SERVICE BULLETIN

U. S. SUZUKI TECHNICAL SERVICE

Bulletin No. RE-6
Date April 25, 1975
Page 1 of 2

SUBJECT: RE5 STARTER ONE-WAY CLUTCH MODIFICATION
Affected Models:
Effective Engine No.:
Reference:

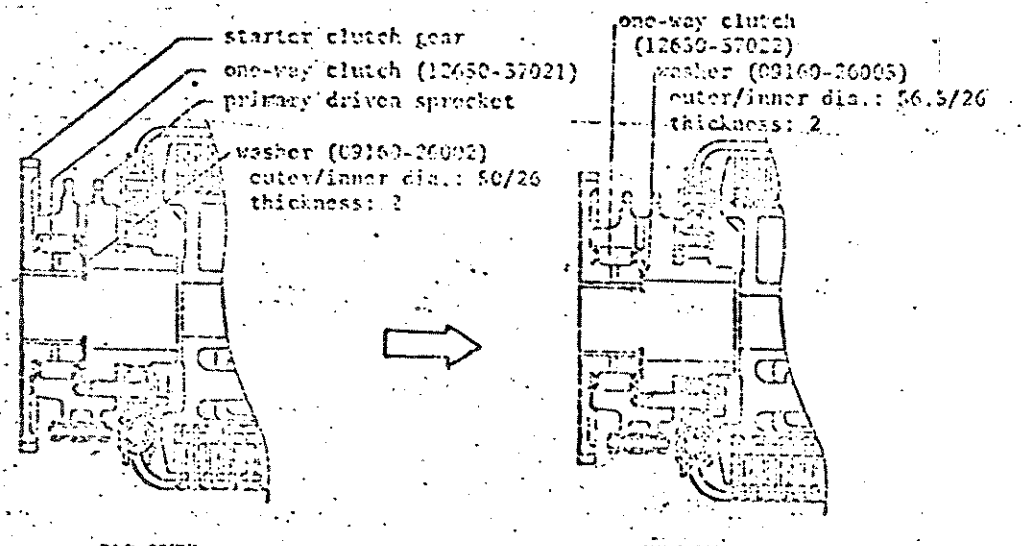
Read & Initial
Manager
Parts
Service

NOTICE:

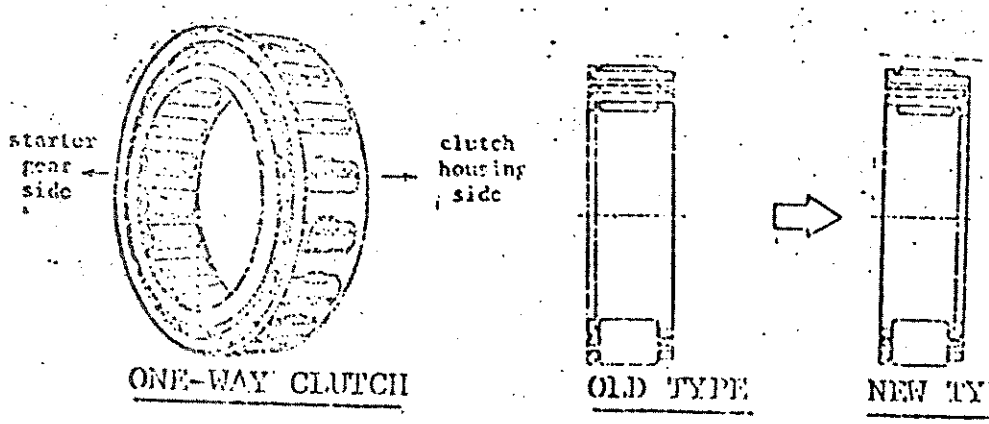
To increase its durability, the RE5 starters one-way clutch has been modified.

MODIFICATION:

The two cages in the one-way clutch are now being assembled so that their flanged ends are opposite of each other. At the same time, the outside diameter of the the thrust washer has been increased from 50mm to 56.5mm. The modifications are illustrated below:



OLD TYPE NEW TYPE



ONE-WAY CLUTCH OLD TYPE NEW TYPE

APPLICATION:

The new style one-way starter clutch and thrust washer has been installed on RE5's, on and after ENGINE NUMBER RE5-12054.

PARTS:

DESCRIPTION	OLD PART NO.	INTER-CHANGE	NEW PART NO.
One-way clutch Ass'y	12650-37021	O / O	12650-37022
Washer	09160-26002	O / X	09160-26005

O: INTERCHANGEABLE X: NOT INTERCHANGEABLE

At the present time, the new style parts supply is being used for production line assembly. When the new parts supply exceeds production line demand, they will be available from U. S. Suzuki's Parts Department. During the interim, the old style parts shall remain available.

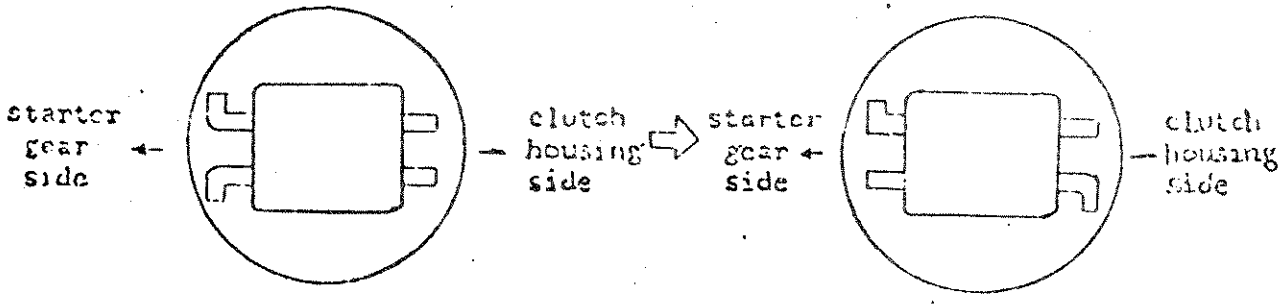
NOTES:

1. When replacing the old style one-way starter clutch assembly with a new style starter clutch, a new style washer must be used. If an old style washer is used, the starter clutch will slip.

2. There is an identical old style washer on the other side of the primary driven gear. It should also be replaced with a new style washer to prevent accidentally interchanging it with the starter clutch thrust washer during reassembly.

3. The old style clutch can be used with the new style washers.

4. Correct figure 10-15, page 99 of the RE5 Service Manual as indicated below:



T. Shigenoya, Manager
Technical Service Department

SERVICE BULLETIN

U. S. SUZUKI TECHNICAL SERVICE

Bulletin No.: RE-7
Date: May 16, 1975
Page: 1 of: 1

SUBJECT: HEADLIGHT AND HEADLIGHT HOUSING INSTALLATION PROCEDURE
Affected Models:
Effective Engine No.:
Reference:

Read & Initial
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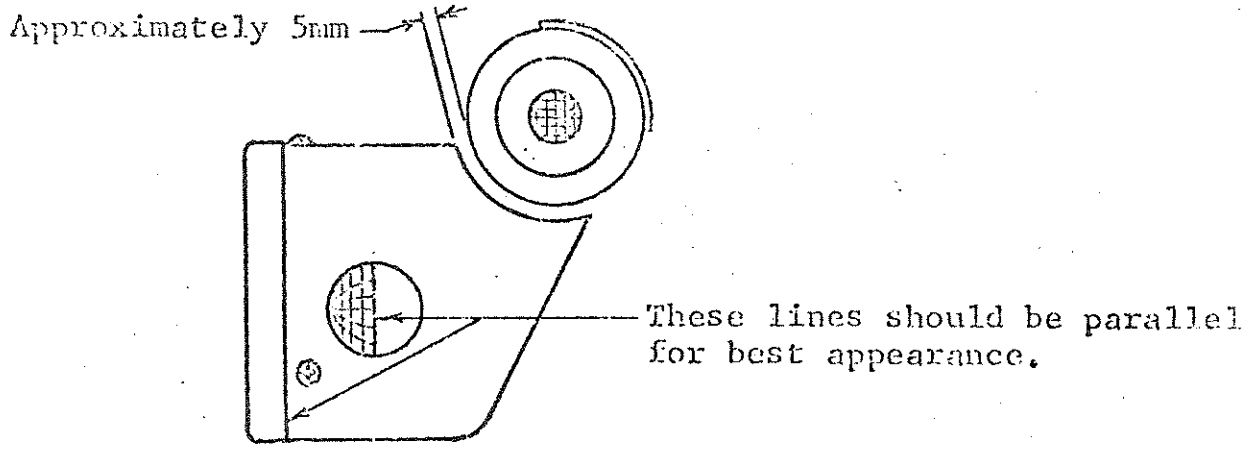
When installing a headlight or headlight housing on an RE5, please follow this procedure to insure a proper fit.

1. Adjust the headlight housing so that the clearance between the housing and the combination meter assembly is about 5mm (0.2 in).

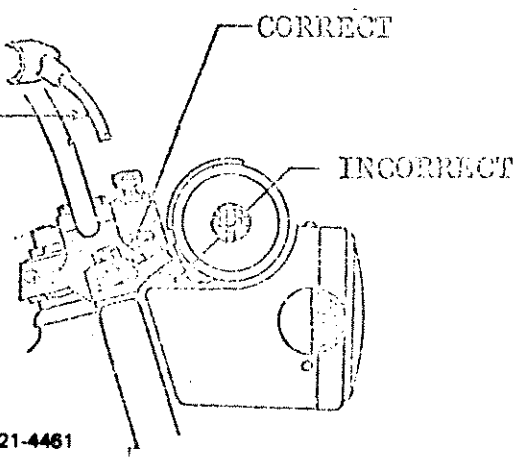


2. Install the headlight to the housing by aligning the hook on the headlight rim with the hole in the bottom of the headlight housing.

3. Tighten the headlight fitting screw 1 while pushing upward on the headlight, toward the housing, so that there is no clearance between the headlight and housing.

4. Tighten screws 2 and 3 using the same procedure.

5. When installing the combination meter assembly, check the front brake hose to make sure that it is routed above the meter bracket. If it is routed below the bracket it may be pinched or subjected to wear.



U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

U. S. SUZUKI motor corporation
13767 Freeway Drive • Santa Fe Springs, California 90670 • Phone: (213) 921-4461

SUZUKI ROTARY ENGINE SERVICE BULLETIN

Bulletin No. RE8

Date July 11, 1975

Read & Initial

Manager

Parts

Service

SUBJECT: RE5M CARBURETOR MODIFICATION KIT

Information has been received by U. S. Suzuki which indicates that some RE5M's are experiencing carburetion difficulties in very warm weather. This may vary from a light popping sound in the mufflers to a surging or jerking feeling when cruising, especially in lower gears.

There have also been some reports of a hesitation or "stumbling" when leaving from a stop, accelerating, or when shifting gears.

To correct these conditions U. S. Suzuki will supply a Carburetor Modification Kit to be installed on all RE5M's.

In addition, a modified throttle grip to remove the excess play in the throttle cables will be sent for all RE5's up to F/No-12964. After F/No-12964 the new grip is installed at the factory.

MODIFICATION KIT COMPONENTS:

MODIFICATION KIT PART NUMBER: 99104-09050		
QT'Y	PART NO.	DESCRIPTION
1	13129-37000	Insulator Block
1	09491-87002	#87.5 Primary Main Set
1	13125-37001	Carburetor Gasket
2	01411-08308	Stud
1	01411-08358	Stud
1	13494-37010	Accelerator Pump Diaphram Spring

1	99104-09060	Modified Throttle Grip (Up to F/No-12964)

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One Carburetor Modification Kit will automatically be shipped for each RE5M invoiced to your dealership.

APPLICATION:

This modification kit is to be installed on all RE5M's already received by your dealership, sold or not, and any future RE5M's received by your dealership up to E/No-13346. From E/No-13346 ~ the modifications will be made at the factory.

CUSTOMER NOTIFICATION:

All RE5M owners will be notified by U. S. Suzuki to make arrangements with their selling dealers to have the modification kit installed.

REIMBURSEMENT:

U. S. Suzuki Motor Corporation's Parts Department will automatically ship the modification kits to your dealership net 30 days, freight pre-paid.

On completion of the modification, fill out the required information on a separate warranty claim form for each unit, without delay, and mail to U. S. Suzuki's Warranty Department.

On customers machines: Each warranty claim shall contain Dealer Imprint, Customer Servicard Imprint, Dealer and Customer Signatures, Date of Repair and Description of Work Performed.

For RE5M's in your stock: Each warranty claim shall contain Dealer Imprint, indicate as an Unsold Unit, Model, Frame and Engine Number, Dealer Signature, Date of Repair, and a Description of Work Performed.

Each warranty claim must also contain the part number for the modification kit (99104-09050), throttle grip: (99104-09060).

Reimbursement will be 1.0 hour for installation of the modification kit and .2 hour for installation of the modified throttle grip.

INSTALLATION:

1. Remove Carburetor:
   a. Disconnect fuel level switch connector, petcock vacuum line and fuel line, release rear fuel tank strap, and remove fuel tank.
   b. Loosen air filter intake hose clamp, slide hose off carburetor inlet air horn and tuck it behind the upper frame tube.

(cont.)

c. Remove the carburetor air intake horn held by the three (3) acorn nuts.
d. Remove the carburetor nuts and washers. This can be accomplished by using a 12mm twelve-point box end wrench from the left side or a 3/8" drive 12mm socket, universal joint, extension, and ratchet from the right side.

2. Throttle Grip Ass'y Installation:
a. Run in all cable adjusters.
b. Unplug the kill switch wires from inside the headlight shell.
c. Remove the top half of the throttle grip housing.
d. Remove the cables from the grip.
e. Remove the cables from the bottom half of the throttle grip housing.
f. Reverse procedures a-e to install the new throttle grip ass'y.

3. Carburetor Modifications:
a. Remove the carburetor mounting studs and replace them with the longer studs supplied in the kit.

c. Remove the screws holding the accelerator pump diaphram cover.
d. Remove the diaphram cover carefully to avoid tearing the diaphram.
e. Carefully remove the diaphram from the carburetor body and discard the diaphram spring.
f. Check the free length on the new diaphram spring. Minimum free length is 14mm. If the free length is less than 14mm, gently stretch the spring, then compress it 15 to 20 times and recheck the free length.
g. Reinstall the accelerator pump assembly and check the accelerator pump mechanism by twisting the throttle grip several times and observing the arm, rod, etc. for free movement.

NOTE: Be sure that the accelerator pump cover does not interfere with the pump arm.

h. Install one of the carburetor gaskets, the carburetor insulator, and the other carburetor gasket on the carburetor studs.

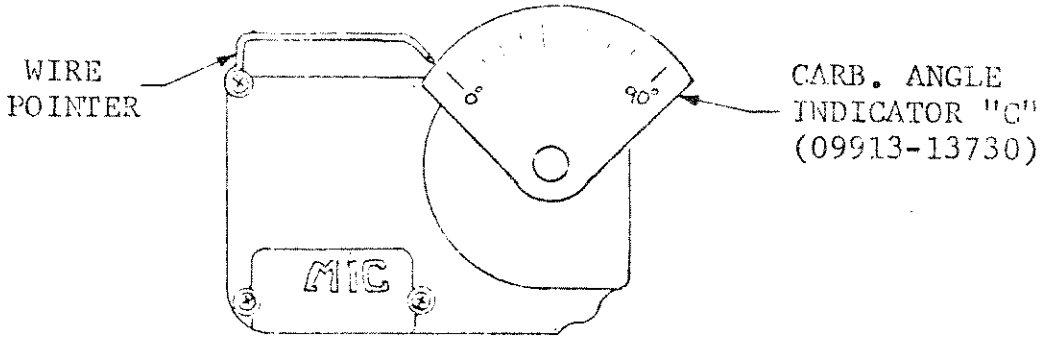
4. Accelerator Pump Adjustment: Installing the modified accelerator pump diaphram spring may change the accelerator pump timing. Be sure to follow these procedures exactly:
a. With carburetor still off manifold, turn carburetor sideways and hang the carburetor stud on the manifold stud.
b. Remove the rubber plug on the carburetor cover and install the carburetor angle indicator "C" (09913-13730) as shown.

(cont.)

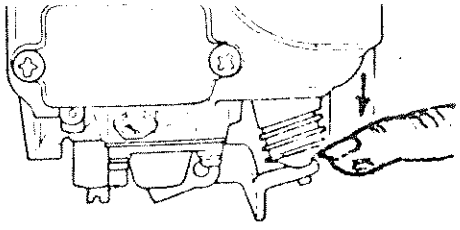
c. Back out the idle speed screw all of the way, make sure the choke lever is in the "off" position, and visually check that the primary throttle plate is completely closed.

NOTE: If the new style throttle grip with the stop is used with the old style throttle cables you may not be able to completely close the primary throttle plate, even with the cable adjustors run all of the way in. In this case it may be necessary to remove the throttle stop block from inside the grip assembly until the adjustments are complete. Old cables are marked 37000 at the grip adjuster. New cables are 37001.

d. Install a wire pointer to one of the carb cover screws and set it to the zero position.



e. Set the accelerator pump touch timing to 28°. That is with all of the play removed from the accelerator pump arm by lightly pulling down on the accelerator pump arm in the area of the rod, gently turn the throttle grip until the accelerator pump arm just begins to move.



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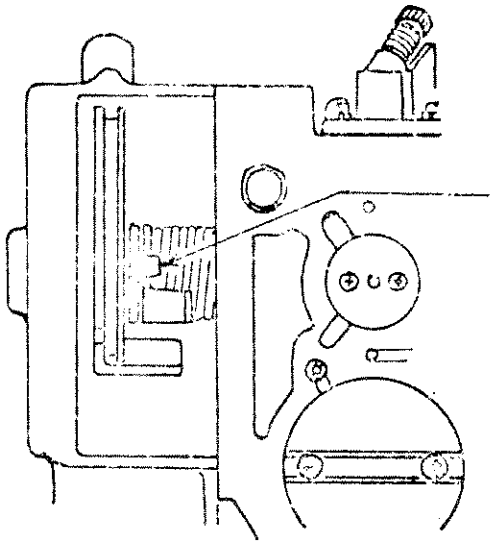
f. If the accelerator pump timing is early or late, adjust it by bending the brass colored tab next to the carburetor cable pulley.



Bend this tab to adjust.

NOTE: Be carefuly when bending the tab that you do not warp the arm and cause it to bind on the primary throttle shaft.

g. Recheck the zero position then recheck the accelerator pump.

5. PMJ Installation:
   a. Remove the slotted-hex primary main jet plug.
   b. Remove the #90 primary main jet.
   c. Install the #87.5 primary main jet.
   d. Reinstall the primary main jet plug.

6. Carburetor Installation:
   Reverse the procedures in step #1.

7. Final Adjustments:
   Peform all carburetor adjustments in accordance with Service Bulletin #RE .

8. Install the fuel recommendation label on the underside of the gas cap flap.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI ROTARY ENGINE SERVICE BULLETIN

Bulletin No. RE-9

Date July 11, 1975

Read & Initial

Manager

Parts

Service

SUBJECT: RE5 SERVICE PROCEDURES

IMPORTANT

This bulletin contains the latest information necessary to correctly service the RE5 after it has been set up.

This bulletin is designed to cover the latest carburetor protractor, throttle cables, throttle grip, carburetor specifications, and adjustment shortcuts.

Proper employment of the procedures outlined in this bulletin will ensure you of the smoothest possible running RE5.

MODIFICATION KIT:

If the Carburetor Modification Kit (99104-09050) has not been installed, install it first in accordance with Service Bulletin #RE-8 before proceeding with the servicing of the RE5.

OIL:

Use ONLY Suzuki Rotary Engine Motor Oil 10W-20W-50 or Shell Super X 10W-20W-50 in the Sump AND Metering Pump Oil Tank. Use of other than recommended oils may cause engine damage and possibly void the warranty.

Use Suzuki Transmission Oil or a high quality SAE 20W-40 motor oil in the transmission.

GASOLINE:

Use ONLY unleaded regular or low-lead regular gasoline.

BATTERY:

1. Fill with dilute sulfuric acid with a specific gravity of 1.280 (as corrected to 20°C)

2. Charge the battery at a rate of 1.0 to 1.5 amps for 20 hours.

NOTE: Charge the battery with the battery on the bench. Leave the vent tube in the frame. DO NOT OVERFILL. After charging, bring the battery cells up to the full mark with distilled water.

(cont.)

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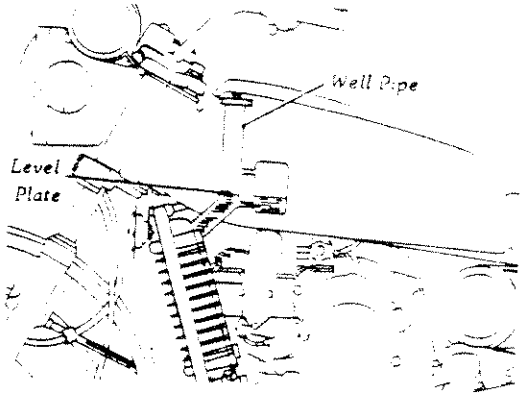
ENGINE COOLANT:

Check the coolant level. If low bring it up to the plate with a 50% to 50% mixture of Golden Cruiser #1200 and distilled water.



TRANSMISSION OIL:

1. Place the RE5 on the centerstand.
2. Drain the transmission and replace the drain plug.
3. Install 1600cc of the specified oil in the transmission.

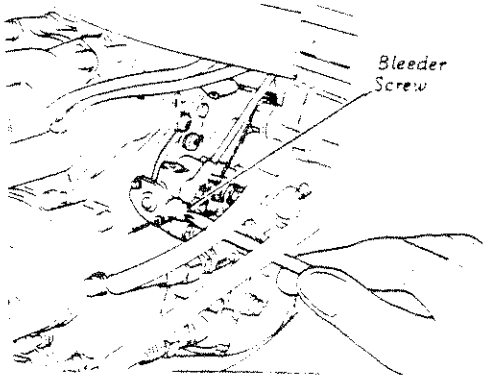
ENGINE OIL INSTALLATION:

A. Metering Pump Oil Tank:

Fill the metering pump oil tank with one of the two recommended oils.

NOTE: Always insure that nothing is placed on top of the oil tank cap vent hole such as gloves, maps, etc.

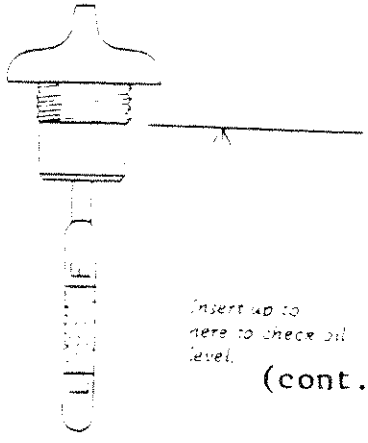
Bleed the metering pump oil line with the bleeder screw on the pump.



B. Engine Sump:

1. Place RE5 on center stand
2. Fill the sump to the "Full" mark on the dip stick.
3. Start the engine and let it idle until the temperature gauge reaches the center mark.
4. Shut off the engine and wait 15 minutes.
5. Recheck the oil level and bring it to the "Full" mark.

NOTE: ALWAYS follow this procedure when checking the sump oil level on the RE5, otherwise accurate measurements cannot be obtained.



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IGNITION TIMING:

1. Remove the left side alternator cover "SUZUKI" emblem and the rubber plug under it.

2. Insert a 17mm T-handle through the hole and on to the head of the alternator rotor fitting bolt.

3. Remove the breaker housing cap on the right side of the engine.

4. Remove the nylon point covers.

5. Clean the contact point faces if necessary. Inspect for oil, burning, and pitting.
   a. File the points faces with a #120 grit flex-stone, .024" thick.
   b. Clean the point faces off with electrical contact cleaner.
   c. Blow the point faces off with compressed air.
   d. Draw a strip of thin slick card board (business card) through the point faces to burnish the point faces.
   e. Lube the point cams with a small quanity of high quality point cam grease.

6. Set the point gap to .45 mm $\pm$ .05mm (.017" $\pm$ .002").

7. Remove the timing mark inspection cover held in place with the two (2) 6mm bolts on the left counter weight cover.

8. Remove the spark plug from the rotor housing.

9. Insert the spark plug into the plug cap and lay the spark plug by the timing mark inspection hole.

10. Turn the ignition key to the "On" position.

11. Turn the 17mm T-handle clockwise and note at how many degrees BTDC the spark plug fires. Set to 5° BTDC.

12. Adjust the timing by gently loosening the four (4) allen head bolts holding the breaker point housing and rotating the housing CCW to advance the timing and CW to retard the timing.

13. After setting the timing, tighten the four (4) breaker point housing allen bolts gently and evenly in a criss-cross pattern. This procedure is necessary to prevent breaking the breaker point housing mounting tabs.

14. Recheck the ignition timing.

(cont.)

15. Reinstall the nylon point covers and the breaker point housing cover.

16. Gap the spark plug to .55mm (.022 in.) and reinstall.

CARBURETOR AND PORT VALVE ADJUSTMENTS:

1. Loosen and run all of the throttle cable adjusters all of the way in. (Total of 7 adjusters.)

2. Loosen the lock nut on throttle grip stop and run the throttle stop adjusting screw out until it no longer affects the throttle grip movement.

3. Remove the fuel tank after disconnecting the petcock vacuum line, the fuel line and the fuel level switch connector.

4. Loosen the carburetor air inlet hose clamp, remove the hose from the carburetor intake horn and fold the hose back under the upper frame tube.

5. Remove the three (3) acorn nuts and the carburetor intake horn.

6. Remove the 8mm nuts and washers that hold the carburetor to the intake manifold.

NOTE: The nuts may be removed by using a 12 point, 12mm, box end wrench from the left side or a 3/8" drive 12mm socket, universal, extension, and ratchet from the right side. It is not necessary to remove the fan.

7. Back the idle speed adjusting screw out all of the way.

8. Remove the rubber plug in the carb cover.

9. Turn the carburetor sideways and rest the carburetor stud on the intake manifold stud. This will hold the carburetor whil adjustments are being made. Make certain that there is no tension on any of the cables.

10. With the choke in the "off" position check to make certain that the primary throttle plate is closing completely.

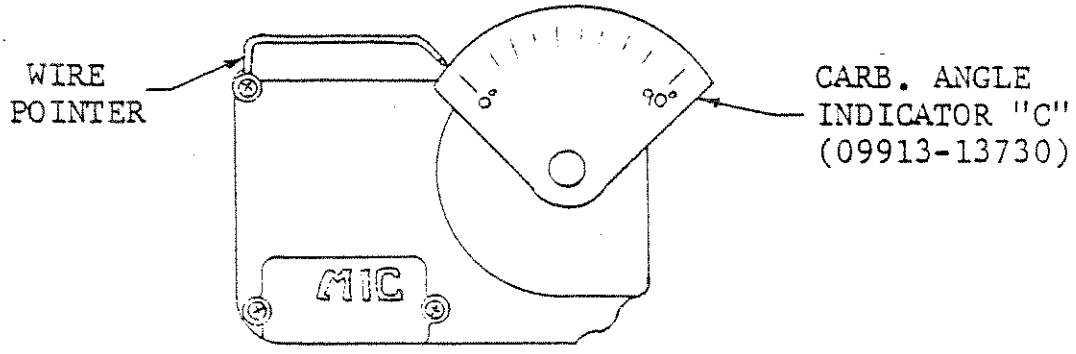
NOTE: If the adjusters are run all of the way in, the idle speed screw is completely out, and the choke lever is in the "off" position, and the primary throttle plate still will not close completely, check the part number printed on the pull cable close to the cable adjuster at the throttle grip. If the cable is stamped

(cont.)

37000 it may be necessary to remove the throttle grip stopper piece from inside the throttle grip housing to obtain a completely closed primary throttle plate. Be sure to reinstall the stopper piece after completing all adjustments.

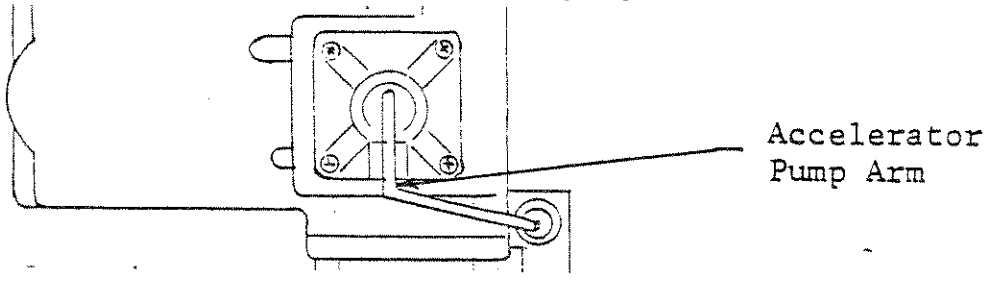
11. Install the carburetor angle indicator "C" on the primary throttle plate shaft. (09913-13730)

12. Install a wire pointer to one of the carb cover screws and set it to 0° as shown:



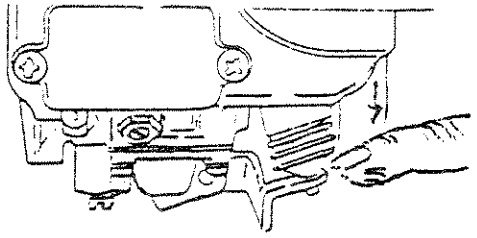
13. Accelerator Pump Touch Timing Adjustment:
    a. Early style accelerator pump: This pump can be identified by the right angle bend in the pump arm.

Carburetor: Bottom View



To adjust this style accelerator pump the excess play must be manually removed from lever to accurately determine when the diaphram begins to be compressed.

1) Lightly press down on the accelerator pump arm as shown. Press just hard enough to remove the slack from the linkage.

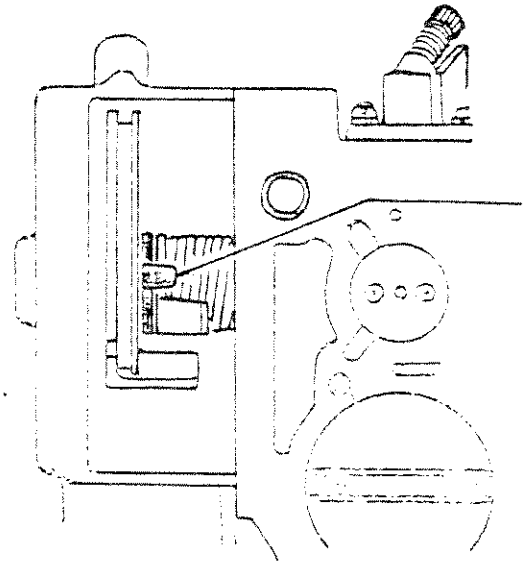


(cont.)

2) Slowly twist the throttle until the accelerator pump arm just begins to move. This should be 28°.

NOTE: Be sure that there is fuel in the float bowl and accelerator pump before checking touch timing.

3) If the lever begins to move either before or after 28°, adjust the timing by bending the brass-colored tab located beside the carburetor cable pulley on the primary throttle shaft.



Bend this tab to adjust.

NOTE: Be careful when bending the tab not to warp the arm that the tab is on. Check for free movement of this arm after bending the tab.

b. New Style Accelerator Pump: Since there should be little or no play in this system follow procedures 14. a. 2) and 14. a. 3).

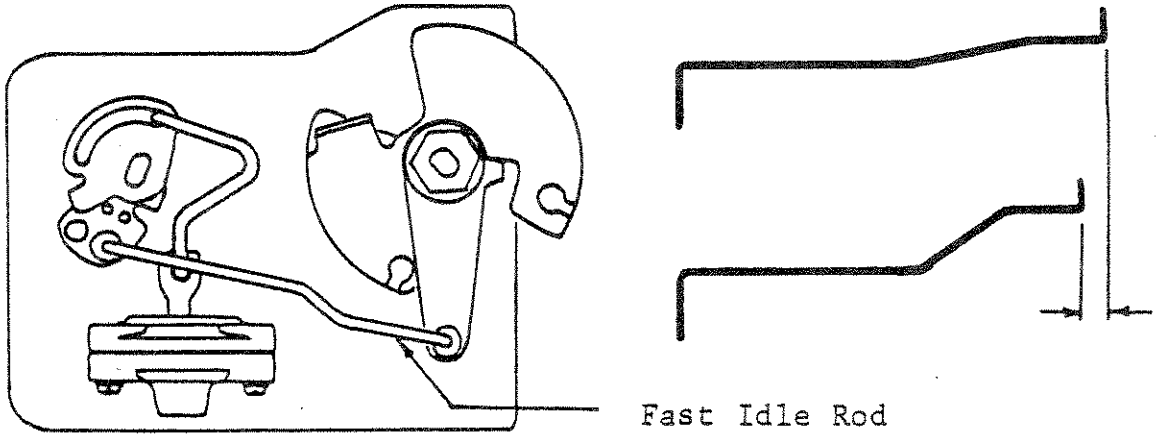
14. Fast Idle Adjustment:

a. Return the throttle grip to the closed position. Check to see that the primary throttle plate closes completely to a fully closed position. On some carburetors it may be necessary to manually close the throttle plate the final 5 to 10 degrees.

b. Press the choke lever down to the full "On" position. The primary throttle should open 25.5° ± 0.75°. If it opens more or less than this figure adjust by bending the fast idle rod.

(cont.)

NOTE: It is necessary to remove the carburetor cover to do this.



15. Cable Adjustment:
    a. Turn the throttle grip pull cable adjuster out approximately 1/8" to 1/4" and lock it.
    b. Adjusting full open.
        1) Turn the throttle grip full open and check the primary throttle plate angle. The proper angle is 78 to 82°.
        2) If the angle is less than this, turn out the carburetor pull cable adjuster until this figure is reached. Lock the adjuster.
        3) Check to see that the carburetor will still return to the 0° position.
    c. Remove the port valve cover.
    d. Port Valve Timing
        1) Turn the throttle grip slowly and check when the port valve lever #1 touches port valve lever #2. The correct timing is 35°.
        2) Turn out the port valve pull cable adjuster until this figure is reached.

NOTE: If the port valve opens too soon (approximately 30°) even with the port valve pull cable adjuster run all of the way in, proceed as follows:

1. Turn the throttle grip until lever #1 just touches lever #2.

2. Turn out the carburetor pull cable adjuster until the primary throttle plate indicates 35°.

3. Lock the port valve pull cable and the carburetor pull cable adjusters.

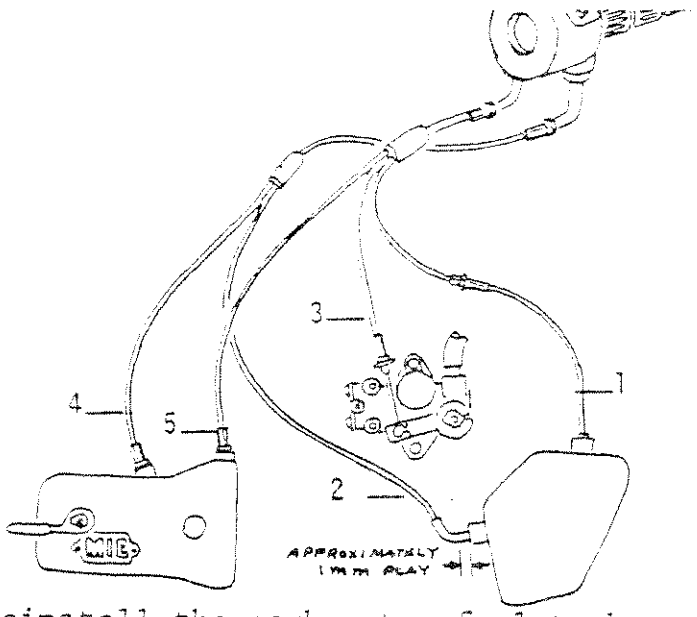
4. This may prevent the primary throttle plate from closing by 5° or so. However, since the primary throttle plate is open

(cont.)

approximately 18° at a 1200 rpm idle this will cause no problems.

e. Turn the throttle grip full open and turn out the oil pump cable adjuster until the mark on the oil pump arm corresponds with the mark on the oil pump body.

f. Return Cable Adjustment:
   1) Depress the choke lever fully to the "On" position.
   2) Run the carburetor return cable adjuster out approximately the same amount as carburetor pull cable adjuster and lock it.
   3) Turn out the throttle grip return cable adjuster until the choke lever just begins to move.
   4) Turn in the throttle grip return cable adjuster until you have about 1mm of play at the adjuster and lock it.
   5) Turn out the port valve return cable adjuster until only a small amount of slack is left in the return cable.
   6) Lock the adjuster.



1. OPENS PORT VALVE
2. CLOSES PORT VALVE
3. CONTROLS OIL PUMP
4. CLOSES PRIMARY THROTTLE PLATE
5. OPENS PRIMARY THROTTLE PLATE

16. Reinstall the carburetor fuel tank, etc., and recheck the port valve adjustment. Correct if necessary.

17. Check the port valve cable routing to insure that it does not interfere with secondard throttle plate linkage.

18. Run in the idle speed screw until the primary throttle plate is open approximately 18° with the choke lever in the "Off" position. Remove the carburetor angle indicator "C".

19. Setting the idle mixture:
   a. Turn in the primary pilot mixture screw in until the needle lightly bottoms. Back the screw out approximately 1/2 of a turn.

(cont.)

b. Thoroughly warm up the engine and set the idle to 1200 rpm.
c. With the bike on the center stand quickly open the throttle grip to bring the rpm's over 5,000 then quickly close the throttle grip.
d. If the exhaust has a popping sound or afterfires on deceleration, turn the primary pilot mixture screw out approximately 1/8 of a turn and repeat step c.
e. Continue this process until there is little or no hesitation when the throttle is quickly opened and no popping or afterfiring when the throttle is quickly closed.
f. Reset the idle to 1200 rpm if it has changed.

NOTE: The correct mixture at idle may cause a slight "lope" to the idle but it will cause no problems.

20. After the final idle adjustments have been made turn the throttle grip until you can feel the primary throttle plate spring tension against the grip.

21. Turn in the throttle grip stopper screw until it touches the grip.

22. Back off the stopper screw slightly and lock it with the lock nut.

NOTE: This remove the slack from the carburetor pull cable that resulted from opening the primary throttle plate from 0^{o} to approximately 18^{o} to obtain a 1200 rpm idle.

23. Insure that there is a small amount of play left in the grip and that the idle will not raise when the handlebars are turned from side to side.