



Way of Life!



**V-Strom 650**  
ABS

# History



Way of Life!

- Let's first take a look at how the 650 V-Strom evolved into the great motorcycle that it is today.





# History



Way of Life!

- Suzuki's first adventure touring motorcycle, the DR750 (DR BIG) was introduced in 1988. It's displacement was upped to 800 cc's in 1990.
- The first V-Strom was introduced in 2002 with a 1000 cc 90° V-twin engine.



# History



Way of Life!

- That was followed up by the DL650 V-Strom in 2004. ABS became available in 2007 (DL650A) and in 2009 an SE model became available with touring side bags and top case.



# History



Way of Life!

- The second generation V-Strom was introduced in 2012 in a standard model, SE model and Expedition model. The Expedition model is equipped with aluminum bags and top case, engine guards, hand guards, engine under cowling and Vario windscreen.



# History



Way of Life!

- In 2015, a new X model was introduced with wire spoke wheels and revised styling. It is also available in an Expedition version.





# Model Selection



Way of Life!

- The 2<sup>nd</sup> generation DL650A V-Strom is shown
- ABS is standard on all 2<sup>nd</sup> generation models

**DL650A**



# Model Selection



Way of Life!

- The SE model adds touring side bags and top case



**DL650ASE**



# Model Selection



Way of Life!

- The Expedition model adds aluminum bags and top case, engine guards, hand guards, engine under cowling and Vario windscreen



**DL650AEXP**

# Model Selection



Way of Life!

- The DL650AX features wire spoke wheels and styling which includes the distinctive beak design

**DL650AX**



# Model Selection



Way of Life!

- The DL650AXEXP features the same wheels and styling as the DL650AX plus Expedition equipment
- Expedition equipment includes aluminum bags and top case, engine guards, hand guards, engine under cowling and Vario windscreen





# Comfortable Adventure Tourer



Way of Life!

- Class Leading Touring Comfort:
  - Class-leading, long riding range between refueling stops
  - Comfortable riding position (seat, foot rest, handlebar position)
  - Newly-designed seat for increased comfort
  - Excellent wind protection
  - Rear suspension equipped with spring preload adjuster
  - Convenient instrument cluster
  - Smooth gearshift operation
  - Available accessories



# Comfortable Adventure Tourer



Way of Life!

- Easy to handle, well balanced design for riding comfort:
  - Powerful and easy-to-handle V-Twin engine (improved feel in low-to-mid rpm range)
  - Suzuki Dual Throttle Valve (SDTV) delivering smooth throttle response
  - Lightweight aluminum twin-spar frame and swingarm
  - Long stroke front and rear suspension for riding on varying road surfaces
  - Cast-aluminum wheels for sporty and agile handling
  - Compact and lightweight Antilock Brake System
  - Chassis designed for mounting 3 bags



# Comfortable Adventure Tourer



Way of Life!

- Adventurous styling:
  - Sporty and dynamic front fairing
  - Horizontally arranged dual headlights inherits V-Strom identity
  - Compact fuel tank
  - Newly designed muffler with an adventurous appearance
  - Slim, compact front and rear fenders
  - Sporty design frame covers



Comparison to 1<sup>st</sup> generation model



# Comfortable Adventure Tourer



Way of Life!

- Improvement in environmental performance and fuel economy (10% increase), essential for long distance tourers:
  - Twin iridium spark plug
  - Throttle-body integrated Idle Speed Control (TI-ISC)
  - 10-hole fine atomization fuel injector
  - Large, 300-cell catalyst
  - Engine Control Unit (ECU) powered by high performance 32-bit CPU



Comparison to 1<sup>st</sup> generation model

# Windscreen



Way of Life!

- Newly designed to reduce wind noise and rider fatigue during long distance tours
- Upper edge of windscreen set back 30 mm to reduce turbulence
- Adjustable in 3 positions
  - Standard position
  - Up 24 mm rearward 18 mm
  - Down 18 mm, forward 18 mm
- Simplified windscreen locking mechanism
- Windscreen mount with textured finish and Suzuki logo



Comparison to 1<sup>st</sup> generation model

# Seat



Way of Life!

- Seat shape makes it easier to touch the ground
- Embossed logo with red stitching and touch finish to prevent slipping
- 15 mm higher seat height for an ideal handlebar-seat-foot peg relationship
- Optional 20 mm lower seat and 20 mm higher seat





# Bodywork Shape



Way of Life!

- Narrower fuel tank and frame covers improves riding position and reduces foot reach to ground
- Black textured resin side cowlings and frame covers
- 20 L fuel tank capacity for long range (5% less capacity from previous generation but 10% better fuel economy)



# Muffler



Way of Life!

- Muffler moved forward to reduce overhang and to follow the seat rail line for improved appearance
- Buff finish end cap and silver metallic cover for enhanced texture quality



Comparison to 1<sup>st</sup> generation model

# Carrier



Way of Life!

- Lighter weight resin carrier with integrated hand rails
- Resin grab rails not affected by ambient temperature as much as aluminum and when combined with a contoured shape, passenger comfort is improved
- Non-slip dots on rubber mat improves luggage mounting security



Comparison to 1<sup>st</sup>  
generation model

# Fenders



Way of Life!

- Front fender has integrated fork tube guards and is shaped for smooth air flow to radiator
- Seat key cylinder moved to left side of rear fender for easy access to under seat storage and license plate bracket moved upward



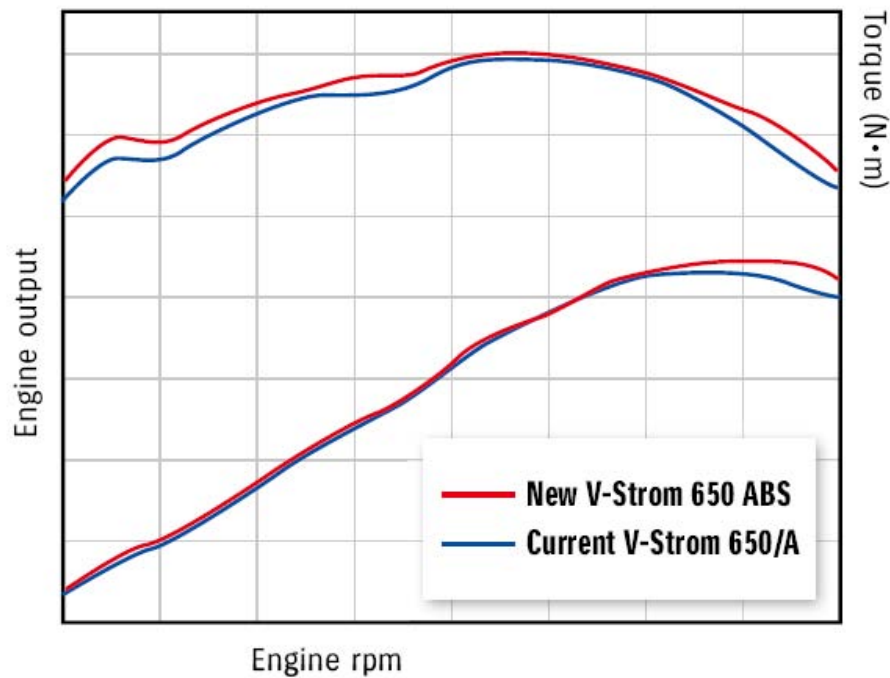


# Engine



Way of Life!

- Mid range and maximum power increased
- Reduced mechanical noise conveys a sense of quality
- Improved fuel economy



Comparison to 1<sup>st</sup> generation model

# Engine



Way of Life!

- Camshaft profiles changed to improve low to mid range torque
- Intake camshaft timing changed (Opens  $20^{\circ}$  BTDC and closes  $72^{\circ}$  ABDC)



Comparison to 1<sup>st</sup> generation model

# Engine



Way of Life!

- Valve springs changed from double type to single type to lower mechanical loss and improve valve control
- Dual spark plugs per cylinder changed to iridium type for improved throttle response, fuel economy and idle stability



Comparison to 1<sup>st</sup> generation model

# Engine



Way of Life!

- New design pistons and rings
- New SCEM plated cast aluminum cylinder provides excellent heat dissipation, reduced friction, improved resistance to abrasion and better sealing performance



Comparison to 1<sup>st</sup>  
generation model



# Engine



Way of Life!

- Redesigned crankshaft enhances beat feel of V-twin engine and improves torque
- Scissors type primary drive gear mounted to right side of crankshaft reduces mechanical noise caused by variations in engine rpm inherent in V-twin engines



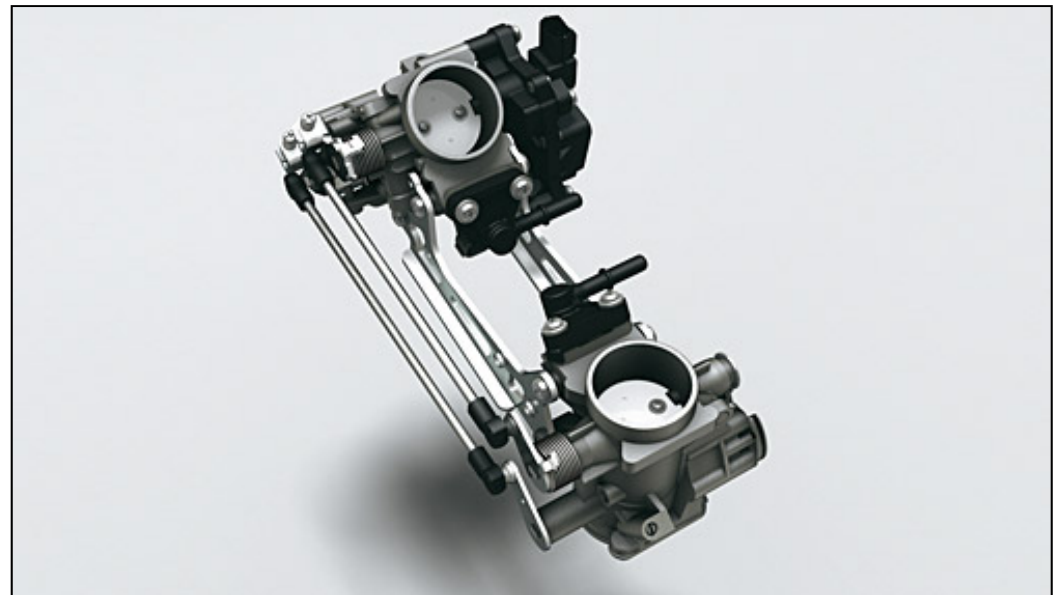
Comparison to 1<sup>st</sup>  
generation model

# Engine



Way of Life!

- 39 mm throttle bodies with Suzuki Dual Throttle Valve system (one throttle valve controlled by cable and the other controlled by computer)
- Idle speed control changed from ISC valve to Throttle-body Integrated ISC (TI-ISC) system (idle speed controlled by secondary throttle valve stepper motor)
- New TI-ISC lowers emissions, provides faster start-up and improves stability in cold weather



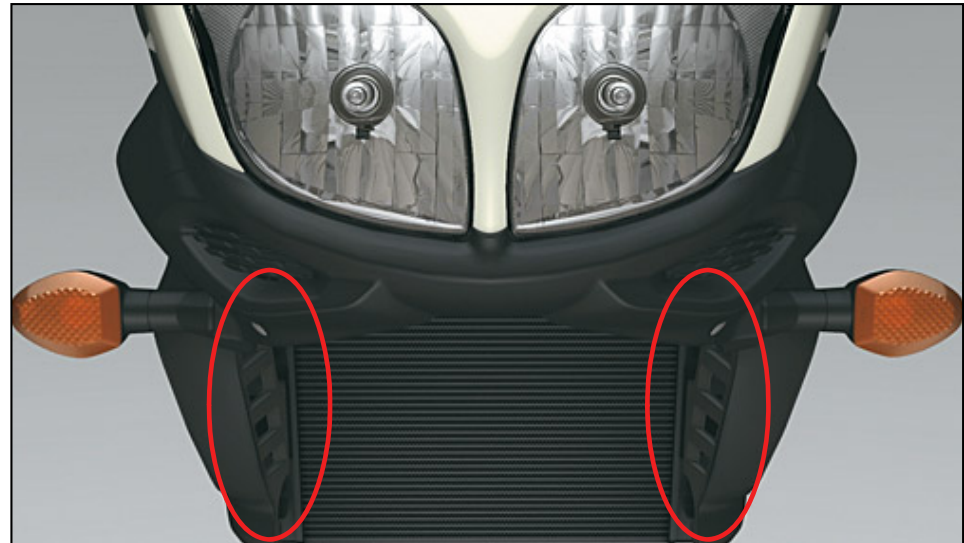
# Engine



Way of Life!

- Oil cooler type changed from air cooled to liquid cooled
- Radiator size changed (320 x 188 x 24 ➔ 300 x 197 x 22 mm)
- Wind directing plates improve cooling performance
- Holes in wind directing plates also allows heat at rider's foot area escape

Comparison to 1<sup>st</sup> generation model

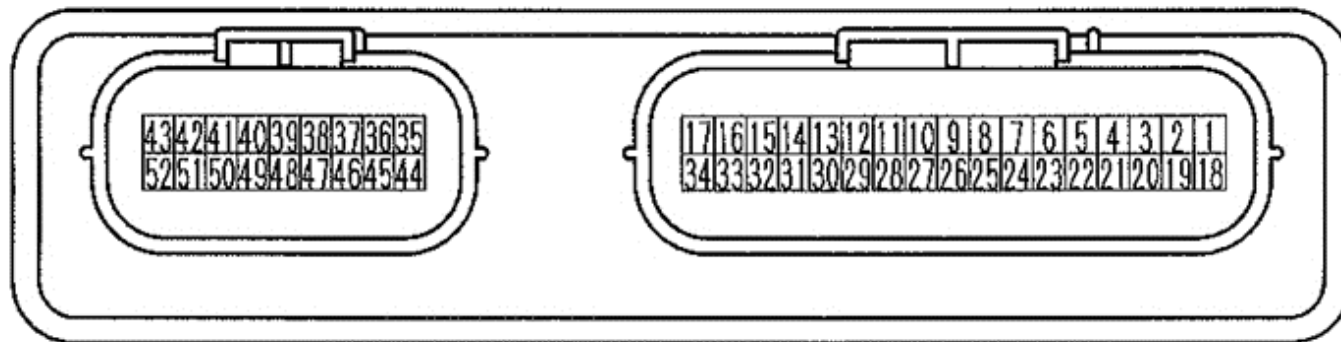


# Engine Control



Way of Life!

- ECM powered by high performance 32-bit CPU
- Basic fuel injection volume calculated according to engine rpm, intake pressure and throttle position
- Final fuel injection volume corrected according to O<sub>2</sub> feedback system





# Clutch & Transmission



Way of Life!

- Clutch release mechanism changed from ball screw type to cam type for a more direct operating feel
- Double layer clutch cover reduces clutch operating sound
- Primary, transmission and final gear ratios unchanged



Comparison to 1<sup>st</sup>  
generation model

# Twin Spar Frame



Way of Life!

- Aluminum alloy twin spar frame and swing arm
- Compared to competitors with a steel frame, the V-Strom frame provides superior rigidity and lighter weight

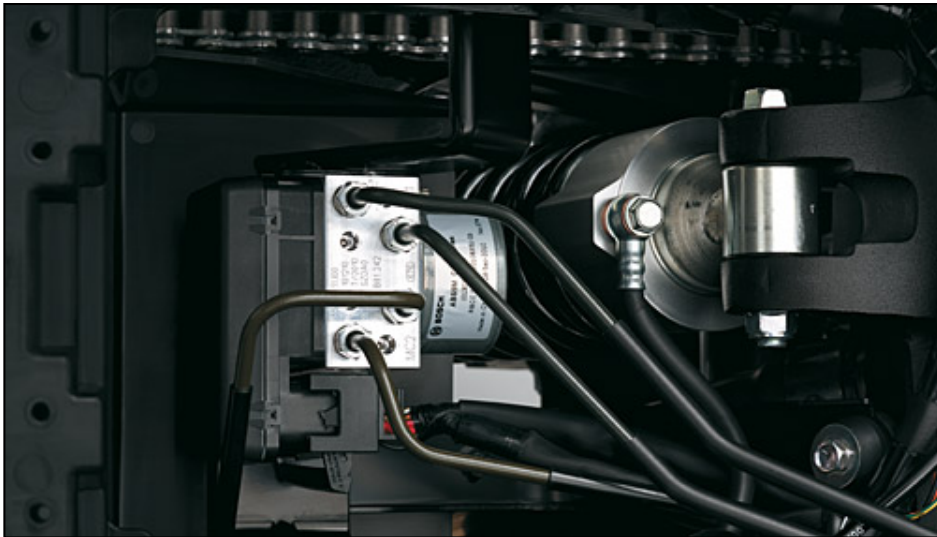


# ABS



Way of Life!

- Antilock brake system provides stable braking on different road surfaces
- Compact ABS hydraulic unit reduces weight (weight reduced from 1.5 kg to 0.7 kg)



# Suspension



Way of Life!

- Front fork with 43 mm diameter inner tubes and 5-way spring pre-load adjuster provides high rigidity and smooth operation
- New design fork upper bracket with silver metallic handlebars improves look of quality
- Rear suspension with easy to use spring pre-load adjuster located below right frame cover and a damping force adjuster





# Wheels & Tires



Way of Life!

- Light weight aluminum 3-spoke front wheel with 110/80R19M/C radial tire
- Light weight aluminum 3-spoke rear wheel with 150/70R17M/C radial tire





# Wheels & Tires (X-Model)



Way of Life!

- Light weight wire spoke front wheel with 110/80R19M/C tubeless radial tire
- Light weight wire spoke rear wheel with 150/70R17M/C tubeless radial tire



# Multi-Function Instrument Cluster



Way of Life!

- Analog tachometer and large LCD speedometer with the following new features:
  - Fuel consumption indicator (switchable between average fuel economy, odometer and trip meters)
  - Freeze indicator (lights below 3° and turns OFF at 5° C)
  - Ambient temperature
  - 6-way brightness adjustment
  - Gear position



# Multi-Function Instrument Cluster



Way of Life!

- Meter select switch located on left handlebar allows rider to change meter settings without releasing the handlebar



# Headlights



Way of Life!

- Dual multi-reflector horizontally arranged headlights produces the same high level of light distribution as current model and superior visibility than competitors
- Both 60/55 watt halogen bulbs illuminated on low and high beam



# Accessories



Way of Life!

- Touring bag set





# Accessories



Way of Life!

- Contents of Touring Bag Set
  - Top case 42L (990D0-TC420-NAR)
  - Top case mount (990D0-11J00-061)
  - Top case liner (990D0-TC42I)
  - Backrest pad (990D0-TC420-005)
  - Side cases 30/40L (990D0-SCNAR-YUS)
  - Side case mount (990D0-11J00-066)
  - Side case liner (990D0-SC00I)
  - 2 pc lock set (990D0-HBLOK-002)
  - 6 pc lock set (990D0-HBLOK-006)
  - 8 pc lock set (990D0-HBLOK-008)
  - Top case plate (990D0-11J00-060)
  - Side case plate (990D0-11J00-065)



# Accessories



Way of Life!

- Aluminum cases



# Accessories



Way of Life!

## ■ Aluminum case parts

- Top case 38L (990D0-ALTCS-NAR)
- Top case mount (990D0-11J00-060)
- Top case liner (990D0-ALTCI-038)
- Backrest pad (990D0-ALTCE-005)
- Side cases 37/45L (990D0-ALSCE-NAR)
- Side case mount (990D0-11J00-067)
- Right case liner (990D0-ALSCI-037)
- Left case liner (990D0-ALSCI-045)
- 4 pc lock set (990D0-ALLOK-0A2)
- 4 pc lock set (990D0-ALLOK-0A4)
- 6 pc lock set (990D0-ALLOK-0A6)
- Silver graphic sticker set (990D0-ALSTK)



# Accessories



Way of Life!

- Vario screen (990D0-11J51-CLE)



# Accessories



Way of Life!

- Engine guard (990D0-11J00-031)





# Accessories



Way of Life!

- GPS mount (990D0-17HNB)



# Accessories



Way of Life!

- 12 volt electric socket (38800-09811)



# Accessories



Way of Life!

- 20 mm higher seat (45100-11J60-KCJ)
- 20 mm lower seat (45100-11J50-KCJ)



# Accessories



Way of Life!

- Hand guards (57300-27831-291)



# Accessories



Way of Life!

- Heated grips (57100-27832)





# Accessories



Way of Life!

- Center stand (42100-06861)



# Accessories



Way of Life!

- Engine under cowling (94400-11820-291)



# Specifications



Way of Life!

DIMENSIONS & CURB MASS		
	1 <sup>st</sup> Generation DL650A V-Strom	2nd Generation DL650A V-Strom
Overall length	2290 mm (90.2 in)	←
Overall Width	840 mm (33.1 in)	835 mm (32.9 in)
Overall height	1420 mm (55.9 in)	1405 mm (55.3 in)
Wheelbase	1555 mm (61.2 in)	1560 mm (61.4 in)
Ground clearance	165 mm (6.5 in)	175 mm (6.9 in)
Seat height	820 mm (32.3 in)	835 mm (32.9 in)
Curb mass	220 kg (485 lbs)	214 kg (472 lbs)

ENGINE		
	1 <sup>st</sup> Generation DL650A V-Strom	2nd Generation DL650A V-Strom
Engine type	4-stroke, liquid, DOHC, 90° V-twin	←
Number of cylinders	2	←
Bore x stroke	81 x 62.6 mm	←
Displacement	645 cc	←
Compression ratio	11.5 : 1	11.2 : 1
Fuel system	Fuel injection	←
Air cleaner	Non woven fabric element	←
Starter system	Electric	←
Lubrication system	Wet sump	←

Curb mass is the weight of the motorcycle as you would ride it with all fluids including a full tank of fuel.

# Specifications



Way of Life!

DRIVE TRAIN		
	1 <sup>st</sup> Generation DL650A V-Strom	2nd Generation DL650A V-Strom
Clutch	Wet multi-plate	←
Transmission	6-speed constant mesh	←
Primary reduction ratio	2.088	←
Final reduction ratio	3.133	←
Gear ratio		
Low	2.461	←
2nd	1.777	←
3rd	1.380	←
4th	1.125	←
5th	0.961	←
Top	0.851	←
Drive chain	DID 525 V8, 116 links	RK525 M0Z8, 118 links

CHASSIS		
	1 <sup>st</sup> Generation DL650A V-Strom	2nd Generation DL650A V-Strom
Front suspension	Telescopic, coil spring, oil damped	←
Rear suspension	Link type, coil spring, oil damped	←
Front fork stroke	150 mm (5.9 in)	←
Rear wheel travel	150 mm (5.9 in)	159 mm (6.3 in)
Caster	26°	←
Trail	110 mm (4.33 in)	←
Steering angle	40° (right and left)	←
Turning radius	2.6 m (8.5 ft)	2.7 m (8.9 ft)
Front brake	Disc brake (twin)	←
Rear brake	Disc brake	←
Front tire size	110/80R19 M/C 59H	←
Rear tire size	150/70R17 M/C 69H	←

# Specifications



Way of Life!

ELECTRICAL		
	1 <sup>st</sup> Generation DL650A V-Strom	2nd Generation DL650A V-Strom
Ignition type	Electronic ignition (Transistorized)	←
Spark plug	NGK CR8E or Denso U24ESR-N	NGK CR8EIA-9 or Denso IU24D
Battery	12V 36.0 kC (10Ah)/10HR	←
Generator	Three-phase AC generator	←
Headlight	12 V 60/55 W x 2 (H4)	←
Brake light/Tail light	12 V 21/5 W x 2	←
License plate light	12 V 5 W	←
Turn signal light	12 V 21 W x 4	←
Indicator lights	LED	←

CAPACITIES		
	1 <sup>st</sup> Generation DL650A V-Strom	2nd Generation DL650A V-Strom
Fuel tank	22 L (4.8 imp gal)	20 L (4.4 imp gal)
Engine oil	3100 ml (2.7 imp qt)	3000 ml (2.6 imp qt)
Coolant	1.9 L (1.7 imp qt)	1.95 L (1.72 imp qt)



END



Way of Life!

**V-Strom 650**  
ABS<sup>II</sup>

