

Kawasaki

KLV1000



Motorcycle Service Manual



KLV1000

Motorcycle Service Manual Supplement

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The right is reserved to make changes at any time without prior notice and without incurring an obligation to make such changes to products manufactured previously. See your Motorcycle dealer for the latest information on product improvements incorporated after this publication.

All information contained in this publication is based on the latest product information available at the time of publication. Illustrations and photographs in this publication are intended for reference use only and may not depict actual model component parts.

Foreword

This Kawasaki Service manual supplement information provides unique to the Kawasaki KLV1000-A1, which is based on the Suzuki DL1000K4. It must be used in conjunction with the other chapters of this manual. Read both this supplement and the base manual for complete information on proper service procedures for the model covered by this manual.

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.

For the duration of the warranty period, we recommend that all repairs and scheduled maintenance be performed in accordance with this service manual. Any owner maintenance or repair procedure not performed in accordance with this manual may void the warranty.

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 listed in this 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, the product was divided into its major systems, and 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 Group Index shows you all of the product's systems and assists in locating their chapters. Each chapter in turn has its own comprehensive Table of Contents.

For example, if you want crankshaft information, use the Group Index to locate the Engine chapter. Then, use the Table of Contents on the first page of the chapter to find the Crankshaft section.

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

⚠ WARNING
This warning symbol identified 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 the other 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.*

- Indicates a procedural step or work to be done.

Symbol

Throughout this manual are symbols indicating instructions and other information necessary for servicing. The meaning of each symbol is included in the table below. Where applicable, comparable Kawasaki products and their part numbers have been included.

SYMBOL	SUZUKI DEFINITION	KAWASAKI DEFINITION
	Torque control required. Data beside it indicates specified torque.	←
	Indicates service data.	←
	Apply oil. Use engine oil unless otherwise specified.	←
	Apply molybdenum oil solution. (mixture of engine oil and SUZUKI MOLY PASTE in a ratio of 1 : 1)	Apply molybdenum disulfide oil. (a mixture of engine oil and molybdenum disulfide grease with a weight ratio of 1:1)
	Apply SUZUKI SUPER GREASE "A". 99000-25030 (For USA) 99000-25010 (For the other countries)	Apply grease.
	Apply SUZUKI SILICONE GREASE. 99000-25100	Apply Silicone grease.
	Apply SUZUKI MOLY PASTE. 99000-25140	Apply molybdenum disulfide grease.
	Apply SUZUKI BOND "1207B". 99104-31140 (For USA) 99000-31140 (For the other countries)	Apply THREE BOND "TB1207B".
	Apply SUZUKI BOND "1215". 99000-31110 (Except USA)	Apply THREE BOND "TB1215".
	Apply THREAD LOCK SUPER "1303". 99000-32030	Apply a non-permanent locking agent.
	Apply THREAD LOCK SUPER "1322". 99000-32110 (Except USA)	Apply a non-permanent locking agent.
	Apply THREAD LOCK "1342". 99000-32050	Apply a non-permanent locking agent.

SYMBOL	SUZUKI DEFINITION	KAWASAKI DEFINITION
	Apply or use brake fluid,	←
	Measure in voltage range.	←
	Measure in resistance range.	←
	Measure in current range.	←
	Measure in diode test range.	Use a suitable commercially available digital multi meter for a diode tester and measure in diode test range.
	Measure in continuity test range.	←
	Use special tool.	Refer to the special tools in Servicing Information chapter.
	Use engine coolant. 99000-99032-11X (Except USA)	←
	Use fork oil. 99000-99001-SS8	Front Fork Oil Viscosity SAE 10W-20
	Use rear shock absorber oil. 99000-99001-S25	←

General Information

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GENERAL PRECAUTIONS

CAUTION

- ★ If parts replacement is necessary, replace the parts with KAWASAKI Genuine Parts or their equivalent.
- ★ When removing parts that are to be reused, keep them arranged in an orderly manner so that they may be reinstalled in the proper order and orientation.
- ★ Be sure to use special tools when instructed.
- ★ Make sure that all parts used in reassembly are clean. Lubricate them when specified.
- ★ Use the specified lubricants, bands, or sealant.
- ★ When removing the battery, disconnect the negative cable first and then the positive cable. When reconnecting the battery, connect the positive cable first and then the negative cable, and replace the terminal cover on the positive terminal.
- ★ When performing service to electrical parts, if the service procedures not require use of battery power, disconnect the negative cable the battery.
- ★ When tightening the cylinder head and case bolts and nuts tighten the larger sizes first. Always tighten the bolts and nuts from the inside working out, in a crisscross manner.
- ★ Whenever you remove oil seals, gaskets, packing, O-rings, locking washers, self-locking nuts, cotter pins, circlips, and certain other parts as specified, be sure to replace them with new ones. Also, before installing these new parts, be sure to remove any left over material from the mating surfaces.
- ★ Never reuse a circlip. When installing a new circlip, take care not to expand the end gap larger than required to slip the circlip over the shaft. After installing a circlip, always ensure that it is completely seated in its groove and securely fitted.
- ★ Use a torque wrench to tighten fasteners to the specified torque. Wipe off grease and oil if a thread is smeared with them.
- ★ After reassembling, check parts for tightness and proper operation.
- ★ To protect the environment, do not unlawfully dispose of used motor oil and all other fluids: batteries and tires.
- ★ To protect the Earth's natural resources, properly dispose of used motorcycle and parts.

Kawasaki LV1000-A1



GENERAL INFORMATION 1-4

SPECIFICATIONS

Items	LV1000-A1
Dimensions: Overall length Overall width Overall height Wheelbase Road clearance Seat height Dry mass Fuel tank capacity	2 295 mm (90.4 in.) 910 mm (35.8 in.) 1 395 mm (54.9 in.) 1 535 mm (60.4 in.) 165 mm (6.5 in.) 840 mm (33.1 in.) 208 kg (458 lbs) 22 L (5.81 US gal)
Performance: Minimum turning radius	2.7 m (106.3 ft.)
Engine: Type Cooling system Bore and stroke Displacement Compression ratio Carburetion system Starting system Ignition system Ignition timing Spark plugs Lubrication system Engine oil: Type Viscosity Capacity	4-stroke, DOHC, V2-cylinder Liquid-cooled 98.0 × 66.0 mm (3.858 × 2.598 in.) 996 mL (60.8 cu in.) 11.3 FI (Fuel Injection) Electric starter Electronic ignition (transistorized) 4° BTDC @ 1 200 r/min (rpm) NGK CR8EK or ND U24ETR Forced lubrication (wet sump with cooler) API SF or SG SAE10W-40 3.3 L (3.5 US qt)
Drive Train: Primary reduction system: Type Reduction ratio Clutch type Transmission: Type Gear ratios: 1st 2nd 3rd 4th 5th 6th	Gear 1.838 (57/31) Wet multi disc 6-speed, constant mesh, return shift 3.000 (36/12) 1.933 (29/15) 1.500 (27/18) 1.227 (27/22) 1.086 (25/23) 0.913 (21/23)

Items	LV1000-A1
Final drive system: Type Reduction ratio Overall drive ratio	Chain drive 2.411 (41/17) 4.045 @Top gear
Frame: Type Caster (rake angel) Trail Front tire: Type Size Rear tire: Type Size Front suspension: Type Wheel travel Rear suspension: Type Wheel travel Brake type: Front Rear	Tubular, diamond 26° 30' 111 mm (4.4 in.) Tubeless 110/80 R19 M/C 59H Tubeless 150/70 R17 M/C 69H Telescopic fork 160 mm (6.3 in.) Swingarm 159 mm (6.3 in.) Dual discs Single disc
Electrical Equipment: Battery Headlight Tail/brake light Alternator: Type	12 V 10 Ah 12 V 60/55W × 2 (H4 × 2) 12 V 21/5W × 2 Three-phase AC

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

GENERAL INFORMATION 1-6

COUNTRY AND AREA CODES

The following codes stand for the applicable countries and area.

CODE	COUNTRY OR AREA
E-02	U.K.
E-03	U.S.A. (Except for California)
E-19	EU
E-24	Australia
E-28	Canada
E-33	California (U.S.A.)

Periodic Maintenance

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<i>BRAKES</i>	<i>Base Manual</i>
<i>TIRE</i>	<i>Base Manual</i>
<i>STEERING</i>	<i>Base Manual</i>
<i>FRONT FORK</i>	<i>Base Manual</i>
<i>REAR SUSPENSION</i>	<i>Base Manual</i>
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<i>COMPRESSION TEST PROCEDURE</i>	<i>Base Manual</i>
<i>OIL PRESSURE CHECK</i>	<i>Base Manual</i>
<i>OIL PRESSURE TEST PROCEDURE</i>	<i>Base Manual</i>

PERIODIC MAINTENANCE 2-2

PERIODIC MAINTENANCE SCHEDULE

The chart below lists the recommended intervals for all the required periodic service work necessary to keep the motorcycle operating at peak performance and economy. Maintenance intervals are expressed in terms of hours.

NOTE

- *More frequent servicing may be performed on motorcycles that are use under severe conditions.*

Periodic Maintenance chart

Item	Interval		1 000	6 000	12 000	18 000	24 000
	km	miles					
	months						
Air cleaner element			—	I	I	R	I
Exhaust pipe bolts and muffler bolts			T	—	T	—	T
Valve clearance			—	—	—	—	I
Spark plugs			—	I	R	I	R
Fuel hose			—	I	I	I	I
			Replace every 4 years				
Engine oil			R	R	R	R	R
Engine oil filter			R	—	—	R	—
Idle speed			I	I	I	I	I
Throttle cable play			I	I	I	I	I
Throttle valve synchronization			I (E-33 only)	—	I	—	I
Evaporative emission control system (E-33 only)			—	—	I	—	I
			Replace vapor hose every 4 years				
PAIR(air supply)system			—	—	I	—	I
Engine coolant			Replace every 2 years.				
Radiator hose			—	I	I	I	I
Clutch hose			—	I	I	I	I
			Replace every 4 years				
Clutch fluid			—	I	I	I	I
			Replace every 2 years				
Drive chain			I	I	I	I	I
			Clean and lubricate every 1 000 km (600 miles)				
Brakes			I	I	I	I	I
Brake hose			—	I	I	I	I
			Replace every 4 years				
Brake fluid			—	I	I	I	I
			Replace every 2 years				
Tires			—	I	I	I	I
Steering			I	—	I	—	I
Front fork			—	—	I	—	I
Rear suspension			—	—	I	—	I
Chassis bolts and nuts			T	T	T	T	T

I=Inspect and clean, adjust, replace or lubricate as necessary

R=Replace

T=Tighten

C=Clean

VALVE CLEARANCE ADJUSTMENT CHART INLET VALVE

INLET

		PRESENT SHIM														↓ Example										
Part No. (92180)		S018	S019	S020	S021	S022	S023	S024	S025	S026	S027	S028	S029	S030	S031	S032	S033	S034	S035	S036	S037	S038	S039	S040	S041	S042
MARK and THICKNESS (mm)		2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50
↓ Example	0.00 ~ 0.04			2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40
	0.05 ~ 0.09		2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45
	0.10 ~ 0.20	SPECIFIED CLEARANCE/NO CHANGE REQUIRED																								
VALVE CLEARANCE MEASUREMENT (mm)	0.21 ~ 0.25	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	←
	0.26 ~ 0.30	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50		
	0.31 ~ 0.35	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50			
	0.36 ~ 0.40	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50				
	0.41 ~ 0.45	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50					
	0.46 ~ 0.50	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50						
	0.51 ~ 0.55	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50							
	0.56 ~ 0.60	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50								
	0.61 ~ 0.65	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50									
	0.66 ~ 0.70	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50										
	0.71 ~ 0.75	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50											
	0.76 ~ 0.80	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50												
	0.81 ~ 0.85	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50													
	0.86 ~ 0.90	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50														
	0.91 ~ 0.95	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50															
	0.96 ~ 1.00	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																
1.01 ~ 1.05	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																		
1.06 ~ 1.10	3.25	3.30	3.35	3.40	3.45	3.50	3.50																			
1.11 ~ 1.15	3.30	3.35	3.40	3.45	3.50	3.50																				
1.16 ~ 1.20	3.35	3.40	3.45	3.50	3.50																					
1.21 ~ 1.25	3.40	3.45	3.50	3.50																						
1.26 ~ 1.30	3.45	3.50	3.50																							
1.31 ~ 1.35	3.50	3.50																								
1.36 ~ 1.40	3.50																									

INSTALL THE SHIM OF THIS THICKNESS (mm)

1. Measure the clearance (when engine is cold.)
2. Check present shim size.
3. Match clearance in vertical column with present shim size in horizontal column.
4. Install the shim specified where the lines intersect. This shim will give the proper clearance.
 Example : Present shim is 2.70 mm.
 Measured clearance is 0.23 mm.
 Replace 2.70 mm shim with 2.80 mm shim.
5. Remeasure the valve clearance and readjust if necessary.

PERIODIC MAINTENANCE 2-4

VALVE CLEARANCE ADJUSTMENT CHART EXHAUST VALVE

EXHAUST

Part No. (92180)	PRESENT SHIM																↓ Example											
	S018	S019	S020	S021	S022	S023	S024	S025	S026	S027	S028	S029	S030	S031	S032	S033	S034	S035	S036	S037	S038	S039	S040	S041	S042			
MARK and THICKNESS (mm)	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50			
↓ Example VALVE CLEARANCE MEASUREMENT (mm)	0.00 ~ 0.04				2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30			
	0.05 ~ 0.09				2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35		
	0.10 ~ 0.14				2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	
	0.15 ~ 0.19				2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45
	0.20 ~ 0.30	SPECIFIED CLEARANCE/NO CHANGE REQUIRED																										
	0.31 ~ 0.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50			
	0.36 ~ 0.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50				
	0.41 ~ 0.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50					
	0.46 ~ 0.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50						
	0.51 ~ 0.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50							
	0.56 ~ 0.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50								
	0.61 ~ 0.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50									
	0.66 ~ 0.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50										
	0.71 ~ 0.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50											
	0.76 ~ 0.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50												
	0.81 ~ 0.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50													
	0.86 ~ 0.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50														
0.91 ~ 0.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																
0.96 ~ 1.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																	
1.01 ~ 1.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																		
1.06 ~ 1.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																			
1.11 ~ 1.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																				
1.16 ~ 1.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																					
1.21 ~ 1.25	3.30	3.35	3.40	3.45	3.50	3.50																						
1.26 ~ 1.30	3.35	3.40	3.45	3.50	3.50																							
1.31 ~ 1.35	3.40	3.45	3.50	3.50																								
1.36 ~ 1.40	3.45	3.50	3.50																									
1.41 ~ 1.45	3.50	3.50																										
1.46 ~ 1.50	3.50																											

INSTALL THE SHIM OF THIS THICKNESS (mm)

1. Measure the clearance (when engine is cold.)
2. Check present shim size.
3. Match clearance in vertical column with present shim size in horizontal column.
4. Install the shim specified where the lines intersect. This shim will give the proper clearance.
 Example : Present shim is 2.90 mm.
 Measured clearance is 0.38 mm.
 Replace 2.90 mm shim with 3.05 mm shim.
5. Remeasure the valve clearance and readjust if necessary.

Engine

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