MODEL APPLICATION

Year	Model	Beginning Frame No.
2006	KX250T6F	JKAKXMTC□6A000001 or JKAKX250TTA000001
2007	KX250T7F	JKAKXMTC□7A011001 or JKAKX250TTA011001
2008	KX250T8F	JKAKXMTC□8A026001 or JKAKX250TTA026001

 $\hfill\Box$: This digit in the frame number changes from one machine to another.





KX250F



Motorcycle Service Manual

Quick Reference Guide

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LIST OF ABBREVIATIONS

Α	ampere(s)	lb	pound(s)
ABDC	after bottom dead center	m	meter(s)
AC	alternating current	min	minute(s)
ATDC	after top dead center	N	newton(s)
BBDC	before bottom dead center	Pa	pascal(s)
BDC	bottom dead center	PS	horsepower
BTDC	before top dead center	psi	pound(s) per square inch
°C	degree(s) Celsius	r	revolution
DC	direct current	r/min, rpm	revolution(s) per minute
F	farad(s)	TDC	top dead center
°F	degree(s) Fahrenheit	TIR	total indicator reading
ft	foot, feet	V	volt(s)
g	gram(s) (mass)	W	watt(s)
h	hour(s)	Ω	ohm(s)
kg	(mass)		
kgf	(force)		
L	liter(s)		

Foreword

This manual is designed primarily for use by trained mechanics in a properly equipped shop. However, it contains enough detail and basic information to make it useful to the owner who desires to perform his own basic maintenance and repair work. A basic knowledge of mechanics, the proper use of tools, and workshop procedures must be understood in order to carry out maintenance and repair satisfactorily. Whenever the owner has insufficient experience or doubts his ability to do the work, all adjustments, maintenance, and repair should be carried out only by qualified mechanics.

In order to perform the work efficiently and to avoid costly mistakes, read the text, thoroughly familiarize yourself with the procedures before starting work, and then do the work carefully in a clean area. Whenever special tools or equipment are specified, do not use makeshift tools or equipment. Precision measurements can only be made if the proper instruments are used, and the use of substitute tools may adversely affect safe operation.

To get the longest life out of your vehicle:

- Follow the Periodic Maintenance Chart in the Service Manual.
- Be alert for problems and non-scheduled maintenance.
- Use proper tools and genuine Kawasaki Motorcycle parts. Special tools, gauges, and testers that are necessary when servicing Kawasaki motorcycles are introduced by the Service Manual. Genuine parts provided as spare parts are listed in the Parts Catalog.
- Follow the procedures in this manual carefully. Don't take shortcuts.
- Remember to keep complete records of maintenance and repair with dates and any new parts installed.

How to Use This Manual

In this manual, the product is divided into its major systems and these systems make up the manual's chapters. The Quick Reference Guide shows you all of the product's system and assists in locating their chapters. Each chapter in turn has its own comprehensive Table of Contents.

For example, if you want stick coil information, use the Quick Reference Guide to locate the Electrical System chapter. Then, use the Table of Contents on the first page of the chapter to find the Stick Coil section.

Whenever you see these WARNING and CAUTION symbols, heed their instructions! Always follow safe operating and maintenance practices.

WARNING

This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury, or loss of life.

CAUTION

This caution symbol identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

This manual contains four more symbols (in addition to WARNING and CAUTION) which will help you distinguish different types of information.

NOTE

- OThis note symbol indicates points of particular interest for more efficient and convenient operation.
- Indicates a procedural step or work to be done.
- OIndicates a procedural sub-step or how to do the work of the procedural step it follows. It also precedes the text of a NOTE.
- ★ Indicates a conditional step or what action to take based on the results of the test or inspection in the procedural step or sub-step it follows.

In most chapters an exploded view illustration of the system components follows the Table of Contents. In these illustrations you will find the instructions indicating which parts require specified tightening torque, oil, grease or a locking agent during assembly.

General Information

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1-2 GENERAL INFORMATION

Before Servicing

Before starting to perform an inspection service or carry out a disassembly and reassembly operation on a motorcycle, read the precautions given below. To facilitate actual operations, notes, illustrations, photographs, cautions, and detailed descriptions have been included in each chapter wherever necessary. This section explains the items that require particular attention during the removal and reinstallation or disassembly and reassembly of general parts.

Especially note the following:

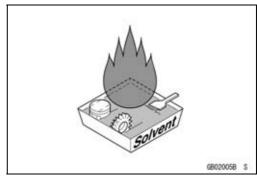
Edges of Parts

Lift large or heavy parts wearing gloves to prevent injury from possible sharp edges on the parts.



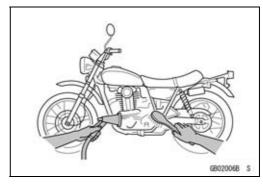
Solvent

Use a high-flush point solvent when cleaning parts. High -flush point solvent should be used according to directions of the solvent manufacturer.



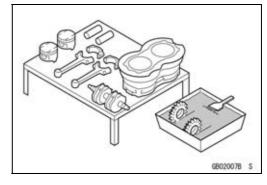
Cleaning Vehicle before Disassembly

Clean the vehicle thoroughly before disassembly. Dirt or other foreign materials entering into sealed areas during vehicle disassembly can cause excessive wear and decrease performance of the vehicle.



Arrangement and Cleaning of Removed Parts

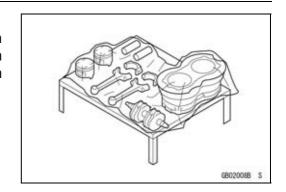
Disassembled parts are easy to confuse. Arrange the parts according to the order the parts were disassembled and clean the parts in order prior to assembly.



Before Servicing

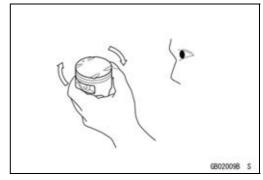
Storage of Removed Parts

After all the parts including subassembly parts have been cleaned, store the parts in a clean area. Put a clean cloth or plastic sheet over the parts to protect from any foreign materials that may collect before re-assembly.



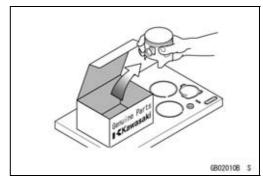
Inspection

Reuse of worn or damaged parts may lead to serious accident. Visually inspect removed parts for corrosion, discoloration, or other damage. Refer to the appropriate sections of this manual for service limits on individual parts. Replace the parts if any damage has been found or if the part is beyond its service limit.



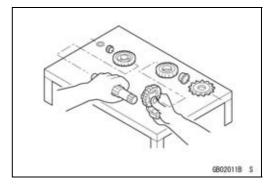
Replacement Parts

Replacement parts must be KAWASAKI genuine or recommended by KAWASAKI. Gaskets, O-rings, oil seals, grease seals, circlips or cotter pins must be replaced with new ones whenever disassembled.



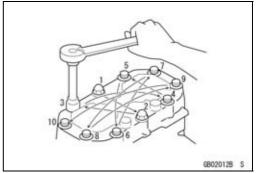
Assembly Order

In most cases assembly order is the reverse of disassembly, however, if assembly order is provided in this Service Manual, follow the procedures given.



Tightening Sequence

Generally, when installing a part with several bolts, nuts, or screws, start them all in their holes and tighten them to a snug fit. Then tighten them according to the specified sequence to prevent case warpage or deformation which can lead to malfunction. Conversely when loosening the bolts, nuts, or screws, first loosen all of them by about a quarter turn and then remove them. If the specified tightening sequence is not indicated, tighten the fasteners alternating diagonally.

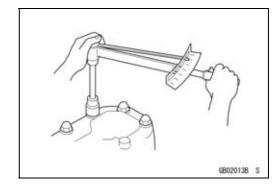


1-4 GENERAL INFORMATION

Before Servicing

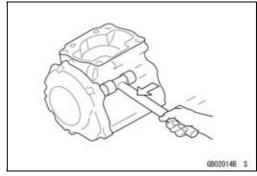
Tightening Torque

Incorrect torque applied to a bolt, nut, or screw may lead to serious damage. Tighten fasteners to the specified torque using a good quality torque wrench. Often, the tightening sequence is followed twice-initial tightening and final tightening with torque wrench.



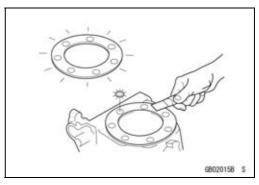
Force

Use common sense during disassembly and assembly, excessive force can cause expensive or hard to repair damage. When necessary, remove screws that have a non-permanent locking agent applied using an impact driver. Use a plastic-faced mallet whenever tapping is necessary.



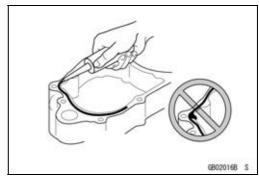
Gasket, O-ring

Hardening, shrinkage, or damage of both gaskets and O-rings after disassembly can reduce sealing performance. Remove old gaskets and clean the sealing surfaces thoroughly so that no gasket material or other material remains. Install new gaskets and replace used O-rings when re-assembling.



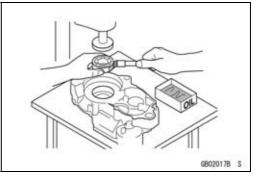
Liquid Gasket, Non-permanent Locking Agent

For applications that require Liquid Gasket or a Non-permanent Locking Agent, clean the surfaces so that no oil residue remains before applying liquid gasket or non-permanent locking agent. Do not apply them excessively. Excessive application can clog oil passages and cause serious damage.



Press

For items such as bearings or oil seals that must be pressed into place, apply small amount of oil to the contact area. Be sure to maintain proper alignment and use smooth movements when installing.

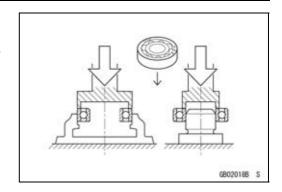


Before Servicing

Ball Bearing and Needle Bearing

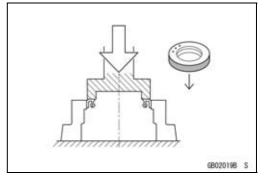
Do not remove pressed ball or needle unless removal is absolutely necessary. Replace with new ones whenever removed. Press bearings with the manufacturer and size marks facing out. Press the bearing into place by putting pressure on the correct bearing race as shown.

Pressing the incorrect race can cause pressure between the inner and outer race and result in bearing damage.

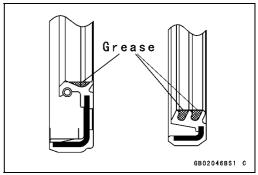


Oil Seal, Grease Seal

Do not remove pressed oil or grease seals unless removal is necessary. Replace with new ones whenever removed. Press new oil seals with manufacture and size marks facing out. Make sure the seal is aligned properly when installing.

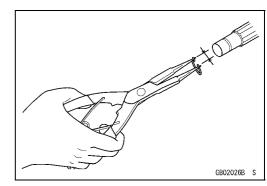


Apply specified grease to the lip of seal before installing the seal.



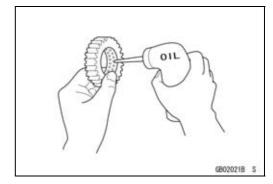
Circlips, Cotter Pins

Replace circlips or cotter pins that were removed with new ones. Take care not to open the clip excessively when installing to prevent deformation.



Lubrication

It is important to lubricate rotating or sliding parts during assembly to minimize wear during initial operation. Lubrication points are called out throughout this manual, apply the specific oil or grease as specified.

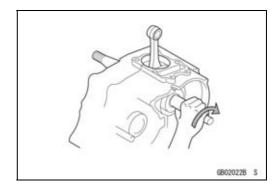


1-6 GENERAL INFORMATION

Before Servicing

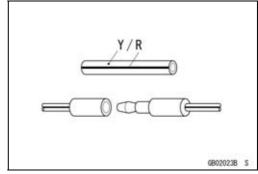
Direction of Engine Rotation

When rotating the crankshaft by hand, the free play amount of rotating direction will affect the adjustment. Rotate the crankshaft to positive direction (clockwise viewed from output side).



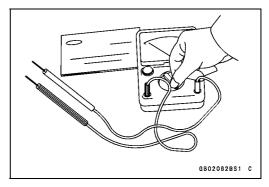
Electrical Wires

A two-color wire is identified first by the primary color and then the stripe color. Unless instructed otherwise, electrical wires must be connected to those of the same color.



Instrument

Use a meter that has enough accuracy for an accurate measurement. Read the manufacture's instructions thoroughly before using the meter. Incorrect values may lead to improper adjustments.



Model Identification

KX250T6F Left Side View



KX250T6F Right Side View



1-8 GENERAL INFORMATION

General Specifications

Dimensions Coverall Length 2 160 mm (85.04 in.) 820 mm (32.3 in.) Coverall Height 1 270 mm (50 in.) Wheelbase 1 469 mm (57.83 in.) Road Clearance 372 mm (14.6 in.) (KX250T6F), 335 mm (13.2 in.) (KX250T7F ~) 960 mm (37.8 in.) (KX250T6F), 955 mm (37.6 in.) (KX250T7F ~) 92.5 kg (204 lb) Coverance Curb Mass: Front 49.9 kg (110 lb) Rear 52.6 kg (116 lb) Fuel Tank Capacity 7.2 L (1.9 US gal) Performance Minimum Turning Radius — Engine Type 4-stroke, single cylinder, DOHC 4 valve Liquid-cooled Bore and Stroke 77.0 × 53.6 mm (3.03 × 2.11 in.) Displacement 249 cm³ (15.2 cu in.) Carburetion System Carburetor, KEIHIN FCR37 Primary kick Ignition System Digital AC-CDl Timing Advance Ignition Timing BTDC 8* @2 000 r/min (rpm) NGK CR8E Close ABDC 71* Duration 292* Exhaust Open BDC 69* Close ATDC 49* Duration 298* Evolution (semi-dry sump) Evolution (s	Items	KX250T6F ~ T8F
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Valve Timing Inlet Open BTDC 41° ABDC 71° Duration 292° Exhaust Open BBDC 69° Close ATDC 49° Duration 298° Lubrication System Forced lubrication (semi-dry sump)		
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Close ABDC 71° Duration 292° Exhaust	_	
Close ABDC 71° Duration 292° Exhaust	Open	BTDC 41°
Duration 292° Exhaust Open BBDC 69° Close ATDC 49° Duration 298° Lubrication System Forced lubrication (semi-dry sump)	·	
Exhaust Open BBDC 69° Close ATDC 49° Duration 298° Lubrication System Forced lubrication (semi-dry sump)		
Close ATDC 49° Duration 298° Lubrication System Forced lubrication (semi-dry sump)	Exhaust	
Close ATDC 49° Duration 298° Lubrication System Forced lubrication (semi-dry sump)	Open	BBDC 69°
Duration 298° Lubrication System Forced lubrication (semi-dry sump)	·	
Lubrication System Forced lubrication (semi-dry sump)		
	Engine Oil:	, , , , , , , , , , , , , , , , , , ,
Grade API SG, SH, SJ or SL with JASO MA		API SG, SH, SJ or SL with JASO MA
Viscosity SAE 10W-40		
Capacity 1.5 L (1.6 USqt)	· ·	
Drive Train		, 17
Primary Reduction System:		
Type Gear		Gear
Reduction Ratio 3.350 (67/20)	• •	

General Specifications

Items	KX250T6F ~ T8F
Clutch Type	Wet, multi disc, Manual
Transmission:	
Туре	5-speed, constant mesh, return shift
Gear Ratios:	
1st	2.142 (30/14)
2nd	1.785 (25/14)
3rd	1.444 (26/18)
4th	1.200 (24/20)
5th	1.052 (20/19) (KX250T6F), 1.045 (23/22) (KX250T7F ~)
Final Drive System:	
Type	Chain drive
Reduction Ratio	3.692 (48/13)
Overall Drive Ratio	13.020 @Top gear (KX250T6F),
	12.931 @Top gear (KX250T7F ~)
Frame	
Туре	semi-double cradle
Steering Angle	42° to either side
Caster (Rake Angle)	27.7°
Trail	119 mm (4.69 in.)
Front Wheel:	
Tire Size	80/100-21 51M
Tire Make/Type	BRIDGESTONE M401, Tube type (KX250T6F ~ T7F) BRIDGESTONE M403, Tube type (KX250T8F)
	BRIDGESTONE M201 (EUR), Tube type
Rim Size	21 × 1.60
Rear Wheel:	
Tire Size	100/90-19 57M
Tire Make/Type	BRIDGESTONE M402, Tube type (KX250T6F ~ T7F) BRIDGESTONE M404, Tube type (KX250T8F) BRIDGESTONE M202 (EUR), Tube type
Rim Size	19 × 1.85
Front Suspension:	
Туре	Telescopic fork (up side down)
Wheel Travel	315 mm (12.4 in.)
Rear Suspension:	
Туре	Swingarm (New Uni-trak)
Wheel Travel	310 mm (12.2 in.)
Brake Type:	
Front and Rear	Single disc
Effective Disc Diameter:	
Front (effect. dia.)	225 mm (8.86 in.)
Rear (effect. dia.)	215 mm (8.46 in.)
CLID, Curene Medel	1

EUR: Europe Model

Specifications are subject to change without notice, and may not apply to every country.

1-10 GENERAL INFORMATION

Unit Conversion Table

Prefixes for Units:

Prefix	Symbol	Power
mega	М	× 1 000 000
kilo	k	× 1 000
centi	С	× 0.01
milli	m	× 0.001
micro	μ	× 0.000001

kg	×	2.205	=	lb
g	×	0.03527	=	oz

Units of Mass:

Units of Volume:

Units of Pressure:

Units of Length:

×

Units of Torque:

×

×

×

0.6214

3.281

0.1020

0.7376

8.851

9.807

7.233

86.80

0.03937

mile

ft

in

kgf·m

ft·lb

in·lb

 $N \cdot m$

ft·lb

in·lb

=

km

m mm

N·m

N·m

N·m

kgf·m

kgf⋅m

kgf·m

•	0			
L	×	0.2642	=	gal (US)
L	×	0.2200	=	gal (imp)
L	×	1.057	=	qt (US)
L	×	0.8799	=	qt (imp)
L	×	2.113	=	pint (US)
L	×	1.816	=	pint (imp)
mL	×	0.03381	=	oz (US)
mL	×	0.02816	=	oz (imp)
mL	×	0.06102	=	cu in

kPa	×	0.01020	=	kgf/cm²
kPa	×	0.1450	=	psi
kPa	×	0.7501	=	cm Hg
kgf/cm²	×	98.07	=	kPa
kgf/cm²	×	14.22	=	psi
cm Hg	×	1.333	=	kPa

Units of Speed:

km/h	×	0.6214	=	mph
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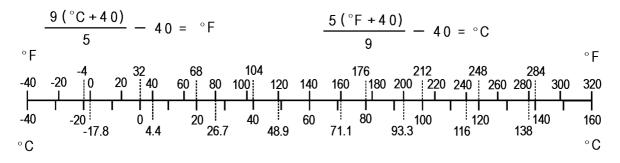
Units of Force:

Ν	×	0.1020	=	kgf	
N	×	0.2248	=	lb	
kgf	×	9.807	=	N	
kgf	×	2.205	=	lb	

Units of Power:

kW	×	1.360	=	PS	
kW	×	1.341	=	HP	
PS	×	0.7355	=	kW	
PS	×	0.9863	=	HP	

Units of Temperature:



Periodic Maintenance

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2-2 PERIODIC MAINTENANCE

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Periodic Maintenance Chart

The maintenance must be done in accordance with this chart to keep the motorcycle in good running condition.

	FREQUENCY	Each race or	Every 3 races or	Every 6 races or	Every 12 races or	See
OF	PERATION	2.5 hr	7.5 hr	15 hr	30 hr	Page
	Spark plug - clean, inspect †	•				2-70
	Spark plug - replace		•			2-71
	Clutch - inspect	•				2-26
	Clutch plates - inspect †	•				2-27
	Throttle cable - inspect and adjust	•				2-13
	Air cleaner element - clean	•				2-16
	Air cleaner element - replace		If dar	naged		2-16
	Carburetor - inspect and adjust	•				2-14
	Engine Oil - change			•		2-28
Е	Piston and piston ring - replace			•		2-24
Ν	Cylinder head, cylinder - inspect			•		2-23
G -	Piston pin - replace				•	2-24
N	Valve clearance - inspect †			•		2-21
Ε	Hot starter cable - inspect	•				2-14
	Oil filter - replace			•		2-29
	Exhaust system - inspect†	•				2-25
	Muffler baffle- change		•			2-25
	Kick pedal and shift pedal - clean	•				_
	Engine sprocket - inspect †	•				2-36
	Coolant level - inspect	•				2-19
	Water hoses and connections - inspect †	•				2-20
	Crankshaft - inspect			•		2-30
	Breather hose - inspect	•				2-29
	Brake - adjust †	•				2-36
	Brake pad wear - inspect †	•				2-41
	Brake fluid level - inspect †	•				2-38
	Brake fluid - change		Every	2 years		2-39
С	Brake master cylinder cup and dust cover - replace		Every	2 years		2-41
Н	Brake caliper fluid seal and dust seal - replace		Every	2 years		2-42
Α	Brake hoses and pipe - replace		Every	4 years		2-45
S S	Brake hoses, connections - inspect †	•				2-45
1	Spoke tightness and rim runout - inspect †	•				2-31
S	Wheel bearing - inspect †	•				2-32
	Frame - inspect	•				2-70
	Drive chain wear - inspect †	•				2-33
	Drive chain - inspect and adjust	•				2-34
	Drive chain - lubricate	•				2-35

2-4 PERIODIC MAINTENANCE

Periodic Maintenance Chart

	FREQUE	ENCY	Each race or	Every 3	Every 6 races or	Every 12 races or	See
OF	PERATION		2.5 hr	7.5 hr		30 hr	Page
	Wheels/tires - inspect		•				2-30
	Rear sprocket - inspect †		•				2-36
	Front fork - inspect and clean		•				2-47
	Front fork oil - change				•		2-47
	Rear shock absorber oil - change				•		2-57
	Cable - inspect		•				2-71
	Fuel hose - replace			Every	4 years		2-13
	Fuel hose, connections - inspect †		•				2-13
	Fuel system - clean			•			2-18
	Steering play - inspect †		•				2-67
	Steering stem bearing - lubricate				•		2-69
	Swingarm and Uni-Trak linkage pivots - lubric	ate		•			2-67
	Swingarm and Uni-Trak linkage pivots - inspe	ct †		•			2-66
	Nuts, bolts, fasteners - inspect †		•				2-72
	General lubrication - perform		•				2-71

^{†:} Replace, add, adjust, clean or torque if necessary.

Torque and Locking Agent

Tighten all bolts and nuts to the proper torque using an accurate torque wrench. If insufficiently tightened, a bolt or nut may become damaged, strip an internal thread, or break and then fall out. The following table lists the tightening toque for the major bolts and nuts, and the parts requiring use of a non-permanent locking agent or liquid gasket.

When checking the tightening toque of the bolts and nuts, first loosen the bolt or nut by half a turn and then tighten to specified torque.

Letters used in the "Remarks" column mean:

- AL: Tighten the two clamp bolts alternately two times to ensure even tightening torque.
- G: Apply grease.
- L: Apply a non-permanent locking agent to the threads.
- Lh: Left-hand Threads
- MO: Apply molybdenum disulfide oil (mixture of engine oil and molybdenum disulfide grease with a weight ratio 10 : 1).
 - S: Tighten the fasteners following the specified sequence.
 - St: Stake the fasteners to prevent loosening.

Basic Torque for General Fasteners

Threads dia.		Torque				
(mm)	N·m	kgf∙m	ft·lb			
5	3.4 ~ 4.9	0.35 ~ 0.50	30 ~ 43 in·lb			
6	5.9 ~ 7.8	0.60 ~ 0.80	52 ~ 69 in·lb			
8	14 ~ 19	1.4 ~ 1.9	10.0 ~ 13.5			
10	25 ~ 34	2.6 ~ 3.5	19.0 ~ 25			
12	44 ~ 61	4.5 ~ 6.2	33 ~ 45			
14	73 ~ 98	7.4 ~ 10.0	54 ~ 72			
16	115 ~ 155	11.5 ~ 16.0	83 ~ 115			
18	165 ~ 225	17.0 ~ 23.0	125 ~ 165			
20	225 ~ 325	23 ~ 33	165 ~ 240			

Factores	Torque			Damanisa
Fastener	N⋅m	kgf∙m	ft·lb	Remarks
Fuel System				
Air Cleaner Element Wing Bolt	_	_	_	Hand Tighten
Throttle Pulley Cover Bolt	3.4	0.35	30 in·lb	
Throttle Cable Bolts	7.0	0.7	61 in·lb	
Hot Starter Plunger Cap Bolt	1.0	0.1	10 in·lb	
Air Cleaner Duct Bolt and Nuts	3.0	0.3	27 in·lb	
Rear Frame Mounting Bolts	34	3.5	25	
Air Cleaner Housing Bolts	9.8	1.0	87 in·lb	
Air Cleaner Duct Clamp Screws	3.0	0.3	27 in·lb	
Carburetor Holder Clamp Screws	2.0	0.2	17 in·lb	
Fuel Tap Plate Mounting Screws	0.8	0.08	7 in·lb	
Cooling System				
Right Engine Cover Bolt	9.8	1.0	87 in·lb	
Water Pipe Bolt	9.8	1.0	87 in·lb	
Water Pump Cover Bolts	9.8	1.0	87 in·lb	L (1)
Water Pump Cover Bolts (with washer)	9.8	1.0	87 in·lb	L (1)
Water Pump Impeller Bolt	7.0	0.7	61 in·lb	

2-6 PERIODIC MAINTENANCE

Footonia	Torque			D
Fastener	N·m	kgf∙m	ft·lb	Remarks
Water Hose Clamp Screws	1.5	0.15	13 in·lb	
Radiator Screen Bolts	9.8	1.0	87 in·lb	
Coolant Drain Plug	7.0	0.7	61 in·lb	
Radiator Mounting Bolts	9.8	1.0	87 in·lb	
Radiator Shroud Bolts	9.8	1.0	87 in·lb	
Engine Top End				
Auto-Decompressor Bolt	12	1.2	104 in·lb	
Decompressor Plug Plate Bolt	9.8	1.0	87 in·lb	
Cylinder Head Cover Bolts	9.8	1.0	87 in·lb	
Cylinder Head Bolts:				
M10	49	5.0	36	S, MO
M6	12	1.2	104 in·lb	S
Camshaft Cap Bolts	9.8	1.0	87 in·lb	S
Carburetor Holder Clamp Screws	2.0	0.2	17 in·lb	
Plug	20	2.0	14	L
Lower Camshaft Chain Guide Bolt	9.8	1.0	87 in·lb	
Rear Camshaft Chain Guide Bolt	15	1.5	11	
Exhaust Pipe Stud	-	_	_	L (Planted side)
Camshaft Chain Tensioner Mounting Bolts	9.8	1.0	87 in·lb	
Camshaft Chain Tensioner Cap Bolt	20	2.0	14.5	
Cylinder Bolt M6	12	1.2	104 in·lb	S
Exhaust Pipe Cover Screws	12	1.2	104 in·lb	
Exhaust Pipe Holder Nuts	21	2.1	15	S
Muffler Mounting Bolts	21	2.1	15	S
Muffler Pipe Mounting Bolts	12	1.2	104 in·lb	L
Engine Right Side				
Primary Gear Nut	98	10	72	Lh
Shift Drum Cam Bolt	24	2.4	17	L
Clutch Spring Bolts	9.8	1.0	87 in·lb	
Clutch Hub Nut	98	10	72	St
Gear Set Lever Nut	8.8	0.9	78 in·lb	
Gear Set Lever Pivot Stud	-	_	_	L (Planted Side)
Ratchet Plate Mounting Bolt	9.8	1.0	87 in·lb	L
Ratchet Plate Mounting Screw (KX250T6F)	6.4	0.65	56 in·lb	L
Ratchet Plate Mounting Bolt	15	1.5	11	L
Kick Ratchet Guide Bolt	8.8	0.9	78 in·lb	L
Kick Pedal Mounting Bolt	25	2.5	18	L
Shift Pedal Bolt	9.8	1.0	87 in·lb	
Oil Filler Plug	5.0	0.51	44 in·lb	
Clutch Cover Bolts (with right engine cover)	9.8	1.0	87 in·lb	L (2)

Factorer	Torque			Remarks	
Fastener	N⋅m	kgf∙m	ft·lb	Remarks	
Clutch Cover Bolts	9.8	1.0	87 in·lb		
Right Engine Cover Bolts	9.8	1.0	87 in·lb		
Engine Lubrication System					
Engine Oil Drain Bolt M10					
(for transmission room oil sump)	20	2.0	14.5		
Engine Oil Drain Bolt M6					
(for crank room oil sump)	7.0	0.7	61 in·lb		
Oil Filter Cap Bolts	9.8	1.0	87 in·lb		
Oil Pump Mounting Bolts	7.0	0.7	61 in·lb	L	
Water Pump Cover Bolts	9.8	1.0	87 in·lb	L (1)	
Water Pump Cover Bolt (with washer)	9.8	1.0	87 in·lb	L (1)	
Right Engine Cover Bolts	9.8	1.0	87 in·lb		
Breather Fitting	15	1.5	11	L	
Oil Pump Idle Gear Shaft Screws	6.4	0.65	56 in·lb	L	
Engine Removal/Installation					
Engine Mounting Nuts	49	5.0	33		
Engine Bracket Nuts	29	3.0	22		
Swingarm Pivot Shaft Nut	98	10	72		
Crankshaft/Transmission					
Breather Fitting	15	1.5	11	L	
Reed Valve Screws	7.0	0.7	61 in·lb		
Piston Oil Nozzle	2.9	0.29	26 in·lb		
Crankcase Bolts	9.8	1.0	87 in·lb	S	
Engine Oil Drain Bolt					
(for crank room oil sump)	7.0	0.7	61 in·lb		
(for transmission room oil sump)	20	2.0	14.5		
Output Shaft Bearing Retaining Screw (KX250T6F)	6.4	0.65	56 in·lb	L	
Output Shaft Bearing Retaining Bolts	12	1.2	104	L	
Drive Shaft Bearing Retaining Screw (KX250T6F)	6.4	0.65	56 in·lb	L	
Drive Shaft Bearing Retaining Bolt	9.8	1.0	87	L	
Shift Drum Bearing Retaining Bolts	9.8	1.0	87 in·lb	L	
Gear Set Lever Nut	8.8	0.9	78 in·lb		
Shift Drum Cam Bolt	24	2.4	17	L	
Neutral Switch	12	1.2	104 in·lb		
Wheels/Tires					
Front Axle	79	8.0	58		
Front Axle Clamp Bolts	20	2.0	14.5	AL	
Rear Axle Nut	108	11	80		
Spoke Nipple	Not less than 2.2	Not less than 0.22	Not less than 19 in·lb		

2-8 PERIODIC MAINTENANCE

Footonou		D		
Fastener	N∙m	kgf∙m	ft·lb	Remarks
Final Drive				
Rear Sprocket Nuts	34	3.5	25	
Engine Sprocket Cover Bolts	9.8	1.0	87 in·lb	
Brakes				
Brake Lever Pivot Bolt Locknut	5.9	0.6	52 in·lb	
Brake Reservoir Cap Screws	1.5	0.15	13 in·lb	
Brake Lever Pivot Bolt	5.9	0.6	52 in·lb	
Caliper Mounting Bolts (Front)	25	2.5	18	
Brake Hose Banjo Bolts	25	2.5	18	
Front Master Cylinder Clamp Bolts	8.8	0.9	78 in·lb	S
Rear Master Cylinder Mounting Bolts	9.8	1.0	87 in·lb	
Rear Master Cylinder Push Rod Locknut	17	1.7	12.5	
Brake Reservoir Cap Bolts	1.5	0.15	13 in·lb	
Brake Disc Mounting Bolts:				
(Front)	9.8	1.0	87 in·lb	L
(Rear)	23	2.3	16.5	L
Caliper Bleed Valves (Front, Rear)	7.8	0.8	69 in·lb	
Rear Caliper Holder Shaft	27	2.8	20	
Brake Pad Bolts	17	1.7	12.5	
Rear Brake Pad Bolt Plug	2.5	0.25	22 in·lb	
Brake Pedal Mounting Bolt	25	2.5	18	L, G
Suspension				
Front Fork Cylinder Unit	34	3.5	25	
Front Fork Clamp Bolts				
(Upper)	20	2.0	14.5	L, AL
(Lower)	20	2.0	14.5	AL
Front Fork Adjuster Assembly	69	7.0	51	L
Front Fork Base Valve Assembly	29	3.0	22	
Adjuster Assembly Locknut	22	2.2	16	
Pressure Relief Screw	1.3	0.13	11 in·lb	
Swingarm Pivot Shaft Nut	98	10	72	
Rear Shock Absorber Mounting Nuts:				
(Upper)	39	4.0	29	
(Lower)	34	3.5	25	
Rear Shock Absorber Spring Locknut	45	4.6	33	
Piston Rod Locknut	37	3.8	27	
Gas Reservoir Damping Adjuster Assembly	29	3.0	21	
Tie-Rod Mounting Nut (Front, Rear) (KX250T6F)	83	8.5	61	
Tie-Rod Mounting Nut (Front, Rear)	59	6.0	44	
Rocker Arm Pivot Nut (KX250T6F)	83	8.5	61	
Rocker Arm Pivot Nut	59	6.0	44	

PERIODIC MAINTENANCE 2-9

Factorian		Torque	Torque		
Fastener	N⋅m	kgf∙m	ft·lb	Remarks	
Steering					
Steering Stem Head Nut	98	10	72		
Steering Stem Locknut	4.9	0.5	43 in·lb		
Handlebar Clamp Bolts	25	2.5	18	S	
Frame					
Footpeg Bracket Bolts (Upper)	54	5.5	40	L	
Rear Frame Mounting Bolts	34	3.5	25		
Electrical System					
Neutral Switch	12	1.2	104 in·lb		
Neutral Switch Lead Terminal Screw	1.3	0.13	12 in·lb		
Flywheel Nut	49	5.0	36		
Flywheel Plug	5.0	0.5	44 in·lb		
Timing Inspection Plug	4.0	0.4	35 in·lb		
Stator Bolts	7.0	0.7	61 in·lb		
Crankshaft Sensor Bolts	7.0	0.7	61 in·lb		
Spark Plug	13	1.3	113 in·lb		
C.D.I. Unit Bolts	9.8	1.0	87 in·lb		
Magneto Cover Bolts					
L: 30	9.8	1.0	87 in·lb		
L: 35	9.8	1.0	87 in·lb	L	

2-10 PERIODIC MAINTENANCE

Specifications

Item	Standard	Service Limit
Fuel System		
Throttle Grip Free Play	2 ~ 3 mm (0.08 ~ 0.12 in.)	
Hot Starter Lever Free Play	0.5 ~ 1.0 mm (0.02 ~ 0.04 in.)	
Idle Speed	2 000 r/min (rpm)	
Air Cleaner Element Oil	High quality foam air filter oil	
Cooling System		
Coolant:		
Type (recommended)	Permanent type antifreeze	
Color	Green	
Mixed Ratio	Soft water 50% and coolant 50%	
Freezing Point	-35°C (-31°F)	
Total Amount	1.10 L (1.16 US qt)	
Engine Top End		
Valve Clearance:		
Exhaust	0.17 ~ 0.22 mm (0.0067 ~ 0.0087 in.)	
Inlet	0.10 ~ 0.15 mm (0.0039 ~ 0.0059 in.)	
Cylinder Head Warp		0.05 mm
		(0.0020 in.)
Cylinder Inside Diameter (see text)	77.000 ~ 77.012 mm	77.06 mm
	(3.0315 ~ 3.0320 in.)	(3.0339 in.)
Piston/cylinder Clearance	0.030 ~ 0.057 mm	
	(0.0012 ~ 0.0022 in.)	
Engine Right Side		
Clutch Lever Free Play	8 ~ 13 mm (0.3 ~ 0.5 in.)	
Friction Plate Thickness	2.7 ~ 2.9 mm (0.106 ~ 0.114 in.)	2.6 mm (0.102 in.)
Steel Plate Thickness	1.5 ~ 1.7 mm (0.059 ~ 0.067 in.)	1.4 mm (0.055 in.)
Friction Plate Warp	0.15 mm (0.0059 in.) or less	0.3 mm (0.012 in.)
Steel Plate Warp	0.15 mm (0.0059 in.) or less	0.3 mm (0.012 in.)
Engine Lubrication System		
Engine Oil:		
Grade	Castrol "R4 superbike" 5W-40	
	(KX250T6F ~ T7F),	
	Castrol "POWER1 R4 Racing" 5W-40 (KX250T8F) or	
	API SG, SH, SJ or SL with JASO MA	
Viscosity	SAE 10W-30, 10W-40, or 10W-50	
Capacity	1.5 L (0.74 US qt)	
Crankshaft/Transmission	1.0 L (0.77 00 qt)	
	0.25 ~ 0.35 mm	0.55 mm
Connecting Rod Big End Side Clearance	(0.0098 ~ 0.0138 in.)	(0.0217 in.)
	(5.5555 5.5755 11.)	(0.0217 111.)

Specifications

Item	Standard	Service Limit
Wheels/Tires		
Rim Runout (with tire installed):		
Axial	TIR 1.0 mm (0.04 in.) or less	TIR 2 mm (0.08 in.)
Radial	TIR 1.0 mm (0.04 in.) or less	TIR 2 mm (0.08 in.)
Front and Rear Tires Air Pressure Standard Tire: Front:	100 kPa (1.0 kgf/cm², 14 psi)	
Size	80/100-21 51M	
Make	BRIDESTONE	
Туре	M401, Tube (KX250T6F ~ T7F) M403, Tube (KX250T8F)	
	(EUR) M201, Tube	
Rear:		
Size	100/90-19 57M	
Make	BRIDESTONE	
Туре	M402, Tube (KX250T6F ~ T7F) M404, Tube (KX250T8F)	
	(EUR) M202, Tube	
Final Drive		
Drive Chain Slack	52 ~ 58 mm (2.05 ~ 2.28 in.)	
Drive Chain 20 Link Length	317.5 ~ 318.2 mm (12.50 ~ 12.53 in.)	323 mm (12.72 in.)
Rear Sprocket Warp (Runout)	TIR 0.4 mm (0.016 in.) or less	TIR 0.5 mm (0.020 in.)
Brakes		
Brake Lever Free Play	(to suit rider)	
Brake Fluid:		
Type:		
Front	DOT3 or DOT4	
Rear	DOT4	
Brake pad lining thickness:		
Front	4.0 mm (0.157 in.)	1 mm (0.04 in.)
Rear	6.4 mm (0.252 in.)	1 mm (0.04 in.)
Suspension		
Fork Oil:		
Oil Viscosity	SHOWA SS-05 or equivalanet	



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