Kawasaki

KDX200

Motorcycle Service Manual

LIST OF ABBREVIATIONS

A	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) Celcius	r	revolution
DC	direct current	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)	W	watt(s)
h	hour(s)	Ω	ohm(s)
L	liter(s)		

(U. K. model only)

This warning may apply to any of the following components or any assembly containing one or more of these components:—

Brake Shoes or Pads
Clutch Friction Material
Gaskets
Insulators

SAFETY INSTRUCTIONS

- Operate if possible out of doors or in a well ventilated place.
- Preferably use hand tools or low speed tools equipped, if necessary, with an appropriate dust extraction facility. If high speed tools are used, they should always be so equipped.
- If possible, dampen before cutting or drilling.
- Dampen dust and place it in properly closed receptacle and dispose of it safely.

Read OWNER'S MANUAL before operating.

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.

We recommend that all repairs and scheduled maintenance be performed in accordance with this service manual.

To get the longest life out of your motorcycle:

- 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 Special Tool 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 preparing this manual, we divided the product into its major systems. These systems became the manual's chapters. All information for a particular system from adjustment through disassembly and inspection is located in a single chapter.

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.

The Periodic Maintenance Chart is located in the General Information chapter. The chart gives a time schedule for required maintenance operations.

If you want spark plug information, for example, go to the Periodic Maintenance Chart first. The chart tells you how frequently to clean and gap the plug. Next, 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 Spark Plug 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 five more symbols (in addition to WARNING and CAUTION) which will help you distinguish different types of information.

NOTE

○*This note symbol indicates points of particular interest for more efficient and convenient operation.*

- •Indicate a procedural step or work to be done.
- ○Indicates a procedural sub-step or how to do the work of the procedural step it follows. It also precedes the text of a WARNING, CAUTION, or 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.
- ☆Indicates a conditional sub-step or what action to take based upon the results of the conditional 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.

Quick Reference Guide

This quick reference guide will assist you in locating a desired topic or procedure.

- Bend the pages back to match the black tab of the desired chapter number with the black tab on the edge at each table of contents page.
- Refer to the sectional table of contents for the exact pages to locate the specific topic required.

General Information

1

Table of Contents

1-2 GENERAL INFORMATION

Before Servicing

Before starting to service a motorcycle, careful reading of the applicable section is recommended to eliminate unnecessary work. Photographs, diagrams, notes, cautions, warnings, and detailed descriptions have been included wherever necessary. Nevertheless, even a detailed account has limitations, a certain amount of basic knowledge is also required for successful work.

Especially note the following:

(1) Dirt

Before removal and disassembly, clean the motorcycle. Any dirt entering the engine or other parts will work as an abrasive and shorten the life of the motorcycle. For the same reason, before installing a new part, clean off any dust or metal filings.

(2) Tightening Sequence

Generally, when installing a part with several bolts, nuts, or screws, they should all be started in their holes and tightened to a snug fit. Then tighten them evenly in a cross pattern. This is to avoid distortion of the part and/or causing gas or oil leakage. Conversely when loosening the bolts, nuts, or screws, first loosen all of them by about a quarter of turn and then remove them.

Where there is a tightening sequence indication in this Service Manual, the bolts, nuts, or screws must be tightened in the order and method indicated.

(3) Torque

The torque values given in this Service Manual should always be adahered to. Either too little or too much torque may lead to serious damage. Use a good quality, reliable torque wrench.

(4) Force

Common sense should dictate how much force is necessary in assembly and disassembly. If a part seems especially difficult to remove or install, stop and examine what may be causing the problem. Whenever tapping is necessary, tap lightly using a wooden or plastic faced mallet. Use an impact driver for screws (particularly for the removal of screws held by a locking agent) in order to avoid damaging the screw heads.

(5) Edges

Watch for sharp edges, especially during major engine disassembly and assembly. Protect your hands with gloves or a piece of thick cloth when lifting the engine or turning it over.

(6) High Flash-point Solvent

A high flash-point solvent is recommended to reduce fire danger. A commercial solvent commonly available in North America is Stoddard solvent (generic name). Always follow manufacturer and container directions regarding the use of any solvent.

(7) Gasket, O-ring

Do not reuse a gasket or O-ring once it has been in service. The mating surfaces around the gasket should be free of foreign matter and perfectly smooth to avoid oil or compression leaks.

(8) Liquid Gasket, Non-permanent Locking Agent

Follow manufacturer's directions for cleaning and preparing surfaces where these compounds will be used. Apply sparingly. Excessive amounts may block engine oil passages and cause serious damage. An example of a non-permanent locking agent commonly available in North America is Loctite Lock N' Seal (Blue).

(9) Press

A part installed using a press or driver, such as a wheel bearing, should first be coated with oil on its outer or inner circumference so that it will go into place smoothly.

(10) Ball Bearing

When installing a ball bearing, the bearing race which is affected by friction should be pushed by a suitable driver. This prevents severe stress on the balls and races, and prevents races and balls from being dented. Press a ball bearing until it stops at the stop in the hole or on the shaft.

(11) Oil Seal and Grease Seal

Replace any oil or grease seals that were removed with new ones, as removal generally damages seals.

When pressing in a seal which has manufacturer's marks, press it in with the marks facing out. Seals should be pressed into place using a suitable driver, which contacts evenly with the side of the seal, until the face of the seal is even with the end of the hole.

(12) Seal Guide

A seal guide is required for certain oil or grease seals during installation to avoid damage to the seal lips. Before a shaft passes through a seal, apply a little oil, preferably high temperature grease on the lips to reduce rubber to metal friction.

(13) Circlip, Retaining Ring

Replace any circlips and retaining rings that were removed with new ones, as removal weakens and deforms them. When installing circlips and retaining rings, take care to compress or expand them only enough to install them and no more.

(14) Cotter Pin

Replace any cotter pins that were removed with new ones, as removal deforms and breaks them.

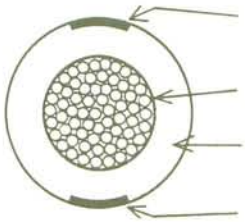
(15) Lubrication

Engine wear is generally at its maximum while the engine is warming up and before all the rubbing surfaces have an adequate lubricative film. During assembly, oil or grease (whichever is more suitable) should be applied to any rubbing surface which has lost its lubricative film. Old grease and dirty oil should be cleaned off. Deteriorated grease has lost its lubricative quality and may contain abrasive foreign particles.

Don't use just any oil or grease. Some oils and greases in particular should be used only in certain applications and may be harmful if used in an application for which they are not intended. This manual makes reference to molybdenum disulfide grease (MoS_2) in the assembly of certain engine and chassis parts. Always check manufacturer recommendations before using such special lubricants.

(16) Electrical Wires

All the electrical wires are either single-color or two-color and, with only a few exceptions, must be connected to wires of the same color. On any of the two-color wires there is a greater amount of one color and a lesser amount of a second color, so a two-color wire is identified by first the primary color and then the secondary color. For example, a yellow wire with thin red strips is referred to as a "yellow/red" wire; it would be a "red/yellow" wire if the colors were reversed to make red the main color.

Wire (cross-section)	Name of Wire Color
	Yellow/red

(17) Replacement Parts

When there is a replacement instruction, replace these parts with new ones every time they are removed. These replacement parts will be damaged or lose their original function once removed.

(18) Inspection

When parts have been disassembled, visually inspect these parts for the following conditions or other damage. If there is any doubt as to their condition, replace them with new ones.

Abrasion	Crack	Hardening	Warp
Bent	Dent	Scratch	Wear
Color change	Deterioration	Seizure	

(19) Service Data

Numbers of service data in this text have the following meanings:

"Standards": Show dimensions or performances which brand-new parts or systems have.

"Service limits": Indicate the usable limits. If the measurement shows excessive wear or deteriorated performance, replace the damaged parts.

Model Identification

KDX200-E1 Left Side View

KDX200-E1 Right Side View

General Specifications

Items			KDX200-E1
Dimensions:			
Overall length			2130 mm
Overall width			890 mm
Overall height			1250 mm
Wheelbase			1450 mm
Road clearance			340 mm
Seat height			910 mm
Dry weight			102 kg
Curb weight:	Front		53 kg
	Rear		58 kg
Fuel tank capacity			12.0 L
Engine:			
Type			2-stroke, single cylinder, piston reed valve
Cooling system			Liquid-cooled
Bore and stroke			66.0 x 58.0 mm
Displacement			198 mL
Compression ratio			7.7:1 (high speed), 9.2:1 (low speed)
Maximum horsepower			26.5 kW (36PS) @7500 r/min (rpm)
Maximum torque			34.3 N-m(3.5 kg-m, 25.3 ft-lb) @ 7000 r/min (rpm)
Carburetion system			Carburetor, KEIHIN PWK 35
Starting system			Primary kick
Ignition system			CDI
Ignition timing			21° BTDC @6000 r/min (rpm)
Spark plug			NGK B9ES ©Ⓤ NGK BR9ES
Port timing:	Inlet	Open	Full open
		Close	—
	Scavenging	Open	60° BBDC
		Close	60° ABDC
	Exhaust	Open	84° BBDC (low speed), 97° BBDC (high speed)
		Close	84° ABDC (low speed), 97° ABDC (high speed)
Lubrication system			Petrol mix (32:1)
Drive Train:			
Primary reduction system:			
	Type		Gear
	Reduction ratio		2.863 (63/22)
Clutch type			Wet, multi disc
Transmission:	Type		6-speed, constant mesh, return shift
	Gear ratios:	1st	2.692 (35/13)
		2nd	2.000 (28/14)
		3rd	1.533 (23/15)
		4th	1.235 (21/17)
		5th	1.041 (25/24)
		6th	0.869 (20/23)
Final drive system:	Type		Chain drive
	Reduction ratio		3.615 (47/13)
Overall drive ratio			9.002 @Top gear
Transmission oil:	Grade		SE class
	Viscosity		SAE 10W30 or 10W40
	Capacity		0.75 L

(Continued on next page.)

Item	KDX200-E1
Frame:	
Type	Tubular, single down tube
Steering angle	45° to either side
Caster (rake angle)	27°
Trail	112 mm
Front tire: Make/Type	DUNLOP K490 Ⓔ DUNLOP K990, Tube type
Size	80/100 — 21 51M
Rear tire: Make/Type	DUNLOP K695 Ⓔ DUNLOP K990, Tube type
Size	100/100 —18 59M
Front suspension: Type	Telescopic fork
Wheel travel	290 mm
Rear suspension: Type	Swing arm (Uni-trak)
Wheel travel	300 mm
Brake type: Front and Rear	Single disc
Effective disc diameter:	
Front	220 mm
Rear	190 mm
Electrical Equipment:	
Headlight:	12V 30W (quartz-halogen)
Taillight:	12V 10W

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

Ⓒ : Canadian model
Ⓔ : European model
Ⓤ : U. K. model

Periodic Maintenance Chart

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

	OPERATION \ FREQUENCY	Traveled Distance km				
		100	500	1000	1500	2000
ENGINE	Clutch—adjust	•	•	•	•	•
	Clutch and friction plates-check f		•	•	•	
	Throttle cable—adjust	•	•	•	•	•
	Spark plug—clean, gap	•	•	•	•	•
	Air cleaner element—clean		•	•	•	•
	Air cleaner element—replace	If damaged				
	Carburetor—inspect/adjust	•	•	•	•	•
	Transmission oil—change			•		•
	Piston and piston ring—clean/check f			•		•
	Cylinder head, cylinder and exhaust valves—inspect			•		•
	Small end bearing—check f			•		•
	Muffler—clean			•		•
	Exhaust pipe O-ring—replace			•		•
	Engine sprocket—check f			•		•
	Coolant—change	Every 2 years				
	Radiator hoses, connections—check f	•		•		•
	Spark arrester — cleaning	Every 4000 km				
CHASSIS	Brake adjustment—check f	•	•	•	•	•
	Brake pad wear—check		•	•	•	•
	Brake fluid level—check		•	•	•	•
	Brake fluid-change	Every 2 years				
	Brake master cylinder cup and dust seal—replace	Every 2 years				
	Brake caliper piston seal and dust seal—replace	Every 2 years				
	Brake hose—replace	Every 4 years				
	Spoke tightness and rim runout—check f	•	•	•	•	•
	Drive chain—adjust	•	Every 300 km			
	Drive chain—lubricate	Before and after each day of operation				
	Drive chain wear—check f		•	•	•	•
	Chain slipper and guide—replace	If damaged				
	Front fork—inspect/clean	•	•	•	•	•
	Front fork oil—change	Every year				
	Nuts, bolts, fasteners—check f	•		•		•
	Fuel system—clean	•	•	•	•	•
	Fuel hose-replace	Every 4 years				
	Steering play—check f	•	•	•	•	•
	Steering stem bearing—grease					•
	Rear sprocket—check f		•	•	•	•
	General lubrication—lubricate	•	•	•	•	•
	Wheel bearing—grease					•
	Swing arm and Uni-Trak linkage pivots—grease		•	•	•	•
	Swing arm and Uni-Trak linkage pivots—check f		•	•	•	•
	Rear shock oil—replace	Every year				

f 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 or fall off, possibly resulting in damage to the motorcycle and injury to the rider. A bolt or nut which is overtightened may become damaged, strip an internal thread, or break and then fall out. The following table lists the tightening torque for the major bolts and nuts, and the parts requiring use of a non-permanent locking agent or liquid gasket.

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

Letter used in the "Remarks" column mean:
L : Apply a non-permanent locking agent to the threads.
LG : Apply liquid gasket to the threads.
S : Tighten the fasteners following the specified sequence.
* : Left-hand threads.

Fastener	Torque			Remarks
	N-m	kg-m	ft-lb	
Fuel System				
Rear Frame Pipe Mounting Bolts	25	2.6	19.0	
Cooling System:				
Water Pump Impeller Bolt	6.9	0.7	61 in-lb	
Coolant Drain Plug	15	1.5	11.0	
Engine Top End:				
Cylinder Head Nuts	25	2.5	18.0	
Spark Plug	27	2.8	20.0	
Cylinder Nuts	25	2.5	18.0	
Engine Bracket Mounting Bolts	29	3.0	22.0	
Exhaust Valve Operating Lever Nut *	8.3	0.85	74 in-lb	
Engine Right Side:				
External Shift Mechanism Return Spring Pin	20	2.0	14.5	L
Clutch Spring Bolts	9.3	0.95	82 in-lb	
Clutch Hub Nut	78	8.0	58	L
Primary Gear Nut	78	8.0	58	
Exhaust Valve Advancer Shaft Mounting Bolts	3.9	0.4	35 in-lb	
Exhaust Valve Operating Lever Nut *	8.3	0.85	74 in-lb	
Water pump impeller Bolt	6.9	0.7	61 in-lb	
Kick Ratchet Guide Bolt	—	—	—	L
Kick Pedal Nut	49	5.0	36	

Fastener	Torque			Remarks
	N-m	kg-m	ft-lb	
Engine Removal/Installation:				
Swing Arm Pivot Shaft Nut	78	8.0	58	
Engine Mounting Nuts	29	3.0	22.0	
Engine Bracket Mounting Nuts	29	3.0	22.0	
Engine Bottom End/Transmission:				
Transmission Oil Drain Plug	20	2.0	14.5	
Shift Drum Operating Plate Bolt	23	2.3	17.0	
Flywheel Bolt	64	6.5	47	
Wheels/Tires:				
Front Axle Nut	88	9.0	65	
Rear Caliper Mounting Bolts	25	2.5	18.0	
Rear Axle Nut	98	10.0	72	
Spoke Nipples	Not less than 1.5	Not less than 0.15	Not less than 13 in-lb	
Final Drive:				
Rear Axle Nut	98	10	72	
Rear Sprocket Bolts	26	2.7	19.5	
Brakes:				
Caliper Mounting Bolts (Front, Rear)	25	2.5	18.0	
Brake Hose Banjo Bolts	25	2.5	18.0	
Front Master Cylinder Clamp Bolts	8.8	0.9	78 in-lb	
Brake Disc Mounting Screws (Front, Rear)	9.8	1.0	87 in-lb	
Caliper Bleed Valves (Front, Rear)	7.8	0.8	69 in-ib	
Brake Pedal Mounting Bolt	8.8	0.9	78 in-lb	
Suspension:				
Front Fork Clamp Bolts (Upper,Lower)	20	2.0	14.5	
Front Fork Oil Drain Screw	—	—	—	L
Front Fork Cylinder Valve Assembly	71	7.2	52	L
Front Fork Top Bolts	27	2.8	20.0	
Swing Arm Pivot Shaft Nut	78	8.0	58	
Rear Shock Absorber Mounting Bolts	39	4.0	29	
Tie-Rod Mounting Nuts (Front, Rear)	81	8.3	60	
Rocker Arm Bracket Mounting Bolts	81	8.3	60	
Rocker Arm Nut	81	8.3	60	

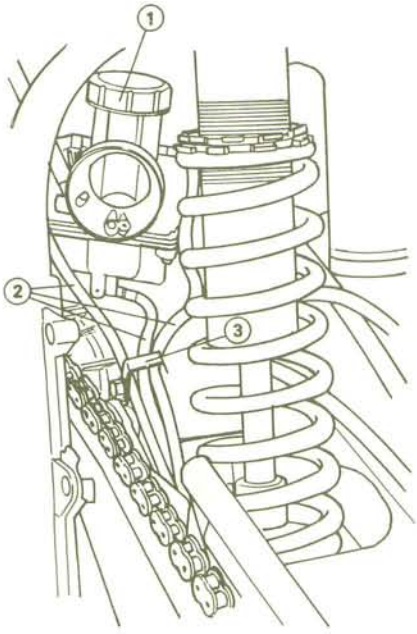
Fastener	Torque			Remarks
	N-m	kg-m	ft-lb	
Steering:				
Steering Stem Head Nut	44	4.5	33	
Steering Stem Locknut	3.9	0.4	35 in-lb	
Handlebar Clamp Bolts	25	2.5	18.0	
Front Fork Clamp Bolts (Upper)	20	2.0	14.5	
Electrical System:				
Flywheel Bolt	64	6.5	47	
Spark Plug	27	2.8	20.0	

The table below, relating tightening torque to thread diameter, lists the basic torque for the bolts and nuts. Use this table for only the bolts and nuts which do not require a specific torque value. All of the values are for use with dry solvent-cleaned threads.

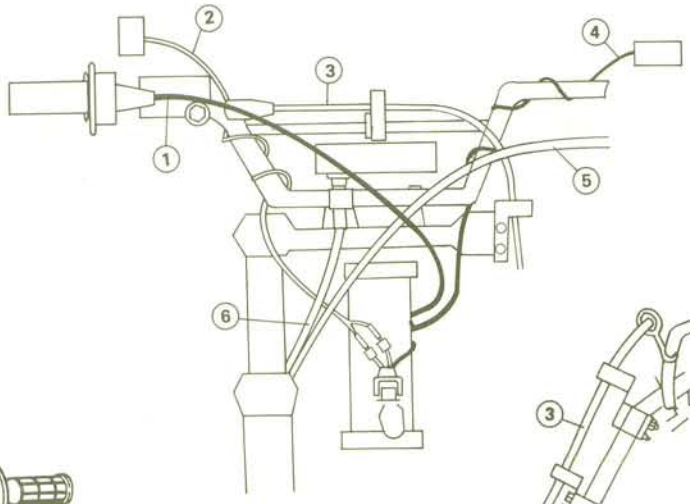
General Fasteners

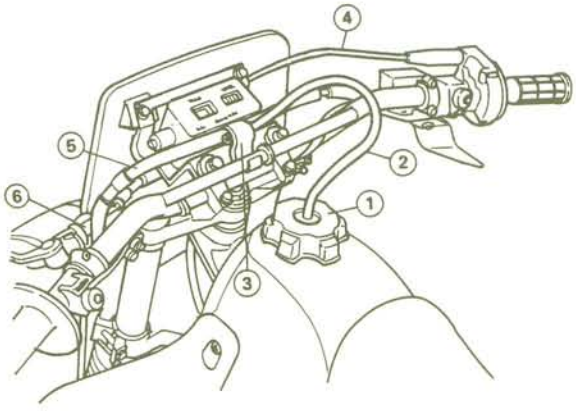
Threads diameter (mm)	Torque		
	N-m	kg-m	ft-lb
5	3.4—4.9	0.35—0.50	30—43 in-lb
6	5.9—7.8	0.60—0.80	52—69 in-lb
8	14—19	1.4—1.9	10.0—13.5
10	25—34	2.6—3.5	19.0—25
12	44—61	4.5—6.2	33—45
14	73—98	7.4—10.0	54—72
16	115—155	11.5—16.0	83—115
18	165—225	17—23	125—165
20	225—325	23—33	165—240

Cable, Hamess, Hose Routing

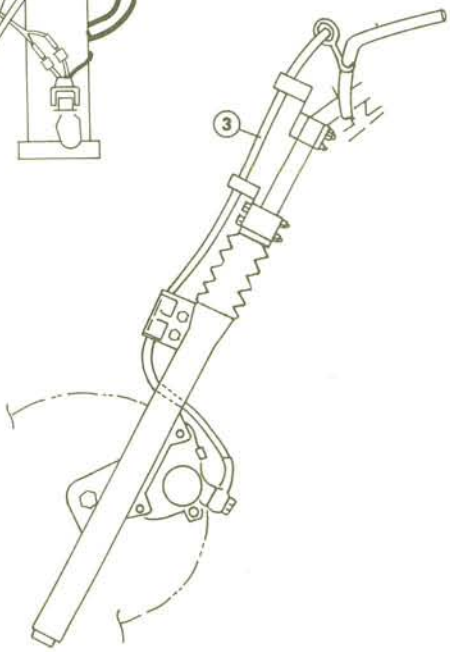


1. Carburetor
2. Hoses
3. Clamp

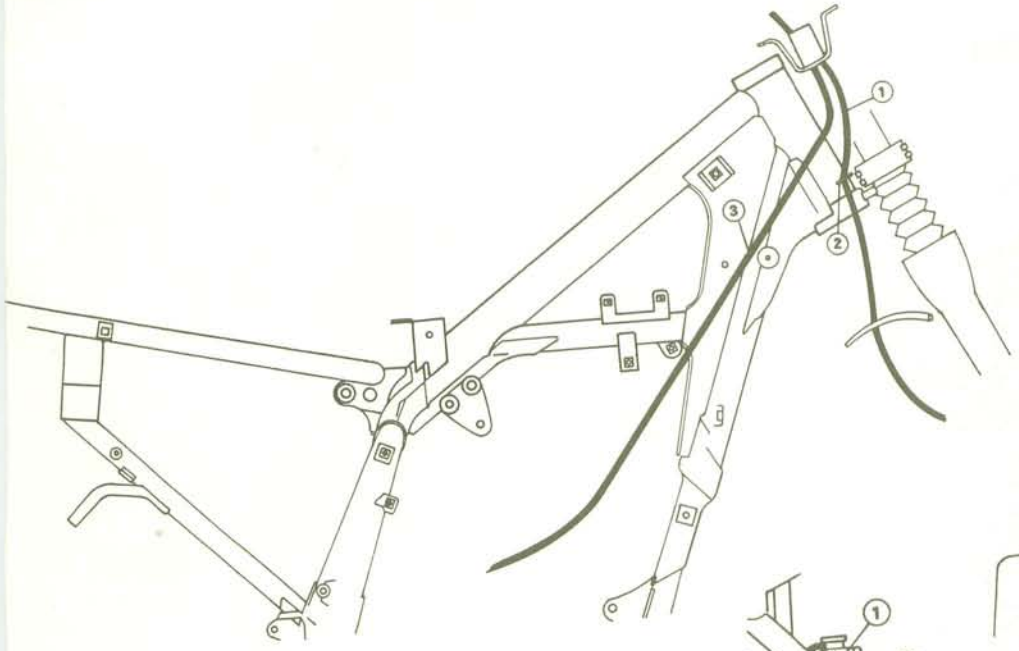




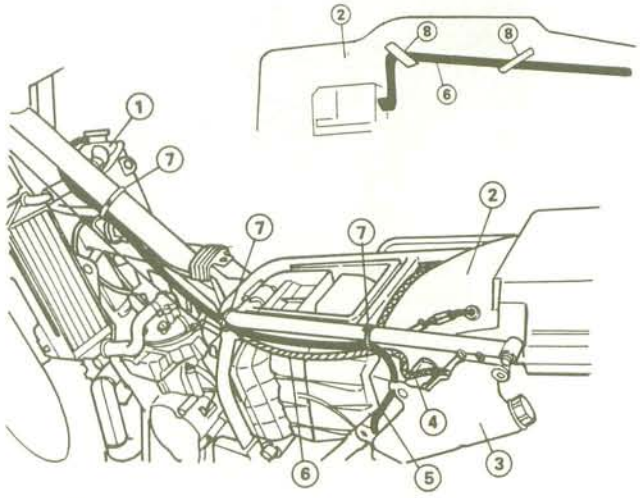
1. Fuel Tank Cap
2. Breather Hose
3. Clamp
4. Throttle Cable
5. Brake Hose
6. Clutch Cable



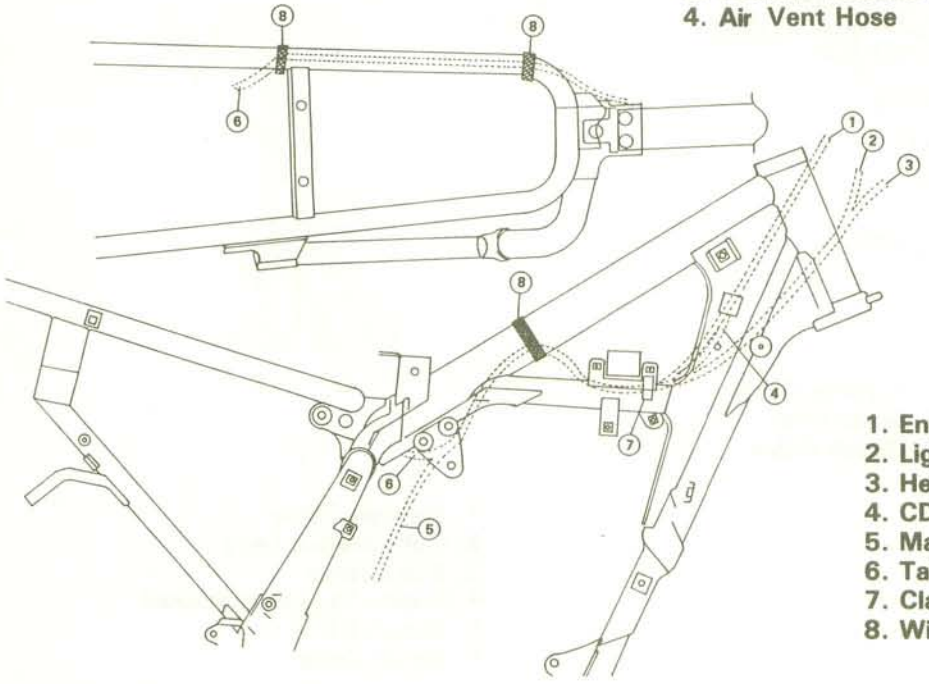
1. Throttle Cable
2. Light Switch Lead
3. Brake Hose
4. Engine Stop Button Lead
5. Clutch Cable
6. Meter Cable



1. Meter Cable
2. Clamp
3. Clutch Cable



1. Radiator
2. Rear Fender
3. Coolant Reserve Tank
4. Air Vent Hose
5. Breather Hose
6. Harness
7. Wiring Strap
8. Clamp



1. Engine Stop Button Lead
2. Light Switch Lead
3. Headlight Lead
4. CDI Unit Lead
5. Magneto Lead
6. Taillight Lead
7. Clamp
8. Wiring Strap

Fuel System

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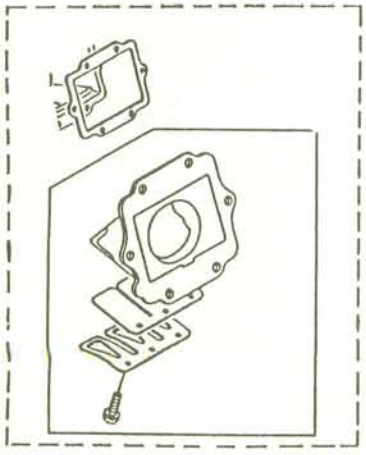
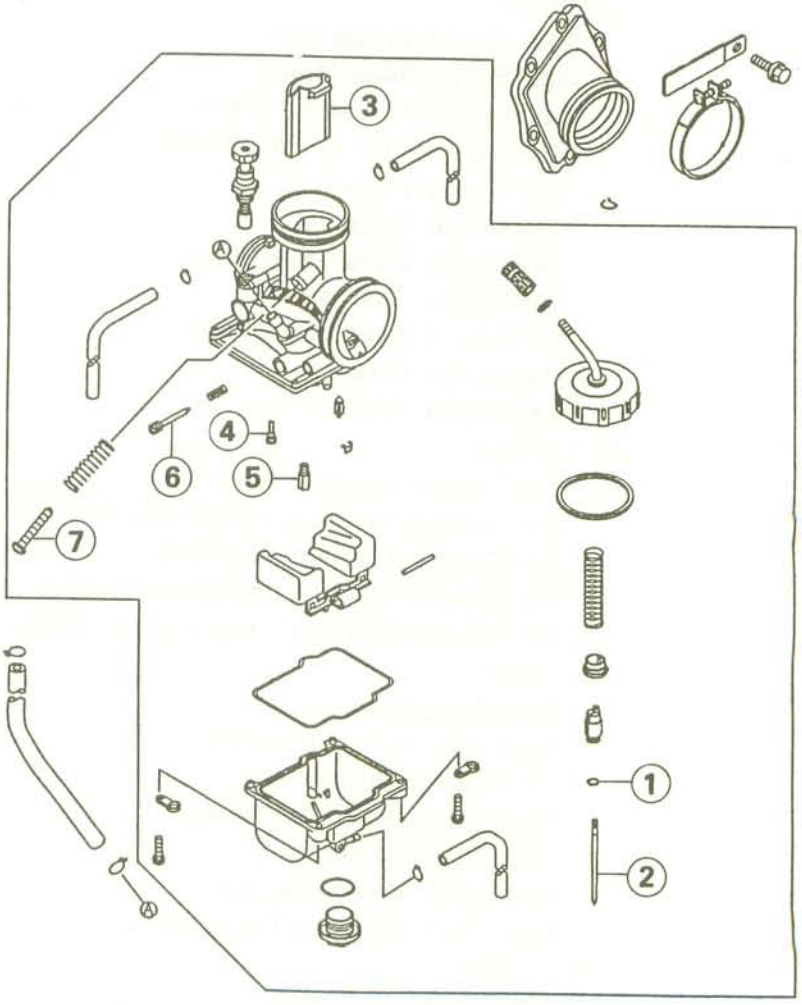
Exploded View

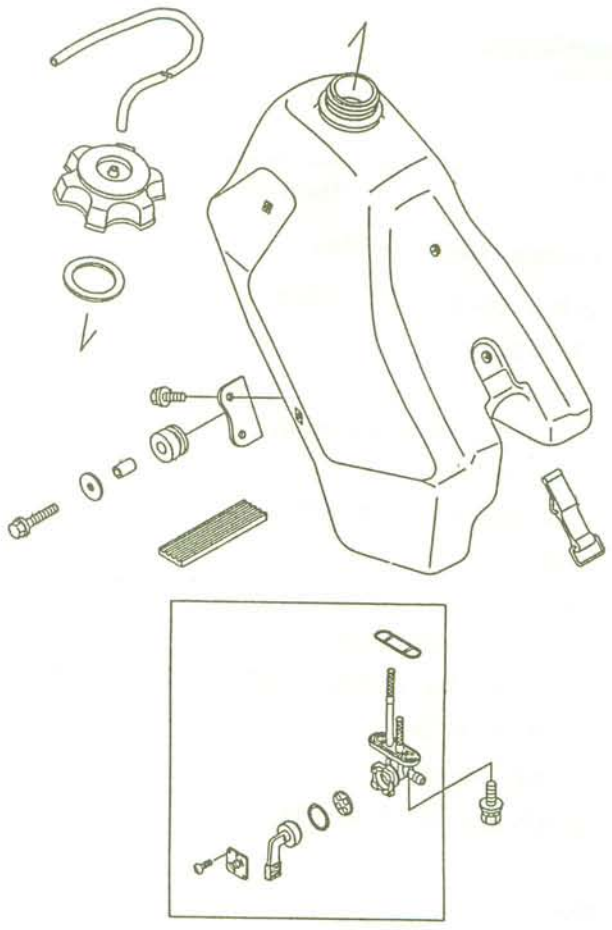




1. Jet Needle Clip
2. Jet Needle
3. Throttle Valve
4. Slow Jet
5. Main Jet
6. Air Screw
7. Idle Adjusting Screw

O: Apply oil

G: Apply grease



G: Apply grease

Specifications

Item	Standard	Service Limit
Throttle Grip Free Play	2 – 3 mm	– – –
Carburetor Specifications:		
Make/type	KEIHIN PWK35	– – –
Main jet	158	– – –
Throttle valve cutaway	6.0	– – –
Jet needle	R1172N	– – –
Jet needle clip position	4th groove from the top	– – –
Slow jet	48	– – –
Air screw	1½ (turn out)	
Service fuel level (below the bottom edge of the carb. body)	−1.0 ± 1 mm	– – –
Bore Center	32 mm	– – –
Float height	16 ± 1 mm	– – –
Air Cleaner Element Oil:	2-stroke racing oil or high-quality foam-air filter oil	– – –
Reed Valve:		
Reed warp	– – –	0.5 mm

Special Tools

Along with common hand tools, the following more specialized tools are required for complete fuel system servicing.

Fuel Level Gauge: 57001-202

Pressure Cable Luber: K56019-021

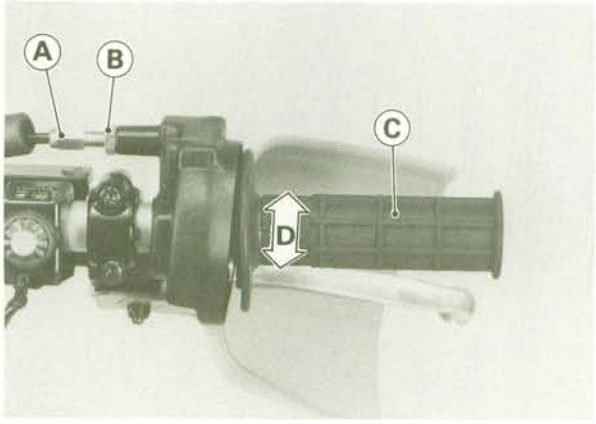
Throttle Grip and Cable

If the throttle grip has excessive free play due to cable stretch or misadjustment, there will be a delay in throttle response. Also, the throttle valve may not open fully at full throttle. On the other hand, if the throttle grip has no play, the throttle will be hard to control, and the idle speed will be erratic. Check the throttle grip play periodically in accordance with the Periodic Maintenance Chart, and adjust the play if necessary.

The throttle cable routing is shown in Cable, Harness, Hose Routing in the General Information chapter.

Throttle Grip Free Play Inspection

•Check throttle grip free play by lightly turning the throttle grip back and forth.



A. Adjuser
B. Locknut
C. Throttle Grip
D. Throttle Grip Free Play

Throttle Grip Free Play

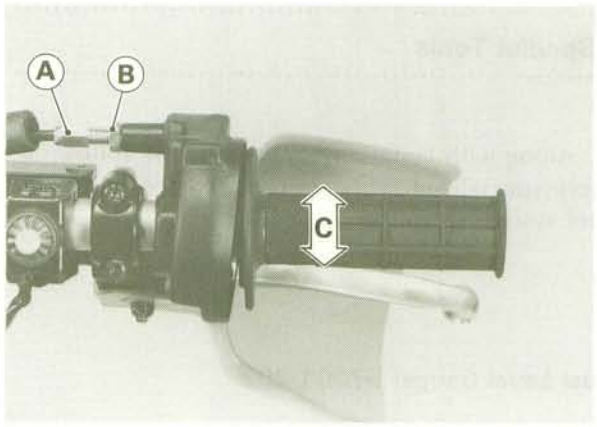
2 — 3 mm

★If the throttle grip free play is improper, adjust the throttle cable.

Throttle Cable Adjustment

•Loosen the locknut at the upper end of the throttle cable.

•Turn the adjuster until the proper amount of throttle grip free play is obtained.

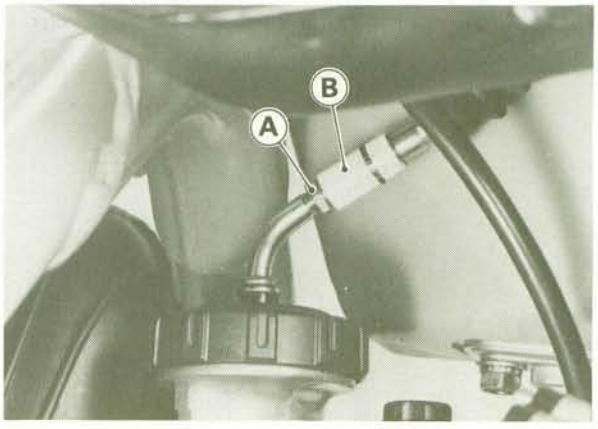


A. Adjuster
B. Locknut
C. Throttle Grip Free Play

• Tighten the locknut.

★If the throttle grip free play cannot be adjusted with the adjuster at the upper end of the throttle cable use the cable adjuster at the carburetor.

○Pull the boot off of the carburetor top. Make the necessary free play adjustment at the lower cable adjuster, tighten the locknut, and install the boot.



A. Locknut
B. Adjuster

•Turn the handlebar from side to side while idling the engine. If idle speed varies, the throttle cable may be poorly routed or it may be damaged.

WARNING

○Operation with an improperly adjusted, incorrectly routed, or damaged cable could result in an unsafe riding condition.

Throttle Cable Installation Notes

•Install the throttle cable in accordance with the Cable, Harness, Hose Routing section in the General Information chapter.
•After the installation, adjust the cable properly.

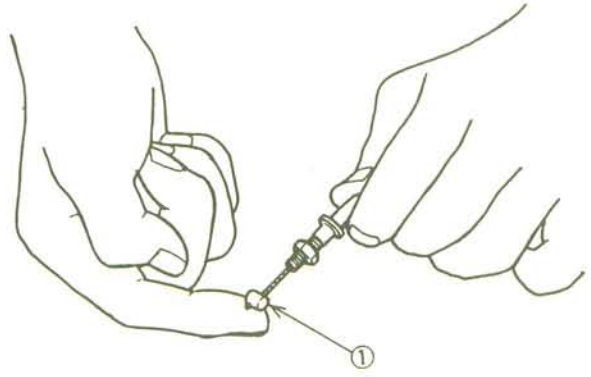
WARNING

○**Operation with an incorrectly routed or improperly adjusted cable could result in an unsafe riding condition.**

Throttle Cable Lubrication

Whenever the cable is removed, and in accordance with the Periodic Maintenance Chart (see General Information chapter), do the following.
•Apply a thin coating of grease to the cable upper end.

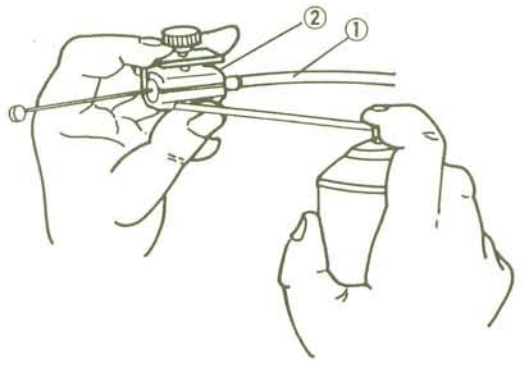
Cable Lubrication



1. Apply grease.

•Lubricate the cable with penetrating rust inhibitor through the Pressure Cable Luber (special tool).

Cable Lubrication

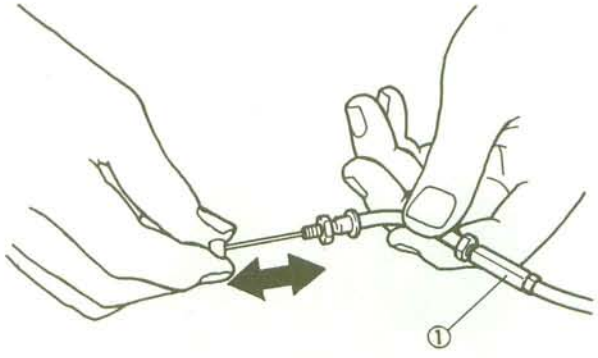


1. Cable 2. Pressure Cable Luber: K56019-021

Throttle Cable Inspection

•With the throttle cable disconnected at both ends, the cable should move freely within the cable housing.

Cable Inspection



1. Cable

★If cable movement is not free after lubricating, if the cable is frayed, or if the housing is kinked, replace the cable.

Carburetor

Since the carburetor regulates and mixes the fuel and air going to the engine, there are two general types of carburetor trouble: too rich a mixture (too much fuel), and too lean a mixture (too little fuel). Such trouble can be caused by dirt, wear, maladjustment, or improper fuel level in the float chamber. A dirty or damaged air cleaner can also alter the fuel to air ratio.

Idle Speed Inspection

- Start the engine and warm it up thoroughly.
- With the engine idling, turn the handlebar to both sides.
- If handlebar movement changes the idle speed, the throttle cable may be improperly adjusted or incorrectly routed, or it may be damaged. Be sure to correct any of these conditions before riding (see Cable, Harness, Hose Routing in the General Information chapter).

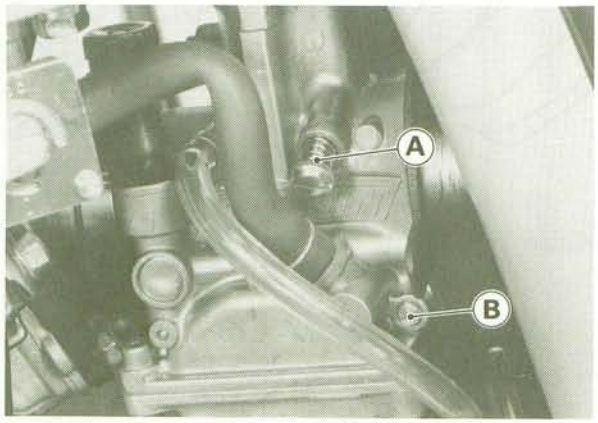
WARNING

○Operation with an improperly adjusted, incorrectly routed, or damaged cable could result in an unsafe riding condition.

• Check idle speed.
★Adjust it as needed.

Idle Speed Adjustment

- Start the engine and warm it up thoroughly.
- First turn in the air screw until it seats lightly, and back it out 1½ turns.
- Turn the idle adjusting screw to obtain the desired idle speed. If no idle is preferred, turn out the screw until the engine stops.



A. Idle Adjusting Screw B. Air Screw

- Open and close the throttle a few times to make sure that the idle speed is as desired. Readjust if necessary.

Service Fuel Level Inspection

WARNING

○Gasoline is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

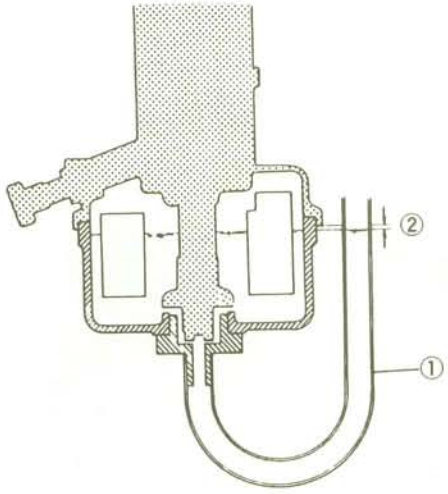
- Turn the fuel tap to the OFF position.
- Remove the fuel tank.
- Remove the carburetor, and hold it in true vertical position on a stand. The fuel hose and carburetor cable do not have to be removed to inspect the fuel level.
- Put the fuel tank on a bench, and connect the fuel tap to the carburetor using a suitable hose.
- Remove the drain plug from the bottom of the float bowl, and screw a fuel level gauge (special tool) into the plug hole.
- Hold the gauge vertically against the side of carburetor body so that the "zero" line is several millimeters higher than the bottom edge of the carburetor body.
- Turn the fuel tap to the ON position to feed fuel to the carburetor.
- Wait until the fuel level in the gauge settles.
- Keeping the gauge vertical, slowly lower the gauge until the "zero" line is even with the bottom edge of the carburetor body.

NOTE

○Do not lower the "zero" line below the bottom edge of the carburetor body. If the gauge is lowered and then raised again, the fuel level measure shows somewhat higher than the actual fuel level. If the gauge is lowered too far, dump the fuel out of it into a suitable container and start the procedure over again.

• Read the fuel level in the gauge and compare it to the specification.
• Turn the fuel tap to the OFF position and remove the fuel level gauge.
★If the fuel level is incorrect, adjust it.

Service Fuel Level
(below the bottom edge of the carb. body)
−1.0 ± 1 mm



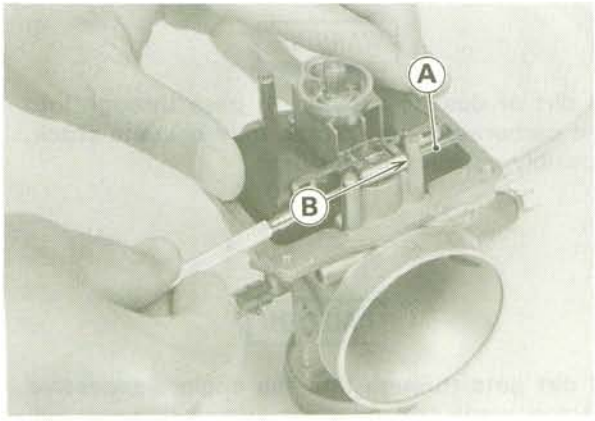
1. Fuel Level Gauge: 57001-202
2. Service Fuel Level

Service Fuel Level Adjustment

WARNING

○**Gasoline is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.**

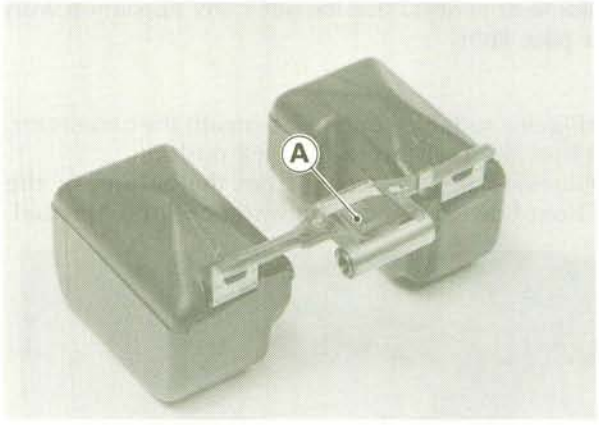
•Remove the carburetor, and drain the fuel into a suitable container.
•Remove the float bowl.
•Drive out the pivot pin and remove the float.



A. Pivot Pin B. Drive out the pin.

•Bend the tang on the float arm very slightly to change the float height. Increasing the float height lowers the fuel level and decreasing the float height raises the fuel level.

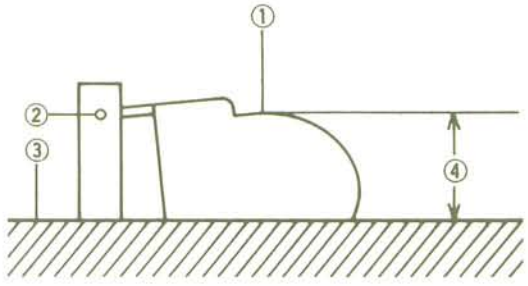
Float Height
16 ± 1 mm



A. Tang

•Assemble the carburetor, and recheck the fuel level.
★If the fuel level cannot be adjusted by this method, the float or the float valve is damaged.

Float Height Measurement



1. Float
2. Pivot Pin
3. Float Bowl Mating Surface
4. Float Height

•Place a suitable container beneath the carburetor.

NOTE

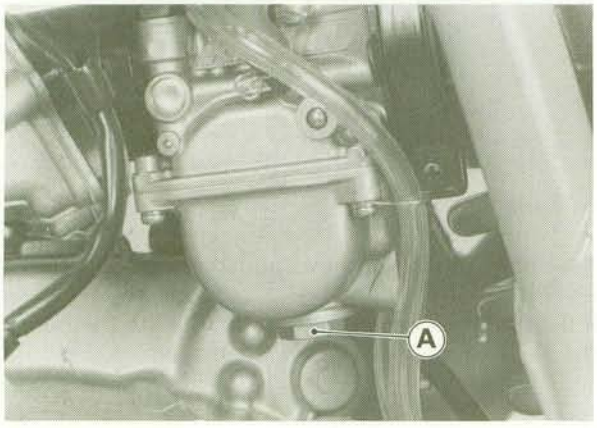
○*Float height is the distance from the float bowl mating surface of the carburetor body (with the gasket removed) to the top of the float. Measure the height with the carburetor upside down.*

Fuel System Clean

WARNING

○**Gasoline is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.**

- Place a suitable container beneath the carburetor.
- Turn the fuel tap to the OFF position.
- Remove the drain plug from the bottom of the float bowl and check for water or dirt in the fuel.



A. Drain Plug

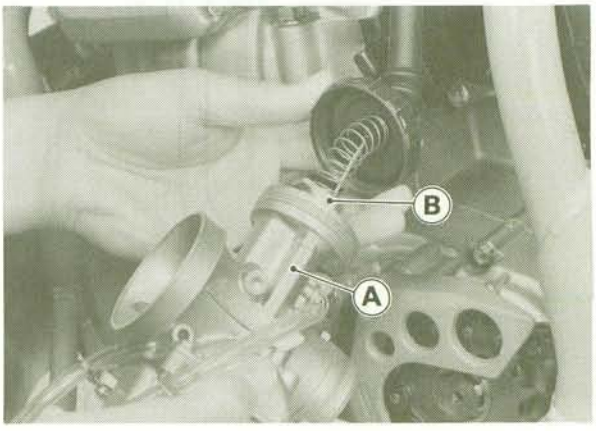
★If any water or dirt comes out, clean the carburetor, fuel tap and fuel tank (see Fuel Tank).
- Install the drain plug securely.

Carburetor Removal

WARNING

○**Gasoline is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke. Make sure the area is well ventilated and free any source of flame or sparks; this includes any appliance with a pilot light.**

- Turn the fuel tap to the OFF position and pull the fuel hose off the tap.
- Place a suitable container beneath the carburetor.
- Drain the fuel from the float bowl by remove the drain plug.
- Loosen the clamps, and remove the carburetor from the end of the air cleaner duct, and then pull it out of the carburetor holder.
- Unscrew the carburetor cap, and pull out the throttle valve assembly.



A. Carburetor B. Throttle Valve

CAUTION

○**If the throttle valve is not removed from the cable, wrap it in a clean cloth to avoid damage.**

- After removing the carburetor, push a clean, lint-free towel into the carburetor holder and the air cleaner duct to keep dirt or other foreign material from entering.

WARNING

○**If dirt or dust is allowed to pass through into the carburetor, the throttle may become stuck, possibly causing an accident.**

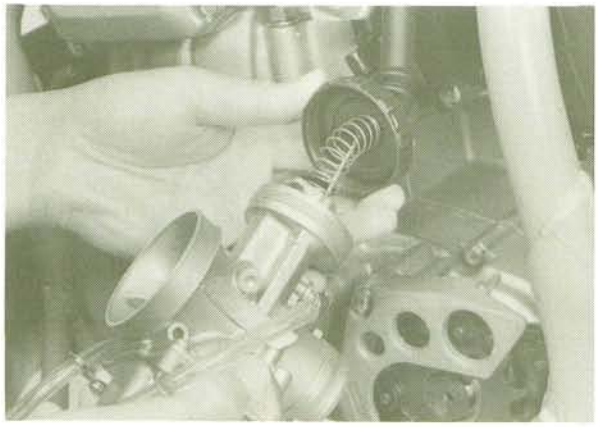
CAUTION

○**If dirt gets through into the engine, excessive engine wear and possibly engine damage will occur.**

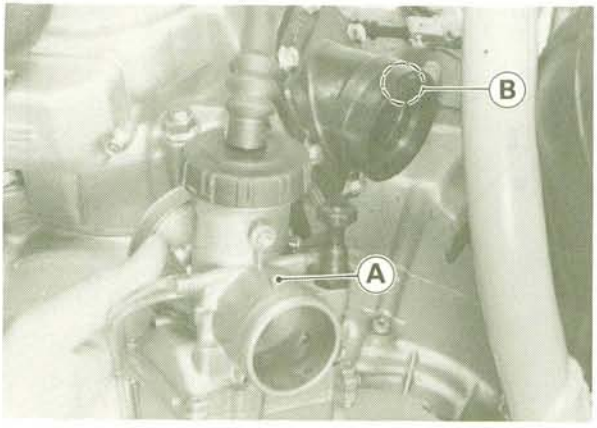
Carburetor Installation Notes

•Installation is the reverse of removal.

•Being careful not to bend or otherwise damage the jet needle. Check to see that the throttle valve goes all the way down into the carburetor body, and slides smoothly.



•When installing the carburetor into the carburetor holder, align the center of the carburetor with the groove on the holder.



A. Center of the carburetor
B. Groove

•Route the air vent tube properly (see Hose Routing in the General Information chapter).

CAUTION

○Always keep the tubes free of obstruction, and make sure they do not get pinched by the chain or shock absorber.

•After installing the carburetor, do the following.

○Turn the fuel tap to the ON or RES position, and check for fuel leakage from the carburetor.

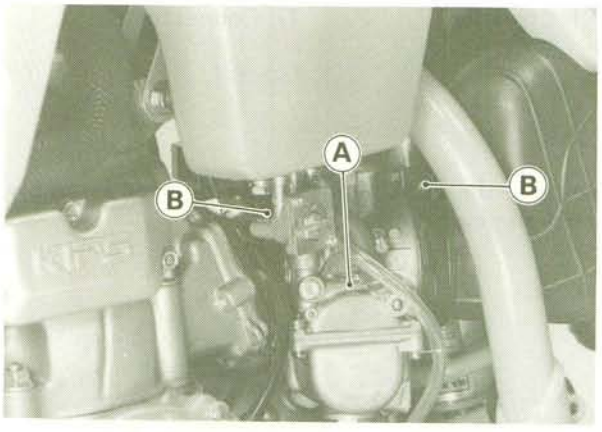
WARNING

○Fuel spilled from the carburetor is hazardous.

○Adjust the following items if necessary.
Throttle Cable
Idle Speed

Carburetor Disassembly

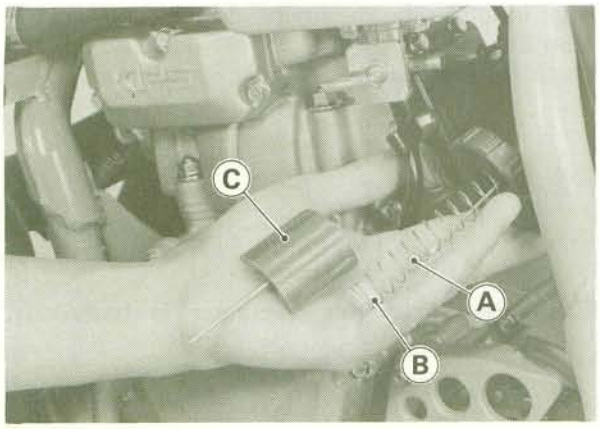
•Remove the carburetor.



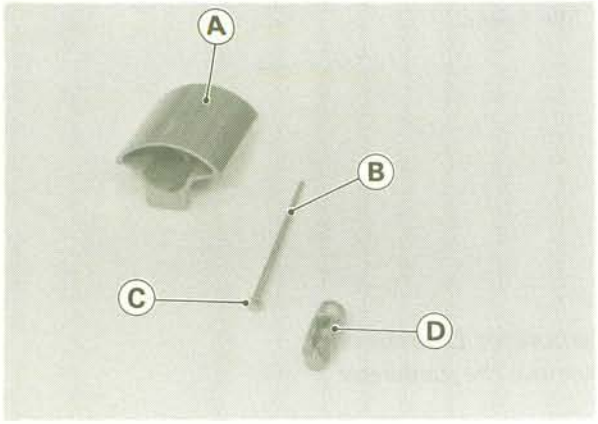
A. Carburetor B. Clamp Screw

•Remove the throttle valve assembly and carburetor cap from the carburetor cable lower end.

•Disassemble the throttle valve assembly; spring, retainer, connector, jet needle, circlip and throttle valve.

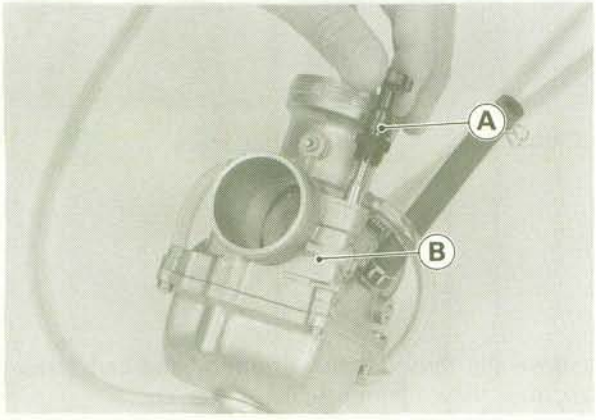


A. Spring
B. Retainer
C. Throttle Valve



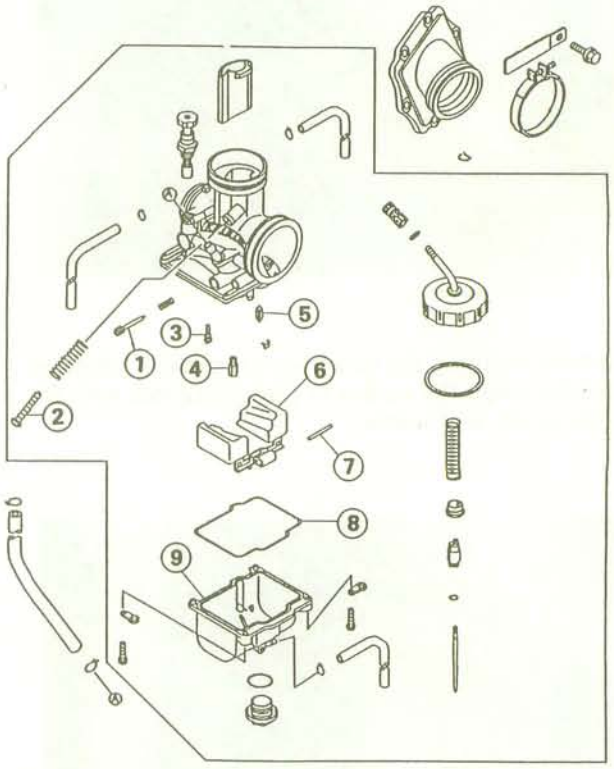
A. Throttle Valve
B. Jet Needle
C. Circlip
D. Connector

•Remove the choke knob/starter plunger assembly from the carburetor.



A. Choke Knob/Starter Plunger Assembly
B. Carburetor

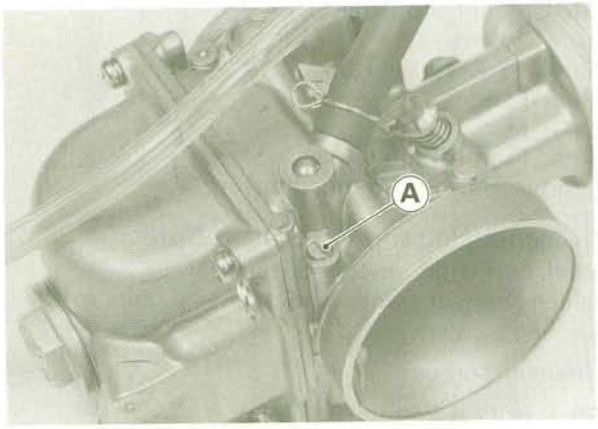
•Remove the following parts from the carburetor body.



1. Air Screw
2. Idle Adjusting Screw
3. Slow Jet
4. Main Jet
5. Float Valve Needle
6. Float
7. Pin
8. O-ring
9. Float Bowl

Carburetor Assembly Notes

- Assembly is the reverse of disassembly.
- Clean the disassembled parts before assembling.
- Replace the float bowl O-ring with a new one if it is deteriorated or damaged.
- Turn in the air screw fully but not tightly, and then back it out 1½ turns.



A. Air Screw

Carburetor Cleaning

WARNING

○Clean the carburetor in a well-ventilated area, and take care that there is no spark or flame anywhere near the working area; this includes any appliance with a pilot light. Because of the danger of highly flammable liquids, do not use gasoline or low flash-point solvent to clean the carburetor.

- Make sure the fuel tap is in the OFF position.
- Drain the fuel in the carburetor.
- Remove the carburetor.
- Disassemble the carburetor.

CAUTION

○Do not use compressed air on an assembled carburetor, the float may be deformed by the pressure.
○Remove as many rubber or plastic parts from the carburetor as possible before cleaning the carburetor with a cleaning solution. This will prevent damage or deterioration of the parts.
○Do not use a strong carburetor cleaning solution which could attack the plastic parts; instead, use a mild high flash-point cleaning solution safe for plastic parts.
○Do not use wire or any other hard instrument to clean carburetor parts, especially jets, as they may be damaged.

- Immerse all the metal parts in a carburetor cleaning solution.
- Rinse the parts in water.
- When the parts are clean, dry them with compressed air.
- Blow through the air and fuel passages with compressed air.
- Assemble the carburetor, and install it on the motorcycle.

Carburetor Inspection

WARNING

○Gasoline is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke. Make sure the area is well-ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

- Remove the carburetor.
- Before disassembling the carburetor, check the fuel level (see Fuel Level Inspection).

★If the fuel is incorrect, inspect the rest of the carburetor before correcting it.

- Pull the throttle cable to check that the throttle valve moves smoothly and returns by spring pressure.

★If the throttle valve does not move smoothly, replace the carburetor.

★Clean the carburetor.