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KAWASAKI

250 MODEL A1·A1SS

350 MODEL A7·A7SS

RIDER'S HANDBOOK

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Foreword

We wish to thank you for your choosing this fine Kawasaki Motorcycle. With the proper care and maintenance you will find your "dynamic partner" will go any time and anywhere. Please read this handbook carefully to obtain instructions for proper use of your "dynamic partner", so that you can always enjoy its best performance.

KAWASAKI HEAVY INDUSTRIES, LTD.

Motorcycle Division

1. Specifications

	A1 and A1SS	A7 and A7SS
Engine		
Type	2-stroke, twin cylinder, twin rotary disk valve, air cooled	
Displacement	15.07 cu in (247 cc)	20.63 cu in (338 cc)
Bore×Stoke	2.09×2.21 in (53×56 mm)	2.44×2.21 in (62×56 mm)
Compression Ratio	7.0 : 1	
Fuel	Gasoline	
Ignition	Battery and Coil	
Ignition timing	23° Before TDC	
Starting	Kick	
Lubrication	Superlube (Oil injection)	Injectolube (Oil injection)
Engine Oil	2-stroke engine oil	
Carburetors	(2) Mikuni VM 22 sc	(2) Mikuni VM 28 sc
Spark Plugs	NGK B-9HC	
Performance		
Max. Horsepower	31 hp/8,000 r.p.m.	42 hp/8,000 r.p.m.
Max. Torque	21.1 ft-lb (2.92 kg-m)/7,500r.p.m.	28.9 ft-lb (3.99 kg-m)/7,000 r.p.m.
Max. Speed	100~105 mph (160~168 kph)	105~115 mph (168~184 kph)
S.S. 1/4 mile	15.0 sec.	13.8 sec
Climbing Ability	38°	40°
Minimum Turning Radius	86.6 in (2,200 mm)	
Fuel Consumption	100 mile/gal @ 30 mph (42 km/liter @ 48 kph)	80 mile/gal @ 30 mph (34 km/liter @ 48 kph)
Transmission		
Type	5-speed, constant mesh, return change	
Clutch	Multi-disc, wet plates	
Primary Reduction Ratio	3.40 (15 : 51)	
Gear Ratios	1st 2.50 2nd 1.53 3rd 1.13 4th 0.92 5th 0.78	

Final Reduction Ratio. . .	2.47 (15 : 37)	[A1SS 2.60 (15 : 39)]	2.40 (15 : 36)
Overall Drive Ratio. . . .	6.52	(A1SS 6.90)	6.36
Transmission Oil	SAE #30 motor oil or ATF		

Frame

Type	Tubular, double cradle		
Suspension, Front	Telescopic fork		
Rear	Swinging arm		
Tire Size, Front	3.00-18 4PR		3.25-18 4PR
Rear	3.25-18 4PR	3.50-18 4PR(A1SS)	3.50-18 4PR

Brakes

Front, Diameter × Width. .	7.1 × 1.2 in (180 × 30mm)
Rear, Diameter × Width. .	7.1 × 1.2 in (180 × 30 mm)
Braking Distance	39 ft. at 31 mph (12 meters at 50 kph)

Electrical Equipment

Battery.	12V 6AH
Head Lamp	12V, 35/25W, sealed beam
Tail/Brake Lamp.	12V, 4/32 CP (8/25W)

Dimensions

Overall Length	78.5 in (1,995 mm)	78.7 in(2,000 mm)
Overall Width	31.9 in (810 mm)	32.7 in(830 mm)
Overall Height	42.3 in (1,075 mm)	42.0 in(1,070 mm)
Wheelbase	51.0 in (1,295 mm)	51.0 in(1,295 mm)
Ground Clearance	6.3 in (160 mm)	6.7 in(170 mm)
Dry Weight	319 lbs (145 kg)	329 lbs (149 kg)
Fuel Tank Capacity. . . .	3.5 gal (13.5 liters)	
Oil Tank Capacity	2.4 qt (2.2 liters)	

*Specifications subject to change without notice.

(Note: Standard and Sports type are basically the same differing only in exhaust systems and certain other equipment items).

2. Breaking In



This Kawasaki motorcycle is precision manufactured, but it must be broken in properly for the first 600 miles (1,000 kilometers) to ensure long and troublefree service life.

Separate Oil Suppling System

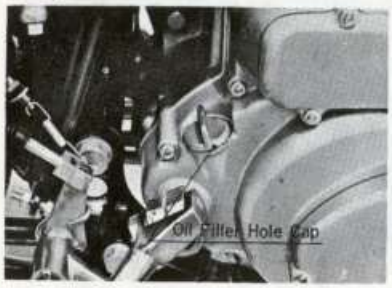
(Superlube for A1 and Injectolube for A7)

Your Kawasaki is equipped with separate oil suppling system which eliminates the need to mix oil with the gas. Check the level in the oil tank regularly. Add two (2) quarts oil when the level falls to the line on the tank guage. Never let the tank run dry. Do not disconnect oil pipe to engine as this may cause an air lock which may lead to engine damage.

Use any good quality two (2) cycle oil designated for use in motorcycles or air cooled engines. Racing type oils are not required for normal riding conditions and will be an unnecessary expense. Your dealer can recommend oils most suitable and available in your area.

Avoid use of oils which do not flow readily in low temperatures as these will not flow to the oil pump in proper quantities in cold weather.

Do not attempt to adjust the oil pump yourself. When adjustment is required, consult your Kawasaki dealer.



Adding and Changing Oil in Transmission

Check the oil level daily and never let oil level drop below mark on oil level gauge. (Dip Stick).

At 500 miles drain oil and refill with fresh oil.

Repeat at 2,000 miles and change at intervals of 2,000 miles thereafter.

Drain oil when engine is warm.

Refill with good quality SAE #30 motor oil or ATF.

To fill transmission, remove oil filler cap and fill until oil level is between the two lines marked on the level gauge, when the gauge is screwed in. Replace filler cap.

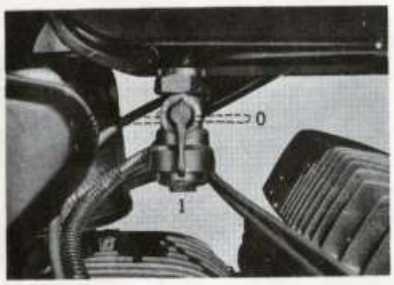
Do Not "Race" Engine

Do not race engine or run at high revs immediately after starting. Over revving the engine in neutral can cause severe damage.

Do Not Over-Rev Engine

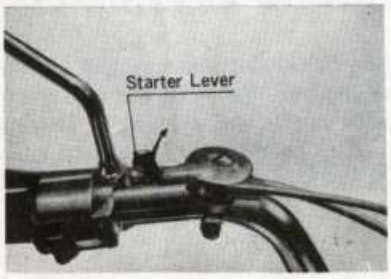
D o not run the engine exceeding 6,000 r.p.m. in any gear for the first 300 mi (500 km). Even after that, do not strain the engine by over-revving. In particular, be careful not to run the engine at high speeds with the gears in neutral, as this overloads turning parts and can cause defective engine operation. Do not brake the motorcycle suddenly. Do not strain the engine and do not slip the clutch excessively.

3. Controls



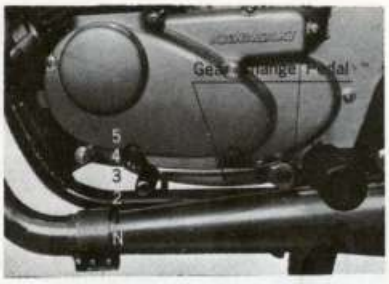
Gasoline Shut-Off Valve

Position "0" is closed, "1" is open, and "2" opens a 2 quart reserve supply. Shut valve when parking motorcycle.



Carburetor Starter Lever

The starter lever is located on the left handlebar and provides a rich mixture for starting, similar in result to a choke. Use when starting cold engine. Push lever to full forward position, keep throttle closed, and kick starter lever through quickly. After engine warms up, return lever to normal (back) position. When starting warm engine, do not use carburetor starter lever, and give throttle approximately 1/8 turn.



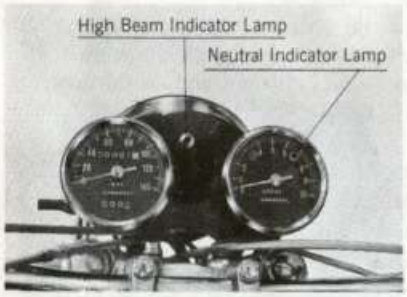
Gear Shifting

Transmission gears are changed by pulling up the gear change pedal. The 5-speed transmission is a stopper type return change.

The neutral is located at lowest position, so gears can be shifted up into a higher gear by pulling up the pedal with toe and shifted down into a lower gear by pressing on the pedal. When the gears are in neutral, engine power cannot be transmitted to the rear wheel and green lamp in the speedometer turns on.

Gear sequence is as follows.

Neutral (green lamp on), low, second, third, fourth top.



Brakes

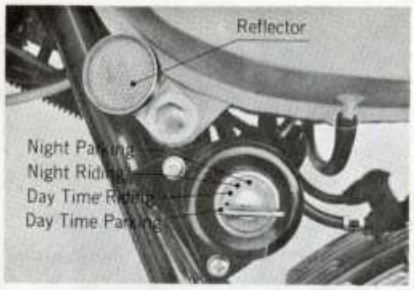
The motorcycle will stop smoothly and safely when both front and rear brakes are applied at the same time. The rear brake operates when the brake pedal is pushed by the right foot. The front brake operates when the brake lever on the handlebar is pulled in by the right hand.

4. Starting the Engine

Starting Cold Engine

This Kawasaki motorcycle has a special carburetor incorporating a system for easy starting when cold.

1. **Open Gasoline Shut Off Valve.** If fuel does not flow to carburetors, turn fuel cock lever to open reserve supply.
2. Push carburetor starter lever all the way forward.
3. Close throttle completely. If the throttle is open even a little, the carburetor starter system will not work effectively and make the engine hard to start.
4. Insert key in main switch and turn it on.
5. Check to be sure green neutral indicator lamp in the speedometer turns on. If the gears are not in neutral, the motorcycle will jump when the starter pedal is kicked and could cause an accident.
6. Kick the starter pedal down smartly.
7. After the engine starts, twist the throttle grip open slightly. When engine speed increases, indicating the engine has warmed up, return the starter lever to its normal (back) position, If the starter lever is not returned to its normal position, too rich a mixture is supplied to the engine, causing fouled spark plugs and defective engine operation.



Starting Warm Engine

Do not use the starter lever when the engine is warm, or the engine may be flooded or spark plugs fouled.

1. Open gasoline shut off valve.
2. Insert key in main switch and turn it on.
3. Check to be sure green neutral indicator lamp in the speedometer turns on.
4. Crack the throttle open a little, about 1/8 - 1/4 Turn.
5. Kick the starter pedal down smarly, and the engine will start.

Note "At night, start engine before turning on lights.

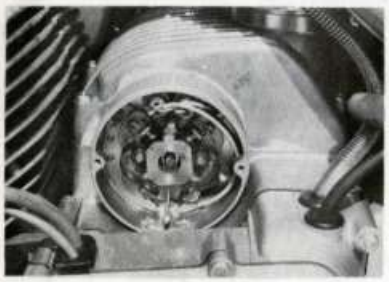
5. Parking



Shift the gears into neutral and stop the engine. Place the motorcycle on either the side stand or the main stand on a firm surface. Close the fuel cock. Remove the key from the main switch. Lock the steering head lock. When parking the motorcycle at night, turn the main switch to positon 3 to leave tail lamp turned on.

Key can be removed in this position.

6. Maintenance and Adjustments



AC Generator

AC Generator supplies electricity to the battery and electrical equipments through the rectifier and the rotor shaft of AC Generator operates the contact breakers fitted on the generator when the engine is running.

1. Adjusting point gap

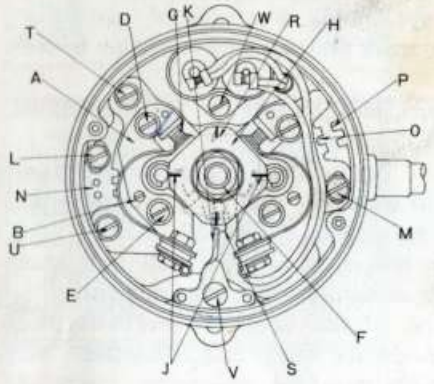
First, adjust the L.H. contact breaker point gap. To make this adjustment, loosen two fitting screws (D) and (E) securing the point base plate (A) and adjust the maximum valve of the L.H. point gap (G) to 0.3 to 0.4 mm by turning the adjusting screw (B) clockwise or counterclockwise while turning the 8 mm nut (F) securing the point cam to the top end of the rotor.

Turning the adjusting screw (B) counterclockwise increases the point gap and turning clockwise decreases the gap.

After adjustment, remember to tighten the two fitting screws (D) and (E).

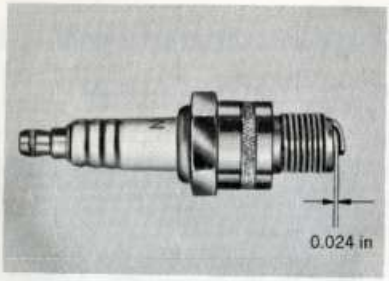
2. Adjusting Ignition Timing

First, align the ignition timing pointer (K) to the red mark (J) on the plate (H). Subsequently, loosen the fitting screws (L) and (M). Insert a standard screw driver between the cutaway



(C) of the contact breaker adjusting plate (N) and the projections (P) on the inner surface of the rear cover. Turning the screw driver, set the contact breaker adjusting plate (N) to the position where the L.H. point is about to open. Then tighten the screws (L) and (M). Next, turning the 8 mm nut (F) at the rotor shaft end through 90 degrees counterclockwise, adjust the R.H. point gap so that the R.H. point is opened just when the pointer (K) is in line with the other stamped mark (R) on the plate (H). The adjustment of this R.H. point gap shall be made by the same way as the L.H. point gap adjustment. After completing these adjustments, check to see that the L.H. point is exactly in the position just about to open with the red painted mark (J) aligned with the ignition timing pointer (K) when the rotor shaft [8 mm nut (F)] is turned counterclockwise, and also the R.H. contact breaker point is exactly in the position just about to open with the ignition timing pointer (K) aligned with the other stamped mark (R) when the rotor shaft is turned further 90 degrees counterclockwise.

By the above adjustments, the ignition timing can be set to 23° before top dead center.



Spark Plugs

Use only a NGK B-9HC spark plug or a plug of equivalent heat range and reach, as the spark plug and its condition directly affects engine performance.

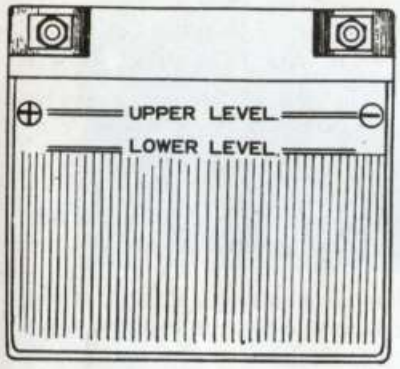
It is important that the spark plug be kept in good condition. Standard spark plug gap is 0.024 in (0.6 mm).

Check frequently to be sure the spark plug has the correct gap. The electrodes are subjected to extremely high temperatures and wear gradually, necessitating periodical adjustment.

A spark plug with a gap too large or too small will cause defective engine operation such as hard starting, imsfiring, etc.

Clean the spark plug with a wire or brush and wash with gasoline if carbon accumulates on the spark plug electrodes after long use. Dry completely before installing in engine. Insert the spark plug and screw it down by hand first, than tighten with a plug wrench.

Be sure to insert a spark plug gasket.



Battery

Battery should be competely charged, using a low charging rate before installing. (Follow instructions supplied with battery.)

Keep solution above lower line printed on battery. Add distilled water to bring level to line. Do not overfill.

Make sure air vent is open. Do not spill acid. Inspect battery frequently and keep it clean. If the motorcycle is not ridden for more than one month, charge the battery once a month. Improper battery service will result in the need for early battery replacement, an unnecessary expense to the owner.

Be sure battery is installed correctly with positive and negative terminals connected securely to correct wires. Tighten all connecting nuts and bolts firmly.

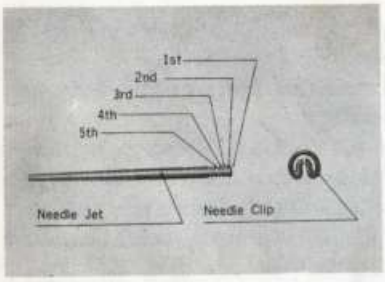


Head Lamp

The 12V, 35/25W head lamp is turned on when the main switch key is turned to position (2) for night riding.

The head lamp is dimmed by moving the knob of the dimmer switch mounted on the left handlebar (high beam indicator lamp turns off.)

Head lamp focus can be adjusted by loosening two head lamp fitting bolts and moving the head lamp up and down. To adjust focus right or left, screw the focus adjusting screw in or out.





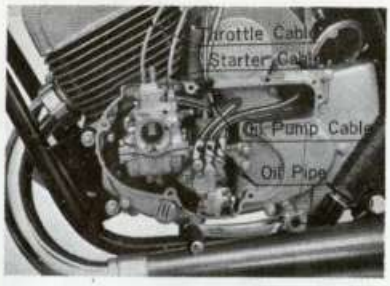
Carburetors

The carburetor atomizes the gasoline, mixes it with the proper amount of air and supplies the proper amount of mixture to the engine. To adjust engine idling speed, turn the throttle stop screws in or out. Turning in screws decreases idling speed and turning out screws increases idling speed. Check exhaust pressures of both cylinders after idling speed is adjusted.

Note; Difference between exhaust pressures of both cylinders can be easily found by holding hands near end of exhausts.

Although it may seem easy, carburetor adjusting is difficult to do properly and incorrect adjustment can cause serious problems. Always take your motorcycle to your Kawasaki dealer for carburetor adjustment.

The pilot air screw standard setting is backed out 1½ turns from the bottom. Standard needle clip position is in the 3rd groove from the top of the jet needle.



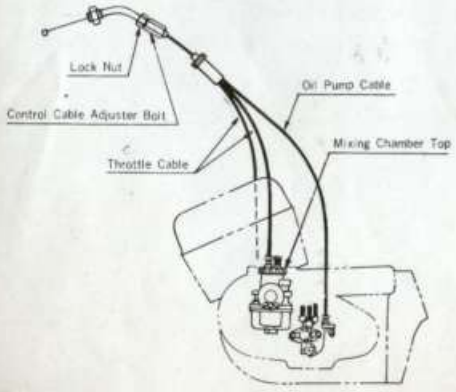
Throttle Control Cables

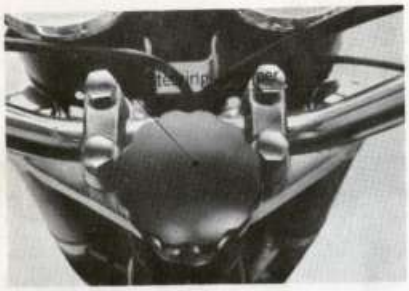
This control cable consists of the oil pump cable and throttle cables which are connected with a junction device.

Adjust control cable play with control cable adjuster bolt, and lock it with lock nut.

Do not touch throttle cable adjusters on carburetor mixing chamber top because throttle cable are synchronized exactly with oil pump cable. If the throttle cable, only are adjusted without adjusting oil pump cable, oil injection quantity may be incorrect.

If throttle cable adjusting is needed, take your motorcycle to your Kawasaki dealer for adjusting and synchronization.





Steering Dampers

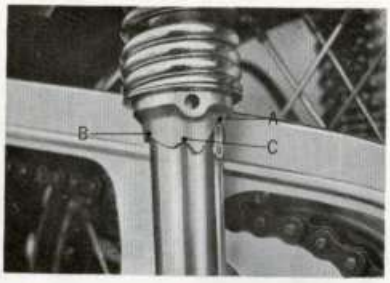
Friction Type

The Steering damper fitted on the steering stem can be adjusted according to road and loading conditions. Turning steering damper knob to the right stiffens steering and turning it to the left loosens steering.



Hydraulic Type (A7 and A7SS)

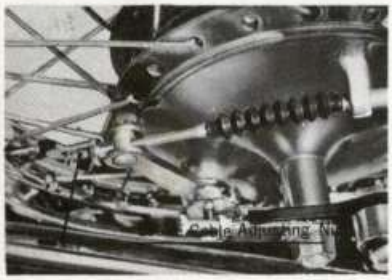
There is no adjustment on the hydraulic type damper also fitted.



Shock Absorber Springs

The shock absorber springs can be adjusted according to road conditions and loading conditions. Be sure both shock absorbers are in same position.



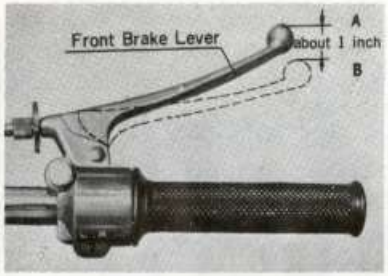


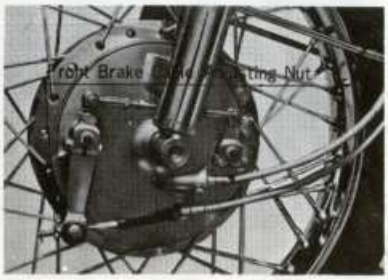
Brakes

Good brakes are highly important for safe riding. Always be sure to check brakes before riding. Play in brakes increases gradually with wear, so adjust them regularly.

1. Rear Brake

Brake pedal position A is the normal position and position B is the point where the brake begins to be applied. Adjust brake pedal play to 1 inch or slightly more (25-35 mm). Adjust with brake wire adjusting nut.





2. Front Brake

Brake lever position A is the normal position and position B is the point where the brake begins to be applied. Adjust brake lever play to about 1 inch (20-30 mm).

Tires

Check tires frequently at least once a week, and before any lengthy ride. Correct pressure means easy ride , good handling and long service life of tires.

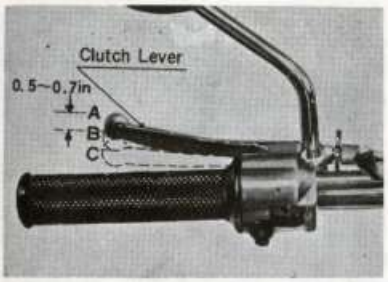
Too low a pressure wears sidewalls rapidly, builds up heat and may lead to tire failure.

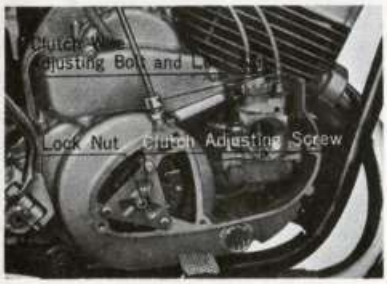
Too high a pressure gives a hard ride, increases vibration, wears tread rapidly, and tends to skid more easily.

Correct pressures are:

24 Pounds (Front) ~~1,5~~ 1,69
31 Pounds (Rear) ~~2,2~~ 2,18

When replacing a tube, check wheel for balance.





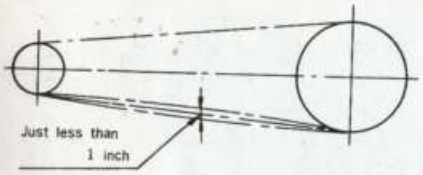
Clutch

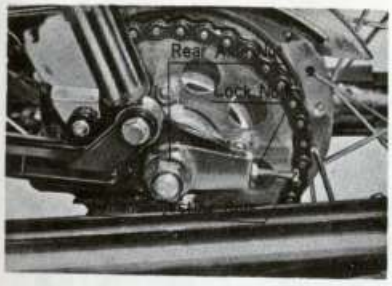
To adjust the cluch, first loosen cluch wire adjusting bolt and lock nut on clutch adjusting screw, then turn in clutch adjusting screw until it begins to turn hard.

After the screw begins to turn hard, turn out again about 1/4 turn to prevent drag. Be sure to tighten lock nut after adjusting.

Adjust clutch lever play with the clutch wire adjusting bolt. Tighten lock nut. Excessive play at the clutch lever causes the clutch to drag.

Clutch lever position A is the normal position, B is just as the clutch begins to work and C is the disengaged position. From A to B is the clutch lever play. Adjust play to 0.5~0.7 (10~15 m/m) in at the ball end of the lever.





Drive Chain

If drive chain is not properly lubricated, the links become stiff resulting in rapid wear of sprockets and chain. Power is lost by dry or badly worn chain.

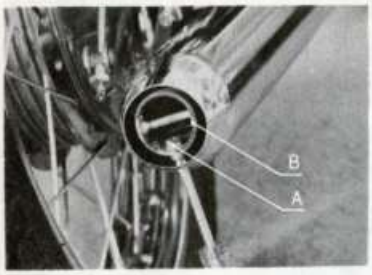
Inspect and lubricate the chain periodically.

There should be a play of just less than 1 inch (about 20 mm) midway between the sprockets.

To adjust chain tension, first loosen nuts and then turn chain adjusting bolts.

Check chain for tight spots by revolving rear wheel. Adjust for tightest spot.

Be sure chain adjusters on each side are moved the exact same amount. Readjust the rear brake after adjusting the chain.



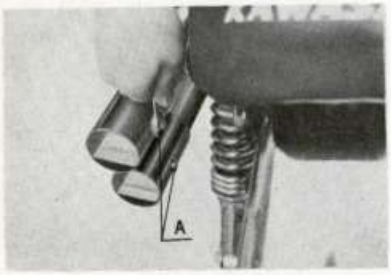
Muffler-A1

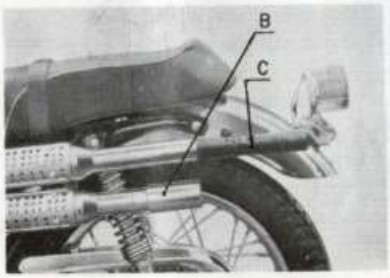
Remove small screw (A) and pull out the baffle tube (B). Strike the baffle tube gently to shake off carbon deposits and wash with gasoline.

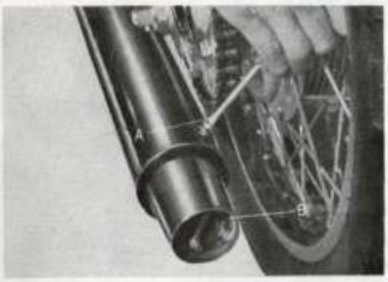
Muffler-A1SS

Unscrew hex head bolt (A), pull out tail piece (B) with rubber seal from muffler, then pull out the baffle tube (C).

Strike the baffle tube gently to shake off carbon deposits and wash with gasoline.



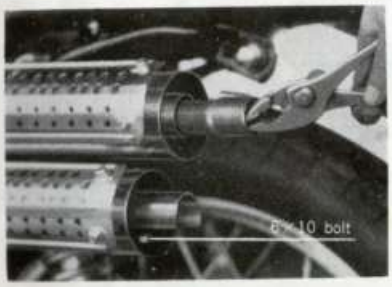




Mufflar-A 7

Loosen screws (A) and pull out the tail piece with baffle tube. Baffle tube can be removed from the tail piece by loosening screw (B).

Strike the baffle tube gently to shake off carbon deposits and wash with gasoline.



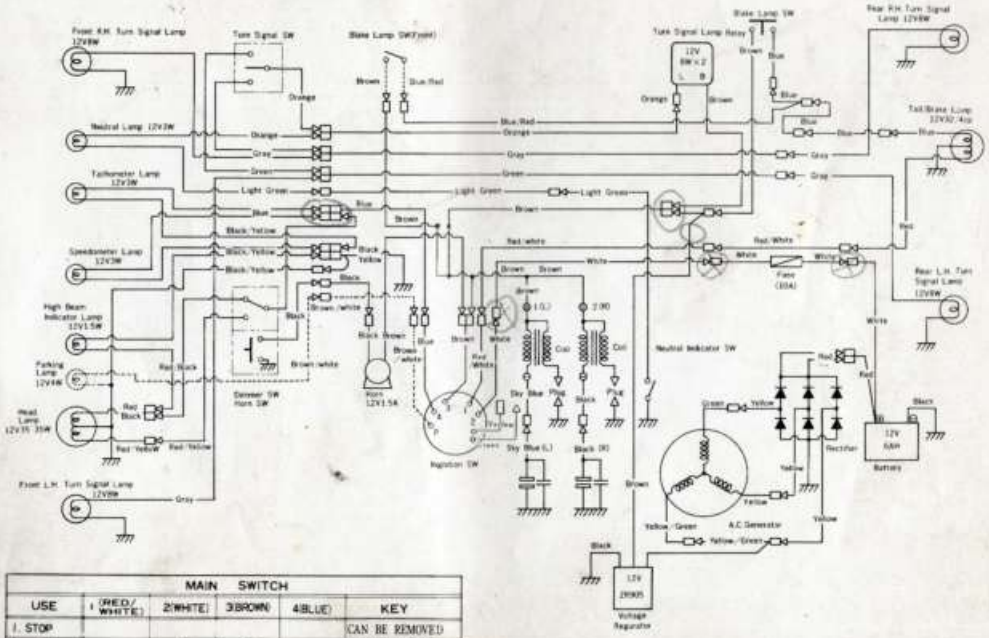
Muffler-A 7SS

Loosen 6 x 10 tail piece retaining bolt and remove tail piece as turning it toward left. To remove spark arrester with baffle tube, retighten the above bolt after removing tail piece. Spark arrester with baffle tube can be pulled out by loosening 6 x 10 hex head bolt retaining spark arrester on the muffler. Spark arrester can be removed from the baffle tube by loosening 6 x 10 tail piece retaining bolt Strike the baffle tube and spark arrester gently to shake off carbon deposits and wash with gasoline.

7. Periodical Inspection Chart

Item \ Miles	500	1,000	2,000	EACH SUBSEQUENT 2,000
Change Transmission Oil	○		○	○
Clean Air Cleaner			○	○
Tighten Cylinder Head Bolts	○		○	○
Clean Spark Plugs	○	○	○	○
Check Ignition Timing	○		○	○
Inspect Drive Chain	○	○	○	○
Check, Adjust Brakes	○	○	○	○
Tighten Nuts and Bolts	○	○	○	○
Grease Motorcycle		○	○	○
Clean Fuel Cock Strainer and Oil Filter	○	○	○	○
Check Battery Voltage	○	○	○	○
Replenish Battery Solution		○	○	○
Remove Wheels, Clean Brakes			○	○
Grease Cam Felt			○	○
Clean Exhaust Pipe and Muffler			○	○
Wash, Lubricate Drive Chain	○	○	○	○
Check, Adjust Contact Points				○
Check, Tighten Spokes	○		○	
Check, Adjust Carburetors and Oil Pump			○	○

8. Wiring Diagram



MAIN SWITCH					
USE	1 (RED/WHITE)	2(WHITE)	3(BROWN)	4(BLUE)	KEY
1. STOP					CAN BE REMOVED
2. DAY		○—○			CAN NOT BE REMOVED
3. NIGHT	○—	○—	○—	—○	CAN NOT BE REMOVED
4. PARKING	○—	○—			CAN BE REMOVED

NOTE: Parking Lamp, Ignition SW (5-position) and Brake Lamp SW (Front) are Optional Parts which shown with dotted lines.

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