Frame tightening torque values

Description	Q.ty		Torques (Nm) Monster Mons 937 937 F	
ACCESSORIES	•			_
Screw securing Rear-view mirror	1	M8x1.25	25.0	PRE-APPLIED THREADLOCKER
Rear-view mirror ret. screw		M8x1.25 - LH	25.0	PRE-APPLIED THREADLOCKER
STAND	ı			
Side stand rotation pin fastener	1	M8x1.25	24.0	GREASE B + LOCK 2
Side stand rotation pin lock nut fastener	1	M8x1.25	24.0	LOCK 2
Side stand plate to crankcase fastener	1	M10x1.5	50.0 ±5%	PRE-APPLIED THREADLOCKER
Stand sensor fastener	1	M6x1	5.0	PRE-APPLIED THREADLOCKER
CHAIN/SPROCKET	1	T		
Sprocket fastener	1	M25x1.5	186.0 ±5%	GREASE B
Sprocket cover fastener	3	M6x1	6.0	PRE-APPLIED THREADLOCKER
LIGHTS	T.			
Front subframe to steering head and bottom yoke fastener	2+2	M6x1	8.0	PRE-APPLIED THREADLOCKER
Headlight to U-bolt support fastener	2+2	M5x0.8	5.0	PRE-APPLIED THREADLOCKER
Headlight adjustment guide fastener	2	ST4	1.0	
Headlight spring fastener	1	M5x0.8	3.0	
Front wiring to front subframe retainer	1	M5x0.8	3.0	
Headlight trim to front subframe fastener	2	M5x0.8	3.0	
Tail light fastener	2	Self-tapping	1.8	
Front turn indicators to tank panel fastener	2+2	M5x0.8	3.0	
Rear turn indicator fastener	1+1	M5x0.8	3.0	LOCK 2
Front turn indicator upp. support to lower USA turn indicator support fastener	1+1	M5x0.8	3.0	
Front USA turn indicators to tank panel fastener	2+2	M5x0.8	3.0	

	Τ				
			Torques	(Nm)	
Description	Q.ty	Thread/Pitch	Monster 937	Monster 937 Plus	Notes
ACCESSORIES					
Front USA turn indicator fastener	1+1	M5x0.8	3.0		LOCK 2
Headlight trim fastener	1	ST4	0.5		
INSTRUMENTS					
Dashboard support to instrument panel fastener	1	M5x0.8	5.0		
Instrument panel cover fastener	2	M5x0.8	5.0		
FRONT FORK	ı		T		1
Steering bearing fastener	1	M35x1	35.0 ±5%	6	GREASE B
Brake hose cable ring to bottom yoke fastener	1	M6x1	10.0		
Steering limit stop lock nut fastener	2	M8x1.25	18.0		LOCK 2
Steering head on steering shaft fastener	1	M8x1.25	18.0 ±5%		GREASE B
Steering head on fork fastener (RH+LH)	1+1	M8x1.25	24 ±5%		GREASE B
Bottom yoke on fork fastener (RH+LH)	2+2	M8x1.25	16.0 ±5%		GREASE B
Fork bottom end fastener (RH+LH)	2+2	M6x1	10.0 ±5%		
Handlebar lower U-bolt to steering head fastener	2	M10x1.25	45.0 ±5%	6	
ABS sensor cable ring to LH fork axle lug fastener	2	M6x1	10.0		LOCK 2
ABS sensor to LH fork axle lug fastener	1	M6x1	8.0		PRE-APPLIED THREADLOCKER
Dashboard support to steering head fastener	2	M6x1	10.0		LOCK 2
ELECTRICAL-ELECTRONIC SYSTEM	ı		T		1
BBS support bracket to electrical sys. upp. support fastener	2	ST5	2.0		
El. sys. upper support to central subframe crossbeam fastener	2	M6x1	10.0		
Screw securing RICHCO clamp base to el. sys. upper support	2	ST3.5	1.0		
El. sys. upper support to el. sys. lower support screw	5	ST3.5	0.85		
Battery bracket fastener	2	M5x0.8	2.0		
Battery cable to terminal fastener	2	M6x1	2.5		
Glove compartment to rear crossbeam subframe fastener	2	M5x0.8	3.0		
Glove compartment to front crossbeam fastener	2	M5x0.8	3.0		
Solenoid starter cable to starter motor fastener	1	M6x1	5.0		GREASE D

			Torques	(Nm)	
Description	Q.ty	Thread/Pitch	Monster	Monster 937 Plus	Notes
ACCESSORIES					
Solenoid starter cable on solenoid starter fastener	2	M6x1	5.0		
Ground cable on engine fastener	1	M6x1	10.0		
Ignition switch to frame fastener	2	M6x1	SHEAR	SCREW	PRE-APPLIED THREADLOCKER
Regulator support to frame fastener	2	M5x0.8	6.0		
Voltage rectifier to support fastener	2	M6x1	5.0		
ECU support to airbox upper shell retainer	2	ST5	2.0		
IMU to bracket retainer	2	M6x1	6.0		
IMU support bracket to frame fastener	3	M5x0.8	6.0		
Horn to bracket fastener	1	M8x1.25	8.0		
Horn bracket to frame fastener	1	M5x0.8	5.0		PRE-APPLIED THREADLOCKER
MAP sensor bracket to frame fastener	2	M5x0.8	5.0		
El. sys. upper support to rear subframe crossbeam fastener	1	M6x1	6.0		
Hellermann cable ring to crankcase fastener	1	M5x0.8	2.0		
Wiring cover to generator casing fastener	2	M5x0.8	3.0		
Frame plugs retaining U-bolt fastener	1	M5x0.8	5.0		
FRONT BRAKE		Г	ı		
Front brake master cylinder to handlebar fastener	2	M6x1	10.0		
Front brake calliper fastener (RH+LH)	2+2	M10x1.25	45.0 ±5%	, 0	GREASE B
Front brake calliper pre-tightening tool for settling (RH+LH)	2+2	M10x1.25	2.0		GREASE B
REAR SWINGING ARM		Г	ı		
Wedge to swingarm shaft fastener	1	M8x1.25	18.0 ±5%		GREASE B
Upper chain sliding shoe fastener	1	M5x0.8	5.0		PRE-APPLIED THREADLOCKER
Lower chain sliding shoe retainer	2	M5x0.8	5.0		PRE-APPLIED THREADLOCKER
Fastener securing cable guide to swinging arm	1	M6x1	10.0		
Chain tensioner slider adjuster retainer	2	M8x1.25	8.0		GREASE B

			Torques	(Nm)		
Description	Q.ty	Thread/Pitch	Monster 937	Monster 937 Plus	Notes	
ACCESSORIES						
Cable guide to brake calliper plate fastener	1	M6x1	10.0			
ABS sensor to brake calliper plate fastener	1	M6x1	8.0		PRE-APPLIED THREADLOCKER	
Pre-retaining the chain tensioner sliding shoe adjuster screw	2	M8x1.25	2.0			
REAR BRAKE						
Screw retaining rear brake calliper to calliper holder plate	2	M8x1.25	25.0 ±5%	, 0	GREASE B	
Screw securing rear brake master cylinder and fluid reservoir retaining plate to RH footpeg	2	M6x1	10.0		LOCK 2	
Screw securing rear brake fluid reservoir to support	1	M6x1	2.0		PRE-APPLIED THREADLOCKER	
ABS SYSTEM BRAKE		T	T			
ABS control unit on bracket fastener	2	M6x1	6.8 ±1		LOCK 2	
ABS hose support to frame fastener	2	M5x0.8	5.0			
NUMBER PLATE HOLDER						
Number plate holder to subframe fastener	4	M6x1	10.0			
Upper guard to lower guard fastener	4	ST5	2.0			
Number plate holder plate to rear guard retainer	3	M6x1	5.0			
Reflector fastener	2	M4x0.7	2.0			
Number plate light fastener	2	M4x0.7	1.2		LOCK 1	
Reinforcement bracket fastener	2	M5x0.8	6			
Reinforcement bracket fastener	2	M4x0.5	2.5			
HANDLEBAR / CLUTCH CONTROL						
Handlebar U-bolt locking screws	2+2	M8x1.25	25.0 ±5%	, 0	GREASE B	
RBW throttle to handlebar fastener	2	M5x0.8	1.5			
Clutch actuator to engine fastener	3	M6x1	10.0		FLUOROCARBON 880	
Clutch master cylinder to handlebar fastener	2	M6x1	10.0			
LH switch fastener	2	M5x0.8	2.0			
RH switch fastener	2	M4x0.7	1.5			
Counterweight to handlebar tube retainer	1+1	M6x1	10.0			

			Torques	(Nm)		
Description	Q.ty Thread/Pitc		Monster Monster 937 937 Plus		Notes	
ACCESSORIES						
Clutch hose bracket retainer	1	M6x1	10.0			
REAR SUSPENSION						
Shock absorber on swinging arm and vertical head fastener	2	M10x1.25	42.0 ±5%		GREASE B	
FRONT MUDGUARD						
Front mudguard fastener (RH+LH)	2+2	M6x1	8.0		PRE-APPLIED THREADLOCKER	
ABS line cable ring clamp	1	ST3.5	0.5			
WATER RADIATOR		T	T			
Radiator to frame upper retainer	2	M6x1	10.0			
Threaded pin to horizontal head fastener	1	M6x1	10.0			
Radiator connecting rod to engine lower fastener	1	M5x0.8	5.0			
Water hose fastener: radiator, thermostat and water pump	4		3.0			
Water hose fastener: thermostat and engine	3		3.0			
Expansion reservoir to ABS control unit support bracket fastener	2	M5x0.8	4.0			
ABS control unit support bracket to manifold fastener	2	M6x1	8.0			
ABS control unit supp. bracket to engine fastener	2	M6x1	1.0			
Wiring bracket to engine fastener	1	M6x1	8.0			
Fan fastener	4	M5x0.8	4.0			
Fan deflector fastener	2	Self-tapping	2.0			
V.H. breather pipe fastener	1		0.6			
FOOTPEGS AND LEVERS ON BRAKE SIDE			1			
Switch screw on rear brake lever fastener	1	M6x1	8.0			
Brake master cylinder control rod fastener	1	M6x1	5			
Rear brake rod spacer to counteract spring fastener	1	M6x1	10.0		LOCK 2	
Brake lever pin on RH footpeg holder plate fastener	1	M8x1.25	24.0		PRE-APPLIED THREADLOCKER	
LH footpeg holder plate to engine fastener	2	M10x1.5	36.0			
RH footpeg support to swingarm shaft upper fastener	1	M12x1.25	55.0 ±5%	, 0	GREASE B	

			Torques	(Nm)		
Description	on Q.ty Thread/Pitc	Thread/Pitch	Monster 937	Monster 937 Plus	Notes	
ACCESSORIES						
Stop sensor plate to footpeg holder plate fastener	1	M5x0.8	5.0		LOCK 2	
FOOTPEGS AND LEVERS ON GEARBOX SIDE		T	1			
LH footpeg holder plate to engine fastener	1	M10x1.5	36.0			
LH footpeg holder plate to engine fastener	1	M10x1.5	36.0			
LH footpeg support to swingarm shaft upper fastener	1	M12x1.25	55.0 ±5%	6	GREASE B	
DQS joint to con-rod fastener	1	M6x1	10.0			
Gearchange lever (connecting rod) to pawl fastener	1	M6x1	10.0		PRE-APPLIED THREADLOCKER	
Gearchange lever pin on LH footpeg holder plate fastener	1	M8x1.25	24.0		PRE-APPLIED THREADLOCKER	
DQS joint fastener	1	M6x1	5.0		LOCK 1	
DQS to gear change pedal fastener	1	M6x1	10.0			
REAR MUDGUARD		Г	ı			
Front chain guard and splash guard fastener	1	M5x0.8	5.0		PRE-APPLIED THREADLOCKER	
Chain guard fastener	1	M5x0.8	5.0		PRE-APPLIED THREADLOCKER	
Rear mudguard fastener	2	M5x0.8	5.0		PRE-APPLIED THREADLOCKER	
FRONT WHEEL						
Brake disc fastener (RH+LH)	5+5	M8x1.25	30.0 ±5%	6	PRE-APPLIED THREADLOCKER	
Front wheel nut fastener	1	M25x1.25	63.0 ±5%		GREASE B	
Angle valve fastener (PLANT DMT)	1	M8x1.25	9.0		LOCK 2	
REAR WHEEL		T	1			
Rear sprocket fastener	5	M10x1	46+/-5%		LOCK 2	
Brake disc fastener	6	M8x1.25	25+/-5%		PRE-APPLIED THREADLOCKER	
Rear wheel shaft nut fastener	1	M25x1.25	145+/-5%	%	GREASE B-2	
Pre-tightening of wheel shaft nut for chain tensioning	1	M25x1.25	20.0			
Pin on rear sprocket flange fastener	5	M14x1.5	46+/-5%		LOCK 5	

		1			
		-	Torques	(Nm)	
Description	Q.ty	Thread/Pitch	Monster 937	Monster 937 Plus	Notes
ACCESSORIES					
Angle valve fastener (PLANT DMT)	1	M8x1.25	9.0		LOCK 2
FUEL TANK		1	T		
GAC retainer	6	M5x0.8	5.0		GREASE B
Screw tank plug fastener (external)	3	M5x0.8	4.0		
Tank plug fastener (internal)	1	M5x0.8	4.0		
Tank to frame fastener (rear)	2	M6x1	10.0		GREASE B
Tank to frame fastener (front)	2	M6x1	10.0		
EXHAUST			_		
Exhaust pipe flange to hor./vert. head nut	3+3	M6x1	10.0		
Pre-silencer fastening clamp	2	M6x1	4.0		GREASE I
Lambda sensor fastener (HOR.+VER.)	1+1	M18x1.5	24.5		
RH-LH connecting rod to pre-silencer fastener	1+1	M6x1	10.0		
RH connecting rod to exhaust support bracket fastener	1	M6x1	10.0		
LH connecting rod to footpeg holder plate fastener	1	M6x1	10.0		
Silencer retaining clip	1	M6x1	10.5		GREASE I
Heat guard on silencer fastener	3	M5x0.8	5.0		
Screw securing Silencer to bracket	1	M8x1.25	20.0		
Heat protection support bracket to engine fastener (rear)	1	M6x1	10.0		
Heat protection support bracket to engine fastener (front)	1	M5x0.8	5.0		
Heat guard on exhaust pipe fastener (VER.)	3	M6x1	10.0		
SEAT	ī	1	1	I	
Seat plate to seat fastener	2	M5x0.8	6.0		
Seat plate to frame fastener	1	M5x0.8	4.0		
Strap to rear frame fastener	2	M6x1	6.0		
FRAME	•	_	T		
Frame to H/V heads fastener	4	M12x1.25	90 ±5%		GREASE B
Screws retaining subframe to vertical head	2	M18x1.5	150 ±5%		GREASE B

			Torques	(Nm)		
Description	ption Q.ty Thread/Pitc		Monster 937 Monster 937 Plus		Notes	
ACCESSORIES	·					
Subframe to engine fastener	1	M12x1.25	60 ±5%		GREASE B	
Subframe jointing upper brackets fastener	4+4	M6x1	10 ±5%			
Subframe jointing lower bracket fastener	4	M6x1	10 ±5%			
Latch to rear subframe fastener	2	M6x1	5.0			
Seat lock to rear subframe ring nut	1	M22x1.5	4.0			
Wiring retaining bracket fastener	1+1	M6x1	5.0			
Rear subframes with rear crossbeam fastener	4	M6x1	10 ±5%			
Hellermann to frame fastener	1	M6x1	5.0			
OIL COOLER		ı	T			
Pressure switch support to engine fastener	1	M6x1	10.0			
Pressure switch to remote oil pipe fastener	1	M10x1	24.0			
Pressure switch oil pipe to engine retainer	1	M14x1.5	32.0			
AIR INLET / OIL BREATHER		T	Т			
Filter cover to Airbox upper shell fastener	6	ST5	2.0			
Duct to Airbox upper shell fastener	2	ST5	2.0			
Cable ring to Airbox upper shell fastener	1+1	ST5	2.0			
Temperature sensor to Airbox upper shell fastener	2	ST3	0.3			
Connector bracket to Airbox upper shell fastener	2	ST5	2.0			
Upper shell to Airbox lower shell fastener	12	ST5	2.25			
Blow-by hose clips on blow-by valve fastener	1		1.5			
Upper belt guard fastener	5	M6x1	10.0		Pre-applied threadlocker	
FUEL SUPPLY SYSTEM	,	T	T			
Injector cap to throttle body fastener	2	M5x0.8	5.0			
Intake funnel to throttle body fastener	2+2	M5x0.8	5.0		PRE-APPLIED THREADLOCKER	
Throttle body to airbox lower shell fastener	4+4	M6x1	8.0			
Throttle body to intake manifold retainer	2		2.5			

	Τ				
Description Q.			Torques	(Nm)	
		Q.ty Thread/Pitch		Monster 937 Plus	Notes
ACCESSORIES					
FAIRING ASS.					
Ignition switch cover fastener	2	M6x1	4.0		
RH/LH cover to tank fastener	3+3	M5x0.8	3.0		
RH/LH panel to tank fastener	2+2	M5x0.8	3.0		
RH-LH panel to RH-LH tank cover fastener	1+1	M5x0.8	3.0		
Rear subframe cover retainer	2+2	M5x0.8	2.0		
Rear subframe cover retainer	1+1	M5x0.8	2.0		
Tail guard cover to frame fastener	4	M5x0.8	2.0		
V.H. wiring support to engine fastener	3	M5x0.8	5.0		
Engine cylinder head LH protection to V.H. wiring support fastener	1	M5x0.8	3.0		
Engine cylinder head LH protection to engine fastener	1	M5x0.8	3.0		
Canister cover to frame fastener	2	M5x0.8	3.0		
Expansion reservoir cover to frame fastener	2	M5x0.8	3.0		
Expansion reservoir cover to ABS control unit support fastener	1	M5x0.8	3.0		
LH-RH frame heat protection fastener	2+2	ST4	1.0		
Frame plug retainer	2	M5x0.8	3.0		
Radiator cover fastener	1	M5x0.8	2.0		PRE-APPLIED THREADLOCKER
Clutch casing cover fastener	3	M5x0.8	3.0	T	
Seat plate to single-seater cover bottom fastener	2	M5x0.8		6.0	
Dashboard support to instrument panel fastener	2	M5x0.8		5.0	
Headlight fairing support bracket to Dashboard support fastener	4	M5x0.8		5.0	
Headlight fairing side body panels to headlight fairing support bracket fastener	2	M5x0.8		3.0	
PLEXIGLAS to headlight fairing retainer	2	M4x0.5		0.2	

^{*}dynamic safety-critical point; tightening torque tolerance must be Nm ±5%.

Engine tightening torque values

	Thread /	Torque (Nm)	ue (Nm)		Notes							
Length	pitch	Min	Nominal	Max								
GEAR SELECTOR CONTROL												
25	M8x1.25	34	36		PRE-APPLIED THREADLOCKER							
20	M8x1.25	22	25	28	LOCK 2							
20	M6x1	15	16		PRE-APPLIED THREADLOCKER							
	T		ı	ı								
-	M25x1.5	180	190	200	GREASE B							
40	M6x1	9	10	11								
_	T		ı	1								
-	M15x1	64	71	78	GREASE A							
_	M14x1	50	55	60	GREASE B							
-	M8x1.25	22	25	28	GREASE A							
18	M6x1	9	10		PRE-APPLIED THREADLOCKER							
18	M6x1	9	10		PRE-APPLIED THREADLOCKER							
12	3.5	1.5	1.75	2								
	T											
-	M10x1	11	12	13								
18– 25–35	M6x1	11	13		PRE-APPLIED THREADLOCKER							
16	M6x1	9	10		PRE-APPLIED THREADLOCKER (LOCK 5)							
	T		ı	ı								
-	M24x1	313	330	346	LOCK 5							
-	M22x1	171	190	209	GREASE B							
-	M20x1	45	50	55	LOCK 5							
-	M12x1.25	26	28		PRE-APPLIED THREADLOCKER							
_	M10x1	Apply GREASE C		GREASE C								
	25 20 20 - 40 - - - - 18 12 - 18– 25–35	25 M8x1.25 20 M8x1.25 20 M6x1 - M25x1.5 40 M6x1 - M15x1 - M14x1 - M8x1.25 18 M6x1 18 M6x1 19 3.5 - M10x1 18 M6x1 10 M6x1 - M25x1.5 10 M6x1 - M14x1 - M8x1.25 - M10x1 - M10x1	Care	Nominal Nominal Nominal Nominal Nominal Nominal	Length Pitch Min Nominal Max							

						On thread and underhead
		Thread /	Torque (Nm)			Notes
Application	Length	pitch	Min	Nominal I	Max	
			Tighten to 35 N	lm		
			Snug torque to	20 Nm		
			Snug torque to	35 Nm		
			Tightening 105	° +/-1°		
			Torque check 8	0÷110 Nm	1	
Crankshaft dowel	8	M8x1.25	11	13	15	LOCK 5
Crankshaft drilled dowel	8	M8x1.25	11	13	15	LOCK 5
COVERS	1	T	T	_	1	
Wet clutch fluid filler cap	-	M20x2.5	4.5	5	5.5	
Water pump cover plug + washer	-	M10x1	13.5	15	16.5	
Clutch recess blanking plug + washer	-	M10x1	10	11	12	
Water pump bearing retaining screw + washer	16	M6x1	9	10	11	LOCK 2
Timing inspection cover screw	14	M6x1	4.5	5	5.5	
Generator stator retaining screw	-	M6x1	12.1	13.5	14.9	PRE-APPLIED THREADLOCKER LOCK 5
Sound-deadening panel retaining screw	10	M6x1	10	12	14	PRE-APPLIED THREADLOCKER
			1) First tighteni	ng to 3±3.	5Nm	
Generator cover, clutch and water pump cover closing screw (aluminium)	19-27- 32	M6x1	2) Final tighten rotation of 90°	ing with a		
			3) Torque chec	k 5÷10Nm	1	
Rotary gear sensor retaining screw	16	M4x0.7	2	2.5	3	LOCK 2
CRANKCASE	1	1	T	_	1	
Oil mesh filter plug	-	M32x1.5	38	42	46	
Plastic oil mesh filter	_	M24x1.5	9	10	11	GREASE A
Oil intake service hole plug - steel/aluminium	-	M22x1.5	38	42	46	LOCK 5
Oil cartridge	-	M16x1.5	12	13	14	ENGINE OIL (on seal)
Nipple for oil cartridge	-	M16x1.5	38	42	46	LOCK 2
Stud bolt special screw for heat protection support	-	M16x1.5	27	30	33	
Clutch crankcase oil delivery channel plug (lobe pump)	-	M15x1	22	25	28	LOCK 5

	Torque (Nm)				Notes	
Application	Length	Thread / pitch				Notes
			Min	Nominal	Max	
Stud bolt special screw for heat protection support	-	M12x1.5	18	20	22	
Oil drain plug with magnet	-	M12x1.5	18	20	22	THREE BOND TB 1215 (on thread only)
Oil channel tapered dowel on clutch (delivery+ return to oil cooler)	8	M10x1	18	20	22	LOCK 5
Cylinder/head stud bolt	-	M10x1.5	28	30	32	LOCK 2
			Apply GREASE	В		
Casing jointing screw in cylinder area Central jointing screw + swinging arm connection	75	M8x1.25	Preload torque	19	21	GREASE B (On thread only)
area			Tightening torque	25	28	
Gear stopper lever retaining screw	21.5	M8x1.25	16	18	20	LOCK 2
Gearbox pawl inertial retaining screw	15	M8x1.25	20	22	24	LOCK 2
Nut retaining oil adjustment screw to clutch	5	M8x1	10	11	12	
Blow-by valve retaining screw	16	M6x1	9	10	11	
Secondary bearing, chain side, stop screw	12	M6x1	9	10	11	LOCK 2
Primary bearing, clutch side, stop screw	12	M6x1	9	10	11	LOCK 2
Casing jointing screw in idle gear shaft area	75	M6x1	9	10	11	
Casing outer jointing screw	35	M6x1	9	10	11	
Selector drum bearing retaining screw	10	M6x1	9	10	11	PRE-APPLIED THREADLOCKER (LOCK 2)
Radial pick-up retaining screw	16	M6x1	9	10	11	
Oil squirter under piston retaining screw	10	M5x0.8	7	8	9	LOCK 2
Blow-by valve upper shell screw	14	M3x0.5	1	1.2	1.4	LOCK 5
ELECTRIC STARTER						
Starter motor inner retaining screw	18-20	M6x1	12.5	13.5	14.5	DRILOC 218
Starter motor inner retaining screw	25	M6x1	12.5	13.5	14.5	DRILOC 218
Starter motor rear retaining screw	30	M6x1	9	10	11	PRE-APPLIED THREADLOCKER
COOLING CIRCUIT						
Water circuit ties	-	-	2	2.5	3	
OIL PUMP						
By-pass pump plug	-	M15x1	15	17	19	LOCK 5

			Torque (Nm)			Natas	
Application	Length	Thread / pitch	Torque (Nm)		Max	Notes	
			Min	Nominal			
Oil lobe pump assembling screw	16-50	M6x1	9	10	11		
CYLINDER HEADS		<u> </u>		<u> </u>	1		
FIXED and MOBILE tensioner pin	-	M20x1	45	50	55	LOCK 2	
Camshaft belt roller ring nut	-	M17x1	64	71	78	GREASE A	
Temperature sensor on water union	-	M12x1.5	20	23	26	LOCK 4 (hold insert while tightening)	
Rocker arm shaft blanking plug + washer	-	M12x1.25	14	15	16	PRE-APPLIED THREADLOCKER (LOCK 2)	
			Apply GREASE C				
			Snug torque to	20 Nm			
Nut for head/cylinder stud bolt	-	M10x1.5	Preload torque	40	42	AGIP GR FD33 (on thread and underhead)	
			Tightening torque	60	63		
			Apply SHELL U	LTRA 4			
Camshaft cap retaining screw	32	M8x1.25	Preload torque	10	11	SHELL ULTRA 4	
			Tightening torque	22.5	25		
Coil retaining screw	18	M6x1	9	10	11	PRE-APPLIED THREADLOCKER (LOCK 2)	
Pulley flange retaining screws 10.9	12	M6x1	12.5	14	15.5		
Intake manifold retaining nut	_	M6x1	9	10	11		
Head cover retaining screw	_	M6x1	9	10	11		
Head cover retaining special screw M6-M5	_	M6x1	9	10	11		
Exhaust manifold stud bolt	_	M6x1	9	10	11	LOCK 5	
Vacuometer retaining screw + washer	8	M6x1	4	5	6		
Horizontal head air breather union + washer	_	M6x1	2	2.5	3	LOCK 2	
MAP sensor special screw	_	M6x1	4	5	6		
Vertical head air breather screw + washer	8	M6x1	7	8	9	LOCK 2	
Intake manifold retaining screw	16	M6x1	9	10	11		
Secondary air cover retaining screw	-	M5x0.8	5	6	7		
Stud bolt special screw securing water unions to head	16	M5x0.8	5	6	7	PRE-APPLIED THREADLOCKER	

Application	Length	Thread / pitch	Torque (Nm)			Notes
				Nominal	Max	
Screw securing water unions to head	16	M5x0.8	5	6		PRE-APPLIED THREADLOCKER
CANISTER						
Union for canister + washer	-	M6x1	4	5	6	