

Features & Specifications

2018 Burgman 650 ABS Executive



AN650ZL8

YWW: Pearl Glacier White

Five Key Features

- Fuel-injected, liquid-cooled, 638cc twin-cylinder engine uses legendary Hayabusa technology for outstanding power and fuel economy.
- Rule the ride via two computer-controlled, fully automatic CVT modes (Drive and Power) plus a rider-controlled Manual Shift mode with a handlebar-mounted rocker button.
- Journey in a capsule of comfort thanks to a remote power windshield, and plush seat with an adjustable lumbar pad for the rider and a supportive backrest for the passenger.
- Large diameter wheels and tires, a stout telescopic front fork, supple rear shocks, and ABS-equipped* triple disc brakes help you master any road you're on.
- Executive-level conveniences include illuminated storage, heated rider and passenger seating, heated rider grips, and power mirrors that tuck in tight at the flick of a switch.

Overview

The Burgman 650 ABS* Executive provides you an outstanding riding experience through an advanced transmission with two fully automatic modes (Drive and Power) plus optional manual shifting. A reliable and robust DOHC, liquid cooled engine utilizes design elements from the legendary Hayabusa to provide all the performance you'll ever need – and then some. This urban smart and travel-ready scooter is equipped with spacious ergonomics, smooth suspension, and a plush seat with adjustable lumbar support, ample storage compartments, and an aerodynamically designed remotely adjustable windscreen. Additional amenities only available on the Executive model include heated grips for the rider, a supportive backrest for the passenger, and a heated seat for both the rider and the passenger.

Engine Features

- Twin cylinder, 638cc, liquid-cooled engine features a precise fuel-injection system and vibration-reducing dual counter balancer shafts that deliver a smooth and powerful riding experience.
- The Suzuki Fuel Injection system with O2 feedback plus the Pulsed-secondary AIR-injection (PAIR) system and catalyzer-equipped exhaust boost fuel efficiency and minimize emissions.
- The sleek exhaust system with stylish triangle-section muffler effectively control sounds.
- Computerized Suzuki Electronically-controlled Continuously Variable Transmission (SECVT) featuring an efficient dry, hybrid construction belt provides highly efficient performance.
- SECVT offers three modes: Two fully automatic CVT modes (Drive and Power) plus a Manual Shift mode controlled by a handlebar-mounted rocker button.
 - o Drive mode provides superb fuel economy at normal road speeds while delivering a smooth and linear riding experience.
 - o Power mode is similar to Drive, but provides more punch when you twist the throttle.
 - o Manual Shift mode lets you thumb-toggle between six preset gear ratios for a unique feeling of control.



Chassis Features

- Strong, tubular steel frame and aluminum-alloy swingarm allow the engine to be mounted in a canted forward position to create an excellent balance of stability and agility.
- Telescopic front forks provide a sporty yet plush ride over a variety of road surfaces.
- The twin-shock, swingarm style rear suspension has spring preload adjustment and contributes to the scooter's impressive 1014 pounds GVWR rating.
- Front and rear disc brakes with ABS* deliver reassuring stopping power with adjustable controls to set both brake levers' position to the rider's preference.
- The dual front brakes feature floating discs to provide more consistent braking performance.
- New, black-finish brake levers match the rest of the high-quality controls.
- A lever-operated parking lock provides extra peace of mind. The lever has a stylish design that makes it easier to reach and operate.
- Lightweight, cast-aluminum wheels with a 14-inch rear tire and 15-inch front tire provide outstanding highway speed stability, good low-speed handling with a refined look.
- Majestic body lines express power and agility, with contours that express the statement of quality and performance.
- The powered windscreen can be adjusted to suit the rider's height, and powered mirrors can be retracted and extended at the touch of a button.
- The seat is optimally sized and thickly padded for two-up luxury even on long journeys. The rider's backrest can be adjusted forward and backward by 50mm for optimal support. No tools are necessary.
- New, white double stitching on the seat's cover matches the scooter's bodywork and accentuates the shape of the cushion.
- Pillion rider footrests provide comfort, letting the feel planted and relaxed, even during extended tours.
- The rear backrest firmly supports the passenger providing additional comfort and a sense of security.

- Suzuki's attention to luxury extends even to the rider's hands. The handlebar grips incorporate electric heaters that can be controlled by the rider. A flick of a switch activates an electric seat heater for both the rider and passenger.
- A cavernous, 50-litre under-seat compartment can hold two full-face helmets and has a light for nighttime convenience. A cable lock allows you to secure a helmet outside the compartment to make space for luggage inside.

** Helmet sizes and shapes vary, so helmets may not fit in the under-seat compartment.*

- Three compartments below the handlebars provide space for maps and other items you might need on the road. Lower compartment can be locked and the other two are push-open types. One contains a DC outlet that's ideal for charging a mobile telephone.
- The ignition switch fitted with a magnetic security cover that opens only with correctly coded key.
- Instrument cluster features a clean, refined look of quality. Large analogue dials for the speedometer and tachometer flank a digital display that shows an odometer, twin trip meters, a fuel consumption meter, a fuel meter, a coolant temperature indicator, a thermometer, a clock, an oil level indicator, an oil change indicator, a drive mode indicator (for drive mode and power mode), and a gear position indicator (for manual mode).
- The eco drive indicator light, located on the instrument panel, will illuminate when the scooter is ridden in a fuel-efficient manner.
 - o *The eco drive indicator does not automatically improve fuel economy, but helps riders refine their riding habits to improve fuel consumption.*
 - o *Fuel consumption varies depending on traffic conditions, such as the frequency of starts from stop, distance driven, rate of acceleration (throttle use), chosen speed, and scooter condition.*
- Slim, sharply styled multi-reflector headlights portray originality and sophistication in addition to providing outstanding illumination of the road ahead.
- Additional LED turn signals mounted in the rearview mirrors add to the scooter's visibility.

Additional Features

- Stylized Suzuki "S" 3-D emblems on the front leg shield and the upper meter panel denotes the quality and sophistication of the brand.
- A variety of Genuine Suzuki Accessories for Burgman owners are available including a large selection of Suzuki logo apparel.
- 12-month limited warranty.
- Longer warranty coverage period and other benefits are available through the Suzuki Extended Protection Plan (SEP).
- For more details, please visit www.suzukicycles.com.

** Depending on road surface conditions, such as wet, loose, or uneven roads, braking distance for an ABS-equipped vehicle may be longer than for a vehicle not equipped with ABS. ABS cannot prevent wheel skidding caused by braking while cornering. Please drive carefully and do not overly rely on ABS.*

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Specifications AN650ZL8

E-03: USA, E-33: California

DIMENSIONS AND CURB MASS

Overall length.....	2265 mm (89.2 in)
Overall width.....	810 mm (31.9 in)
Overall height.....	1420 mm (55.9 in)
Wheelbase.....	1585 mm (62.4 in)
Ground clearance.....	125 mm (4.9 in)
Seat height.....	760 mm (29.9 in)
Curb mass.....	278 kg (613 lbs)..... AN650Z (for California)
	277 kg (611 lbs)..... AN650Z

ENGINE

Type.....	4-stroke, liquid-cooled, DOHC
Number of cylinders.....	2
Bore.....	75.5 mm (2.97 in)
Stroke.....	71.3 mm (2.81 in)
Displacement.....	638 cm ³ (38.9 cu. in)
Compression ratio.....	11.2 : 1
Fuel system.....	Fuel injection
Air cleaner.....	Non-woven fabric element
Starter system.....	Electric
Lubrication system.....	Wet sump
Idle speed.....	1100 – 1300 r/min

DRIVE TRAIN

Clutch.....	Wet multi-plate, automatic, centrifugal type
Transmission.....	CVT
Gearshift pattern.....	Automatic & Manual shift
Primary reduction ratio.....	1.333 (88/66)
Automatic transmission ratio.....	1.800 – 0.465 (Variable)
Secondary reduction ratio.....	3.934 (39/31 × 43/25 × 40/22)
Final reduction ratio.....	1.580 (32/31 × 31/32 × 34/31 × 49/34)
Drive system.....	Gear drive

CHASSIS

Front suspension.....	Telescopic, coil spring, oil damped
Rear suspension.....	Swingarm type, coil spring, oil damped
Front fork stroke.....	110 mm (4.3 in)
Rear wheel travel.....	100 mm (3.9 in)
Steering angle.....	41° (right & left)
Caster.....	25° 25'
Tail.....	103 mm (4.1 in)
Turning radius.....	2.7 m (8.9 ft)
Front brake.....	Disc brake, twin
Rear brake.....	Disc brake
Front tire.....	120/70R 15M/C 56H, tubeless
Rear tire.....	160/60R 14M/C 65H, tubeless

Specifications AN650ZL8

E-03: USA, E-33: California

ELECTRICAL

Ignition type.....	Electronic ignition (Transistorized)
Spark plug.....	NGK CR8E or DENSO U24ESR-N
Battery.....	12 V 43.2kC (12Ah)/10HR
Generator.....	Three-phase A.C. generator
Main fuse.....	40 A
CVT fuse.....	40 A
Fuse.....	15/15/10/10/15/15/15/20/15/20/3/5 A
Headlight.....	12 V 60/55 W (H4)
Position light.....	LED
Brake light/Taillight.....	12 V 21/5 W
Front turn signal light.....	12 V 21 W
Rear turn signal light.....	12 V 21 W
License plate light.....	12 V 5 W
Trunk light.....	12 V 5 W
High beam indicator light.....	LED
Turn signal indicator light.....	LED
Brake lock indicator light.....	LED
Oil pressure indicator light.....	LED
ABS indicator light.....	LED
FI/ CVT indicator light.....	LED

CAPACITIES

Fuel tank.....	15.0 L (4.0 US gal, 3.3 Imp gal)
Engine oil, Without filter change.....	2600 ml (2.7 US qt, 2.3 Imp qt)
With filter change.....	2900 ml (3.1 US qt, 2.6 Imp qt)
Transmission oil.....	360 ml (12.2 US oz, 12.7 Imp oz)
Final gear oil.....	300 ml (10.1 US oz, 10.6 Imp oz)
Engine coolant.....	1200 ml (1.3 US qt, 1.1 Imp qt)

Service Data AN650ZL8

E-03: USA, E-33: California

Engine General Information and Diagnosis

Item	Standard / Specification		Limit / Note
IAP sensor power supply voltage	4.5 – 5.5 V		—
IAP sensor output voltage	Idle speed at 1 atm.	Approx. 2.6 V	—
IAT sensor input voltage	4.5 – 5.5 V		—
IAT sensor output voltage	Approx. 0.15 – 4.85 V		—
IAT sensor resistance	20 °C (68 °F)	2320 – 2590 Ω	—
ECT sensor input voltage	4.5 – 5.5 V		—
ECT sensor output voltage	Approx. 0.15 – 4.85 V		—
ECT sensor resistance	20 °C (68 °F)	2320 – 2590 Ω	—
TP sensor power supply voltage	4.5 – 5.5 V		—
TP sensor output voltage	Closed	Approx. 1.1 V	—
	Opened	Approx. 4.3 V	—
TP sensor resistance	Closed	Approx. 5000 Ω	—
	Opened	Approx. 1120 Ω	—
HO2 sensor output voltage	Idle speed	0 – 1.0 V	—
	5000 r/min	0 – 1.0 V	—
HO2 sensor heater power supply voltage	Battery voltage		—
HO2 sensor heater resistance	23 °C (73 °F)	6.7 – 9.5 Ω	—
Injector power supply voltage	Battery voltage		—
Injector resistance	20 °C (68 °F)	12 Ω	—
Continuity between each injector terminal and ground	∞ Ω (Infinity)		—
FP relay power supply voltage	Battery voltage		—
CKP sensor resistance	150 – 300 Ω		—
Continuity between each CKP sensor terminal and ground	∞ Ω (Infinity)		—
CKP sensor peak voltage	2.0 V or more		When cranking
CMP sensor resistance	20 °C (68 °F)	950 – 1250 Ω	—
Continuity between each CMP sensor terminal and ground	∞ Ω (Infinity)		—
CMP sensor peak voltage	0.5 V or more		When cranking
EVAP system purge control solenoid valve power supply voltage	Battery voltage		If equipped
EVAP system purge control solenoid valve resistance	20 °C (68 °F)	30 – 34 Ω	If equipped
Cooling fan relay power supply voltage	Battery voltage		—
Speed sensor power supply voltage	Battery voltage		—
Continuity between each ISC valve terminal and ground	∞ Ω (Infinity)		—
ISC valve resistance	25 °C (77 °F)	Approx. 80 Ω	—
AP sensor input voltage	4.5 – 5.5 V		—
AP sensor power supply voltage	4.5 – 5.5 V		—
AP sensor output voltage	at 1 atm.	Approx. 3.6 V	—

Item	Standard / Specification		Limit / Note
Immobilizer antenna power supply voltage	Battery voltage		If equipped
TO sensor power supply voltage	4.5 – 5.5 V		—
TO sensor voltage	Normal	0.4 – 1.4 V	—
	Leaning 65°	3.7 – 4.4 V	—
TO sensor resistance	19.1 – 19.7 k Ω		—
PAIR solenoid valve power supply voltage	Battery voltage		—
PAIR solenoid valve resistance	20 °C (68 °F)	20.5 – 23.5 Ω	—
CVT secondary pulley revolution sensor resistance	400 – 600 Ω		—
CVT secondary pulley revolution sensor continuity	∞ Ω (Infinity)		—
CVT secondary pulley revolution sensor peak voltage	Idle speed	More than 5 V	—
CVT motor resistance	Less than 0.8 Ω		—
Continuity between each CVT motor terminal and ground	Infinity		—
CVT PP sensor input voltage	4.5 – 5.5 V		—
CVT PP sensor power supply voltage	4.5 – 5.5 V		—
CVT PP sensor resistance	Compressed	1900 – 2300 Ω	—
	Extended	200 – 1000 Ω	—
CVT PP sensor output voltage	1st: idle speed	Approx. 3.3 V	—
	3rd: 3000 rpm	Approx. 1.3 V	—
	5th: 3000 rpm	Approx. 0.5 V	—
ECM input voltage	Battery voltage		—

Emission Control Devices

Item	Standard / Specification		Limit / Note
PAIR solenoid valve resistance	20 °C (68 °F)	20.5 – 23.5 Ω	—
EVAP system purge control solenoid valve resistance	20 °C (68 °F)	30 – 34 Ω	If equipped

Engine Electrical Devices

Item	Standard / Specification		Limit / Note
Throttle cable play	2.0 – 4.0 mm (0.08 – 0.16 in)		—
Idle speed (When engine is warmed)	1100 – 1300 r/min		—
Fast idle speed	1300 – 1600 r/min		—
IAT sensor resistance	-20 °C (4 °F)	13840 – 16330 Ω	—
	20 °C (68 °F)	2320 – 2590 Ω	—
	80 °C (176 °F)	310 – 326 Ω	—
ECT sensor resistance	-20 °C (-4 °F)	13840 – 16330 Ω	—
	20 °C (68 °F)	2320 – 2590 Ω	—
	80 °C (176 °F)	310 – 326 Ω	—
Throttle body I.D. No.	26J1		E-33
	26J0		E-03
Throttle body bore size	32 mm (1.3 in)		—

Engine Mechanical

Item	Standard / Specification		Limit / Note
Compression pressure	1300 – 1700 kPa (13 – 17 kgf/cm ² , 185 – 242 psi)		1200 kPa (12 kgf/cm ² , 171 psi)
Compression pressure difference	—		200 kPa (2 kgf/cm ² , 28 psi)
Cam height	IN.	35.38 – 35.42 mm (1.393 – 1.394 in)	35.4 mm (1.394 in)
	EX.	33.98 – 34.02 mm (1.338 – 1.339 in)	34.0 mm (1.339 in)
Camshaft journal oil clearance	IN. & EX.	0.012 – 0.125 mm (0.0005 – 0.0049 in)	0.150 mm (0.0059 in)
Camshaft journal holder I.D.	IN. & EX.	24.012 – 24.025 mm (0.9454 – 0.9459 in)	—
Camshaft journal O.D.	IN. & EX.	23.900 – 24.000 mm (0.9409 – 0.9449 in)	—
Camshaft runout	IN. & EX.	—	0.10 mm (0.004 in)
Cam chain pin (at arrow “3”)	15th pin		—
Valve clearance (When engine is cold)	IN.	0.10 – 0.20 mm (0.00394 – 0.0079 in)	—
	EX.	0.20 – 0.30 mm (0.0079 – 0.0118 in)	—
Valve diameter	IN.	29.5 mm (1.16 in)	—
	EX.	25.0 mm (0.98 in)	—
Valve stem runout	IN. & EX.	—	0.05 mm (0.002 in)
Valve head radial runout	IN. & EX.	—	0.03 mm (0.001 in)
Valve head thickness	IN. & EX.	—	0.5 mm (0.02 in)
Valve stem deflection	IN. & EX.	—	0.35 mm (0.014 in)
Valve stem O.D.	IN.	4.475 – 4.490 mm (0.1762 – 0.1768 in)	—
	EX.	4.455 – 4.470 mm (0.1754 – 0.1760 in)	—
Valve seat width	IN. & EX.	0.9 – 1.1 mm (0.035 – 0.043 in)	—
Valve guide I.D.	IN. & EX.	4.500 – 4.515 mm (0.1772 – 0.1778 in)	—
Valve guide to valve stem clearance	IN.	0.010 – 0.040 mm (0.0004 – 0.0015 in)	—
	EX.	0.030 – 0.060 mm (0.0012 – 0.0024 in)	—
Valve spring free length	IN. & EX.	—	39.8 mm (1.57 in)
Valve spring pre-load when compressed to 33.35 mm (1.31 in)	IN. & EX.	104 – 120 N (10.6 – 12.2 kgf, 23.4 – 27.0 lbf)	—
Cylinder head distortion	—		0.10 mm (0.004 in)
Cylinder distortion	—		0.10 mm (0.004 in)
Cylinder bore	75.500 – 75.515 mm (4.4094 – 4.4100 in)		Nicks or Scratches
Piston diameter	75.470 – 75.485 mm (2.9713 – 2.9719 in) Measure at 15 mm (0.59 in) from the skirt end.		75.350 mm (2.9665 in)
Piston-to-cylinder clearance	0.025 – 0.0350 mm (0.0010 – 0.0014 in)		0.120 mm (0.0047 in)
Piston ring-to-groove clearance	1st	—	0.180 mm (0.0071 in)
	2nd	—	0.150 mm (0.0059 in)
Piston ring groove width	1st	1.01 – 1.03 mm (0.0398 – 0.0406 in)	—
	2nd	1.01 – 1.03 mm (0.0398 – 0.0406 in)	—
	Oil	2.01 – 2.03 mm (0.0791 – 0.0799 in)	—
Piston ring thickness	1st	0.97 – 0.99 mm (0.0382 – 0.0390 in)	—
	2nd	0.97 – 0.99 mm (0.0382 – 0.0390 in)	—
Piston ring free end gap	1st	Approx. 11.8 mm (0.46 in)	9.44 mm (0.37 in)
	2nd	Approx. 6.1 mm (0.24 in)	4.88 mm (0.19 in)
Piston ring end gap	1st	0.06 – 0.18 mm (0.0398 – 0.0406 in)	0.50 mm (0.020 in)
	2nd	0.06 – 0.18 mm (0.0398 – 0.0406 in)	0.50 mm (0.020 in)
Piston pin bore I.D.	16.002 – 16.008 mm (0.6300 – 0.6302 in)		16.030 mm (0.6311 in)
Piston pin O.D.	15.995 – 16.000 mm (0.6297 – 0.6300 in)		15.980 mm (0.6291 in)
Conrod small end I.D.	16.010 – 16.018 mm (0.6303 – 0.6306 in)		16.040 mm (0.6315 in)
Conrod big end side clearance	0.10 – 0.20 mm (0.0039 – 0.0078 in)		0.3 mm (0.012 in)
Conrod big end width	19.95 – 20.00 mm (0.785 – 0.787 in)		—
Crank pin width	20.10 – 20.15 mm (0.791 – 0.793 in)		—
Conrod big end oil clearance	0.032 – 0.056 mm (0.0013 – 0.0022 in)		0.080 mm (0.0031 in)
Conrod big end I.D.	48.000 – 48.016 mm (1.8898 – 1.8904 in)		—
Crank pin O.D.	44.976 – 45.000 mm (1.7707 – 1.7717 in)		—
Crank pin bearing thickness	1.480 – 1.496 mm (0.0583 – 0.0589 in)		—

Item	Standard / Specification	Limit / Note
Crankshaft journal O.D.	47.985 – 48.000 mm (1.8892 – 1.8898 in)	—
Crankshaft journal oil clearance	0.018 – 0.045 mm (0.0007 – 0.0018 in)	0.080 mm (0.0031 in)
Crankcase journal I.D.	52.000 – 52.018 mm (2.0472 – 2.0479 in)	—
Crankcase journal bearing thickness	1.988 – 1.997 mm (0.0783 – 0.0786 in)	—
Crankshaft thrust clearance	0.10 – 0.15 mm (0.0039 – 0.0059 in)	—
Crankshaft thrust shim thickness	2.025 – 2.175 mm (0.0797 – 0.0856 in)	—
Crankshaft runout	—	0.05 mm (0.002 in)
Balancer spring free length	—	22.3 mm (0.88 in)

Engine Lubrication System

Item	Standard / Specification	Limit / Note
Oil pressure (at 60 °C, 140 °F)	3000 r/min 350 – 550 kPa (3.5 – 5.5 kgf/cm ² , 50 – 78 psi)	—
Necessary amount of engine oil	Oil change	2600 ml (2.7 US qt, 2.3 Imp qt)
	Oil and filter change	2900 ml (3.1 US qt, 2.6 Imp qt)
	Engine overhaul	3400 ml (3.6 US qt, 3.0 Imp qt)
Necessary amount of transmission oil	Oil change	360 ml (12.2 US oz, 12.7 Imp oz)
	Engine overhaul	400 ml (13.5 US oz, 14.1 Imp oz)

Engine Cooling System

Item	Standard / Specification	Limit / Note	
Engine coolant	Reservoir tank side	Approx. 250 ml (0.3 US qt, 0.2 Imp qt)	
	Engine side	Approx. 1200 ml (1.3 US qt, 1.1 Imp qt)	
Radiator cap valve opening pressure	108 – 137 kPa (10.8 – 1.37 kgf/cm ² , 15.3 – 19.5 psi)	—	
Cooling fan operating temperature	Intake air temperature 40 °C (104 °F) or less	ON→OFF	Approx. 100 °C (212 °F)
		OFF→ON	Approx. 105 °C (221 °F)
	Intake air temperature more than 40 °C (104 °F)	ON→OFF	Approx. 95 °C (203 °F)
		OFF→ON	Approx. 100 °C (212 °F)
Thermostat valve opening temperature	86.5 – 89.5 °C (188 – 193 °F)	—	
Thermostat valve lift	Over 8 mm (0.31 in) at 100 °C (212 °F)	—	

Fuel System

Item	Standard / Specification	Limit / Note
Fuel pressure	Approx. 300 kPa (3.0 kgf/cm ² , 43 psi)	—
Fuel pump discharge amount per 10 seconds	125 ml (4.2 US oz, 4.4 Imp oz) or more	—

Ignition System

Item	Standard / Specification		Limit / Note
Firing order	1.2		—
Spark plug	Type	NGK CR8E DENSO U24ESR-N	—
	Gap	0.7 – 0.8 mm (0.028 – 0.031 in)	—
Spark performance	Over 8 mm (0.3 in) at 1 atm.		—
Ignition coil primary peak voltage	80 V or more		—
Ignition coil resistance	Primary	1.1 – 1.5 Ω	—
	Secondary	6.4 – 9.6 k Ω	—

Starting System

Item	Standard / Specification		Limit / Note
Starter motor brush length	12.0 mm (0.47 in)		8.5 mm (0.34 in)
Starter relay resistance	3 – 6 Ω		—
Side-stand switch voltage	ON (Side-stand retracted)	0.4 – 0.6 V	—
	OFF (Side-stand on the ground)	1.4 V or more	—
Starter torque limiter slip torque	22 – 41 N·m (2.2 – 4.1 kgf-m, 16.0 – 29.5 lbf-ft)		—

Charging System

Item	Standard / Specification		Limit / Note
Battery leakage current	Under 3 mA		—
Regulated voltage (charging output)	5000 r/min	14.0 – 15.5 V	—
Generator coil resistance	0.1 – 1.0 Ω		—
Generator no-load voltage (When engine is cold)	5000 r/min	50 V (AC) or more	—
Recharging time	1.4 A for 5 to 10 hours or 6 A for 1 hour		—
Generator maximum output	5000 r/min	Approx. 500 W	—
Battery	Type designation	FTX14-BS	—
	Capacity	12 V 43.2 kC (12 Ah)/10 HR	—

Front Suspension

Item	Standard / Specification		Limit / Note
Front fork inner tube O.D.	41 mm (1.6 in)		—
Front fork oil level (Without spring, inner tube fully compressed)	149 mm (5.9 in)		—
Front fork spring free length	343 mm (13.5 in)		336 mm (13.2 in)
Front fork oil capacity (Each leg)	460 ml (15.5 US oz, 16.2 Imp oz)		—

Rear Suspension

Item	Standard / Specification		Limit / Note
Rear shock absorber spring pre-load	2nd position out of 5		—
Swingarm pivot shaft runout	—		0.3 mm (0.01 in)

Wheels and Tires

Item	Standard / Specification		Limit / Note	
Wheel rim runout	Front & Rear	Axial	—	2.0 mm (0.08 in)
		Radial	—	2.0 mm (0.08 in)
Wheel axle runout	Front & Rear	—	0.25 mm (0.010 in)	
Tire size	Front	120/70R 15M/C 56H, tubeless	—	
	Rear	160/60R 14M/C 65H, tubeless	—	
Tire type	Front	BRIDGESTONE TH01F	—	
	Rear	BRIDGESTONE TH01R M	—	
Tire tread depth	Front	—	1.6 mm (0.06 in)	
	Rear	—	2.0 mm (0.08 in)	
Cold inflation tire pressure (Solo riding)	Front	225 kPa (2.25 kgf/cm ² , 33 psi)	—	
	Rear	280 kPa (2.80 kgf/cm ² , 41 psi)	—	
Cold inflation tire pressure (Dual riding)	Front	225 kPa (2.25 kgf/cm ² , 33 psi)	—	
	Rear	280 kPa (2.80 kgf/cm ² , 41 psi)	—	
Wheel rim size	Front	15 M/C x MT 3.50	—	
	Rear	14 M/C x MT 4.50	—	

Drive Chain / Drive Train / Drive Shaft

Item	Standard / Specification		Limit / Note
Necessary amount of final gear oil	Oil change	300 ml (10.1 US oz, 10.6 Imp oz)	—
	Overhaul	430 ml (14.5 US oz, 15.1 Imp oz)	—

Brake Control System and Diagnosis

Item	Standard / Specification		Limit / Note
Master cylinder bore / piston diam.	Front	Approx. 14.0 mm (0.551 in)	—
	Rear	Approx. 12.7 (0.500 in)	—

Front Brakes

Item	Standard / Specification	Limit / Note
Brake disc thickness	4.3 – 4.5 mm (0.169 – 0.177 in)	4.0 mm (0.16 in)
Brake disc runout	—	0.30 mm (0.012 in)
Brake caliper cylinder bore / piston diameter	Approx. 27.0 mm (1.063 in)	—

Rear Brakes

Item	Standard / Specification	Limit / Note
Brake disc thickness	5.3 – 5.7 mm (0.209 – 0.224 in)	5.0 mm (0.20 in)
Brake disc runout	—	0.30 mm (0.012 in)
Brake caliper cylinder bore / piston diameter	Approx. 27.0 mm (1.063 in)	—

Brake Lock

Item	Standard / Specification	Limit / Note
Brake lock adjusting margin	11 – 13 mm (0.43 – 0.51 in)	—

ABS

Item	Standard / Specification		Limit / Note
Turn signal fuse	15 A		—
Voltage between “17” (Br) and “1” (B/W) at the coupler	7.5 – 9.5 V		—
Ignition fuse	10 A		—
Voltage between “4” (O/Y) terminal and “1” (B/W) terminal at the coupler	Battery voltage (12.0 V or more)		—
ABS motor fuse	20 A		—
Voltage between “18” (R/B) and “10” (B) at the coupler	Battery voltage (12.0 V or more)		—
Continuity between “12” (W/R) and “3” (B/R) at the ABS control unit coupler	No continuity		—
Continuity between “12” (W/R) and ground at the ABS control unit coupler	No continuity		—
Continuity between “1” (W) and ground at the front wheel speed sensor coupler	No continuity		—
Continuity between “3” (B/R) and ground at the ABS control unit coupler	No continuity		—
Continuity between “2” (B) and ground at the front wheel speed sensor coupler	No continuity		—
Continuity between “12” (W/R) on the ABS control unit coupler and “1” (W/R) on the front wheel speed sensor coupler	Continuity		—
Continuity between “3” (B/R) on the ABS control unit coupler and “2” (B/R) on the front wheel speed sensor coupler	Continuity		—
Current between (+) dry cell terminal and “12” (W/R) on the ABS control unit coupler	5.9 – 16.8 mA		—
Continuity between “B” (W/Y) and “14” (B/Y) at the ABS control unit coupler	No continuity		—
Continuity between “13” (W/Y) and ground at the ABS control unit coupler	No continuity		—
Continuity between “1” (W) and ground at the rear wheel speed sensor coupler	No continuity		—
Continuity between “14” (B/Y) and ground at the ABS control unit coupler	No continuity		—
Continuity between “2” (B) and ground at the rear wheel speed sensor coupler	No continuity		—
Continuity between “13” (W/Y) on the ABS control unit coupler and “1” (W/Y) on the rear wheel speed sensor coupler	Continuity		—
Continuity between “14” (B/Y) on the ABS control unit coupler and “2” (B/Y) on the rear wheel speed sensor coupler	Continuity		—
Current between (+) dry cell terminal and “13” (W/Y) on the ABS control unit coupler	5.9 – 16.8 mA		—
Battery voltage	12.0 V or more		—
Regulated voltage	5000 r/min	14.0 – 15.5 V	—
ABS valve fuse	15 A		—
Voltage between “9” (R/BI) and “1” (B/W) at the coupler	Battery voltage (12.0 V or more)		—
Wheel speed sensor – Sensor rotor clearance	Front	0.38 – 1.55 mm (0.015 – 0.061 in)	—
	Rear	0.03 – 1.80 mm (0.001 – 0.071 in)	—



Clutch

Item	Standard / Specification	Limit / Note
Drive plate thickness	2.92 – 3.08 mm (0.115 – 0.121 in)	2.62 mm (0.103 in)
Drive plate claw width	13.85 – 13.96 mm (0.545 – 0.550 in)	13.05 mm (0.514 in)
Drive plate No.2 thickness	2.42 – 2.58 mm (0.095 – 0.102 in)	2.12 mm (0.083 in)
Driven plate distortion	—	0.10 mm (0.004 in)
Clutch spring free length	13.9 mm (0.547 in)	13.2 mm (0.520 in)
Clutch plate concaved washer	3.4 mm (0.13 in)	3.3 mm (0.13 in)
Engagement r/min	1500 – 2100 r/min	—
Lock-up r/min	3500 – 4100 r/min	—

CVT

Item	Standard / Specification	Limit / Note
Break-in engine speed	Initial 1000 km (600 miles): Below 4000 rpm	—

Steering / Handlebar

Item	Standard / Specification	Limit / Note
Grip Heater resistance	Left	4.32 – 5.28 Ω
	Right	3.78 – 4.62 Ω
Steering tension initial force	2 – 5 N (0.2 – 0.5 kgf, 0.4 – 1.1 lbf)	—

Wiring Systems

Item	Standard / Specification	Limit / Note
Fuse size	Headlight HI	15 A
	Headlight LO	15 A
	Fuel	10 A
	Ignition	10 A
	Turn signal	15 A
	Cooling fan	15 A
	Main	40 A
	CVT	40 A
	Power Source	15 A
	ABS motor	20 A
	ABS valve	15 A
	Wind screen	20 A
	Mirror	3 A
	Seat heater	5 A

Lighting Systems

Item	Standard / Specification	Limit / Note
Headlight	12 V 60/55 W (H4) \times 2	—
Position light	LED \times 2	—
Front turn signal light	12 V 21 W \times 2	—
Rear turn signal light	12 V 21 W \times 2	—
Brake light/Taillight	12 V 21/5 W \times 2	—
License plate light	12 V 5 W	—
Trunk light	12 V 5 W	—

Combination Meter / Fuel Meter / Horn

Item	Standard / Specification		Limit / Note
Ambient air temperature sensor resistance	-20 °C (-4 °F)	13779 – 19083 Ω	—
	-10 °C (14 °F)	8100 – 10609 Ω	—
	0 °C (32 °F)	4928 – 6215 Ω	—
	10 °C (50 °F)	3089 – 3656 Ω	—
	20 °C (68 °F)	1992 – 2251 Ω	—
	25 °C (77 °F)	1615 – 1785 Ω	—
	30 °C (86 °F)	1290 – 1456 Ω	—
	40 °C (104 °F)	838 – 986 Ω	—
Oil level switch continuity	Switch position [A]	ON	—
	Switch position [B]	OFF	—
Combination meter light	LED		—
Turn signal indicator light	LED		—
High beam indicator light	LED		—
Brake lock indicator light	LED		—
ABS indicator light	LED		—
Oil pressure indicator light	LED		—
FI/CVT indicator light	LED		—
Eco mode indicator light	LED		—
Freeze indicator light	LED		—

Exterior Parts

Item	Standard / Specification		Limit / Note
Seat heater resistance	Front	10.81 – 12.95 Ω	—
	Rear	9.08 – 10.88 Ω	—



Tightening Torque List

Engine

Item	N·m	kgf·m	lbf·ft
Joint hose clamp screw	1.5	0.15	1.0
Air chamber clamp screw	1.5	0.15	1.0
Cylinder head cover bolt	14	1.4	10.0
Breather cover bolt	10	1.0	7.0
Camshaft journal holder bolt	10	1.0	7.0
Valve timing inspection plug	15	1.5	11.0
Intake pipe screw	9	0.9	6.5
Cylinder head bolt (M10) (L150)	25 – 53	2.5 – 5.3	18.0 – 38.5
Cylinder head bolt (M10) (L155)	25 – 53	2.5 – 5.3	18.0 – 38.5
Cylinder head bolt (M8) (L110)	25	2.5	18.0
Cylinder head bolt (M8) (L135)	25	2.5	18.0
Oil gallery plug (Intake side)	8	0.8	6.0
Oil gallery plug (Exhaust side)	10	1.0	7.0
Cam chain tensioner bolt	10	1.0	7.0
Crankcase bolt (M8) (L105)	26	2.6	19.0
Crankcase bolt (M8) (L95)	26	2.6	19.0
Crankcase bolt (M6) (L85)	11	1.1	8.0
Crankcase bolt (M6) (L35)	11	1.1	8.0
Driveshaft oil seal retainer bolt	22	2.2	16.0
Special tool bolt	23	2.3	16.5
Left crankcase cover bolt	11	1.1	8.0
Oil gallery plug (M8)	18	1.8	13.0
Oil gallery plug (M14)	23	2.3	16.5
Breather plug (M16)	35	3.5	25.5
Oil gallery plug (M10)	16	1.6	11.5
Conrod cap bolt	21 N·m (2.1 kgf·m, 15.0 lbf·ft) → turn clockwise 90°		
Driveshaft nut	105	10.5	76.0
Main oil gallery plug	18	1.8	13.0
Oil drain plug	23	2.3	16.5
Oil drain plug	21	2.1	15.0
Oil level plug	21	2.1	15.0
Filler plug	23	2.3	16.5
Oil filter	20	2.0	14.5
Oil cooler union bolt	70	7.0	50.5
Oil hose union bolt (M10)	20	2.0	14.5
Oil return hose union bolt (M14)	28	2.8	20.0
Oil pressure switch	13	1.3	9.5
Oil pressure switch lead wire bolt	1.5	0.15	1.0
Oil Level switch bolt	10	1.0	7.0
Spark plug	11	1.1	8.0
Starter motor mounting bolt	10	1.0	7.0
Starter motor lead wire mounting nut	6	0.6	4.5
Starter clutch bolt	54	5.4	39.0
Generator stator bolt	11	1.1	8.0
CKP sensor bolt	6	0.6	4.5
Generator rotor bolt	160	16.0	115.5
O2 sensor	25	2.5	18.0
Exhaust pipe bolt	23	2.3	16.5
Muffler mounting bolt (Front)	23	2.3	16.5
Muffler mounting bolt (Rear)	25	2.5	18.0
Muffler cover bolt	9	0.9	6.5
Muffler cover bolt (No.2)	5.5	0.55	4.0
Clutch housing nut	70	7.0	50.5
Clutch spring bolt	5.5	0.55	4.0

Item	N·m	kgf·m	lbf·ft
CVT filter bolt	10	1.0	7.0
Secondary pulley revolution sensor bolt	4	0.4	3.0
CVT motor bolt	4	0.4	3.0
CVT unit bolt (L140)	50	5.0	36.0
CVT unit bolt (L110)	50	5.0	36.0
Primary shaft bolt	35 N·m (3.5 kgf·m, 25.5 lbf·ft) → turn clockwise 90°		
Primary shaft cap bolt	11	1.1	8.0
CVT cover bolt (L90)	22	2.2	16.0
CVT cover bolt (L70)	22	2.2	16.0
CVT cover bolt (L30)	22	2.2	16.0
Secondary pulley shaft nut	226	22.6	163.5
Secondary pulley fan bolt	2.5	0.25	1.8
Primary pulley stopper bolt	35	3.5	25.5
Bearing retainer screw	4	0.4	3.0
PP sensor bolt	2.5	0.25	2.0

Driveline / Axle

Item	N·m	kgf·m	lbf·ft
Oil Level Plug	33	3.3	24.0
Oil drain plug	33	3.3	24.0
Final Gear Case Bolt	10	1.0	7.0

FI System and Intake Air System

Item	N·m	kgf·m	lbf·ft
CKP sensor bolt	6	0.6	4.5
Throttle body clamp screw	1.5	0.15	1.0
Throttle cable bolt	4.5	0.45	3.5
Throttle cable bracket screw	3.5	0.35	2.5
ISC valve hose connector screw	2	0.2	1.5
ISC valve mounting screw	2	0.2	1.5
TP sensor mounting screw	3.5	0.35	2.5
Fuel delivery pipe mounting screw	3.5	0.35	2.5
IAT sensor	12	1.2	8.5
ECT sensor	18	1.8	13.0
HO2 sensor	25	2.5	18.0
CMP sensor bolt	7	0.7	5.5
Speed sensor bolt	10	1.0	7.0
Harness guide bolt	10	1.0	7.0

Cooling System

Item	N·m	kgf·m	lbf·ft
ECT sensor	18	1.8	13.0
Drain plug	1.6	0.16	1.0

Chassis

Item	N·m	kgf-m	lbf-ft
PCV cover bolt	10	1.0	7.0
Fuel tank mounting bolt	10	1.0	7.0
Front fork cap bolt	23	2.3	16.5
Front fork lower clamp bolt	23	2.3	16.5
Front fork upper clamp bolt	23	2.3	16.5
Cylinder bolt	30	3.0	21.5
Rear shock absorber mounting nut and bolt	29	2.9	21.0
Swingarm pivot bolt	10	1.0	7.0
Swingarm pivot bolt lock nut	100	10.0	72.5
Rear shock absorber mounting bolt	29	2.9	21.0
Front axle	65	6.5	47.0
Front axle pinch bolt	23	2.3	16.5
Rear axle nut	100	10.0	72.5
Brake air bleeder valve	7.5	0.75	5.5
Front brake master cylinder mounting bolt	10	1.0	7.0
Brake hose union bolt	23	2.3	16.5
Brake lever pivot bolt	6	0.6	4.5
Brake lever pivot bolt lock-nut	6	0.6	4.5
Pad mounting pin	18	1.8	13.0
Front brake caliper mounting bolt	23	2.3	16.5
Brake hose union bolt	23	2.3	16.5
Caliper housing slide pin	22	2.2	16.0
Caliper holder pin	13	1.3	9.5
Brake air bleeder valve	7.5	0.75	5.5
Brake disc bolt	23	2.3	16.5
Caliper mounting bolt	23	2.3	16.5
Pad mounting pin	18	1.8	13.0
Brake hose union bolt	23	2.3	16.5
Brake air bleeder valve	7.5	0.75	5.5
Caliper holder sliding pin	22	2.2	16.0
Caliper holder pin	13	1.3	9.5
Brake disc bolt	23	2.3	16.5
Lock-nut	4.5	0.45	3.5
Bake lock housing bolt	22	2.2	16.0
Wheel speed sensor rotor bolt	6.5	0.65	4.5
Brake pipe flare nut	16	1.6	11.5
Handlebar clamp bolt	23	2.3	16.5
Steering stem nut	45 N·m (4.5 kgf-m, 32.5 lbf-ft) → turn counterclockwise 1/4 – 1/2		
Steering stem head nut	65	6.5	47.0
Rear reflector mounting nut	1.8	0.18	1.5
Backrest bracket bolt	23	2.3	16.5
Pillion rider handle bolt	23	2.3	16.5