



RMT 80 CYCLE
SERVICE MANUAL

ADDITION 1



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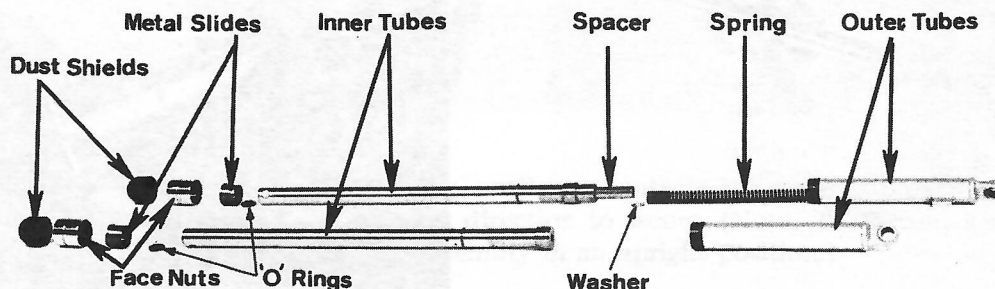
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SERVICE MANUAL

ADDITION 1

FRONT FORKS

For the purpose of identification, the right hand and left hand fork tubes as referred to in the following content, are as viewed when you are standing in front of the bike.



A. Operation

The front forks are designed to withstand a great deal of shock and very seldom need attention. The right tube of the front fork assembly operates on the principle of oil pressure working against air pressure in a confined area. The right tube also contains a large spring inside to assist the operation in an extremely compressed position. The left tube of the front fork assembly works strictly from the principle of oil pressure vs air pressure in a confined area.

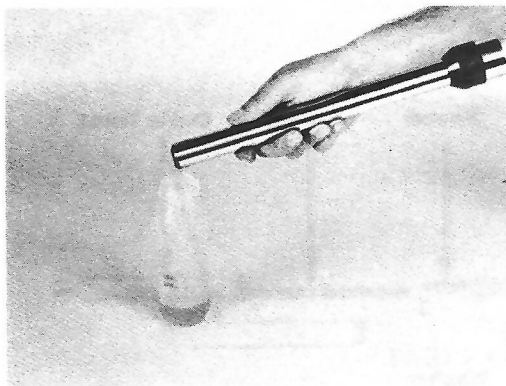
B. Removal and Disassembly

- (1) Block up motorcycle so the front wheel is off the ground (6 to 8 inches) and in a stable position.
- (2) Remove the front wheel, (Note position of axle spacers for reassembly) brakes, and speedometer pickup.
- (3) Disconnect the headlight wiring. Remove the headlight.
- (4) Remove the 10mm bolts and washers that secure the fork tubes to the upper yoke plate.
- (5) Loosen the two pinch bolts on the bottom yoke plate.
- (6) Remove the left and right fork tubes.

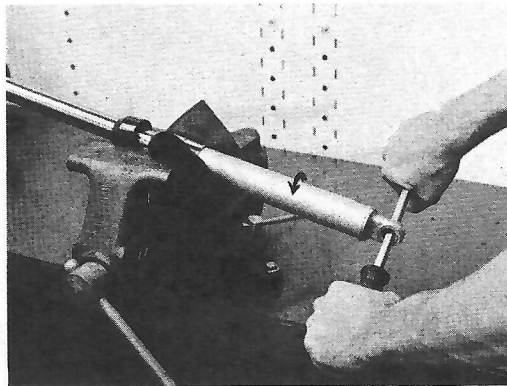
C. Fork Tube Disassembly

- (1) Remove fork oil by turning fork tubes upside down and slowly working tube in and out until oil is drained. (See Illustration No. 0416). (Caution: To insure that the "O" rings at the top of each fork tube are not lost remove before starting procedure.)

- (2) Remove the outer tube by placing a shop rag or sheet of rubber over the outer nut. Clamp the outer nut in a vice and unscrew outer tube in counterclockwise direction. (See Illustration No. 0417.) (Note: Do not apply enough pressure to deform outer nut in vice.)



0416



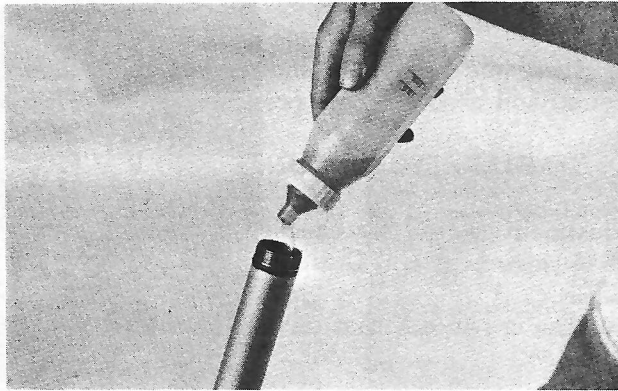
0417

D. Inspection and Repair

- (1) Check the inner tubes for bends or scratches. If inner tube is bent replace with new parts. If inner tube is scratched badly enough to permit excessive loss of oil replace with new parts. (Caution: Do not attempt to restraighten a bent inner tube, because the stress the front forks receive make this an extremely unsafe practice.)
- (2) The outer tubes should be replaced if they have been bent. (Caution: Using an outer tube that has been bent is an extremely unsafe practice.)
- (3) Inspect all "O" rings and packing. If any are torn or frayed, replace them.
- (4) Oil leaking from the top of the inner tube indicates a loose bolt or a defective "O" ring. Replace "O" ring if necessary.
- (5) Replace the packing when a leak occurs between the outer tube and the outer nut.
- (6) Soft or spongy fork action may be corrected by adding the proper amount of fork oil as covered below.

E. Fork Reassembly

- (1) Fill the left hand outer tube with 125cc of any good quality motorcycle fork oil. The right tube of the fork assembly uses 105cc of fork oil. (See Illustration No. 0418.)
- (2) Slowly slip the outer tube over the inner tube. (Caution: Any amount of oil lost will have to be replaced.)



0418

- (3) Bring the outer nut down until nut contacts the outer tube. Turn the outer tube in a clockwise direction to secure. (Note: To prevent loss of oil, keep the fork tube assembly in an upright position.)
- (4) Slide inner tubes through the bottom yoke plate. Secure to the upper yoke plate with the two 10mm bolts and washers and the two pinch bolts on the bottom yoke plate.
- (5) Replace headlight, speedometer pickup, and front wheel.

F. Specifications On Fork Oil Level

	Right Hand Tube	Left Hand Tube
Correct Oil Volume	105cc	125cc
Depth from top of tube.	10 1/4"	11 13/16"
Minimum Oil Volume	97cc	117cc
Depth from top of tube.	11 13/16"	13"
Maximum Oil Volume	113cc	153cc
Depth from top of tube.	8 11/16"	7 7/8"

Checking Fork Oil

- (1) Remove the two 10mm bolts that secure fork tubes to upper yoke plate.
- (2) Insert a measuring tape into fork tube through hole where the two — 10mm bolts previously mounted.
- (3) Correct oil level for right hand tube is 10 1/4" from top of fork tube, the left hand tube is 11 13/16" from top of fork tube.
- (4) Do not exceed maximum and minimum oil levels as shown above.

- (5) Electrolyte level may have fallen during standing. Refill to upper level.

C. Charging

An initial charging of the battery, is a must before placing in service.

- (1) The recommended charging current is .2 amperes for a period of 10 to 12 hours or until battery starts gassing freely.

D. Installation

- (1) Install the battery into battery carrier.
- (2) Secure battery with rubber strap.
- (3) Connect positive lead (red) and negative lead (blue) from battery to the corresponding color coded wires from wiring harness. (Caution: Correct battery polarity is extremely important. The battery can be damaged by an incorrect terminal connection.)
- (4) After installation, be sure exhaust tube is not folded or crimped. (Caution: This is very important because the battery may explode if the gas fumes cannot escape properly.)

E. Maintenance Service

- (1) Electrolyte level should be checked at a minimum of once a month. If found lower than the middle of the upper and lower levels, refill with distilled water. Never use electrolyte (dilute sulphuric acid) to refill to upper level.
- (2) The fuse contained in the positive (red) battery lead is a safety precaution against shorting in any electrical components. If electrical element in fuse is broken, check electrical components for shorting. Then replace with Rupp P.N. 16340 fuse.

HEADLIGHT

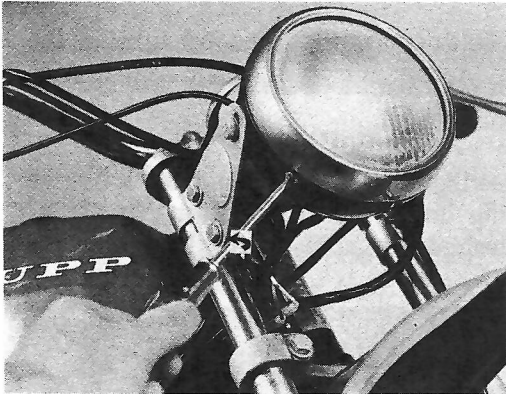
A. Removal

- (1) Remove the two 5/16-18 headlight mounting bolts.
- (2) Disconnect headlight wiring harness from main wiring harness.

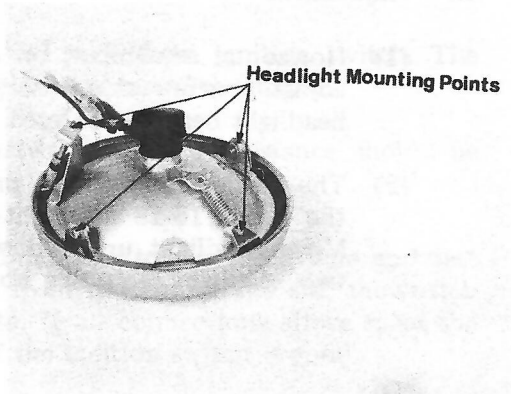
B. Disassembly

- (1) Remove bezel screw. (See Illustration No. 0421.) Pull bottom of headlight and bezel assembly out — then lift up for removal.

- (2) Removal of the high beam indicator socket and bulb components is easily done by turning the socket in a counterclockwise direction. Disconnect wiring and remove.
- (3) Remove the two mounting bolts, horizontal adjustment bolt, and spring (See Illustration No. 0422) that secures the headlight to the bezel.



0421



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C. Inspection and Replacement

- (1) Check headlight bulb. If bulb is burned out or cloudy, replace with new bulb. Inspect wiring and repair if necessary. If either the high or low beam does not function, replace with new bulb.
- (2) Check the high beam indicator bulb. If bulb is burned out or cloudy, replace with new bulb.
- (3) Inspect headlight lens. If lens is cracked or broken, replace with new bulb.
- (4) Inspect headlight housing. If dented, repair if possible or replace if necessary.

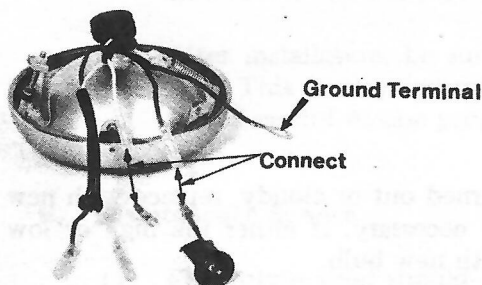
D. Reassembly

- (1) Install yellow and black wire leads from the high beam indicator into the short yellow and black wire leads in the headlight harness. (See Illustration No. 0423.)
- (2) Install headlight and bezel assembly onto headlight housing and secure with bezel screw.
- (3) Connect the headlight lead with leads on main wiring harness. Connect the long green lead from headlight to green on main wiring harness. Connect yellow lead from headlight to BROWN lead on main wiring harness.

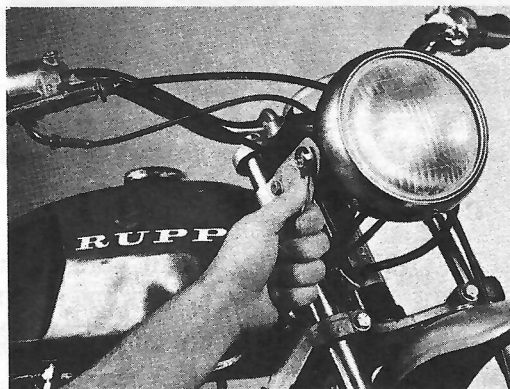
- (4) Install headlight assembly between headlight bracket. Place black ground lead from the headlight harness (See Illustration No. 0423) between headlight body and headlight bracket. Install star lock washer between headlight bracket and ring terminal on ground lead to insure a good electrical ground. Secure with the two 5/16-18 headlight mounting bolts.

E. Adjustment

- (1) Horizontal adjustment on the headlight is accomplished by turning the adjusting screw clockwise (right) or counterclockwise (left). Adjust until headlight beam is centered with front wheel.
- (2) The vertical adjustment on the headlight is accomplished by loosening the two 5/16-18 headlight mounting bolts. (See Illustration No. 0424.) Move headlight up or down as desired for adjustment. Retighten the two headlight mounting bolts.



0423



0424

IGNITION SWITCH AND RECTIFIER

A. Operation

The ignition switch is located on the right side of the motorcycle. This switch controls the electrical functions of the engine and lighting systems. The rectifier for charging the battery is also located on the back of the ignition switch. The "off" position grounds the ignition system — this stops the engine. The next position is "on", at this position the engine can be started but the headlight and taillight will not operate. The third position allows headlight and taillight to operate. The engine can also be started in this position. (See Illustration No. 0431.)

B. Removal

- (1) Remove gas tank and seat.
- (2) Remove face nut that secures ignition switch to battery carrier. Remove ignition switch.
- (3) Disconnect all electrical leads.

C. Testing

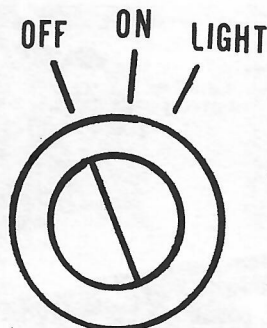
To check switch in the "on" positions:

- (1) Insure that ignition switch is in the "on" middle position.
- (2) Connect the positive lead of an ohmmeter to the green wire from ignition switch.
- (3) Connect the negative lead to the red wire from ignition switch. The ohmmeter should read between 5 and 30 ohms of resistance.
- (4) Next reverse the positive and negative leads, the resistance should be infinite.
- (5) Connect the positive lead of the ohmmeter to the green wire and test the resistance from all other wires from the switch and also the switch case, the readings should be infinite. If all connections above meet the desired readings the "on" circuit of the ignition switch is good.

To check switch in the lighting position:

- (1) Connect the positive lead of an ohmmeter to the yellow wire which is encased in black tubing with the green, black, and white wires.
- (2) Connect the negative lead to the other yellow wire lead from switch, the resistance should be between 5 and 30 ohms.
- (3) Next remove the negative lead and reconnect with the white wire, the resistance should be 0.
- (4) Then remove the negative lead from the white wire. Connect the negative lead from ohmmeter to all other wires except the red and the switch case, the resistance should be infinite. If all connections above meet the desired readings, the lighting circuit is good.

The ignition switch can not be repaired, if test results are not as shown above, replace switch.



IGNITION SWITCH

0431

D. Installation

- (1) Insert switch into ignition switch access hole on battery carrier.
- (2) Secure with face nut contained on ignition switch.
- (3) Make all electrical connections, as shown in illustration No. 0432.
- (4) Replace gas tank and seat.

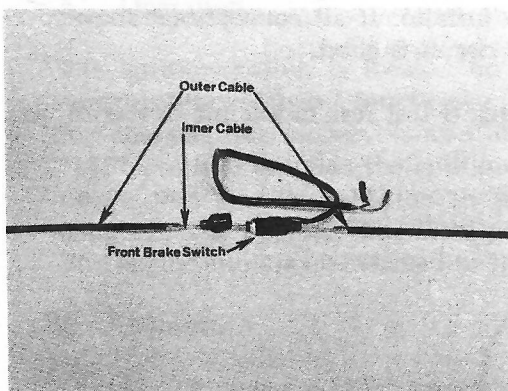
FRONT BRAKE SWITCH

A. Removal

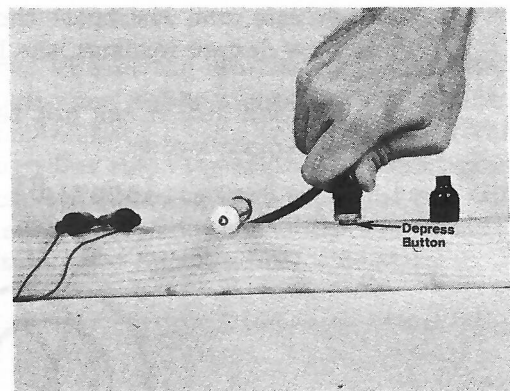
- (1) Disconnect front brake cable, top and bottom.
- (2) Remove gas tank and seat.
- (3) Disconnect the red and brown lead wires from front brake switch.

B. Testing

- (1) Remove the inner cable from the assembly. (See Illustration No. 0425.)
- (2) Remove the top and bottom sections of the outer cable. (See Illustration No. 0425.)
- (3) Connect the test leads from a continuity test light to the red and brown terminals from front brake switch.
- (4) Remove rubber boot from top of front brake switch.
- (5) Depress button on top of brake switch. (See Illustration No. 0426.)



0425



0426

- (6) The test light will light if front brake switch is good.
- (7) If test light fails to light, replace front brake switch.

C. Installation

- (1) Install top and bottom sections of outer cable in switch. (Note: The top section of outer cable is shorter than the bottom section of the outer cable.)
- (2) Insert inner cable through outer cables and brake switch.
- (3) Install front brake cable to brake lever and brake actuating arm.
- (4) Connect red male lead from front brake switch to red female lead from battery adaptor harness. Connect brown female lead from brake switch to brown male lead from taillight wiring harness.
- (5) Adjust cable by turning ferrules in or out as desired.

REAR BRAKE SWITCH

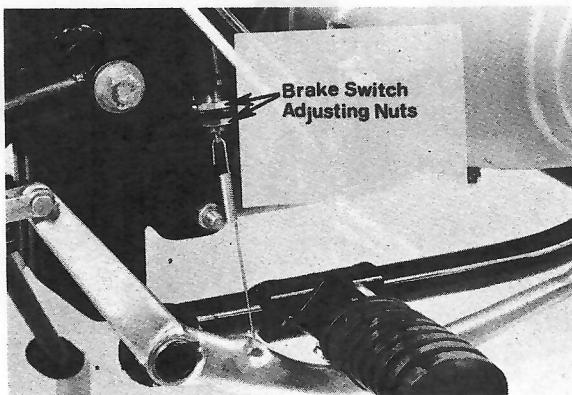
A. Removal

- (1) Disconnect stoplight switch spring.
- (2) Remove the bottom adjusting nut and fiber washer from stoplight switch. (See Illustration No. 0427.)
- (3) Disconnect red and brown electrical leads from main wiring harness.
- (4) Remove stoplight switch.

B. Testing

The rear brake switch seldom needs attention. If switch fails to work, insure that stop/taillight bulb is in good condition. If so, proceed as follows:

- (1) Connect the leads of a continuity test light to red and brown leads from stoplight switch.
- (2) Depress rear brake pedal. Test light should light. If not, stoplight switch is defective and should be replaced.



0427

C. Installation

- (1) Remove bottom adjusting nut and fiber washer.
- (2) Install stoplight switch into position and secure with fiber washer and adjusting nut.
- (3) Make all electrical connections. Red to red on battery adaptor harness, brown to brown from taillight harness.
- (4) Adjust switch position to insure proper operation. (See Illustration No. 0427.)

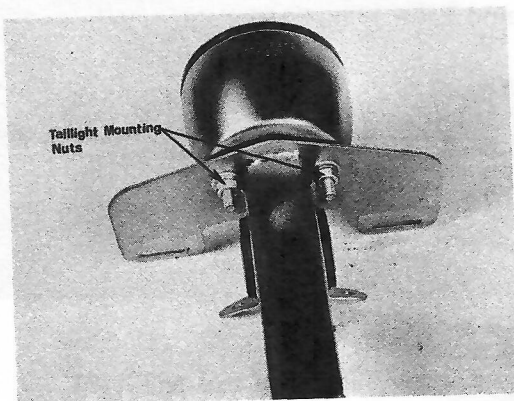
TAIL/STOPLIGHT

A. Removal

- (1) Remove seat and fuel tank.
- (2) Disconnect tail/stoplight wiring harness.
- (3) Remove tail/stoplight from fender mounting bracket. (See Illustration No. 0428.)
- (4) Remove taillight lens for bulb access. (See Illustration No. 0429.)

B. Inspection and Replacement

- (1) Check tail/stoplight bulb. If bulb is cloudy or burned out, replace with new bulb.
- (2) Inspect taillight lens. If lens is cracked or broken, replace with new lens.
- (3) Inspect tail/stoplight body. If body is bent or damaged, replace with new assembly.



0428



0429

C. Installation

- (1) Insert brown and yellow wire leads through grommets in fender.
- (2) Connect yellow lead to yellow from ignition switch. Connect main brown lead to brown from front brake switch. Connect short brown lead to brown from rear brake switch.
- (3) Install tail/stoplight in mounting bracket and secure with the two ¼-20 hex nuts.
- (4) Replace seat and fuel tank.

HORN

A. Removal

- (1) Disconnect electrical leads.
- (2) Remove 8mm hex nut that secures horn to bracket.

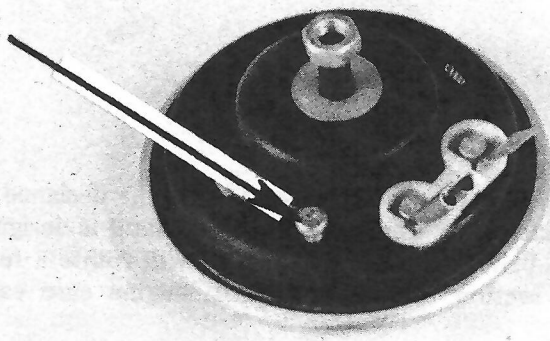
B. Adjustment

- (1) The horn pitch can be changed by turning the small screw located on the back of the horn to the left or right. (See Illustration No. 0430.)
(Note: Horn will not operate if screw is turned too far either way.)

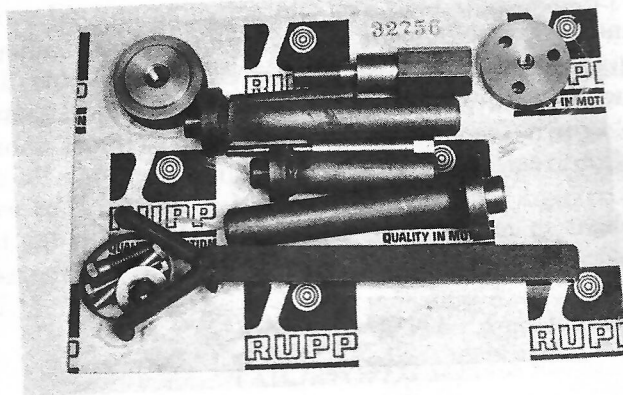
C. Replacement and Installation

- (1) Horn cannot be repaired. Replacement is necessary if horn will not work.
- (2) Install horn by inserting stud through bracket and securing with 8mm hex nut and rubber washer.
- (3) Connect electrical leads.

**Adjustment
Screw**

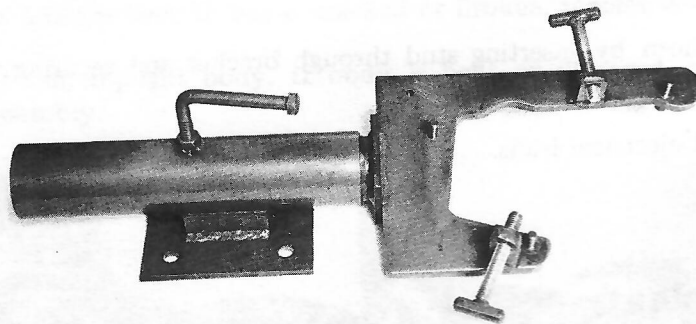


Part Number 32756 Tool Kit--RMT--80



Shown above is a complete set of special tools designed to prevent damage to the engine during disassembly and assembly. The set contains three various sized bearing drifts, for removal and assembly of the crankshaft, main shaft, and countershaft bearings. A flywheel puller for fast and simple removal of the flywheel. A flywheel holding tool for securing flywheel during removal of the flywheel nut. A clutch tool which is used for compressing the clutch springs so the snap ring can be removed easily for access to the clutch plates. A wrist pin extractor to prevent damage to the piston and connecting rod during removal of the wrist pin. Also included in this kit is a control shaft snap ring installer for easy installation of the control shaft snap ring.

Engine Stand--RMT--80



Shown above is the Fugi engine stand which is designed for holding the Fugi engine during disassembly and assembly. The stand is designed so it will mount conveniently on a bench or table top. Stand will rotate a full 360° for fast and easy access to any section of engine desired, engine case can also be split while in stand.

