

TECHNICAL SPECIFICATIONS – ENGINE 125/144/250 SX 2008»

ENGINE	125 SX	144 SX	250 SX
Design	Liquid-cooled, single-cylinder, two-stroke engine with intake and exhaust control		
Piston displacement	124.8 ccm	143.6 ccm	249 ccm
Bore / stroke	54 / 54.5 mm	54 / 58.4 mm	66.4 / 72 mm
Fuel	unleaded fuel with at least RON 95 (USA = Premium PON 91), mixed with high grade two stroke oil		
Oil / gasoline ratio	1:40	1:40	1:60
	when using high grade, two- stroke oil (Motorex Cross Power 2T).		
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing		
Connecting rod bearing	needle bearing		
Piston pin bearing	needle bearing		
Piston	cast aluminum		
Piston ring	2 half keystone rings	2 half keystone rings	two plain compression rings
Dimension „X“ <small>(upper edge piston- upper edge cylinder)</small>	0.0 mm	0.0 mm	0.0 + 0.1 mm
Ignition timing	1.4 mm (0.055 in) BTDC	1.4 mm (0.055 in) BTDC	1.9 mm (0.074 in) BTDC
Spark plug	NGK BR9 ECMVX	NGK BR9 ECMVX	NGK BR8 ECM
Electrode gap	0,60 mm		
Dimension „Z“ <small>(height of the control flap)</small>	43.5 mm (1.68 in)	43.1 mm (1.69 in)	47.5 mm (1.87 in)
Exhaust control start open	-	-	5500/min
Exhaust control fully open	-	-	7000/7500/7900/min (red/yellow/green spring)
Primary drive	straight cut spur gears		
Primary ratio	23 : 73	23 : 73	26 : 72
Available chain sprockets	13t /14t for chain 5/8 x 1/4"		
Clutch	multiple disc clutch in oil bath, hydraulically operated		
	Motorex Hydraulic Fluid 75	Motorex Hydraulic Fluid 75	Motorex brake fluid DOT 5.1
Transmission	6 speed, claw actuated	6 speed, claw actuated	5 speed, claw actuated
Gear ratio			
1st gear	13 : 32 „1S32“	13 : 32 „1S32“	“1S14” 14 : 28 “1S28”
2nd gear	„2S15“ 15 : 30 „2S30“	„2S15“ 15 : 30 „2S30“	“2S15” 15 : 24 “2S24”
3rd gear	„3S17H“ 17 : 28 „3S28H“	„3S17H“ 17 : 28 „3S28H“	“3S18” 18 : 24 “3S24”
4th gear	„4S20H“ 20 : 28 „4S28“	„4S20H“ 20 : 28 „4S28“	“4S21” 21 : 24 “4S24”
5th gear	„5S19H“ 19 : 23 „5S23H“	„5S19H“ 19 : 23 „5S23H“	“5S22” 22 : 21 “5S21”
6th gear	„6S22H“ 22 : 24 „6S24H“	„6S22H“ 22 : 24 „6S24H“	
Gear lubrication	0,7 liter Motorex Top Speed 4T 15W50		
Available chain sprockets	13Z / 14Z für Kette 5/8 x 1/4"		
Coolant	1.2 litres, 50% anti freeze, 50% distilled water, at least -25 °C (-13 °F)		
Ignition system	KOKUSAN 2K-1	KOKUSAN 2K-1	stator 2K-1/flywheel 2K-2
Carburetor	flat-slide carburetor, carburetor setting see table		
Air-filter	wet foam type air filter insert		

BASIC CARBURETOR SETTING			
	125 SX	144 SX	250 SX
Carburetor	Keihin PWK 39	Keihin PWK 39	Keihin PWK 36 S AG
Carburetor setting mark	98SA0/98SA1	FJ011	FK0160
Main jet	188 (185/190)	202 (200, 205)	158 (155, 160)
Idling jet	45 (48)	45 (48)	45 (42)
Starting jet	85	85	85
Jet needle	R1469D (R1470D)	R1471H (R1470H, R1472H)	N1E1 (N1EH)
Needle position from top	II	III	III
Throttle valve	5.5	5.5	6.5
Air adjustment srew open	1.5	1.5	1

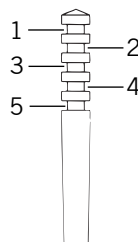
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TIGHTENING TORQUES - ENGINE		
Flange bolts - cylinder-head (125/144 SX)	M7	18 Nm
Flange bolts - cylinder-head (250 SX)	M8	27 Nm
Nuts-cylinder base (125/144 SX)	M8	30 Nm
Nuts-cylinder base (250 SX)	M10	35 Nm
Flywheel collar nut	M12x1	60 Nm
Nut for primary sprocket (125/144 SX)	M16x1,5 links	Loctite 243 + 130 Nm
Nut for primary sprocket (250 SX)	M18x1,5 links	Loctite 270 + 150 Nm
Nut for inner clutch hub (125/144 SX)	M18x1,5	Loctite 243 + 130 Nm
Nut for inner clutch hub (250 SX)	M18x1,5	Loctite 270 + 100 Nm
Bundschraube Kupplungsfeder	M6	10 Nm
Oil drain plug	M12x1,5	20 Nm
Oil drain plug (125/144 SX) clutch cover	M10x1	15 Nm
Drain plug for water pump cover	M10x1	15 Nm
Collar screw for water pump cover	M6	Loctite 243 + 10 Nm
Water pump wheel	M5	Loctite 243 + 6 Nm
Crankcase and clutch cover bolts	M6	10 Nm
Collar screws for ignition cover	M5	5 Nm
Collar screws for exhaust flange	M5	6 Nm
Spark plug	M14x1,25	25 Nm
Collar screws for ignition system	M5	Loctite 243 + 6 Nm
Collar screw for kickstarter lever	M8	Loctite 243 + 25 Nm
Collar screw für shifting lever	M6 (10.9)	Loctite 243 + 14 Nm
Other screws	M 5	6 Nm
	M 6	10 Nm
	M 8	25 Nm
	M 10	45 Nm

CARBURETOR TABLE »

VERGASERREGULIERUNG CARBURETOR SETTING KEIHIN PWK 39		125 SX 2007 / 2008						KTM
MEERESHÖHE ALTITUDE ↓	TEMPERATUR TEMPERATURE →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 36°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F	
3000 m 10000 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1,5 45 R1469D 2 188	1,75 45 R1470D 2 185	2 42 R1470D 2 182	2,25 40 R1470D 2 180	2,5 38 R1471D 1 178		
2300 m 7500 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1,5 48 R1469D 2 190	1,5 45 R1469D 2 188	1,75 45 R1470D 2 185	2 42 R1470D 2 182	2,25 40 R1470D 2 180	2,5 38 R1471D 1 178	
1500 m 5000 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 48 R1468D 3 192	1,5 48 R1469D 2 190	1,5 45 R1469D 2 188	1,75 45 R1470D 2 185	2 42 R1470D 2 182	2,25 40 R1470D 2 180	
750 m 2500 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 50 R1468D 3 195	1 48 R1468D 3 192	1,5 48 R1469D 2 190	1,5 45 R1469D 2 188	1,75 45 R1470D 2 185	2 42 R1470D 2 182	
300 m 1000 ft ↑ Meeresniveau Sea level	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	0,75 52 R1468D 4 198	1 50 R1468D 3 195	1 48 R1468D 3 192	1,5 48 R1469D 2 190	1,5 45 R1469D 2 188	1,75 45 R1470D 2 185	

LSO = Luftregulierschraube offen
LD = Leerlaufdüse
POS = Nadel Clip Position von oben
HD = Hauptdüse



ASO = Air screw open from fully-seated
IJ = Idling jet
POS = Needle clip position from top
MJ = Main jet

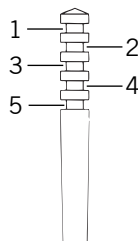
NICHT FÜR STRASSEN BETRIEB
Kraftstoff: Super Bleifrei ROZ 95

NOT FOR HIGHWAY USE
Fuel: unleaded fuel with at least RON 95
USA = Premium PON 91

CARBURETOR TABLE »

VERGASERREGULIERUNG CARBURETOR SETTING KEIHIN PWK 39		144 SX 2008						KTM
MEERESHÖHE ALTITUDE	TEMPERATUR TEMPERATURE →	- 20°C bis -7°C	- 6°C bis 5°C	6°C bis 15°C	16°C bis 24°C	25°C bis 36°C	37°C bis 49°C	
		-2°F to 20°F	19°F to 41°F	42°F to 60°F	61°F to 78°F	79°F to 98°F	99°F to 120°F	
3000 m 10000 ft	LSO ASO LD IJ NADEL NEEDLE	1,5 45 R1471H	2 45 R1471H	2 42 R1471H	2,5 42 R1472H	2,5 40 R1472H		
2301 m 7501 ft	POS POS HD MJ	3 202	3 202	2 200	2 198	1 195		
2300 m 7500 ft	LSO ASO LD IJ NADEL NEEDLE	1 45 R1470H	1,5 45 R1471H	2 45 R1471H	2 42 R1471H	2,5 42 R1472H	2,5 40 R1472H	
1501 m 5001 ft	POS POS HD MJ	4 205	3 202	3 202	2 200	2 198	1 195	
1500 m 5000 ft	LSO ASO LD IJ NADEL NEEDLE	1 48 R1470H	1 45 R1470H	1,5 45 R1471H	2 45 R1471H	2 42 R1471H	2,5 42 R1472H	
751 m 2501 ft	POS POS HD MJ	4 208	4 205	3 202	3 202	2 200	2 198	
750 m 2500 ft	LSO ASO LD IJ NADEL NEEDLE	1 48 R1469H	1 48 R1470H	1 45 R1470H	1,5 45 R1471H	2 45 R1471H	2 42 R1471H	
301 m 1001 ft	POS POS HD MJ	4 212	4 208	4 205	3 202	3 202	2 200	
300 m 1000 ft	LSO ASO LD IJ NADEL NEEDLE	1 50 R1468H	1 48 R1469H	1 48 R1470H	1 45 R1470H	1,5 45 R1471H	2 45 R1471H	
Meeresniveau Sea level	POS POS HD MJ	5 215	4 212	4 208	4 205	3 202	3 202	

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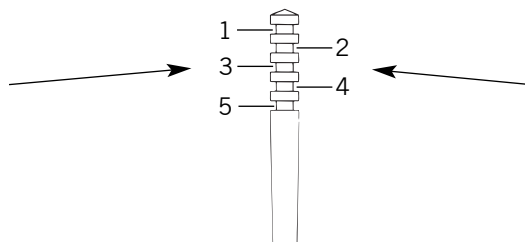
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CARBURETOR TABLE »

VERGASERREGULIERUNG CARBURETOR SETTING KEIHIN PWK-S 36 AG		250 SX 2008						KTM
MEERESHÖHE ALTITUDE ↓	TEMPERATUR TEMPERATURE →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 36°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F	
3000 m 10000 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 42 N1EI 3 158	1 40 N1EI 3 158	1 38 N1EI 2 155	2 38 N1EJ 2 152	2,5 38 N1EJ 1 150		
2300 m 7500 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 42 N1EH 3 160	1 42 N1EI 3 158	1 40 N1EI 3 158	1 38 N1EI 2 155	2 38 N1EJ 2 152	2,5 38 N1EJ 1 150	
1500 m 5000 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 45 N1EH 4 162	1 42 N1EH 3 160	1 42 N1EI 3 158	1 40 N1EI 3 158	1 38 N1EI 2 155	2 38 N1EJ 2 152	
750 m 2500 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 45 N1EG 4 165	1 45 N1EH 4 162	1 42 N1EH 3 160	1 42 N1EI 3 158	1 40 N1EI 3 158	1 38 N1EI 2 155	
300 m 1000 ft ↑ Meeresniveau Sea level	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	0,75 48 N1EF 5 168	1 45 N1EG 4 165	1 45 N1EH 4 162	1 42 N1EH 3 160	1 42 N1EI 3 158	1 40 N1EI 3 158	

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