

TECHNICAL SPECIFICATIONS – ENGINE 250 SX, EXC, 300 MXC, EXC 2005

MOTOR	250 SX	250 EXC	300 MXC/EXC
Design	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber		
Piston displacement	249 ccm	249 ccm	293,15 ccm
Bore / stroke	66,4 / 72 mm (2.62 / 2.84 in)	66,4 / 72 mm (2.62 / 2.84 in)	72 / 72 mm (2.84 / 2.84 in)
Fuel	unleaded fuel with at least RON 95 (USA = Premium RON 91), mixed with high grade two stroke oil (Motorex Cross Power 2T)		
Oil / gasoline ratio	1:40 – 1:60 when using high grade, two- stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side		
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing		
Connecting rod bearing	needle bearing		
Piston pin bearing	needle bearing		
Piston	cast piston		
Piston ring	two plain compression rings	two plain compression rings	two plain compression rings
Dimension "X" <small>(upper edge piston- upper edge cylinder)</small>	0 + 0,1 mm (0 + 0.004 in)		
Ignition timing	1,9 mm vor OT		
Spark plug	NGK BR8 ECM	NGK BR7 ES	NGK BR 7 ES
Electrode gap	0,60 mm		
Dimension "Z" <small>(height of the control flap)</small>	48,5 mm (1.9 in) - 0,2 mm (0,008 in)		
TVC start open	5200/min		
TVC fully open	7000/min (red spring), 7500/min (yellow spring), 7900/min (green spring)		
Primary drive	straight cut spur gears, primary ratio 26:72		
Clutch	multiple disc clutch in oil bath, hydraulically operated (Motorex Kupplungs- Fluid 75)		
Transmission	5 speed, claw actuated		
Gear ratio	250 SX	250/300 EXC	300 MXC
1st gear	14 : 28	14 : 30	14 : 28
2nd gear	16 : 26	17 : 26	16 : 26
3rd gear	18 : 24	19 : 23	18 : 24
4th gear	21 : 24	20 : 20	21 : 24
5th gear	22 : 21	29 : 23	22 : 21
Gear lubrication	0,7 liter Motorex Top Speed 4T 15W50		
Available chain sprockets	13t / 14t for chain 5/8 x 1/4"		
Coolant	1.2 litres, 50% anti freeze, 50% water, at least -25 °C (-13 °F)		
Ignition system	KOKUSAN 2K-1	KOKUSAN 2K-3	KOKUSAN 2K-3
Generator output	no generator	12V / 110 W	12V / 110 W
Ignition system USA	KOKUSAN 2K-1	KOKUSAN 2K-2	KOKUSAN 2K-2
Generator output	no generator	12V 40 W	12V 40 W
Vergaser	flat-slide carburetor, carburetor setting see table		
Air-filter	wet foam type air filter insert		

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Repair manual KTM 250-300 SX/MXC/EXC

BASIC CARBURETOR SETTING			
	250 SX	250 EXC USA 300 MXC/EXC USA 250 EXC SIX-DAYS, 300 EXC SIX-DAYS	250/300 EXC-EU 250/300 EXC-AUS (250: 6,6 KW 300: 9,2 KW)
Carburetor	Keihin PWK 38 S AG	Keihin PWK 36 S AG	Keihin PWK 36 S AG
Carburetor setting mark	TBC YMD	G01A0	3600A
Carburetor setting number	–	191102	171102
Main jet	168 (165,170)	160 (162)	160 (162)
Idling jet	42 (40)	35	35
Starting jet	85	85	85
Jet needle	NOZF (NOZG/NOZE)	N3EH (N3EW)	N3CJ (N3EW/N3EH)
Needle position from top	IV	III	I
Throttle valve	6.5	7	7
Air adjustment screw open	1	1	3,5
Performance restrictor	–	–	slide stop 38
Power Jet nozzle	–	–	–

TIGHTENING TORQUES - CHASSIS

Collar screw, front wheel spindle	M 24x1,5	40 Nm
Brake caliper, front	M 8	Loctite243 25 Nm
Brake disks	M 6	Loctite243 10 Nm
Clamping screws, upper fork bridge (EXC)	M 8	20 Nm
Clamping screws, lower fork bridge (EXC)	M 8	15 Nm
Clamping screws, upper fork bridge (SX)	M 8	15 Nm
Clamping screws, lower fork bridge (SX)	M 8	10 Nm
Clamping screws, fork stubs	M 8	10 Nm
Collar nut, rear wheel spindle	M 20x1,5	80 Nm
Hexagon nut, swing arm bolt	M 16x1,5	100 Nm
Hexagon collar screw, handlebar clamp	M 8	Loctite243 20 Nm
Allan head screw, handlebar support	M 10	Loctite243 40 Nm
Shock absorber, top	M 12	80 Nm
Shock absorber, bottom	M 12	80 Nm
Sprocket screws	M 8	Loctite243 35 Nm
Ball joint for push rod	M 6	Loctite243 10 Nm
Engine mounting bolt	M 10	60 Nm
Engine brace	M 8	33 Nm
Screw adjusting ring spring preload shock abs	M 6	8 Nm
Spoke nipple	M 4,5 /M5	5 Nm
Other screws on chassis	M 6	10 Nm
	M 8	25 Nm
	M 10	45 Nm
Other collar nuts on chassis	M 6	15 Nm
	M 8	30 Nm
	M 10	50 Nm

TIGHTENING TORQUES - ENGINE

Flange bolts - cylinder-head	M 8	27 Nm
Nuts-cylinder base	M 10	35 Nm
Flywheel collar nut	M 12X1	60 Nm
Exhaust control - retaining bracket	M 5	Loctite243 7 Nm
Exhaust control - control flap	M 6	Loctite243 10 Nm
Exhaust control - lever for control segment	M 5	Loctite243 6 Nm
Shift roller - bearing retaining bracket	M 6	Loctite243 10 Nm
Shift lock	M 6	Loctite243 10 Nm
Idler bolt	M 6	Loctite243 10 Nm
Kickstarter release plate	M 6	Loctite243 10 Nm
Spring hanger for kickstarter	M 6	Loctite243 10 Nm
Oil drain plug with magnet	M 12X1,5	20 Nm
Water pump wheel	M 5	Loctite243 6 Nm
Nut for primary sprocket (LH thread)	M 18X1,5	Loctite243 150 Nm
Nut for inner clutch hub	M 18X1,5	Loctite243 100 Nm
Crankcase	M 6	10 Nm
Spark plug	M 14X1,25	25 Nm
Kickstarter lever	M 8	Loctite243 25 Nm
Shift lever	M 6	Loctite243 10 Nm
Cover screws	M 5	6 Nm
Other bolts	M 6	10 Nm
	M 8	25 Nm
	M 10	45 Nm

TOLERANCES AND FITTING CLEARANCES


Piston fitting clearance	0.06-0,1 mm
Piston ring end gap	0.3-0.4 mm
Connecting rod bearing - radial clearance	0.015-0.037 mm
Transmission shafts end float	0.1-0.4 mm
Clutch springs - length	Ø 2.5 new = 43 mm, minimum length = 42 mm
Crankshaft web	60 mm ± 0,05 mm

GASKET THICKNESSES

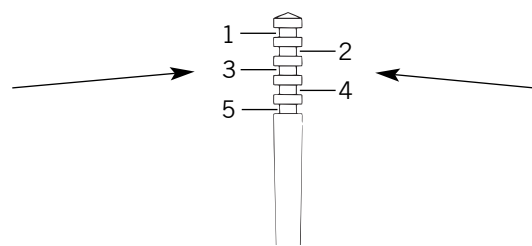
Crankcase	0.5 mm
Clutch cover	0.8 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.75 mm
Cylinder-head gasket	O-rings
Outer clutch cover	Form ring
Water pump cover	Form ring

VERGASERTABELLE » CARBURETOR TABLE

ANHANG – APPENDICE
APPENDIX – APÉNDICE

VERGASERREGULIERUNG CARBURETOR SETTING KEIHIN PWK S 38 AG		250 SX 2005						
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 38°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 NOZF 4 168	1,5 42 NOZF 3 168	1,5 42 NOZG 3 165	2 40 NOZG 2 162	2,5 38 NOZH 2 160		
2300 m 7500 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 42 NOZE 4 170	1 42 NOZF 4 168	1,5 42 NOZF 3 168	1,5 42 NOZG 3 165	2 40 NOZG 2 162	2,5 38 NOZH 2 160	
1500 m 5000 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 45 NOZE 4 172	1 42 NOZE 4 170	1 42 NOZF 4 168	1,5 42 NOZF 3 168	1,5 42 NOZG 3 165	2 40 NOZG 2 162	
750 m 2500 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 45 NOZD 5 175	1 45 NOZE 4 172	1 42 NOZE 4 170	1 42 NOZF 4 168	1,5 42 NOZF 3 168	1,5 42 NOZG 3 165	
300 m 1000 ft ↑ Meeresniveau Sea level	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 48 NOZD 5 178	1 45 NOZD 5 175	1 45 NOZE 4 172	1 42 NOZE 4 170	1 42 NOZF 4 168	1,5 42 NOZF 3 168	

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 STRASSENBETRIEB

Kraftstoff: Super Bleifrei ROZ 95

NOT FOR HIGHWAY USE

Fuel: unleaded fuel with at least RON 95
USA = Premium RON 91

EXC Modelle: Die oben angeführten Vergaserregulierungen gelten nur für entdrosselte Motorräder.

Um die volle Motorleistung zu erhalten, sind neben der Vergaserregulierung auch noch andere Maßnahmen erforderlich, Ihr KTM Händler hilft Ihnen gerne.

WENN SIE ÄNDERUNGEN AM MOTORRAD VORNEHMEN, GEHT DIE STRASSENZULASSUNG VERLOREN, DER BETRIEB AUF ÖFFENTLICHEN STRASSEN IST DANN VERBOTEN UND STRAFBAR! AUSSERDEM ERLISCHT DER VERSICHERUNGSSCHUTZ!

EXC models: The carburetor adjustments described above only apply to dethrottled motorcycles. Other measures will be required in addition to the carburetor adjustment for full engine performance. Your KTM dealer will be pleased to assist you.

CHANGES TO YOUR MOTORCYCLE WILL CAUSE YOU TO LOSE YOUR ROAD APPROVAL. IT WILL BE ILLEGAL TO OPERATE THE MOTORCYCLE ON PUBLIC ROADS! YOUR INSURANCE COVERAGE WILL ALSO BE CANCELLED!

Modelli EXC: Le tarature suindicate del carburatore valgono solo per motociclette potenziata. Per ottenere la piena potenza del motore sono richieste, oltre alla taratura del carburatore, anche altre misure. Il vostro concessionario KTM sarà sempre disposto ad aiutarvi.

MODIFICHE APPORTATE ALLA MOTOCICLETTA DETERMINANO LA PERDITA DELL'OMOLOGAZIONE STRADALE, L'IMPIEGO SU STRADE PUBBLICHE DI CONSEGUENZA È VIETATO E PASSIBILE DI PENA! INOLTRE DECADE LA COPERTURA ASSICURATIVA!

Modèles EXC : Les réglages de carburateur décrits ci-dessus valent seulement pour des machines débridées. Pour obtenir la pleine puissance, d'autres mesures sont nécessaires en plus de ces réglages. Les agents KTM connaissent ces mesures.

QUAND ON EFFECTUE DES TRANSFORMATIONS SUR UNE MOTO, L'HOMOLOGATION N'EST PLUS VALABLE, L'UTILISATION SUR LA VOIE PUBLIQUE EST INTERDITE ET TOMBE SOUS LE COUP DE LA LOI. DE PLUS LA COUVERTURE D'ASSURANCE DISPARAIT.

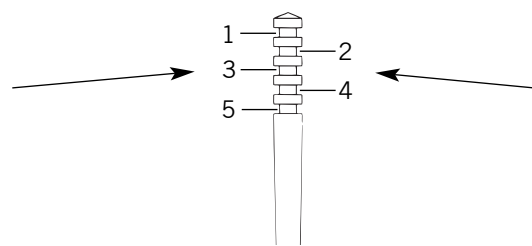
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SI EFECTÚA CAMBIOS EN LA MOTOCICLETA, SE PIERDE EL PERMISO DE CIRCULACIÓN EN CARRETERAS; LA CIRCULACIÓN EN VÍAS PÚBLICAS QUEDA ENTONCES PROHIBIDA Y ES PUNIBLE. ¡ADEMÁS CADUCA LA PROTECCIÓN DEL SEGURO!

VERGASERTABELLE » CARBURETOR TABLE

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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 38°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 35 N3EH 3 160	1 35 N3EH 2 160	1 35 N3EW 2 158	1,5 35 N3EW 2 155	2 35 N3EW 1 155		
2301 m 7501 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 35 N3EH 3 160	1 35 N3EH 3 160	1 35 N3EH 2 160	1 35 N3EW 2 158	1,5 35 N3EW 2 155	2 35 N3EW 1 155	
2300 m 7500 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 35 N3EH 3 162	1 35 N3EH 3 160	1 35 N3EH 2 160	1 35 N3EW 2 158	1 35 N3EW 2 155	2 35 N3EW 1 155	
1501 m 5001 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 35 N3EG 4 162	1 35 N3EH 3 162	1 35 N3EH 3 160	1 35 N3EH 2 160	1 35 N3EW 2 158	1,5 35 N3EW 2 155	
750 m 2500 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 38 N3EG 5 165	1 35 N3EG 4 162	1 35 N3EH 3 162	1 35 N3EH 3 160	1 35 N3EH 2 160	1 35 N3EW 2 158	
301 m 1001 ft ↑	LSO ASO LD IJ NADEL NEEDLE POS POS HD MJ	1 40 N3EG 5 168	1 38 N3EG 5 165	1 35 N3EG 4 162	1 35 N3EG 3 162	1 35 N3EH 3 160	1,5 35 N3EH 2 160	
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