

Frame tightening torque values

Description	Q.ty	Thread	Pitch	Torque Nm	Products	Notes
Accessories and outfit						
Top case lower plate to upper plate fastener	4	M6	1	10	LOCK 2	
Top Case lower plate to handle fastener	4	M6	1	10	LOCK 2	
Rear footpeg - pannier low. bracket retainer	2+2	M6	1	10	GREASE B	(On underhead only)
Side pannier lower fastener lining retainer	2	M5	0,8	3	LOCK 2	
Side stand assembly						
Side stand retainer	1	M10	1	35*	LOCK 2	(LOCK 2 on thread SHELL GREASE B on underhead and cylindrical section)
Side stand retainer	1	M10	1	35*	LOCK 2	
Stand sensor fastener	1	M6	1	5	Pre-applied threadlocker	
Centre stand retainer	2	M18	1,5	70	Pre-applied threadlocker	PRE-APPLIED THREADLOCKER
Spring pin retainer	1	M6	1	10	LOCK 2	
Chain-sprocket assembly						
Front sprocket fastener	1	M10	1,25	55*	GREASE B	
Upper chain guard sliding shoe fastener	1	M6	1	10		
Cable ring to engine cover fastener	1	M5	0,8	5		
Front sprocket cover retainer	3	M5	0,8	5		
Light assembly						
Headlight to front subframe retainer	4	M6	1	10		
Tail light retainer	3	Self-tapping		2,5		
LH rear-view mirror retainer	1	M10	1,25	40		
RH rear-view mirror retainer	1	M10-LH	1,25	40		
Front turn indicator fastener	4	Self-tapping		1,5		
Rear turn indicators to spacers fastener	2	M5	0,8	3 LOCK 2		
Instrument panel assembly						
Fastener on instrument panel	3	M5	0,8	MANUAL		BASE VERSION
Instrument panel to dashboard fastener	3	M5	0,8	3		BASE VERSION
Fastener on instrument panel	4	M5	0,8	MANUAL		S VERSION
Instrument panel to dashboard fastener	4	M5	0,8	3		S VERSION
Basic instrument panel support to instrument panel fixed support fastener	4	M5	0,8	3		BASE VERSION
Front fork assembly						
Steering head clamp retainer	2	M8	1,25	18*	GREASE B	
Steering head central fastener	1	M8	1,25	24*	GREASE B	
Handlebar stud bolt to head fastener	2	M10	1,25	45*	LOCK 2 + GREASE ON UNDERHEAD	
Handlebar upper U-bolt fastener	4	M8	1,25	25*	GREASE B	(Seq.: 1-2-3-4-3)
Bearing preload ring nut	1	M35	1	35*	GREASE D	

Steering stop adjuster lock nut fastener	2	M8	1,25	18	LOCK 2	(On nut thread only)
Bottom yoke terminal fastener	4	M8	1,25	16*	GREASE B	(Seq.: 1-2-1)
Front brake hose guide to bottom yoke fastener	1	M6	1	10	Pre-applied threadlocker	
Marzocchi fork bottom end clamp fastener	2+2	M6	1	10*	GREASE B	(Seq.: 1-2-1)
Splash guard to bottom yoke fastener	3	M5	0,8	3	Pre-applied threadlocker	
Bottom yoke to SUSP accelerometer fastener	2	M5	0,8	5		
Accelerometer to fork bottom end fastener	2	M5	0,8	5		
ABS sensor cable ring on fork axle lug fastener	2	M6	1	10	Pre-applied threadlocker	
Electric-electronic system assembly						
Seat lock to electrical components compartment retaining nut	1	M22	1,5	3		
Fuse box to fuse support fastener	1	Self-tapping		2		
Fuse support cover to fuse support box fastener	5	Self-tapping		2		
Fuse support box to electric component support fastener	2	Self-tapping		4		
Solenoid starter support to fuse support cover fastener	1	M5	0,8	3		
BBS support to electrical component support fastener	3	Self-tapping		4		
IMU to IMU support bracket fastener	2	M6	1	6		
IMU support bracket to electrical component support fastener	2	Self-tapping		4		
Actuator support to electrical component support fastener	2	Self-tapping		4		
Battery bracket fastener	1	M5	0,8	5		
Regulator to compartment fastener	2	M6	1	5		
Voltage regulator cover to regulator fastener	2	M5	0,8	5	Pre-applied threadlocker	
Horn to front radar bracket fastener	1	M8	1,25	22	Pre-applied threadlocker	
Front radar adjustment bracket to front radar bracket fastener	3	Self-tapping		2		
Front radar bracket to subframe fastener	3	M6	1	10	Pre-applied threadlocker	
Rear radar bracket to subframe rear plate fastener	1	M5	0,8	5		
Rear radar support to tail light fastener	3	Self-tapping		3		
Hands-Free antenna retainer	2	Self-tapping		1		
Ignition switch to frame fastener	2	M6	1	5	Pre-applied threadlocker	
Hands-Free retainer	2	M8	1,25	5	Pre-applied threadlocker	
4-way rubber block to AIRBOX cover fastener	1	Self-tapping		2		
Front MAP sensor support to airbox cover fastener	3	Self-tapping		2		
Connector terminal to map sensor support fastener	1	M5	0,8	5		
Silent blocks to airbox cover fastener	4	M5	0,8	2		
ECU to airbox cover fastener	4	M5	0,8	5		
Vodafone CCU to tank fastener	3	M5	0,8	3		
Speed sensor to fork axle lug fastener	1	M6	1	10		
Speed sensor to calliper holder plate fastener	1	M6	1	10		
Positive cable to fuse support fastener	1	M6	1	7*		
Eyelets to starter motor fastener	1	M6	1	5	GREASE D	
Fastener securing starter motor batt. cables to remote control switch	2	M6	1	4	PROTECTANT 2	
Ground cable to tank seat support fastener	1	M6	1	10		
Ground cable to engine block fastener	1	M6	1	10		

Radar support adjustment	2	M6	1	6		
ABS pipe support to electrical components compartment fastener	1	Self-tapping		2		
Hose guide on casing for lambda sensor fastener	2	M6	1	5		
Voltage regulator plastic heat guard to voltage regulator sink fastener	1	Self-tapping		1,5		
Rear swinging arm assembly						
Lower sliding shoe front and rear fastener	2	M5	0,8	5	Pre-applied threadlocker	
Upper chain sliding shoe to swinging arm fastener	3	M5	0,8	5	Pre-applied threadlocker	
Chain front protection to swinging arm fastener	1	M5	0,8	5	Pre-applied threadlocker	
Chain front protection to swinging arm fastener	2	Self-tapping		2		
Swingarm shaft to engine block tightening	1	M20	1,5	100*	GREASE B on thread only	
Swingarm shaft to engine block tightening	1	M20	1,5	100*	GREASE B on thread only	
Rear brake hose guide to swinging arm fastener	2	M5	0,8	5		
Rear brake calliper holder plate locking screw	1	M5	0,8	5		
Chain tensioner slider adjuster retainer	2	M8	1,25	8		
ABS brake system assembly						
Front and central ABS hose guide to frame fastener	1+1	M5	0,8	5		
Retainer securing ABS control unit to bracket	3	M6	1	8		
ABS retaining bracket to electrical components compartment fastener	1	M5	0,8	5		
Filler plug on control unit retainer	4	M10	1	24.5*		
Front brake master cylinder to handlebar fastener	2	M6	1	10		(Seq.: 1-(UP)-2-1)
Union to front brake master cylinder fastener	1	M10	1	24.5*		
Front brake fluid reservoir to bracket fastener	1	M5	0,5	2		
Front brake reservoir plug screw fastener	2	M4	0,7	0,7		
2 front calliper bleed screws 1 front brake master cylinder 1 rear calliper	4	M6	1	5,5		
Front calliper retainer	4	M10	1,25	45*	GREASE B	
Pre-tightening of front brake calliper	4	M10	1,25	2	GREASE B	
Union to LH front calliper fastener	1	M10	1	24.5*		BASE VERSION
Union to RH front calliper fastener	1	M10	1	24.5*		BASE VERSION
Union to LH front calliper fastener	1	M10	1	24.5*		S VERSION
Union to RH front calliper fastener	1	M10	1	24.5*		S VERSION
Rear brake calliper fastener 1 pc On rear brake master cylinder 1 pc	2	M10	1	24.5*		
Rear fluid reservoir to bracket fastener	1	M5	0,8	2	LOCK 2	
Rear brake master cylinder to footpeg holder plate fastener	2	M6	1	10		
Brake master cylinder control rod nut	1	M6	1	7,5		
Rear brake lever lug pivot screw	1	M6	1	10	LOCK 2	
Brake lever pivot on RH footpeg holder plate	1	M8	1,25	23	Pre-applied threadlocker + GREASE B on stem	
Pins to ABS retaining bracket fastener	2	M5	0,8	5		
ABS retaining bracket to electrical components compartment fastener	2	M5	0,8	5		
Brake lever adjuster nut	1	M6	1	5	LOCK 13	
Number plate holder assembly						
Cats eye fastener	2	M4		2		
Number plate holder fastener	3	M6	1	6		

Lower number plate holder to upper number plate holder fastener	4	M5	0,8	2		
Number plate holder to subframe rear plate fastener	4	M6	1	6		
Lower number plate holder to upper number plate holder fastener	2	M5	0,8	2		
Number plate light fastener	2	M4	0,7	1	LOCK 1	
Number plate lower half plate to upper large half plate fastener	2	M5	0,5	2,5	LOCK 1	
Number plate light support slide to upper large half plate fastener	2	M5	0,5	2.5 MAX LOCK 2		
Handlebars - clutch control assembly						
Clutch master cylinder to handlebar fastener	2	M6	1	10		(Seq.: 1-(UP)-2-1)
Union to clutch slave cylinder fastener Union to clutch master cylinder fastener	2	M10	1	24.5*		
Clutch bleed on master cylinder retainer	2	M6	1	5,5		
Clutch fluid reservoir fastener	1	M5	0,5	2		
RH and LH hand guard to clutch and brake master cylinder fastener	2	M6	1	10		
Handlebar counterweight fastener	2	M6	1	10		
Clutch slave cylinder to casing upper fastener	1	M6	1	10		
Hand guard arm to RH and LH hand guard fastener	4	Self-tapping		0,7		
Asahi Denso throttle fastener	2			3,5		
Clutch slave cylinder to casing lower rear fastener	1	M6	1	10		
Clutch slave cylinder to casing lower front fastener	1	M6	1	10		
heated handgrip fastener	2	M4	0,7	2,5	GREASE B	
Rear suspension assembly						
Shock absorber lower fastener	1	M12	1,75	70*	LOCK 3 + GREASE UN UNDERHEAD	
Angular sensor to sensor plate retainer	2	M5	0,8	5		
Angular sensor bracket to angular sensor support fastener	2	Self-tapping		2		
Angular sensor bracket to plates fastener	3	M5	0,8	5		
Angular sensor con-rod to swinging arm support sensor retainer	2	M6	1	5		
Rear shock absorber upper retaining screw	1	M12	1,75	70*	LOCK 3 + GREASE UN UNDERHEAD	
Preload adjuster to frame fastener	2	M5	0,8	5	LOCK 2	
Front mudguard assembly						
Screw securing front brake line clip to mudguard	1	Self-tapping		0,5		
Mudguard to fork retainer	6	M6	1	5	Pre-applied threadlocker	
Liquid cooling assembly						
Conveyor to radiator fastener	6	M5	0,8	5		
Radiator air conveyor to frame upper fastener	2	M6	1	10	Pre-applied threadlocker	
Upper clamp from radiator to mixer pipe tightening	2			3		
Water hose between radiators (delivery and return) clamp fastener	2+2			3		
Expansion tank to front frame fastener	2	Self-tapping		4		
Expansion tank to bracket fastener	2	M6	1	10	LOCK 2	
Radiator air conveyor to frame lower fastener	2	M6	1	10		
Lower clamp from radiator to mixer pipe tightening	2			3		
Secondary conveyor to main conveyor fastener	3+3	Self-tapping		0,5		
Radiator upper jointing pipe fastener	2			1		
Pipe to radiator plug retainer	1			1		

Fans to radiator fastener	2+2	M5	0,8	3		
Footpeg, lever and linkage assembly						
LH footpeg holder plate to engine fastener	2	M8	1,25	25*	LOCK 2	
Gear change pedal pivot on LH footpeg holder plate	1	M8	1,25	23	Pre-applied threadlocker + GREASE B on stem	
Gearchange linkage to shaft fastener	1	M6	1	10	Pre-applied threadlocker	
DQS to gear change linkage retainer	1	M6	1	10		
DQS RH adjuster nut	1	M6	1	5	LOCK 1	
Gear change linkage on gear change pedal fastener	2	M6	1	10		
Gear change linkage RH adjuster nut	1	M6	1	5		
Gear change linkage LH adjuster nut	1	M6	1	5		
RH-LH passenger footpeg holder plate to rear subframe fastener	2+2	M8	1,25	35*	Pre-applied threadlocker	
LH heel guard fastener	2	M6	1	10		
Front RH heel guard fastener	1	M6	1	10		
Silencer support to RH passenger footpeg holder plate fastener	2	M6	1	10	Pre-applied threadlocker	
DQS to gear change pedal fastener	1	M6	1	10		
Rear mudguard assembly						
Cable guide to swinging arm fastener	2	M5	0,8	5	Pre-applied threadlocker	
Rear mudguard to swinging arm fastener	3	M5	0,8	5	Pre-applied threadlocker	
Chain protective fin to swinging arm (upper and lower) fastener	2+2	M5	0,8	5	Pre-applied threadlocker	
Chain splash guard to swinging arm fastener	1	M5	0,8	5	Pre-applied threadlocker	
Chain splash guard to swinging arm fastener	1	M5	0,8	5	Pre-applied threadlocker	
Front wheel assembly						
Brake discs and phonic wheel to wheel rim fastener	10	M8	1,25	30*	Pre-applied threadlocker	
Wheel shaft fastener	1	M25	1,25	63*	GREASE B	(On thread and underhead)
Valve to front wheel tightening	1	M8	1,25	9	Pre-applied threadlocker	
Rear wheel assembly						
Rear sprocket to driving flange fastener	6	M10	1	55*	LOCK 2	
Cush drive damper pin	6	M14	1.5 LH	44*	LOCK 5	
Fastener securing rear wheel shaft to fixed chain tensioner slider	1	M30	1,5	20	LOCK 5	
Fastener retaining rear wheel pack to double-sided swinging arm	1	M30	1,5	180*		* = +/- 5%
Valve to rear wheel tightening	1	M8	1,25	9	Pre-applied threadlocker	
Brake disc and phonic wheel to rim fastener	4	M8	1,25	25*	Pre-applied threadlocker	
Tank assembly						
Fuel tank plug retainer	6	M5	0,8	4		
GAC retaining screws	5	M5	0,8	6		(Seq.: 1-2-3-4-5)
Tank front buffer fastener	2	M6	1	10		
Fuel sensor retainer	4	M5	0,8	5		
Fuel taps fastener	4	M6	1	6		
Tank to tank support rear fastener	1	M6	1	10		
Tank connection hose clamp retainer	2	M4		1		
Cable ring to cylinder head fastener	1	M6	1	10		

Exhaust assembly						
RH-LH connecting rod to pre-silencer fastener	1+1	M6	1	10		
RH pre-silencer con-rod to footpeg holder plate fastener	1	M6	1	10		
CO plug	2+2	G 1/8		25	GREASE I	
Pre-silencer fastening clamp	2	M8		22	GREASE I	
Lambda sensor to manifolds tightening	4	M12	1,25	25	Pre-applied grease	
Split tail pipe clamp fastener	1	M8		22	GREASE I	
Front pipe set to head fastener	3+3	M6	1	10	GREASE I	
Rear pipe set to head fastener	3+3	M6	1	10	GREASE I	
Tightening of heat guard sheet to plastic heat guard screws-nuts + nuts	4	M5	0,8	5		
Plastic heat guard to electric component compartment retainer	4	Self-tapping		3		
Exhaust tailpipe cover fastener	3	M5	0,8	5		
Silencer endcap fastener	3	M5	0,8	4		
Screw securing silencers to passenger footpeg holder plate	1	M8	1,25	20		
Secondary air actuator to support fastener	2	M5	0,8	4		
Rear MAP sensor support to airbox cover fastener	2	M5	0,8	4		
LH pre-silencer con-rod to footpeg holder plate fastener	1	M6	1	10		
Silencer pipe cover fastener	2	M5	0,8	5		
Seat assembly						
Seat support to frame central plate fastener	2	M8	1,25	25	Pre-applied threadlocker	
Cable ring to frame central plate fastener	1	M6	1	10		
Frame assembly						
Hands Free and Race Lock support fastener	2	M8	1,25	25	Pre-applied threadlocker	
Frame to front and rear head fastener	4	M10	1,25	90*	GREASE B	
Central plate to frame fastener	2	M10	1,5	55*	LOCK 2	
Screw retaining front subframe to frame on steering tube	2	M8	1,25	25	Pre-applied threadlocker	
Power socket to headlight fairing retainer	1	M18	1	3		
Frame plate to LH plate fastener	2	M8	1,25	25*	Pre-applied threadlocker	
RH plate to frame central plate fastener	1	M12	1,75	70*	GREASE B	
LH plate to frame central plate fastener	1	M12	1,75	70*	LOCK 2 + GREASE UN UNDERHEAD	
RH-LH plates to plate bracket on rear head fastener	2	M10	1,5	40*	LOCK 2	
Frame plate bracket to rear head fastener	2	M8	1,25	31	Pre-applied threadlocker	
Heat guard to frame plates fastener	3+3	Self-tapping		1		
Swinging arm pivot plug retainer	2	M20	1,5	50*	GREASE B	
RH frame plate to engine fastener	2	M8	1,25	25*	Pre-applied threadlocker	
Frame plate and LH footpeg holder plate to crankcase LH lower fastener	3	M8	1,25	25*	Pre-applied threadlocker	
Rear subframes to frame plates lower fastener	2	M10	1,5	50*	Pre-applied threadlocker	
LH rear subframe to frame LH plate upper fastener	1	M10	1,5	60*	LOCK 3	
RH rear subframe to frame central plate upper fastener	1	M10	1,5	60*	LOCK 3	
Handle to rear subframes front fastener	2	M8	1,25	18*		
Handle to rear subframes central fastener	2	M8	1,25	18*		
Handle to subframe rear plate rear fastener	2	M8	1,25	18*		

Floating side pannier housings to subframe rear plate fastener	2	Self-tapping		1,5		
Floating side pannier housings to floating pannier support fastener	2	Self-tapping		1,5		
Panel support to front subframe retainer	4	M5	0,8	3		
Instrument panel support to front subframe fastener	4	M5	0,8	5		
Special screws on HF and Race lock support fastener	2	M6	1	10	LOCK 5	
USB to subframe fastener	1	Self-tapping		0,8		
Oil cooler						
Oil hose to cooler tightening	1+1	M20	1,5	15*		
Pressure switch to oil cooler fastener	1	M10	1	19*	Lubricate with engine oil	
Oil hose guide plate to oil sump and engine block fastener	1+1	M6	1	10	LOCK 2	
Conveyor to frame fastener	1	M6	1	8	Pre-applied threadlocker	
Oil cooler to conveyor fastener	3	M5	1	3	LOCK 2	
Oil cooler conveyor to radiator conveyors fastener	2	M6	1	8	Pre-applied threadlocker	
Air intake-oil breathing assembly						
Airbox filter cover on frame fastener	10	M6	1	10		
Richco clamp to lower air box fastener	1	Self-tapping		0,5		
Cable ring rubber block on airbox fastener	1			MANUAL		
Cyclone bracket to airbox lower box half fastening screw	1	Self-tapping		1,5		
Cyclone retaining bracket to blow-by separator fastener	1	M6	1	4		
Air temperature sensor to duct fastener	2	Self-tapping		0,5		
Front air duct to frame fastener	4	M5	0,8	5		
Fuel supply assembly						
Intake manifold to cylinder head fastener	8	M6	1	10*	Pre-applied threadlocker	
Throttle body to intake manifolds fastener	12	M5	0,8	5	Pre-applied threadlocker	
Throttle bodies and funnels to intake manifolds retainer	4	M5	0,8	5	LOCK 2	
Retainer securing funnels to throttle bodies	4	M5	0,8	5	Pre-applied threadlocker	
Injector caps to throttle body fastener	4	M5	0,8	5		
Throttle body jointing fastener	2	M5	0,8	5		
Fairing assembly						
Panel to conveyor and headlight fairing fastener	4	M5	0,8	2	Pre-applied threadlocker	
Panel to plug cover fastener	2	M5	0,8	2	Pre-applied threadlocker	
Tank cover to tank filler plug cover fastener	4	M5	0,8	3		
Glove compartment support to tank filler plug trim fastener	2	Self-tapping		0,7		
Tank cover fastener	8	M5	0,8	4		
RH and LH cowlings structures and tank cover fastener	2+2	M5	0,8	3		
LH-RH cowlings structure to RH and LH cowlings fastener	2+2	M5	0,8	2		
RH and LH cowlings structures and RH-LH side body panels fastener	1+1	M5	0,8	3		
RH-LH side body panels to tank cover fastener	1+1	M5	0,8	3		
Screw securing thermoformed windscreen to support	4	M5	0,8	3		
Windscreen support release retainer	3	M5	0,8	3	LOCK 1	
Instrument panel hinge support fastener	2	M5	0,8	3		S VERSION
windscreen fixed support (base+guide) fastener	4	M5	0,8	3		

LH and central RH sump guard retainer	4	M5	0,8	5		
RH and LH fastener retaining sump guard to footpeg holder plates	2	M8	1,25	20		
Pin retaining sump guard to engine block	2	M12	1,75	20		
Sump guard to engine fastener	2	M6	1	10	Pre-applied threadlocker	
Rear tail guard cover to passenger handle fastener	4	Self-tapping		1,5		
Latch to passenger handle special retaining screw	2	M6	1	8		
Power socket to tail guard fastener	1	M18	1	3		
Linkage cover fastener	4	Self-tapping		0,5		
Linkage to windscreen support fastener	4	M5	0,8	3		
LH rear cylinder head cover to frame fastener	2	M5	0,8	5		
LH rear head cover lower fastener	1	M5	0,8	5		
Cushion to tank cover fastener	4	Self-tapping		3		
RH-LH deflector to RH-LH cowl structure fastener	4+4	Self-tapping		1		
RH-LH louver to RH-LH cowl structure fastener	6+6	Self-tapping		1		
RH-LH by-pass deflector to RH-LH cowl structure fastener	2+2	Self-tapping		1		
Conveyor cover to tank cover fastener	2+2	M5	0,8	2		
Undernose to conveyor fastener	4	M5	0,8	3		
Cowlings to tank cover fastener	1+1	M5	0,8	3		
RH-LH deflector to fixed support fastener	2+2	M5	0,8	3		
RH lower deflector to fixed support fastener	2	M5	0,8	3	Pre-applied threadlocker	
Cover fastener for navigation system fastening	2+2	M5	0,8	2		
RH lower deflector to engine fastener	1	M5	0,8	3		
Fixed support to engine fastener	1	M5	0,8	3		
LH lower deflector to engine fastener	3	M5	0,8	3		
Fixed support to engine fastener	1	M5	0,8	3		

(*) dynamic safety-critical point; tightening torque tolerance must be Nm ±5%.