

KLF220 BAYOU



All Terrain Vehicle Service Manual

Quick Reference Guide

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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.

KLF220	(3)(31)(1)(1)
BAYOU	Kawasaki

All Terrain Vehicle 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) Celsius	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)		

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.

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 vehicle:

- Follow the Periodic Maintenance Chart in the Service Manual.
- Be alert for problems and non-scheduled maintenance.
- Use proper tools and genuine Kawasaki Vehicle parts. Special tools, gauges, and testers that are necessary when servicing Kawasaki vehicles 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 ignition 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 Ignition Coil section.

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

A 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

- This 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 1-1

Betwai stanting to service a verificts, careful reading of the coplicable section is teachmended to eliminate unnecessary work. Photography diagrams, notes, castions, werning, she'dataket due erintiant have some included wherever necessary. Neverholess, sees a detailed account that limit tations a certain amount of brain knowledge to aver required for successful-work.

General Information

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Watch for share edgis, especially ouring major expine distantially and assembly. Protect your hands with gloves of a piece of thisk clotb when lifting the engine or turning it over

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A high flash point solvent is noormended to reduce the danger. A commercial solvent commonly available in North America is Student's solvent (genutic name). Always follow manufacturer and container directions regarding the use of any solvent.

8) Gasket, D-Ring

Do not reuse a gasket on O ring once it has been in stryles. The mating surfaces around the gasher should be free of foreign matter and perfoculy smooth to avoid oil or compression tagks. St. Liquid Gasker, Mon-Permanent Cosking Agent.

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(11) Bail Boaring

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1-2 GENERAL INFORMATION

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Before Servicing

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

(2) Battery Ground

Remove the ground (-) lead from the battery before performing any disassembly operations on the vehicle. This prevents:

- (a) the possibility of accidentally turning the engine over while partially disassembled.
- (b) sparks at electrical connections which will occur when they are disconnected.
- (c) damage to electrical parts.
- (3) 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 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.

(4) Torque

When torque values are given in this Service Manual, use them. Either too little or too much torque may lead to serious damage. Use a good quality, reliable torque wrench.

(5) 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.

(6) 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.

(7) 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.

(8) 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. (9) 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).

(10) 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.

(11) 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.

(12) 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 seal, until the face of the seal is even with the end of the hole.

(13) 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 high temperature grease on the lips to reduce rubber to metal friction.

(14) 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.

(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 (MoS₂) 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 stripes 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
Red	
Wire strands	Yellow/red
Red	86-A3 (US, Croadim Model)

(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 the condition of them, replace them with new ones. Abrasion Crack Hardening Warp Dent Scratch Wear

Seizure

Bent Color change

(19) Specifications

Specification terms are defined as follows.

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

Deterioration

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

1-4 GENERAL INFORMATION

Model Identification

KLF220-A1 (US, Canadian Model)



KLF220-A2 (US, Canadian Model)



PRE-COMPLEX II

KLF220-A3 (US, Canadian Model)



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KLF220-A4/A5 (US, Canadian Model)



KLF220-A6 (US, Canadian Model)



KLF220-A7 (US, Canadian Model)



KLF220-A8 (US, Canadian Model)



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General Specifications

Items	KLF220-A1	A2	A3	A3A	A4	A5	A6/A7/A8
Dimensions:							100
Overall length	1 745 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Overall width	1 120 mm, (U)(C) 1 020 mm	\leftarrow	←	\leftarrow	1 120 mm	\leftarrow	\leftarrow
Overall height	1 015 mm	(U)(UK) (A)(C) 1040 mm	1 040 mm	\leftarrow	\leftarrow	←	←
Wheelbase	1 115 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Road clearance	155 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Seat height	730 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow		\leftarrow
Dry weight	183 kg, (U)(C) 181 kg	\leftarrow	←,(U)(C) 183 kg	(A) 184 kg	183 kg,(A) ←	←,(C)(E)(UK)	←, (A)(E)(UK)
	- 1				10. 27-1	183.5 kg	185 kg
Curb weight: Front	88.5 kg,(U)(C) 88 kg	\leftarrow	←,(U)(C) 88.5 kg	(A) 89 kg	88.5 kg,(A) ←	\leftarrow	←,(A)(E)(UK) 89 kg
Rear	104.5 kg.(U)(C) 103 kg	\leftarrow	←,(U)(C) 104.5 kg	(A) 104 kg	104.5 kg,(A)←	←,(C)(E)(UK)	←, (A)(E)(UK)
				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		105 kg	106 kg
Fuel tank capacity	10 L	\leftarrow	<i>←</i>	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Performance:			2.2		1121781910	10.2	1.11.2.2.2
Minimum turning radius	2.7 m	\leftarrow	\leftarrow	←	\leftarrow	\leftarrow	\leftarrow
Engine:					N		546 Sec.2 (858-58)
Type	4-stroke, SOHC, 1-cylinder	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Cooling system	Air cooled	4	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Bore and stroke	67.0 x 61.0 mm	←	←	\leftarrow	\leftarrow	<i>←</i>	\leftarrow
Displacement	215 ml	\leftarrow	<i>←</i>	\leftarrow	←	←	\leftarrow
Compression ratio	03	4	←	←	←	←	\leftarrow
Maximum borrenower	12.5 kW (17 PS) @7 500 r/min (rom) (11) -	É	<i>←</i>	<i>←</i>	<i>—</i>	<i>←</i>	←
Maximum torque	17.7 N-m (1.8 kg-m, 13.0 ft-lb)						1692 (1667) 160
Maximum torque	@6.000 r/min (rpm) (U) -	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	← 100
Carburation system	Carburgtor, MIKUNI VM24SS	6	6	4	←	\leftarrow	←
Car Dure tion system	Page il and Electrical starter	È	È	4	<i>—</i>	←	←
Starting system	Meconi and Electrical starter	2	~	2	È	4	6
Ignition system				2	È	È	4
l iming advance	Electronically advanced	4			~		and in the
Ignition timing	From 10 BIDC @1 800 r/min (rpm)	\leftarrow	←	\leftarrow	\leftarrow	\leftarrow	\leftarrow
	to 35 BIDC @4 600 r/min (rpm)	/	1	LANNICK	NOK	NOK DREA	- 20년 - 10년 1
Spark plug	NGK DR8ES (U)(A) NGK D8EA	<	<u> </u>	(A)NGK	NGK	(C)(E)(UK)	\leftarrow
		le		D8EA	DOEA	DR8ES	100.00
Valve timing:				1		1	
Inlet Open	35 BTDC	\leftarrow	Ę	-			
Close	57° ABDC	<i>←</i>	\leftarrow	((
Duration	272	\leftarrow	<i>←</i>	\leftarrow	-	-	
Exhaust Open	54° BBDC	\leftarrow	\leftarrow	\leftarrow	4	-	-
Close	26° ATDC	\leftarrow	\leftarrow	\leftarrow	\leftarrow	-	
Duration	260	\leftarrow	\leftarrow	\leftarrow	\leftarrow	<	<i>←</i>
Lubrication system	Forced lubrication (wet sump)	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Engine oil: Grade	SE, SF or SG class	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Viscosity	SAE10W30, 10W40, 10W50,	4	6	-	6	←	←
	20W40, or 20W50						19p2-6
	0.01	1	1	1 1-	/		6

(U) : US model

(A) : Australian model

(C) : Canadian model (UK) : UK model (E) : European model (Continued on next page.)

1-6 GENERAL INFORMATION

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Items	KLF220-A1	A2	A3	A3A	A4	A5	A6/A7/A8
Drive Train:							The Lord
Primary reduction system:			1.1.1				denos linea
Туре	Gear	←	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Reduction ratio	3.450 (69/20)	←	\leftarrow	\leftarrow	←	←	←
Clutch type	Wet multi disc and centrifugal	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Transmission: Type	5-speed plus reverse, constant mesh, return shift	\leftarrow	4	←	\leftarrow		\leftarrow
Gear ratios: 1st	2.923 (38/13)	<	←	\leftarrow	\leftarrow	\leftarrow	\leftarrow
2nd	1.684 (32/19)	\leftarrow	\leftarrow	\leftarrow	\leftarrow	←	\leftarrow
3rd	1.173 (27/23)	\leftarrow	4	\leftarrow	\leftarrow	\leftarrow	\leftarrow
4th	0.923 (24/26)	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	←
5th	0.785 (22/28)	\leftarrow	\leftarrow	\leftarrow	\leftarrow	←	\leftarrow
Reverse	e 3.115 (27/13 x 33/22)	\leftarrow	←	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Final drive system:	0.00 5 5 0						
Туре	Shaft	4	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Reduction ratio	4.680 (18/15 × 39/10)	←	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Overall drive ratio	12.686 @Top gear	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Final gear case oil:							
Туре	API GL-5 Hypoid gear oil SAE90						
	(above 5°C, 41°F) or SAE 80 (below	←	\leftarrow	\leftarrow	\leftarrow	\leftarrow	←
	5°C, 41°F)						an and the stress
Capacity	0.2 L	\leftarrow	\leftarrow	\leftarrow	\leftarrow	←	\leftarrow
Frame:							
Туре	Double tubular	←	←	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Caster (rake angle)	4°	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Camber	3°	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Toe-in	30 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Trail	17 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Tread: Front	764 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Rear	776 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Front tire: Type	Tubeless	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
— Size	AT 21 × 8 – 9	←	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Rear tire: Type	Tubeless	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Size	AT 22 x 10 - 10	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Suspension: Front: Type Wheel travel	Independent swing arm 115 mm	$\stackrel{\leftarrow}{\leftarrow}$	\leftarrow	\downarrow	$\stackrel{\leftarrow}{\leftarrow}$	\leftarrow	\leftarrow
Rear: Type	Torque tube-link	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Wheel travel	125 mm	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\sim	\leftarrow
Brake type: Front	Drum	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Rear	Drum	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Electrical Equipment:						CAPIE TO	
Battery	12 V 12 Ah				/	12 V 12 Ah, (C)(E)(UK)	←, (A) 12 V
Extension of the		~	<	~	-	12 V 14 Ah	14 Ah
Headlight: Type	Semi-sealed beam	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Bulb	12 V 25/25 W × 2	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Taillight	12 V 8 W × 2	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow
Magneto: Type	Single phase AC	\leftarrow	\leftarrow	\leftarrow	←	←	\leftarrow
Rated output	10 A @6 000 r/min (rpm), 14 V	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow	\leftarrow

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

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Periodic Maintenance Chart

The scheduled maintenance must be done in accordance with this chart to keep the vehicle in good running condition. The first service is vitally important and must not be neglected.

	First	Service	Regular Service				
• = Clean, adjust, lubricate, tighten, or replace parts as necessary.	After 10 of use	hrs.	10 USE ENERY	30 use fuer	90 USE EVEN	eat se	
Chassis	87	[[Í	
Brake wear - check*	•	•					
Cable adjustments*	•	•					
Battery – check	•		٠				
Steering play – check	•			•	ž		
General lubrication*	n-18		٠	Firsting			
Nuts and bolts - tighten	•	•			1000	and the	
Final gear case oil — change*	• •			10108 M	olat• toto	Carburn	
Engine					- Josef (T thrigh	
Air cleaner – service*		•	(asiS n	91 8) BIG	ર પુખ્યત્વન ક	Cylings	
Clutch adjustment*			i gian	in (i)		1.1	
Valve clearance – check	•			•	120102 31	Carrier a	
Fuel system cleanliness – check*		6-CLATIN 240	al minate Li			Sump.o.	
Engine oil – change*	•			•	in Side:	d unio-	
Oil filter – replace					A total D	67:578	
Spark plug – clean and gap	•			100.000	sin normation	floosfl	
Spark arrester – clean					1-2-01	Ratche	

*Service more frequently when operated in mud, dust, or otehr harsh riding conditions.

1-8 GENERAL INFORMATION

Torque and Locking Agent

The following tables list the tightening torque for the major fasteners requiring use of a non-permanent locking agent or liquid gasket.

Letter used in the "Remarks" column means:

- L : Apply a non-permanent locking agent to the threads.
- O : Apply an oil to the threads and seated surface.
- S: Tighten the fasteners following the specified sequence.
- St : Stake the fasteners to prevent loosening.

Use the basic torque table below 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.

Basic Torque for General Fasteners

Thread	Torque					
dia. (mm)	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	17.0 - 23	125 - 165			
20	225 - 325	23 - 33	165 - 240			

Fortenar	6	Torque	day check	Domorika
Fastener	N-m	kg-m	ft-lb	Remarks
Fuel System:		0	nulipsi – atlee	Niebs and
Carburetor Holder Bolts	9.8	. 1.0	87 in-lb	Final gits
Engine Top End:		· · ·		aning 3
Cylinder Head Bolts (8 mm Dia.)	34	3.5	25	(*1)
(6 mm Dia.)	9.8	1.0	87 in-lb	(*1)
Camshaft Sprocket Bolt	34	3.5	25	0
Valve Clearance Adjusting Screw Locknuts	12	1.2	104 in-lb	AlbevisV
Camshaft Chain Guide Bolt	8.8	0.9	78 in-lb	RAN ROOM
Engine Left Side:			∴sgriarts – I	- Enginera
Starter Clutch Allen Bolts	34	3.5	25	ratilit LO
Recoil Starter Pulley Bolt	59	6.0	43	in sheet
Ratchet Cover Nut	12	1.2	104 in-lb	a saka l
Engine Right Side:				
Oil Pump Gear and Balancer				
Drive Gear Nut: KLF220-A1	83	8.5	61	
KLF220-A2 ~	125	13.0	94	ano materia
Balancer Gear Nut: KLF220-A1	78	8.0	58	0
KLF220-A2 ~	120	12.0	87	0
Clutch Spring Bolts	12	1.2	104 in-lb	
Primary Clutch Hub Nut	78	8.0	58	0
Secondary Clutch Hub Nut	78	8.0	58	0
Oil Pipe Banjo Bolts	15	1.5	11.0	
Engine Removal/Installation:				
Engine Mounting Bolts (8 mm Dia.)	26	2.7	19.5	
(10 mm Dia.)	34	3.5	25	÷
Engine Bracket Bolts	26	2.7	19.5	

(*1): See Cylinder Head Installation

GENERAL INFORMATION 1-9

	Torque			Domorka
Fastener	N-m	kg-m	ft-lb	Remarks
Engine Bottom End/Transmission:	62			
Oil Drain Plug	29	3.0	22	
Clutch Release Cam Pin	25	2.5	18.0	L
Beturn Spring Pin	25	2.5	18.0	L
Output Shaft Bearing Position Plate Screws	88	0.9	78 in-lb	L
Neutral and Reverse Switch Screws	0.0	0.0	-	
Creakenee Bolta	9.9	0.9	78 in-lb	
Crankcase Dons	15	1.5	11	1
Relier Valve	15	1.5	25 in lh	-
Bearing Stopper Screw	3.9	0.4	35 11-10	
Wheels/lires:		0.5	05	6
Wheel Nuts	34	3.5	25	5
Final Drive:	21			(10)
Front Gear Case Bolts (8 mm Dia.)	25	2.5	18.0	(*2)
Drive Gear Nut: KLF220-A1	78	8.0	58	0
KLF220-A2 ~	120	12.0	87	0
Oil Seal Housing Nuts	25	2.5	18.0	la la
Cam Damper Mounting Nut	78	8.0	58	1118
Driven Gear Shaft Nut	147	15	108	L
Bearing Retainer: KLF220-A1	108	11	80	0
KLF220-A2~	120	12	87	0
Final Gear Case Drain Bolt	20	2.0	14.5	9. J
Speedometer Plug	20	20	14.5	NN e
Binion Gear Nut	69	7.0	51	St
Pinoli Gear Nut	147	15	108	
Find Corr Corr Filler Con	15	15	11.0	
Final Gear Case Filler Cap	15	2.5	19.0	
Final Gear Case Cover Bolts	25	2.5	14.5	
Axle Shaft Pipe Bolts	20	2.0	14.5	"MiC
Propeller Shaft Housing Nuts	25	2.5	18.0	Zel H
Brakes:			· · · · ·	
Rear Axle Nut	147	15	108	
Front Axle Nut	34	3.5	25	
Rear Brake Panel Bolts	29	3.0	22	L
Front Brake Panel Bolts	26	2.7	19.5	L
Suspension:				
Front Suspension Arm Pivot Bolts	88	9.0	65	
Rear Suspension Arm Bolts	34	3.5	25	
Shock Absorber Mounting Bolts	34	3.5	25	
Steering:		8	22	
Stem Clamp Allen Bolts	26	2.7	19.5	
Stem Bottom End Nut	29	3.0	22	
Tie-rod End Nuts	Δ1	42	30	
Tie red Adjusting Slows Lesknuts	27	2.2	20	A 4 4
He-rou Aujusting Sleeve Locknuts	2/	2.0	20	4.7
NUCKIE Arm PIVOT NUTS	34	3.5	20	
Electrical System:	00		44.5	· 한 9 티 티 화
Spark Plug	20	2.0	14.5	122-15

(*2): See Front Gear Case Installation



GENERAL INFORMATION 1-11

- 1. Throttle Cable
- 2. Choke Cable
- 3. Switch Housing Lead
- 4. Front Brake Cable
- 5. Neutral and Reverse Indicator Lights
- 6. Coupler Cover
- 7. Taillight





Through the clamp.



- 8. Front Brake Cable Equalizer
- 9. Reverse Cable
- 10. Battery
- 11. Battery Vent Hose

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1-12 GENERAL INFORMATION



- 1. Starter Motor
- 2. Engine
- 3. Fuel Tank
- 4. Carburetor Vent Hose
- 5. Breather Hose (for Engine)
 6. Breather Hose (for Final Gear Case)
 7. Breather Hose (for Rear Brake)
 8. Rear Brake Cable



Fuel System

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2-2 FUEL SYSTEM





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