chaparral

Owner's Manual

1973

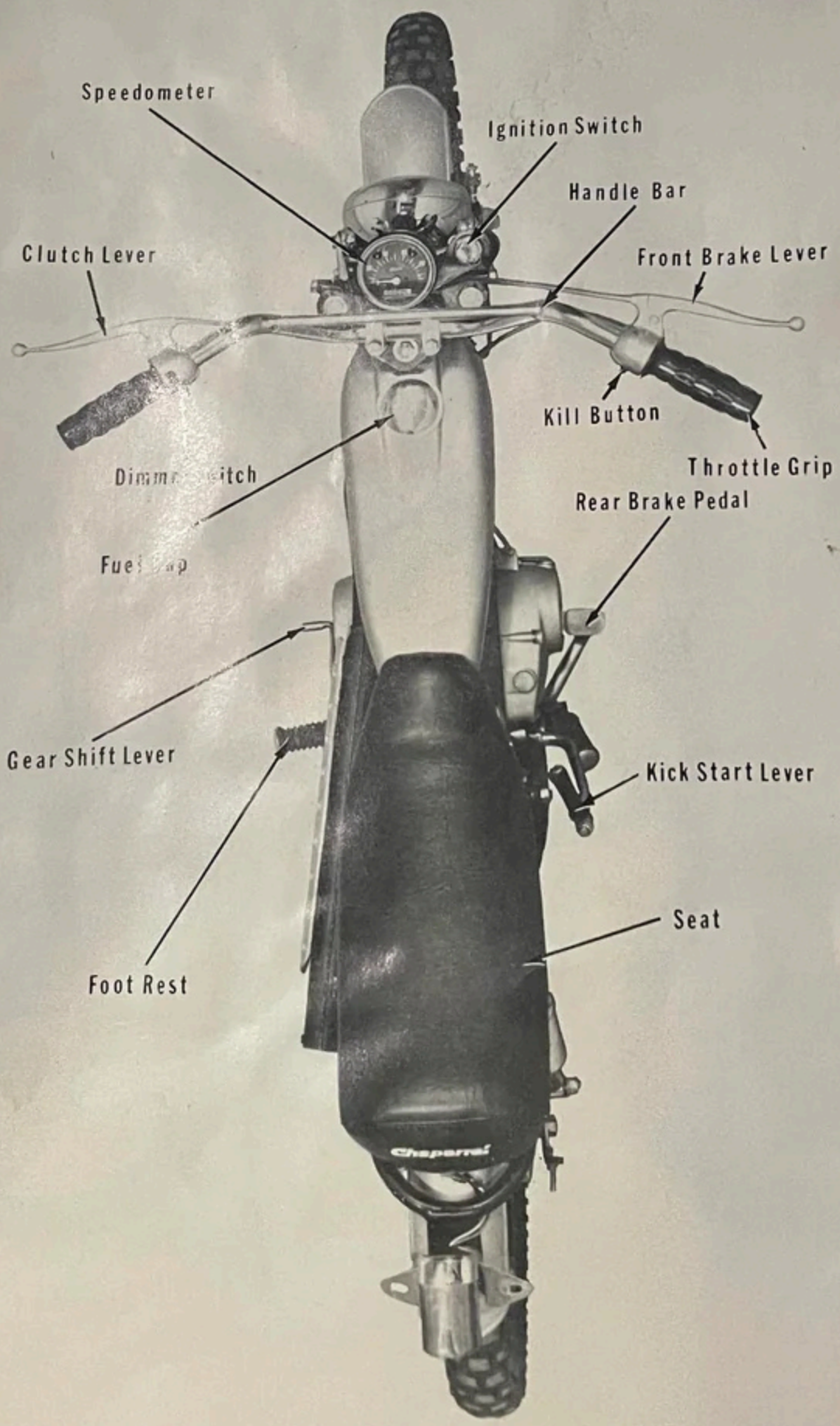
Sportcycles

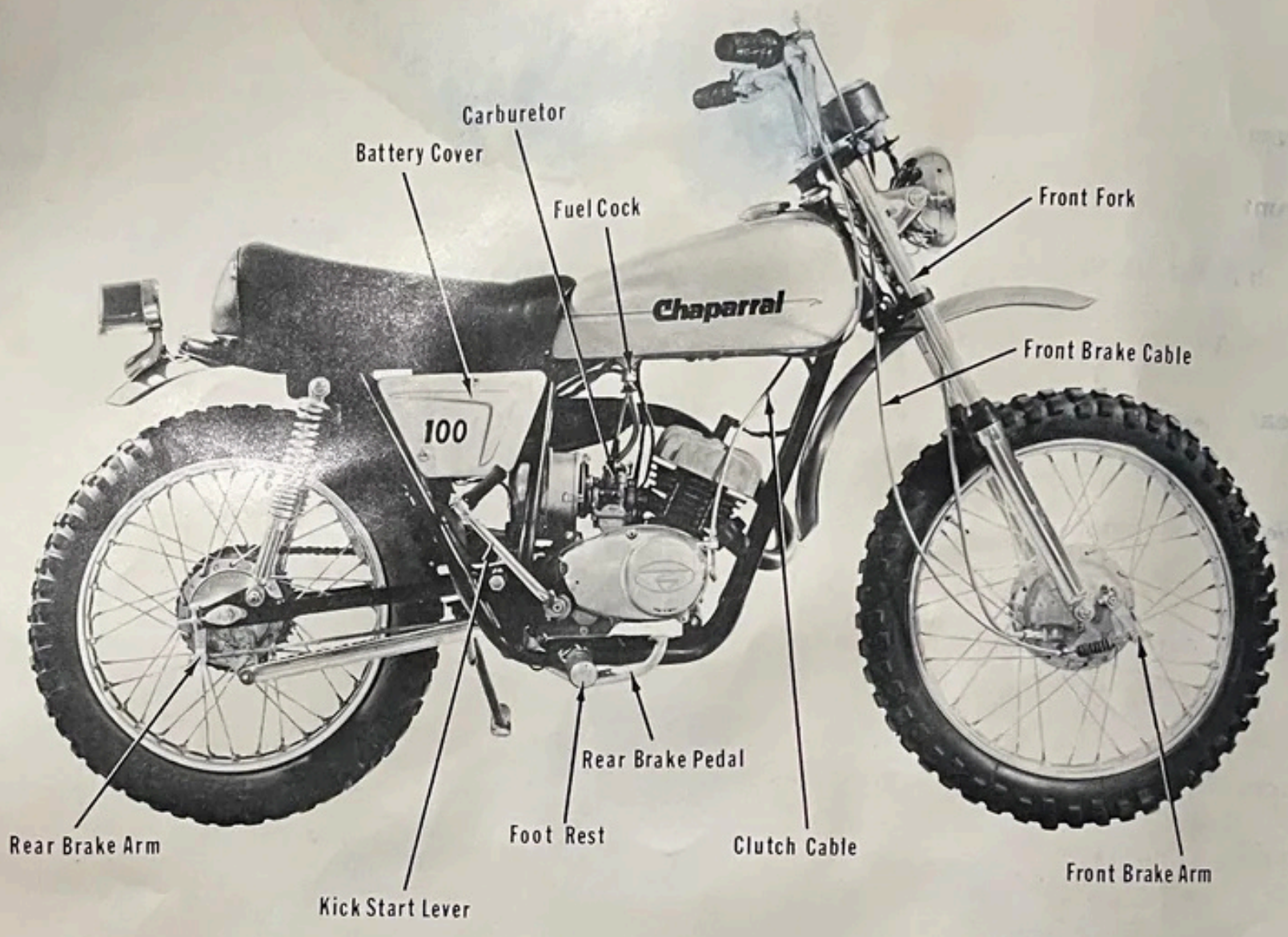
OWNER'S MANUAL

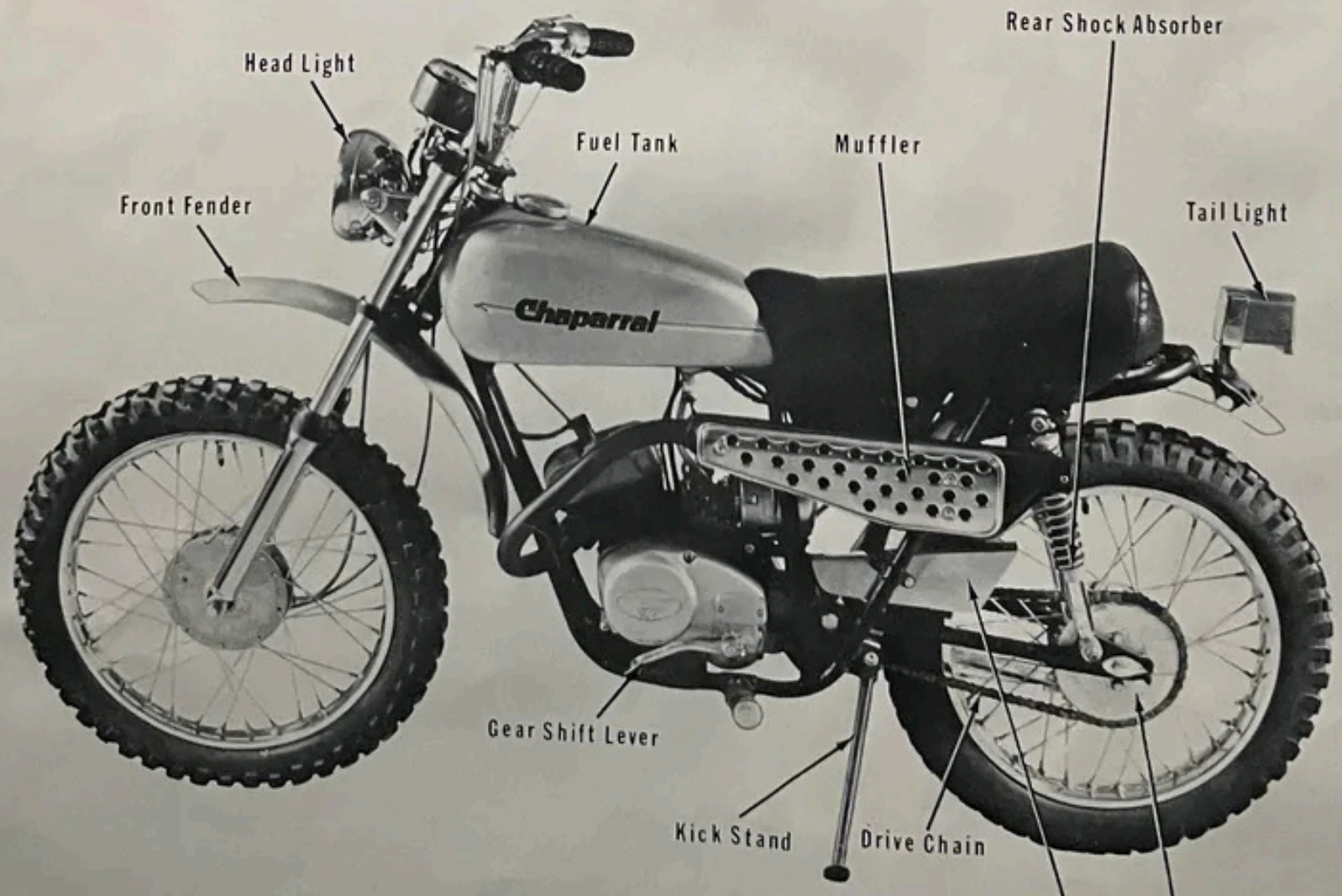
We at Chaparral wish to congratulate you on your purchase of your new Chaparral sportcycle.

The Chaparral sportcycle will open up new areas of enjoyment in riding for the whole family.

However, proper care and maintenance on the part of the owner always determines the life and performance of any machine. We ask you to carefully read and follow the maintenance information in this owner's manual before operating the sportcycle.




Carburetor
Battery Cover
Fuel Cock
Front Fork
Chaparral
100
Front Brake Cable
Rear Brake Pedal
Rear Brake Arm
Foot Rest
Clutch Cable
Front Brake Arm
Kick Start Lever


Rear Shock Absorber
Head Light
Fuel Tank
Muffler
Front Fender
Tail Light
Chaparral
Gear Shift Lever
Kick Stand
Drive Chain
Chain Guard
Rear Sprocket

SPECIFICATIONS

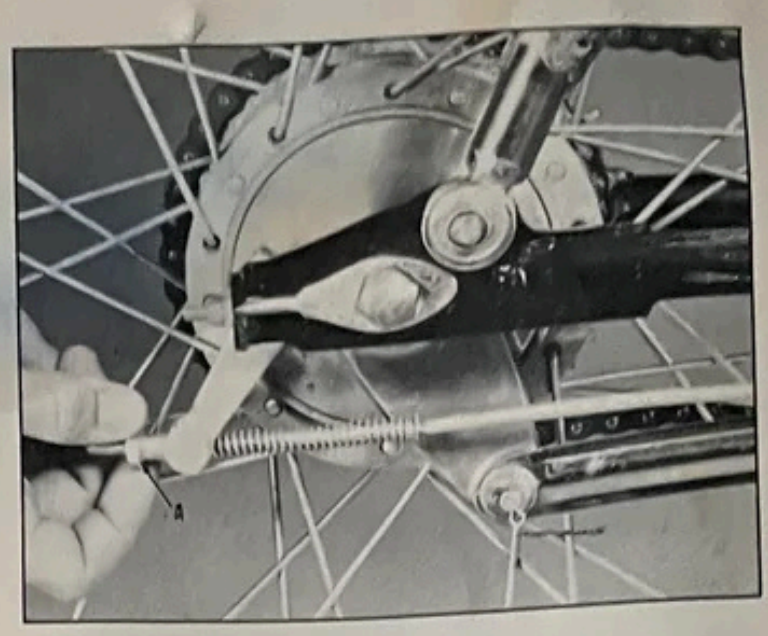
Frame Type:	steel tube, double loop		
Front Suspension:			
80 & 100 Models:	telescopic fork-4-1/8" travel, coil spring oil dampened		
T-95:	telescopic fork 3-1/8" travel, constant rate coil spring		
Rear Suspension:	shock absorber, single action, hydraulic dampened, 3-position adjustable, 3" travel		
Fuel Tank Capacity:	1.6 gallons, regular grade gasoline and oil mix, 20 to 1 ratio, 16 to 1 during run-in period		
Transmission Oil Capacity:	1-1/4 pint, S. A. E. 30 non-detergent, above 32°		
	S. A. E. 20 non-detergent, below 32°		
Front Fork Oil Capacity:	140 cc each leg, S. A. E. 30		
Chain:	420 roller-preferred, 41 roller-optional		
Battery:	6 volt, 4 amp		
	ST-T-80	T-95	ST-T-100
Carburetor-Mikuni	V. M. 18 mm	V. M. 16 mm	V. M. 20 mm
Overall Length:	69"	65"	69"
Wheel Base:	44-1/2" nominal, all models		
Overall Width:	28"	28"	28"
Overall Height:	39"	38"	40"
Seat Height-Adj:	28"-31"	27"-30"	28"-31"
Weight-wet (approx):	144 lbs.-137 lbs.	130 lbs.	146 lbs.-139 lbs.
Ground Clearance:	8"	7"	8"
Tire Size:	Front 3.00 X 16" Knobby	Front 2.50 X 15" Knobby	Front 2.50 X 18" Knobby
	Rear 3.00 X 16" Knobby	Rear 2.50 X 15" Knobby	Rear 3.00 X 16" Knobby
Torque Converter:	T-95 only-Comet T-C 88 N		

ADJUSTING REAR BRAKE

1. Rear brake should be adjusted so that the brake pedal can be depressed approximately 1" before the brake acts.

2. To adjust, turn brake nut (A) as required for proper free play, turn clockwise for less play, counter clockwise for more play.

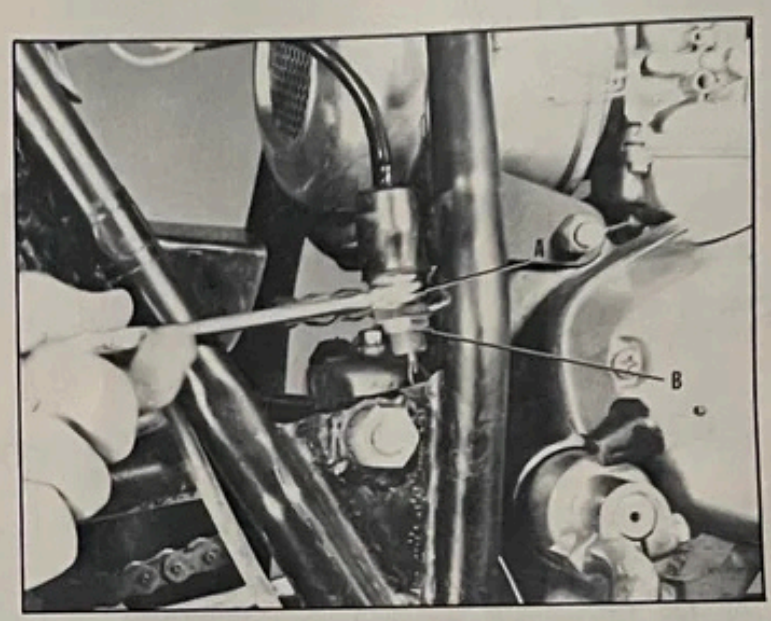
3. Spin rear wheel with transmission in neutral to check for brake drag.



ADJUSTING STOPLIGHT SWITCH
ST Models Only

1. The switch is operated by the brake pedal with key switch in the "ON" position.

2. The timing of the brake switch is adjusted by regulating the height of the switch. This adjustment is performed by (2) adjusting nuts A and B.

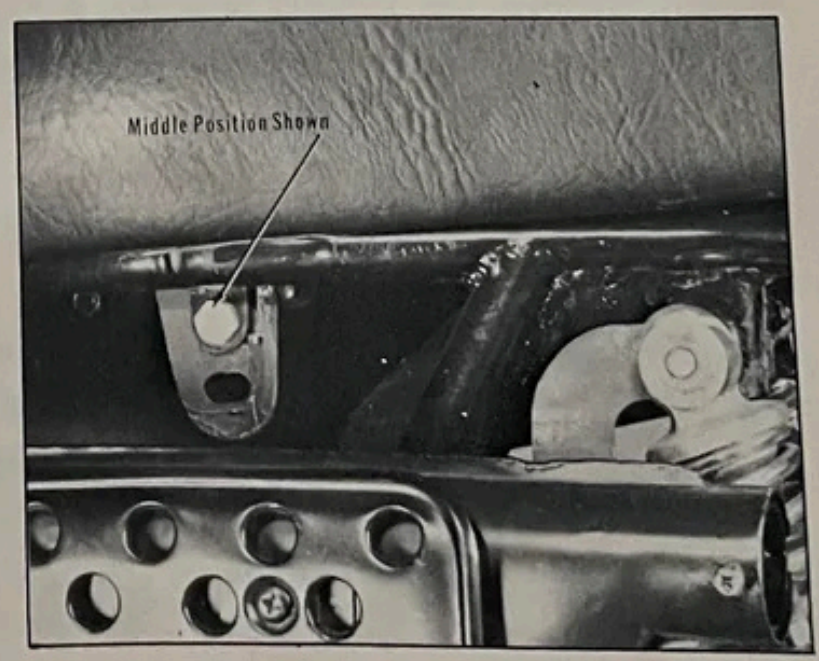


CHECKING BRAKE LINING

The rear wheel should be removed and brake disassembled every 2,000 miles, clean the brake shoes and drums and inspect linings to be sure of plenty of lining surface. It is advisable to scuff the lining and drum with coarse emery cloth before reassembling.

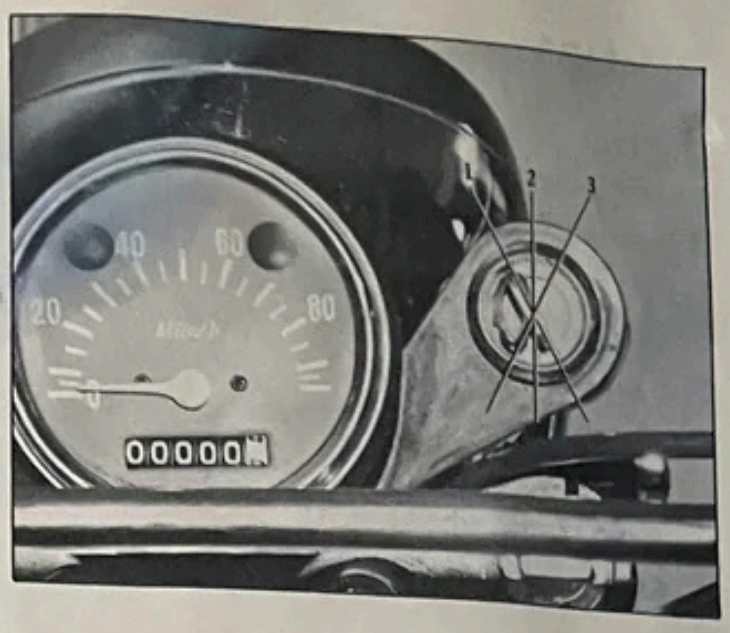
SEAT HEIGHT

The Chaparral is equipped with an adjustable seat that may be raised or lowered to suit rider size. Adjustment is made by removing four bolts under seat and positioning seat in desired location. Middle position shown.



IGNITION SWITCH-ST Models Only

The ST cycle is equipped with a three-position switch operated by a key. ≠1 position-all systems off, key may be removed. ≠2 position-engine runs, brake light and horn may be operated, key cannot be removed. ≠3 position-engine runs, all electrical systems are operational with engine running. If switch is placed in ≠3 position without starting engine, all systems except the headlight will function.

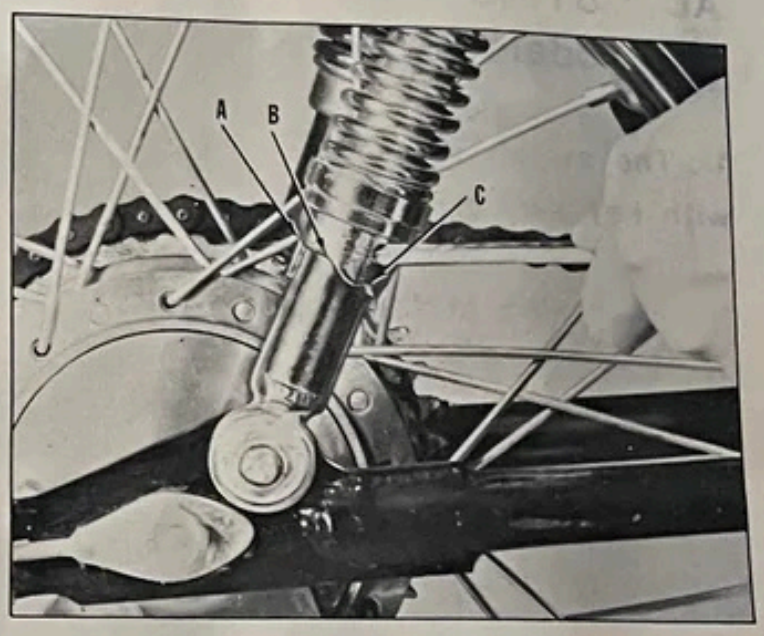


REAR SHOCK ABSORBERS

Your Chaparral is equipped with a pair of three-position adjustable shock absorbers to enable you to adjust the suspension depending on load and surface conditions.

Adjust by inserting a punch or similar tool in the hole provided and turn the notched collar to change the spring rate.

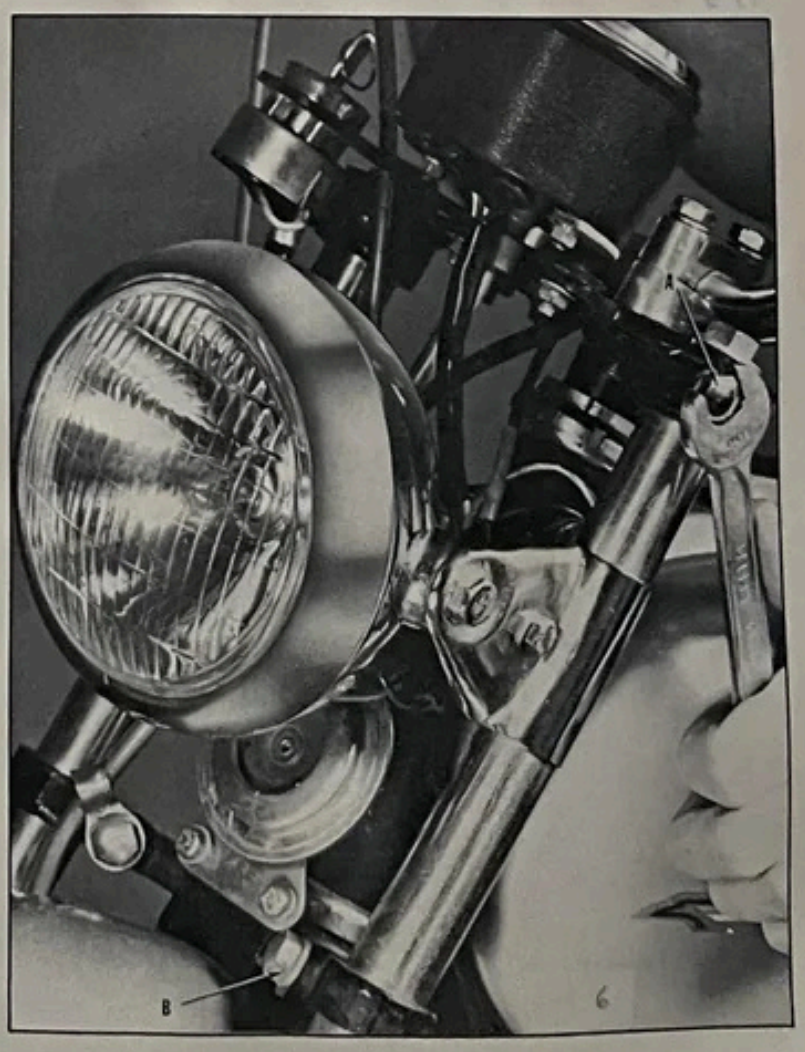
A-soft
B-medium
C-stiff



FRONT FORKS

The front forks on the Chaparral are designed to allow a change in front-end height, to suit the handling characteristics desired by the advanced rider, and also to help the smaller riders to maintain ground contact with both feet.

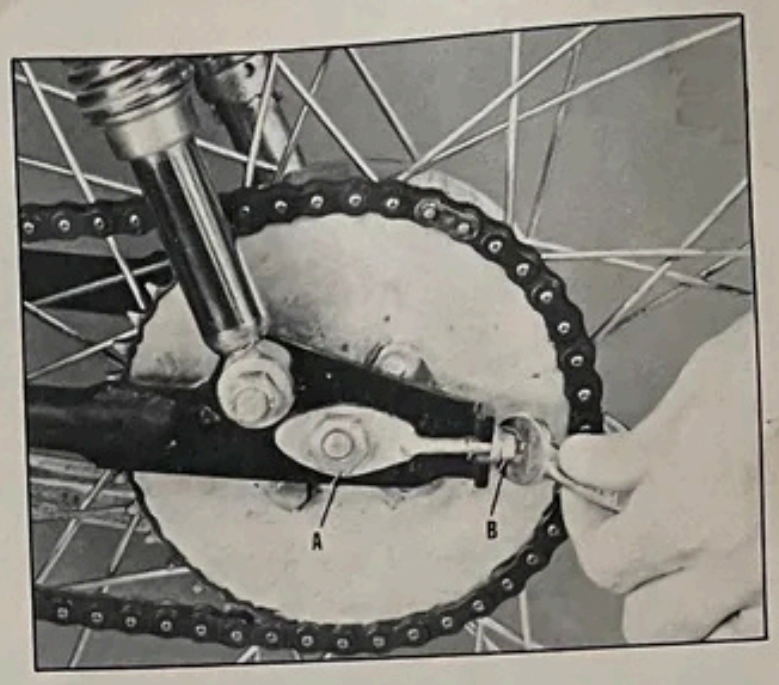
Adjust by loosening clamp bolts A and B both sides, slide fork into clamp to desired position, retighten clamp bolts. Position shown will afford most ground clearance and will provide more weight transfer to the rear wheel. This is recommended position for trail riding and enduros.



ADJUSTING DRIVE CHAIN

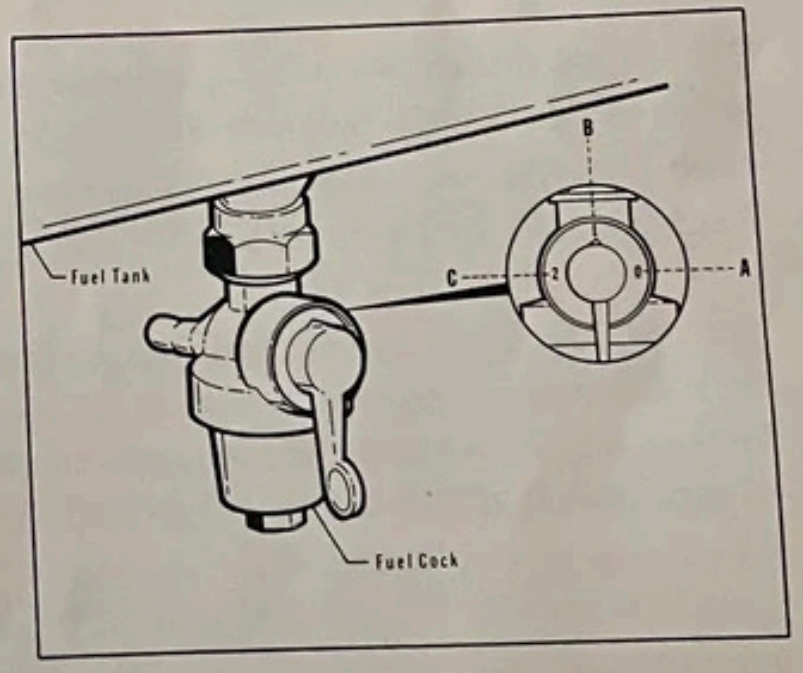
The drive chain should be adjusted to have approximately 3/4" to 1" total movement up and down measured at the center of the chain with the rear wheel on the ground. Check the chain regularly to make sure that it is properly oiled and adjusted. It is advisable to clean the chain with solvent before re-oiling. Remember - - a dirty or dry chain will wear rapidly. This, coupled with poor adjustment, will cause any motorcycle to throw the chain with possible negative results to the motorcycle components.

To adjust, (1) loosen rear axle unit (A), (2) turn the adjusting nut (B) on both sides of bike to acquire the desired chain tension, being sure that both sides are adjusted evenly to keep rear wheel and chain tracking true. (3) After adjustment, fully tighten rear axle nut. (4) Check for brake pedal play. Re-adjust if necessary.



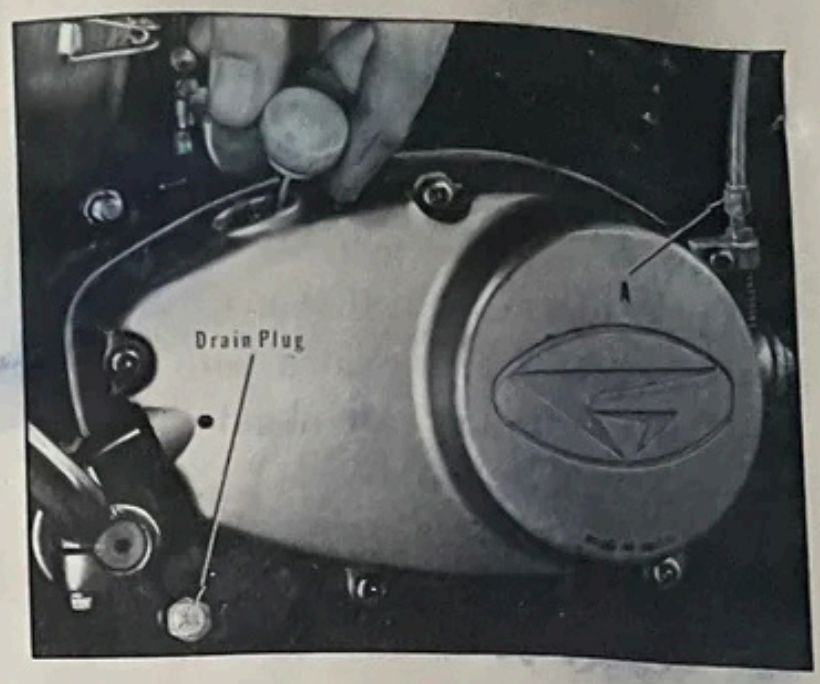
FUEL COCK (Valve)

Pos. A-Off-No fuel to carburetor.
Pos. B-On-Fuel flows to carburetor.
Pos. C-Reserve-If you run out of fuel on the road, turn lever to Res. Pos. This will provide fuel for a few additional miles to allow a trip to the nearest gas station.



CLUTCH CABLE ADJUSTMENT

The clutch cable is adjusted by turning the cable adjuster, Item A, counter clockwise to tighten the cable, clockwise to loosen. The cable should be adjusted so there is approximately 1/8" end play at the clutch lever. After the adjustment be sure to fully tighten the lock nut. If there is too much end play, the clutch may not disengage. If there is no end play, the clutch will slip.

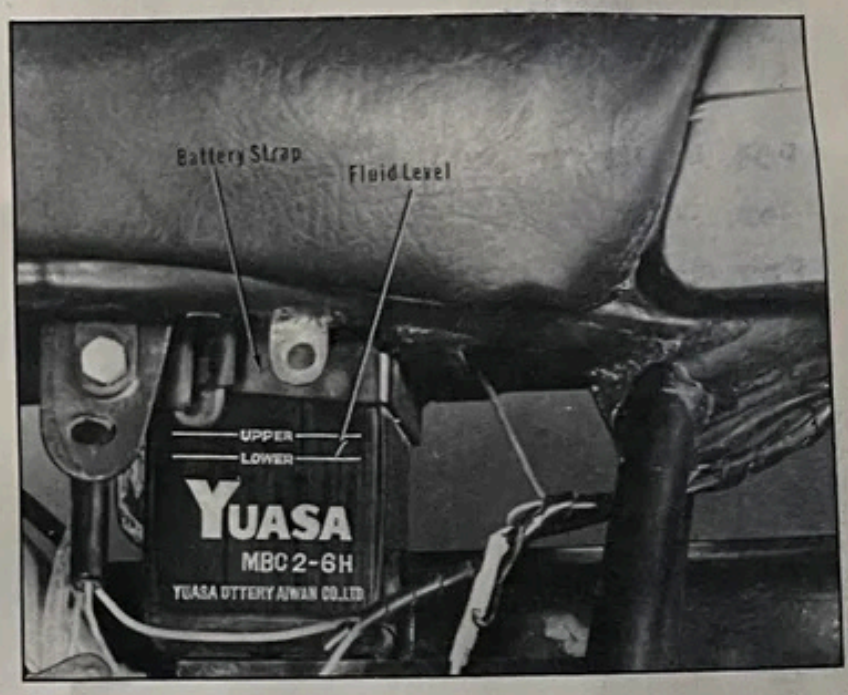


TRANSMISSION SERVICE - Check fluid level weekly

It should be wise to drain and replenish the transmission oil after each four-hour operation period until a total of 20 hours running time has elapsed. Metal particles from the wearing-in process contaminate lubricant and are best eliminated by frequent oil changes. To drain, use 13 mm wrench to loosen, drain plug on lower right hand side of engine, refill with 1-1/4 pint of recommended oil.

BATTERY SERVICE - ST Models Only

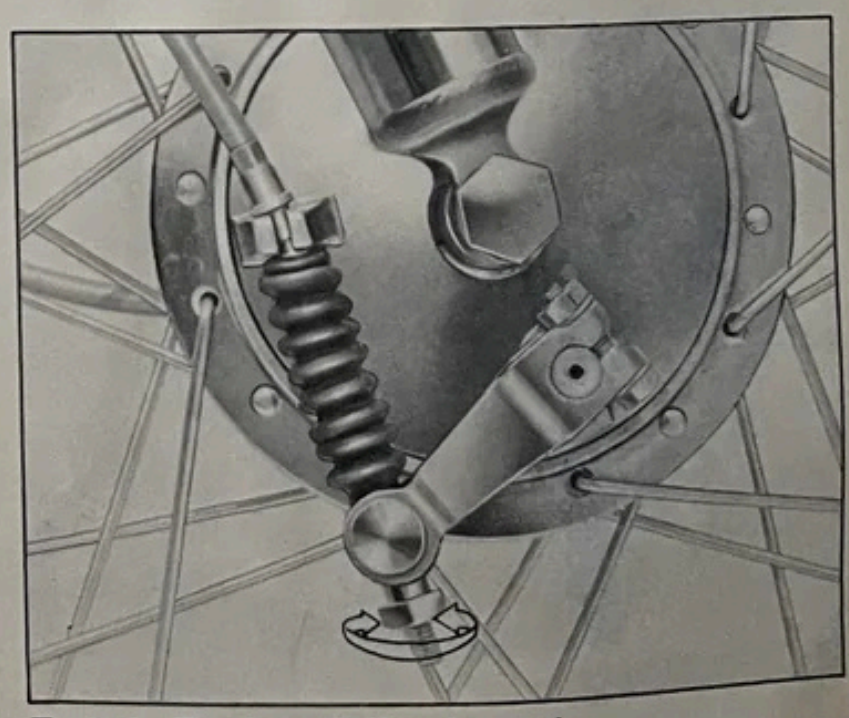
To check battery fluid level, remove the panel below the seat on the right side of the cycle. This will enable the battery to be viewed. If the fluid level is below the lower level line, remove the battery by unfastening the rubber battery retention strap and add distilled water to bring the fluid to the upper level line. Check the exhaust tube on the battery to be sure there are no clogs or kinks.



If your cycle will not be used for more than one month, remove the battery and store it in a cool, dry place. Be sure to charge it once a month while stored.

ADJUSTING FRONT BRAKE

The front brake should be adjusted to allow end play in the cable of approximately 3/8" to 1/2" before the brake starts to engage. Adjust as required by tightening or loosening cable adjuster at front wheel.

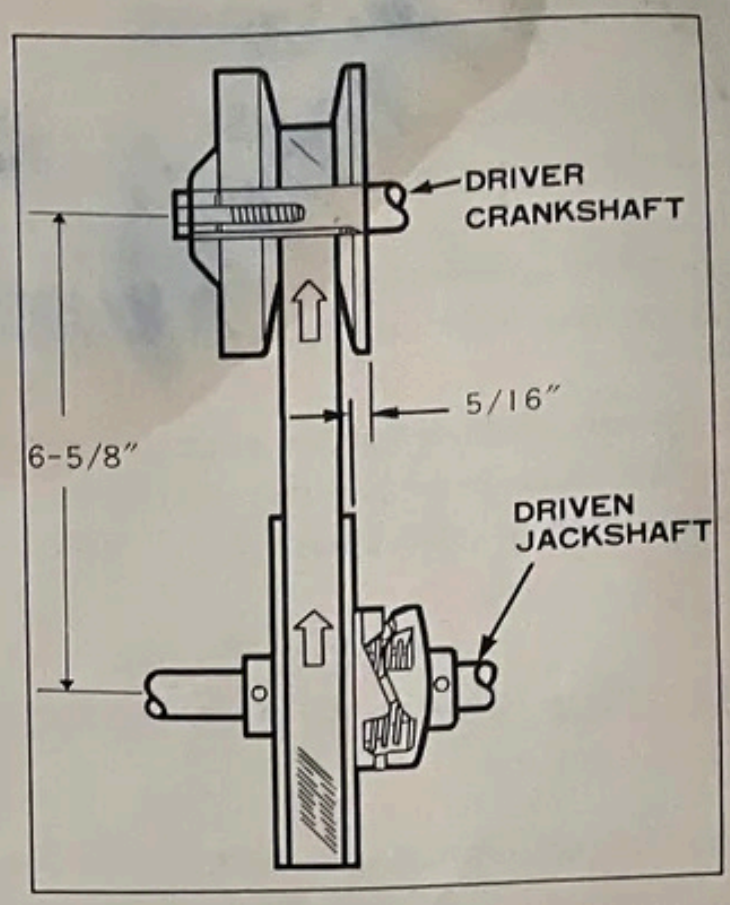


Front Brake Adjustment

CLUTCH ALIGNMENT - T95 Only

The clutch pulley center to center distance has been set by the manufacturer at 6-5/8" so adjustment is not necessary. However, adjustment of the two pulleys may sometimes be necessary to insure that the drive belt is within operational alignment.

To align the pulleys, loosen the engine mounting bolts and slide the engine side ways along the slotted mounting holes. Belt alignment is correct when the distance between the stationary flange of the driver pulley and the moveable flange of the driven pulley equals 5/16". After adjustment, retighten the engine mounting bolts.



IMPORTANT:

Torque converter drive unit must not float on engine crankshaft. It must be bolted tight against engine crankshaft shoulder. For driver protection, the clutch cover should always be in place while operating your sportcycle.

T 95 MODELS - STARTING AND RIDING

A. Be sure fuel supply is adequate for amount of riding planned. Check to be sure throttle is returned to "OFF" position.
B. Turn fuel valve to "ON" position.
C. Depress the starting lever on the carburetor (not necessary when engine is warm).
D. Grasp recoil starter handle and pull vigorously. If engine does not start, allow handle to return slowly and then repeat the procedure. NEVER RELEASE STARTER HANDLE WHEN STARTING ENGINE. ALWAYS RETURN HANDLE SLOWLY.
E. When engine starts, let it warm up for a few moments until the throttle may be opened partially without stalling the engine, then return carburetor starter lever to cruising position.
F. Twist throttle control in counter clockwise direction smoothly as the engine speed increases. The torque converter will apply power to the rear wheel and the minicycle will move off automatically with no transmission shifting required.
G. To slow down or stop, return throttle to "OFF" position and apply brakes as required to bring the minicycle to a stop. To shut off the engine, depress the kill button.

STARTING MACHINE

Your Chaparral is equipped with a Mikuni Carburetor that features a "starter" to give a richer mixture for easier starting, even at low temperatures.

Before starting:

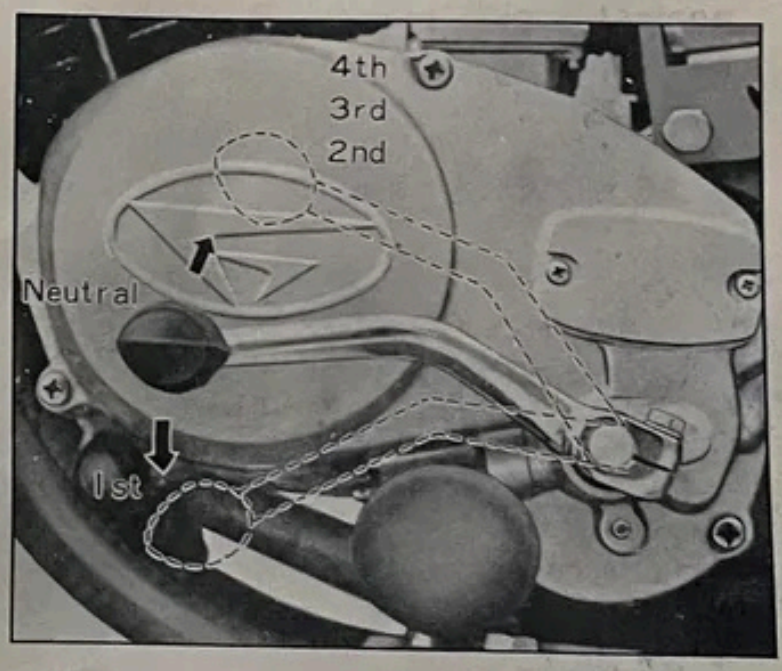
A. Turn fuel valve to "ON" position.
B. Be sure transmission is in "neutral" position.
C. Depress the starting lever on carburetor, keep throttle in "OFF" position.
D. On ST models, be sure ignition switch is in "ON" position.
E. Depress kick starter pedal forcefully.
F. Let the engine run with starter lever down until engine is warm enough to respond to accelerator opening without missing-then return lever to cruising position.

Starting when warm:

A. Do not use the carburetor starter lever.
B. Slightly open the throttle and kick through on pedal arm.

SHIFTING GEARS

Pull in on clutch lever to disengage clutch, depress foot shift lever to first gear, slowly open throttle and release clutch simultaneously to produce a smooth getaway.



Transmission gears are selected by moving the foot shift lever on the left side of the engine. First gear-push down one position from neutral. Neutral-lift up gently from low. Second gear-lift lightly from neutral, briskly from low. Third gear-lift up from second gear. Fourth gear-lift up from third gear. To down shift, reverse the preceding sequence-the transmission is designed to allow one gear change with each activation of the lever.

STOPPING AND PARKING

1. When stopping, use both front and rear brakes. If only the rear brake is applied, it may cause dangerous skidding.

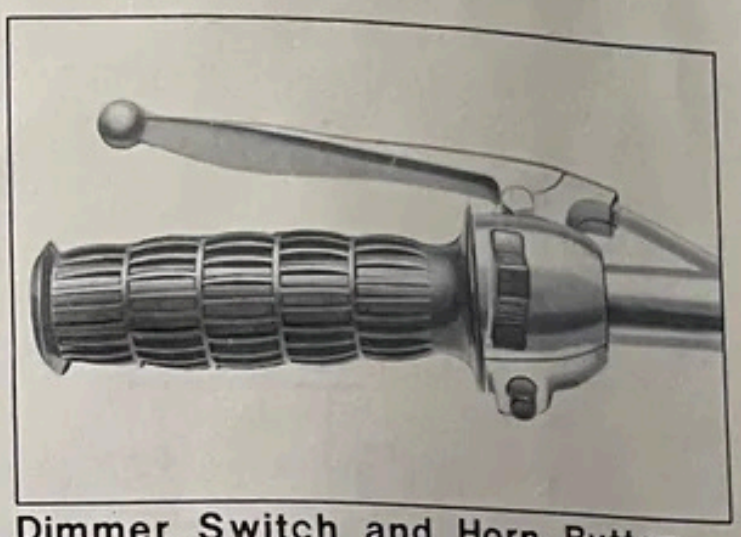
2. When parking, depress the kill button to stop the engine and turn the main switch key to the "Off" position.

3. When parking for an extended period, turn the fuel petcock to the "OFF" position to prevent fuel from gravity-feeding into the carburetor. The gearbox should always be in neutral when your sportcycle is parked.

DIMMER SWITCH AND HORN BUTTON

ST Models Only

The dimmer switch and horn button are located on the left handlebar. When the knob of the dimmer switch is in the up position the headlight is in the high beam position, and when the knob is in the lower position the headlight is low beam position.
The horn push button is located under the dimmer switch.

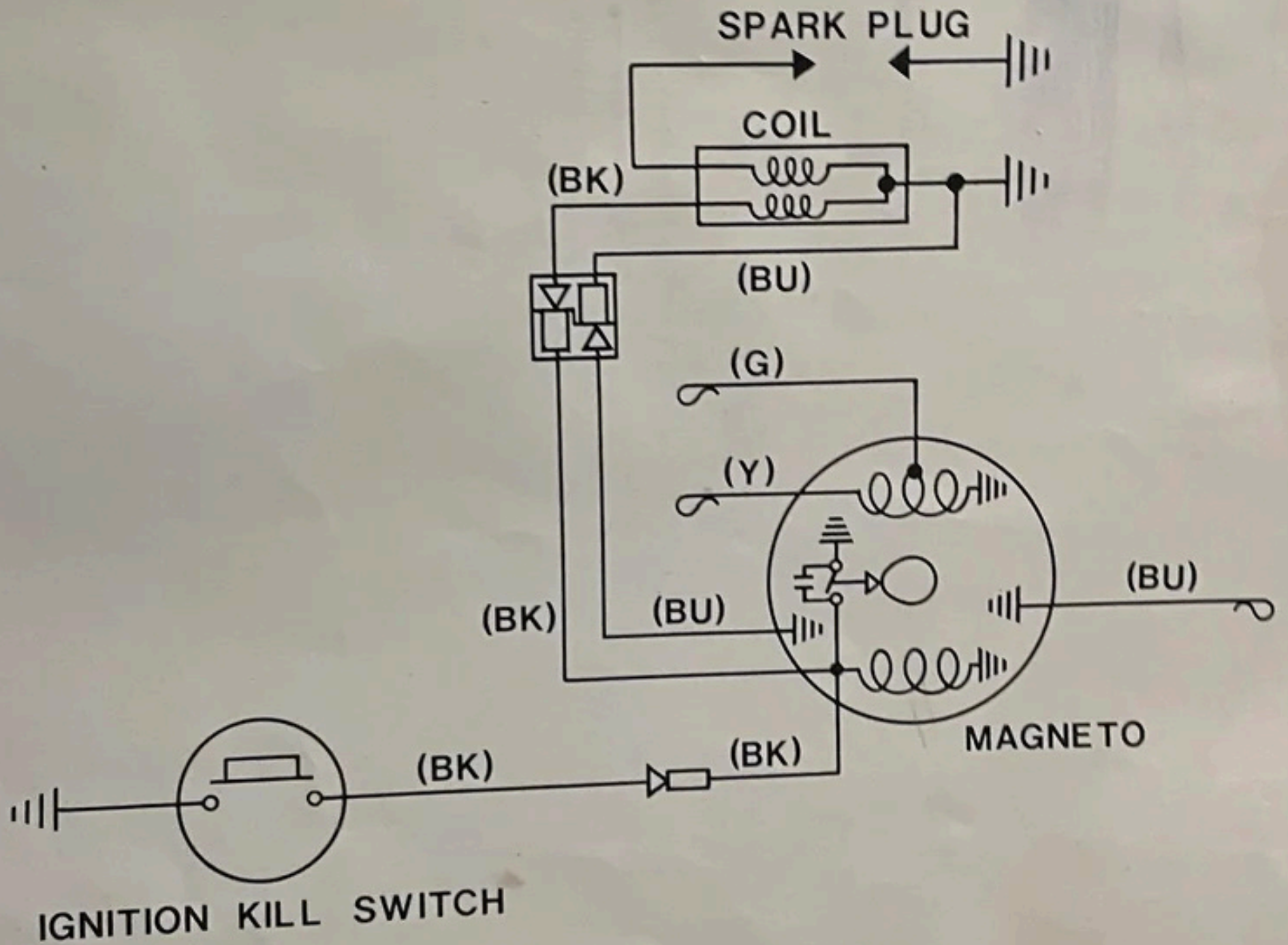


Dimmer Switch and Horn Button

MAINTENANCE AND ADJUSTMENT

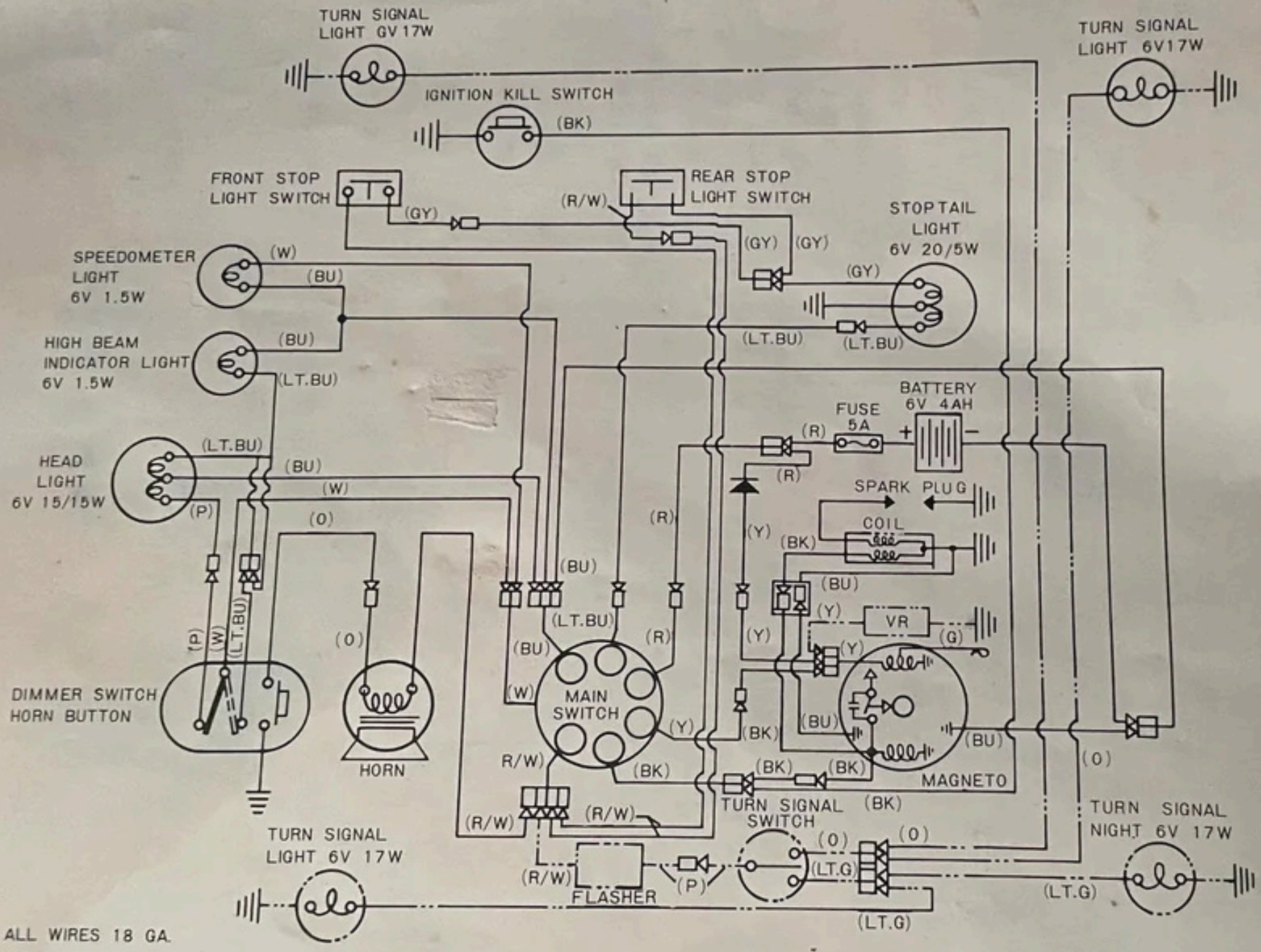
A daily check of your machine will pay big dividends in long life and satisfactory service. Take care of anything that needs attention at once. Keep your machine clean. Check for loose nuts and damaged parts: When washing, avoid getting water into the electrical system.

Tire Pressure	Front - 22 psi Rear - 28 psi
Front Brake	check adjustment
Rear Brake	check adjustment
Lights	Proper operation
Battery	check liquid level



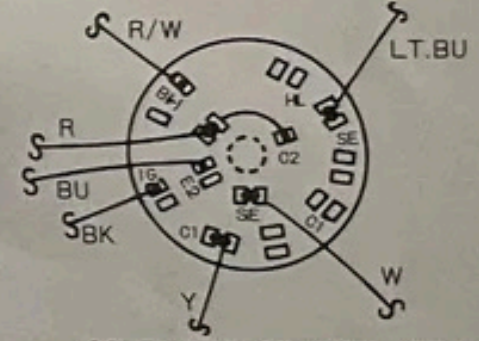
COLOR CODING	
BLACK	BK
BLUE	BU
GREEN	G
YELLOW	Y

WIRING DIAGRAM
1973 T-MODELS

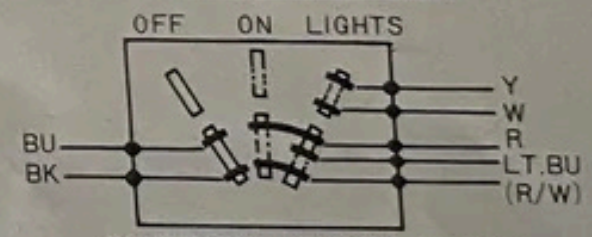


COLOR CODING:

BLACK	BK
BLUE	BU
LIGHT BLUE	LT.BU
BROWN	BN
GREEN	G
LIGHT GREEN	LT.G
GREY	GY
ORANGE	O
PINK	P
RED	R
WHITE	W
YELLOW	Y



SCHEMATIC OF WIRE ATTACHMENT TO BACK OF MAIN SWITCH



SCHEMATIC OF MAIN SWITCH INTERNAL CONNECTIONS

ALL WIRES 18 GA.

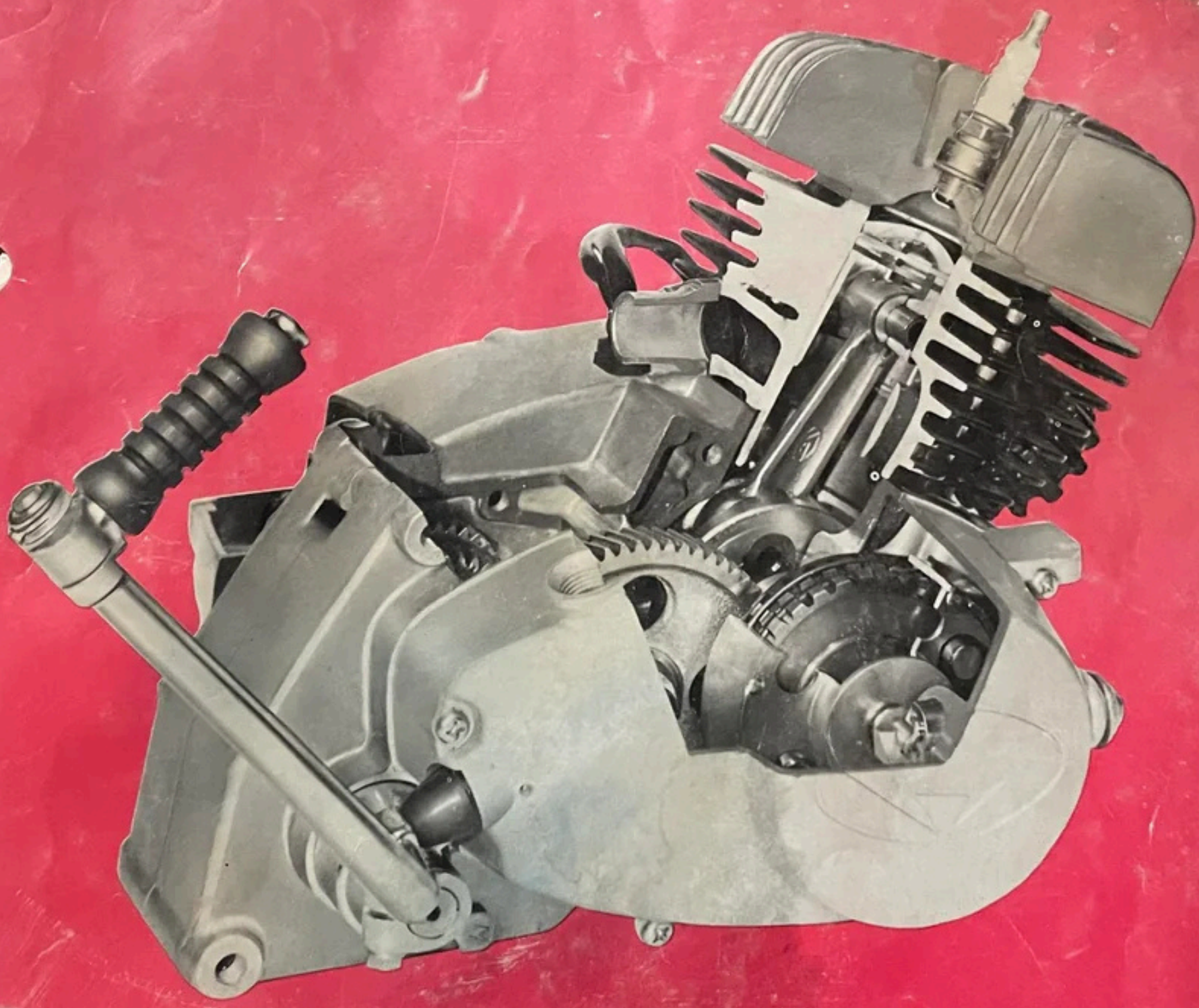
STANDARD WIRING SYSTEM SHOWN. OPTIONAL STREET LEGAL SYSTEM INCLUDES:

- 45 W LIGHTING COIL (21W STANDARD)
- VOLTAGE REGULATOR.
- 6V 25/25W HEAD LIGHT
- TURN SIGNAL SYSTEM
- 15 AMP FUSE

ST-WIRING DIAGRAM
1973 ST-MODELS

Chaparral

MANUFACTURED
BY FUJI MOTORS CORPORATION
MADE IN JAPAN



BE80F.BE100F ENGINE OWNER'S MANUAL

"Breaking in" your Engine

(Please keep the following points well in mind before operating your engine and it will give you long and trouble-free service.)

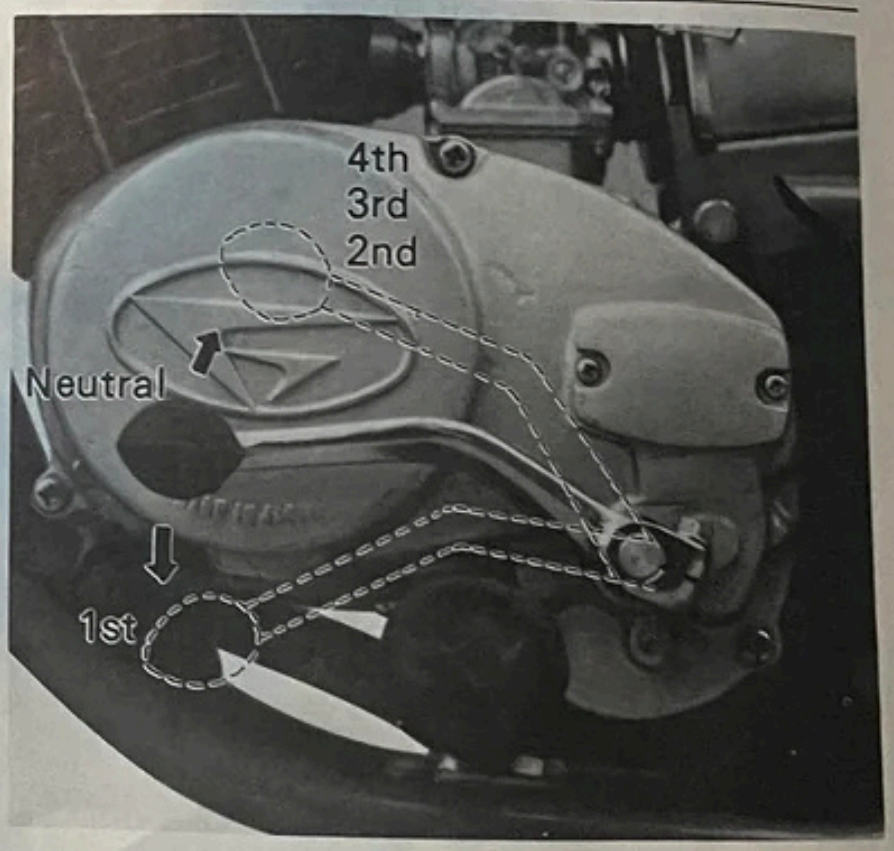
BREAKING IN YOUR BE80F AND BE100F ENGINE

As great care is taken during the manufacture to ensure the accuracy of fit, it is very important to allow the moving parts a certain minimum running period to "wear in" before operating the engine and transmission to full loads, and to permit operation at the maximum speeds. The efficiency of the engine and length of useful service greatly depend upon the care given during the early period of operation.

Item	Method
Break in period	1. For the first 5 hours the throttle should not be opened more than two thirds of full movement, and use should be made of the gearbox especially when climbing hills. Much harm may be done to the engine by allowing it to labor in too high gear. On the other hand the engine must not be raced in a low gear. 2. After the first 5 hours the throttle may be opened progressively wider until 10 hours has been reached. Remember the rule of not racing or lugging the engine.
Fuel Mix for Break-in	Use 1 pint SAE 30 two-stroke oil in 2 gallons of premium gasoline (16:1 ra io)
Gear oil	Use high quality motor oil. SAE 30 in summer and SAE 20 in winter.

Operation

1. Gear change operation of transmission



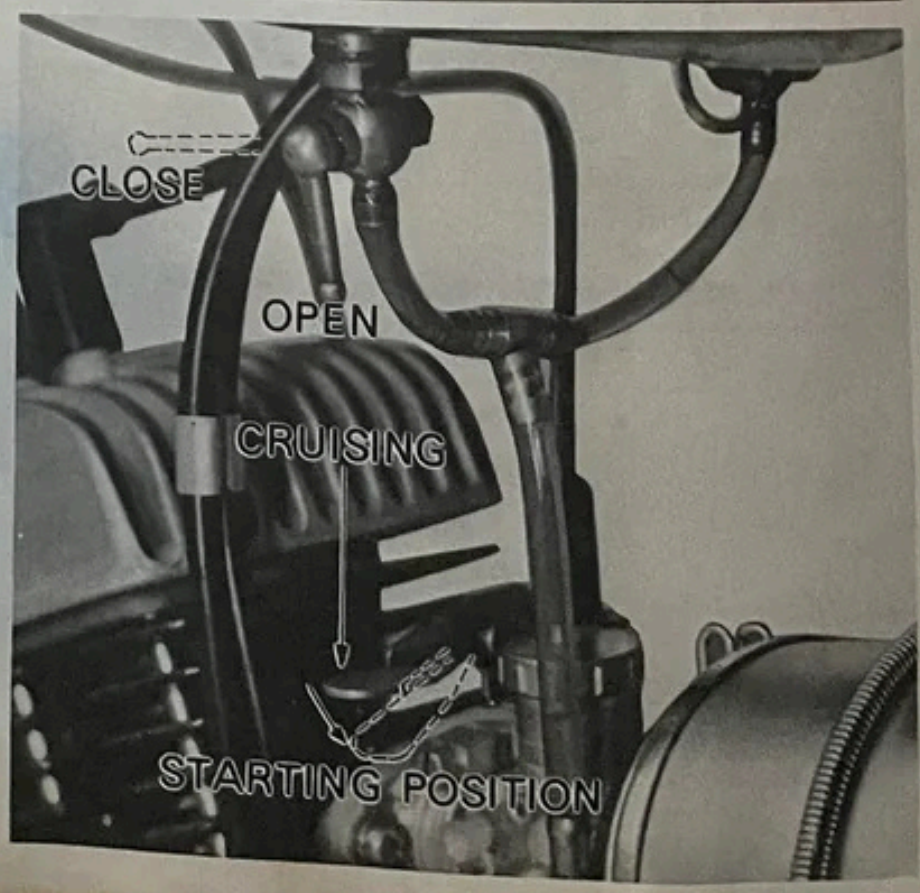
	ACCELERATE	DECELERATE
Low gear	Push down from neutral	Push down from neutral Push down strongly from 2nd
Neutral	Lift up lightly from low	Push down lightly from 2nd
2nd gear	Lift up from neutral Lift up strongly from low	Push down from 3rd
3rd gear	Lift up from 2nd	Push down from 4th
4th gear	Lift up from 3rd	

Checking and maintenance

1. Starting procedure

(1) Open the fuel cock completely.

(2) Set the starter lever on the carburetor to starting position. When the engine is warm as in summer, it is not necessary.



80cc, 100cc ENGINE SPECIFICATIONS

		80ccENGINE	100cc ENGINE
TYPE		25° INCLINED SINGLE CYLINDER 2-STROKE AIR-COOLED GASOLINE WITH OIL/MIST LUBRICATION.	PREPARATION FOR OIL PUMP AS OPTION
DISPLACEMENT		79.6cc	97.0cc
BORE		48mm	53mm
STROKE		44	
COMPRESSION RATIO		7 : 1	
MAXIMUM OUTPUT		6.6HP/7000 R.P.M	8.5HP/7500 R.P.M
CLUTCH		WET TYPE MULTI PLATE SYSTEM	
PRIMARY DRIVE		HELICAL GEAR	
TRANSMISSION		4 SPEED, CONSTANT-MESH (DOWN FOR 1, UP FOR 2, 3, & 4) LUBRICATION OIL : SAE #30, 1¼, PINTS.	
GEAR RATIOS	1ST	12.00	
	2ND	7.67	
	3RD	5.15	
	4TH	3.84	
STARTING SYSTEM		KICK CRANK	KICK CRANK (PRIMARY KICK)
IGNITION SYSTEM		KOKUSAN DENKI, FP—TYPE MAGNETO WITH 6V—21W LIGHTING COIL. NGK B-8S SPARK PLUG.	
CARBURETOR		MIKUNI VM18 (18mm)	MIKUNI VM20 (20mm)
FUEL		REGULAR BRAND GASOLINE WITH 2-STROKE ENGINE OIL. 20 : 1 WITH MIXING RATIO. (16 : 1 FOR FIRST 20 HOURS)	
SPROCKET		14T (FOR #41 CHAIN).	
OIL INJECTION OPTIONAL FOR 100CC ONLY			

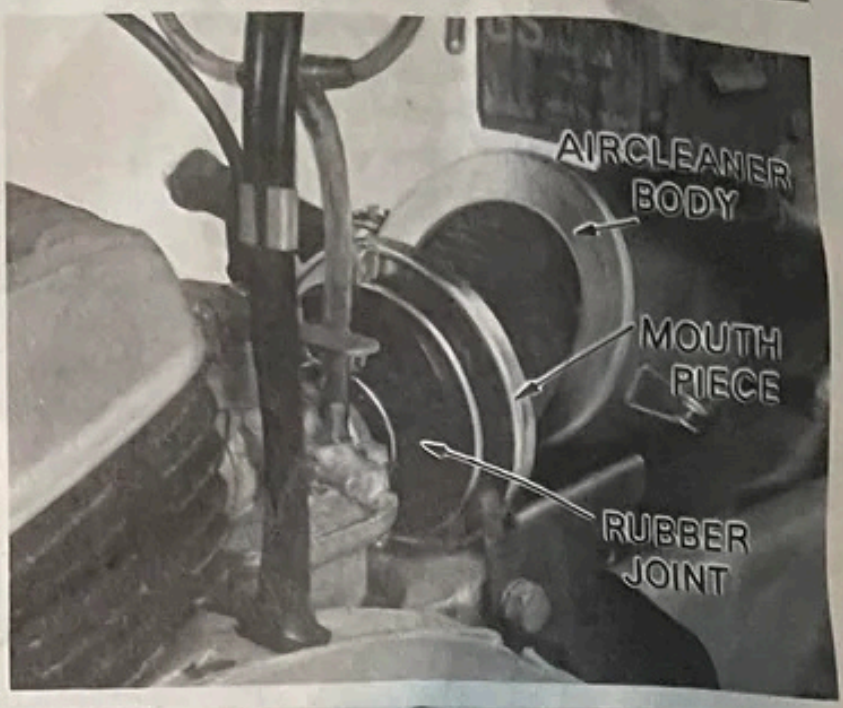
Cleaning Air Cleaner

(1) The foam element as well as the felt inner liner are to be washed thoroughly in clean solvent or kerosene to remove all dirt. Dry thoroughly after cleaning.

(2) Before re-assembling, carefully spread SAE 30 motor oil throughout the felt inner liner and foam element. Drain off any excess oil.

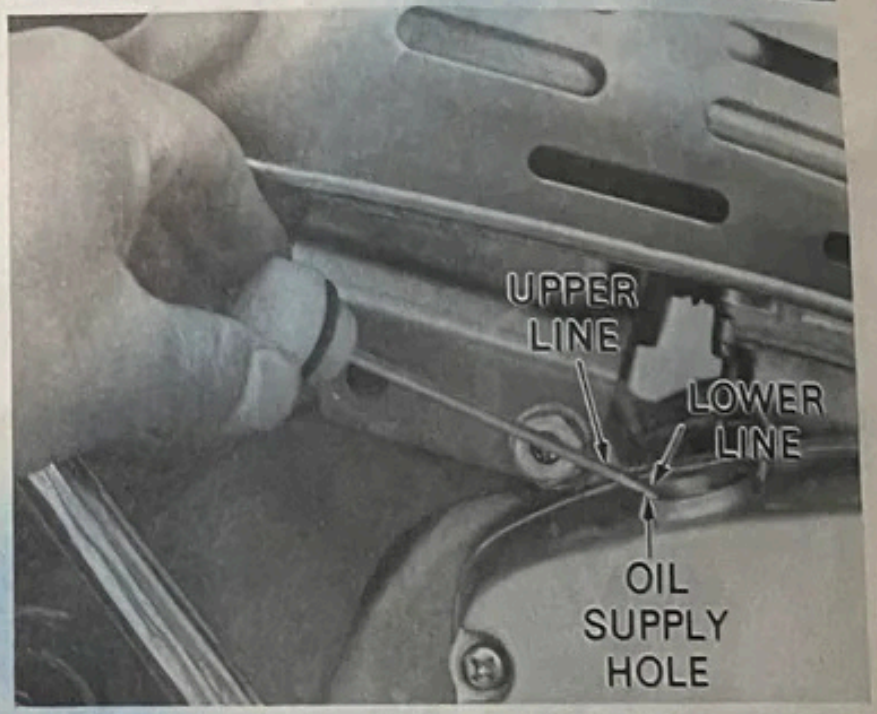
Replacing Air Cleaner

(1) Reverse the procedure of removing the air cleaner. (Take care that the rubber joint is correctly installed).



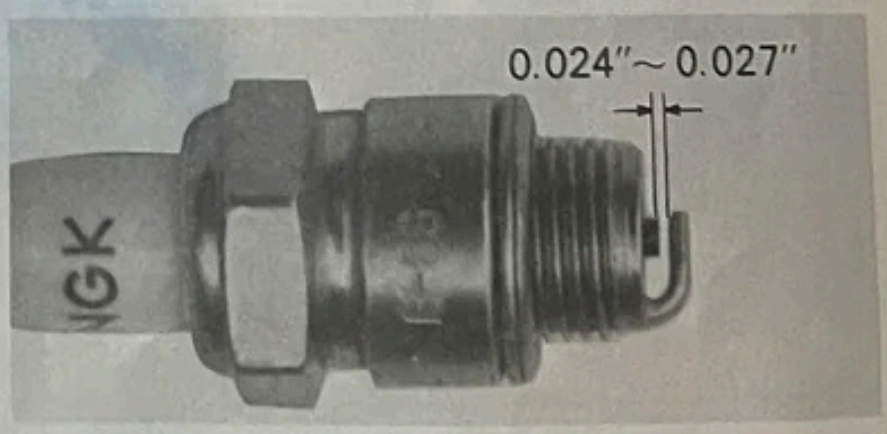
4. Oil Level Gauge

Loosen and pull out the dip stick to make sure the oil is between the two engraved lines. The upper line is for about 1 ¼ pints and the lower line is for 1 pint of oil. Do not over-fill. Use the recommended oil.



5. Spark Plug

The spark plug may be cleaned by using a small wire brush and cleaning solvent. After the plug is thoroughly cleaned and dried, the gap should be reset to 0.024"-0.027". Always use the recommended plug (N.G.K. B-8S).



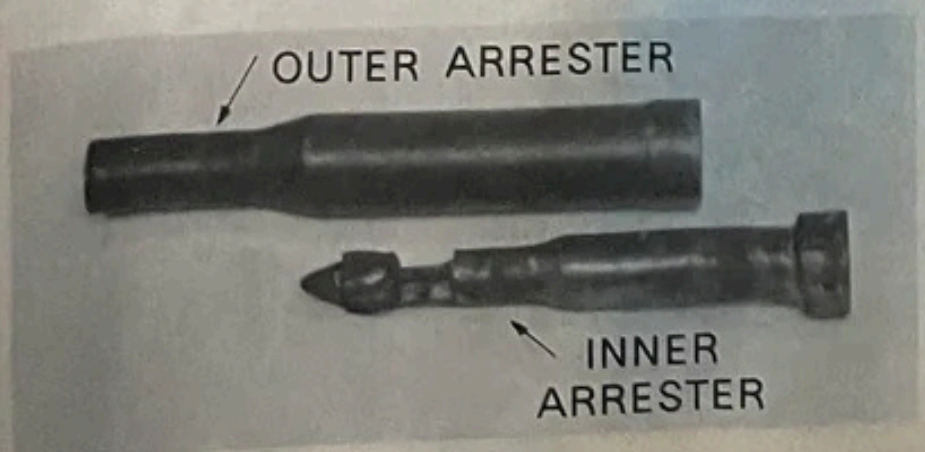
6. Muffler

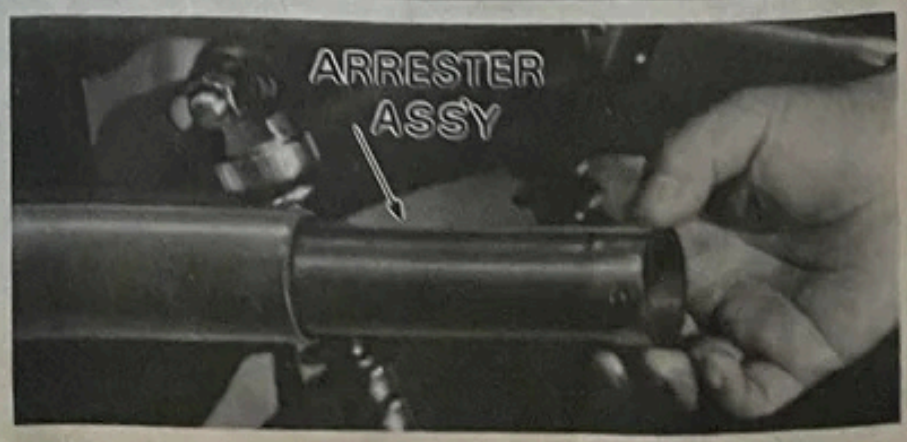
Cleaning the Spark Arrester and Inner Pipe

(1) Pull out the spark arrester inner pipe assembly.

(2) Clean the spark arrester inner pipe assembly with a wire brush and cleaning solvent.

(3) Replace spark arrester inner pipe assembly.





2. Adjustment & Inspection of Carburetor

(1) Adjustment of Slow (Idling).

First of all return the throttle grip fully.

Turn the idle adjust screw in a clockwise direction to increase speed.

(2) Throttle cable adjustment.

Turn the adjuster in a counter-clockwise direction to remove cable slack.

Note: The carburetor has an extremely delicate and important duty to perform, and it has been adjusted at the factory with a great deal of care, therefore, careless adjustment should be avoided.

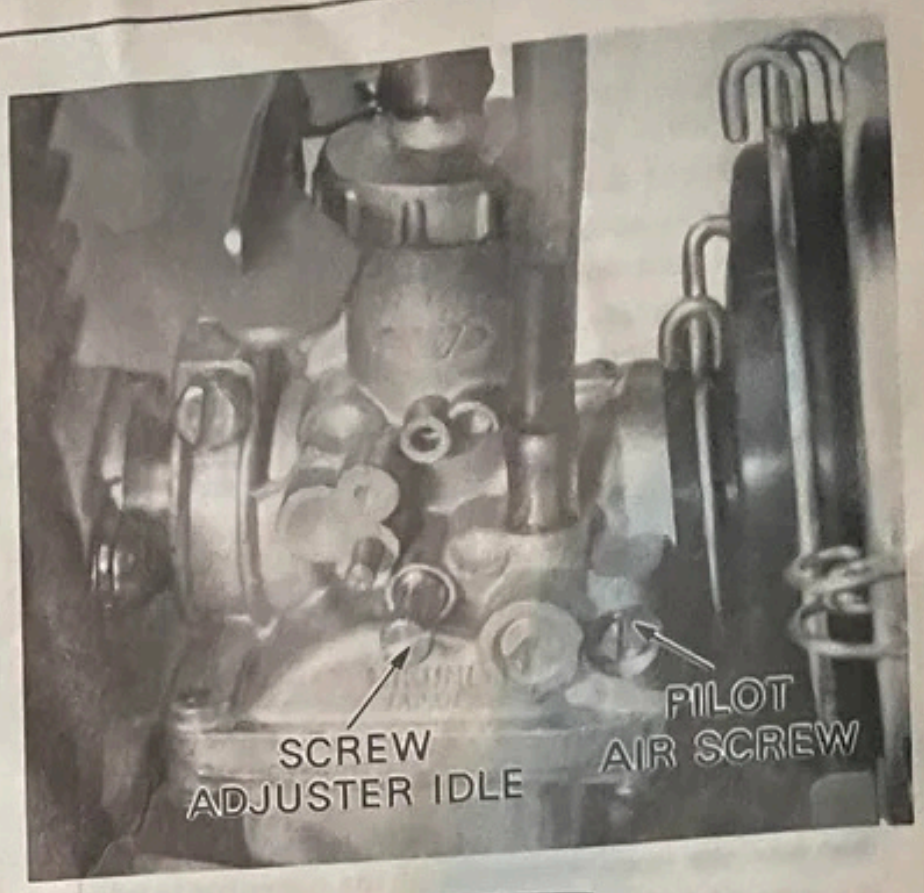
(3) Adjustment of fuel

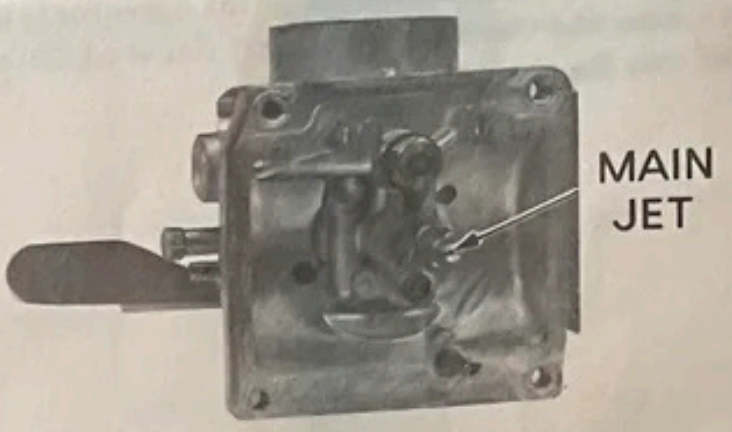
(a) Adjust the carburetor pilot air screw for low speed to intermediate speed. When this screw is tightened the mixture becomes rich and when loosened, the mixture is lean. Open approximately 1¼ turn after being fully tightened for normal position.

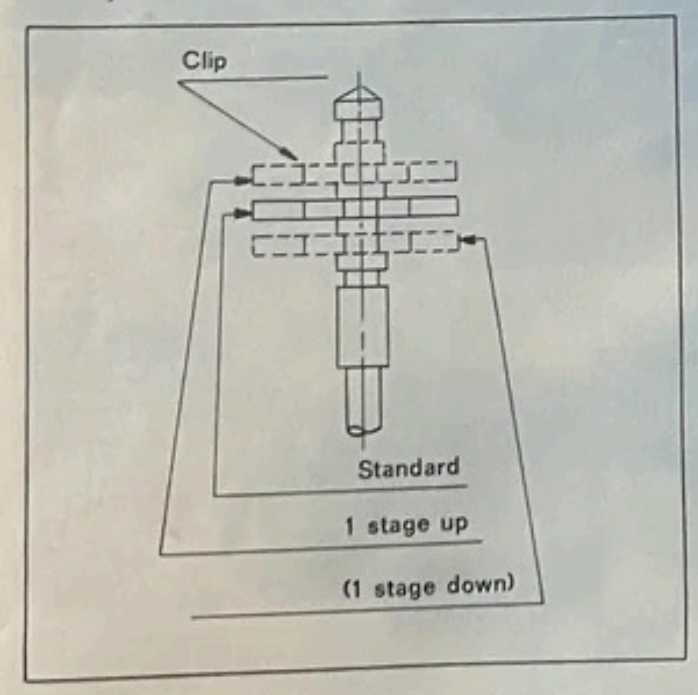
(b) Intermediate speed to high speed is determined by the stages of jet needle. Raise the jet needle and the fuel mixture becomes rich, lower the jet needle and fuel mixture is lean. The standard is in the 3rd position.

(c) High speed

Adjusted by changing the main jet. The greater the jet number, the richer the gas mixture. The standard main jet is a #80.







Fuel intake volume	Color of spark plug	Condition of exhaust smoke	Condition of engine	Clip position
Correct	Light-brown.	A little purple.	low fuel consumption good combustion	As it is. correct mixture
Too rich	Dark-brown or black.	Very smoky.	High fuel consumption low speed.	1 or 2 stage up. lean mixture
Too lean	White surface blistered.	Almost no smoke.	Low speed overheating.	1 or 2 stage down. enriched mixture

3. Air Cleaner

In order to assure the maximum engine efficiency and long life, the air cleaner should be cleaned every 10-20 hours. Under conditions of extreme dust it might be necessary to clean daily.

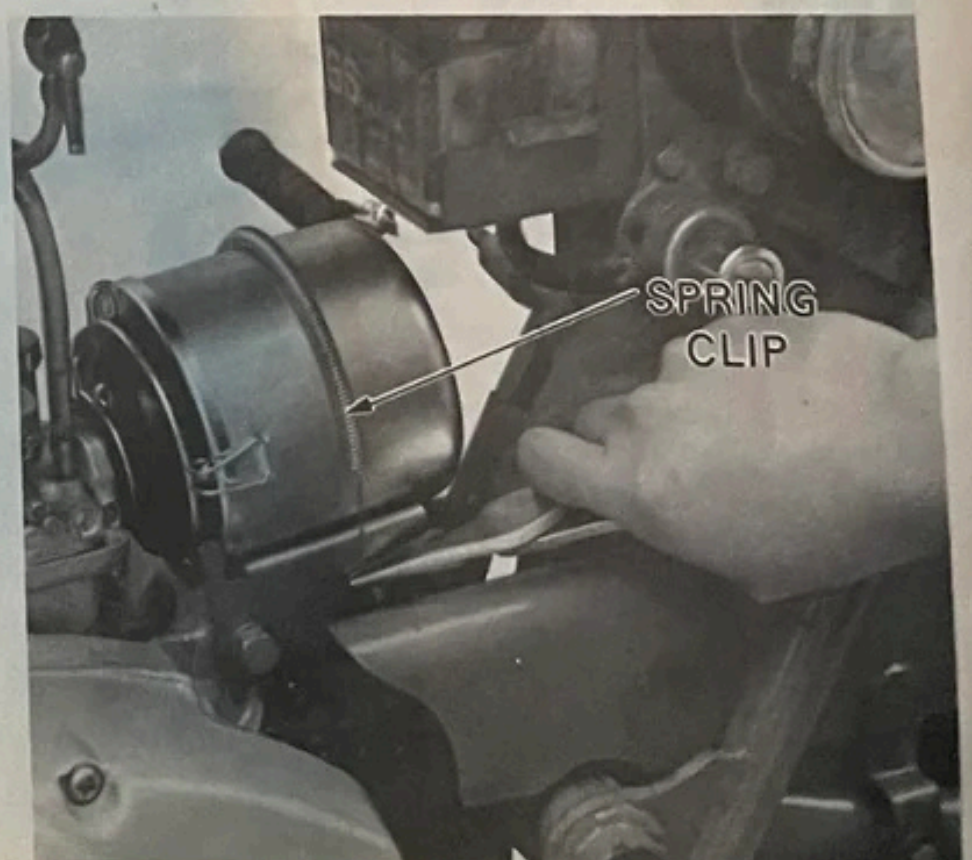
Removing the Air Cleaner Element.

(1) Remove the setting spring and disconnect the two body clips.

(2) Remove the mouth piece and rubber joint as a unit.

(3) Remove the air cleaner body assembly.

(4) Remove the air cleaner element from the body.

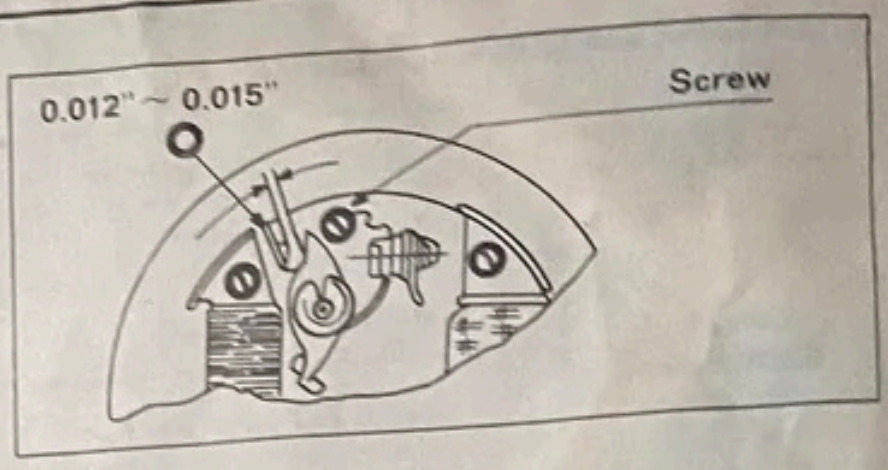


2. Low Power and/or Poor Performance

Description	Cause	Treatment
Defective Compression	1. Air Leak in fuel line.	Tighten
	2. Air Leak at gasket.	Replace with new gaskets and tighten well
	3. Mixture of water into fuel	Replace with new fuel.
	4. Clogging of muffler with carbon	Disassemble and Clean
Overheating	1. Too lean fuel mixture	Adjust carburetor
	2. Retarded engine timing	Adjust point gap to 0.012~0.015
	3. Clogging of cylinder fin, etc. with dust and particles	Clean
Tendency of knocking (Unusual noise)	1. Advanced engine timing	Adjust the point gap to 0.012~0.015
	2. Poor fuel	Replace with new fuel
	3. Carbon buildup in cylinder head	Clean
Compression is Good and Fuel to Carburetor	1. Too rich mixture 2. Use of poor fuel	Adjust carburetor Replace with new fuel
Fuel to Carburetor But Compression is Not Good	1. Worn-out cylinder, piston and piston ring	Replace with new parts
No Fuel to Carburetor	1. No fuel 2. Clogging of filter 3. Loose carburetor, etc.	Supply Clean Tighten

7. Ignition

The contact breaker (points) should open when the mark on the flywheel is in line with the right hand mark on the crankcase. The point gap should be 0.012-0.015" when flywheel mark is in line with the left hand mark on the crankcase. To adjust, loosen the point screw with a screw driver and move point assembly. The standard ignition timing is 25° B.T.D.C.



8. Regular checking and maintenance

		Every riding time	Running time Hours									
			25	50	75	100	125	150	175	200	225	250
Gearbox oil change and inspection			○		○		○			○		
Clutch	OPERATION	○										
	INSPECT PARTS					○			○			○
Carburetor	INSPECT PARTS						○					
	Air cleaner		○	○	○	○	○	○	○	○	○	○
To de-carbonize cylinder head, and cylinder.							○					○
To clean exhaust pipe and muffler.								○				
Magneto, point inspection.				○		○			○		○	

Trouble shooting

1. Difficulty of Starting

Description	Cause	Treatment
Failure of Spark	1. Wet electrode of spark plug.	Dry
	2. Carbon sticking to electrode of spark plug.	Clean
	3. Poor insulation caused by break of insulating material of spark plug	Replace with new parts
	4. Too narrow or too wide gap between electrodes of spark plug.	Adjust to 0.024" ~ 0.027"
	5. Burning of electrode of spark plug.	Replace with new parts
	6. Improper gap between points.	Adjust to 0.012" ~ 0.015"
	7. Dirty contact points.	Clean the points.
	8. Breakage of insulation of spark plug wire.	Replace with new wire or repair.
	9. Short-circuit to contact body.	Repair the shorted part.
	10. Looseness of contact body.	Tighten.
	11. Defective condenser.	Replace with new condenser