



MOTOBECANE

Dealer Manual

DEALER SERVICE REQUIREMENTS

INTRODUCTION

The following Dealer Service and Parts Department Policy and Procedures have been prepared by Motobecane America to assist you, our dealers, in upgrading and developing the service you render to your customers.

Our requirements are reasonable and it has been proved that compliance with these requirements will result in increased efficiency and revenue for your service department.

The Motobecane is the finest motorized bicycle in the world and a great source of pride for us. We want you to be proud of handling and servicing our line.

You may be certain that the full capabilities of the Motobecane America service organization are always ready, anxious and able to assist you in rendering excellent service.

SERVICE DEPARTMENT FACILITIES

The Motobecane Dealer must have an appropriate service department of his own, corresponding in size to the potential Motobecane market in the area in which the dealer is operating. The space must be adequate for the parts and accessories department.

The service and parts department shall be maintained in good condition, clean and well lighted.

Motobecane parts should be well presented, an important sales asset, and preferably, standard steel bins should be used with all parts arranged in standard containers and properly identified. There should also be a storage and display area for accessories visible from the retail sales floor.

Motobecane America, Ltd., will be pleased to assist and offer suggestions when a dealer desires to enlarge or remodel his facilities.

PERSONNEL AND TRAINING

The Motobecane authorized dealer is required to have at least one Motobecane Certified Technician. The Technician will be awarded the Motobecane Certificate upon completion of the Motobecane service course.

It is a requirement that a non-certified Technician attend the Motobecane service course as subsequent service schools are conducted. The persons attending must complete the course and, in the opinion of the service instructor, attain a passing grade.

A certificate of satisfactory completion of the course will be awarded by Motobecane America, Ltd. at the conclusion of the school.

DEALER SERVICE REQUIREMENTS

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CUSTOMER RELATIONS

Service complaints can often be turned to advantage in terms of goodwill.

The manner in which a complaint is dealt with can be a factor in obtaining repeat sales, and customer complaints should, therefore, be given every prompt consideration. If, for any reason, the dealer is not able to quickly solve an owner's service complaint, the assistance or advice of Motobecane America should be obtained.

The Technical Director or a Service Representative of Motobecane America will be available to assist your handling of owner complaints, but they will not assume the dealer's function in such matters.

CUSTOMER SERVICE HISTORY FILES AND FOLLOW-UP SYSTEM

The dealer should keep a customer service history file. This file can be a simple alphabetical record of the customer's repair orders or an elaborate card file. In either case, the chosen system must be kept up-to-date so that if a complaint arises, a complete detailed service history of the machine can be quickly and easily obtained from the dealer.

A customer follow-up system to produce reminders to customers at the recommended service intervals is suggested. Such a system can help to improve a situation where a dealer is not receiving a reasonable service return.

The follow-up system can also be used in conjunction with periodic specials (Spring, Summer, and Fall Service Promotions).

Consult with Motobecane America, Ltd. for a recommended service parts and accessories merchandising approach.

SERVICE AND PARTS LITERATURE

All dealers are provided with this binder in which to maintain the service and parts literature issued by Motobecane America, Ltd. This dealer manual must be kept up-to-date and in proper file at all times.

Individual sections of the manual, e.g. Repair Operations or Illustrated Parts Catalog, are available from Motobecane America, and it is recommended that each technician be supplied with his own set of such sections for ready reference.

Periodically, Service and Parts Bulletins will be issued to advise the dealer of changes relative to the servicing procedures and parts fitment on Motobecane machines. These bulletins should be kept in proper file in the space provided in the Dealer Manual.

DEALER SERVICE REQUIREMENTS

MOTOBECANE AMERICA, LTD.

LIMITED WARRANTY

Motobecane America, Ltd. warrants the Motobecane Moped to the original retail purchaser in accordance with the following terms and conditions:

Motobecane America, Ltd. warrants that the Motobecane Moped to which this warranty applies is free of defects in material and workmanship for all components and accessories (except normal wear items as provided below) supplied by Motobecane America, Ltd. for a period of 120 days or 2000 miles (whichever occurs first) from the date of original retail sale. In the event of breach of the foregoing warranty, Motobecane America, Ltd., through its authorized dealers and service centers at no expense to the purchaser, shall provide labor and components to replace or repair (at its option) the defective parts.

This limited warranty does not apply to:

- A. Normal maintenance services as shown in the Owner's Handbook supplied with the Motobecane Moped and any parts used in connection with such services.
- B. Repairs necessitated by accident, abuse, misuse, negligence, improper maintenance (including fuel mix ratio, poor quality oil, or lack of oil) or modifications.
- C. Tires, tubes, bulbs, springs and cables.
- D. Any use of the Motobecane Moped other than normal on-street use including trail use or off-street use.

In the event of a breach of the foregoing warranty, the liability of Motobecane America, Ltd. shall be limited to the replacement or repair of the defective parts and to the providing of labor necessary to replace or repair defective parts.

THE REMEDIES PROVIDED FOR IN THE ABOVE EXPRESS WARRANTY ARE THE SOLE AND EXCLUSIVE REMEDIES THEREFOR. NO OTHER EXPRESS WARRANTIES ARE MADE. ALL IMPLIED WARRANTIES INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY. IN NO EVENT SHALL MOTOBECANE AMERICA, LTD. BE LIABLE FOR INCIDENTAL EXPENSES OR CONSEQUENTIAL DAMAGES. NO WARRANTIES, EXPRESS OR IMPLIED, ARE MADE TO ANY BUYER FOR RESALE OR TO ANY RENTER OF THE MOTOBECANE MOPED.

This limited warranty shall be null and void and Motobecane America, Ltd. shall have no obligation whatsoever under this limited warranty unless the warranty service is performed by a Motobecane Moped dealer or service center authorized by Motobecane America, Ltd.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

DEALER SERVICE REQUIREMENTS

In order to insure timely record keeping in determining the effective date of this limited warranty, the warranty registration card should be mailed within five days from date of purchase, provided, however, that a failure with respect to such mailing shall not affect the applicability of this warranty.

Motobecane America, Ltd.
86 Orchard Street
Hackensack, New Jersey 07601

DELIVERY OF MACHINE TO OWNER AND WARRANTY REGISTRATION

When delivering the machine, the owner should be presented with the Owner's Handbook and shown the recommended way of starting, operating, and stopping the machine (Pages 11 through 15 of the Owner's Handbook). It is suggested that the dealer spend a few minutes with the owner pointing out specific operational features of the machine, emphasizing the importance of adherence to the recommended maintenance schedule to assure trouble-free performance of the machine.

1. In order to insure prompt warranty registration, the owner's Warranty Registration Card should be completely filled out by the dealer and sent to Motobecane America, Ltd., within five days after the machine is delivered to the owner.

2. The Motobecane Moped Warranty Certificate should be completed and signed by the dealer and presented to the customer at time of delivery. (This is the last page of the Owner's Handbook.)

The warranty certificate must be presented to the dealer each time a repair covered by warranty is requested by the owner. For this reason, it is essential that the dealer has correctly filled in the required information on the certificate.

ALL REPAIRS PERFORMED UNDER WARRANTY

All parts replaced under the Motobecane Warranty are to be properly tagged with the appropriate copy of the claim form and dealt with in the following manner.

1. All internal engine parts thought to be defective, and as a result of the supposed defect have caused engine damage or seizure, must be returned to Motobecane America, Ltd. for warranty evaluation along with the claim form before a credit will be issued. These parts must not be cleaned. (Eg., crankshaft, support bearings, piston, cylinder, etc.) NOTE: The return of warranty parts with claims may be arranged at no charge to the dealer by notifying Motobecane America, Ltd. of the weight of each box and date for pick up by UPS.

DEALER SERVICE REQUIREMENTS

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2. All other parts which are thought to be defective must be tagged and held by the dealer for a period of 90 days starting from the date the warranty claim is submitted to Motobecane America, Ltd. for credit. Under certain conditions, Motobecane America, Ltd. will require that specific and/or all parts corresponding to warranty claims be sent back for inspection. Failure to comply with this requirement will result in a rejection of warranty credit. After the 90-day storage period, and warranty parts that have not been required for inspection by Motobecane America, Ltd. shall be disposed of to avoid confusion with subsequent warranty claims.

Damage due to carelessness, or parts that have been tampered with will result in rejection of the warranty claim.

WARRANTY CLAIM FORM - PREPARATION AND SUBMISSION

The warranty claim form simplifies warranty processing procedures and reduces processing time. All warranty claims must be received within 60 days of completion of a warranty repair. Claims older than 60 days will be denied.

All warranty claim forms must be typed or printed legibly. Illegible entries will result in returned claims and will delay warranty credit. The warranty claim form consists of four parts which are distributed as follows:

- | | | |
|------|--|---|
| COPY | 1. Service Department Copy | } Mail to your appropriate Motobecane America, Ltd. regional headquarter. |
| | 2. Parts Department Copy | |
| | 3. Parts Return Copy - insert in parts return envelope with part or tag to the defective part. This identifies the parts with the previously mailed Warranty Claim Form. | |
| | 4. Dealer Copy - retained by dealer as part of his permanent service records. | |

NOTE: ALL INTERNAL ENGINE PARTS REPLACED UNDER WARRANTY MUST BE RETURNED TO MOTOBECANE AMERICA FOR EXAMINATION.

WARRANTY CREDITS

Once the dealer has established that a repair is covered by the warranty, the owner should not be charged for the warranty repair. In the case of engine failure, final approval of the warranty claim is through Motobecane America, Ltd. If there is any doubt as to the warrantability of any repairs, the appropriate Motobecane America, Ltd. regional headquarters should be contacted.

Labor - Each dealer will be reimbursed for his labor costs based on the Motobecane America, Ltd. warranty flat rate schedule. Any repairs performed under warranty which are not listed in the Motobecane flat rate schedule will be credited at a labor rate of \$9.00 per hour after review and approval by Motobecane America, Ltd.

Parts - Dealers will be credited through Motobecane America, Ltd. for Motobecane approved parts used on a valid warranty claim.

DEALER SERVICE REQUIREMENTS
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MOTOBECANE WARRANTY FLAT RATE MANUAL

Explanation:

Each of the repair codes listed in this Motobecane flat rate manual has its payment rate calculated as a complete and comprehensive repair. The repair codes listed already include the average trouble shooting time and the time necessary to remove and refit other components while repairing the actual problem. Therefore, only the repair code which described the defective part shall be listed on the Warranty Claim Form.

For example:

| <u>Repair Code</u> | <u>Description</u> | <u>Flat Rate</u> |
|--------------------|---|------------------|
| B-2 | Complete engine overhaul | 25.20 |
| Included in B-2 | (B-1 Remove and refit engine B-3 Remove and replace cylinder head B-4 Remove and replace cylinder B-5 Remove and replace clutch etc. | |

ELECTRICAL REPAIRS

| <u>REPAIR CODE</u> | <u>DESCRIPTION OF WORK PERFORMED</u> | <u>FLAT RATE</u> |
|--------------------|---|------------------|
| A-1 | Adjust ignition (point gap, plug gap, timing) | 4.50 |
| A-2 | Replace points and/or condenser | 3.60 |
| A-3 | Replace lighting coil (in magneto) | 5.40 |
| A-4 | Replace stop light coil (in magneto) | 5.40 |
| A-5 | Replace exciter coil (in magneto) | 5.40 |
| A-6 | Replace high tension coil | 2.70 |
| A-7 | Replace radio suppressor | 1.80 |
| A-8 | Replace magneto wiring harness | 1.80 |
| A-9 | Replace main wiring harness | 4.50 |
| A-10 | Replace tail light wiring harness | 4.50 |
| A-11 | Replace spark plug wire | .90 |
| A-12 | Remove, repair, and/or replace complete magneto (including ignition timing) | 6.30 |
| A-13 | Replace magneto flywheel | 1.80 |
| A-14 | Replace headlamp complete | 3.60 |
| A-15 | Replace tail light assembly complete | 2.70 |
| A-16 | Replace headlamp switch | 1.80 |
| A-17 | Replace either stop light switch | 1.80 |
| A-18 | Replace horn | .90 |
| A-19 | Replace horn and engine stop switch | 1.80 |
| A-20 | Remove and replace zener diode | 1.80 |

DEALER SERVICE REQUIREMENTS

CONT'D.

ENGINE REPAIRS

| <u>REPAIR CODE</u> | <u>DESCRIPTION OF WORK PERFORMED</u> | <u>FLAT RATE</u> |
|--------------------|--|------------------|
| B-1 | Remove and refit engine complete and adjust | 7.20 |
| B-2 | Complete engine removal, teardown, inspection, replacement of faulty components, rebuild, refit and adjustment | 25.20 |
| B-3 | Remove, service and/or replace cylinder head | 3.60 |
| B-4 | Remove, repair and/or replace cylinder, piston, and rings | 7.20 |
| B-5 | Remove, repair and/or replace clutch complete | 4.50 |
| B-6 | Remove and replace inlet pipe or gasket | 4.50 |
| B-7 | Remove, inspect, repair or replace carburetor and adjust controls | 4.50 |
| B-8 | Remove, repair or replace muffler | 3.60 |

CHASSIS REPAIRS

| <u>REPAIR CODE</u> | <u>DESCRIPTION OF WORK PERFORMED</u> | <u>FLAT RATE</u> |
|--------------------|---|------------------|
| C-1 | Replace engine flexiblocs | 10.80 |
| C-2 | Remove, repair and/or replace pedal shaft pulley | 3.60 |
| C-3 | Remove, repair and/or replace pedal axle | 3.60 |
| C-4 | Replace pedal shaft bushings | 5.40 |
| C-5 | Replace pedal arm or pedal | 1.80 |
| C-6 | Replace drive belt | 1.80 |
| C-7 | Replace engine chain | 2.70 |
| C-8 | Replace bicycle chain | 2.70 |
| C-9 | Replace chain tensioner | 2.70 |
| C-10 | Remove and refit front wheel complete | 2.70 |
| C-11 | Repack front wheel bearings | 4.50 |
| C-12 | Strip and rebuild front wheel complete | 13.50 |
| C-13 | Remove and refit rear wheel complete | 3.60 |
| C-14 | Repack rear wheel bearing | 5.40 |
| C-15 | Strip and rebuild rear wheel complete | 13.50 |
| C-16 | Remove and replace freewheel | 3.60 |
| C-17 | Remove and refit front brake shoes | 4.50 |
| C-18 | Remove and refit rear brake shoes | 4.50 |
| C-19 | Remove, repair and/or replace front fork complete | 10.08 |
| C-20 | Remove and replace either fork cover | 1.80 |

DEALER SERVICE REQUIREMENTS
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CHASSIS REPAIRS

Cont'd.

| <u>REPAIR CODE</u> | <u>DESCRIPTION OF WORK PERFORMED</u> | <u>FLAT RATE</u> |
|--------------------|---|------------------|
| C-21 | Remove and replace steering column lock | .90 |
| C-22 | Replace upper and/or lower steering head bearing and adjust | 9.00 |
| C-23 | Remove and refit handlebar, including controls | 4.50 |
| C-24 | Remove and replace front fender | 2.70 |
| C-25 | Remove and replace rear fender | 3.60 |
| C-26 | Remove and replace speedometer, housing or cable | 2.70 |
| C-27 | Replace handgrip assembly (left or right) | 2.70 |
| C-28 | Remove and replace seat post or seat | 1.80 |
| C-29 | Remove and replace rear shock absorber (left or right) | 2.70 |
| C-30 | Remove and refit rear swing arm | 8.10 |
| C-31 | Replace fuel tap complete | 2.70 |
| C-32 | Replace kick stand or spring | 3.60 |
| C-33 | Remove and refit chain guard (right or left) | .90 |
| C-34 | Remove and replace luggage carrier and/or brackets | 2.70 |
| C-35 | Replace complete frame | 67.50 |

FAULT CODES

| <u>CODE</u> | <u>DESCRIPTION</u> |
|-------------|-------------------------------|
| A | Broken |
| B | Cracked |
| C | Seized/Still/Blocked |
| D | Contaminated/Corroded |
| E | Burnt |
| F | Worn |
| G | Noisy/Vibration |
| H | Slipping |
| J | Leaking |
| K | Poor Connection/Open Circuit |
| L | Shorting |
| M | Factory Damage (not shipping) |
| N | Inoperative |
| P | Shipping Damage |

SOLEX WARRANTY FLAT RATE MANUAL

ENGINE REPAIRS

| <u>REPAIR CODE</u> | <u>DESCRIPTION OF WORK PERFORMED</u> | <u>FLAT RATE</u> |
|--------------------|---|------------------|
| E1 | Remove and replace light coil, ignition coil, horn coil, condenser | 4.50 |
| E2 | Adjust ignition setting, check gap at spark plug, check ignition and fuel supply. | 2.70 |
| E3 | Remove and replace moving and fixed contacts | 4.50 |
| E4 | Remove and replace spark plug lead with check on ignition and fuel supply | 2.70 |
| E5 | Remove fuel pump and replace either fuel membrane or seating piece | 1.80 |
| E6 | Remove and replace exhaust pipe assembly | 1.80 |
| E7 | Remove and replace fuel tank | 1.80 |
| E8 | Remove and replace cylinder head gasket | 1.80 |
| E9 | Remove and replace carburetor | 1.80 |
| E10 | Remove and replace cylinder, gasket, piston rings | 5.40 |
| E11 | Remove and replace piston | 9.00 |
| E12 | Remove and replace engine pivot pin and rubber bushings | 2.70 |
| E13 | Remove and replace flywheel rotor | 2.70 |
| E14 | Remove and replace stator bearing | 3.60 |
| E15 | Remove and replace clutch | 5.40 |
| E16 | Remove and replace drive roller | 9.00 |
| E17 | Remove engine | 3.60 |
| E18 | Replace engine and reconnect all cables and controls | 2.70 |
| E19 | Remove and replace crankcase complete | 18.00 |

CHASSIS REPAIRS

| <u>REPAIR CODE</u> | <u>DESCRIPTION OF WORK PERFORMED</u> | <u>FLAT RATE</u> |
|--------------------|--|------------------|
| F1 | Remove and replace wheel rim, hub, or all spokes (front or rear wheel) | 9.00 |
| F2 | Remove and replace left crank. | 1.80 |
| F3 | Remove and replace right crank and chain wheel | 2.70 |
| F4 | Remove and replace pedal spindle | 3.60 |
| F5 | Remove and replace crank reinforcement | 9.00 |
| F6 | Remove and replace kickstand | 1.80 |
| F7 | Remove and replace seat | .90 |
| F8 | Remove and replace drive chain | .90 |
| F9 | Remove and reassemble rear wheel, adjust rear brake | 1.80 |
| F10 | Remove and replace either rear brake lining or freewheel mechanism | 4.50 |
| F11 | Remove and replace rear carrier stays or rear mudguard stays | 2.70 |

SOLEX WARRANTY FLAT RATE MANUAL

CHASSIS REPAIRS
CONT'D.

| <u>REPAIR CODE</u> | <u>DESCRIPTION OF WORK PERFORMED</u> | <u>FLAT RATE</u> |
|--------------------|---|------------------|
| F12 | Remove and replace rear mudguard | 4.50 |
| F13 | Remove and replace rear fork blade, right or left | 4.50 |
| F14 | Remove and replace brake lever and controls, right or left | .90 |
| F15 | Remove and replace handlebar | 2.70 |
| F16 | Remove and replace front fork blade, right or left | 4.50 |
| F17 | Remove and replace front fork complete | 6.30 |
| F18 | Remove and replace front mudguard | 3.60 |
| F19 | Remove and replace splashguard | .90 |
| F20 | Remove and replace rear light wire | 2.70 |
| F21 | Repair main wiring harness | 1.80 |
| F22 | Remove and replace main wiring harness | 2.70 |
| F23 | Remove and replace horn | .90 |
| F24 | Remove and replace headlight or engine stop switch | 1.80 |
| F25 | Remove and replace headlight | 1.80 |
| F26 | Remove and replace tail and stop light | 1.80 |
| F27 | Remove and replace main frame | 27.00 |

DEALER SERVICE REQUIREMENTS

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PARTS POLICY AND PROCEDURES

Motobecane's policy is to distribute parts and accessories only through its dealers in order to build a solid foundation for efficient parts and accessories service at a reasonable cost. In addition, this policy gives Motobecane dealers the profits necessary to develop and improve their parts and service facilities.

Motobecane protects your interests and your investment in Motobecane's future by selling Motobecane approved parts and accessories only to authorized Motobecane dealers.

To provide maximum parts and accessory service, we must share responsibility in the same way we share profits. We have a dual parts and accessory responsibility.

This means that Motobecane and Motobecane dealers are jointly responsible for stocking adequate inventories of Motobecane approved parts and accessories at all times to satisfy Motobecane owners.

INVENTORY LEVEL AND RANGE

Maximum profit requires maximum turnover of investment. At the same time, production lead times, ordering from suppliers, unexpected delivery and shipping delays and fluctuating sales variations require that at least an average six-month supply of every Motobecane part be maintained by Motobecane at all times. Motobecane maintains an average six month supply of the parts we ask the dealer to maintain, plus an average six month supply of each part not normally inventoried by the dealer.

Each dealer must maintain a minimum three-month average inventory of Motobecane approved parts. The assortment of parts must be such to satisfy all recurring requirements immediately. The level and range of parts is based on the number of Motobecane machines in operation and the potential sales of the dealer.

The dealer is therefore expected to maintain a minimum stock in accordance with the Basic Parts Requirements as listed in the Parts Catalog Section of this manual.

As the dealer's sales rate increases, this minimum level will be updated and the dealer will be expected to maintain levels in accordance with the number of Motobecane machines requiring service in the dealer's area.

INVENTORY MANAGEMENT

An inventory management system should be maintained in a way which enables the dealer to have proper supervision of the flow and inventory of merchandise and to provide information on which periodic reordering is based.

DEALER SERVICE REQUIREMENTS
CONT'D.

The system should show the following:

1. In and out transactions
2. Records of dealer receipts plus open purchase orders by part number
3. Monthly sales recap to determine stock levels and reorder points
4. Suggested retail
5. Dealer cost
6. Description

The system should be kept in numerical sequence with each part number signalled to show movement. Development of order quantities should be based on sales history and must be in line with recommended minimum requirements.

To assist you, a "Basic Parts Requirement" has been prepared. For further information on inventory control systems, contact the Motobecane America, Ltd. Parts Department.

APPROVED PARTS

A dealer's inventory for Motobecane products shall consist only of Motobecane approved parts.

Each component designated as a Motobecane approved part has been subject to the rigid quality control of Motobecane's engineering department. This quality control insures that the parts used in the repair of your customer's Motobecane is the same in every way to the parts installed at the factory.

In return for 100% loyalty from Motobecane dealers in using Motobecane approved parts, Motobecane accepts responsibility to supply approved parts and to remain competitive in its pricing and warranty of these products.

PARTS WARRANTY

Motobecane approved parts are warranted for four months from the date of purchase and/or installation. The warranty covers the repair or replacement of any item found defective because of workmanship or material by any of our authorized dealers.

PARTS PRICING

The Motobecane Parts Price List shows the suggested retail and dealer net prices.

Complete price lists are issued once per year. Between issues, periodic supplements of updated prices will be mailed. All parts are priced per each of as "Conditioned Parts".

For your protection, we will not quote dealer net prices over the phone. Only suggested retail prices will be furnished.

DEALER SERVICE REQUIREMENTS
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ORDER CLASSIFICATION

Monthly or Stocking Order - Monthly or stocking orders are orders prepared on our order form with proper information completed and mailed to us for processing. This type of order must include a dealer purchase order number and will be shipped F.O.B. our warehouse via the dealer designated carrier at the dealer's expense.

This type of order should be prepared once a month to replenish dealer inventories. Buying in bulk and buying all parts from one source of supply reduces the following costs:

- Order preparation
- Postage, telephone
- Follow-up
- Handling
- Freight bills
- Inventory control
- Accounting time
- Bill paying

Telephone Orders - Telephone orders are for orders of minimum quantities of parts not normally stocked or for items not immediately available from your dealership.

It should be understood that for Motobecane to maintain a high level turn-around service which this class of order demands, it is necessary for you to restrict both quantities and items to your emergency needs.

CREDIT CLAIMS AND RETURN OF MATERIAL

All credit claims must be submitted in writing for approval and proper disposition.

Do not return any material for credit without Motobecane's prior approval. A copy of our approval must be included with all returns.

Any items returned not having prior approval will be returned at the dealer's expense.

ORDERING PARTS

Parts Order Form - The procedure for ordering parts is to use the Motobecane Parts Order Form. This form has been designed to facilitate ordering as well as expediting order processing. These forms are supplied free of charge.

DEALER SERVICE REQUIREMENTS
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We can accept no other form. Type or print in the appropriate spaces:

1. Dealer name and address
2. Shipping address
3. Dealer number
4. Dealer order number
5. Date of order
6. Ship via (carrier)
7. Requested ship date
8. Authorized signature

DO NOT USE SHADED AREAS - These are for Motobecane use only! The body of the order form consists of vertical columns headed for proper use.

Type or print in the appropriate column:

1. Quantity of each line item
2. Part number - Part numbers must be in numerical sequence. This is easily done as your stock records are reviewed. Orders with part numbers in random sequence will result in a delay of shipment.
3. Description

MAIL AND TELEPHONE ORDERS

Mail Orders - When the Motobecane order has been filled out in accordance with the previous instructions:

1. Remove and retain the dealer copy for your records.

Do not remove the carbons and mail intact to the appropriate Motobecane America Regional Headquarters:

MOTOBECANE AMERICA, LTD.
86 Orchard Street
Hackensack, NJ 07601

MOTOBECANE AMERICA, LTD.
1662 F Moulton Parkway
Tustin, CA 92680

Telephone Orders - To save valuable time and telephone expense, the following procedure should be used in calling in orders:

1. Identify yourself and dealership
2. Following with address
3. Shipping address
4. Dealer number
5. Method of shipment
6. Quantity, part number, and description in numerical sequence only.

DEALER SERVICE REQUIREMENTS

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The dealer assumes all responsibility for incorrect part numbers and quantities shipped on all telephone orders. These orders will only be accepted between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday.

ORDER PROCESSING

Upon receipt, Motobecane will process your order in accordance with your instructions. During this process, certain notations will be indicated on the order as follows:

1. Packing List Quantity Shipped - Motobecane will indicate the quantity shipped in this column.
2. Quantity B/O - Should it be necessary for Motobecane to back-order the part ordered, the quantity will then appear in the Quantity B/O column. All backorders will be held on file by our Parts Department for a period of 30 days and shipped as inventory replenishment occurs. Backorders older than 30 days will automatically be cancelled.

It is important that you check your parts received against the packing list immediately, since all claims for shortages must be made within five (5) days of receipt of shipment.

BACK ORDER PACKING LIST

A back order will be generated showing dealer name, address, dealer code number, part number of item being shipped, invoice number under which the part was originally ordered and subsequently backordered, quantity of item being shipped, plus all information identifying this new part order.

SHIPPING, INVOICE, AND TERMS OF PAYMENT

Shipping - We will follow your preference for method of shipment. If no instructions are given, we will ship the least expensive way.

We will not ship via air freight unless specifically requested.

All orders are shipped F.O.B. our warehouse.

All shipments are freight collect, except Parcel Post and United Parcel Service, for which postage is paid by Motobecane and added to your invoice.

Refused shipments will be returned to our warehouse immediately and your account will be debited for freight charges, storage fees incurred, and a 10% handling charge.

Invoice - Immediately upon shipment of your order, an invoice will be mailed. Billing is done at retail less the appropriate dealer discount to arrive at the net amount.

The unit price should be checked against your pricing records in order to keep up to date on all prices.

DEALER SERVICE REQUIREMENTS
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Terms of Payment - It is Motobecane's policy to bill parts and accessories on an open account basis in those cases where the dealer's payment record justifies. Parts shipped during any calendar month are payable in full by the 15th of the following month. Accounts not paid within that time will be placed on C.O.D.

PARTS WARRANTY

Motobecane approved parts and accessories are warranted for four months from the date of purchase. The warranty covers the repair or replacement of any part (except: springs, bulbs, tubes, tires, spark plugs, lenses, and control cables and sheaths) found defective because of workmanship or material. Labor reimbursement is not covered under the Motobecane Parts Warranty.

In the event a Motobecane approved part or accessory is found to be defective, a warranty claim should be completed as outlined under "Warranty Policy and Procedures". To this, the following additions are to be observed.

Indicate in the space provided for description of defect:

1. "Parts Claim"
2. The date of sale of the defective part.

A copy of the original repair order or invoice must be attached in order to substantiate the installation date of the defective part.

Motobecane Parts and Accessories Warranty Claims are to be submitted in the same manner as are regular warranty claims and the parts and accessories returned for our inspection if required.

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TECHNICAL SPECIFICATIONS

| <u>DIMENSIONS</u> | <u>MOTOBECANE 40 SERIES</u> | <u>MOTOBECANE 50, 50V SERIES</u> | <u>MOTOBECANE 7 SERIES</u> |
|-------------------------|---------------------------------|--------------------------------------|--------------------------------|
| Overall Length (inches) | 66.19 | 69.34 | 63.40 |
| Overall Width (inches) | 24.82 | 24.82 | 24.82 |
| Overall Height (inches) | 39.00 | 39.79 | 38.80 |
| Weight (pounds) | 90 lbs. | 103 lbs. | 88 lbs. |

FRAME

Type: Pressed Steel

| | | | |
|--------------------------------------|-----|-----|-----|
| Suspension: Telescopic Front Fork | YES | YES | YES |
| Rear Suspension - Shock absorbers | NO | YES | NO |

Brakes: Front and Rear Drum

Tires: Pressure Front 21 p.s.i.
Pressure Rear 26 p.s.i.

| | | | |
|------------------------------|---|---|----|
| Fuel Capacity: (U.S. Gallon) | 1 | 1 | .8 |
|------------------------------|---|---|----|

Fuel Mixture: 4 oz. of high
quality 2-cycle
oil per gallon
of gasoline

| | | | |
|-------------------|-----|-----|-----|
| Miles Per Gallon: | 143 | 143 | 143 |
|-------------------|-----|-----|-----|

ENGINE

Type: Single cylinder, air-cooled, 2-cycle

Bore and Stroke: 1.53 X 1.64 inches

Compression Ratio: 7.8:1

Carburetor: Gurtner

Engine Displacement: 49cc

Ignition: Flywheel Magneto

ELECTRICAL

Prior to January 1, 1978: 6 volt

After January 1, 1978: 12 volt

VEHICLE IDENTIFICATION NUMBERS

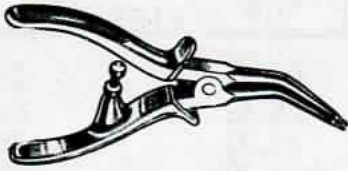
Engine: Identification plate on engine cylinder head

Frame: Identification plate on front of frame

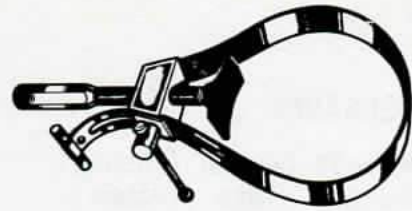
PERFORMANCE

Maximum Speed: 20, 25, and 30 MPH

SPECIAL SERVICE TOOLS



PART NO. 100001
CIRCLIP PLIERS



PART NO. 100005
FLYWHEEL WRENCH



PART NO. 100002
CIRCLIP PLIERS



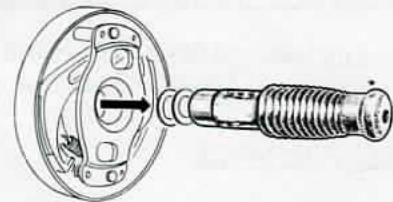
PART NO. 100006
BUSHING EXTRACTOR



PART NO. 100003
GREASE FITTING WRENCH

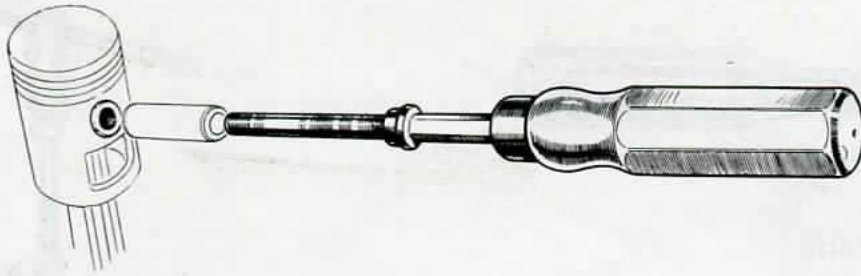


PART NO. 100004
STROKE LIMITER



PART NO. 100007
MAGNETIC EXTRACTOR

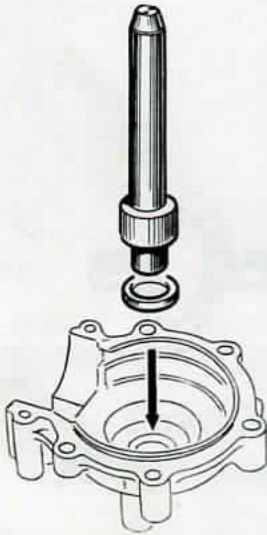
SPECIAL SERVICE TOOLS



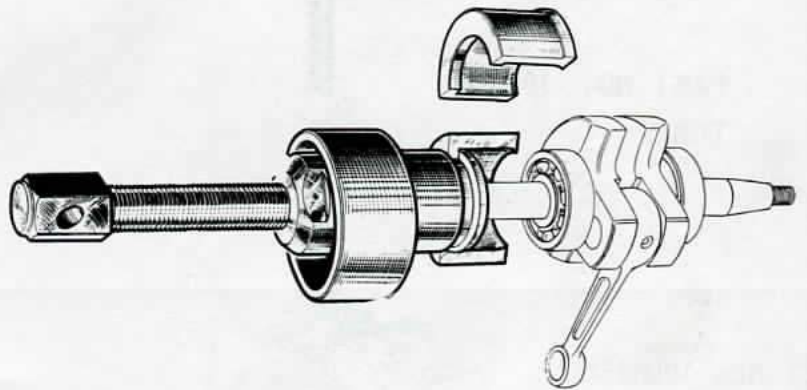
PART NO. 100008
PISTON PIN TOOL



PART NO. 100009
PEDAL BUSHING TOOL

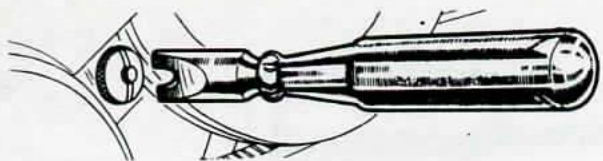


PART NO. 100010
CRANKCASE SEAL TOOL

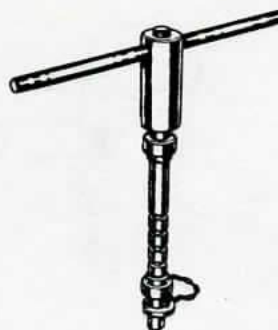


PART NO. 100011
CRANKSHAFT BEARING PULLER

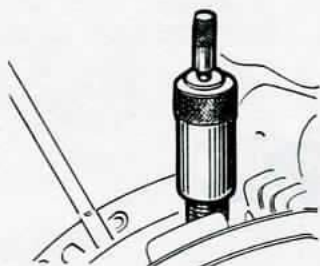
SPECIAL SERVICE TOOLS



PART NO. 100012
FORK TOOL



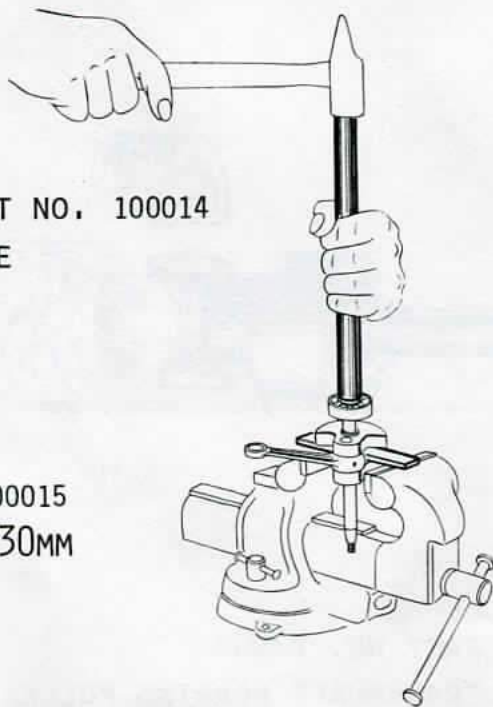
PART NO. 100016
PRESS - STEERING HEAD RACES



PART NO. 100013
TIMING TOOL



PART NO. 100017
THICKNESS GAUGE - METRIC



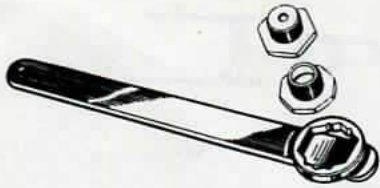
PART NO. 100014
TUBE

PART NO. 100015
BLADE 120x30MM

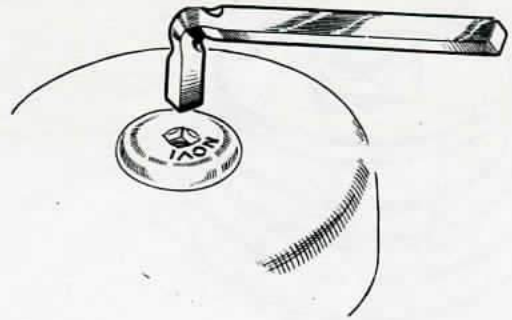


PART NO. 100018
SPOKE WRENCH - 18

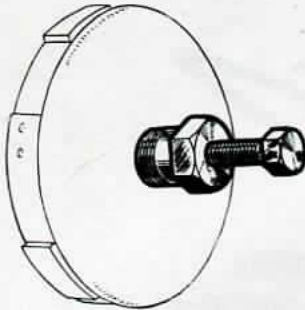
SPECIAL SERVICE TOOLS



PART NO. 100019
FORK PIVOT WRENCH



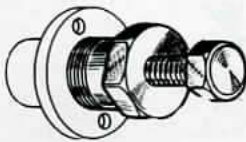
PART NO. 100023
SQUARE DRIVE



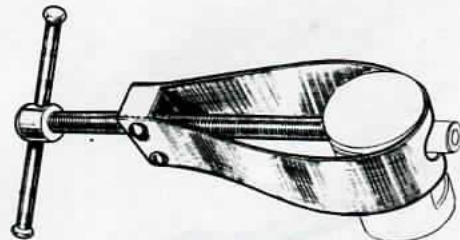
PART NO. 100020
CLUTCH PULLER



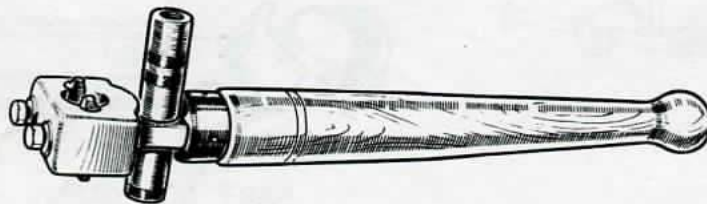
PART NO. 100024
FLEXIBLOC EXTRACTOR AND
INSTALLING TOOL



PART NO. 100021
CAM PULLER

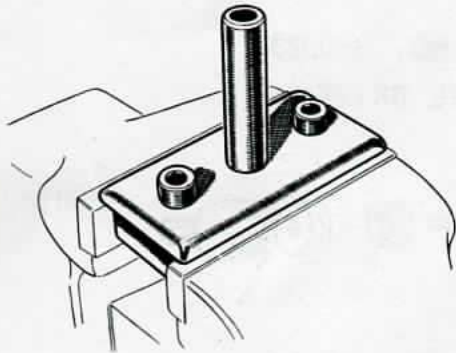
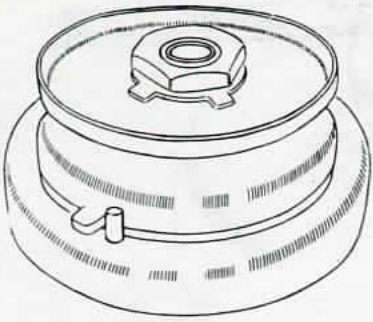


PART NO. 100025
PISTON PIN EXTRACTOR



PART NO. 100022
FREE WHEEL WRENCH

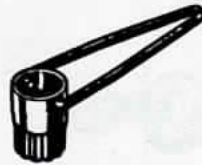
SPECIAL SERVICE TOOLS



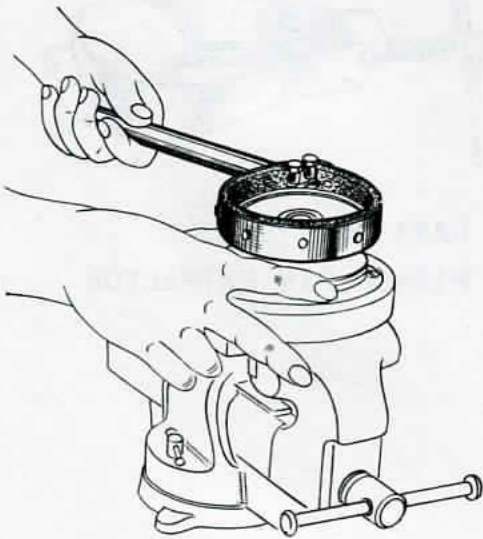
PART NO. 100026
VARIATOR HOLDER



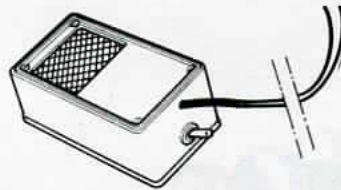
PART NO. 100028
GREASE GUN



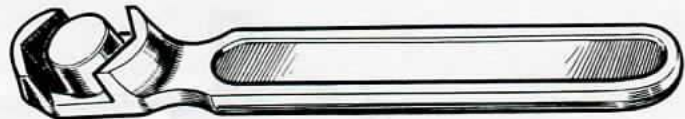
PART NO. 100029
SPARK PLUG WRENCH



PART NO. 100027
VARIATOR WRENCH



PART NO. 100031
TIMING LIGHT



PART NO. 001229
FORK WRENCH

USE OF THE STROKE LIMITER

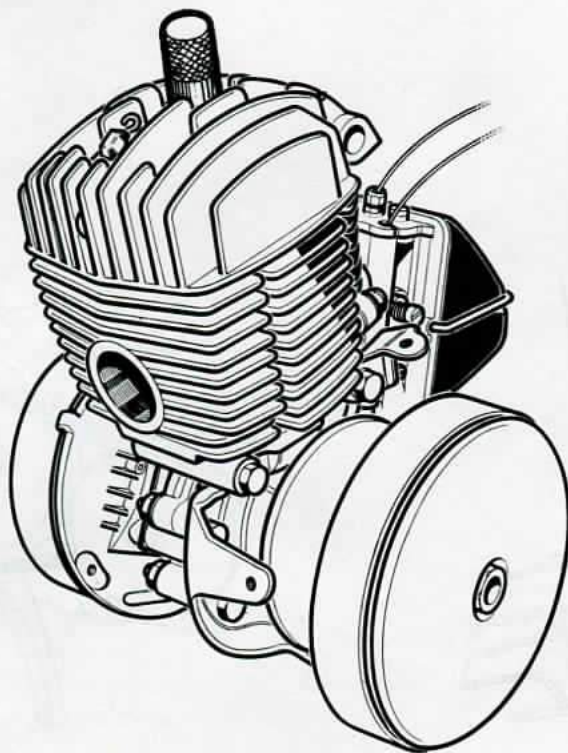
I M P O R T A N T

For all types of engines to be serviced, the use of the stroke limiter, No. 100004, is required in most disassembly and reassembling operations.

This tool is designed to lock crankshaft revolution at mid-stroke and offers the advantage of leaving both hands free to perform the operations required.

DO NOT USE THE STROKE LIMITER ON ENGINES FITTED WITH FLAT-TOPPED PISTONS.

After having screwed the limiter into the whole threaded length of the spark plug hole, bring the piston to rest against it gently.



ENGINE REMOVAL

- Remove both side covers (screwdriver).
- Disconnect the suppressor cap.
- Free the decompressor cable nipple using a screwdriver (fig. 1) and disconnect the cable.
- Loosen the nut securing the carburetor clamp (8mm socket) and remove the carburetor.
- Disconnect the wires at the terminals behind the flywheel magneto stator plate and slide them out of the guide spring.
- Disconnect the grey wire at the ignition coil and slide it out of the support bracket in the frame.
- Remove the belt from the pulley groove and pass it in front of the pedal (fig. 2).

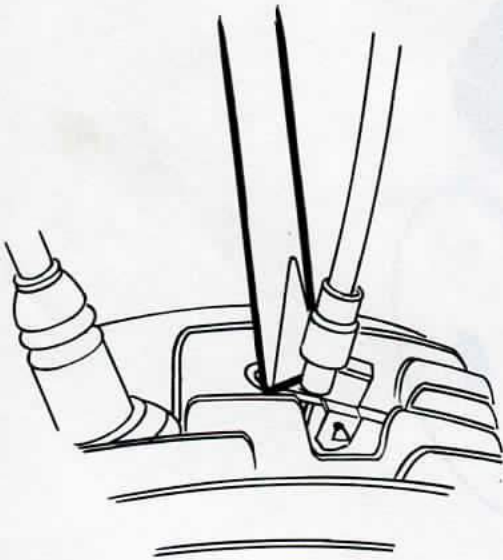


Fig. 1

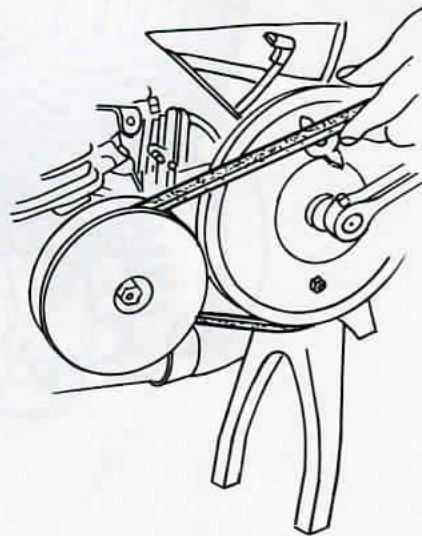


Fig. 2

ENGINE REMOVAL CONT'D.

- Loosen the lower engine mounting nut and withdraw the bolt (10mm open wrench and socket).
- Loosen the self-locking nut of the upper engine mount (13mm wrench).
- Drive out the upper engine mounting axle only as far as the first spacer (fig. 3).
- Before removing the engine, carefully note the locations of the upper engine mount spacers.
- Tilt the engine and remove it (fig. 4).

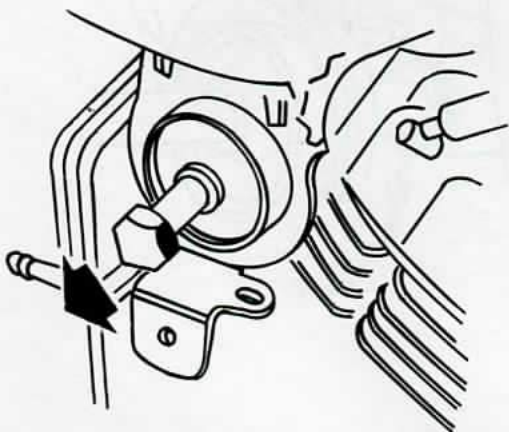


Fig. 3

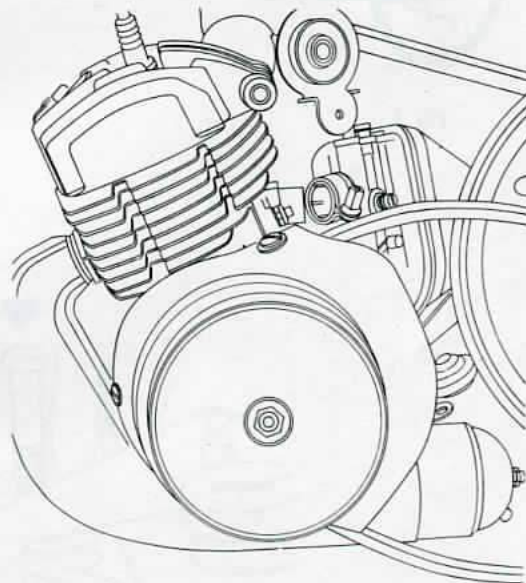


Fig. 4

REFITTING THE ENGINE ON THE FRAME

- Inspect the upper engine mounting flexible bushings and insulation ring for good condition (fig. 1).
- Fit the engine through upper mounting bolt (operate as for removal).
- Check that spacers are correctly lined up and make sure to insert the eye ring of the ground lead between the spacer and cylinder head (R.H., fig 2).
- Tighten but do not lock upper engine mounting nut.
- Insert the screw into the lower engine mounting brackets and into the spacer which is fit in with the tension springs (fig. 3).

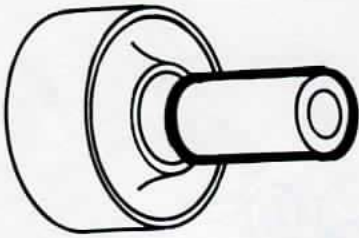


Fig. 1

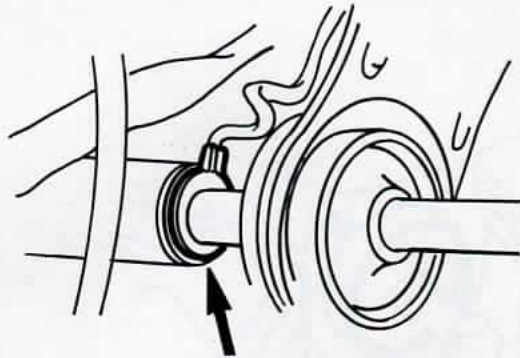


Fig. 2

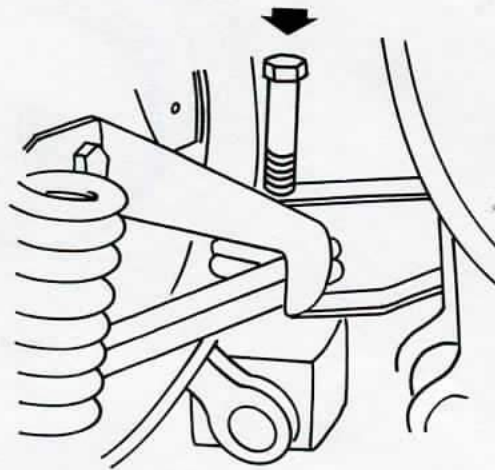


Fig. 3

REFITTING THE ENGINE ON THE FRAME
CONT'D.

- Tighten and lock lower engine mounting nut (10mm wrench).
- Refit the carburetor all the way onto the inlet pipe and lock the carburetor securing clamp nut (8mm socket).
- Reconnect the decompressor cable (screwdriver).
- Reconnect the wires to the spade connections behind the flywheel magneto stator plate (pass them through the guide spring, if equipped) (fig. 4).
- Slide the grey wire through the support bracket on the frame and reconnect it to the ignition coil (straight female terminal).
- Lock the upper engine mounting nut (while holding the other end of the bolt - 12mm wrench) after having installed the belt (fig. 5).

NOTE: Make certain to lock upper engine mounting nut after having installed the belt. Then the engine is in a medium swinging position, which will prevent the flexible bushings from sustaining damage.

- Refit the suppressor.
- Refit both side covers.

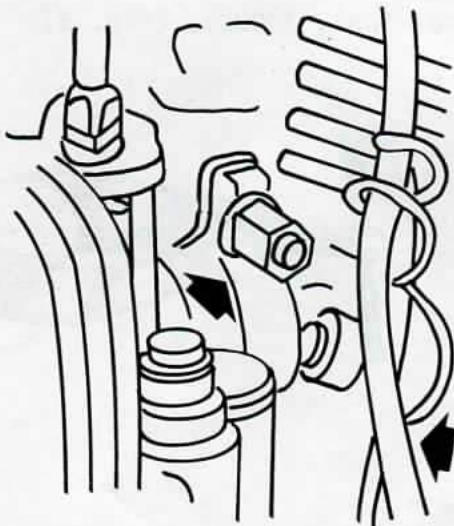


Fig. 4

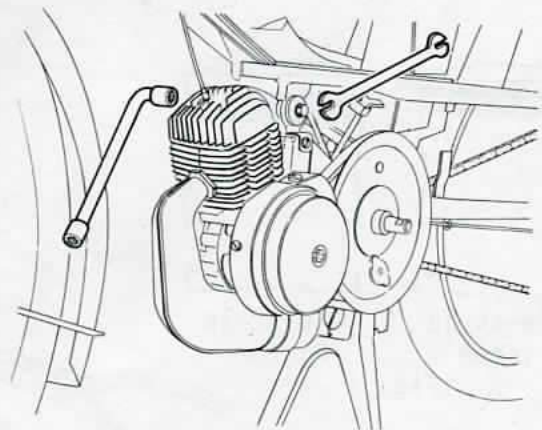


Fig. 5

DISASSEMBLING THE ENGINE

- Engine removed.
- Remove the exhaust using 10mm and 11mm sockets to loosen exhaust clamp and a 32mm open wrench to loosen the nut connecting the exhaust to the cylinder.
- Set the engine in a vice by inserting a spacer between the lower engine mount plates so that the assembly may be firmly clamped (fig. 2).
- Remove belt cover using a screwdriver for variator engines or a 10mm socket for Dimoby clutch engines.
- Remove the flywheel magneto (See page 28).
- Remove the variator or the clutch assembly according to the type of machine serviced (See pages 38 and 43).
- Progressively loosen the cylinder head nuts at opposite corners.
- Remove the cylinder head and the gasket (10mm socket).
- Remove the cylinder and cylinder base gasket.

NOTE: After July, 1975, our engines are fitted with pistons having LEVELLED UP RINGS WHICH COVER THE LOCATING PINS (fig. 1).

- Withdraw the piston rings.
- Stuff a rag into the crankcase mouth and remove the wrist pin clips using flat nose pliers (fig. 2).
- Drive out the piston pin using the pin extractor tool, 100025, (fig. 3).

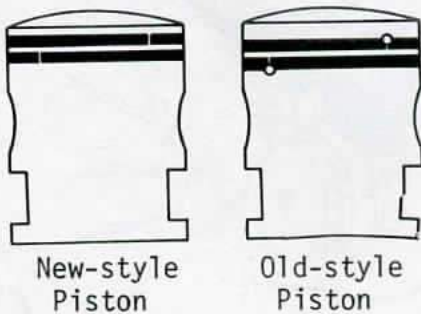


Fig. 1

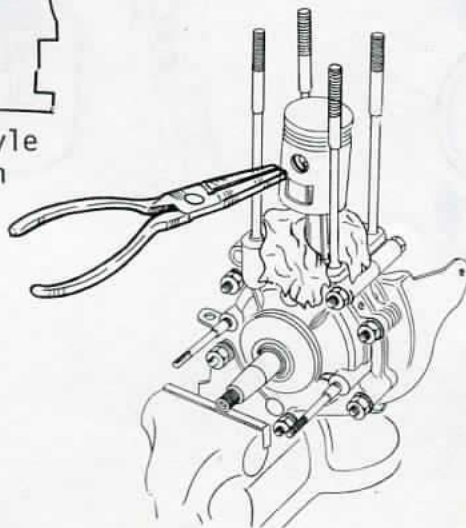


Fig. 2

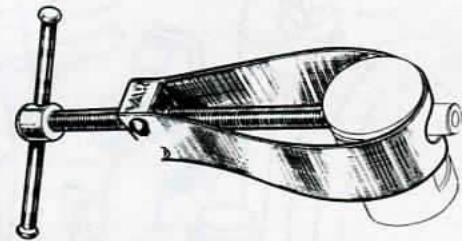


Fig. 3

DISASSEMBLING THE ENGINE CONT'D.

- Withdraw the needle cage from the con-rod small end.
- Loosen all crankcase retaining nuts.
- Remove the crankcase from the vice.
- Remove the crankcase retaining bolts and lower engine mounting studs (note the position of the studs and of the bracket for the belt guard).
- To prevent the crankshaft journal from overheating, insert the blade, 100015, on it. Repeat the operation for the other journal.
- Heat with a propane torch the crankcase half facing the clutch side around the outside of the crankshaft bearing (begin with this side because it is then easy to separate crankcase shells) (fig. 4).
- The crankcase half will drop away on its own (fig. 4).
- Repeat the operation for the other crankcase half (fig. 4).
- While the crankcase halves are hot, remove the oil seals with a screwdriver tapping from the outside to the inside of the crankcase half.
- Extract the crankshaft bearings using the crankshaft bearing puller, 100011 (fig. 5).
- Note the arrangement of shims behind the crankshaft support bearing if the crankshaft is so fitted.

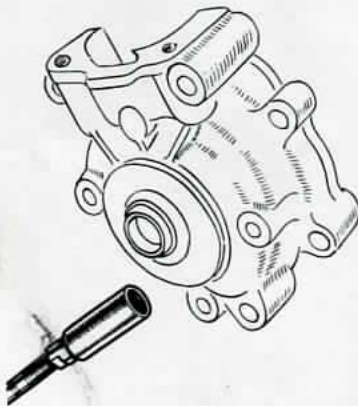


Fig. 4

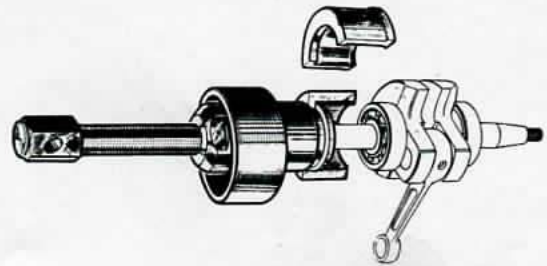


Fig. 5

PISTON CYLINDER MATCHING

The spare part numbers listed below concern pistons fitted with levelled-up rings that are mounted in lieu of former pistons (series 16853 to 16859).

| | | |
|-------|-------|----|
| 22273 | ----- | W |
| 22274 | ----- | AA |
| 22275 | ----- | A |
| 22276 | ----- | C |
| 22277 | ----- | E |
| 22278 | ----- | G |
| 22279 | ----- | J |
| 22280 | ----- | L |
| 22281 | ----- | N |
| 22435 | ----- | P |



EXAMINATION OF THE CYLINDER HEAD AND CYLINDER

Examination of the Cylinder Head:

- Check that the cylinder head bottom base is flat (grind it with a surface plate if necessary).
- Refit the spark plug and check the decompressor valve for leakage by pouring fuel in the combustion chamber (fig. 1).
- Except in case of absolute necessity, the decompressor valve should not be removed from the cylinder head assembly.
- In case of leakage and if the valve is not worn out, tap the valve head gently to seat.

Examination of the Cylinder:

- Make sure that the cylinder wall is neither scuffed nor scored (lack of chromium plated surface).
- Measure the piston clearance (difference between the minimum cylinder bore and the maximum piston diameter), the piston ring end gap (fig. 2) and the clearance between ring and groove.

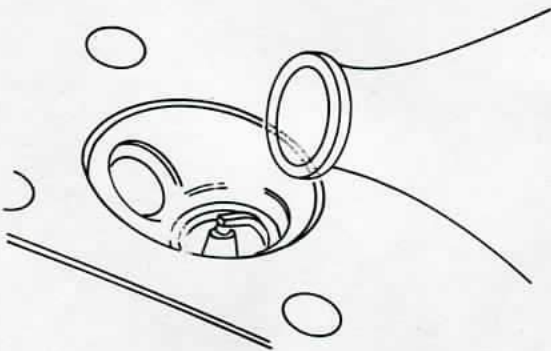


Fig. 1

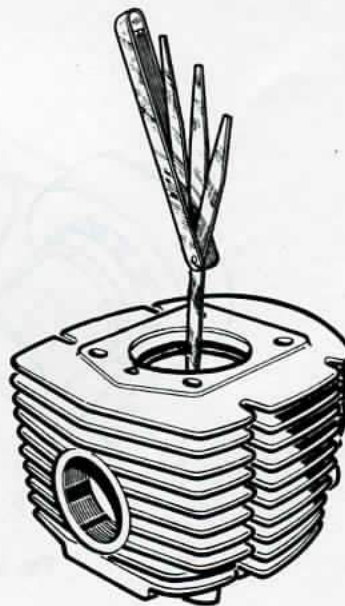


Fig. 2

EXAMINATION OF THE CYLINDER HEAD AND CYLINDER
CONT'D.

- If installing a new piston, refer to the matching list on page 14.

| CLEARANCES IN MM | | STANDARD | MAXIMUM |
|-----------------------------|-------------------------|---------------------|---------|
| Piston Clearance (skirt) | | 0.005 to 0.010 | 0.050 |
| Ring end gap | top ring second ring | 0.10 0.10 + 0.10 | 0.40 |
| Ring groove Side gap | top ring second ring | 0.03 to 0.060 | 0.15 |

- Fit the small end needle cage and insert the wrist pin in it (fig. 3).
- The pin should turn freely without vertical play.

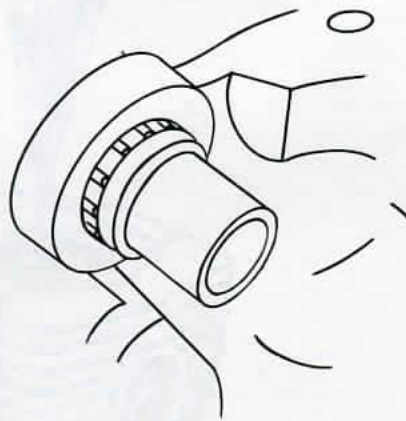


Fig. 3

REASSEMBLING THE ENGINE

NEVER INSTALL USED GASKETS; ALWAYS USE NEW ONES.

- When fitting a new engine crankcase or a new crankshaft, the side play should be adjusted.

SIDE PLAY ADJUSTMENT:

To effect this operation, you need two dummy bearings that you can make yourself.

Use emery cloth on the inner and outer races of two new bearings (diam. 16 X 42 X 13 - No. 16906) until the bearings can rotate freely on the crankshaft journals and the crankcase shell housings. This operation must be done without crankcase seals:

- Place the dummy bearings on the crankshaft tapered ends.
- Place this assembly into the crankcase.
- Fit the crankcase paper gasket.

NOTE: From January 1, 1976, the paper gasket sealing the crankcase halves has been substituted by a special sealing compound. Nevertheless, when servicing an engine, we recommend cleaning thoroughly the mating surfaces and fitting a paper gasket.

- Place this assembly in a vice (over lower lugs and crankcase upper screws).
- Roughly assess the existing side play with a depth caliper gauge.
- Disjoint crankcase halves and place washers between the two crankshaft balance weights and bearings in order to balance the con-rod between the shells.

SIDE PLAY = 1/10MM

REASSEMBLING THE ENGINE
CONT'D.

CRANKSHAFT FINAL ASSEMBLY:

- Insert a steel blade (length - 120 X 30 X 7mm - No. 100005) between crankshaft balance weights (fig. 1).
- Install the assembly (without squeezing) in the jaws of a vice opened at approximately 75mm (fig. 1).
- If shims were fitted to the end of crankshaft refit them.
- Install the bearing on crankshaft journal.

NOTE THE DIRECTION in which the bearings are facing. The rounded chamfered side must face the crankshaft balance weight (fig. 2).

- Drive the bearing home against the counterweight with a tube (diam. 18 X 22 X 150mm - No. 100014, fig. 1).
- Proceed likewise for the other crankshaft end.

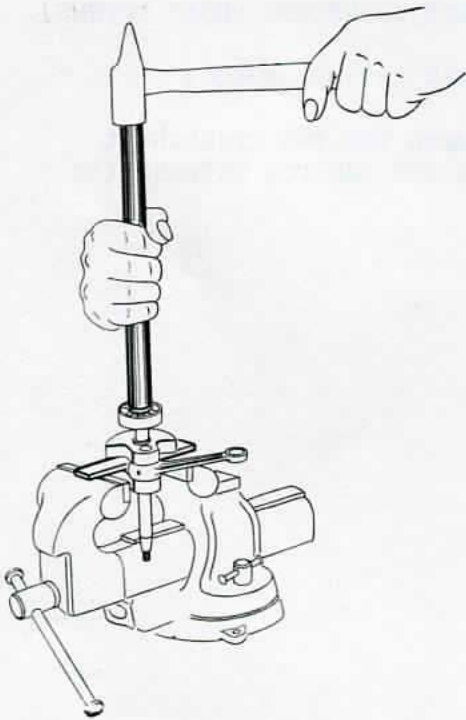


Fig. 1

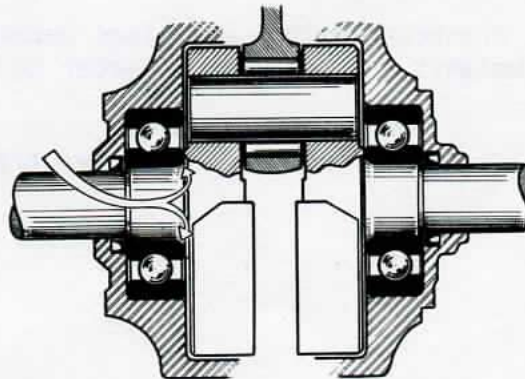


Fig. 2

REASSEMBLING THE ENGINE CONT'D.

REASSEMBLING THE CRANKCASE:

- Oil the crankshaft tapered ends, the bearings, and the bearing cages.
- Heat moderately the shell (facing the flywheel magneto) around the bearing housing until smoke appears.
- Fit a new oil seal with the crankcase seal fitting tool, No. 100010, fig. 3.

NOTE: Seals must be fitted with the spring and lips facing outwards.

- Very quickly fit the crankshaft assembly (flywheel magneto side) in the crankcase half; the bearing will locate itself correctly.
- Fit the oiled paper gasket to the crankcase half (see NOTE on page 17).
- Repeat the operation for the other crankcase half.
- Tighten but do not lock the two upper screws after having mounted the lug for securing the belt cover (variator engines) (fig. 4).
- Clamp (moderately) the engine in a vice over the crankcase lower bosses.
- Make sure the cylinder-crankcase mating surfaces are completely free from distortion; if necessary, tap on the upper part of a stud (assembling cylinder and cylinder head) with a mallet.
- Trim the paper gasket with a scraper.

NOTE: As far as variator engines are concerned, we recommend the positioning of the belt cover upper mounting lug before locking the crankcase half upper mounting screw. The top of this mounting lug will rest against the cylinder's lowest radiation fins (fig. 4).

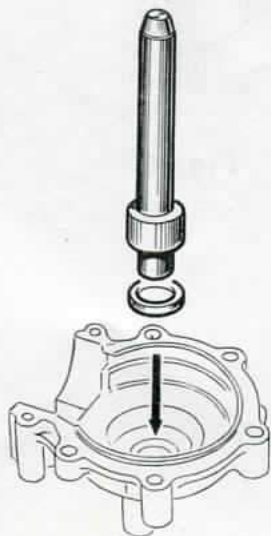


Fig. 3

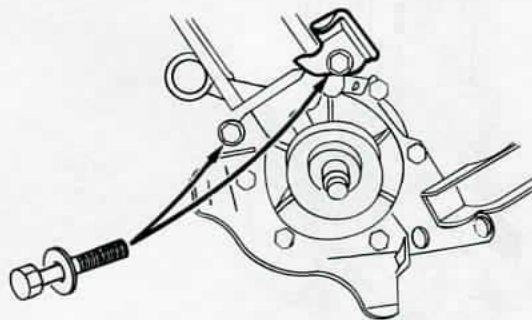


Fig. 4

REASSEMBLING THE ENGINE CONT'D.

- Lock the two upper mounting screws.
- Fit the lower engine mounting brackets and the dual lug securing the belt cover (variator engines).
- Fit and lock the crankcase mounting nuts (nuts on flywheel magneto side) with a 10mm wrench.
- Place a spacer between the lower engine mounting brackets to hold the engine firmly in the vice (fig. 5).
- Rotate the crankshaft. If it does not rotate freely, slightly tap on the crankcase shell (clutch side and variator side) with an aluminum mallet to position the bearing.

REASSEMBLING THE PISTON:

- Smear the needle cage with oil and insert it in con-rod small end.
- Position the piston over the con-rod in such a way that the ring groove pegs face the exhaust port.
- Insert the dummy wrist pin which comes with Tool No. 100008 to align the assembly (fig. 6).

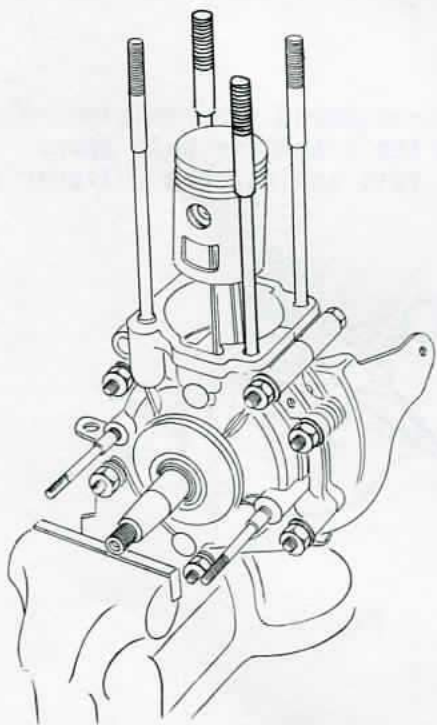


Fig. 5



Fig. 6

REASSEMBLING THE ENGINE
CONT'D.

- Fit the replacement wrist pin using piston pin assembler No. 100008.
- Heat (moderately) the piston dome (torch) until smoke appears. (This is not necessary for a new wrist pin that is an easy sliding fit.)
- Insert the assembler tip into the wrist pin (fig. 7).
- Push home while pressing against the opposite side of the piston to prevent unnecessary pressure on the big-end bearing. The assembler stop will correctly position the pin in the piston (fig. 7).
- Place the cylinder on the heated piston without the rings or piston pin clips installed. The cylinder will slide down as the temperature evens out. This operation prevents piston distortion while cooling (fig. 8).
- When the piston/cylinder assembly has cooled off, check con-rod alignment.

CHECKING ROD ALIGNMENT:

- Secure the cylinder with two washers and two opposite cylinder head nuts. Bring the piston to T.D.C.
- Slide in a tapered 0.07mm feeler gauge between the piston (at pin holes) and cylinder.
- If the gauge slides freely through one side and not through the other, the rod proves to be out of alignment. Remove the cylinder and proceed with straightening.

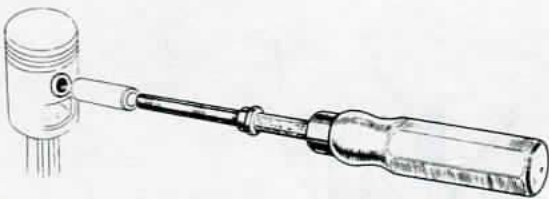


Fig. 7

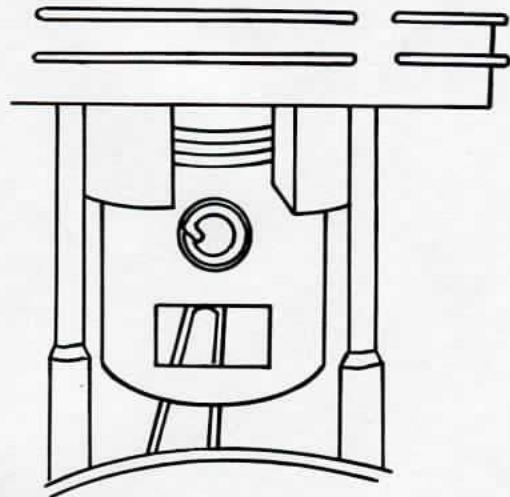


Fig. 8

REASSEMBLING THE ENGINE CONT'D.

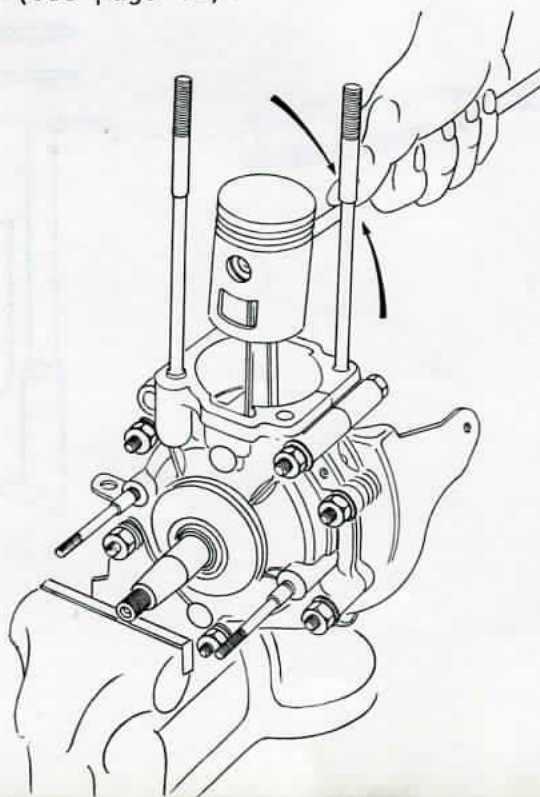
STRAIGHTENING CONNECTING ROD:

- Clamp the crankcase in the vice and insert a bar through piston pin as shown in figure 9.
- To straighten the rod, apply force to the bar.
- Check rod alignment and straighten again until the piston is correctly centered in the cylinder.
- Fit new wrist pin lock rings using flat nose pliers.
- Smear the piston rings with oil and fit them on the piston.

REASSEMBLING CYLINDER - CYLINDER HEAD:

- Bring the piston to T.D.C. and make certain that the piston rings seat firmly in grooves.
- Fit the oiled gasket on the base of the cylinder.
- Place the cylinder on the mounting studs, smear the bore with oil and lower gently.
- Fit the new cylinder head gasket.
- Fit the cylinder head making sure its bottom base is perfectly clean.
- Fit washers on the studs and tighten progressively the nuts at opposite corners to 9 ft. lbs.
- Install the variator or clutch (See page 43).

Fig. 9



DECARBONIZING THE ENGINE

- Remove the exhaust (See page 24).
- Remove left and right hand covers.
- Remove the suppressor cap.
- Disconnect the decompressor cable using a screwdriver.
- Loosen but do not remove cylinder head nuts.
- Loosen the upper engine mounting nut.
- Drive out the upper engine mounting axle as far as the first spacer only.
- Tilt the engine and remove it from the axle.
- Disconnect the wires at the terminals behind the flywheel magneto stator plate and slide them through the guide spring.
- Place a block under the engine to prevent the lower mounting flexible bushing from being damaged.
- Remove the cylinder head nuts using a 10mm socket.
- Remove the cylinder head and the gasket.

NEVER USE HARDENED TOOLS THAT WILL SCRATCH OR NICK THE COMBUSTION CHAMBER AND PISTON DOME.

- Bring piston to T.D.C.
- Scrape the carbon deposits from the exhaust port (fig. 1).
- Always fit a new cylinder, head, and exhaust gasket.

REASSEMBLING AND REINSTALLING THE ENGINE:

See pages 8, 9, 15, 16, 22.



Fig. 1

REMOVING, DECARBONIZING, REFITTING THE EXHAUST

REMOVING THE EXHAUST PIPE (Blunderbuss type - Fig. 1)

- Loosen the nut (10mm and 11mm wrenches) and remove the exhaust clamp nut, but do not remove the spacer between the engine mountings (fig. 2).
- Loosen the nut (32mm wrench) threaded into the cylinder and remove the exhaust completely (fig. 3).

DECARBONIZING:

- Loosen the locknut and the nut securing the exhaust tail cap.
- Remove the baffle plate and the tail cap.
- Clean out the holes in the inner baffle plate and tail pipes (fig. 4).
- Scrape out the exhaust pipe entry.

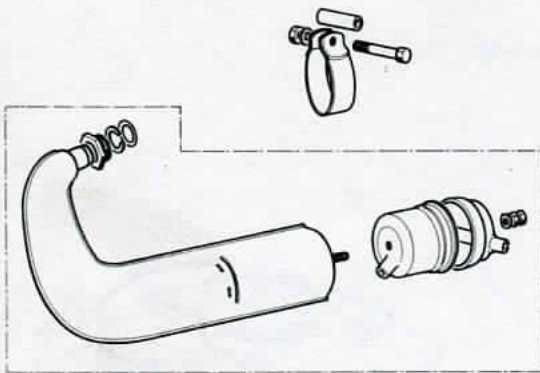


Fig. 1

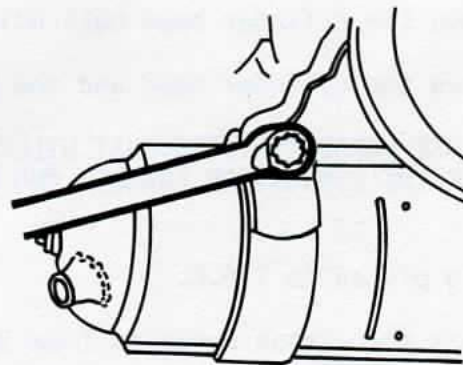


Fig. 2

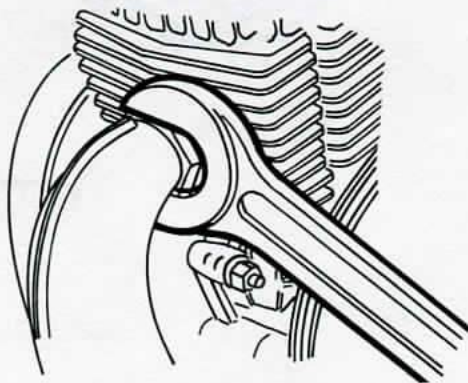


Fig. 3

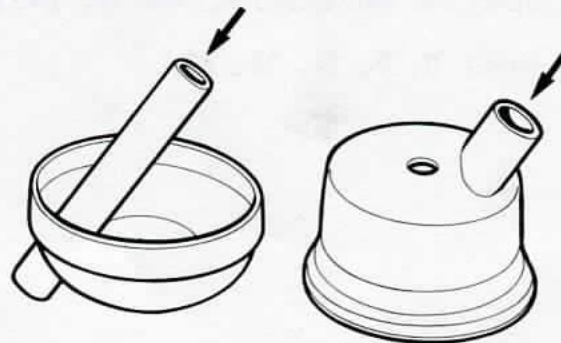


Fig. 4

REMOVING, DECARBONIZING, REFITTING THE EXHAUST CONT'D.

REMOVING THE EXHAUST PIPE (Oval type with crossed chambers, Fig. 5)

- Remove the two bolts on the exhaust clamp using a 10mm socket.
- Loosen the nut connecting the exhaust to the cylinder (32mm wrench) and remove the exhaust completely.

DECARBONIZING:

- Loosen the nut on the clamp securing the muffler to the pipe (10mm wrench).
- Remove the muffler.
- Insert a triangular scraper through the hole and scrape all carbon deposits from around the edges as shown in figure 6.
- Insert a steel cable (diam. 7mm - length: 250mm) into the tail pipe and clean it out.
- Lastly, shake the exhaust vertically to remove deposits from the entry hole.

REFITTING:

- Reverse the procedure and fit a new sealing washer in the exhaust port of the cylinder.

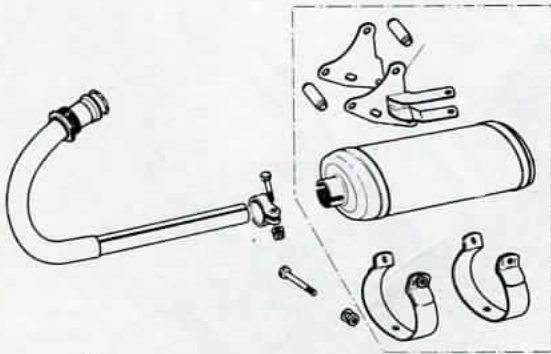
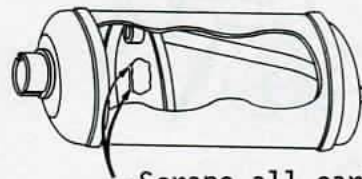


Fig. 5



Insert a steel cable (diam. 7mm) into the tail pipe.

Scrape all carbon deposits with a scraper.

Fig. 6

TESTING IGNITION TIMING (WITHOUT REMOVING THE ROTOR)

- Remove right hand side cover.
- Disconnect the grey wire from the ignition coil (fig. 1).
- Attach one probe from the ohm meter to the grey wire (fig. 4)
- Attach the other ohm meter lead to a ground point. (Example: Cylinder head) (fig. 4)
- Disconnect the black wire (lighting system) from the straight female 6.35mm terminal at the stator plate.
- Remove the radio suppressor and spark plug.
 1. Screw in the timing tool (No. 100013) in place of spark plug (fig. 2).
 2. Bring piston to T.D.C by rotating the rotor in the normal running direction.

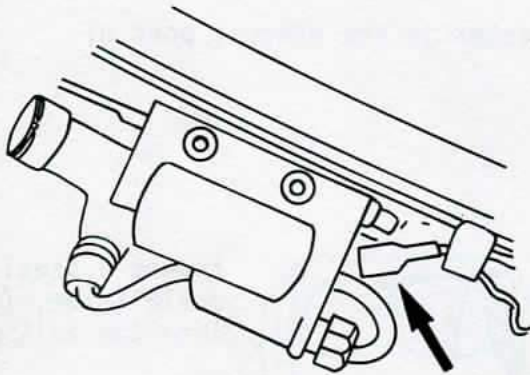


Fig. 1

NOTE: When testing and resetting the ignition timing on the machine with a 12 volt lighting system (manufactured after January 1, 1978), a timing light tester, Part No. 100031, must be used. An ohm meter will not register an accurate reading.

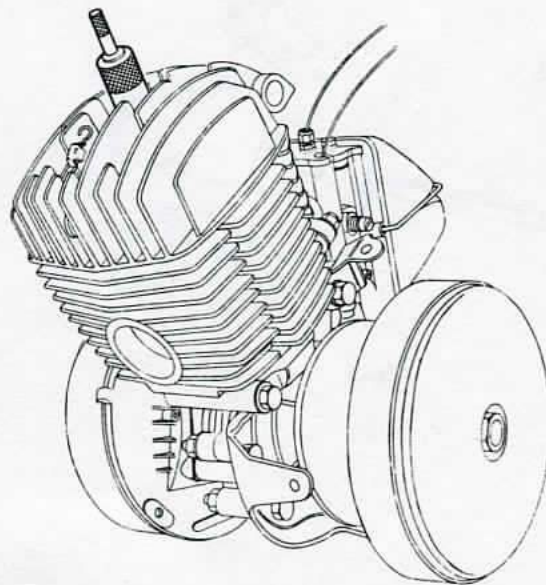


Fig. 2

TESTING IGNITION TIMING
(WITHOUT REMOVING THE ROTOR)
CONT'D.

3. Turn the timing tool until the top edge of the tool is aligned with the lower edge of the blue stripe (fig. 3).
4. Rotate the rotor clockwise one full revolution and as the blue stripe just begins to appear, the ohm meter should deflect to ∞ . Points just begin to open. If a timing lite/tester is used, the light will go "ON" (fig. 4). (See note, page 26.)

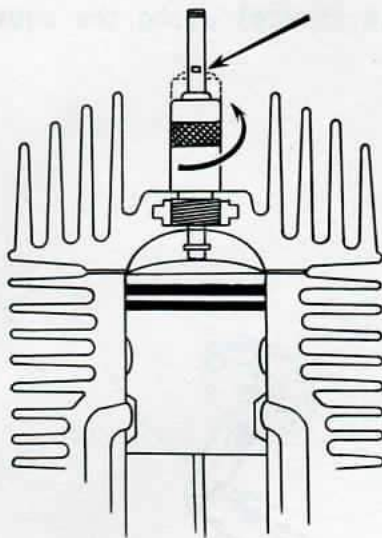


Fig. 3

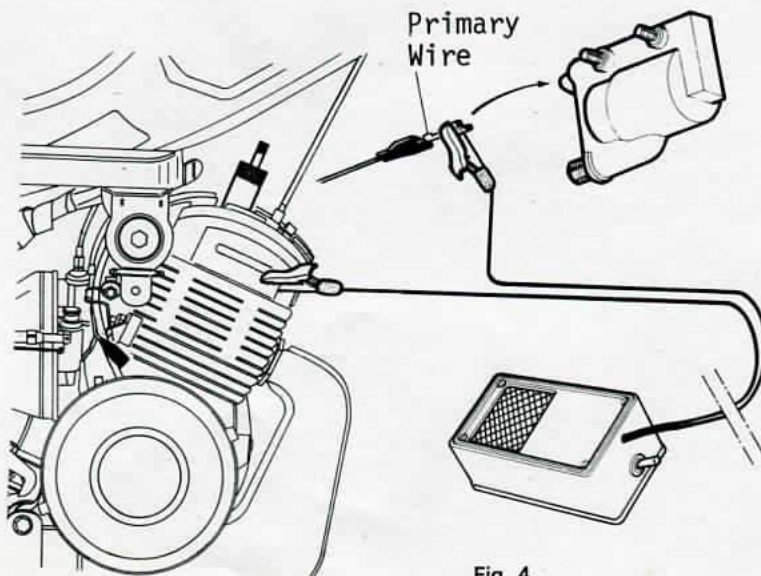


Fig. 4

REMOVING AND REFITTING THE FLYWHEEL MAGNETO

REMOVAL:

- Remove the right hand side cover.
- Remove the flywheel magneto cover.
- Remove the radio suppressor and spark plug. Disconnect the wires from the terminals behind the flywheel magneto stator plate and the grey wire from the ignition coil.
- Attach the flywheel wrench to the rotor (Tool No. 100005).
- Loosen the rotor nut (left hand thread) using the square drive wrench, 100023, (fig. 1).
- Remove the rotor.

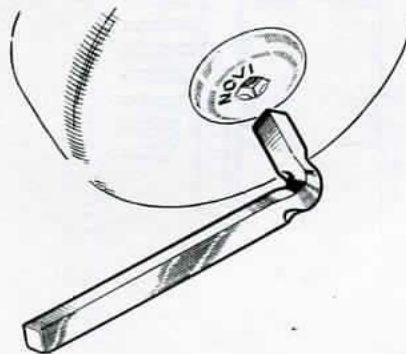


Fig. 1

REMOVING AND REFITTING THE FLYWHEEL MAGNETO
CONT'D.

- Screw the cam puller, No. 100021, onto the cam.
- Slowly screw in the center screw of the puller and pull the cam off the crankshaft end (fig. 2).
- Remove the stator plate self retaining nuts (8mm wrench) and remove the conical spring washers (fig. 2).
- Remove the stator plate, the paper gasket and the rubber gasket (fig. 3).

REFITTING:

- Fit the paper gasket and rubber gasket.
- After testing or stator plate replacement, position the stator on the two studs. Drive fully home on crankcase.
- Fit the four conical spring washers and the two self retaining nuts.
- Screw on gradually and lock the self retaining nuts (8mm wrench) (fig. 2).
- Adjust ignition timing and breaker point gap as described on the following page.

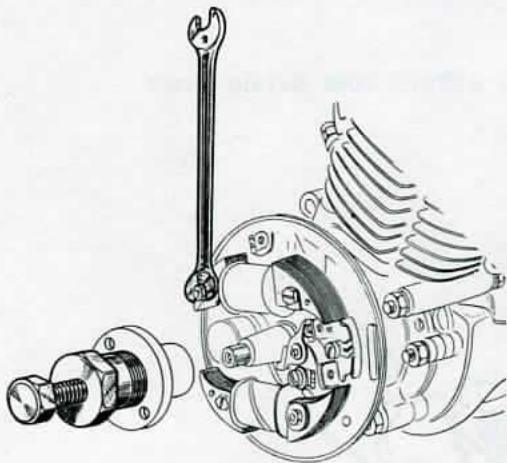


Fig. 2

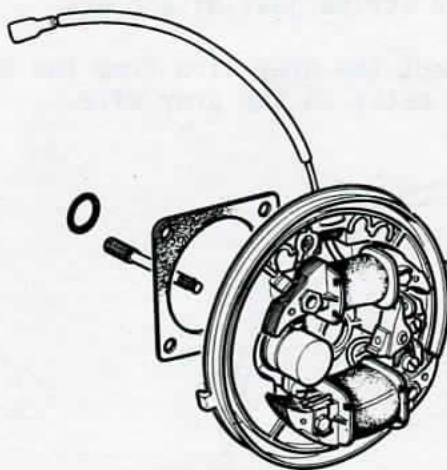


Fig. 3

ADJUSTING THE CONTACT BREAKER AND IGNITION TIMING

ADJUSTMENT OF THE BREAKER POINT GAP:

- Temporarily install the cam on crankshaft end and rotate it gently to obtain maximum gap between contact points (fig. 1).
- Adjust the gap with the feeler gauge (No. 100017, fig. 2) to between 35/100mm minimum and 40/100mm maximum.

IF NECESSARY PROCEED AS FOLLOWS:

- Loosen the retaining screw of the fixed arm using a screwdriver (fig. 2).
- Pivot the breaker assembly to adjust to the specified gap (fig. 2).
- Tighten the fixed arm retaining screw.
- Check the maximum point gap after tightening the fixed arm retaining screw.

SETTING THE IGNITION TIMING:

- Remove spark plug and install timing tool.
- Bring the piston to top dead center.
- Turn the timing tool until the top edge of the body of the tool is aligned with the lower edge of the blue stripe.
- Rotate the engine counterclockwise (viewed from the magneto side) until the blue stripe just disappears.
- Disconnect the grey wire from the H. T. coil, and attach one probe from the ohm meter to the grey wire.

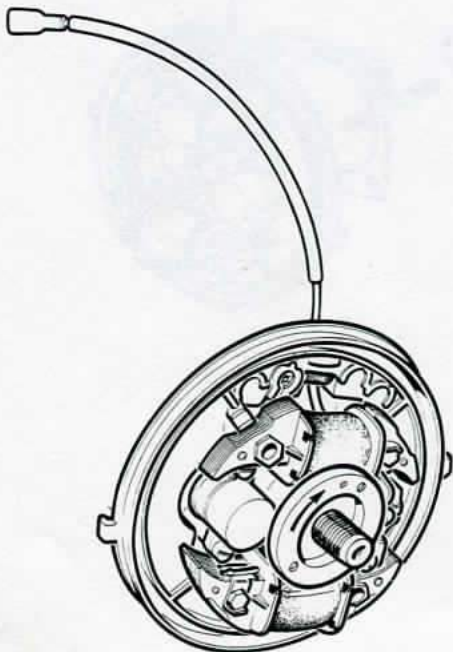


Fig. 1

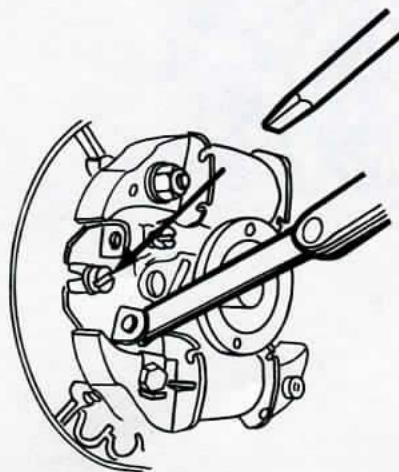


Fig. 2

ADJUSTING THE CONTACT BREAKER AND IGNITION TIMING CONT'D.

IMPORTANT: See Note, Page 26.

- Attach the other ohm meter probe to ground (at the cylinder head).
- Disconnect the black wire from the stator plate plug (on the magneto).
- Place the timing cam loosely on the crankshaft and rotate it slowly clockwise (viewed from the magneto side) until the ohm meter needle deflects from 0 to infinity ∞ . That is where the points have opened. If a timing lite/tester is used, the light will go "ON".

--STOP--

- Tap the timing cam onto the crankshaft without rotating it any further (fig. 3).
- Install the rotor. Tighten rotor nut (lefthand thread) to 34 ft./lbs. of torque.
- Recheck timing by rotating the flywheel clockwise (viewed from the magneto side). As the blue mark begins to appear, the points should begin to open. The ohm meter should just begin to move from zero to infinity ∞ . If timing lite/tester is used, the light will go "ON". See Note, Page 26.

Timing Spec: 2mm BTDC; Point Gap: .35 to .40mm; Spark Plug Gap: .40mm

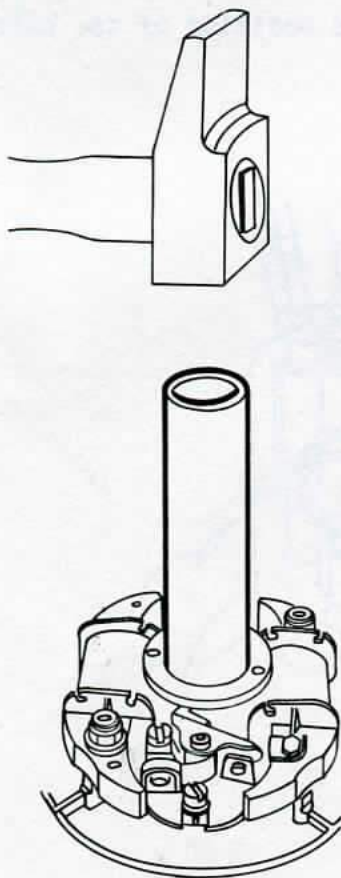


Fig. 3

REMOVING AND REINSTALLING THE CARBURETOR

REMOVAL:

- Remove the side covers.
- Close the fuel tap and disconnect the fuel pipe from the carburetor.
- Remove the filter box from the carburetor.
- Loosen the carburetor clamp bolt (8mm nut driver).
- Remove the carburetor from the inlet pipe.
- Loosen the chamber cover screw (screwdriver).
- Remove the carburetor (fig. 1).

REINSTALLING ON MACHINE:

- Make sure the plastic bushing on the inlet pipe is in good condition, if so equipped.
- Make sure the nuts securing the inlet pipe to the cylinder are tightened to the correct torque (7 ft. lbs.) using a torque wrench and 10mm socket. If the inlet pipe was removed, make sure that the mating surfaces are clean. Fit a new gasket.
- Insert the throttle slide (note the position of the guiding pin) and the choke slide.

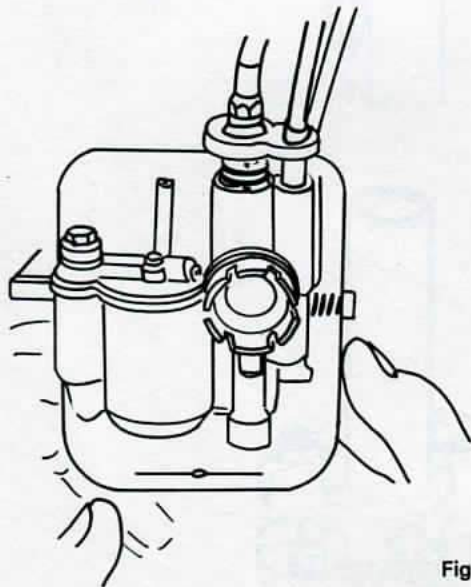
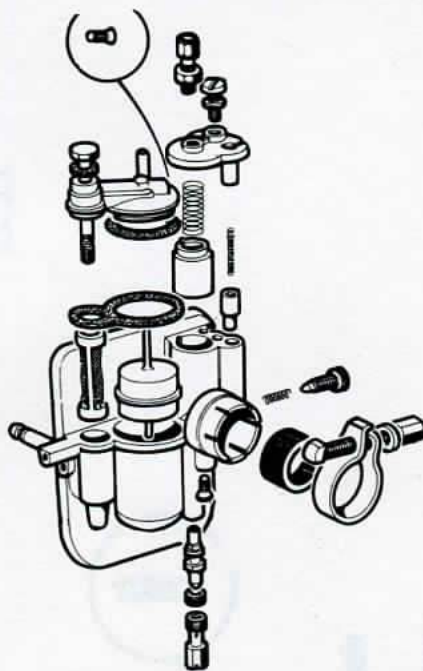


Fig. 1

REMOVING AND REINSTALLING THE CARBURETOR
CONT'D.

- Fit the chamber cap and tighten (screwdriver) the screw securing it.
- Make certain that the throttle slide operates freely and fully opens when throttle grip is fully opened. If necessary, screw the adjustment screw on the chamber cap to keep an accurate idle.
- Fit the carburetor to the inlet pipe and push fully home.
- Position the carburetor body vertically.
- Tighten carburetor retaining clamp (8mm nut driver).
- Clean the filter screen and fit the filter plastic box.
- Connect the fuel pipe.
- Final idle adjustment can be made with the engine running by screwing or unscrewing the idle adjustment screw on the left of the carburetor.
- Fit the side covers.



Carburetor Body Complete

DISASSEMBLING AND REASSEMBLING THE CARBURETOR

DISASSEMBLING THE CARBURETOR:

- Remove the float bowl cover using a 10mm wrench.
- Check the paper gasket and the "O" ring.
- Loosen the screw (using a small Philips head screwdriver) or the plastic cap (fig. 1 and 2).
- Clear this pipe if necessary with an air stream.
- Fit the screw or plastic cap.
- Check the float for good condition.
- Remove the fuel jet (8mm wrench or screwdriver) and clear it if necessary with an air stream (fig. 3).
- Unscrew (screwdriver) the diffuser holder. If the diffuser cannot be easily removed, slightly push on the diffuser end in the mixing chamber. Clear the diffuser with a high pressure air line.

NOTE: Some carburetors are not equipped with a diffuser holder. These carburetors do not have a removeable diffuser. Do not try to remove the diffuser from this type of carburetor. Simply leave installed and clear with an air stream.

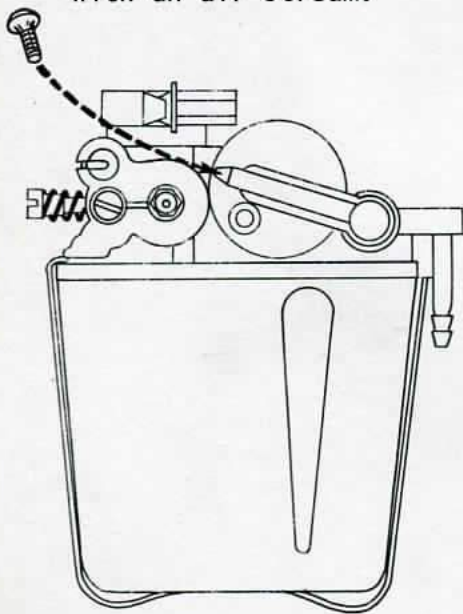


Fig. 1

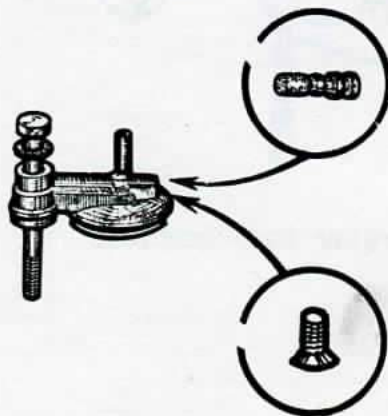


Fig. 2

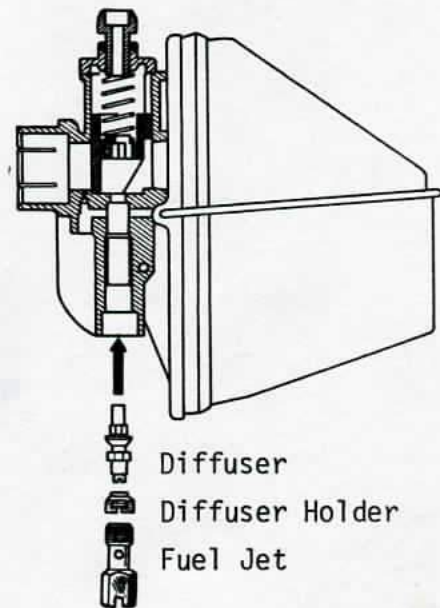


Fig. 3

DISASSEMBLING AND REASSEMBLING THE CARBURETOR
CONT'D.

- Clean the fuel filter, the filter bowl, and the carburetor float bowl (fig. 4).
- Unscrew the plug screw (Philips head screwdriver) and if necessary, clean with an air stream (fig. 5). (This screw gives you access to the idle circuit.)
- Reinstall the plug screw.

REASSEMBLING THE CARBURETOR:

- Fit the diffuser making sure that the diffuser flattened side coincides with the carburetor or built-in flat lug (screwdriver).
- Locate the diffuser fully home.
- Fit the diffuser holder (screwdriver) and the jet (8mm wrench).

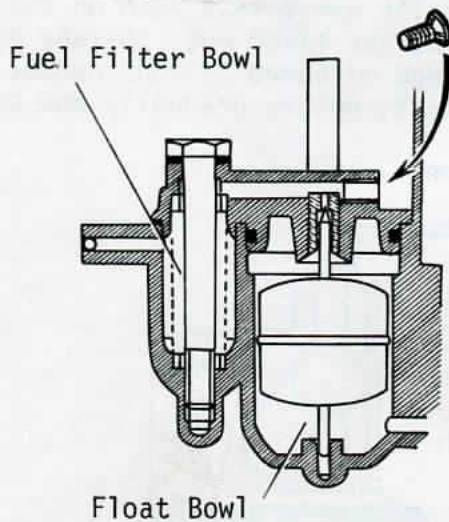


Fig. 4

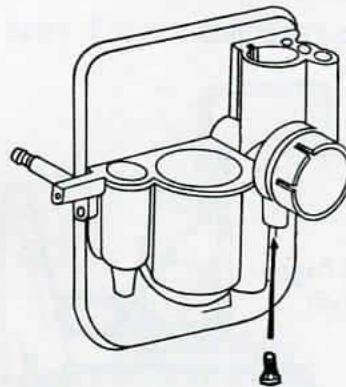


Fig. 5

DESCRIPTION AND OPERATION OF THE "MOBYMATIC" VARIATOR

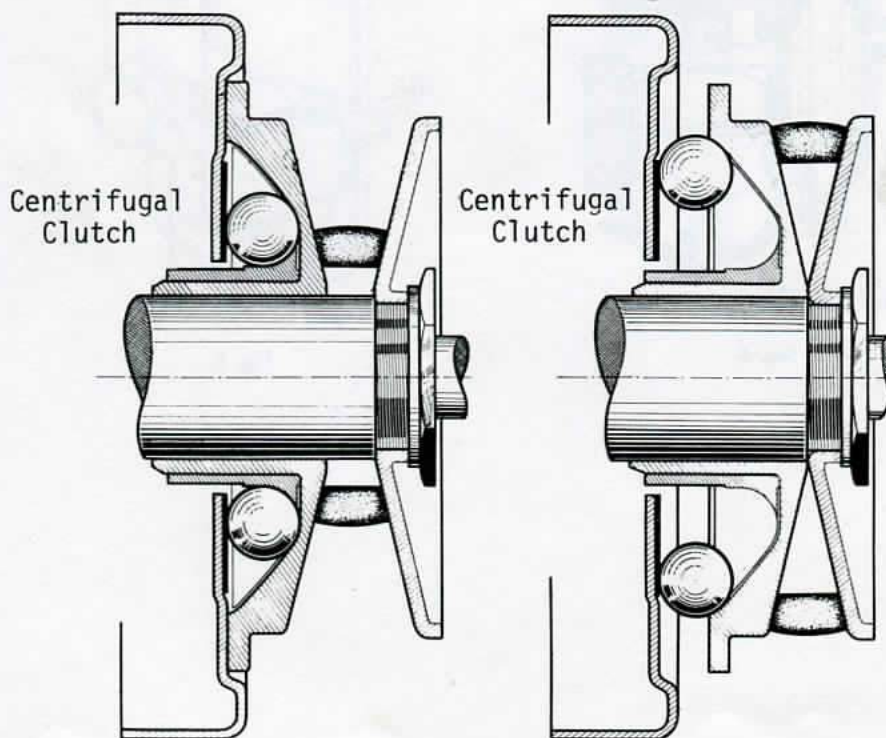
DESCRIPTION:

- Like all Mobylettes, the Mobymatic has a primary rubber belt drive which provides the well-known smoothness and flexibility, and a secondary chain drive.
- But the Mobymatic primary drive is special. The drive pulley locked on the engine is a special collapsible one, whose cheek spacing is variable under the influence of centrifugally moved balls pushing on the cheek side which is opposite the belt. As the cheeks spread apart or close in, the winding diameter of the V-belt varies, and this in turn modifies the reduction ratio from 18.7:1 to 11.8:1. The engine tilts around its upper attachment axis. A spring tends to push the engine forward, thus ensuring belt tension.

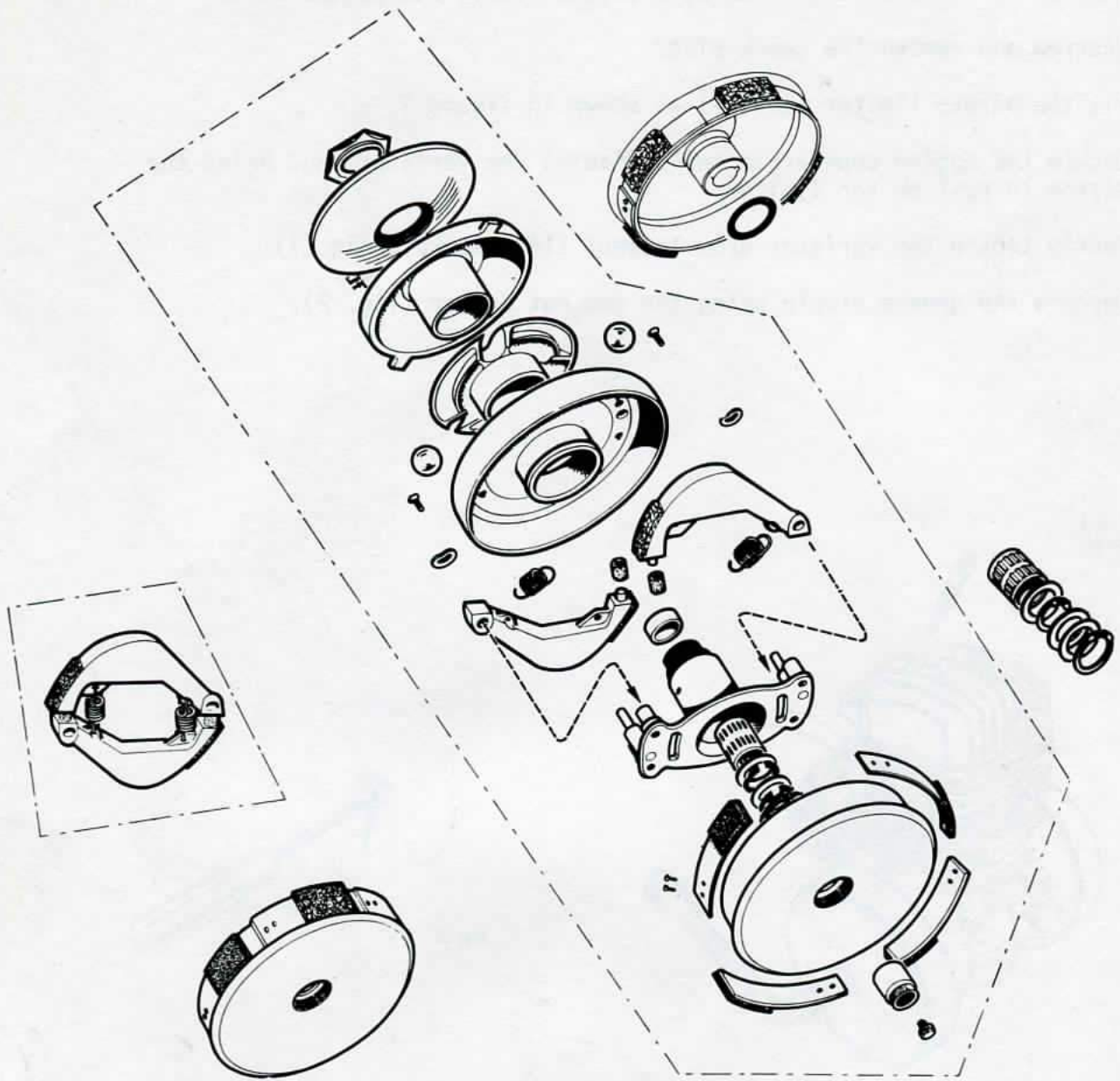
OPERATION:

- On starting, the engine revolves slowly as soon as it engages. The springs which push the engine forward compel the belt to rest on the smallest drive-pulley diameter. The reduction ratio is at its highest, we are in low gear. As soon as engine speed increases, the balls push the movable cheek, thus decreasing the reduction ratio, which means that for a given engine rpm, the speed of the machine is increased. If the Mobylette is on a flat road, the belt goes on increasing to larger and larger drive pulley diameters until top speed is reached. If the Mobylette engages an up-grade, the speed of both machine and engine tend to decrease. The balls exert less push on the movable cheek which then tends to move away from the fixed one, thereby decreasing the belt winding diameter. As this change of speed is continuous, the modification in reduction ratio, although fast, occurs gradually and smoothly.

The Mobymatic responds to all road conditions.



VARIATOR COMPONENT PARTS



REMOVING THE VARIATOR

- Remove the left hand side cover.
- Remove the variator cover (using a screwdriver); remove the belt.
- Unscrew and remove the spark plug.
- Fit the stroke limiter (100004) as shown in figure 1.
- Rotate the engine counterclockwise (facing the variator) and bring the piston to rest on the limiter.
- Gently loosen the variator drum locknut (14mm socket, fig. 1).
- Unscrew the grease nipple using the 6mm nut driver (fig. 2).

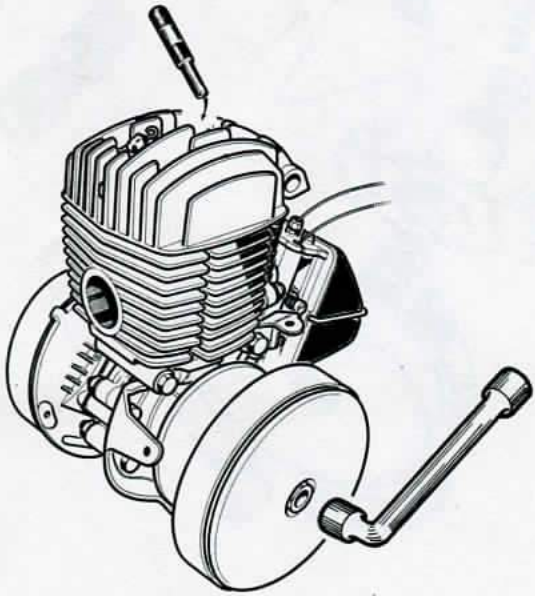


Fig. 1

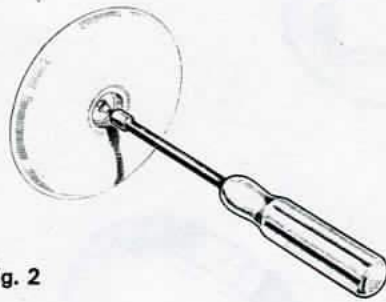


Fig. 2

REMOVING THE VARIATOR CONT'D.

NOTE: REPLACING THE GREASE NIPPLE

Since December 15, 1976, the crankshaft and grease nipple threads have shifted from 4 X 75 to 5 X 80.

- Rotate the engine in a clockwise direction (facing the variator) and bring the piston to rest on the limiter.
- Fit the variator puller (100020, 24 X 100) and gradually screw to the hub of the variator drum. Tighten the center bolt of the puller until the drum is free (17mm socket, fig. 3).
- Withdraw the internal ring (closing pliers, 100001) (fig. 4).
- Withdraw the shims (magnetic extractor, 100007) (fig. 5).
- Withdraw the external ring (opening pliers, 100002) (fig. 6).
- Variator assembly is now free for removal.

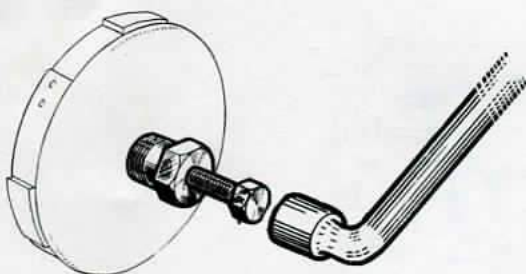


Fig. 3

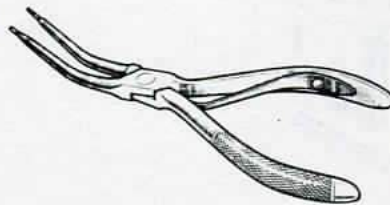


Fig. 4

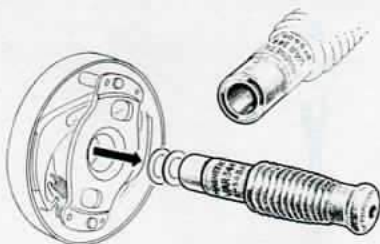


Fig. 5

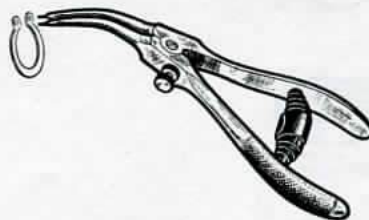


Fig. 6

DISASSEMBLING AND REASSEMBLING THE VARIATOR

DISASSEMBLING:

- Install the dismantling tool, No. 100026, in the jaws of a vice (fig. 1).
- Place the variator on this tool (fig. 1).
- Unscrew the lock nut (L. H. thread) on fixed cheek using a 35mm box wrench (fig. 2).
- Unscrew and remove the fixed cheek using Tool No. 100027 (fig. 3).
- Remove the sliding cheek, the ball guide, and the balls.
- Loosen and remove the 4 countersunk screws holding the drum to the hub using a screwdriver or an impact screwdriver (fig. 4).
- Remove the drum assembly with the flyweights and spring washers.
- Remove the flyweights by sliding them vertically along their pivot.

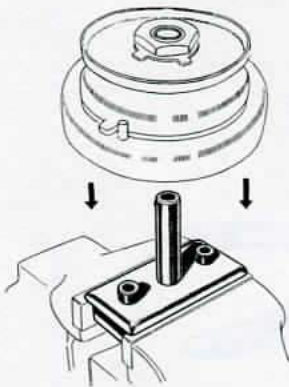


Fig. 1

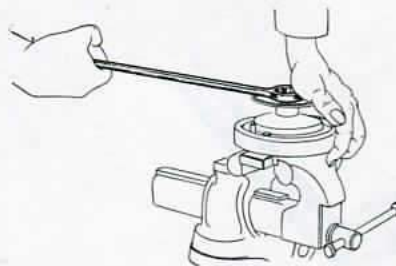


Fig. 2

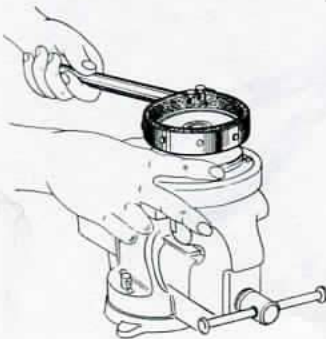


Fig. 3

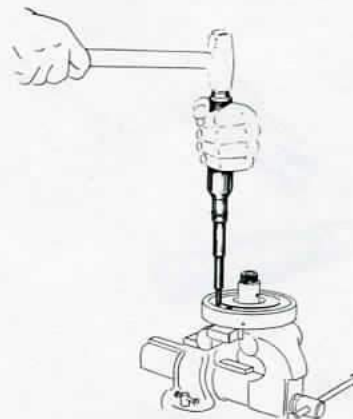


Fig. 4

DISASSEMBLING AND REASSEMBLING THE VARIATOR CONT'D.

REASSEMBLING:

- Install the variator hub on the dismantling tool, No. 100026 (fig. 1).
- Install the flyweights connected by two springs onto the pivots. When fully fitted in, they should spread out freely (fig. 5).

NOTE: Previous variators are fitted with flyweights drilled with four 2mm holes for hooking return springs. You may hook the springs in the holes nearest to each other. This will decrease springs tension and allow better starting at lower speeds.

- Fit the two spring washers on the pivots (to prevent flyweight side play, fig. 5).
- Fit the variator bell onto the hub/flyweights assembly (fig. 5).

IN THE CASE OF NEW VARIATORS:

- Clean the thread and put some LOCTITE and fit the four countersunk screws.
- Tighten progressively and lock the screws by means of a heavy screwdriver.

IN THE CASE OF OLD VARIATORS:

- Fit four new countersunk screws and tighten progressively. By means of a heavy screwdriver, lock the screws.
- Punch lock the countersunk screws in the notch provided for this purpose (fig. 6).

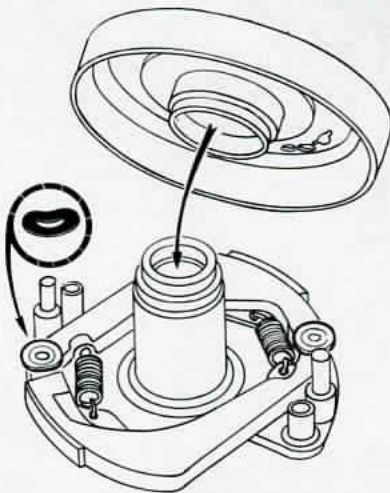


Fig. 5

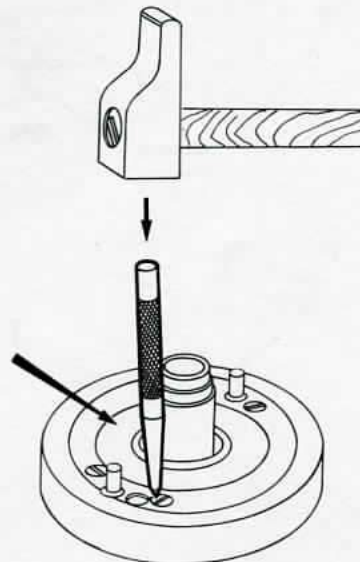


Fig. 6

DISASSEMBLING AND REASSEMBLING THE VARIATOR
CONT'D.

- Take the sliding cheek (the hub turned upwards). Install the ball cage and insert the balls in the recesses (fig. 7).
- Smear a thin pellicle of grease over the ball race on the variator flange.
- Remove the variator hub from the support tool and fit the screwed fixed cheek.
- Fit the assembly on the support tool (No. 100026).

NOTE: Variators for V-belts (nominal width = 18mm) are fitted with the retaining ring and the washer placed before the fixed cheek.

- Install the fixed cheek (R.H. thread) and lock it with Tool No. 100027.
- Tighten the locknut (L.H. thread) with a 35mm box wrench.

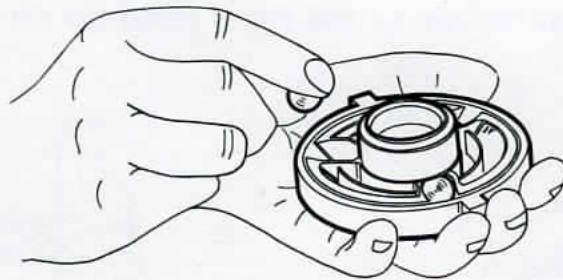


Fig. 7

ADJUSTING AND REFITTING THE VARIATOR

- Make sure that the small ring groove (on the crankshaft tapered end) is in good condition (fig. 1).
- Clean thoroughly and remove all grease from the crankshaft threaded end (wire brush).
- Insert the caged needle bearing into the variator hub.
- Place a 0.8mm shim on the needle cage.
- Fit the small retaining ring on top of the shim (fig.2).
- Insert the other 0.8mm shims and the other ring (closing pliers) (fig. 3).

SIDE PLAY ADJUSTMENT:

MAXIMUM SIDE PLAY: 0.1MM

- The shims and retaining rings should have a side play (slight allowance).
- If there is too much side play, perform an adjustment using 0.1mm shims (fig. 3).

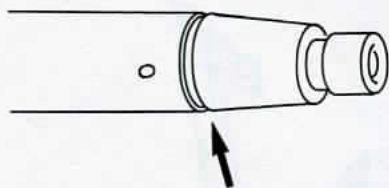


Fig. 1

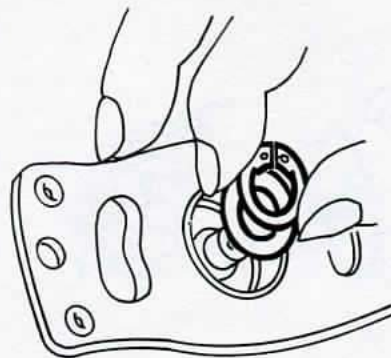


Fig. 2

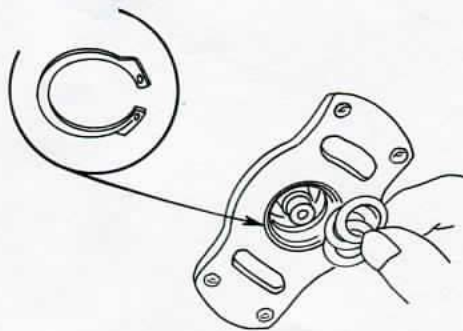


Fig. 3

ADJUSTING AND REFITTING THE VARIATOR CONT'D.

- Grease moderately the inner part of the hub (caged needle bearing).
- The variator can now be reinstalled (fig. 4).
- Drive the variator fully home. It will locate itself in the right position.
- The assembly will rotate freely without play if the side play has been adjusted as described above.
- Bring the piston to rest on the stroke limiter and fit the variator drum (do not forget the o-ring on the drum hub).
- Tighten the nut to 22 ft. lbs. (torque wrench) after having applied a single drop of LOCTITE (fig. 5).
- Fit the grease nipple (6mm nut driver) refer to NOTE, Page 39.
- Remove the stroke limiter, fit the spark plug and radio suppressor.
- Fit the belt, the variator cover, and side cover.

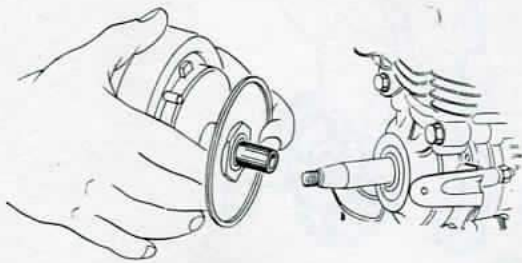


Fig. 4

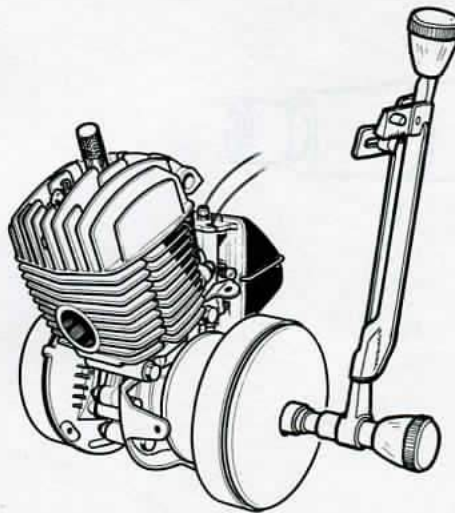


Fig. 5

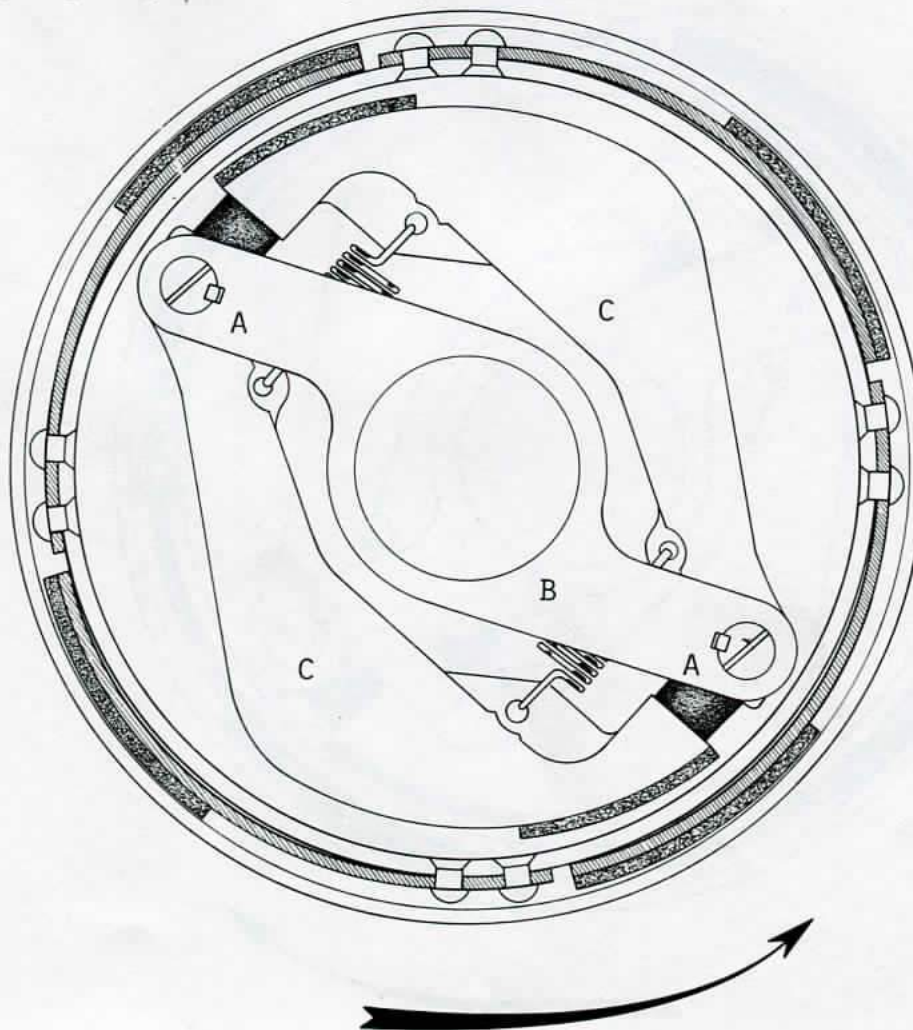
REMOVING - REFITTING - DISASSEMBLING - REASSEMBLING THE CLUTCH

REMOVING THE CLUTCH:

- Do not remove the belt guard. Slip the drive belt off from the pedal shaft pulley.
- Refer to page 38 (same procedure as for the variator).

DISASSEMBLING THE CLUTCH:

- Remove the caged needle bearing.
- Moderately clamp the pulley on the clutch in a vice fitted with copper jaws.
- Loosen and remove the two countersunk screws (impack screwdriver) (fig. 1A).
- Remove the counter flange (fig. 1B).
- Remove the two spring washers.
- Remove the flyweights by sliding them vertically along their pivot (carefully note flyweights position, fig. 1C).



Direction of Rotation

Fig. 1

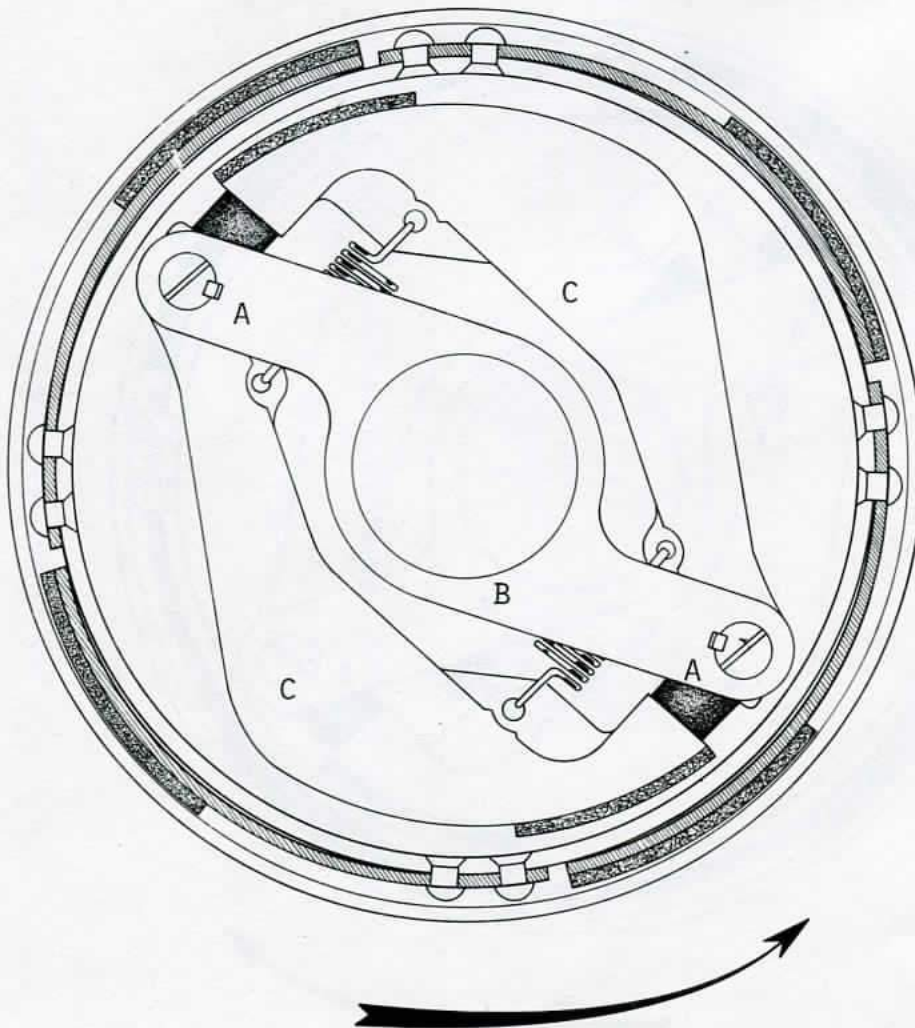
REMOVING - REFITTING - DISASSEMBLING - REASSEMBLING THE CLUTCH

REASSEMBLING THE CLUTCH:

- Fit both flyweights (connected with two springs) on the mounting pillars (fig. 1C).
- Place both spring washers on the mounting pillars.
- Place the counter flange on the washers (fig. 1B).
- Secure the counter flange with two new countersunk screws (fig. 1A).
- After final tightening, punch lock both screws in the notches provided for this purpose (fig. 1A).

SIDE PLAY ADJUSTMENT AND REFITTING THE CLUTCH:

- Refer to pages 43 and 44 (same procedure as for variator).
- Fit the belt on clutch pulley.



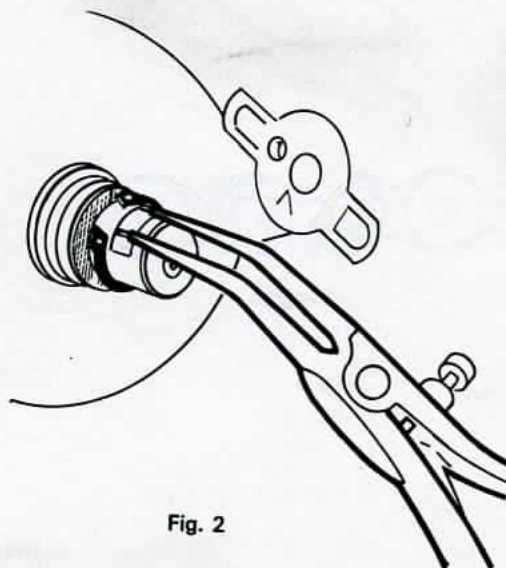
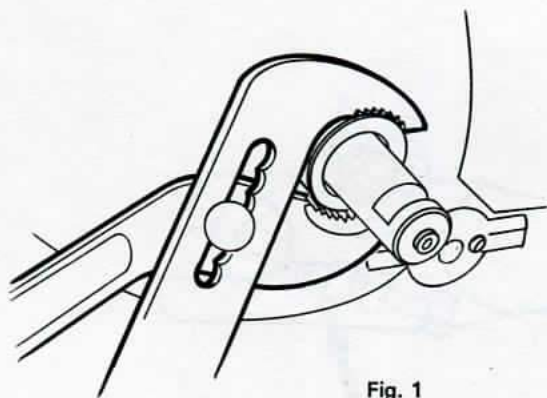
Direction of Rotation

Fig. 1

REMOVING AND REFITTING THE DRIVEN PULLEY

REMOVAL:

- Remove the L.H. side cover using a screwdriver.
- It is unnecessary to remove the drive chain, but if you need to replace it, remove the "master" link.
- In the case of a variator engine, remove the belt cover (screwdriver).
- Remove the pedal pin nut (11mm wrench) and drive out the L.H. crank cotter pin.
- Remove the pedal crank with the pedal attached.
- Slip the drive belt off from the pulley groove.
- Using a multi-lock pliers remove the dust cap (fig. 1).
- Remove the retaining ring (opening pliers, No. 100002) and the thrust washer (fig. 2).
- Turn the engine engagement lever to V (engine disengaged).
- The pulley assembly can now be pulled off the shaft. Hold the dual sprocket. Rotate the pulley and pull on it.
- Remove the pulley.
- Lift the chain off the rear sprocket while rotating the wheel and remove the dual sprocket.



REMOVING AND REFITTING THE DRIVEN PULLEY CONT'D.

REFITTING:

- Fit the dual sprocket on the pedal shaft (smaller teeth facing the frame).
- Fit the chain on the dual sprocket making sure that the "master" link clip is facing the correct way. The closed end of the spring clip must face the direction of chain travel (fig. 3).
- Fit the chain on the rear wheel sprocket.
- Place the pulley (engine engagement lever set to V) on the pedal shaft.
- Center the dual sprocket manually and fit it on pulley hub.
- Press on the pulley to drive the sprocket fully home.
- Fit the thrust washer and the retaining ring (opening pliers No. 100002).
- Fit the dust cap (replace it if it was damaged during dismounting).
- Fit the belt, the cover (if variator engine) and side cover.
- Make certain the chain is correctly tensioned (this operation must be done with a rider on the machine).
- The adjusting of the chain is carried out by means of the chain adjusters situated at the end of the swing arm. Don't forget to loosen the wheel axle nuts (8mm wrench) (fig. 4).

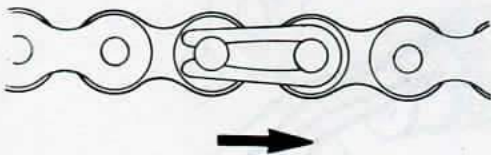


Fig. 3

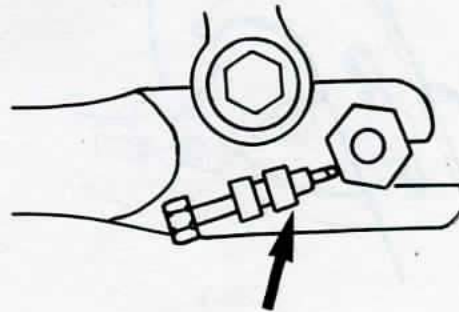


Fig. 4

REMOVING AND REFITTING THE CRANKGEAR
REPLACING CRANKGEAR BUSHINGS
CONT'D.

REFITTING THE CRANKGEAR:

- Reverse the removal procedure.
- Take care in positioning the "master" link in the correct way (see page 48).

REPLACING CRANKGEAR BUSHINGS:

- Remove the driven pulley (refer to page 47).
- Remove the crankgear (see preceding page).
- Drive the bushing out by using a steel drift punch (12mm) (fig. 3).
- Drive the remaining bushing out with the 20mm steel tube.
- Fit new bushings by using Tool No. 100009 (fig. 4).
- Insert the crank axle in the bushings. The axle should turn freely without play (if necessary use a 16mm reamer on the bushings).
- Fit the crankgear and the pulley (see above and page 48).

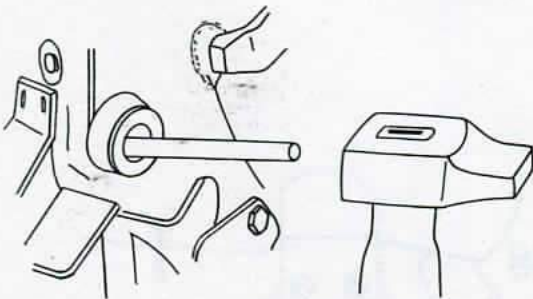


Fig. 3

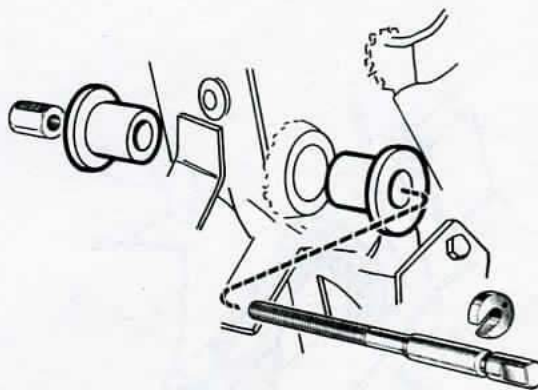


Fig. 4

REPLACING UPPER ENGINE MOUNTING FLEXIBLE BUSHINGS (MODELS 40 AND 50)

TOOL NO. 100024 IS ABSOLUTELY NECESSARY TO EFFECT THESE OPERATIONS

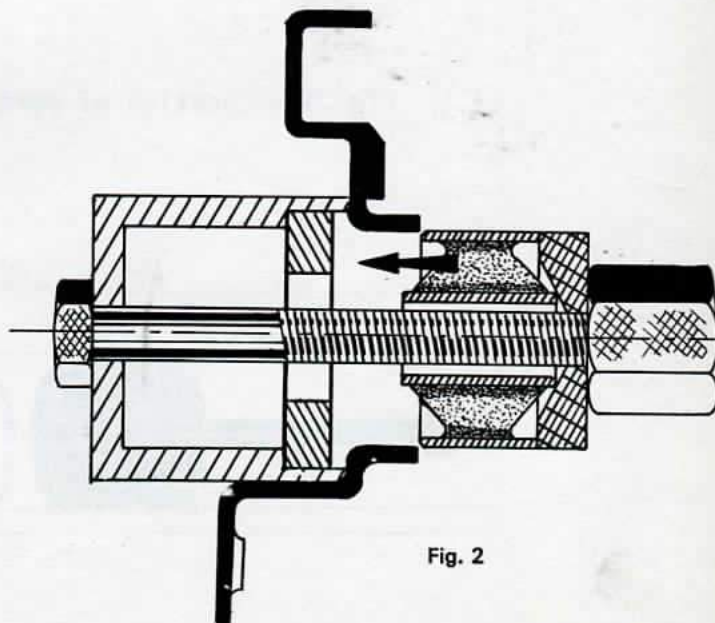
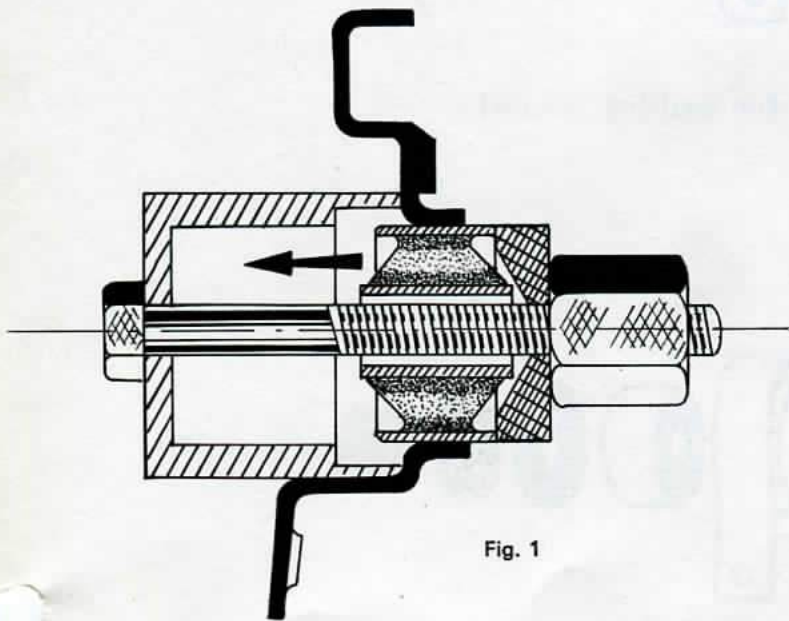
- Remove both side covers using a screwdriver.
- Remove the belt from the pulley groove.
- Loosen the upper engine mounting nut (12 and 13mm wrenches).
- Drive out the upper engine mounting axle while holding the engine.
- Let the engine lean downwards but place a block under it for support.
- For removal or installation operations, the flexible bushings must be removed or installed from inside to outside.

REMOVING THE FLEXIBLE BUSHING:

- Position the tool in alignment (fig. 1). Hold the nut with a 17mm wrench and screw in puller's screw by using a 12mm wrench.

POSITIONING THE FLEXIBLE BUSHING:

- Insert the stop washer (this will locate the bushing correctly in the frame) as shown on fig. 2.
- Position the flexible bushing (chamfered end) on the screw and proceed as when removing the flexible bushing.
- Replace if necessary the left flexible bush insulation ring.
- Fit the upper engine mounting axle, tighten the nut without locking it (refer to the NOTE on page 11).



REPLACING UPPER ENGINE MOUNTING FLEXIBLE BUSHINGS (MODEL 7)

NOTE: All service operations regarding the engine and the frame indicated throughout our REPAIR OPERATIONS are valid for moped type "7".

TOOL NO. 100024 IS ABSOLUTELY NECESSARY TO EFFECT THIS OPERATION

- Remove both side covers using a screwdriver.
- Slip the belt off from the pulley groove.
- Loosen the nut (10mm socket) on the lower engine mounting screw and remove it.
- Loosen the two nuts (13mm socket) on the upper engine mounting.
- Remove the engine and let it detach from the frame. Support the engine by placing a block under it.
- For removing or fitting operations, the flexible bushes will be removed or fitted from front to rear of the machine (fig. 1 and fig. 2).

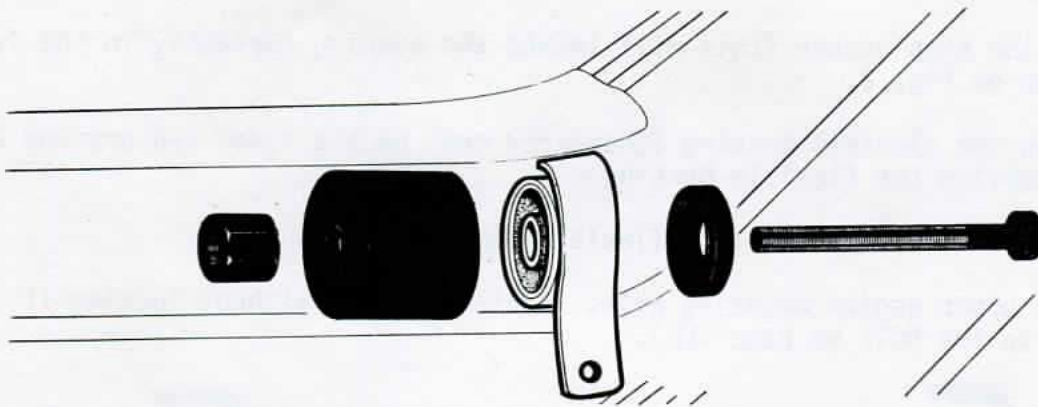


Fig. 1 - Location of parts for bushing removal

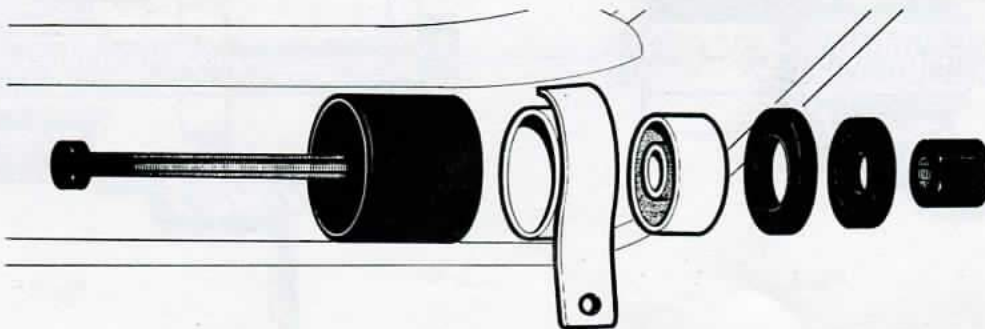


Fig. 2 - Location of parts for bushing installation

REPLACING UPPER ENGINE MOUNTING FLEXIBLE BUSHINGS (MODEL 7)
CONT'D.

REMOVING THE FLEXIBLE BUSHING:

- Align the tool as shown in fig. 1, and hold the nut with a 17mm wrench and screw in the tool's screw using a 12mm wrench.

FITTING THE FLEXIBLE BUSHING:

- Reverse the body of the tool and insert the screw in it.
- Fit the flexible bushing (chamfered side) on the screw, pile up the two washers of the tool as indicated (fig. 2) and screw the nut until the wider washer rests against the flexible bushing housing welded to the frame.

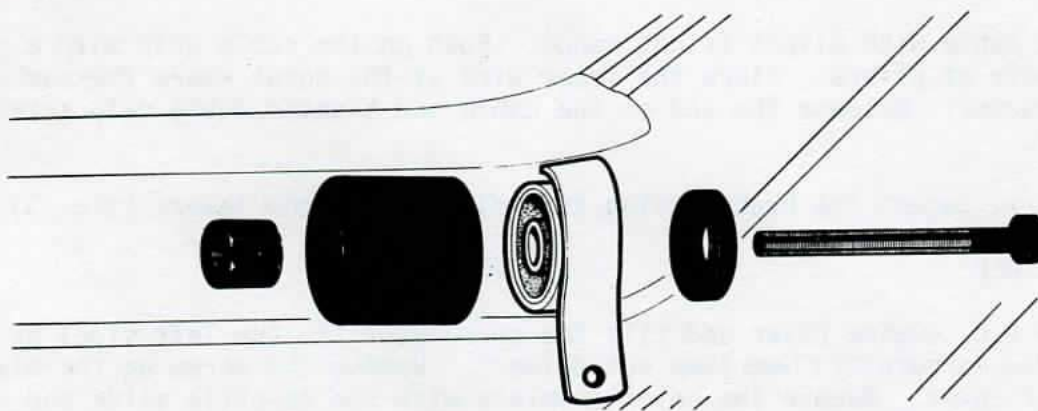


Fig. 1 - Location of parts for bushing removal

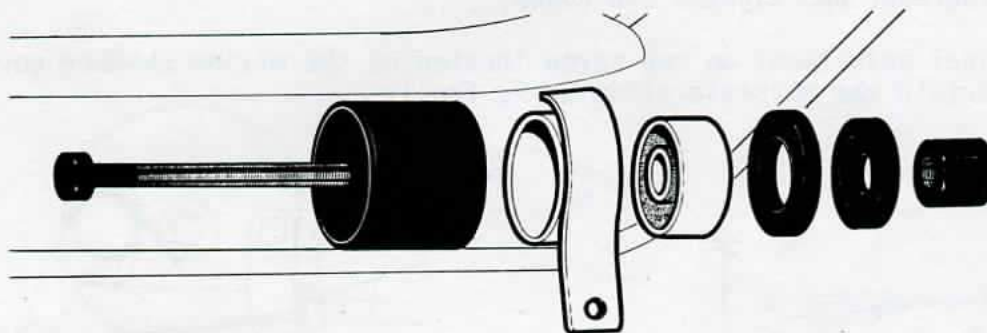


Fig. 2 - Location of parts for bushing installation

REPLACING CABLES

FRONT OR REAR BRAKE CABLE:

- Loosen the cable end using a 6mm open wrench and slide the inner wire out through the brake lever (fig. 2).
- Tighten the brake adjuster at the handgrip fully (fig. 3).
- Grease the new inner wire and feed it through the lever anchor pin, the adjuster and outercasing.

When replacing the rear brake inner wire, make sure that the ferrule is positioned correctly.

ADJUSTMENT: Fig. 1

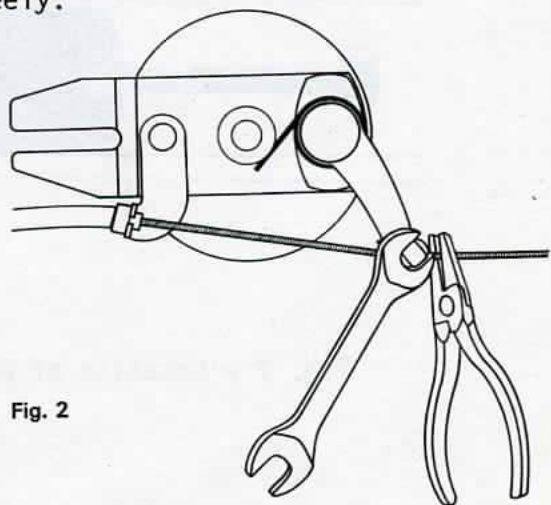
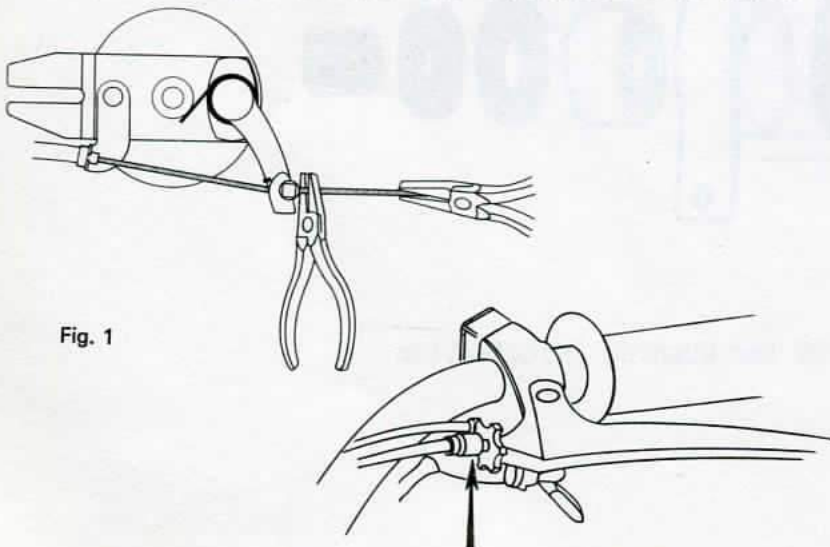
- Hold the cable with pliers (right hand). Push on the cable grip with a second pair of pliers. Pinch the inner wire at the point where the cam lever touches. Release the end of the cable and tighten cable grip screw (fig. 2).

If necessary, adjust the brakes using the adjusters on the levers (fig. 3).

THROTTLE CABLE:

Remove the R.H. engine cover and tilt the carburetor (to the left side) by loosening the carburetor clamp (8mm nut driver). Remove the screw on the mixing chamber cover. Remove the cover complete with the throttle slide and choke slide (screwdriver).

- Loosen the cable lock from the throttle twist grip (6mm open wrench). Pull out the inner wire.
- Reassemble in reverse sequence and grease the new inner wire before sliding it into the outercasing.
- Fit the carburetor and tighten the clamp.
- Make the final adjustment on the screw located on the mixing chamber cover and make certain the throttle slide works freely.



REPLACING CABLES CONT'D.

CHOKE CABLE:

- Follow the procedure as described for the throttle inner wire.
- Slacken the nut at the choke lever (8mm open wrench) and pull the inner wire out from the bottom of the choke slide.
- Reverse the procedure to reassemble after having lubricated the replacement inner wire and feed it up through the choke slide.
- Adjust the tension at the choke lever adjuster (a small amount of free movement is required and should not exceed $\frac{1}{4}$ " , fig. 4).

DECOMPRESSOR CABLE:

- Loosen the cable end using a 6mm open end wrench.
- Remove the radio suppressor and depress the decompressor spring using a screwdriver and remove the ferrule from its holder.
- Pull out the inner wire from the outercasing.
- Grease the new inner wire and reroute it through the outercasing and into the shouldered ferrule. Reverse disassembling procedure.
- Adjust the cable tension at the decompressor adjuster on the twist grip (a small amount of free movement is required and should not exceed $\frac{1}{4}$ " , fig. 5).

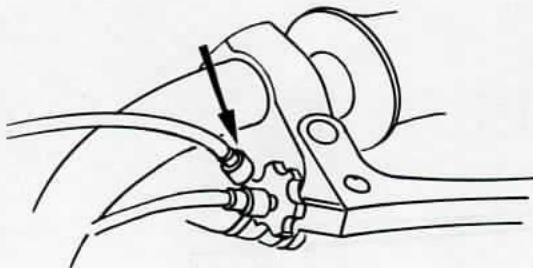


Fig. 4

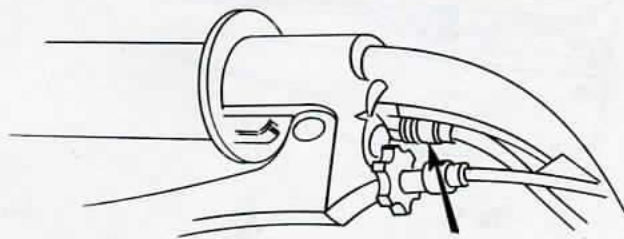


Fig. 5

REPLACING THE FRAME

- Remove both side covers.
- Drain the fuel tank.
- Remove the radio suppressor and disconnect the decompression cable.
- Remove the L.H. black plastic cover (fig. 1).
- Remove the screw on the mixing chamber cover, and the cover complete with throttle slide and choke slide from the carburetor.
- Remove the outercasing retainer together with the ignition coil (8mm wrench, fig. 2).
- Disconnect the rear brake inner wire, remove the solderless nipple and the outercasing shouldered end.
- Disconnect the four-way connector, the wires outside the flywheel magneto, and zener diode straight terminals.
- Remove the R.H. black plastic covers.
- Detach all electric leads.
- Set the machine on a lift bench and clamp the rear wheel.

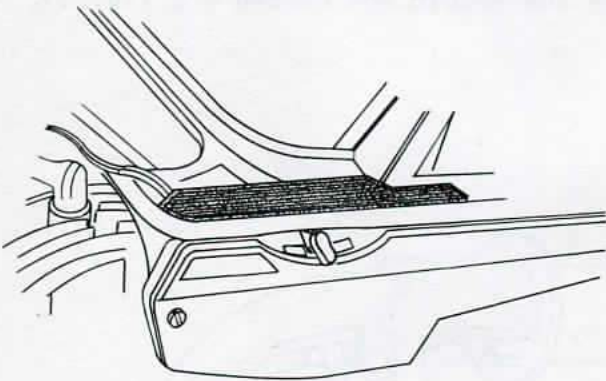


Fig. 1

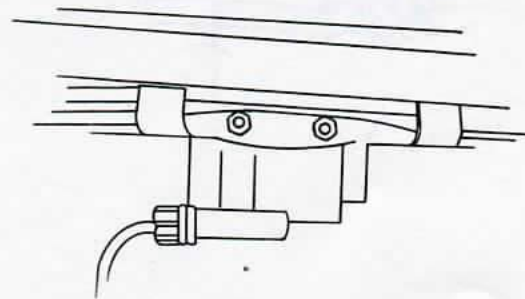


Fig. 2

REPLACING THE FRAME
CONT'D.

- Unscrew and remove the nuts securing one of the "U" clamps on the handlebar. (This is not required if the machine is fitted with tall "U" clamps. Use wrench No. 1229 to remove the top steering locknut).
- Loosen the nuts securing the other "U" clamp.
- Remove the serrated mounting blocks.
- Unscrew and remove the steering locknut (32mm wrench) and the washer.
- Flatten the lock plate and remove the bottom pivot screw (32mm wrench).
- Remove the front wheel assembly, fork, handlebars, and controls.
- Remove the steering head set (refer to page 64).
- Remove the belt cover.
- Disconnect the fuel pipe, and remove the engine assembly with the carburetor (refer to page 8).
- Remove the driven pulley, the crankgear, and the chains (refer to pages 47 - 50).
- Remove the loading springs and the stop bracket (10mm wrench, fig. 3).

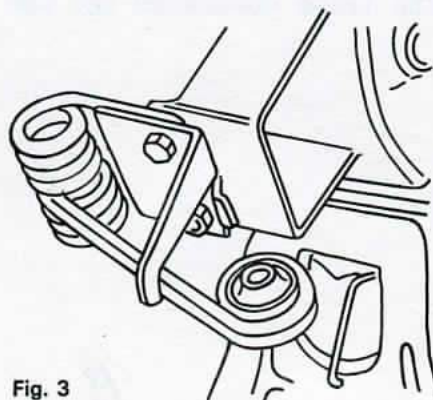


Fig. 3

REPLACING THE FRAME CONT'D.

- Remove the saddle and the clamp around the frame seat pillar (13mm wrench).
- Remove the fuel cap, decals, chrome strip and tool box covers.
- Remove the zener diode (10mm wrench), if equipped.
- Remove the shock absorber upper mounting bolts (13mm wrench).
- Remove the self-locking nut (17mm wrench) and drive out swing arm shaft.
- Remove the swing arm complete with shock absorbers and the rear wheel (fig. 4).
- Remove the rear fender with wiring and luggage rack lower support brackets (refer to page 75).
- Remove the luggage carrier rack and luggage rack upper support brackets (10mm wrench and Philips screwdriver).
- Remove the fuel tap (14mm open wrench). Make sure the rubber seal is in good condition (fig. 5).
- Remove the plastic strips from rear frame arms and the grommet from the lower part of the frame.
- Remove the center stand (refer to page 69).

REFITTING THE FRAME:

- Reverse the procedure. Fit new crankgear bushings (Page 50) and new flexible bushings (Page 51).

NOTE: Do not forget to stamp the frame number on the new frame in the same location as the old frame.

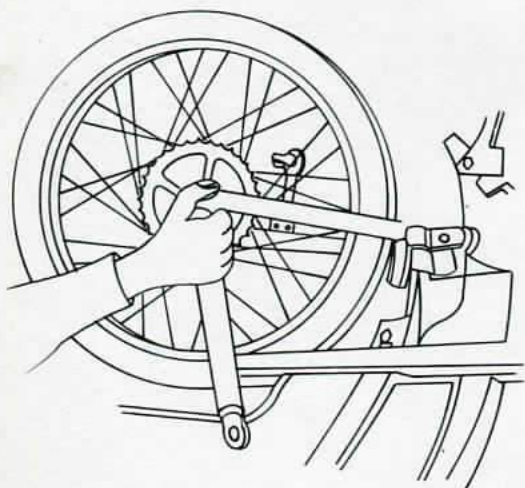


Fig. 4



Fig. 5

REMOVING THE MAIN FORK ASSEMBLY

- For all operations on the front fork, fasten the rear wheel (the front wheel will clear the ground) with a clamp similar to that shown in fig. 1.
- Remove the four nuts and washers under the handlebar "U" clamps (10mm wrench).
- Remove the "U" clamps complete with wedges. Let the handlebar hang down.
- Remove the headlamp assembly and disconnect the wires from the sealed beam.
- Disconnect the wires at the headlamp switch.
- Disconnect the wires from the horn, disconnect the speedometer control from speedometer drive unit and the front brake control.
- Remove the outercasing ferrule (10mm wrench) and free the brake cable from the fender bracket.
- Remove the upper nuts together with the fork caps and rubber washers from the upper end of the fork (slotted screwdriver, No. 100012, fig. 2).

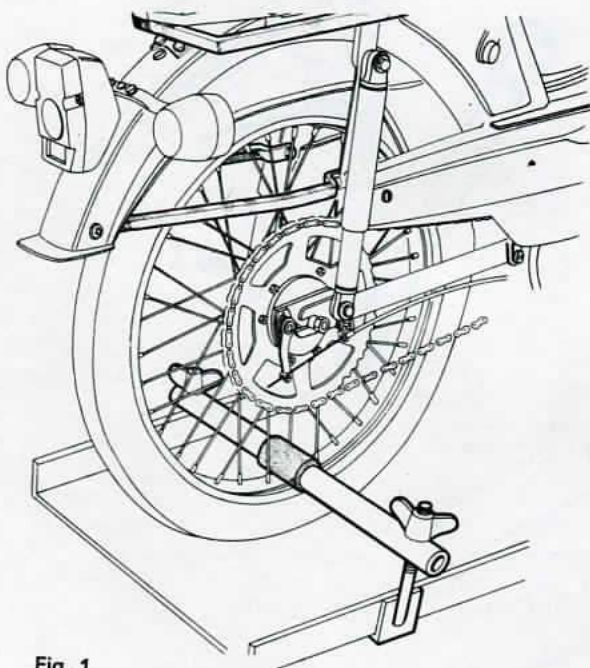


Fig. 1



Fig. 2

REMOVING THE MAIN FORK ASSEMBLY CONT'D.

- Remove the front wheel with the fork plungers.
- Remove the top steering lock nut and washer (32mm wrench, fig. 3).
- Flatten the lock plate and remove the bottom fork stem retaining bolt (wrench, No. 100019, fig. 4).
- Press against the fork pivot and lower fork plate with a screwdriver to free the pegs (fig. 5).
- Pull on the main fork assembly to free the lower fork plate and lift to free the upper part.
- Remove the headlamp and the horn (10mm wrench) and fit them to the new main fork assembly. (Do not forget the ground leads on the headlamp lower mounting screw.)

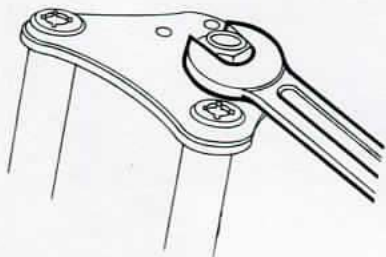


Fig. 3

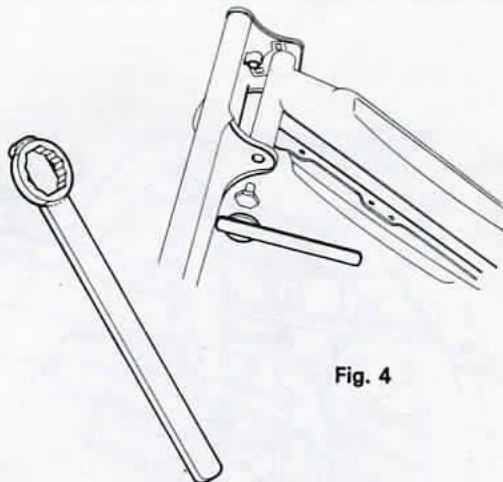


Fig. 4

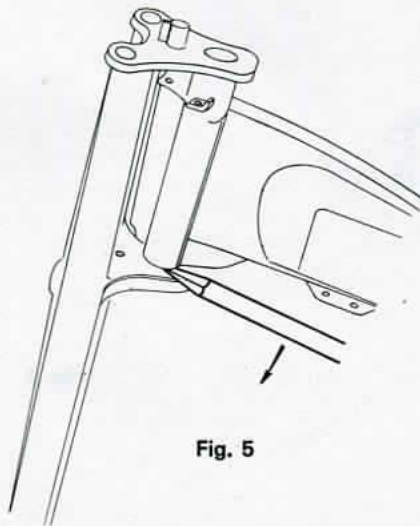


Fig. 5

REMOVING THE MAIN FORK ASSEMBLY

- For all operations on the front fork, fasten the rear wheel (the front wheel will clear the ground) with a clamp similar to that shown in fig. 1.
- Remove the four nuts and washers under the handlebar "U" clamps (10mm wrench).
- Remove the "U" clamps complete with wedges. Let the handlebar hang down.
- Remove the headlamp assembly and disconnect the wires from the sealed beam.
- Disconnect the wires at the headlamp switch.
- Disconnect the wires from the horn, disconnect the speedometer control from speedometer drive unit and the front brake control.
- Remove the outercasing ferrule (10mm wrench) and free the brake cable from the fender bracket.
- Remove the upper nuts together with the fork caps and rubber washers from the upper end of the fork (slotted screwdriver, No. 100012, fig. 2).

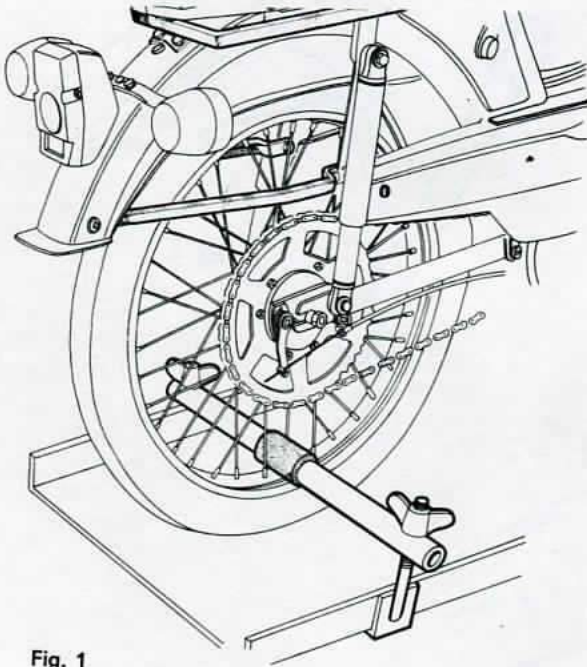


Fig. 1



Fig. 2

REMOVING THE MAIN FORK ASSEMBLY CONT'D.

- Remove the front wheel with the fork plungers.
- Remove the top steering lock nut and washer (32mm wrench, fig. 3).
- Flatten the lock plate and remove the bottom fork stem retaining bolt (wrench, No. 100019, fig. 4).
- Press against the fork pivot and lower fork plate with a screwdriver to free the pegs (fig. 5).
- Pull on the main fork assembly to free the lower fork plate and lift to free the upper part.
- Remove the headlamp and the horn (10mm wrench) and fit them to the new main fork assembly. (Do not forget the ground leads on the headlamp lower mounting screw.)

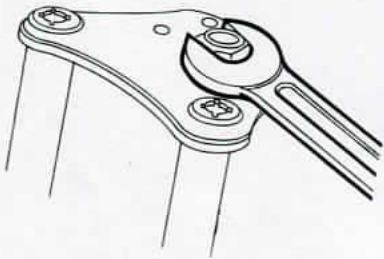


Fig. 3

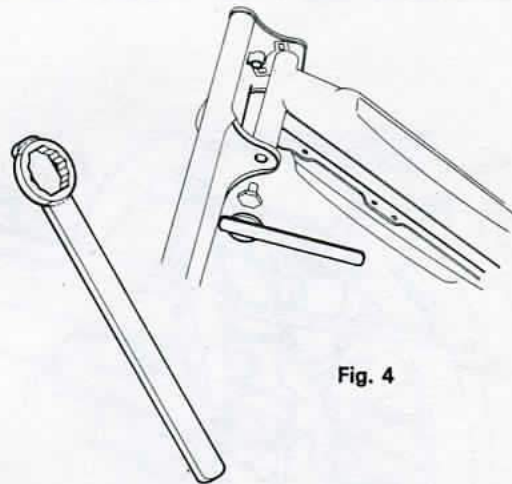


Fig. 4

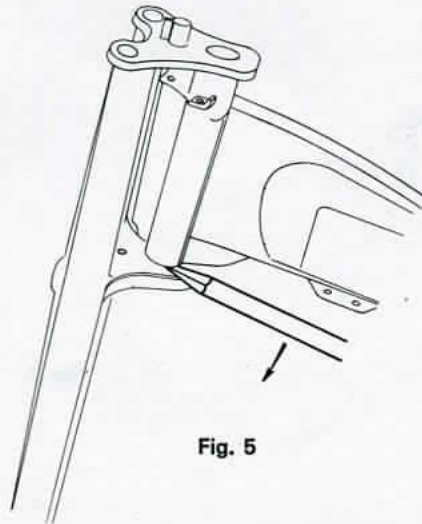


Fig. 5

REFITTING THE MAIN FORK ASSEMBLY
REMOVING AND REFITTING THE FORK COMPLETE

- Reverse dismantling procedure.
- Make sure that the lower plate pegs are positioned in the slots of the fork pivot.
- If necessary, replace fork bushings and spacers (refer to page 62).
- Always fit a new lock plate on the bottom pivot screw.

REMOVING AND REFITTING THE FORK COMPLETE:

- Remove the front wheel (refer to page 66) and the fender (refer to page 76).
- You need not remove the fork caps retainer nuts (fig. 1).
- Follow the instructions given for the main fork assembly removal and refitting.

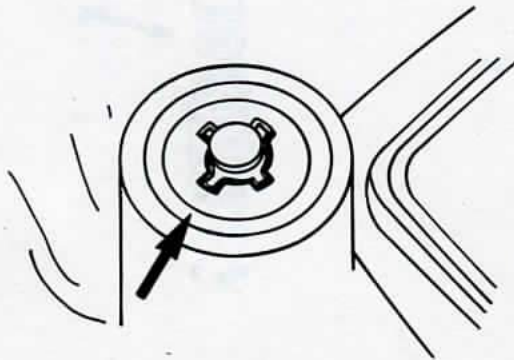


Fig. 1

REPLACING FORK BUSHINGS AND SPRINGS

- Disconnect the speedometer cable.
- Disconnect the front brake control cable.
- Remove the outercasing shouldered end of the front brake cable and free the cable from fender support.
- Remove the fork cap retainer nuts (slotted screwdriver, No. 100012).
- Remove the wheel complete with fork plungers and springs.
- Remove the dampers.
- Remove the fork seals (fig. 1).
- Extract the bushings and sleeves with the 2-jaw puller, No. 100006 (fig. 2).
- Insert a new set of bushings and sleeves in each fork tube.
- Make sure the bottom fork seals are in good condition: otherwise replace them (fig. 3).
- Fit new fork springs if the old ones were broken.
- Fit the dampers and the fork seals on the plungers.
- Coat the springs with grease and fit the wheel with plungers back into the the fork shell.
- Fit the rubber washers, cups, and tighten the upper nuts (slotted screwdriver, No. 100012).

NOTE: Make sure the top struts of the fork plungers are lined up with the fork housing before tightening down on the slotted nut with Tool No. 100012 (fig. 4 and 5).

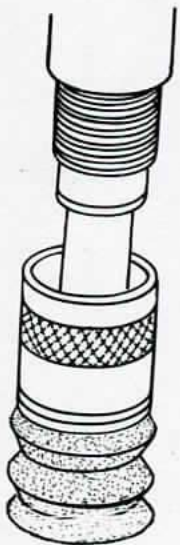


Fig. 1



Fig. 2

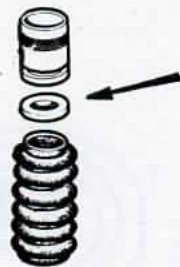


Fig. 3

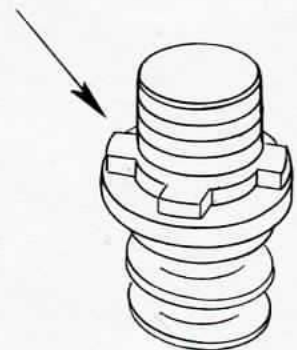


Fig. 4

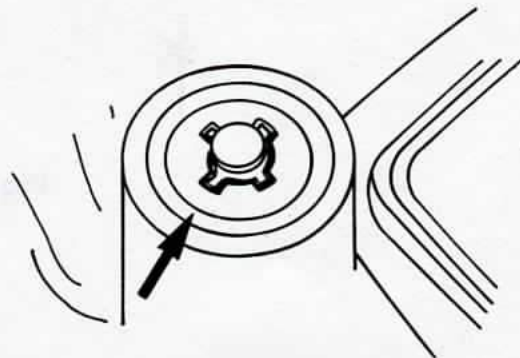


Fig. 5

REMOVING THE HANDLEBARS

- Slacken the locknut under the twist grip and remove the screw (8mm wrench and screwdriver, fig. 1).
- Remove the twist grip sleeve.
- Free the throttle and decompressor controls from the retaining bracket on the fork upper plate (fig. 2).
- Slacken the screw securing the twist grip body to the handlebars (fig. 1).
- Insert a screwdriver blade between the rubber grip and handlebar tube (fig. 3).
- Tilt the machine slightly and inject some oil drops in the space opened by the screwdriver (fig. 3).
- Remove the rubber grip (fig. 3).
- Slacken the screw securing the left hand grip body.
- Remove the four nuts under the handlebar "U" clamps.
- Remove the left hand grip body.
- Remove the handlebars.

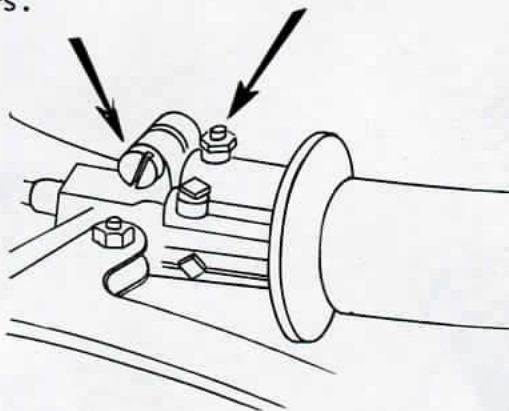


Fig. 1

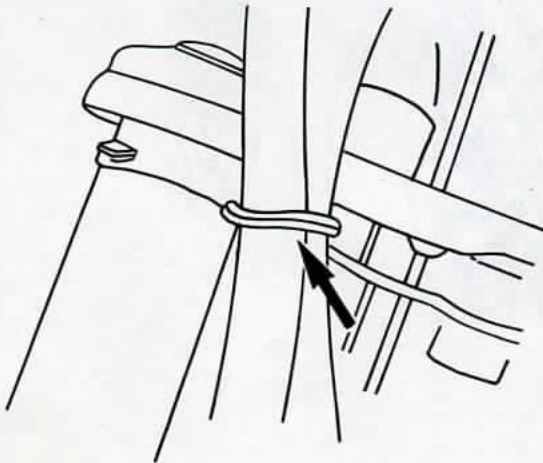


Fig. 2

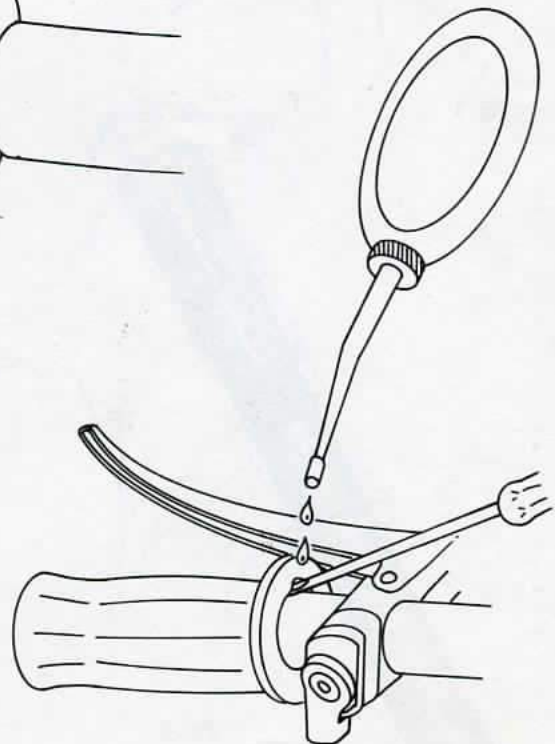


Fig. 3

REMOVING THE STEERING HEAD ASSEMBLY

REMOVAL:

- Remove one "U" clamp (10mm wrench). This is not necessary for tall "U" clamps. Remove the top steering lock nut using Wrench No. 1229 (fig. 1).
- Slacken the nuts securing the other "U" clamp and remove the wedge under the "U" clamp already removed (fig. 1).
- Flatten the lock plate and remove the lower pivot screw (Wrench No. 100019).
- Remove the fork with the wheel without disconnecting any wires.
- Let this assembly hang to one side and insert a screwdriver or a hardwood block through the spokes to lock the wheel (fig. 2).
- Hold the steering head stem with interlocking joint pliers and slacken the upper steering cone.
- Remove the steering head stem, collect the steering head steel balls, and pull out the upper and lower cups by using a cup puller (fig. 3).

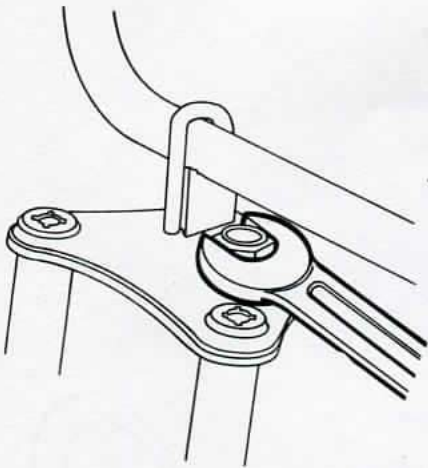


Fig. 1



Fig. 2



Fig. 3

REFITTING THE STEERING HEAD ASSEMBLY

- Insert the bottom and top cups into the frame steering tube (fitting tool, No. 100016, fig. 1).
- Pack the top cup and pivot stem cone with grease to make ball fitting easier.
- Place the balls (26 balls) on the pivot stem cone and insert it in the frame steering tube.
- Fit the other 26 balls in the top cup.
- Screw in the top cone. Hold the pivot stem with interlocking joint pliers and straighten the cone with the hand (fig. 2).
- Fit the assembly (wheel, fork, and handlebar).
- Fit the "U" clamp and wedge.
- Tighten the four "U" clamps nuts (10mm wrench).
- Make sure there is no up and down play in the steering head races.

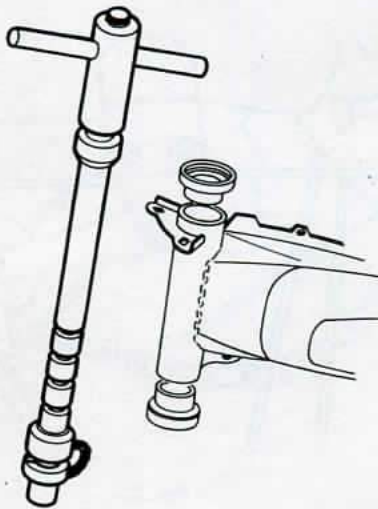


Fig. 1

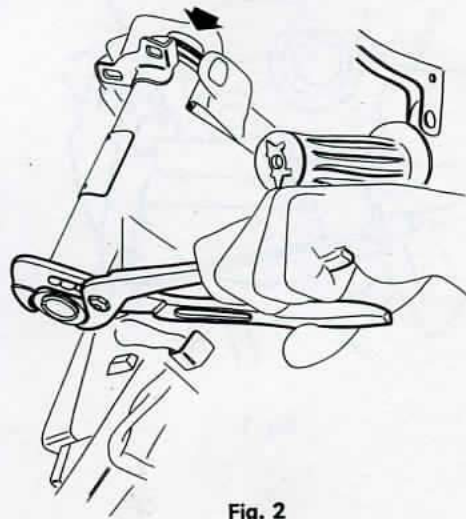


Fig. 2

REMOVING AND REFITTING THE FRONT AND REAR WHEELS

REMOVING THE REAR WHEEL:

- Place the machine on the center stand and loosen the rear wheel axle nuts.
- Loosen almost fully the left hand axle nut to remove the chain adjuster bolt. Lift the drive chain off the rear wheel sprocket (fig. 1).
- Push the chain tensioner up into the locked position and lift the pedaling chain off the freewheel (fig. 2).
- Push the cam lever forward to release the rear brake cable (fig. 1).
- Remove the wheel.
- Remove the brake assembly and inspect the brake shoes.

REFITTING THE REAR WHEEL:

- Reverse the procedure.
- Make sure the slot in the brake backing plate fits over the lug welded on the swing arm (fig. 3).
- Apply the brake and tighten the rear wheel axle nuts. (This will center the brake shoes.)

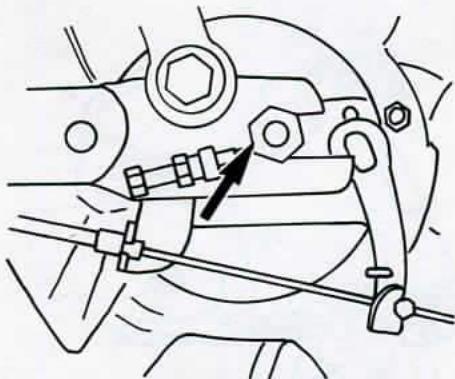


Fig. 1

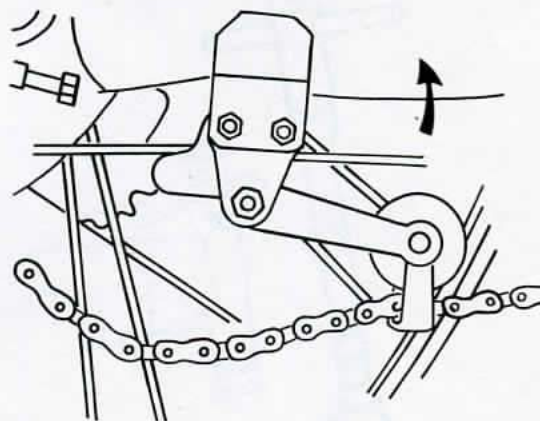


Fig. 2

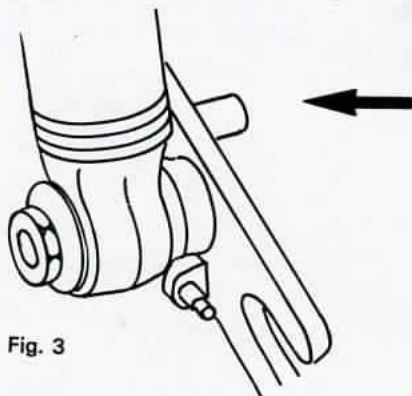


Fig. 3

REMOVING AND REFITTING THE FRONT AND REAR WHEELS CONT'D.

REMOVING THE FRONT WHEEL:

- Replace a block under the engine or, if the machine is fitted to a work bench, clamp the rear wheel so that the front wheel is well off the ground.
- Disconnect the speedometer cable and release the front brake cable from the front brake arm (fig. 4).
- Slacken the axle nuts sufficiently enough to free the flat washers (fig. 5).
- Pull the wheel down and out of the fork.
- Remove the brake plate and inspect the brake shoes.
- Clean the drum if necessary.

REFITTING THE FRONT WHEEL:

- Reverse removal procedure.
- Make sure the lug on the brake backing plate fits into the fork slot (right hand) fig. 6.
- Apply the brake and tighten the front wheel spindle nuts. (This will center the brake shoes.)

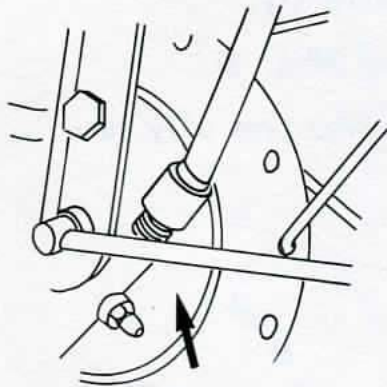


Fig. 4

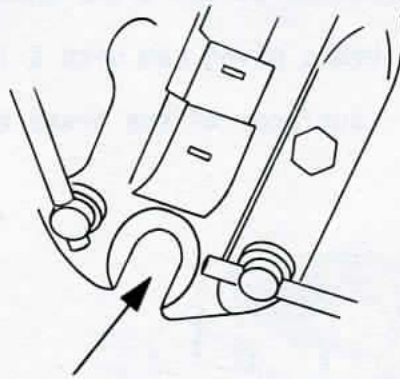


Fig. 5

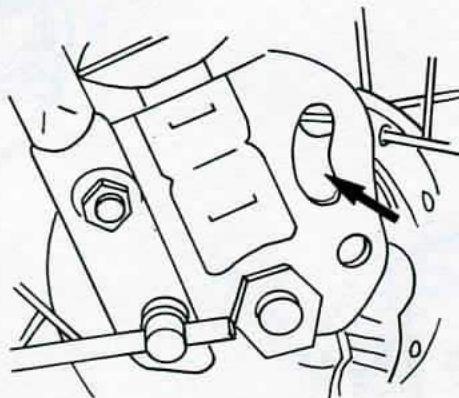


Fig. 6

REPLACING THE BRAKE SHOES (FRONT OR REAR)

REMOVING THE BRAKE SHOES:

- Remove the wheel from the chassis (refer to page 66).
- Remove the brake backing plate from the wheel hub.
- Clamp the brake plate in a vice and inspect the brake shoes before removing them from the brake backing plate.
- Insert a screwdriver between the brake backing plate and one brake shoe and press against it to remove the shoe (fig. 1). Lift the other shoe off the backing plate assembly.

NOTE: Be careful not to bend the backing plate when removing the brake shoes.

REFITTING THE BRAKE SHOES:

- Assemble the new brake shoes with the return springs.
- Force the shoes apart holding them in a "V" formation (fig. 2).
- Press downwards on the brake shoe to position it correctly.
- Coat the brake pivot cam with a light film of grease (fig. 3).
- The inner surfaces of the brake drums must be kept free from oily substances.

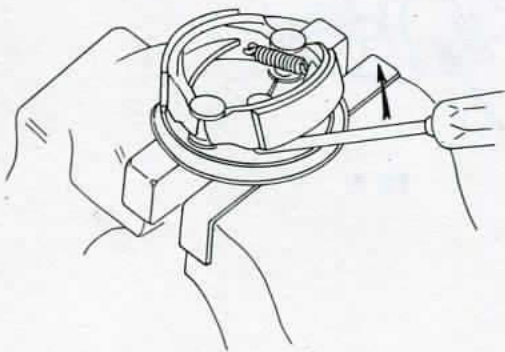


Fig. 1

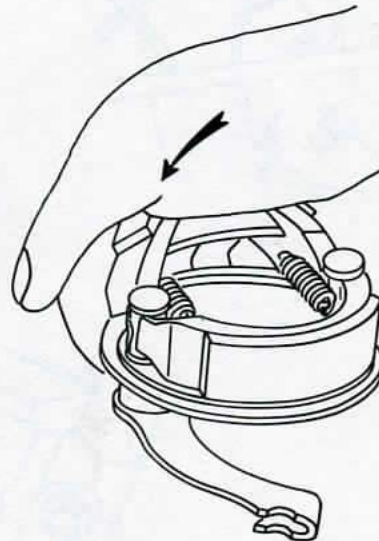


Fig. 2

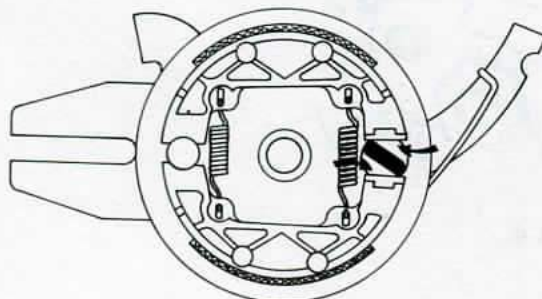


Fig. 3

REMOVING THE CENTER STAND, THE SADDLE
REPLACING THE PEDALLING CHAIN AND THE DRIVE CHAIN

REMOVING THE CENTER STAND:

- Using multi-lock pliers, grip the crankgear pulley dust cap and remove it. (See page 47).
- Remove the retaining ring using the opening pliers No. 100002. (See page 47).
- Tilt the machine (pulley opposite side).
- Set the center stand spring by passing a piece of string through the lower bow of the spring (fig. 1).
- Remove the spring (fig. 1).
- Remove the nut securing the center stand bolt (13mm socket and 14mm open end wrench).
- Slightly pull the pulley upwards and remove the bolt (fig. 1).
- Remove the other bolt and remove the center stand.

REFITTING THE CENTER STAND:

- Reverse the procedure.
- If necessary, replace the dust cap on the crankgear pulley.

REMOVING THE SADDLE:

- Loosen the saddle clamp (13mm socket).
- Lift the saddle upwards and remove it.

REFITTING THE SADDLE:

- Reverse the procedure.

NOTE: When refitting a saddle, make sure that it does not come to rest on the seat post when sat upon.

REPLACING THE PEDAL CHAIN:

- Push the chain tensioner up into the locked position.

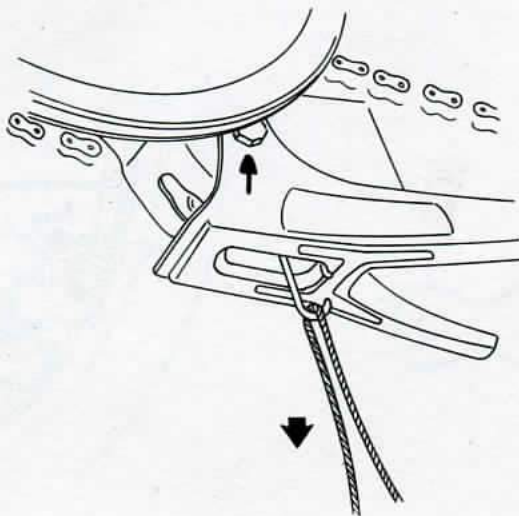


Fig. 1

REMOVING THE CENTER STAND, THE SADDLE
REPLACING THE PEDALLING CHAIN AND THE DRIVE CHAIN
CONT'D.

- Remove the joint clip (flat nose pliers). There are two types of pedal chain joint clips (fig. 2 and 3).
- Connect the new chain with the chain joint of the old chain and pull it around the freewheel until the new chain end is brought out.
- Fit the joint clip (flat nose pliers) (fig. 4).
- Release the chain tensioner to bring it back into position.

REPLACING THE DRIVE CHAIN:

- Loosen the rear axle wheel nuts (19mm wrench) and unscrew the adjuster bolts a few turns (8mm wrench).
- Remove the master link clip (flat nose pliers).
- Connect the new chain with the chain link of the old chain and pull it around the sprocket until the new chain end is brought out.
- Fit the link clip (flat nose pliers) (fig. 4).
- Center the wheel (as illustrated on page 75) and adjust the chain tension by means of adjuster bolts (one must take into account the rider's weight).
- Lock the axle nuts (19mm wrench).
- The wheel should turn freely with no roughness or tight spots (arrow - 1cm, fig. 5).

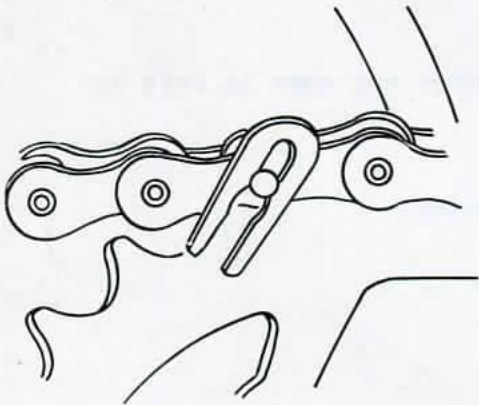


Fig. 2

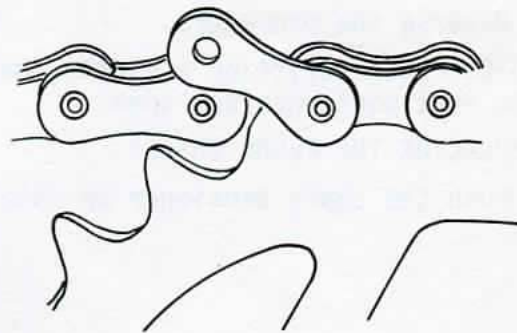


Fig. 3

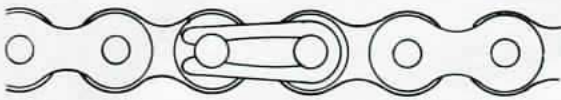


Fig. 4

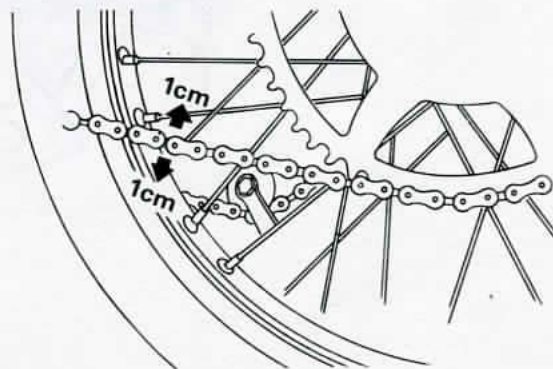


Fig. 5

REPLACING THE FRONT WHEEL ADJUSTMENT CONES, CUPS, AND BALLS

- Remove the front wheel and the front brake plate (refer to page 67).
- Remove the axle nut on the other side of the wheel (18mm wrench), together with the washers and speedometer drive unit (fig. 1).
- Remove the spacer and the foam washer.
- Remove the cone lock nut (17mm wrench) and keyed washer. Remove the cone (fig. 2).
- Remove the axle nut.
- Remove the two oil deflectors using a screwdriver and take care not to drop the balls, diameter 5.5mm (11 balls on each side, fig. 3).
- Remove the bearing cups using a drift punch and a hammer.

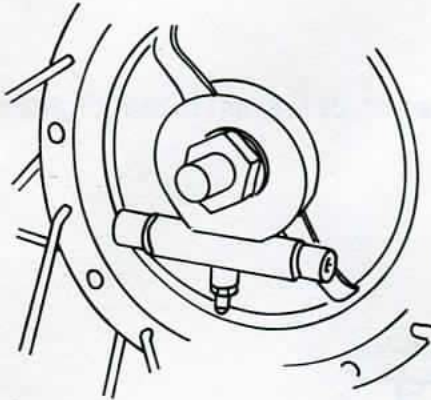


Fig. 1

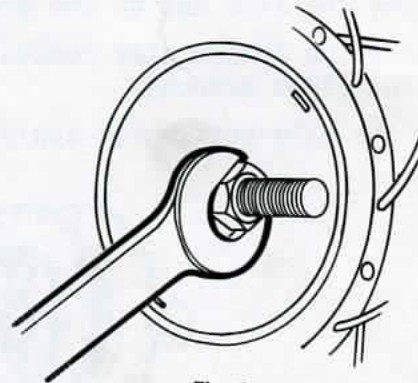


Fig. 2

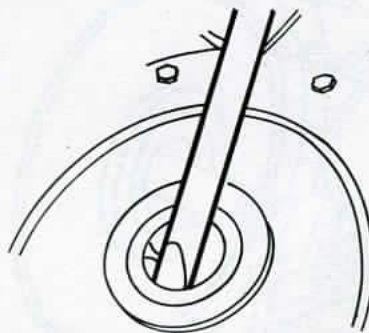


Fig. 3

REPLACING THE FRONT WHEEL ADJUSTMENT CONES, CUPS, AND BALLS CONT'D.

- Install the new hub bearing cups using Tool No. 100014 (tube) and a hammer (fig. 4).
- Make sure the axle is perfectly true. If it is not, fit a replacement one.
- Screw in the new cone on almost 50mm from the axle end.
- Fit the keyed washer and the cone lock nut (17mm wrench).
- Smear the cups with grease, fit the balls on the brake drum side and fit the oil deflector.
- Insert the axle in the nut, fit the other balls and fix the other oil deflector (fig. 5).
- Screw in the cone lock nut and keyed washer. The wheel should turn freely without play.
- Fit the foam washer (replace it if necessary), the spacer, the speedometer drive unit, the washer and the nut without locking it.
- Fit the wheel (refer to page 67).
- Tighten the axle nut on the brake side.
- Connect the speedometer control on the speedometer drive unit and tighten the nut (18mm wrench).
- Lock the axle nuts while applying the brakes.

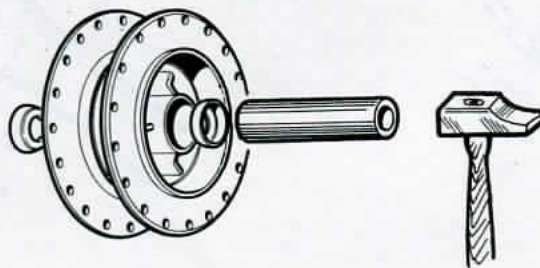


Fig. 4

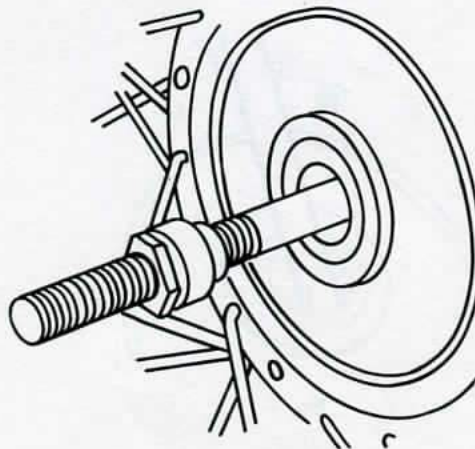


Fig. 5

REPLACING REAR WHEEL BALL BEARINGS

- Remove the rear wheel and pull out the rear brake assembly (refer to page 66).
- Remove the axle by tapping with a mallet (fig. 1).
- Remove the star washer, the shouldered spacer, and the spacer (freewheel side).
- Remove the bearing locknut with punch and hammer (fig. 2).
- Remove the dust cap on the freewheel side with a screwdriver.
- Insert a drift punch and knock out the bearing (diameter 30mm) on drum side (fig. 3).
- Remove the bearing spacer and pull out the other bearing (diameter 26mm) using a steel tube, diameter 23mm.
- Remove the wheel nut and locknut that remained on the axle (17mm wrench).
- Make sure the axle is true. (Fit a replacement one if it is not.)
- Drive home the new bearing (diameter 30mm) on brake side using a steel tube (diameter 28mm) (fig. 4).

IMPORTANT NOTE: Insert the bearing vertically to prevent the threads from being damaged (fig. 4).

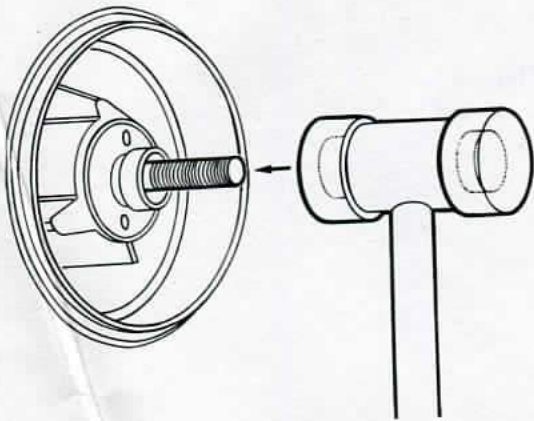


Fig. 1

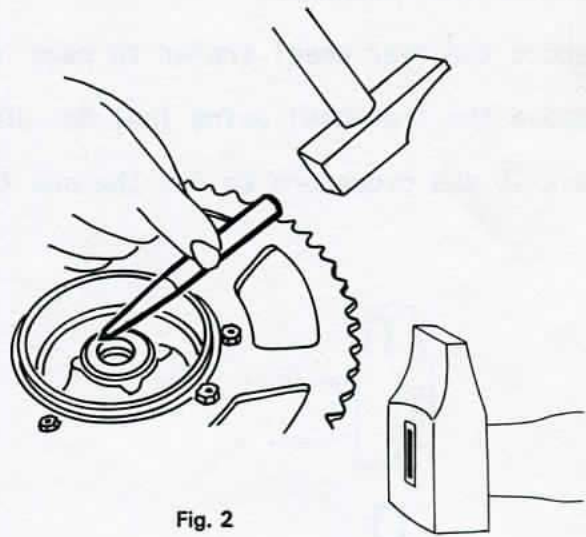


Fig. 2

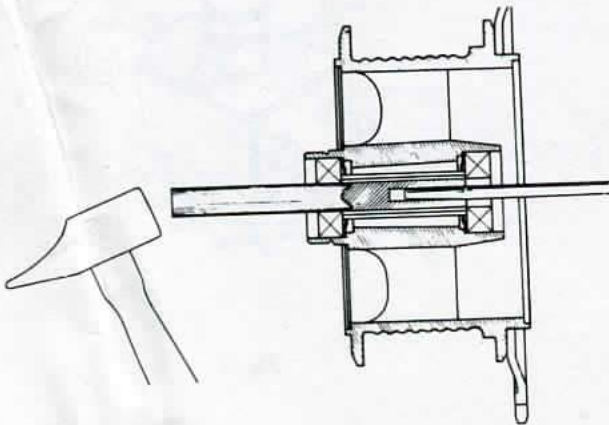


Fig. 3

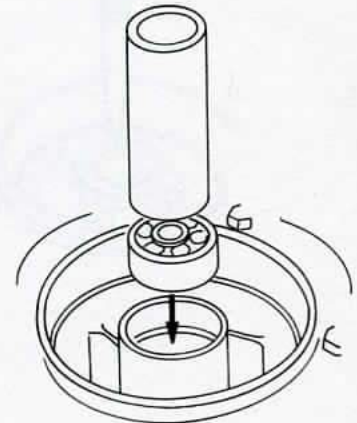


Fig. 4

REPLACING REAR WHEEL BALL BEARINGS
CONT'D,
REPLACING THE FREEWHEEL

- Fit the bearing locknut and punch lock it (2 opposite punch marks on thread circumference) (fig. 1).
- Insert the bearing spacer into the hub and insert the 26mm diameter bearing using a 23mm diameter steel tube.
- Make sure that the inner diameter of the bearings and the spacer are aligned.
- Fit the dust cap.

REFITTING THE AXLE AND THE REAR BRAKE PLATE ASSEMBLY:

- Reverse dismantling procedure.
- Fit the rear wheel (refer to page 66).

REPLACING THE FREEWHEEL:

- Remove the rear wheel (refer to page 66).
- Remove the freewheel using Tool No. 100022 (fig. 2).
- Reverse the procedure to fit the new freewheel.

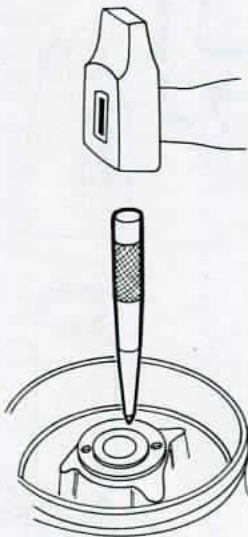


Fig. 1

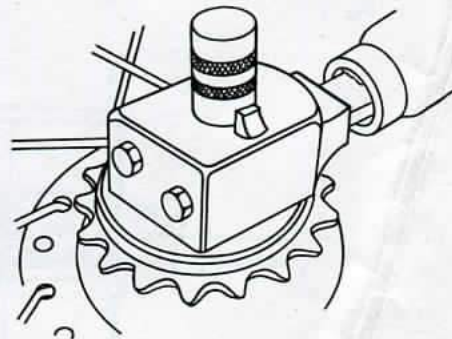
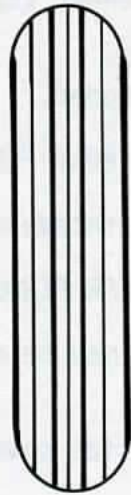


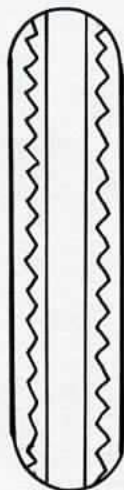
Fig. 2

CHECKING WHEEL ALIGNMENT

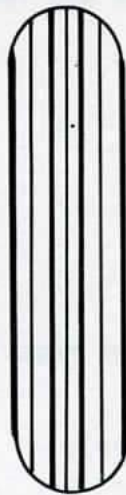
TO EFFECT THIS TEST, FACE THE FRONT WHEEL AS OUTLINED BY THE ARROW.



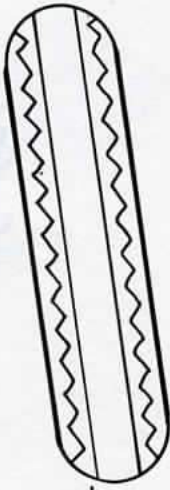
3



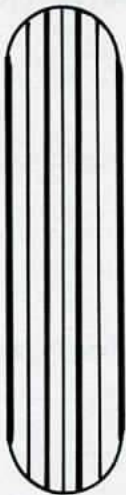
INCORRECT



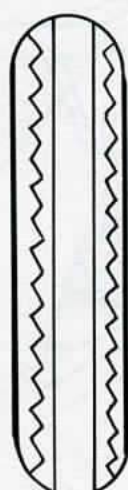
2



CORRECT



1



1. Correct alignment.
2. Faulty alignment, necessary to realign the rear wheel.
3. Faulty alignment, no possibility to realign. The fork, frame, or rear swing arm need truing.

REMOVING AND REFITTING THE FRONT AND REAR FENDERS

REMOVING THE FRONT FENDER:

- Remove the front wheel (refer to page 67).
- Remove the fender stay fixing bolts and fender bracket bolts (10mm wrench, fig. 1).
- Remove the fender.

REFITTING THE FRONT FENDER:

- Reverse the procedure.

REMOVING THE REAR FENDER:

- This removal may be effected without removing the rear wheel (according to the case).
- Remove both side covers (screwdriver).
- Remove the shock absorbers upper mounting bolts (13mm wrench, fig. 2).

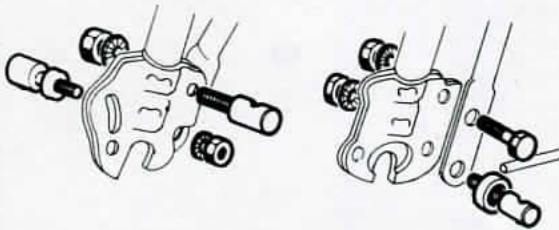


Fig. 1

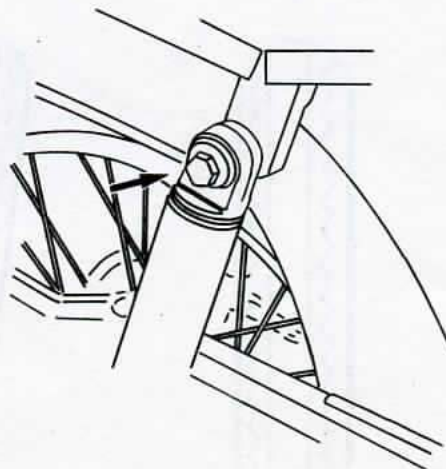


Fig. 2

REMOVING AND REFITTING THE FRONT AND REAR FENDERS CONT'D.

- Remove rear fender lower mounting bolts (10mm wrench, fig. 3).
- Remove the bolts securing the luggage carrier rack to the fender (10mm socket and wrench, fig. 4).
- Remove the rear mounting screws (Philips head) of the luggage rack (fig. 4).
- Remove both tool box covers.
- Flatten the antivibration brackets inside the fender.
- Disconnect the rear wiring harness (multi-connector Block) at the lower part of the frame.
- Remove the fender with wiring.

REFITTING THE REAR FENDER:

- Fit on the new fender, the parts left on the old fender: (wiring, supports).
- Reverse the removal procedure.

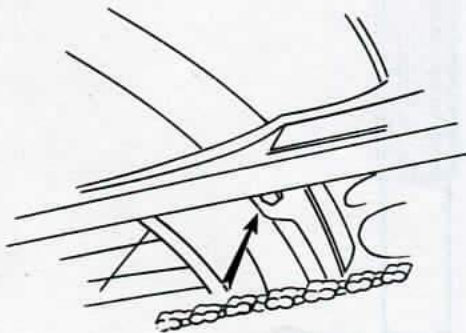


Fig. 3

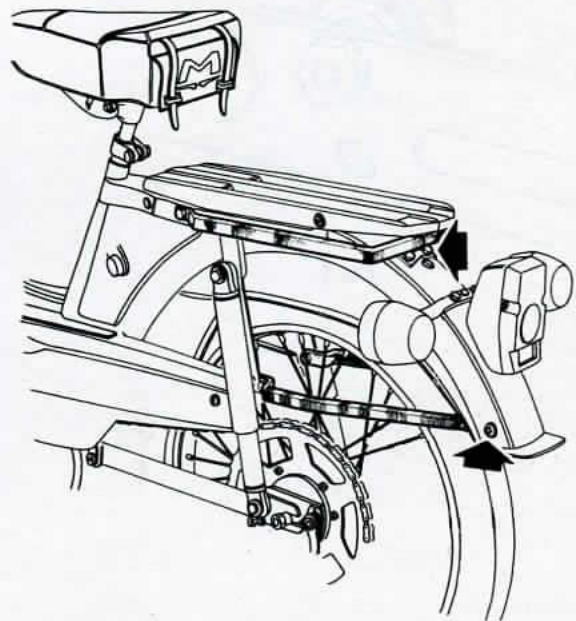


Fig. 4

REMOVING AND REFITTING THE SHOCK ABSORBERS AND THE SWING ARM

REMOVING THE SHOCK ABSORBERS:

- Remove the locknut on the shock absorber lower mounting bolt (13mm open wrench, fig. 1).
- Remove the lower mounting bolts (13mm wrench, fig. 2).
- Collect the locknuts, spacers, and washers.
- The wheel and swing arm assembly are now free to drop down.
- Remove the upper bolt assemblies (13mm wrench, fig. 2).
- Remove the shock absorbers.

REFITTING THE SHOCK ABSORBERS:

- Reverse the above procedure but screw in the right hand lower bolt locknut before screwing the bolt in fully. When the bolt is screwed home, the distance between the bolt and the freewheel prevents locknut fitting.

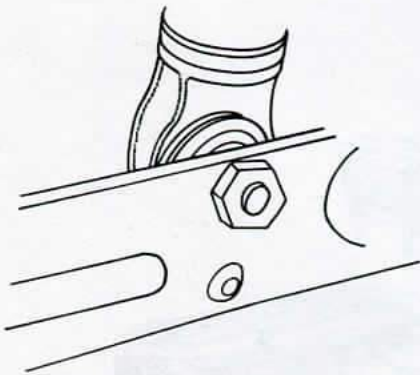


Fig. 1

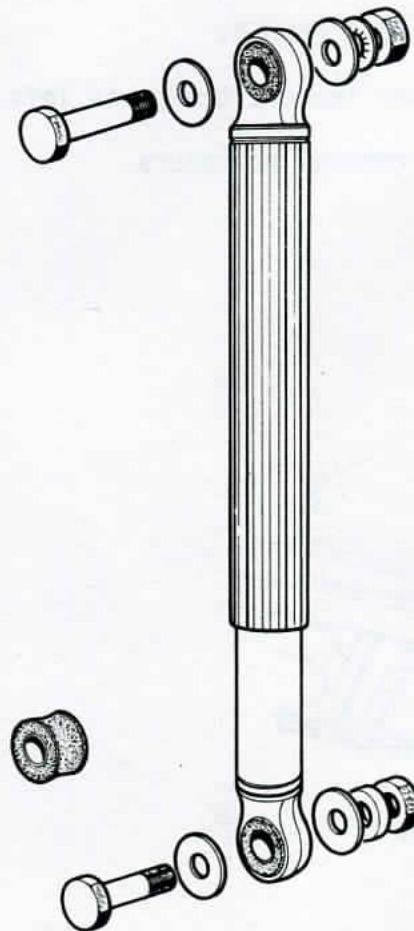


Fig. 2

REMOVING AND REFITTING THE SHOCK ABSORBERS AND THE SWING ARM CONT'D.

REMOVING THE SWING ARM:

- Remove the rear wheel (refer to page 66).
- Remove the shock absorber lower mounting bolts (fig. 2).
- Remove the driven pulley (refer to page 47).
- Remove the chain tensioner (8mm socket).
- Remove the swing arm pivot shaft and nut (17mm wrench, fig. 3 and 4).
- Remove the swing arm.

REFITTING THE SWING ARM:

- Position the swing arm and insert the pivot bolt.
- Screw in the nut without locking it.
- Fit the chain tensioner (8mm wrench).
- Fit the chains (bicycle and engine) through the swing arm.
- Fit the shock absorber lower mounting bolts with lock nuts (13mm wrench).
- Lock the nut securing the swing arm pivot shaft (17mm wrench).
- Fit the driven pulley (refer to page 48).
- Fit the rear wheel (refer to page 66).

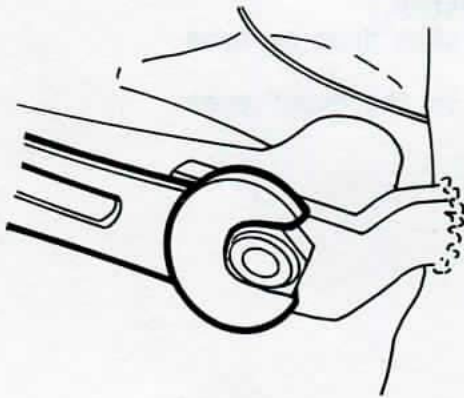


Fig. 3

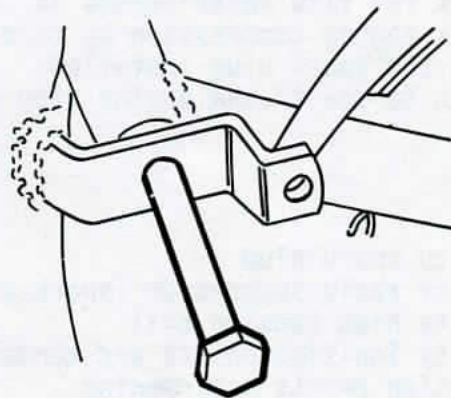


Fig. 4

MOTOBECANE TROUBLE SHOOTING GUIDE

The following guide is designed to reduce the amount of time spent trouble shooting a service problem. When reading through the trouble shooting guide, some of the steps will be referenced with the symbol (6V). This notation refers to machines manufactured by Motobecane prior to January 1, 1978, and which are equipped with a six*(6) volt lighting system. Subsequently, all Motobecane Mopeds manufactured for the United States after January 1, 1978, are equipped with a 12 volt lighting system.

HELPFUL HINTS:

1. When trouble shooting electrical components, the quickest and easiest method is substitution.
 - A) Make sure that the part being used in the substitution is known to be good.
 - B) When a parts substitution is made and the problem is not solved, leave the newly substituted part in the system until the problem is found. Then, back track one component at a time. This method will enable you to more effectively trouble shoot a machine which may have multiple problems.

ENGINE

I. ENGINE WILL NOT START

- A) Check for spark at spark plug.
- B) Check for flow restrictions in the fuel system.
- C) Check engine compression by turning the clutch drum by hand with the spark plug installed.
- D) Check to see if the engine stop switch is in the "run" position.

II. NO SPARK

- A) Faulty spark plug
- B) Faulty radio suppressor (spark plug cover)
- C) Faulty high tension coil
- D) Faulty ignition points and condenser
- E) Ignition points not opening
- F) Grounding wire inside the magneto
- G) Magneto wiring harness burnt or broken behind the engine
- H) Poor magnetism present in rotor
- I) Faulty exciter coil inside magneto
- J) Black wire from magneto broken or disconnected *(6V)

MOTOBECANE TROUBLE SHOOTING GUIDE

ENGINE, CONT'D.

III. GOOD IGNITION SPARK, BUT THE ENGINE WILL NOT START

- A) Decompression valve cable adjusted too tight
- B) Restriction of fuel flow (Ex. fuel tap, fuel tank, fuel line, carburetor)
- C) Faulty head gasket
- D) Ignition timing incorrectly set
- E) Faulty inlet pipe gasket
- F) Exhaust port and exhaust pipe clogged

IV. ENGINE RUNS, BUT HAS A HIGH SPEED MISS

- A) Faulty or worn spark plug
- B) Improper ignition timing
- C) Faulty radio suppressor
- D) Faulty high tension coil
- E) Faulty or worn ignition points and condenser
- F) Faulty head gasket
- G) Decompression valve cable adjusted too tightly
- H) Air leak between inlet pipe and cylinder
- I) Exhaust system clogged

V. ENGINE RUNS, BUT HAS LOW SPEED MISS

- A) Improper spark plug
- B) Improper ignition timing
- C) Faulty or worn out ignition points and condenser
- D) Faulty radio suppressor (spark plug cover)
- E) Magneto rotor rubbing on internal coils

VI. ENGINE POPS AND BACKFIRES WHEN TRYING TO START

- A) Ignition timing improperly set
- B) Decompression cable adjusted too tight
- C) Faulty cylinder head gasket
- D) Faulty ignition points or condenser

VII. DIFFICULT TO START WHEN COLD

- A) Carburetor choke valve not functioning sufficiently
- B) Improper ignition timing

VIII. DIFFICULT TO START WHEN WARM

- A) Improper ignition timing
- B) Worn out spark plug
- C) Exhaust system clogged
- D) Faulty ignition points and condenser

MOTOBECANE TROUBLE SHOOTING GUIDE
ENGINE, CONT'D.

IX. EXCESSIVE FUEL CONSUMPTION

- A) Engine is not broken in (600 miles)
- B) Carburetor choke valve partially opened at all times
- C) Carburetor flooding (sticky float)
- D) Leakage in fuel line

X. ENGINE HAS NO POWER

- A) Improper ignition timing
- B) Clogged exhaust port or pipe
- C) Decompression cable adjusted too tight
- D) Fuel restriction
- E) Worn out piston rings or engine seals
- F) Engine partially seized
- G) Moped chains adjusted too tight
- H) Brakes adjusted too tight

XI. THE ENGINE WILL RUN ONLY IF THE CHOKE IS USED

- A) Clogged fuel jet in carburetor
- B) Clogged fuel line
- C) Clogged fuel filter in carburetor or gas tank
- D) Clogged filter cap vent hole
- E) Loose or cracked inlet pipe and gasket
- F) Loose carburetor

XII. ENGINE WILL RUN BUT WON'T IDLE

- A) Idle circuit in carburetor clogged
- B) Throttle slide facing wrong direction in carburetor
- C) Idle screw not adjusted correctly
- D) Air leak at carburetor or inlet pipe mounts

XIII. ENGINE SEIZED OR STARTS KNOCKING

- A) Insufficient oil in fuel mixture
- B) Connecting rod looseness on crankshaft
- C) Loose magnet in flywheel
- D) Loose flywheel jammed on stator plate
- E) Piston seized to cylinder

POOR ENGINE PERFORMANCE

Very often poor engine performance may not be related to the engine itself, but to one or several frequently unsuspected secondary causes.

In such a case, we suggest the following:

1. Check that the decompressor control is not or has not been overadjusted which might damage the valve and entail compression loss (this is a frequent cause).
2. Check that the throttle slide opens fully. Quite often the control is badly adjusted and the engine is starved even at full throttle position.
3. Check that there is no braking action due to chains being too tight. In this respect, on Mobylettes fitted with a swing arm rear suspension, tension adjustment must be performed in the running position, the machine loaded with a rider weighing about 165 lbs.
4. Check variator operation.
5. Make sure the belt is correctly aligned.
6. Make sure the brakes are not adjusted too tightly.
7. Check that the fuel cap vent hole is not clogged as this may bring about poor fuel supply.
8. Check that the spark plug is in accordance with the manufacturer's specifications.
9. Check that the exhaust is neither partially blocked nor blocked. If this is the case, clean out the complete exhaust system.
10. Very important note: Quite often poor engine performance may be caused by overtightening the cylinder head nuts and thereby distorting the cylinder. (Cylinder head nut torque is 9 lbs. ft.)

LIGHTING CIRCUIT

I. NO LIGHTS AT ALL

- A) Faulty zener diode *(6V)
- B) Faulty headlamp switch
- C) Faulty lighting coil or coil ground
- D) Magneto harness burnt or grounding behind engine
- E) Wiring harness connector block disconnected behind carburetor
- F) Improper wire connections
- G) Blown bulbs

MOTOBECANE TROUBLE SHOOTING GUIDE
LIGHTING CIRCUIT, CONT'D.

II. NO BRAKE LIGHTS

- A) Faulty brake light switch
- B) Faulty ground at rear fender
- C) Faulty stop light coil or ground (if equipped with 12V system)

III. DIM LIGHTS AND NO HORN WHEN HEADLAMP SWITCH IS ON

- A) Faulty zener diode *(6V)
- B) Faulty lighting coil
- C) Faulty brown wire or connection
- D) Incorrect bulbs

IV. EXCESSIVE LIGHT CAUSING LAMP BURNOUT

- A) Faulty zener diode *(6V)
- B) Incorrect bulbs

V. NO HORN

- A) Faulty zener diode *(6V)
- B) Faulty horn unit
- C) Faulty horn switch
- D) Faulty horn wires or connections

VI. WHEN LIGHTS ARE TURNED ON, THE ENGINE STALLS *(6V)

- A) Faulty zener diode *(6V)
- B) Faulty headlamp switch *(6V)
- C) Faulty brake light switches *(6V)
- D) Faulty black wire or connection in magneto harness *(6V)