

General Information

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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) Battery Ground

Remove the ground (-) lead from the battery before performing any disassembly operations on the motorcycle. 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 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 and Needle Bearing

Do not remove any ball or needle bearings that are pressed in unless it is necessary. If they are removed, replace them with new ones.

When installing a bearing, press it in with the marked side facing out using a suitable driver until it is bottomed. Bearings should be pressed into place by pushing evenly the bearing race which is affected by friction.

(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) Cotter Pin

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

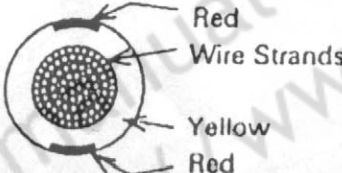
(16) Lubrication

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.

(17) 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
	Yellow/Red

(18) 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.

(19) 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
Bent	Dent	Scratch	Wear
Color change	Deterioration	Seizure	

(20) Specifications

Specification terms are defined as follows:

"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.

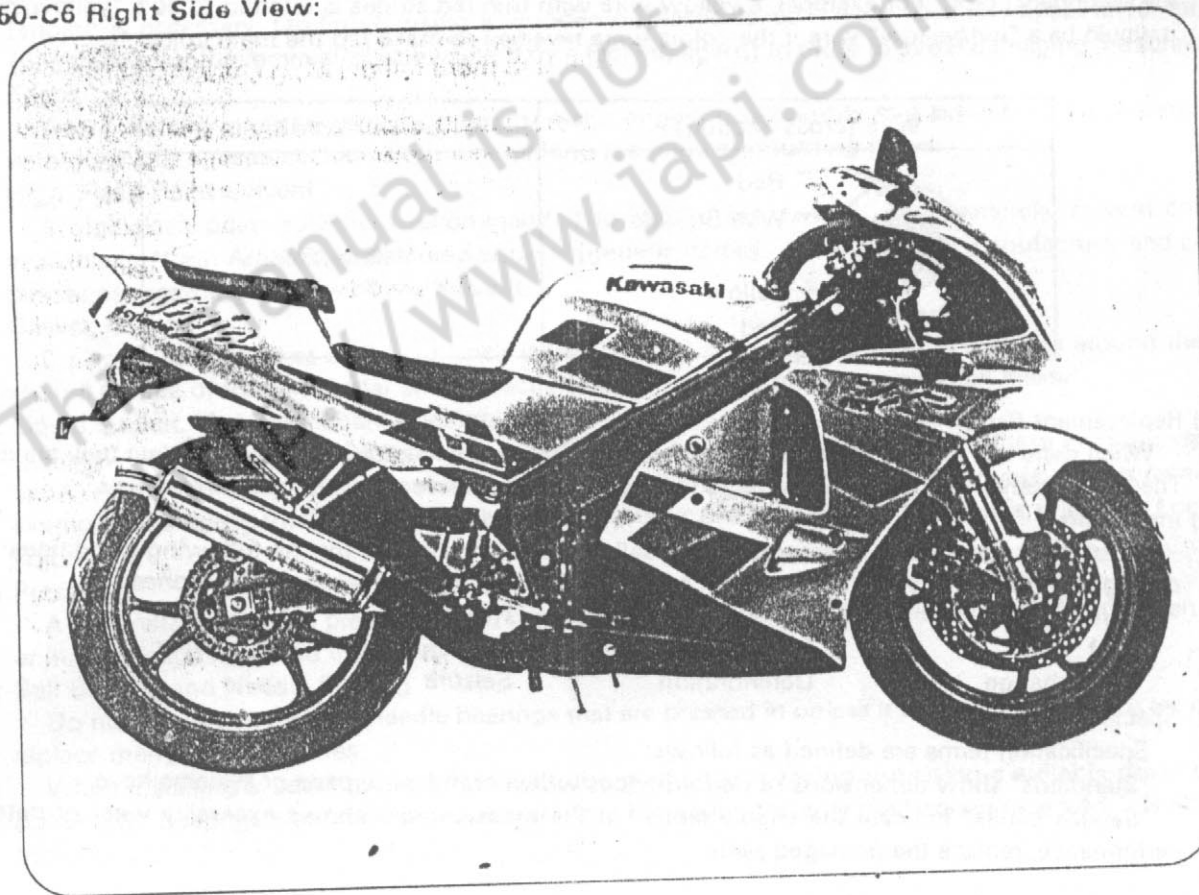
1-4 GENERAL INFORMATION

Model Identification

ZX250-C6 Left Side View:



ZX250-C6 Right Side View:



General Specifications

Item		ZX250-C6
Dimensions:		
Overall length		2 000 mm
Overall width		685 mm
Overall height		1 090 mm
Wheelbase		1 360 mm
Road clearance		130 mm
Seat height		735 mm
Dry weight		141 kg
Curb weight:	Front	82 kg
	Rear	79 kg
Fuel tank capacity		15.0 L
Performance:		
Minimum turning radius		2.9 m
Engine:		
Type		4 stroke, DOHC, 4 cylinder
Cooling system		Liquid-cooled
Bore and stroke		49.0 x 33.1 mm
Displacement		249 mL
Compression ratio		12.2
Maximum horsepower		33.08 kW (45PS) @ 16,000 rpm
Maximum torque		25.49 N-m (2.5 kg-m) @ 11,500 rpm
Carburetion system		KEIHIN CVK-D30 x 4
Starting system		Electric starter
Ignition system		Battery and coil (transistorized)
Timing advance		Electronically advanced (digital)
Ignition timing		From 23° BTDC @ 1 500 r/min (rpm) to 50° BTDC @ 6 000 r/min (rpm)
Spark plug		NGK CR9E or ND U27ESR-N
Cylinder numbering method		Left to right, 1-2-3-4
Firing order		1-2-4-3
Valve timing:	Inlet	Open 46° (BTDC)
		Close 74° (ABDC)
	Duration	300°
Exhaust	Open	63° (BBDC)
	Close	33° (ATDC)
	Duration	276°
Lubrication system		Forced lubrication (wet sump)
Engine oil:	Grade	SE, SF or SG class
	Viscosity	SAE10W-40, 10W-50, 20W-40, or 20W-50
	Capacity	2.6 L

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Item	ZX250-C6
Drive Train: Primary reduction system: Type Reduction ratio Clutch type Transmission: Type Gear ratio: 1st 2nd 3rd 4th 5th 6th Final drive system: Type Reduction ratio Overall drive ratio	Gear 3.291 (79/24) Wet multi disc 6-speed, constant mesh, return shift 2.600 (39/15) 1.789 (34/19) 1.409 (31/22) 1.160 (29/25) 1.000 (27/27) 0.892 (25/28) Chain drive 3.428 (48/14) 10.076 @Top gear
Frame: Type Caster (rake angle) Trail Front tire: Type Size Rear tire: Type Size Front suspension: Type Wheel travel Rear suspension: Type Wheel travel Brake type: Front Rear	Press, diamond 23.5° 84 mm Tubeless 110/70-R17 54H Tubeless 140/60-R18 64H Telescopic fork 120 mm Swingarm (uni-trak) 113 mm Dual discs Single disc
Electrical Equipment: Battery Headlight: Type Bulb Tail/brake light Alternator: Type Rated output	12 V 6 Ah Semi-sealed beam Quartz-halogen 12 V 60/35 W x 2 12 V 5/21 W x 2 Three-phase AC 22 A / 14 V @8 500 r/min (rpm)

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

Periodic Maintenance Chart

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

OPERATION	FREQUENCY	*ODOMETER READING							
		Whichever comes first ↓ Every	1 000 km	6 000 km	12 000 km	18 000 km	24 000 km	30 000 km	36 000 km
Spark plug - clean and gap †		•	•	•	•	•	•	•	
Valve clearance - check †				•		•		•	
Air cleaner element - clean † #		•		•		•		•	
Throttle grip play - check †		•		•		•		•	
Idle speed - check †		•		•		•		•	
Carburetor synchronization - check †				•		•		•	
Fuel system - check †		•		•		•		•	
Fuel hose - check †	4 years			•		•		•	
Engine oil - change #	6 months	•	•	•	•	•	•	•	
Oil filter - replace		•		•		•		•	
Oil screen - check †		•		•		•		•	
Drive chain wear - check † #		•	•	•	•	•	•	•	
Brake pad wear - check † #			•	•	•	•	•	•	
Brake light switch - check †		•	•	•	•	•	•	•	
Steering - check †		•	•	•	•	•	•	•	
Front fork oil - change	2 years					•			
Rear shock absorber oil leak - check †				•		•		•	
Front fork oil leak - check †		•	•	•	•	•	•	•	
Tire wear - check †			•	•	•	•	•	•	
Swingarm pivot, uni-trak linkage - lubricate				•		•		•	
General lubrication - perform				•		•		•	
Nuts, bolts, and fasteners tightness - check †		•		•		•		•	
Drive chain - lubricate #	600 km		•	•	•	•	•	•	
Drive chain slack - check † #	1000 km	•	•	•	•	•	•	•	
Brake fluid level - check †	month	•	•	•	•	•	•	•	
Radiator hoses, connection - check †		•							
Brake fluid - change	2 years					•			
Brake master cylinder cup and dust seal - replace	4 years								
Coolant - change	2 years					•			
Caliper piston seal and dust seal - replace	4 years								
Steering stem bearing - lubricate	2 years					•			
Clutch - adjust		•	•	•	•	•	•	•	

: Service more frequently when operating in severe conditions, dusty, wet, muddy, high speed, or frequent starting/stopping.

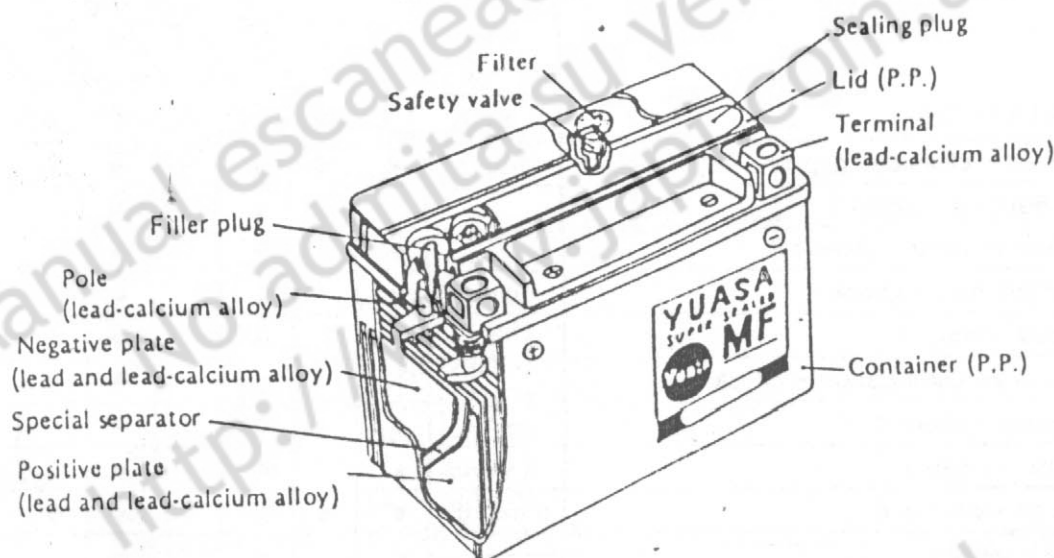
• : For higher odometer readings, repeat at the frequency interval established here.

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

Technical Information - Maintenance Free Battery

A maintenance free battery is installed in this model. The maintenance free battery is a sealed type, and so the electrolyte level check and topping-up cannot be performed.

(I) Construction

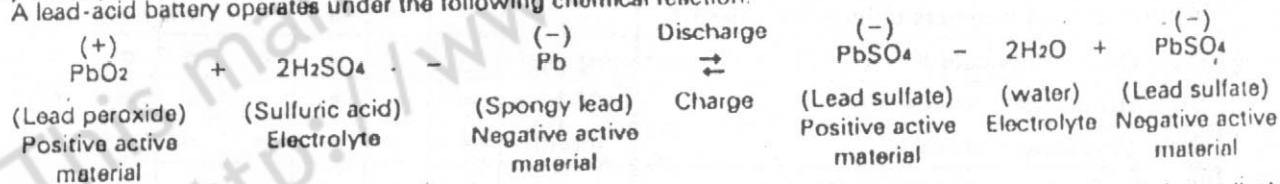


(II) Main Features

- 1) Maintenance free..... It is not necessary to check the electrolyte level and top-up the electrolyte.
- 2) No electrolyte leakage..... As the electrolyte is retained firmly in the special separators, there is no free electrolyte in the battery.
- 3) Instant activation system..... It can be used instantly after filling only the electrolyte without initial charge.
- 4) One-push motion electrolyte filling..... It is possible to fill the electrolyte by easy one-push motion.
- 5) Safety construction..... If the battery internal pressure rises abnormally high, the safety valve opens to release the gas inside the battery to restore the normal pressure and prevent the battery from rupturing. After restoring the normal pressure, the safety valve closes and the battery is sealed again. Moreover, a ceramic filter is disposed on top of the safety valve under the lid to remove risk of ignition or explosion caused by fire from outside.
- 6) Compact and high performance..... No presence of free electrolyte allows the battery made lower in height, thus resulting in enhanced volume efficiency. Moreover, gas being absorbed inside the battery eliminates the need for a gas exhaust tube.
- 7) Strong charge/discharge characteristics It can amply withstand deep charge/discharge cycles.

(III) Principle of Sealing Structure

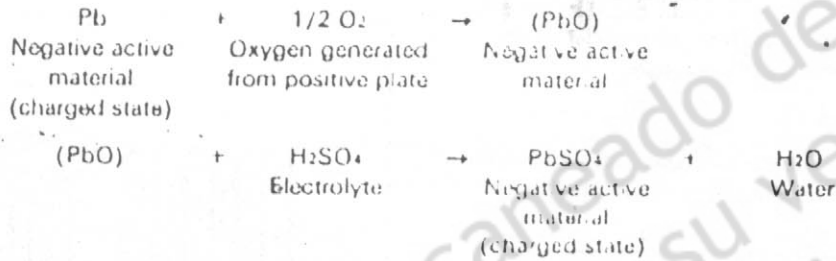
A lead-acid battery operates under the following chemical reaction:



Normally in an ordinary lead-acid battery when it comes to an end of a charge, where the lead sulfate being a discharge product returns to lead peroxide and spongy lead, the charge current flowing thereafter is used exclusively to decompose electrolytically water from the electrolyte, thus resulting in generation of hydrogen gas from the negative plate and oxygen gas from the positive plate. The gases so generated are released out of the battery, causing the amount of electrolyte decreased to require occasional water replenishment.

A maintenance free battery, however, is so designed that, when it is overcharged, even if the positive plate is fully charged, the negative plate remains not fully turned to spongy lead. Therefore, even when the positive plate is overcharged generating oxygen gas, the negative plate is not fully charged, hence generating no hydrogen gas.

Moreover, the oxygen gas generated from the positive plate immediately reacts with the charged active material on the negative plate, and returns to water, with the ultimate result of no water loss.



Thus, the negative plate is made as not to get fully charged. Even if the overcharge continues, the oxygen gas generated inside the battery is absorbed by the negative plate, a process called oxygen cycle, which theoretically prevents water loss, and allows the battery to be sealed.

(IV) Filling the Battery with Electrolyte

CAUTION

Do not remove the aluminum seal sheet sealing the filler ports until just before use.
Be sure to use the dedicated electrolyte container for correct electrolyte volume.

- Check to see that there is no peeling, tears or holes in the sealing sheet.
- Place the battery on a level surface
- Remove the sealing sheet [A]
- When removing, check to hear an air-sucking sound "Shoosh!" from filler ports [B].

NOTE

- A battery whose sealing sheet has any peeling, tears, holes, or from which the air-sucking sound was not heard requires a refreshing charge (initial charge).

- Take the electrolyte container out of the vinyl bag
- Detach the strip of caps [A] from the container.

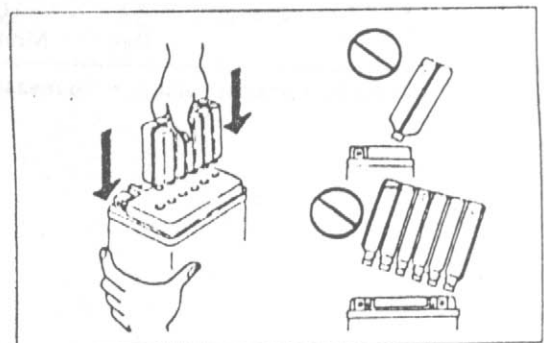
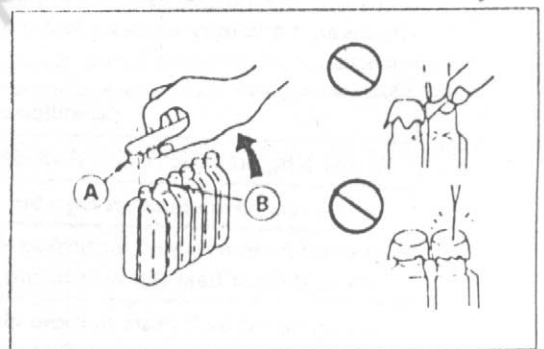
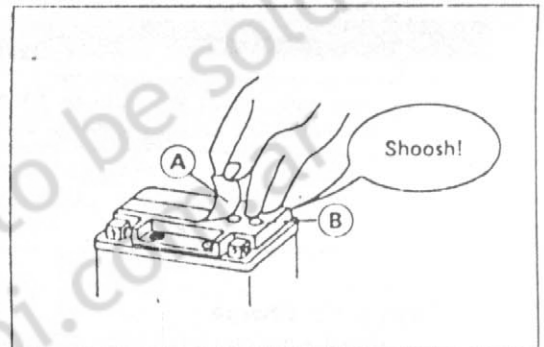
NOTE

- Do not discard the strip of caps because it is used as the battery plugs later.
- Do not peel back or pierce the sealed areas [B]

- Place the electrolyte container upside down with the six sealed areas in line with the six battery filler ports
- Push the container down strongly enough to break the seals. Now the electrolyte should start to flow into the battery

NOTE

- Do not tilt the container as the electrolyte flow may be interrupted



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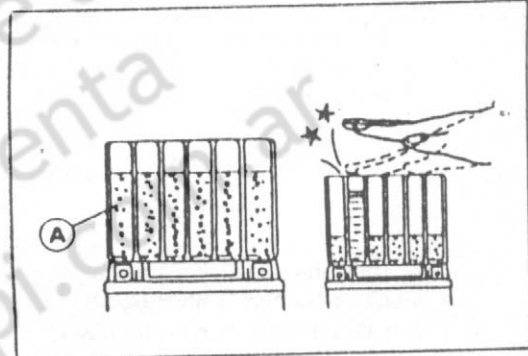
- Make sure air bubbles [A] are coming up from all six filler ports.
- Leave the container this way for 5 minutes or longer.

NOTE

○ If no air bubbles are coming up from a filler port, tap the bottom of the bottle two or three times. Never remove the container from the battery.

CAUTION

Fill until the container is completely emptied.



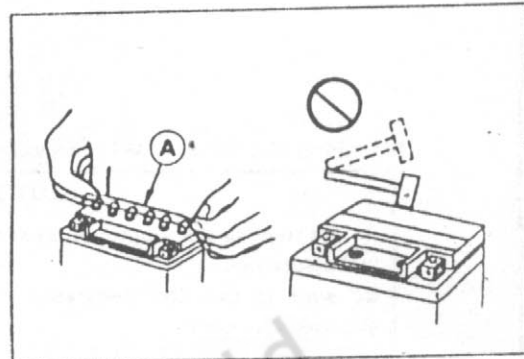
- Be certain that all the electrolyte has flowed out.
- Tap the bottom the same way as above if there is any electrolyte left in the container.
- Now pull the container gently out of the battery.
- Let the battery sit for 20 minutes. During this time, the electrolyte permeates the special separators and the gas generated by chemical reaction is released.
- Fit the strip of caps [A] tightly into the filler ports until the strip is at the same level as the top of the battery.

NOTE

○ Do not hammer. Press down evenly with both hands.

CAUTION

Once you install the strip of caps after filling the battery, never remove it, nor add any water or electrolyte.



(V) Initial Charge

While a maintenance free battery can be used after only filling with electrolyte, a battery may not be able to sufficiently move a starter motor to start an engine in the cases shown in the table below, where an initial charge is required before use. However, if a battery shows a terminal voltage of higher than 12.5 V after 10 minutes of filling (Note 1), no initial charge is necessary.

Condition requiring initial charge	Charging method
At low temperatures (lower than 0°C)	0.7 A × 2 ~ 3 hours
Battery has been stored in high temperature and humidity.	0.7 A × 15 ~ 20 hours
Seal has been removed, or broken – peeling, tear or hole. (If you did not hear the air-sucking sound “Shoosh!” as you removed the seal.)	
Battery as old as 2 years or more after manufacture. Battery manufacturing date is printed on battery top. Example) <u>12</u> <u>10</u> <u>93</u> <u>T1</u> Day Month Year Mfg. location	

Note 1 : Terminal voltage – To measure battery terminal voltage, use a digital voltmeter.

(VI) Precautions**1) No need of topping up**

No topping-up is necessary in this battery until it ends its life under normal use. Forcibly prying off the sealing plug to add water is very dangerous. Never do that.

2) Refreshing charge

If an engine will not start, a horn sounds weak, or lamps are dim, it indicates the battery has been discharged. Give refresh charge for 5 to 10 hours with charge current shown in the specification (see the Electrical System chapter).

When a fast charge is inevitably required, do it following precisely the maximum charge current and time conditions indicated on the battery.

CAUTION

This battery is designed to sustain no unusual deterioration if refresh-charged according to the method specified above. However, the battery's performance may be reduced noticeably if charged under conditions other than given above.

Never remove the sealing plug during refresh charge.

If by chance an excessive amount of gas is generated due to overcharging, the safety valve operates to keep the battery safe.

3) When you do not use the motorcycle for months

Give a refresh charge before you store the motorcycle and store it with the negative lead removed. Give a refresh charge every six months during storage.

4) Battery life

If the battery will not start the engine even after several refresh charges, the battery has exceeded its useful life. Replace it. (Provided, however, the vehicle's starting system has no problem.)

WARNING

Keep the battery away from sparks and open flames during charging, since the battery gives off an explosive gas mixture of hydrogen and oxygen. When using a battery charger, connect the battery to the charger before turning on the charger. This procedure prevents sparks at the battery terminals which could ignite any battery gases.

No fire should be drawn near the battery, or no terminals should have the tightening loosened.

The electrolyte contains sulfuric acid. Be careful not to have it touch your skin or eyes. If touched, wash it off with liberal amount of water. Get medical attention if severe.

(VII) Interchangeability with Ordinary Battery

A maintenance free battery can fully display its performance only when combined with a proper vehicle electric system. Therefore, replace a maintenance free battery only on a motorcycle which was originally equipped with a maintenance free battery.

Be careful, if a maintenance free battery is installed on a motorcycle which had an ordinary battery as original equipment, the maintenance free battery's life will be shortened.

1-12 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.

Letters used in the "Remarks" column mean:

- L : Apply a non-permanent locking agent to the threads.
- LG : Apply liquid gasket to the threads.
- Lh : Left-hand threads.
- M : Apply molybdenum disulfide grease.
- O : Apply an oil to the threads and seating surface.
- G : Apply grease.
- S : Tighten the fasteners following the specified sequence.
- SS : Apply silicone sealant.
- St : Stake the fasteners to prevent loosening.
- R : Replacement parts

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.

Basic Torque for General Fasteners

Threads dia. (mm)	Torque		
	N-m	kg-m	ft-lb
5	3.4 ~ 4.9	0.35 ~ 0.50	30 ~ 43 in-lb
6	6.9 ~ 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

Fastener	Torque		Remarks
	N-m	kg-m	
Fuel System:			
Fuel Tap Plate Screws	0.8	0.08	
Fuel Tap Diaphragm Plate Screws	1.0	0.10	
Air Cleaner Housing Cover Bolts	5.9	0.60	
Cooling System:			
Radiator Hose Clamp Screws	2.5	0.25	
Water Pipe Air Bleeder Bolt	7.8	0.80	
Coolant Drain Plug (Water Pump)	11	1.1	
Radiator Fan Switch	18	1.8	
Water Temperature Sensor	7.8	0.80	SS
Water Pump Cover Bolts	11	1.1	
Water Pump Impeller	7.8	0.80	
Thermostat Housing Bolts	11	1.1	
Water Hose Fitting Bolts (Cylinder)	11	1.1	
Engine Top End:			
Spark Plugs	13	1.3	
Cylinder Head Cover Bolts	9.8	1.0	
Chain Tensioner Mounting Bolts	11	1.1	L (1)
Chain Tensioner Stopper Screw	2.9	0.30	
Camshaft Cap Bolts	5.9	0.60	S
Cylinder Head Jacket Plugs	20	2.0	
Camshaft Chain Guide Upper Mounting Bolts	25	2.5	
Camshaft Chain Guide Lower Mounting Bolts	20	2.0	
Cylinder Head Bolts: $\phi 7$ mm	18	1.8	O,S
$\phi 6$ mm	12	1.2	
Carburetor Holder Bolts	13	1.3	
Clutch:			
Clutch Cover Bolts	11	1.1	L (1)
Clutch Spring Bolts	8.8	0.90	
Clutch Hub Nut	130	13.5	R

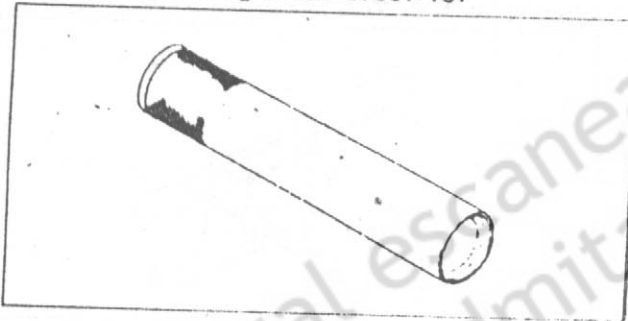
Fastener	Torque		Remarks
	N-m	kg-m	
Engine Lubrication System:			
Engine Drain Plug	20	2.0	
Oil Filler Cap	1.5	0.15	
Oil Filter	9.8 or Hand-Tight	1.0 or Hand-Tight	R
Oil Filter Mounting Bolt	25	2.5	L
Oil Pan Bolts	11	1.1	
Oil Pressure Relief Valve	15	1.5	L
Oil Pressure Switch Terminal Bolt	1.5	0.15	
Oil Pressure Switch	15	1.5	SS
Oil Hose Flange Bolts	11	1.1	
Engine Removal/Installation:			
Engine Mount Nuts	44	4.5	
Engine Mount Clamp Bolts	23	2.3	
Crankshaft/Transmission:			
Crankcase Bolts Φ 7-mm	20	2.0	S, L (1)
Φ 6 mm	12	1.2	
Connecting Rod Big End Cap Nuts	in the text	←	O
Timing Rotor Bolt	39	4.0	
Starter Clutch Bolts	34	3.5	L
Breather Plate Mounting Bolts	11	1.1	L
Shift Shaft Return Spring Pin (Bolt)	20	2.0	L
Neutral Switch	15	1.5	
Shift Drum Set Lever Screw	11	1.1	
Shift Rod Holding Plate Screw	5.4	0.55	
Shift Drum Holder Bolt	12	1.2	
Wheels/Tires:			
Front Axle	110	11.0	
Front Axle Clamp Bolts	23	2.3	
Rear Axle Nut	88	9.0	
Final Drive:			
Rear Axle Nut	88	9.0	
Engine Sprocket Mounting Bolts	9.8	1.0	
Rear Sprocket Nuts	59	6.0	
Rear Sprocket Studs	-	-	L
Brakes:			
Caliper Bleed Valves	7.8	0.80	
Brake Hose Banjo Bolts	25	2.5	
Brake Lever Pivot Bolt	1.0	0.10	
Brake Lever Pivot Bolt Locknut	6.9	0.60	
Front Brake Light Switch Screws	1.0	0.10	
Front Master Cylinder Clamp Bolts	8.8	0.90	
Front Brake Reservoir Cap Holder Screw	1.0	0.10	
Front Brake Reservoir Mounting Bolt	6.9	0.70	
Caliper Mounting Bolts (Front, Rear)	23	2.3	
Brake Disk Mounting Bolts (Front, Rear)	23	2.3	L
Rear Brake Reservoir Mounting Bolt	6.9	0.70	
Rear Master Cylinder Mounting Bolts	23	2.3	
Rear Master Cylinder Push Rod Locknut	18	1.8	
Brake Pedal Shaft Bolt	25	2.5	L

1-14 GENERAL INFORMATION

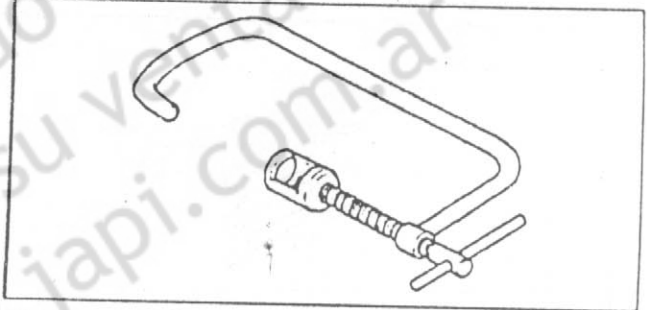
Fastener	Torque		Remarks
	N-m	kg-m	
Suspension:			
Upper Front Fork Clamp Bolts	20	2.0	
Lower Front Fork Clamp Bolts	29	3.0	
Front Fork Top Plugs	23	2.3	
Piston Rod Nut	15	1.5	
Front Fork Bottom Allen Bolts	39	4.0	L
Front Fork Compression Damper Adjuster Holder	18	1.8	
Front Axle Clamp Bolts	23	2.3	
Rear Shock Absorber Nuts (Upper, Lower)	49	5.0	
Swingarm Pivot Shaft Nut	93	9.5	
Rocker Arm Nut	59	6.0	
Tie-Rod Nuts	59	6.0	
Steering:			
Steering Stem Head Nut	39	4.0	
Steering Stem Nut	4.9 or Hand-Tight	0.50 or Hand-Tight	
Upper Front Fork Clamp Bolts	20	2.0	
Lower Front Fork Clamp Bolts	29	3.0	
Handlebar Bolts	44	4.5	
Handlebar Holder Position Bolts	9.8	1.0	L
Handlebar Holder Bolts	20	2.0	
Frame:			
Rear Frame Bolts	44	4.5	
Side Stand Bracket Bolts	44	4.5	L
Electrical System:			
Spark Plugs	13	1.3	
Pickup Coil Bolts	8.3	0.85	
Timing Inspection Plug	1.5	0.15	
Timing Rotor Bolt	39	4.0	
Alternator Cover Bolts	11	1.1	
Alternator Rotor Bolt	69	7.0	
Stator Coil Bolts	8.3	0.85	
Stator Coil Lead Clamp Bolts	8.3	0.85	
Starter Motor Terminal Bolt	4.9	0.50	
Starter Relay Terminal Nut	4.9	0.50	
Starter Motor Through Bolts	4.9	0.50	
Starter Motor Mounting Bolts	11	1.1	
Starter Clutch Bolts	34	3.5	L
Radiator Fan Switch	18	1.8	
Water Temperature Sensor	7.8	0.80	SS
Oil Pressure Switch Terminal Bolt	1.5	0.15	
Oil Pressure Switch	15	1.5	SS
Neutral Switch	15	1.5	
Tail Light Mounting Nuts	5.9	0.60	

Special Tools and Sealant

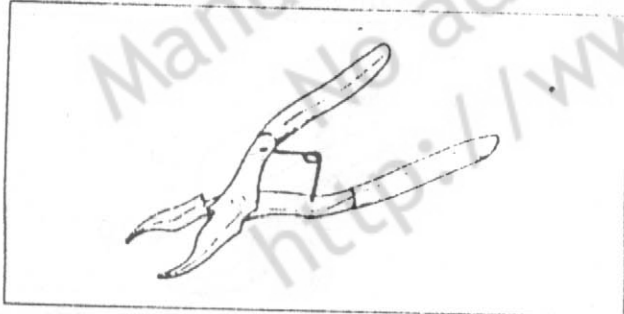
Steering Stem Bearing Driver: 57001-137



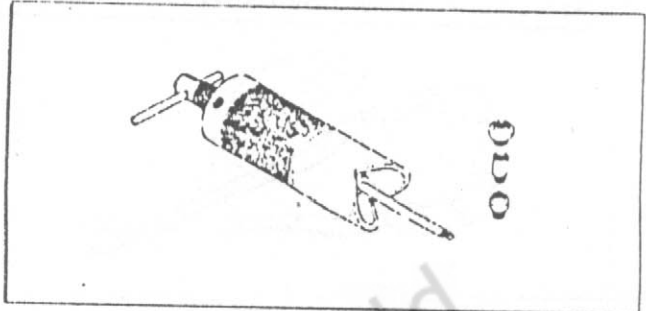
Valve Spring Compressor Assembly: 57001-241



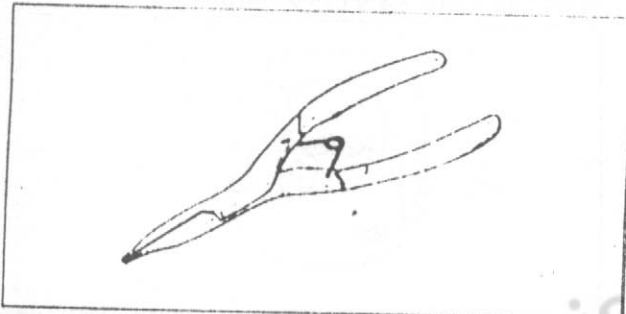
Inside Circlip Pliers: 57001-143



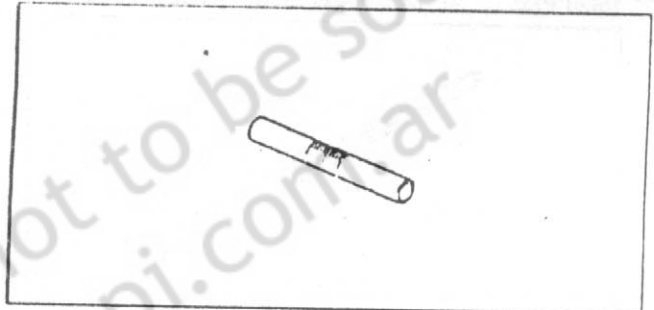
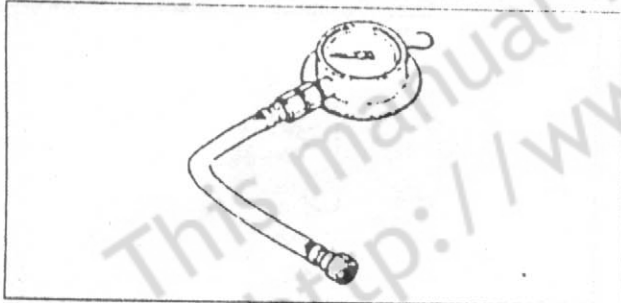
Piston Pin Puller Assembly: 57001-910



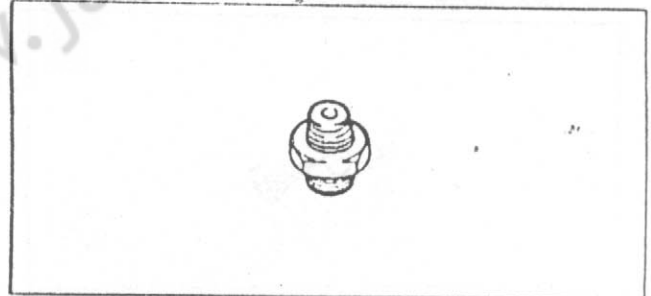
Outside Circlip Pliers: 57001-144



Fuel Level Gauge: 57001-1017

Oil Pressure Gauge, 10 kg/cm²: 57001-164

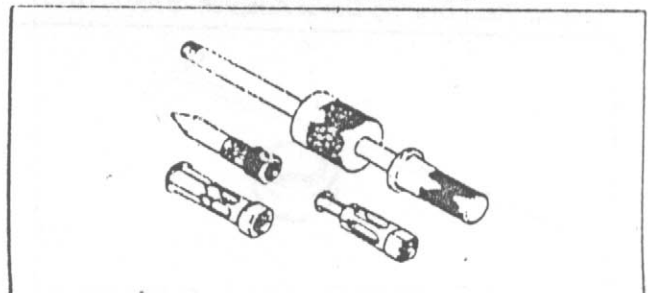
Oil Pressure Gauge Adapter, PT 1/4: 57001-1033



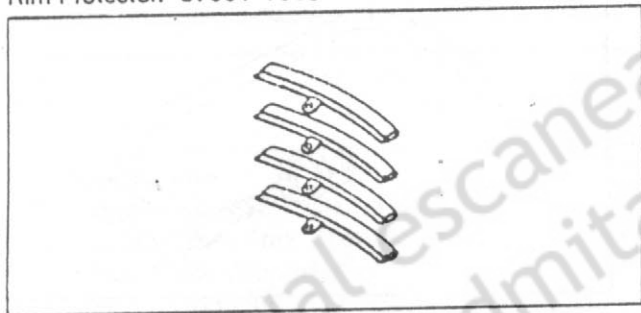
Compression Gauge: 57001-221



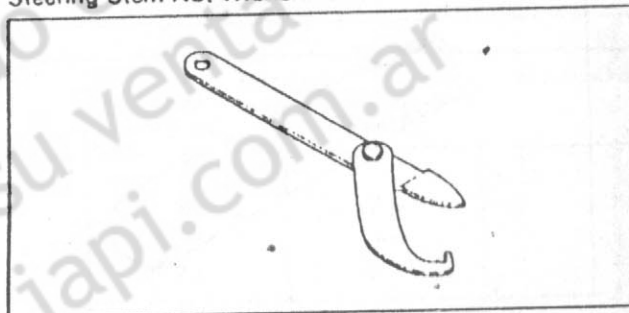
Oil Seal & Bearing Remover: 57001-1058



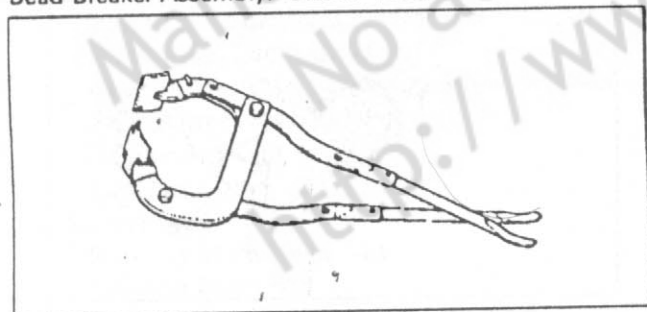
Rim Protector: 57001-1063



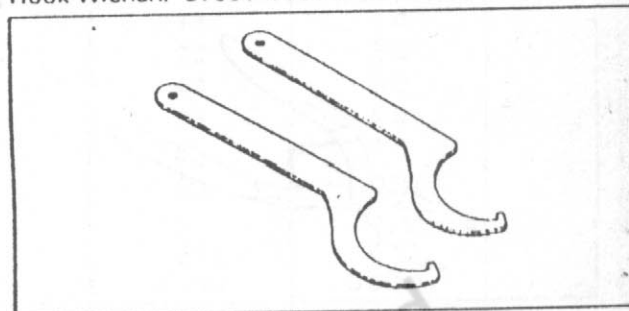
Steering Stem Nut Wrench: 57001-1100



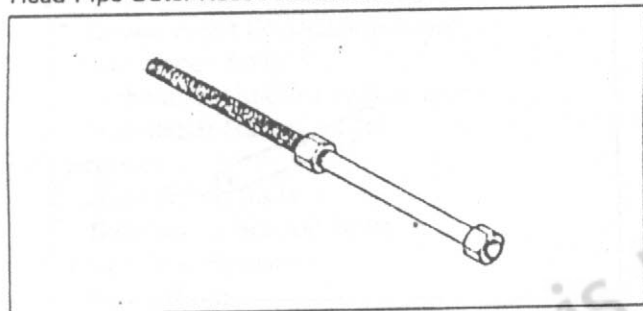
Bead Breaker Assembly: 57001-1072



Hook Wrench: 57001-1101



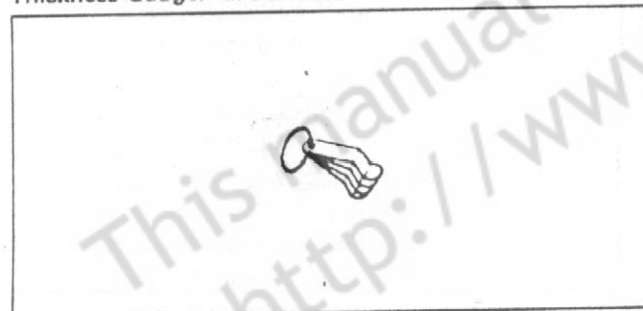
Head Pipe Outer Race Press Shaft: 57001-1075



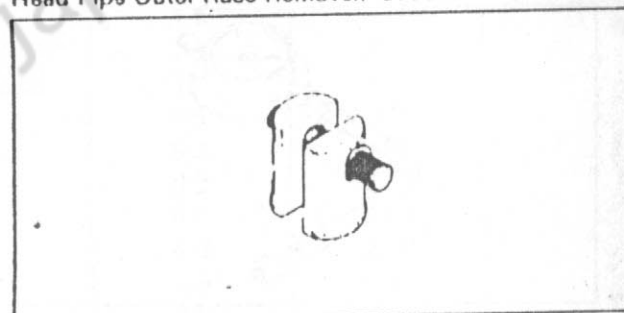
Head Pipe Outer Race Driver: 57001-1106



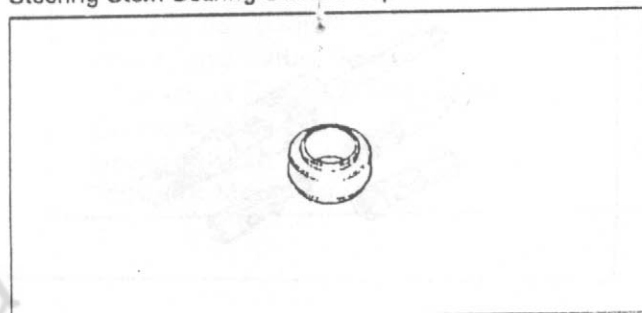
Thickness Gauge: 57001-1081



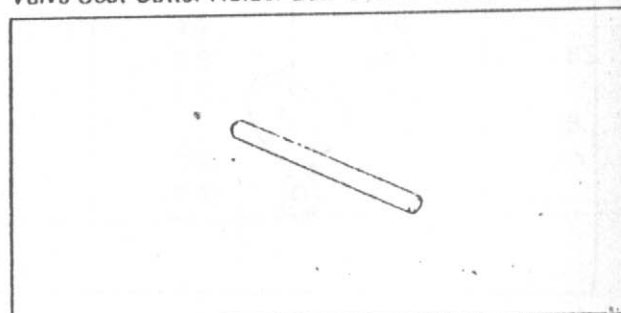
Head Pipe Outer Race Remover: 57001-1107



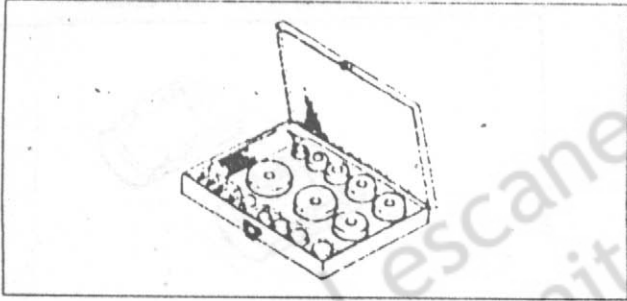
Steering Stem Bearing Driver Adapter: 57001-1092



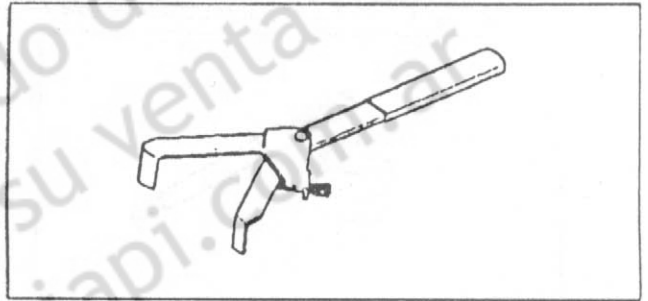
Valve Seat Cutter Holder Bar: 57001-1128



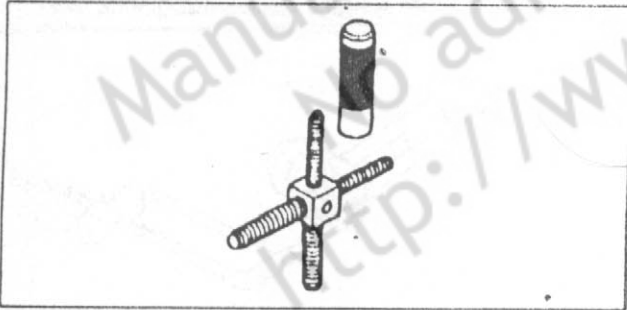
Bearing Driver Set: 57001-1129



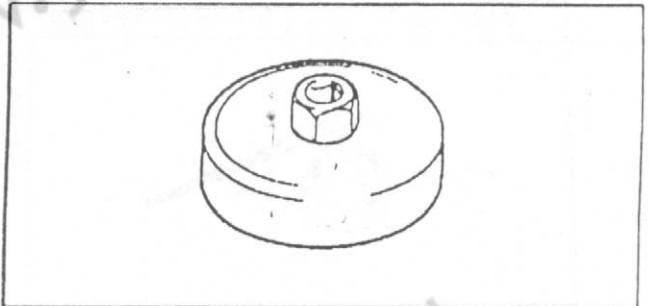
Clutch Holder: 57001-1243



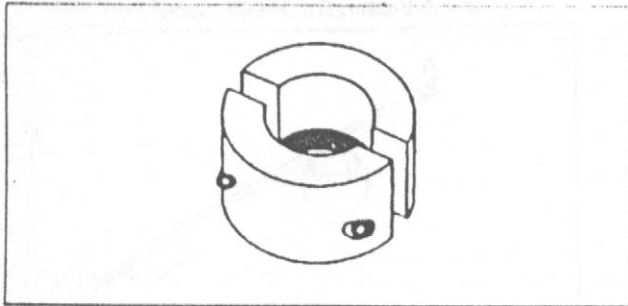
Rotor Puller, M16/M18/M20/M22 x 1.5: 57001-1216



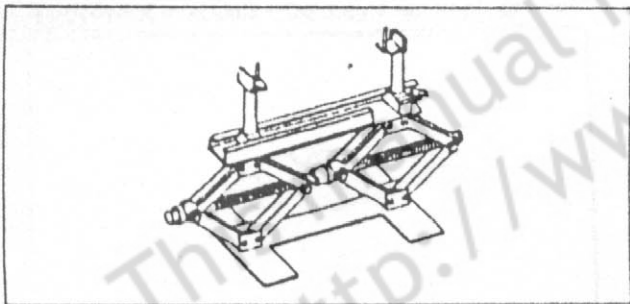
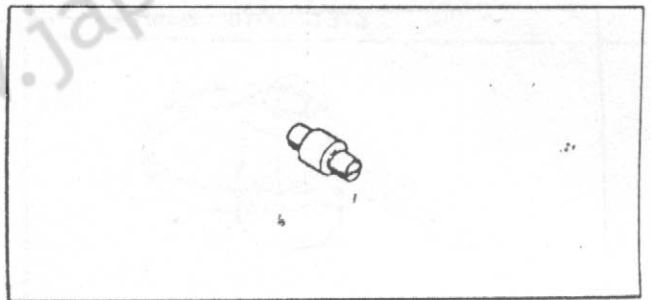
Oil Filter Wrench: 57001-1249



Fork Outer Tube Weight: 57001-1218

Bearing Remover Shaft, $\Phi 9$: 57001-1265

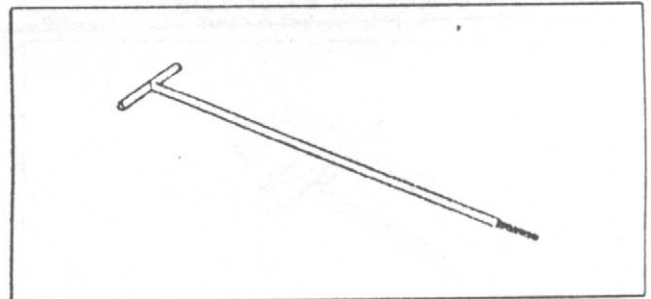
Jack: 57001-1238

Bearing Remover Head, $\Phi 15 \times \Phi 17$: 57001-1267

Pilot Screw Adjuster, A: 57001-1239

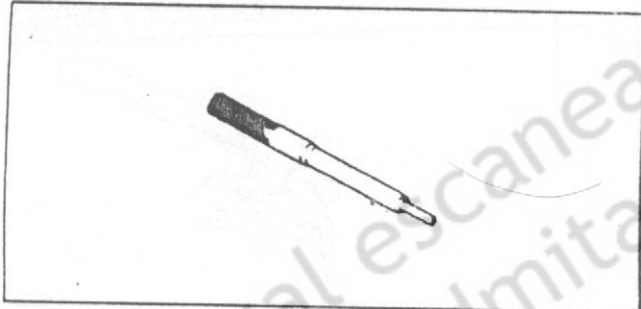


Carburetor Drain Plug Wrench, Hex 3: 57001-1269

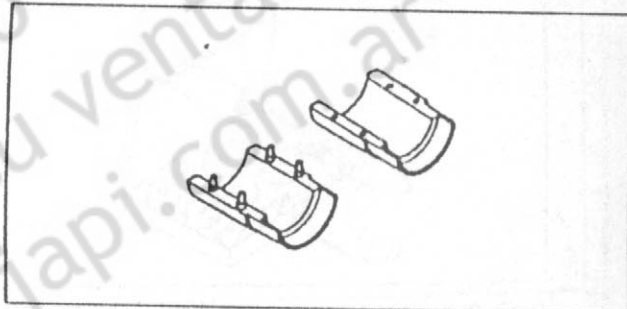


1-18 GENERAL INFORMATION

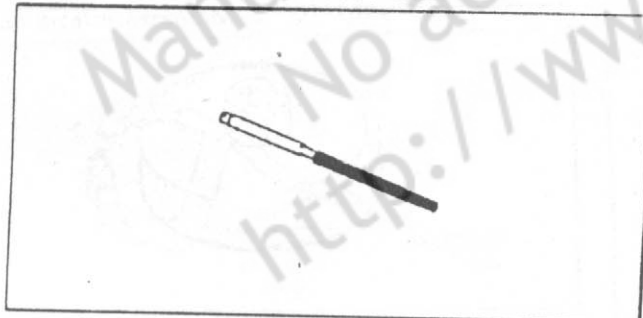
Valve Guide Arbor, $\phi 4$: 57001-1273



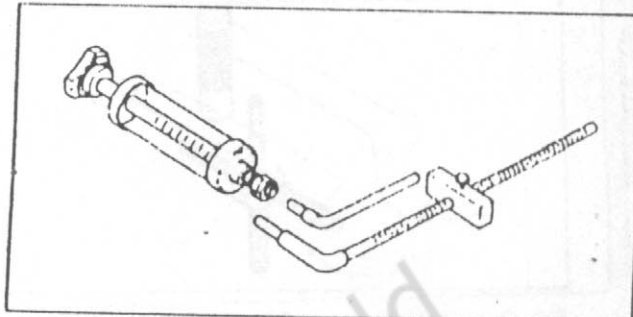
Fork Oil Seal Driver, $\phi 41$: 57001-1288



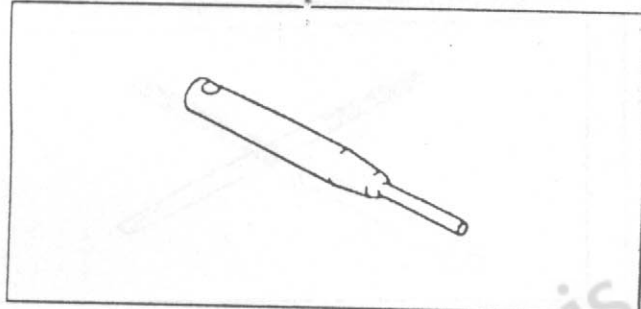
Valve Guide Reamer, $\phi 4$: 57001-1274



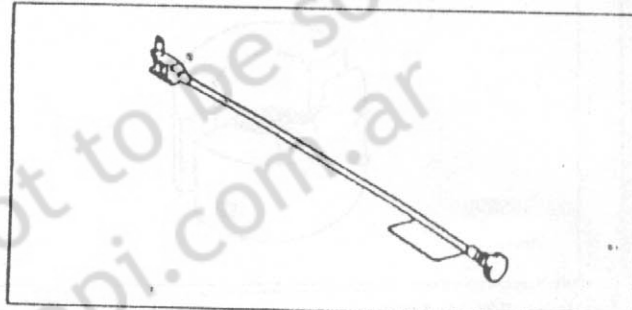
Fork Oil Level Gauge: 57001-1290



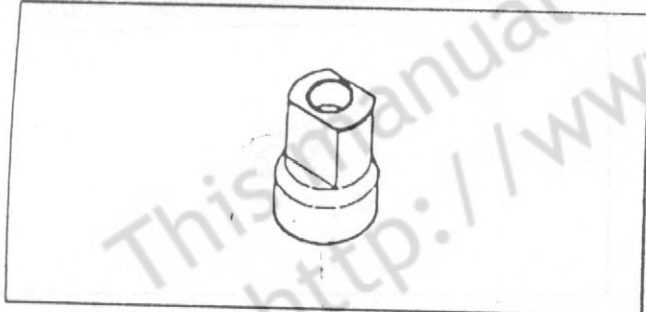
Valve Seat Cutter Holder, $\phi 4$: 57001-1275



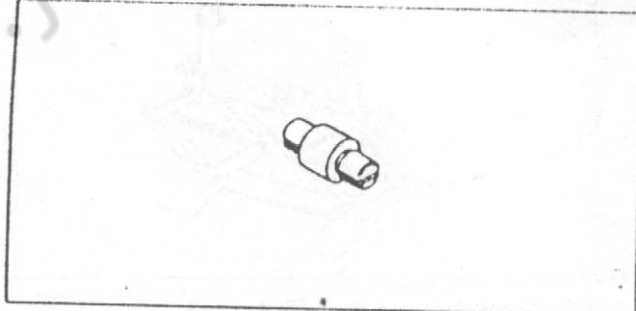
Pilot Screw Adjuster, C: 57001-1292



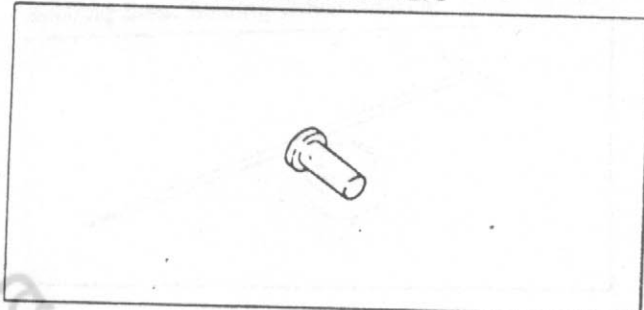
Rotor Puller, M33 x 1.5: 57001-1277



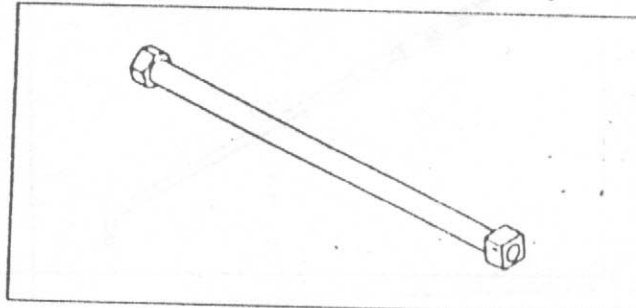
Bearing Remover Head, $\phi 20 \times \phi 22$: 57001-1293



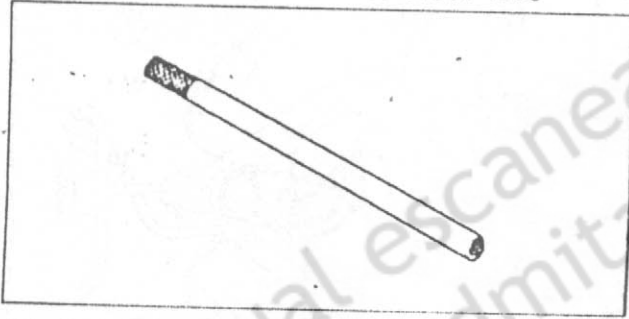
Rotor Puller Adapter, $\phi 8$: 57001-1279



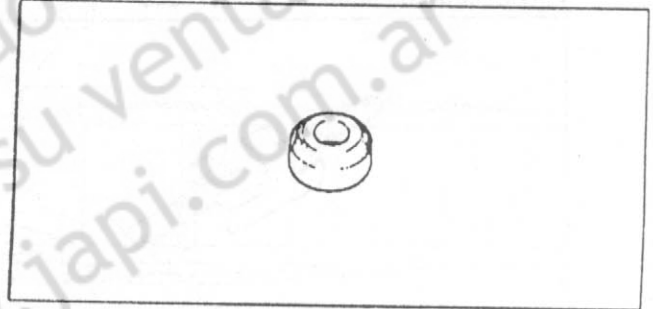
Fork Cylinder Holder: 57001-1297



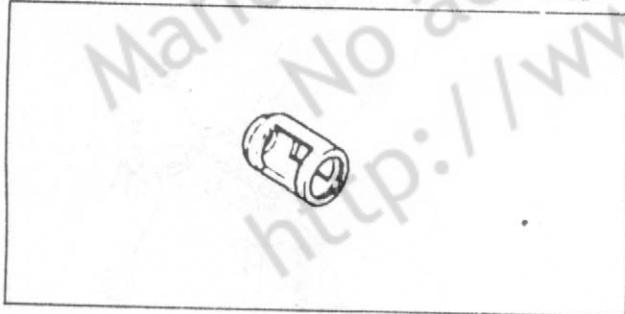
Fork Piston Rod Puller, M10 x 1.0: 57001-1298



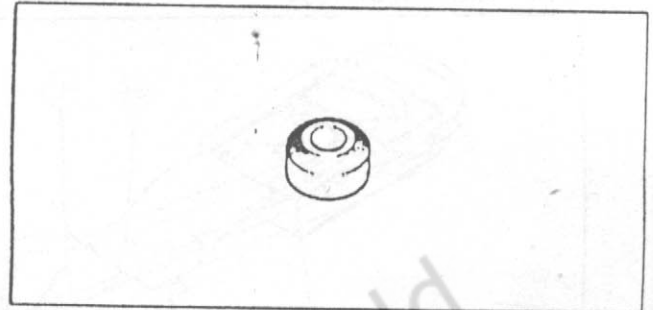
Valve Seat Cutter, 22.5° - $\phi 21$: 57001-1309



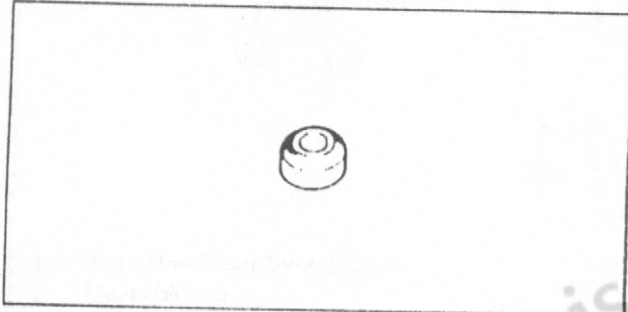
Valve Spring Compressor Adapter, $\phi 16$: 57001-1305



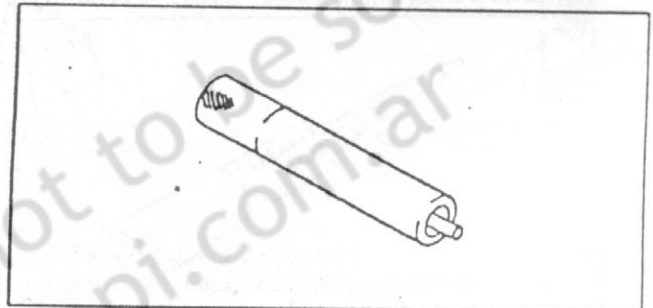
Valve Seat Cutter, 65° - $\phi 19$: 57001-1310



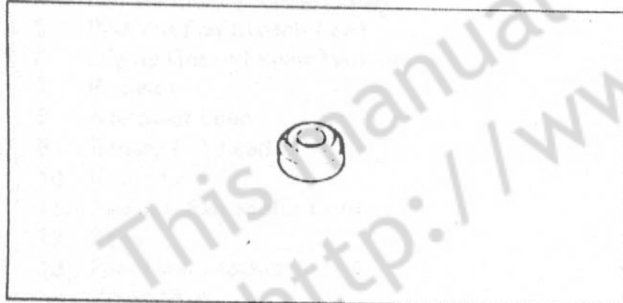
Valve Seat Cutter, 45° - $\phi 18$: 57001-1306



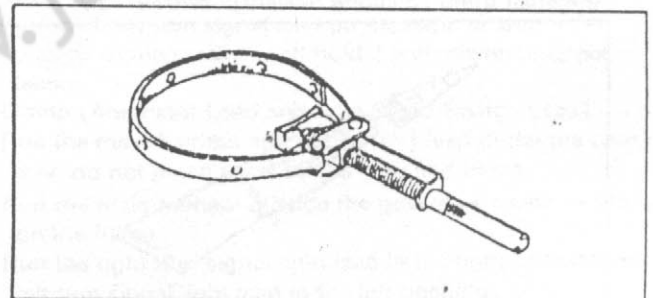
Valve Guide Driver, $\phi 4$: 57001-1311



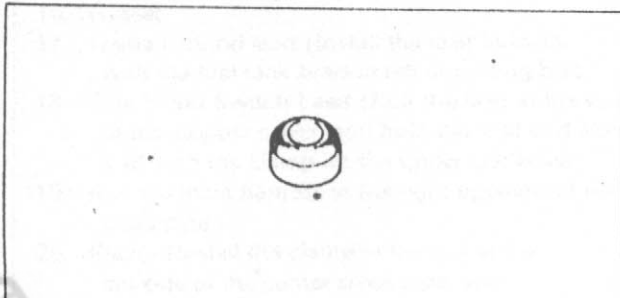
Valve Seat Cutter, 45° - $\phi 20$ 5: 57001-1307



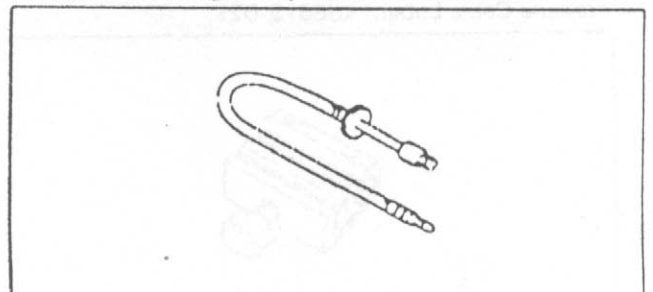
Flywheel Holder: 57001-1313



Valve Seat Cutter, 30° - $\phi 18$: 57001-1308

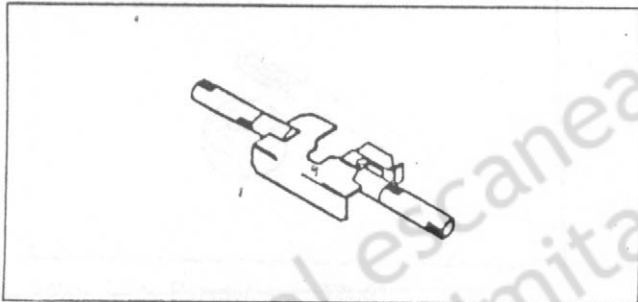


Compression Gauge Adapter, M10 X 1.0: 57001-1317

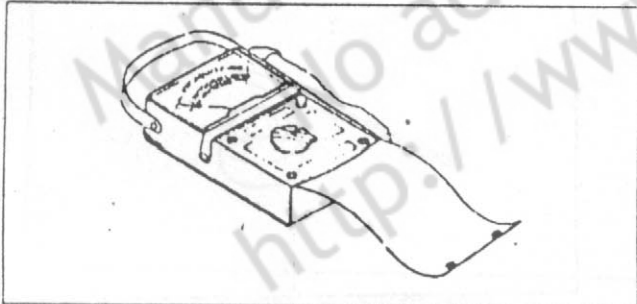


1-20 GENERAL INFORMATION

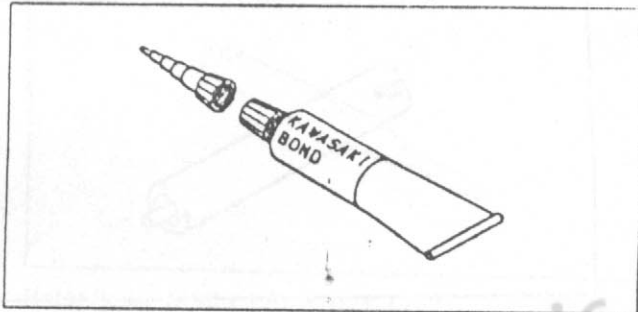
Fork Spring Compressor: 57001-1338



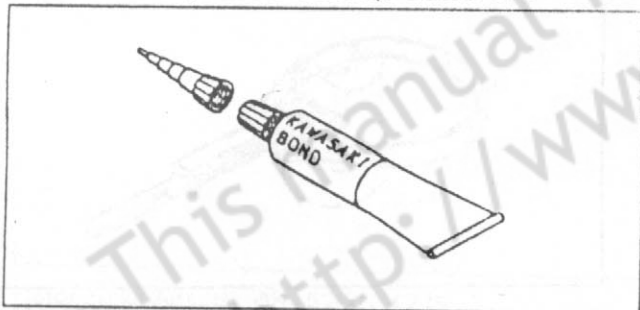
Hand Tester: 57001-1394



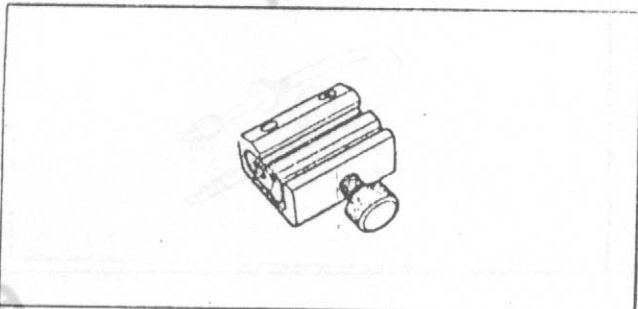
Kawasaki Bond (Liquid Gasket-Black): 92104-1003



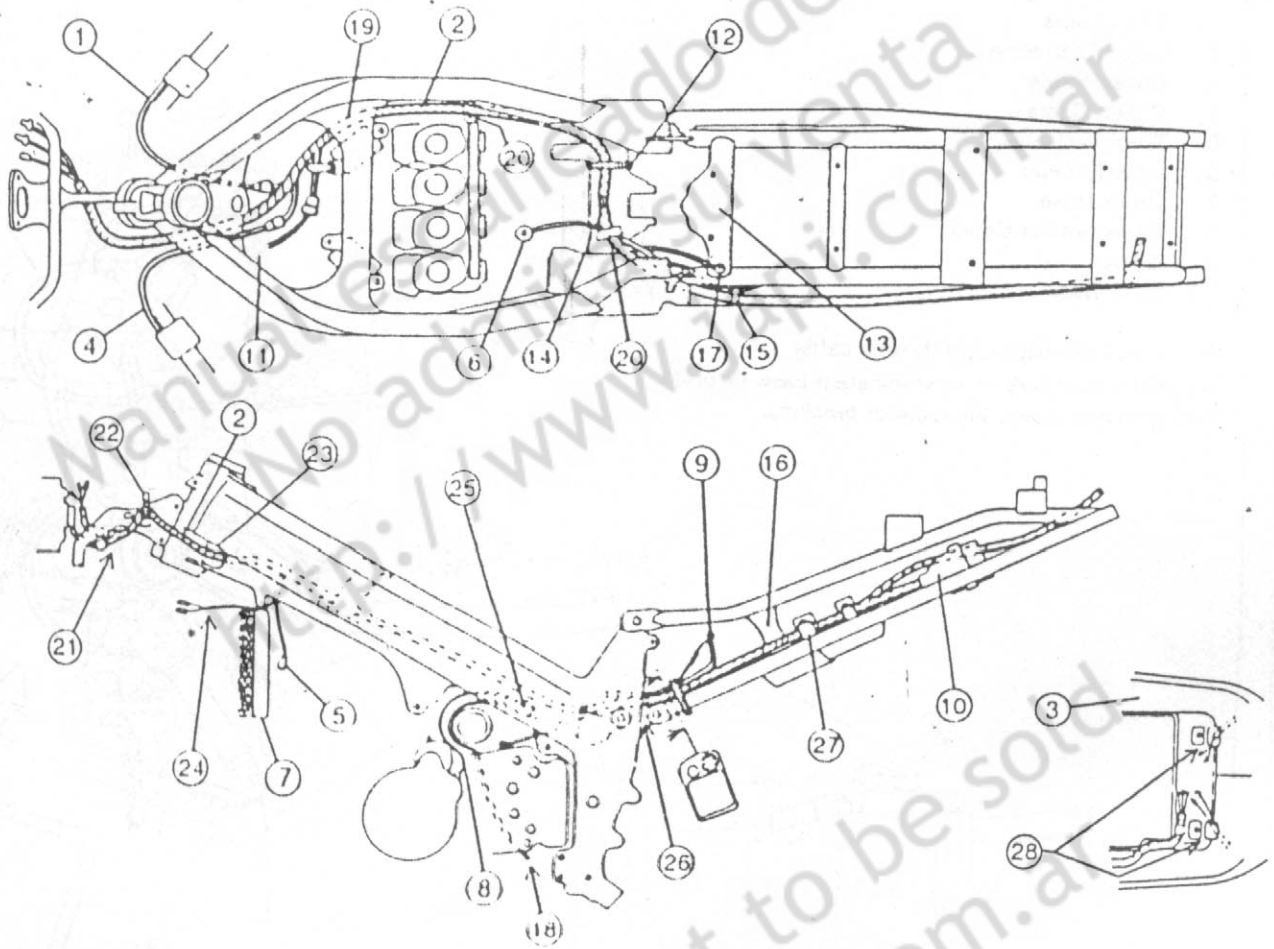
Kawasaki Bond (Silicone Sealant): 56019-120



Pressure Cable Luber: K56019-021



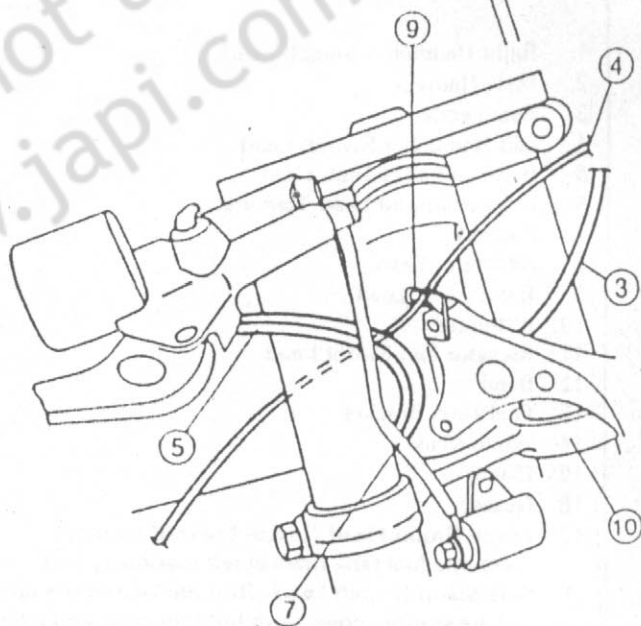
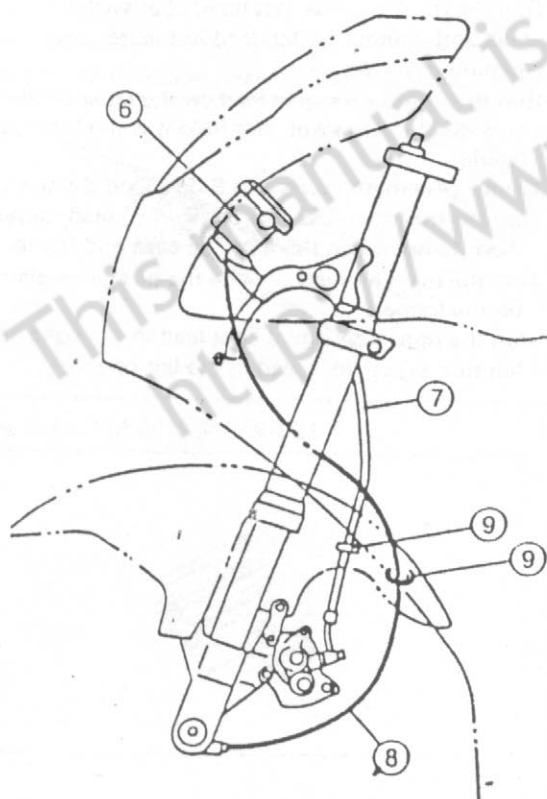
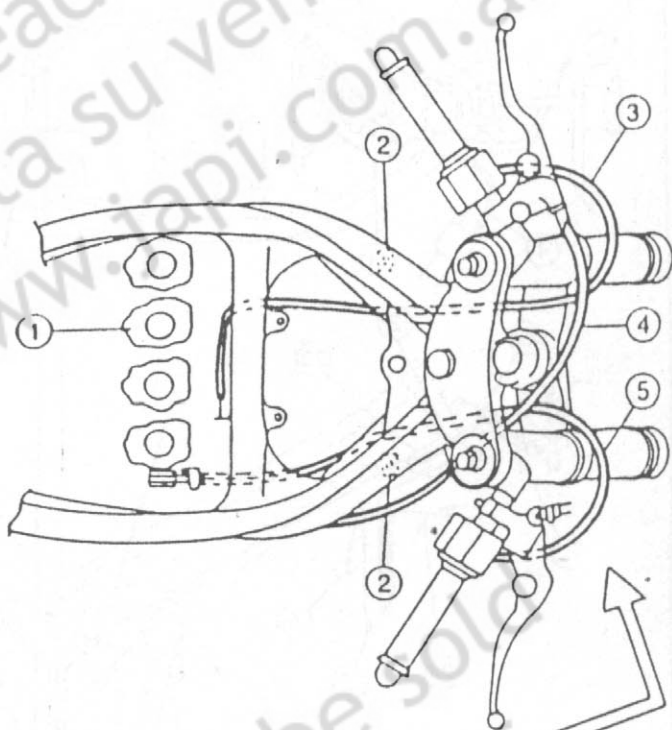
Cable, Wire, and Hose Routing

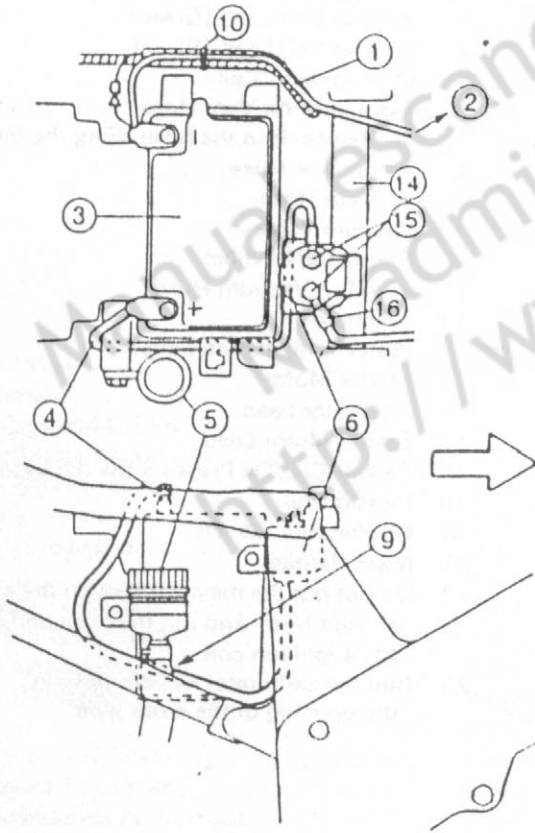


1. Right Handlebar Switch Lead
2. Main Harness
3. Rear Fender
4. Left Handlebar Switch Lead
5. Radiator Fan Switch Lead
6. Engine Ground Lead Terminal
7. Radiator
8. Alternator Lead
9. Battery (-) Lead
10. IC Igniter
11. Radiator Fan Motor Lead
12. Band
13. Fuel Tank Bracket
14. White Mark
15. Clamp
16. Gusset
17. Frame Ground lead (Install the lead terminal with the fuel tank bracket left mounting bolt)
18. Side Stand Switch Lead (Run the lead in the opening of the stopper cover, and hold the lead and alternator lead with the clamp on the upper crankcase)
19. Run the main harness in the right opening of the front cross pipe
20. Clamp (Install the clamp in the hall at the left side of the center cross pipe, and clamp the main harness and battery (-) lead.
21. Do not touch the main harness to the steering stopper on the stem base.
22. Band (Face the cut end upward.)
23. Run the main harness, left handlebar switch lead and ignition switch lead in the left side opening of the frame.
24. Run the front turn signal lead on the radiator shroud → outside of the bracket, and hold it with clamp at upper fairing.
25. Clamp (Alternator Lead and Side Stand Switch Lead)
26. Run the main harness and battery (-) lead under the case, then do not pinch them by the case and frame.
27. Run the main harness outside the gusset → clamp → along on the frame.
28. Run the right turn signal light lead in the right opening and left turn signal light lead in the left opening.

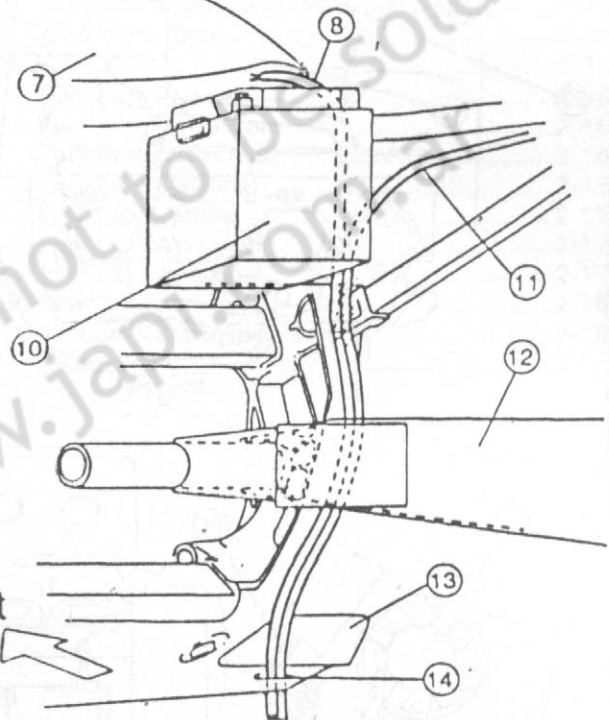
1. Carburetors
2. Radiator Bracket
3. Choke Cable
4. Clutch Cable
5. Throttle Cables
6. Speedometer
7. Brake Hose
8. Speedometer Cable
9. Clamp
10. Stem Base

Run the choke cable and throttle cable inside the front fork → over the stem base → under the frame and inside the radiator brackets.





→ Front



← Front

1. Battery (-) Lead
2. Engine Ground Lead
3. Battery
4. Battery (+) Lead
5. Rear Brake Reservoir
6. Starter Relay
7. Fuel Tank
8. Fuel Tank Drain Hose
9. Run the battery (+) lead inside the brake hose
10. Band
11. Coolant Reserve Tank Drain Hose
12. Swingarm
13. Right Lower Fairing
14. Center Cross Pipe
15. Install the caps surely on the terminals
16. Install the starter motor lead terminal so that it faces forward.

