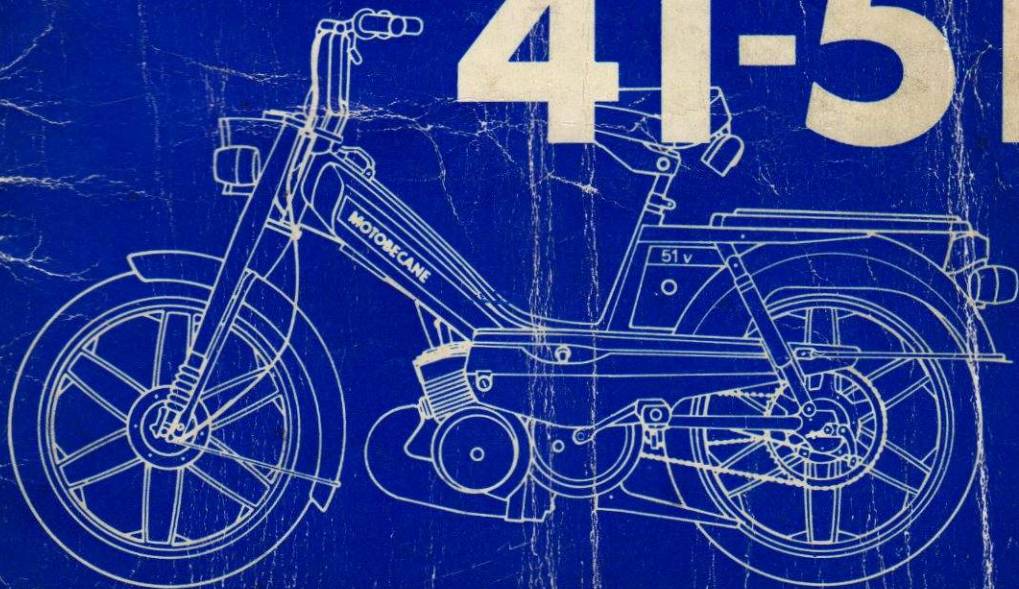




owner's manual

**MOTOBECANE**

**41-51**



$$4 \text{ mm} = \frac{15}{1000}$$



# CONTENTS

3/1/71

## SPECIFICATIONS :

Identification . . . . .	4
Technical data . . . . .	5
Technical features . . . . .	6-7

## PRE-START HINTS :

Fuel, adjustments . . . . .	8-9
-----------------------------	-----

## IN USE :

Controls . . . . .	10
Starting the engine . . . . .	11
Correct "break in" procedure . . . . .	14

## MAINTENANCE OPERATIONS :

Lubrication, Decarbonizing . . . . .	16-17
Lubrication schedule . . . . .	18
Maintenance operations schedule . . . . .	19

## VARIOUS ADJUSTMENTS :

Controls . . . . .	20
Carburettor, chain, ignition . . . . .	21

LIGHTING, LIST OF BULBS . . . . .	22
-----------------------------------	----

WIRING DIAGRAMS . . . . .	23-24
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TROUBLE SHOOTING . . . . .	25-26
----------------------------	-------

CONDITIONS OF WARRANTY . . . . .	27
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We reserve the right to alter technical specifications without prior notice.

41 VLC



41 VS



41 VL



41 TS



51 Trail



51 VS



51 VL



51 S



## IDENTIFICATION

### **MANUFACTURER'S NAMEPLATE :**

Located on the steering column indicating machine type and serial number.

### **SERIAL NUMBER :**

**41** : Stamped on wheel mounting rear lug.

**51** : Stamped on the RH side of saddle pillar support behind tool box cover.

**51 Super** : Stamped on rear stay.

### **ENGINE CAPACITY :**

Stamped on RH crankcase.

### **ENGINE IDENTIFICATION PLATE :**

Located on RH cylinder head fin. When replacing the engine fit this plate on the replacement engine.

*Our machines are covered by the French patents S. G. D. G. :*

1.183.833 - 1.195.443 - 1.239.961

1.252.842 - 1.269.194 - 1.271.578

1.283.222 - 1.325.736 - 1.330.221

1.336.253 - 1.337.393 - 1.369.469

1.418.139 - 1.509.102 Add. 91.793

1.529.625 - 1.551.875 - 1.539.178

1.553.020 - 1.573.163 - 70.27710

71.39911 - 72.14403 - 72.09944

73.02083 - 73.27947 - 74.08225

74.27398 - 74.398 - 74.43473

75.03562 - 75.07346 - 75.16207

75.17304 - 75.24532 - 76.07379

76.19902 - 76.19716 - 76.30626

77.01066 - 77.13836 - 77.25558

77.29693 - 77.39016 - 78.03343

78.02297 - 78.25385 - 78.25479

79.02474 - 79.04842

*and by a number of foreign patents and registered trade marks and models.*

## TECHNICAL DATA

Class - Moped

Types - 41 VLC - VL - VS - S

51 VLC - VL - VS - S

51 TRAIL

51 SUPER

## AV 10 ENGINE :

Bore : 39 mm X Stroke : 41.8 mm

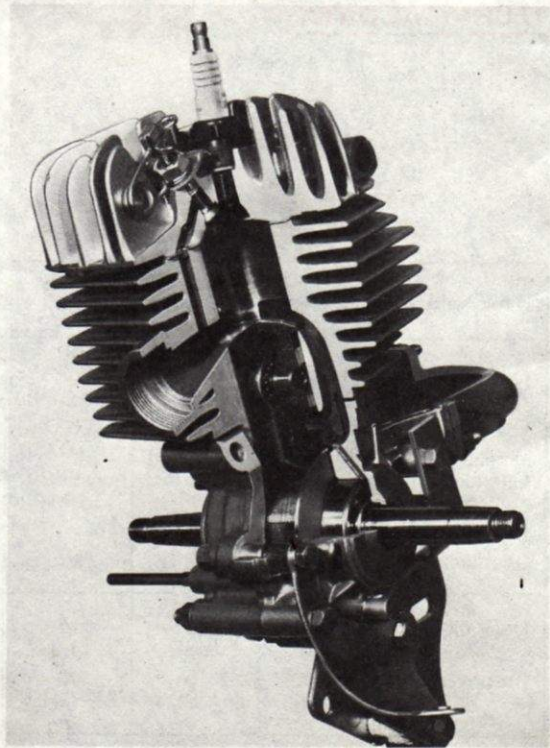
Capacity : 49.933 cc

Compression ratio : 9

Carburettor : Gurtner ø 13 mm Needle type

DIMENSIONS	41 TS	41 VLC - VL - VS	51 S	51 VLC - VL - VS	51 TRAIL	51 SUPER
Overall length (meters and inches)	1.686 (66.377)	1.686 (66.377)	1.764 (69.448)	1.764 (69.448)	1.796 (70.708)	
Overall width (meters and inches)	0.637 (25.078)	0.637 (25.078)	0.637 (25.078)	0.637 (25.078)	0.757 (29.803)	
Overall height (meters and inches)	0.968 (38.110)	0.968 (38.110)	0.967 (38.070)	0.967 (38.070)	1.016 (39.999)	
Front tyre	2 x 17	2 x 17	2 ½ x 17	2 ½ x 17	2 ½ x 17	2 ¼ x 17
Rear tyre	2 x 17	2 x 17	2 ½ x 17	2 ½ x 17	2 ½ x 17	2 ¾ x 17
Dry weight (kilograms and pounds)	42 (93)	44 (97)	44 (97)	45 (99)	49 (108)	50 (110)
Curb weight (kilograms and pounds)	45 (99)	46 (101)	47 (104)	48 (106)	52 (115)	53 (117)

**CUTAWAY  
VIEW  
OF THE  
AV 10 ENGINE**





## TECHNICAL FEATURES OF TYPES 41 AND 51



Your Motobecane Moped is fitted with the new AV 10 engine which is given the benefit of the fruitful researches effected by Motobecane in this field.

Obviously, this engine incorporates the well tried mechanical principles on which the legendary sturdiness of the "Mobylette" is based. Moreover, the AV 10 engine incorporates two improvements in relation with the passage followed by the air-fuel mixture and aimed at improving especially the power output at low revs while saving fuel.

The first improvement consists in the adoption of a system of induction through blade type valves. The advantage of reed inlet valves is to fill the crankcase with the accurate quantity of air fuel mixture required for the specific speedband. Moreover, the valves are non-return types preventing blow backs which may happen on engines fitted with the usual induction system.

These three passageways co-operate with the ports whose height and section are designed to ensure the best scavenging. Furthermore, the shape and the direction of these transfer passageways are designed on account of the different sections of the ports in order to exhaust the burnt gases with the best efficiency. This is a most relevant factor as concerns engine performance, fuel consumption and emission.

The second improvement concerns the transfers meaning the passageways via which the compressed mixture flows into the cylinder compression chamber.

At last, types 41 and 51 are fitted with a needle-controlled carburettor built according to the technique used on motor-cycles. This is an original feature for a mass produced moped.

# PRE-START HINTS

## STEERING LOCK

### 41 VLC - VL - 51 VLC - VL - 51 Trail - 51 Super

These models are fitted with a Neiman steering lock which enables to lock the handlebar towards the right or the left at full lock. Press in the lock and turn key to the left (counter clockwise).

Bring the key back into the axis and remove it : the locking finger remains engaged locking the handlebar. To unlock turn key towards the left and pull the locking finger.

### 41 VS - TS - 51 VS - S

You can have a steering lock installed by your MOTOBECANE dealer. These models are fitted with a steering lock housing on the fork but have no factory mounted lock.

## PARCEL LOCK

### 41 and 51 except 51 Super

It is located on the frame behind the fork and is held in position by the steering lock. It is designed for use when the machine is parked.

## FUEL MIXTURE :

We recommend the exclusive use of the self lubrication blend BP ZOOM ready for use.

If this blend is not available you can replace it by a blend made by yourself with regular gasoline and 2 - cycle oil.

1 - BP Energol 2 - cycle type HV - fuel mixture 1.5 : 50 (running in : 2 : 50).

2 - You can also use any 2 - cycle oil of any major international company fuel mixture 1.5 : 50 (running in : 2 : 50).

The 1.5 : 50 ratio corresponds to 0.15 l of oil per 0.5 l of gasoline.

Your guarantee is only applicable if the instructions particular to the mixture are followed.

• Tank capacity : 3.650 litres / 1 us gal.

## FUEL TAP :

The petrol valve is located on the LH side of the machine below the tank.

- lever backwards : open
- lever turned down : closed
- lever forwards : reserve position.

## SPEEDOMETER :

### 41 VLC - VL - 51 VLC - VL - 51 Super

These models are factory fitted with a speedometer with odometer. This will enable you to pay greater respect to the conditions of use and to carry on the maintenance of your machine according to the maintenance table.

### 41 VS - TS - 51 VS - S

You can have a speedometer installed by your MOTOBECANE dealer. These models are fitted with a speedometer housing in the headlamp.

12 + 50 4 100

### ADJUSTMENT OF THE HANDLEBAR : 41 and 51 except 51 Super (Fig. 1 A)

To alter angle of handlebar, loosen the "U" clamps using a 10 mm wrench. Do not forget to re-tighten the nuts after adjustment.

### 51 Super (Fig. 1 B)

To alter angle of handlebar, loosen the "U" clamps using a 5 mm male wrench. Do not forget to re-tighten the screws after adjustment.

### ADJUSTMENT OF THE SADDLE : 41 and 51 except 51 Super

To adjust saddle height, use a 11 mm key and loosen saddle clamp nut. After adjustment, do not forget to re-tighten the nut.

### 51 Super (Fig. 10)

50 adjust saddle height, use a 11 mm key and

loosen saddle pillar expander bolt. Do not forget to re-tighten the bolt after adjustment.

### HEADLAMP ADJUSTMENT :

The vertical direction of the headlamp will vary according to the position of the Moped. It should be adjusted with the habitual rider on the machine which should not be on its stand.

### 41 VLC - VL - VS - TS - 51 VLC - VL - VS - S

Adjustment is performed by loosening the two screws located under lens base. The headlamp should be adjusted to light the road over a distance of approximately 30 meters / 33 yards.

### 51 Trail - 51 Super

Loosen the two mounting screws and rotate headlamp.



Fig. 1 A

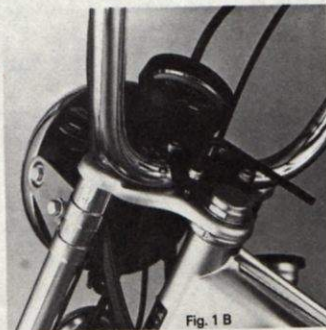


Fig. 1 B

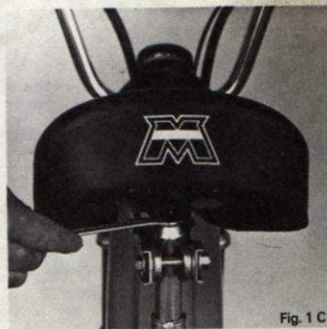


Fig. 1 C

# IN USE

## CONTROLS :

Riding the machine requires the use of three controls : the twist grip and the two brake levers.

The twist grip located on the RH side controls the opening of the carburettor. The throttle provides the required power output and adjustment of machine speed.

Two other controls are used to start the engine : the choke lever and the decompressor lever which is also used to shut off engine.

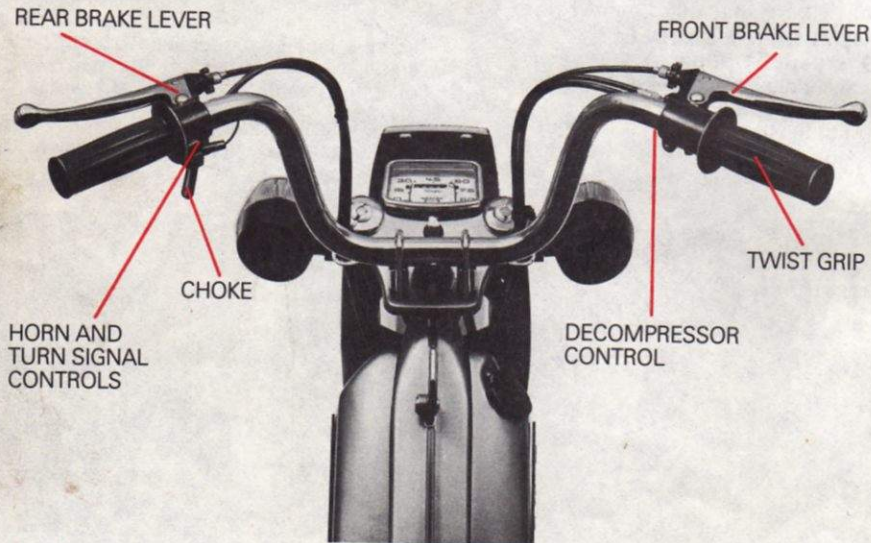


Fig. 2

## STARTING THE ENGINE :

**Never sit on the saddle and pedal when your MOTOBECANE MOPED is on its center stand.**

Do not forget to open the fuel valve.

To make cold starting easy squeeze the choke control lever on the LH side of the handlebar (Fig.2). You can squeeze this lever without putting hands off the handlebar. Squeeze the choke control a few seconds only. The choke lever comes back into position as soon as you release squeezing by means of a return spring. Insist on squeezing the control lever especially for cold starts and cold engine.

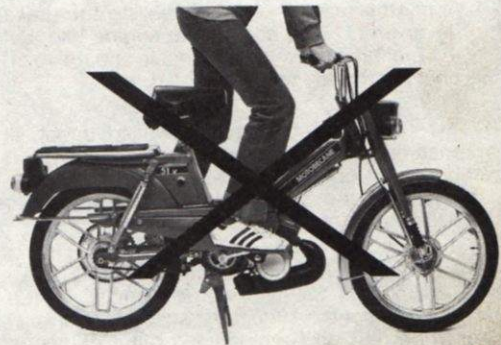


Fig. 3  
Fig. 4



### KICK STARTING (Fig. 4) :

- 1°) Squeeze the decompressor control lever while keeping throttle control in closed position. Kick down the pedal briskly and keep foot on pedal until its lowest position.
- 2°) The engine will then start to rotate, release squeeze on decompressor lever and roll the throttle twist grip towards you. The engine should start and the rear wheel will be set in motion.

- 3°) Apply the rear brake by squeezing the brake lever on LH side and let the engine idle. Set the machine down on its wheels and move off opening throttle twist grip.

This starting method can be used under all circumstances but it is particularly useful when starting on an upgrade since it avoids to pull the machine until the engine reaches the speed at which the clutch engages.

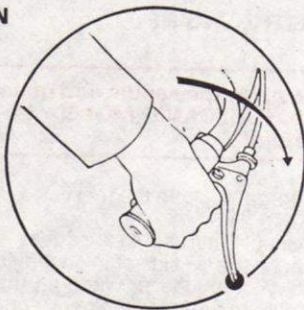
At no time you should permit your MOTOBECANE Moped to fall backwards from its centre stand. On the contrary you must accompany it supporting the rear of the machine until it comes in stable position.

### **STARTING BY PEDALLING :**

- 1°) Open fuel cock.
- 2°) Release compression by squeezing the lever on the RH side (Fig. 2) and pedal as on a bicycle keeping the throttle (Fig. 2) fully closed.
- 3°) When the machine exceeds walking speed, release decompression control lever and roll the throttle twist grip towards you. The engine must run.

### **POSITION**

**1**



Position 1 : Throttle control grip at rest. The engine idles and no power is transmitted to the machine.

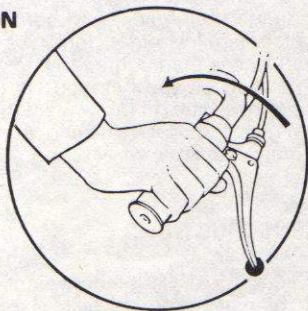
Position 2 : Throttle control grip fully open.  
The engine is at maximum output.

Positions between positions 1 and 2 enable to vary engine speed according to traffic requirements.

Rolling the twist grip from position 1 to position 2 opens the throttle. Rolling the twist grip from position 2 to position 1 closes the throttle.

## POSITION

2



### PUTTING MOPED IN MOTION :

The engine idles, throttle fully closed (refer to directions for starting on pages 11 and 12). The moped remains at standstill because the automatic clutch will not engage.

Accelerate and the moped will move off. As the revolution increases the clutch engages. The speed is determined by the opening of the throttle.

### STOPPING MOPED :

The moped will slow down when you close the throttle control and if required by applying the brakes.

If machine speed is back at walking speed (5 or 6 Kmph) or if you have stopped, the clutch is released from the drive pulley leaving the engine at idle.

### BRAKING :

The RH brake lever controls the front brake and the LH brake lever controls the rear brake.

When applying the brakes the twist grip should be at rest : it stands to reason that one must not apply the brakes while having the throttle open.

For the best braking efficiency apply both brakes in the mean time to distribute evenly the stress. This distribution will be effected in accordance with the following principle.

- 1) During braking, the rear wheel is lightened and the resulting load from the front wheel on the ground is then increased : more especially as deceleration increases too. Thus, in case of powerful braking, you can brake more efficiently the front wheel than the rear wheel and without locking up.
- 2) You must avoid locking up. First, because a locked up wheel provides less grip on the road, less friction and the moped will not stop as quickly or as evenly. Secondly, as soon as the wheel becomes locked you may lose control.

The distribution of stress among the RH brake lever (front wheel) and the LH brake lever (rear wheel) must take these facts into account.

## **STOPPING THE ENGINE :**

A full stop requires in the last meters the use of the decompressor by squeezing the control lever on the RH side.

Always shut off fuel valve.

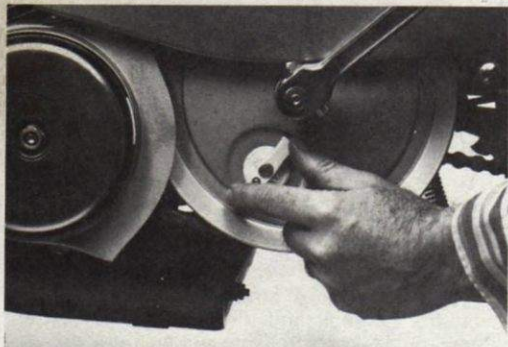
## **YOUR MOPED AS A BICYCLE :**

In some cases (if you have run out of petrol for example), it may be useful to disengage the engine from the rear wheel drive.

To do this turn the engine engagement lever in an anticlockwise direction (Fig. 5).

Then your moped can be ridden like an ordinary bicycle.

**Fig. 5**



To re-engage the engine, turn completely the engine engagement lever in a clockwise direction. The spring device is then tightened and will be set to engine position as soon as you start to pedal gently. If the knob is hard to turn, select the suitable re-engagement position by moving the machine slightly or rotating the rear wheel.

## **BREAK-IN INSTRUCTIONS :**

The cylinder wall is electrolytically coated with a film of mat chrome which is of extreme hardness - minimum piston-cylinder clearance is allowed on assembly.

These two safety measures which contribute to the legendary sturdiness of the "Mobylette" imply that the engine cannot operate at maximum power until you have ridden about 1500 km / 1000 miles.

During these first 1500 km you should spare your engine taking care that the engine does not labour on hills, do not pedal away downhill and avoid prolonged running with the engine at full revolution.

If you use BP ZOOM in your fuel tank you need not add more oil while running in.

The use of 4 percent blend is adequate while running-in. Then, use a 3 percent blend.



51 Super



51 VLC



# LUBRICATION

When trail riding your 51 trail maintenance operations will be effected in accordance with the condition of the machine whatever be the mileage covered.

**Every 1,000 km / 600 miles**

## CHAINS :

Every 1,000 km lubricate the chains with BP energol Motor oil SAE 50 using preferably a small bush. Apply oil to the inside of the chain and rotate the wheel to make sure that the entire chain length is well lubricated.

Chains should never immersed in a bath of grease-removal fluid (e.g. trichloretylene) which dries the rollers.

## CRANKGEAR :

Lubricate crankgear axle by using a grease gun filled with BP C 3 G Energrease to the grease nipple located at the end of the axle on the LH side of the machine (Fig. 6).

## MOBYMATIC AUTOMATIC GEARCHANGE :

Lubricate in the meantime the clutch and drive pulley with BP C 3 G Energrease (Fig. 6).

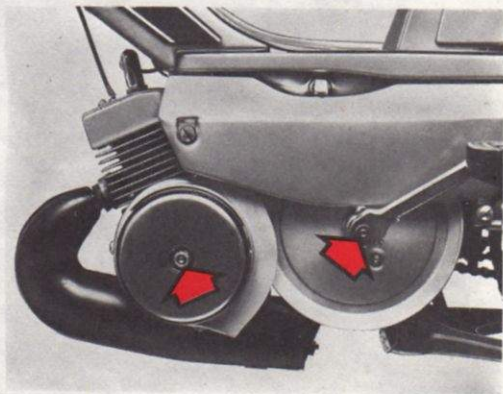


Fig. 6

We remind you that there is available for purchase from MOTOBECANE dealers the grease gun part number 1813 to perform all lubricating operations.

### **Every 6,000 km / 4,000 miles**

#### **HUBS :**

Apply a coat of BP Energrease L 2 Multipurpose to the front and rear hubs.

We recommend you to have this operation performed by your MOTOBECANE dealer.

### **Every 12,000 km / 8,000 miles**

Apply a coat of BP Energrease L 2 Multipurpose to the steering head races.

We recommend you to have this operation performed by your MOTOBECANE dealer.

#### **OTHER MOVING PARTS :**

Lubricate periodically moving parts of the various controls and ends of outercasings and inner wires entry points using BP domestic oil applied with a small brush.

#### **DECARBONIZING :**

Your MOTOBECANE dealer should be requested to effect a complete decoking operation (piston top, cylinder head and exhaust port) every 12,000 km / 8,000 miles.

The above mileages will not be taken in account and decarbonizing will be performed sooner if machine shows the following symptoms :

Poor engine power

Poor starts

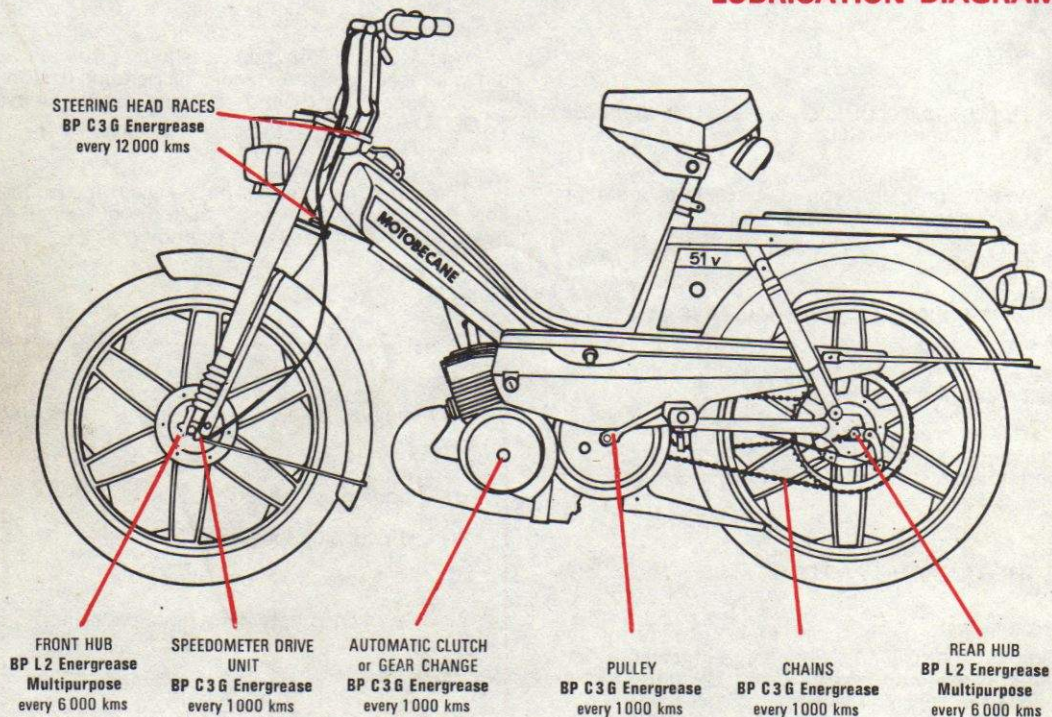
Flooding

Spark plug fouled up

Excessive overheating

Engine hunting and so called  
"4 stroke" running

## LUBRICATION DIAGRAM



## MAINTENANCE OPERATIONS SCHEDULE

OPERATIONS	Every 1,000 km 600 miles	Every 6,000 km 4,000 miles	Every 12,000 km 8,000 miles
Lubrication of the chains . . . . .	●		
Lubrication of the clutch or automatic gear change . . . . .	●		
Lubrication of drive pulley . . . . .	●		
Lubrication of speedometer drive unit .	●		
Lubrication of the hubs . . . . .		●	
Checking ignition . . . . .		●	
Comprehensive decarbonization . . . . .			●
Adjustment and lubrication of steering head races . . . . .			●

When trail riding your 51 Trail, maintenance operations will be effected in accordance with the condition of the machine whatever be the mileage covered.

# VARIOUS ADJUSTMENTS

## DECOMPRESSOR CONTROL :

Adjustment of the decompressor is carried out at the handlebar (Fig. 7) the decompressor control should open the decompressor valve freely (1 mm).

Do not overtighten the decompressor control and allow 1 or 2 mm free play to make sure the valve closes properly. Any tension on the cable will result in valve damage and loss of power.

## THROTTLE CONTROL :

Adjustment is carried out at the handlebar. (Fig. 7) Allow a slight free play (Fig. 7).

## CHOKE CONTROL :

Adjustment is carried out at the handlebar. (Fig. 8) Allow a slight free play (Fig. 8).

## HORN :

No adjustment is to be carried out on Noviphone horn.

## FRONT AND REAR BRAKE CONTROLS :

Adjustment is carried out at the handlebar : knurled adjustment nut and locking nut (Fig. 7 and 8).

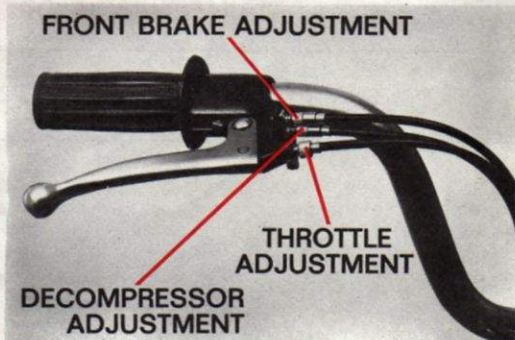
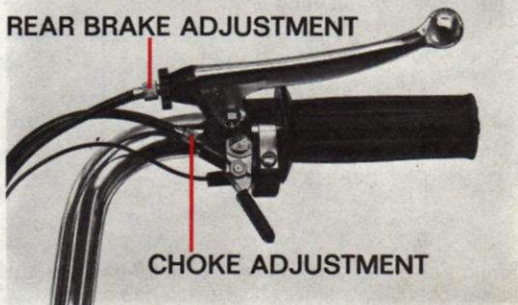


Fig. 7  
Fig. 8



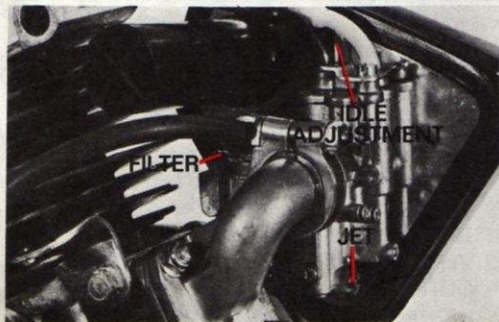
## **CARBURETTOR :**

The carburettor fitted to your moped will always give adequate carburation if maintained to the correct adjustment. The carburettor is fitted with a silent air intake filter and choke which ensure easy starting under all weather conditions.

The carburettor is fitted with an idling adjustment screw (Fig. 9) that should be tightened to increase idling speed. The throttle cable should be allowed a slight free travel : turn the handlebar fully with the engine running ; there should be no change in the engine speed.

Your MOTOBECANE is fitted with two filters : one located in the fuel cock and a carburettor filter which can be removed by removing the LH chain-guard. Check cleanliness of filters after any disman-

Fig. 9



ting operation or in the event of interruption of fuel flow (Fig. 9).

To clean jet, remove both chainguards, remove the carburettor and remove jet using a screwdriver (Fig. 9).

## **CHAIN :**

**51** - The heavy duty engine drive chain should not be overstretched. Check for correct tensioning, the moped being on its wheels, and the rider sitting on the saddle. There should be approximately 3 cm play in the chain (1.5 cm up and 1.5 cm deflection down). The deflection should be correct whatever be the position of the rear wheel.

**41** - The heavy duty engine drive chain should not be tightened excessively. When chain is adjusted properly there should be 2 cm play.

## **SPARK PLUG :**

We recommend that users should use spark-plugs of the same make and heat range as those factory mounted on the machine. If the engine does not fire properly or starts sluggishly remove and clean spark plug and check the spark plug gap which should be 0.4 mm.

## **FLYWHEEL MAGNETO - IGNITION :**

The Novi flywheel magneto provides ignition and lighting current. The piston travel figure is 1.5 mm, points gap is 0.3-0.4 mm (0.014-0.017 inches).

Maintenance should be carried out by your MOTOBECANE Dealer.

## LIGHTING :

Lighting is provided by the flywheel magneto - the switch is located on the headlamp.  
The factory mounted bulbs are the only ones to fit your current generator characteristics.  
The wiring should be verified and maintained in good condition.

	Front bulb	Rear bulb	Flashing indicator bulb	Stop indicator bulb
41 VLC	6 V 6 W Screw cap	6 V 4 W BA 9 S	12 V 21 W BA 15 S	6 V 4 W BA 15 S
51 VLC	Halogen 6 V 6 W Screw cap	6 V 4 W BA 9 S	12 V 21 W BA 15 S	6 V 4 W BA 15 S
41 VL - VS - TS 51 VL - VS - S 51 TRAIL	6 V 6 W Screw cap	6 V 4 W BA 9 S	—	—
51 SUPER	6 V 6 W Halogen Screw cap	6 V 4 W BA 9 S	—	—

For some countries certain models are fitted at the front with bulbs 6 V 15 W BA 15 S or 6 V 15/15 W BA 15 D or 6 V 18/18 W BA 15 D with switch on handlebar, and at the rear with bulbs 6 V 4 W BA 9 S, 6 V 1.8 W, or 12 V 6 W BA 9 S.

### CHANGING HEADLAMP BULB :

#### 41 VLC - VL - VS - TS - 51 VLC - VL - VS - S

Remove the two screws located at the lower edge of headlamp lens. Prise the reflector unit away from the lower edge of the headlamp casing.

To replace the bulb remove it from the bulb holder.

When refitting, ensure that the dogs located on the upper edge of the lens fit into their housing. Prise the reflector unit home and re-install the screws.

#### 51 Trail - 51 Super

Remove the screw located under the headlamp.

Remove the lens, twist and remove the bulb holder and replace the bulb.

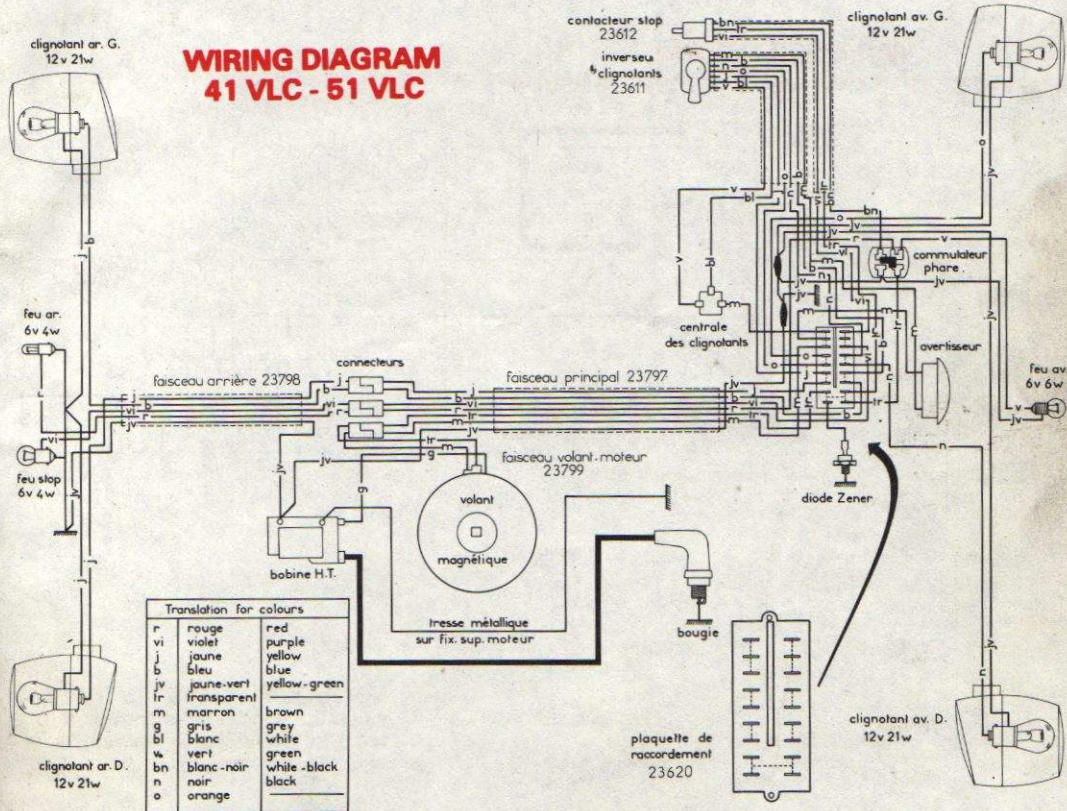
### STOP INDICATOR LENS :

#### 41 VLC - 51 VLC

NOTE : when re-installing the lens make sure the vent holes are positioned downwards.

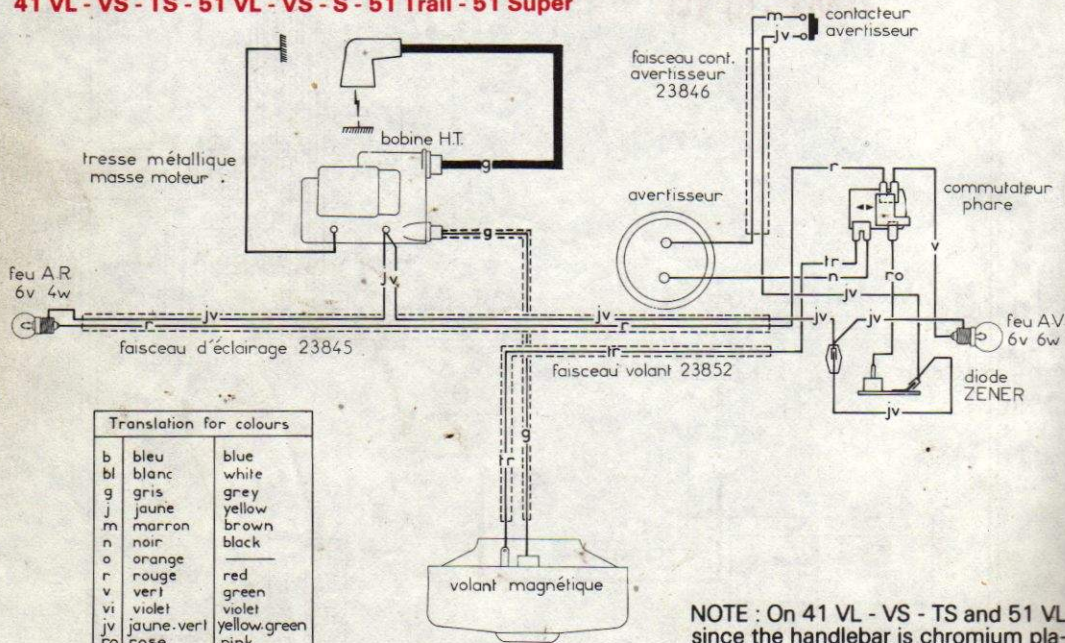


# WIRING DIAGRAM 41 VLC - 51 VLC



## WIRING DIAGRAM

**41 VL - VS - TS - 51 VL - VS - S - 51 Trail - 51 Super**



Translation for colours		
b	bleu	blue
bl	blanc	white
g	gris	grey
j	jaune	yellow
m	marron	brown
n	noir	black
o	orange	—
r	rouge	red
v	vert	green
vi	violet	violet
jv	jaune-vert	yellow-green
ro	rose	pink
bn	blanc-noir	white-black
tr	transparent	—

**NOTE :** On 41 VL - VS - TS and 51 VL since the handlebar is chromium plated, the NOVIPHONE switch is not wired to the frame.

# TROUBLE SHOOTING

Serious breakdowns are extremely scarce. However slight troubles may occur and the following indications may help you to repair them on the spot.

## I – THE ENGINE WILL NOT START :

There are two causes : ignition or fuel supply.

### a) Ignition :

– Check spark plug fouling ; clean with petrol and rub electrodes with emery cloth. Check the electrode gap which should be 0.4 mm.

– Make sure the spark plug lead is not shorted to earth or disconnected or broken.

– Make sure the outer coil input wire is not shorted to earth or disconnected and is unbroken.

– Pay particular attention to the earth lead.

– If the ignition system is unserviceable in spite of the above, the fault must be in the flywheel magneto or the radiosuppressor. Consult your MOTOBECANE Dealer.

On machines fitted with directional signal lights, if you are faced with an ignition breakdown while lights are switched on, switch them off before starting engine again.

### b) Fuel supply :

– Check that the fuel is flowing properly to the carburettor by unscrewing carburettor filter. Otherwise clean the filter and the petrol tap filter. Make sure the tank cap vent hole is not stopped.

– If carburettor operates only when choke is on, main jet is blocked. In this case you can ride a few miles while keeping the choke partly open.

– To clean the jet use the tyre inflator taking care not to blow dust in.

If the carburettor contains water or foreign bodies the jet, although newly cleaned may get blocked again.

If the carburettor is flooded, it is due likely to some particle of dust preventing the needle valve from seating properly.

In this case the complete carburettor must be thoroughly cleaned and fit again. The needle valve must be replaced if worn out.

## II – POOR ENGINE POWER :

### a) Ignition :

– Check the spark plug.

– Have your MOTOBECANE Dealer inspect the flywheel magneto.

### b) Carburettor :

- Fuel flow partially obstructed.

A clogged filter may result in loss of power at high speed. Clean filter.

— Jerky "four stroke" firing results from excess fuel flow (e.g ; caused by the choke remaining open) or results from a carbon encrusted exhaust system. Consult your MOTOBECANE Dealer.

Otherwise do not alter the carburettor adjustment unless it is absolutely necessary. Consult your MOTOBECANE Dealer.

### c) Chain :

Lack of power may be caused by an excessively tight chain. Remember that type 51 being fitted with rear shock absorbers, chain tension should be adjusted the **machine on its wheels and rider on machine.**

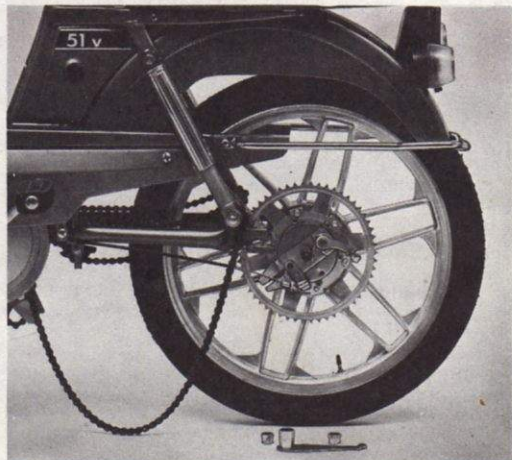


Fig. 10

## PUNCTURED TYRES

**41** : Loosen axle nuts and slip off the tensioners without disadjusting them.

Release brake cable grip from brake cam lever.

**NOTE** : Never remove chain joint clip.

**51** : Loosen axle nuts fully Push wheel forward and slip off the chain without disadjusting the tensioners.

When refitting the rear wheel make sure the anchoring lug in the brake plate fits over its fixed point pin on the swinging arm.

## TERMS OF WARRANTY

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1° Our machines are warranted for 6 months. This warranty applies strictly to the repair or replacement at our option of those parts which have been recognized as faulty by our warranty Department as far as material or craftsmanship are concerned. This warranty implies no responsibility on our part for any accidents to persons or property resulting from such defects or faults.

2° Costs of labour involved in dismantling, re-assembling and testing as well as the maintenance and postal or delivery charges to and from our plant shall be borne by the customer. We can in no circumstances contribute to any expenses involved on account of the vehicle being unserviceable.

3° Any replacement or reconditioning carried out under the terms of the warranty shall on no account result in any delay to the original termination of the warranty.

4° Machines which have been modified or repaired outside our own workshops or by third parties other than our Authorized dealers or using non genuine parts shall invalidate the warranty. The same condition shall apply if the instructions for use (lubrication, running in, maintenance) as specified in the owner's manuals supplied with each machine, have not been complied with. The warranty shall also be subject to the observation of the specifications relating to the type of fuel to be used as indicated in this handbook.

5° As far as components and accessories not of our manufacture are concerned (bearings, tyres, spark plug, batteries where applicable,...) the warranty shall be strictly limited to that extended by the respective suppliers.

6° Springs, bulbs, lenses and controls (cables and outercasings) are neither warranted nor replaced.

7° When parts or components for exchange or repair are despatched to us by our dealers the following information must be specified.

- I : frame and engine numbers
- II : date of initial use
- III : mileage run
- IV : trademark and grade of oil used.

The proper operation of your  
MOTOBECANE MOPED  
depends on the scrupulous  
application of the advices we  
give you in this handbook.

To carry out the maintenance  
operations in due time,

**fit your  
MOTOBECANE MOPED**

**with a SPEEDOMETER / ODOMETER**

*SALE AND FITTING OF THIS ACCESSORY  
BY ALL ACCREDITED AGENTS*

To use your **41-51**

*all round the year...*

most

**MOTOBECANE MOPED**

can be

equipped with

**our LEGSHIELDS**

*THIS ACCESSORY IS SOLD AND FITTED AT EVERY DEALER'S*

# DESCRIPTION AND OPERATION OF THE "MOBYMATIC" VARIATOR

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## DESCRIPTION

As on all Motobecane Mopeds, 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.

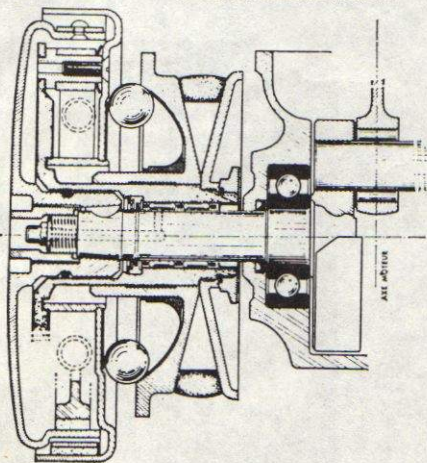
## OPERATION

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 Motobecane Moped is on a flat road, the belt goes on increasing to larger and larger drive pulley diameters until top speed is reached. If the Motobecane Moped 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.

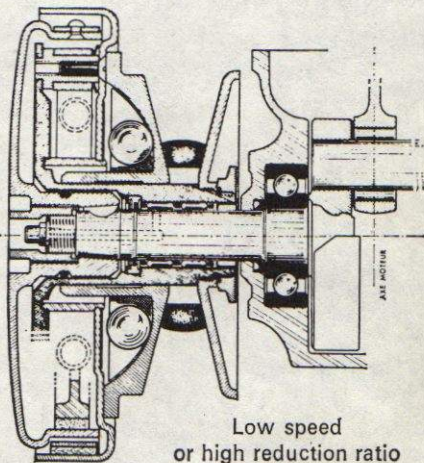
The Mobymatic responds to all road conditions.



High speed  
or low reduction ratio



Low speed  
or high reduction ratio

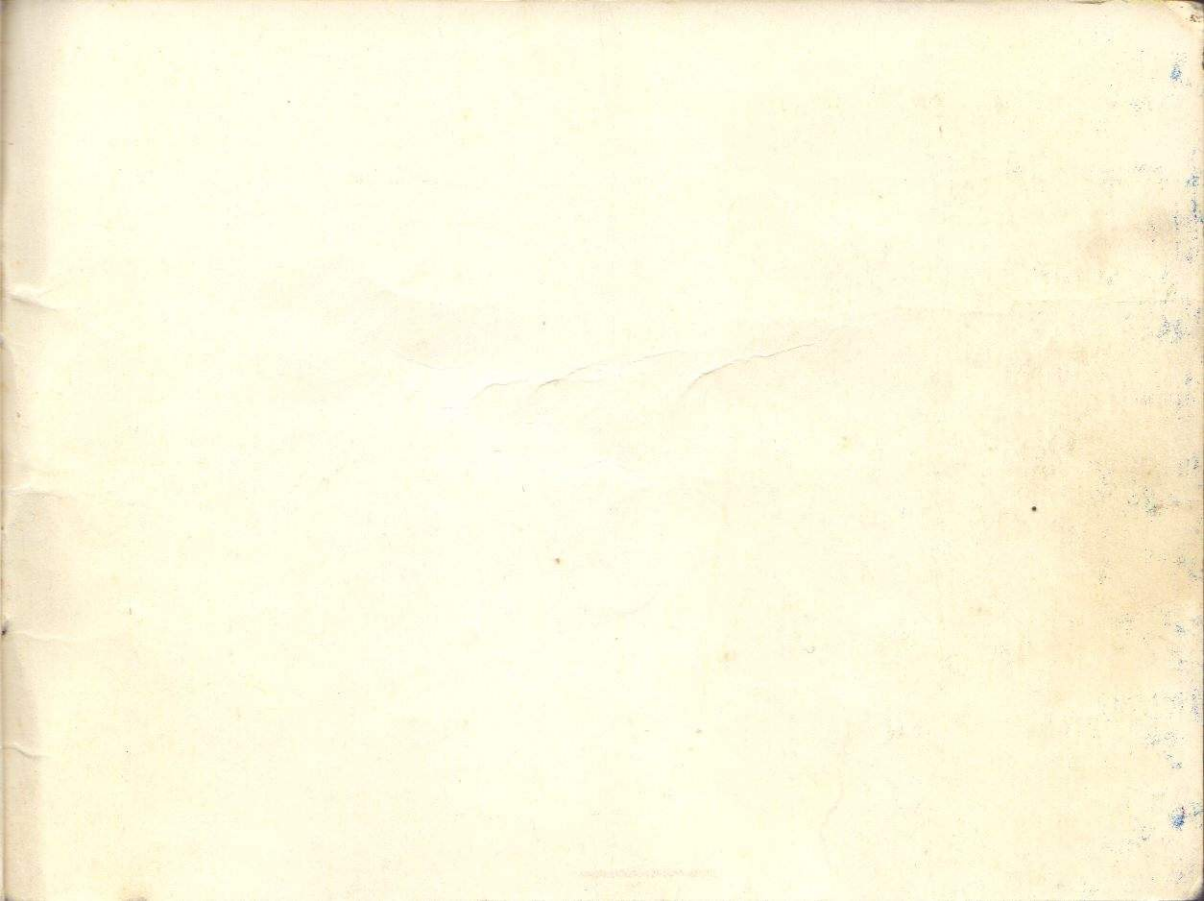




*MANUFACTORY*

*VIEWS*





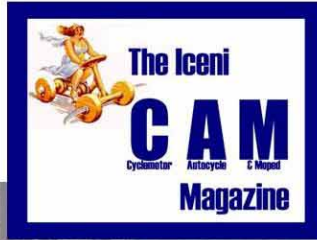


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# IceniCAM Information Service



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