yes, including windshield, gear position sensor, saddlebags, luggage rack, passenger seat, backrest, helmet lock, light bar and more  
13. Liquid-cooled, DOHC, 8 valve, 649cm³ Parallel Twin engine  
14. The muffler lowers the centre of gravity and improves mass centralization and looks good  
15. 300 mm front disc  
16. The ABS unit is conveniently located tucked away under the rear shock.  
17. 14 litre fuel tank  
18. Metallic Matte Carbon Gray and New Matte Orange.  
19. The Vulcan S is electric start (who wants a kick start road bike these days)  
20. 130 mm ground clearance  
21. Yes the Vulcan S has a maximum power of 35kW for Australia and is learner legal in all states and territories under LAMS