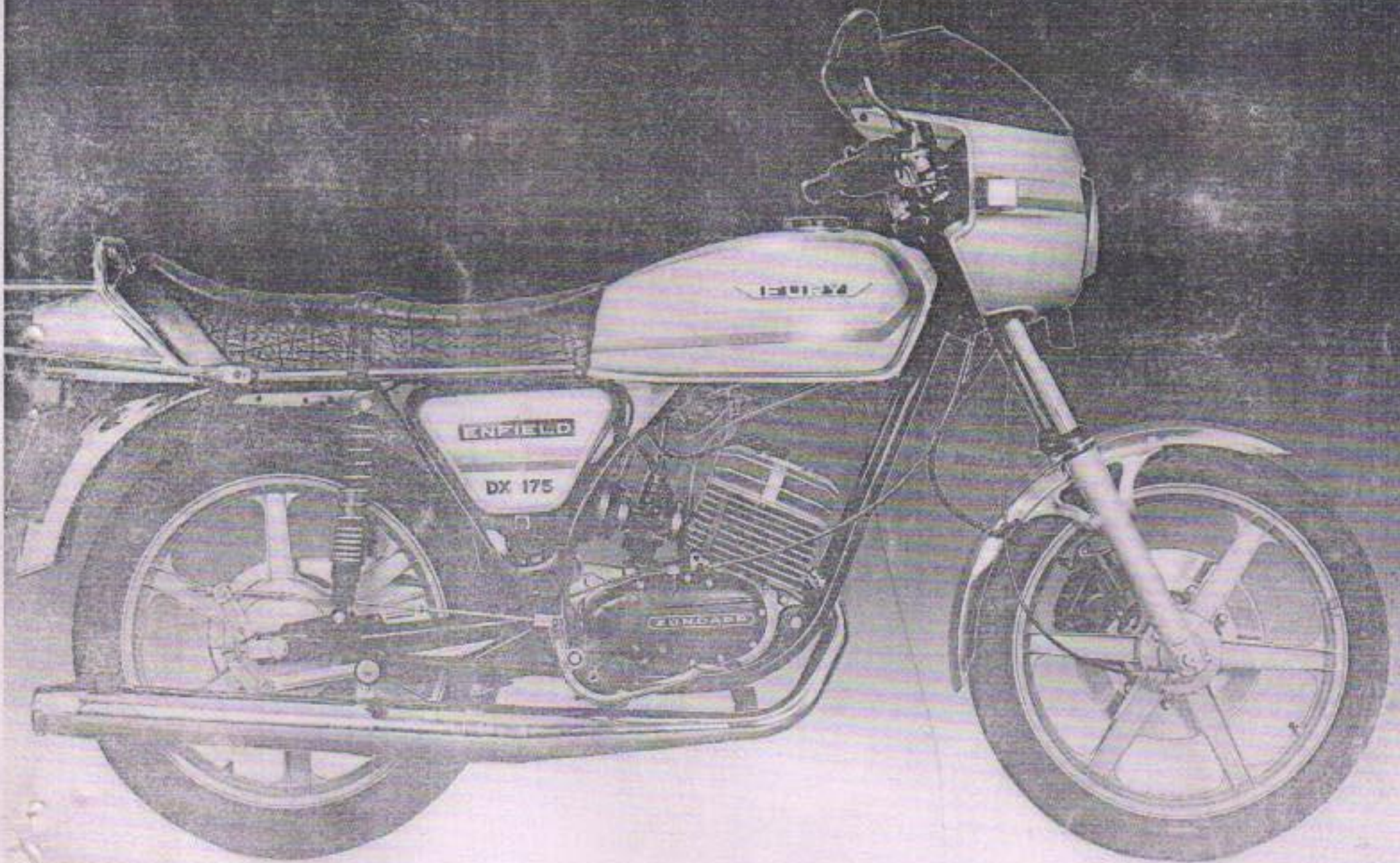


ENFIELD MOTOR SPARES LTD  
46-B, Madhavaram High Road,  
MADRAS 600 080.

# Workshop Manual



# ENFIELD FURY

MADRAS MOTORS SPARES AND SERVICE  
46-B, Madhavaram High Road,  
MADRAS 600 080.

**MADRAS MOTORS SPARES AND SERVICE**  
**46-B, Madhavaram High Road,**  
**MADRAS 600 060.**

#### **FOREWORD**

This Workshop Manual for FURY is the property of Service Department, The Enfield India Limited, 115, Anna Salai, Madras 15 and should not be reproduced by any other person, unconnected, in whole or in part without prior written approval.

The information contained in this manual is intended to educate dealer mechanics and freelance mechanics employed in providing after-sales-service for FURY Motorcycles.

Design modifications are introduced from time to time, as a result of continuous product development. We reserve the right to alter design and construction without any prior intimation whatsoever.

## INTRODUCTORY NOTE

This Workshop Manual describes the various dismantling, inspection and reassembly procedure for Engine, Carburettor and Disc brake assembly of DX & DW Models of FURY Motorcycles.

Any defect occurring in the barrel/piston, magneto, gear selector mechanism, clutch and crankshaft gear can be attended with the engine mounted on the vehicle frame. The complete dismantling of the engine is required only in the case of attention to gears, crankshaft assembly and kickstarter mechanism (except kickstarter spring).

In all these cases, it is required to drain the engine oil, immediately after a short run, i.e. with the engine oil still warm.

## SPECIFICATION

1. MODEL : FURY
2. MAKE : ENFIELD
3. MANUFACTURER : THE ENFIELD INDIA LIMITED  
ENFIELD HOUSE  
115, Anna Salai  
MADRAS - 600 015.
4. ENGINE :
  - Type : 2 stroke, single Cylinder (with hard chrome plated barrel) air cooled petrol engine.
  - Bore : 62 mm
  - Stroke : 54 mm
  - Cubic capacity : 163 cc
  - Compression Ratio : 10.3 : 1
  - Power : 15.2 BHP at 6300 rpm
  - Max. Torque : 17.5 Nm at 5600 rpm
  - Petrol - Oil : 25 ml of oil (2T/Castrol 30/ SAE 30) for 1 litre of petrol.
  - Starting : Kick starter
5. CARBURETTOR :
  - Type : MIKARB VM28
6. GEAR BOX & TRANSMISSION :
  - Gear box type : Pull cotter system
  - No. of gears : 5
  - Gear shifting : Foot operated
  - Gear box oil grade : SAE 50
  - Gear box oil quantity : 650 ml (approx.)

### Gear reduction ratios

I	gear	:	3.40:1
II	gear	:	2.16:1
III	gear	:	1.53:1
IV	gear	:	1.26:1
V	gear	:	1.05:1

7. CLUTCH : Multiplate oil bath
8. PRIMARY DRIVE : Helical gears
9. SECONDARY DRIVE : Sprockets & Chain
10. FINAL DRIVE CHAIN :
- Type : 1/2 " x 5/16"
- No. of links : 112
11. FRAME : Dual cradle tubular
12. SUSPENSION (FRONT):
- Type : Telescopic fork hydraulically damped assisted by coil springs.
- Stroke : 155 mm
- Oil grade : "TELESHOCK" Oil
- Oil quantity : 205 ml in each fork leg
13. SUSPENSION (REAR) :
- Type : Swing arm assisted by hydraulic shock absorbers of adjustable type.
- Stroke : 90 mm
14. WHEELS - FRONT & REAR :
- Type : Pressure die cast aluminium alloy wheels (DX) or spoked wheels (DW)

Rim size	:	Front :	1.85" x 18"
		Rear :	1.85" x 18"
Tyre size	:	Front :	2.75" x 18"
		Rear :	3.25" x 18"
Tyre pressure	:	Solo	Dual
Front	:	28 PSI	30 PSI
Rear	:	36 PSI	38 PSI

15. BRAKES - FRONT :

Type	:	Hydraulically assisted disc brake on die cast wheels	Internal expanding single leading drum brake on spoke wheels
		(DX model)	(DW model)
Caliper / Brake drum dia	:	260 mm dia	160 mm dia

16. BRAKES - REAR :

Type	:	Internally expanding single leading shoe drum type
Brake drum dia	:	160 mm dia

17. WEIGHT :



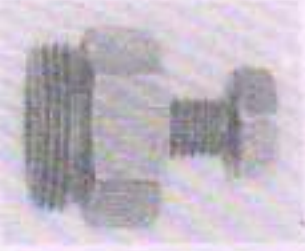

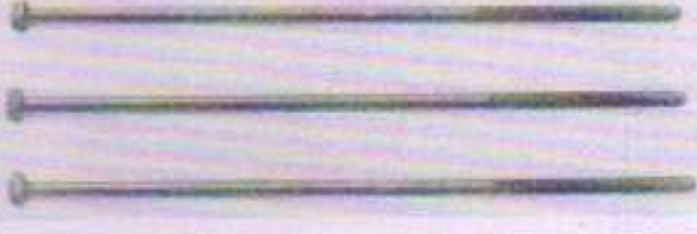
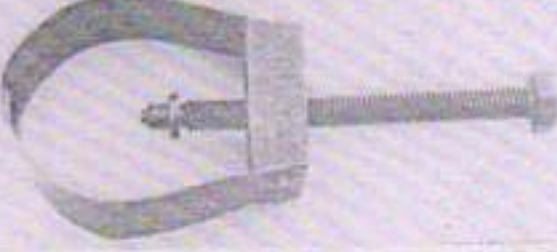

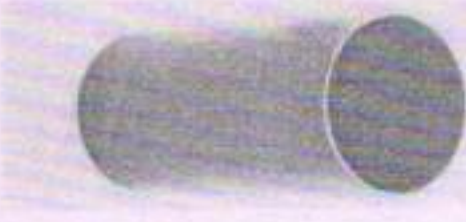

Unladen (dry) weight	:	120 Kgs
Laden weight	:	320 Kgs (maximum)

18. DIMENSIONS :

Wheel base	:	1320 mm
Overall length	:	2040 mm
Overall width	:	645 mm
Overall height	:	1229 mm
Ground clearance	:	120 mm
Saddle height	:	790 mm










19. FUEL TANK CAPACITY :  
(including reserve) : 14.25 litres
- Reserve capacity : 1.75 litres
20. MAXIMUM SPEED : 110 kmph
21. FUEL CONSUMPTION : 40 to 45 KMPL. Under normal City  
Traffic and driving conditions.
22. ELECTRICAL SYSTEM :
- Magneto : 12 pole electronic ignition magneto  
6 V 35W/30W
- Ignition timing : 1.8 to 2.0 mm Before TDC at 3000  
rpm
- Spark plug type : MICO W 225 Z2
- Electrode gap : 0.7 mm
- Head lamp : 6 V 35W/35W
- Tail lamp : 6 V 3 W
- Brake lamp : 6 V 21 W
- Trafficator lamp : 6 V 10 W
- Panel lamps : 6 V 1.2 W
- Battery : 6 V 12 AH lead acid
- Horn : DC 6 Volts type

**SPECIAL SERVICE TOOLS FOR FURY**


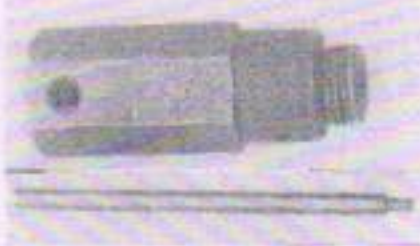



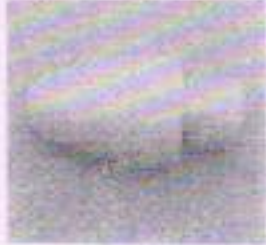
S.No.	Service Tool Number	Description	Service Tool
1.	SK-A-314	Engine Clamping fixture	
2.	SK-A-297	Clutch Key	
3.	SK-A-263	Magneto puller	
4.	SK-A-235	Crankcase & clutch puller	
5.	SK-A-326	Studs - 3 Nos.	
6.	SK-A-268	Gudgeon pin extractor	
7.	SK-A-213	Support pin	
8.	SK-A-301	Setting sleeve	
9.	SK-A-206	Gauging yoke	



SPECIAL SERVICE TOOLS FOR FURY

S.No.	Service Tool Number	Description	Service Tool
10.	SK-E-003	Spacer ring	
11.	SK-A-217	Assembly sleeve	
12.	MV-6-734	Hollow punch	
13.	SK-E-001	Wooden spatulla	
14.	ZSK-351-4	Gauging mandrel	
15.	MV-6-115	Aligning bar	
16.	SK-E-025	Gudgeon Pin inserter	
17.	SK-E-002	Wooden fork	
18.	SK-E-031	Hollow punch	

**SPECIAL SERVICE TOOLS FOR FURY**

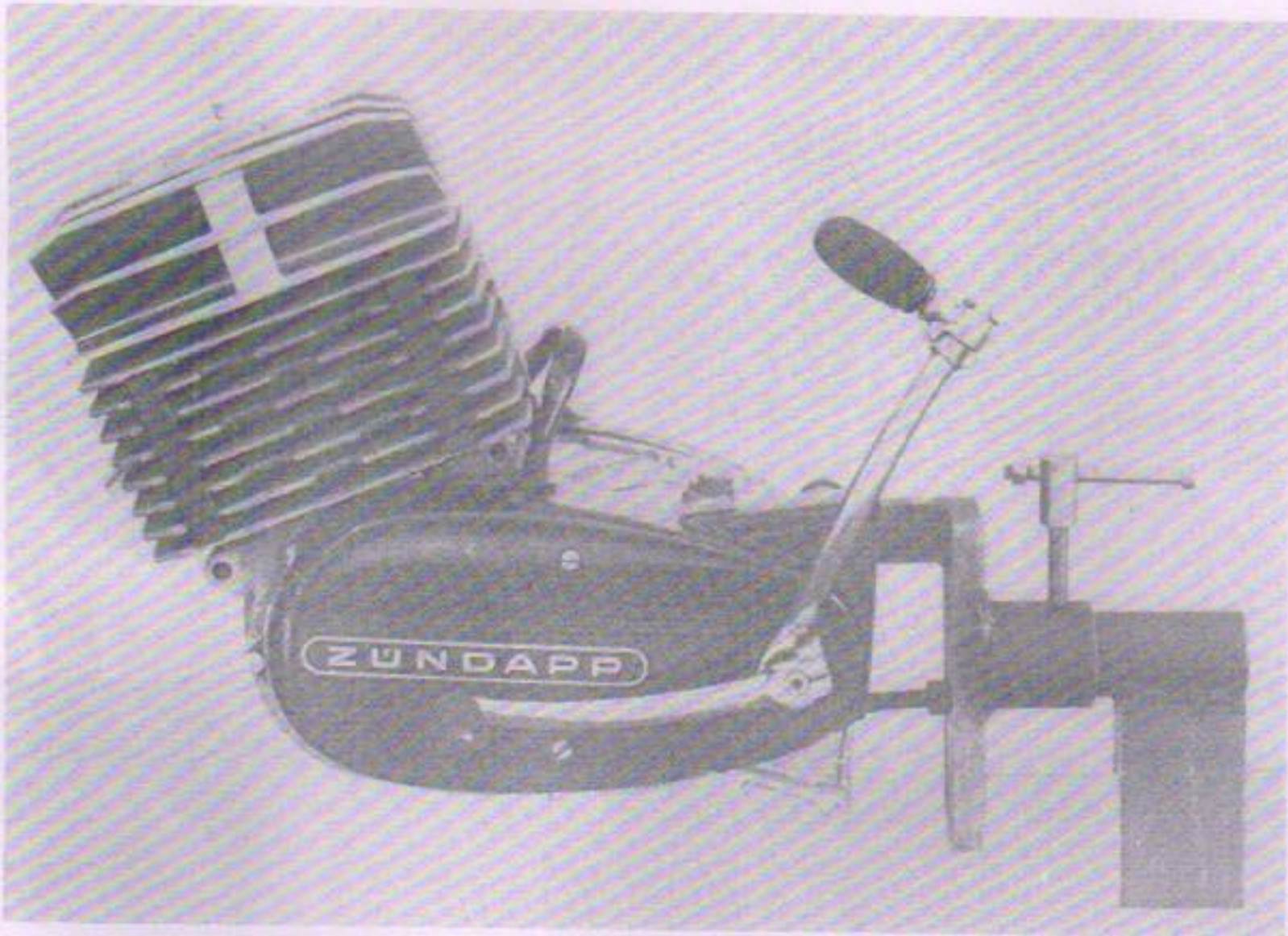
S.No.	Service Tool Number	Description	Service Tool
19.	SK-E-028	Assembly sleeve	
20.	SK-A-315	Dial gauge Holder	
21.		Timing light	
22.	ZSK-209-4	Depth vernier.	
23.	ZSK-268-4	Vernier 6"	
24.	ZSK-274-4	Dial gauge	
25.	ZSK-270-4	Torque wrench.	
26.	SK-A-300	Selector shaft assembly tool	

## TIGHTENING TORQUE SPECIFICATION

a)	Crankshaft pinion nut.	:	7.0	to	7.5	Kgm.
b)	Clutch centre nut	:	3.0	to	3.3	Kgm.
c)	Clutch pressure plate nut (M4)	:	0.12	to	0.15	Kgm.
d)	Magneto Clamping nut	:	3.5	to	4.0	Kgm.
e)	Front drive sprocket nut	:	7.0	to	7.5	Kgm.
f)	Crankcase clamping screw	:	0.75	to	0.85	Kgm.
g)	Engine mounting bolt	:	2.2	to	2.3	Kgm.
h)	Swing arm mounting bolt	:	7.0	to	7.5	Kgm.
i)	Front axle nut	:	5.8	to	6.0	Kgm.
j)	Rear wheel axle	:	5.8	to	6.0	Kgm.
k)	Stub axle nut	:	5.8	to	6.0	Kgm.
l)	Steering head cap nut	:	3.5	to	4.0	Kgm.
m)	Cylinder head nut	:	1.8	to	2.0	Kgm.

## DISMANTLING THE ENGINE :

Note : Before dismantling, ensure that the engine oil has been drained from the engine. It is preferable to drain the engine oil, while the engine is still warm, i.e. after a short run.



1. Mount the engine onto the fixture SK-A-314 as shown above.

FIG. 1

2. REMOVING THE CRANKCASE COVER LH:

Engage second gear. Loosen the gear change lever clamping bolt with a 10mm D.E. Spanner and remove the gear change lever assembly.

Slacken screw (a), M6x22, 2 screws (b), M6x55, take off the crankcase cover LH, complete with kickstarter, Kickstarter spring and cover plate, which also serves as kickstarter stop.

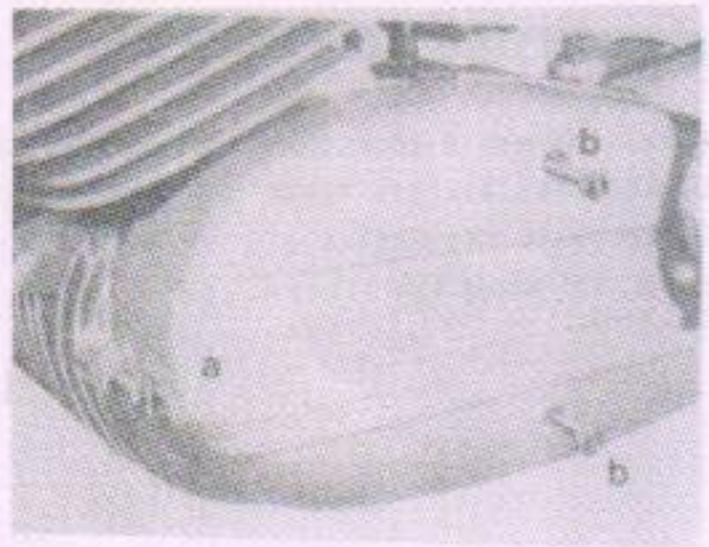


FIG. 2

3. REMOVING THE FRONT DRIVE SPROCKET :

Bend open the locking tab washer and with a 22 mm A/F socket spanner, take off the hexagonal nut. Remove sprocket. If necessary, use a chain key as hold-down. For removing sprocket, use a two jaw puller, if required.

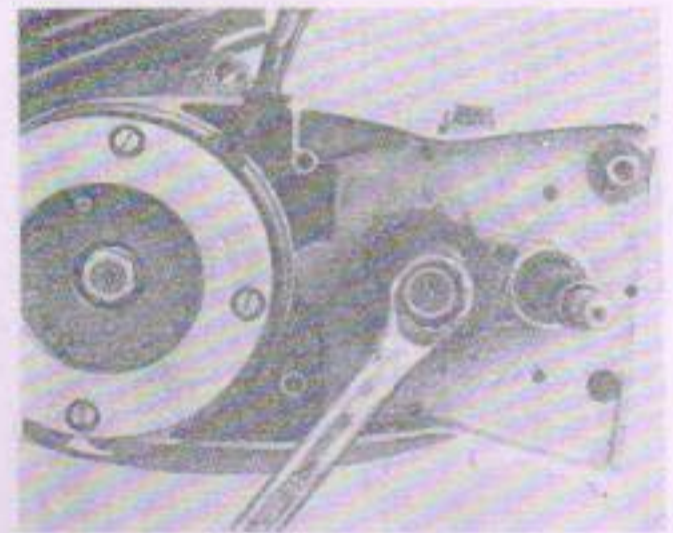


FIG. 3

4. REMOVING THE BALANCE WEIGHT :

Unscrew 4 Nos. M5x16 slotted cheese head screws alongwith washers & spring washers and remove the balance weight.

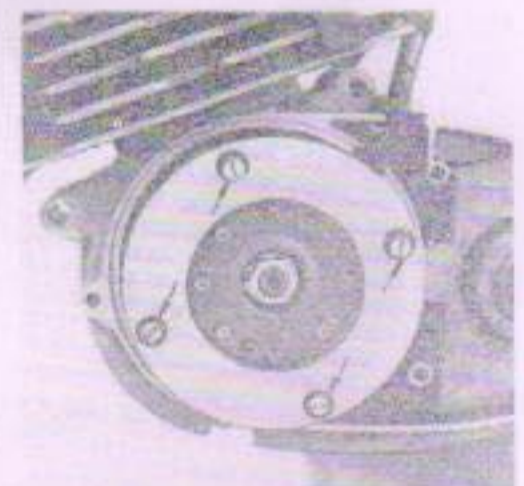


FIG. 4

5. REMOVING THE MAGNETO NUT :

Hold the rotor of the flywheel magneto firmly, using tool SK-A-297. Loosen the hexagonal nut, using 17 A/F socket spanner and remove the nut.

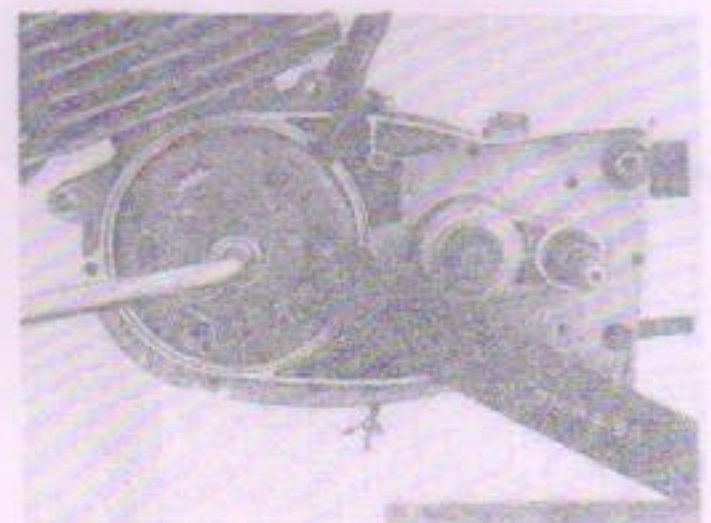


FIG. 5

6. REMOVING MAGNETO ROTOR :

Using the Magneto Puller SK-A-263, remove the magneto rotor and woodruff key. Remove the rubber 'O'ring housed in the crankcase LH for water-proofing of magneto.

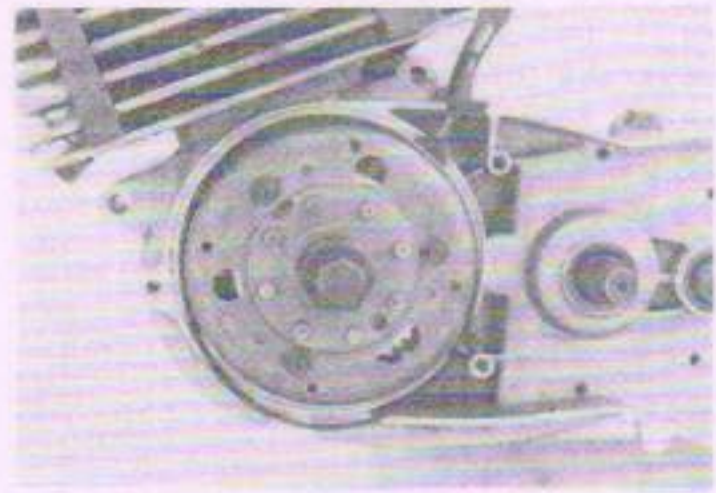


FIG. 6

7. REMOVING STATOR COIL & ADAPTOR PLATE :

Loosen 3 screws M4x25, holding the stator coil assembly. To remove the stator coil assembly from the engine, ensure that the 4 C'SK screws M4x16 holding the adaptor plate are removed. Now the stator coil assembly can be removed alongwith clamping piece and adaptor plate.

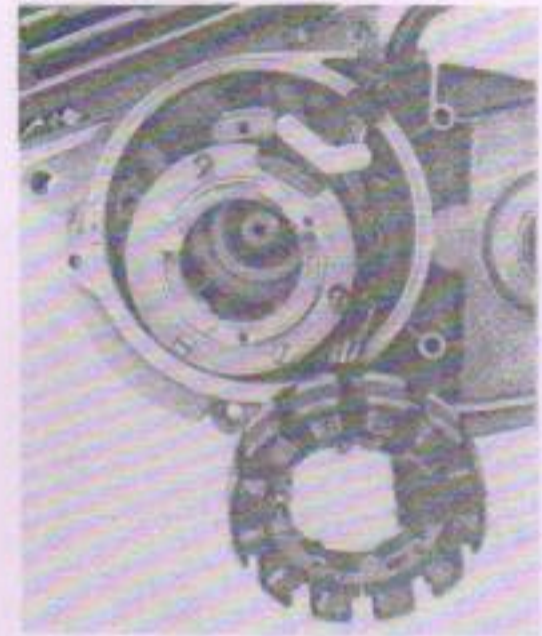


FIG. 7

8. REMOVING THE CLUTCH ADJUSTMENT INSPECTION COVER :

Unscrew the 2 C'SK screws M5x20 and remove the inspection cover.

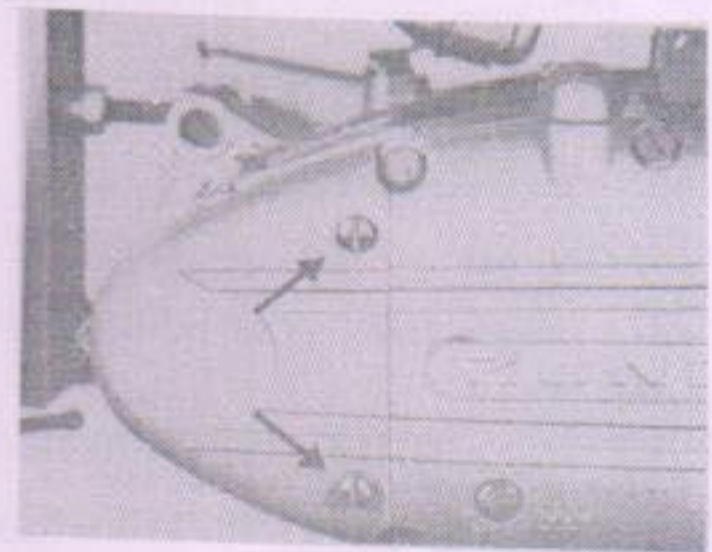


FIG. 8

9. REMOVING THE SETTING DOME :

Loosen & remove the 2 screws M6x16 alongwith special 'C' washers. Unscrew the setting dome, taking care to count the number of turns while removing it, for easy adjustment while reassembly. Check whether 'O' ring on crankcase cover RH is intact.

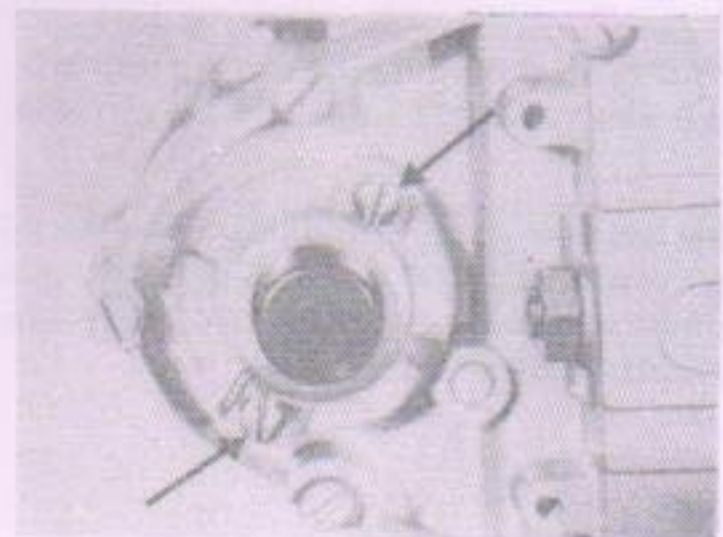


FIG. 9

## 10. REMOVING THE CLUTCH COVER :

Remove the 11 screws fixing the clutch cover.

- a) 3 screws — M6 x 140
- b) 8 screws — M6 x 154

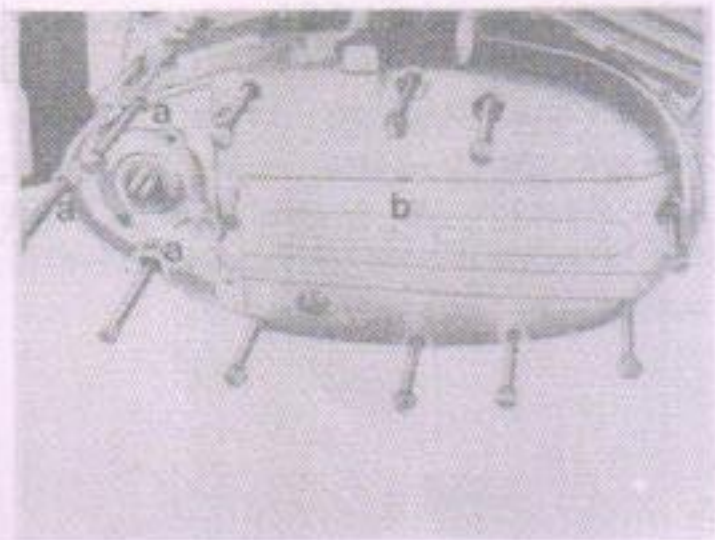


FIG. 10

Move the clutch actuating arm to press off the clutch cover. At the same time, gently tap with a plastic mallet against the front end of the clutch cover to help in prising it off the bearing on the extension of the crankshaft.

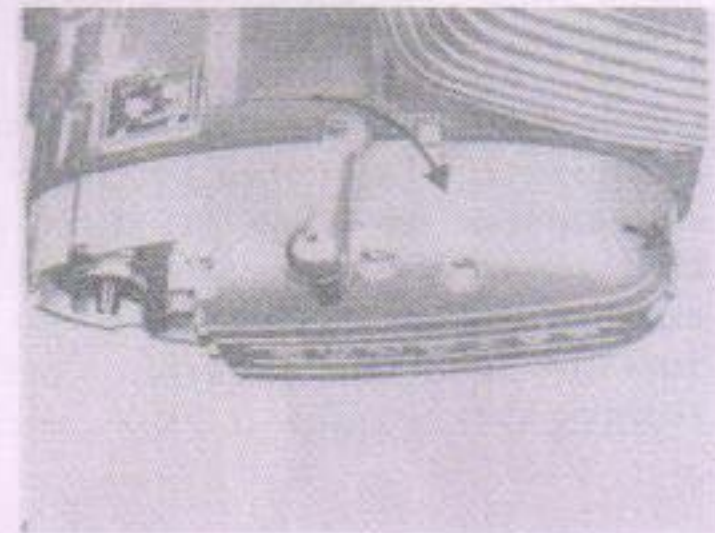


FIG. 11

## 11. CLUTCH COVER :

Located inside the clutch cover are :

- a) 1 Bearing 6201 (3rd crankshaft bearing),
- b) 1 Clutch actuating arm,
- c) 1 Clutch tongue,
- d) 2 leaf springs for clutch tongue,
- e) 1 Adjusting screw to adjust the clutch tongue,
- f) 1 Guide pin for sliding gear shifter fork,
- g) 1 Bush for the foot shift shaft spindle.

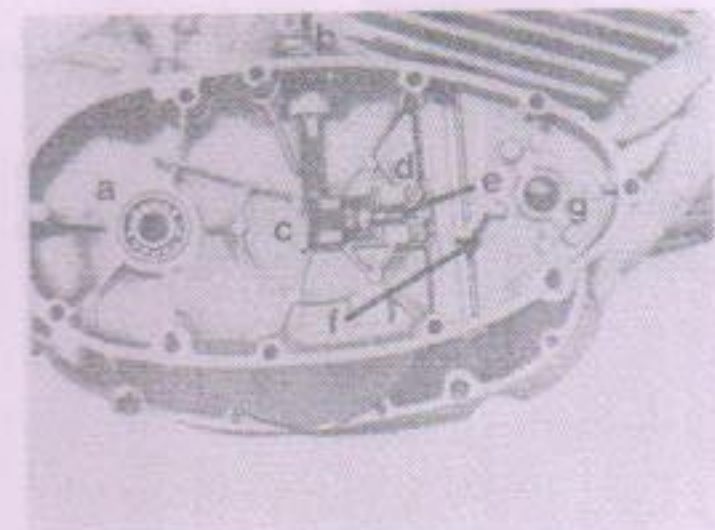


FIG. 12

## 12. REMOVING THE FOOT SHIFT SHAFT ASSEMBLY AND CLUTCH THRUST PIN :

Draw out the foot shift shaft assembly (a), and thrust pin (b) complete with shim washers alongwith radial needle roller bearing under the pin.

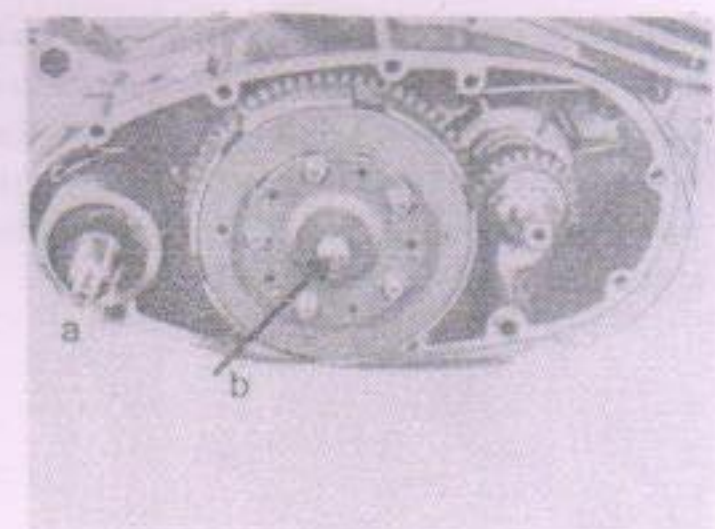


FIG. 13

### 13. DISMANTLING THE CLUTCH :

Fit Crankcase & clutch puller SK-A-235 using 3 bolts SK-A-326. Tighten the clamping bolt and unscrew the 5, M4 nuts with 7 mm D.E. Spanner. Slacken the clamping bolt of the puller. Now you can take off the pressure plate, clutch springs, and spring sleeves.



FIG. 14

Bend open the locking tab washer and loosen the clutch centre nut using clutch key SK-A-297 and 19 mm A/F socket spanner.

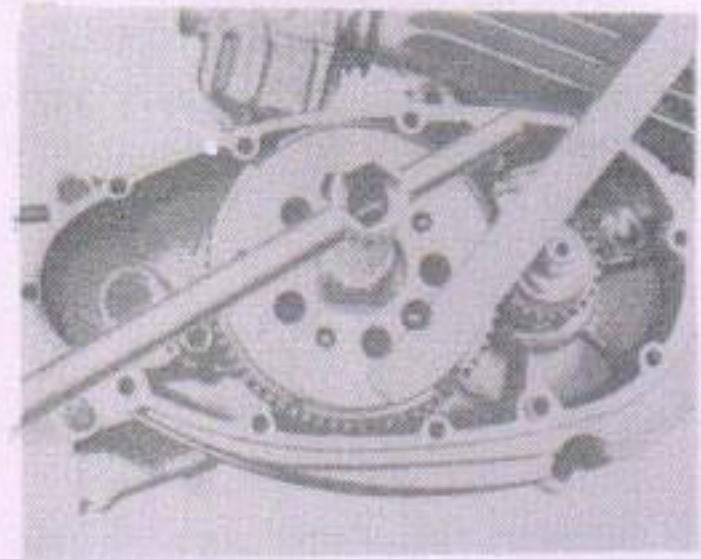


FIG. 15

Remove complete clutch, clutch hub and packing washers (a) behind the hub.

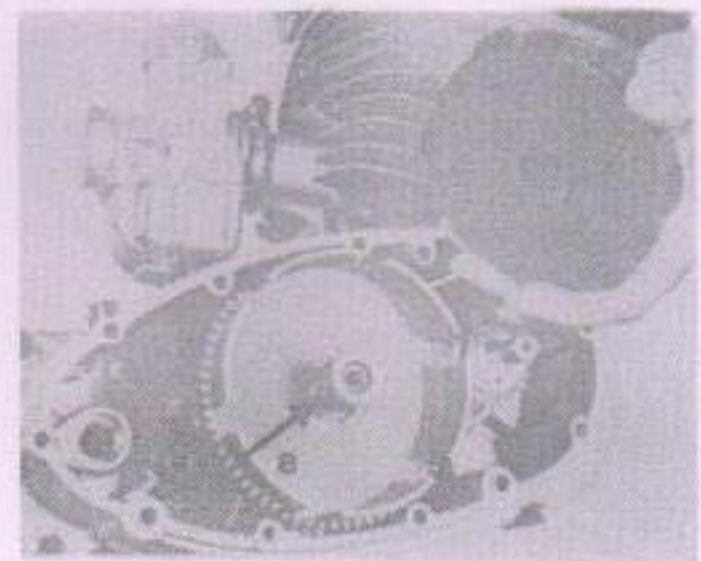


FIG. 16

Pull out clutch bell with bearing. Also, remove the needle cage with rollers (17) and constant shims (0.8 mm + 0.5 mm) from the main drive shaft.

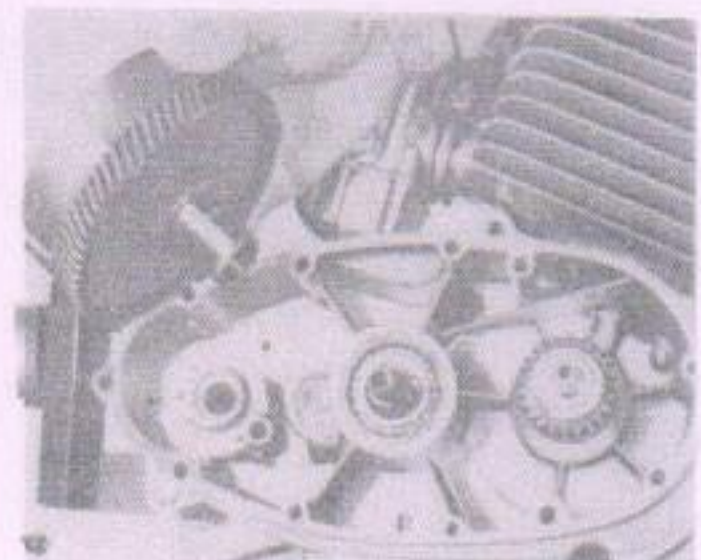


FIG. 17



14. REMOVING THE CRANKSHAFT PINION & SHIFT FORK ASSEMBLY :

To take the crankshaft pinion off the crankshaft, bend open the locking tab washer. Hold the crankshaft fast, using 10 A/F D.E. Spanner applied to the flats and loosen the hex. nut using 22 A/F spanner.

NOTE: LH THREAD

-----

Remove the hex. nut, washer & pinion. If the pinion cannot be pulled by hand, use a 2 jaw puller to prise it off. Take care not to loose the two 5 mm steel balls used for locating this gear on the crankshaft.

Now, prise out the shift fork assy. alongwith the push rod.

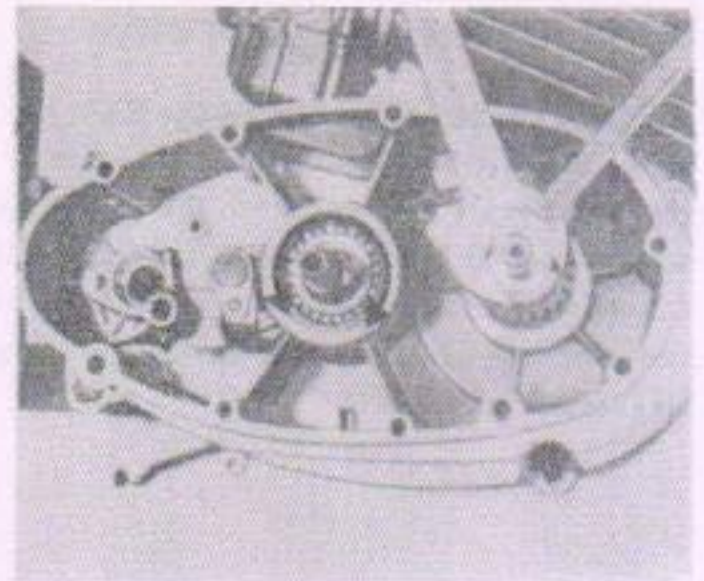


FIG. 18

15. REMOVING THE CYLINDER HEAD, CYLINDER AND GASKETS :

To take off cylinder head and cylinder, slacken the 4 hex. nuts M8, using 13 A/F socket spanner, and 4 allen cap screws, using 6 mm allen key and take them off with the washers under them. Note the cylinder head washers are thicker than conventional ones. You can now lift off cylinder head, head gasket, cylinder & base gasket.

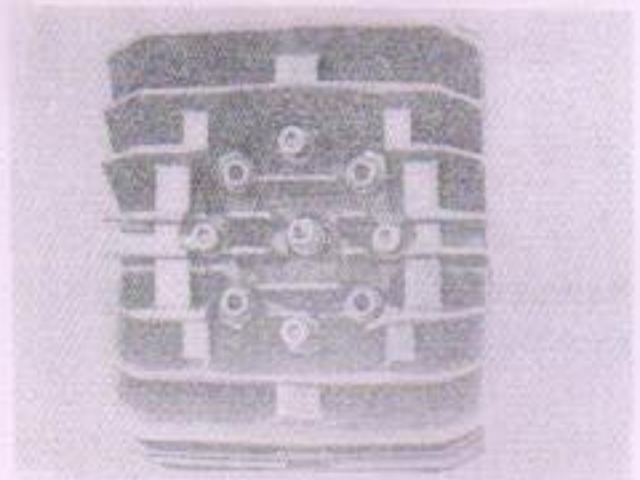


FIG. 19

16. REMOVING THE GUDGEON PIN WIRE CLIPS :

Cover up the crankcase with a clean cloth and then take out the gudgeon pin wire clips, using a suitable taper nose.



FIG. 20

### 17. REMOVING PISTON :

Take off piston ring.

Top ring-L ring.

Bottom ring-R ring.

Fit gudgeon pin extractor tool SK-A-268 press out the gudgeon pin. Remove the piston. Immediately take the gudgeon pin needle bearing off the con. rod and store it away in a clean wrapping.

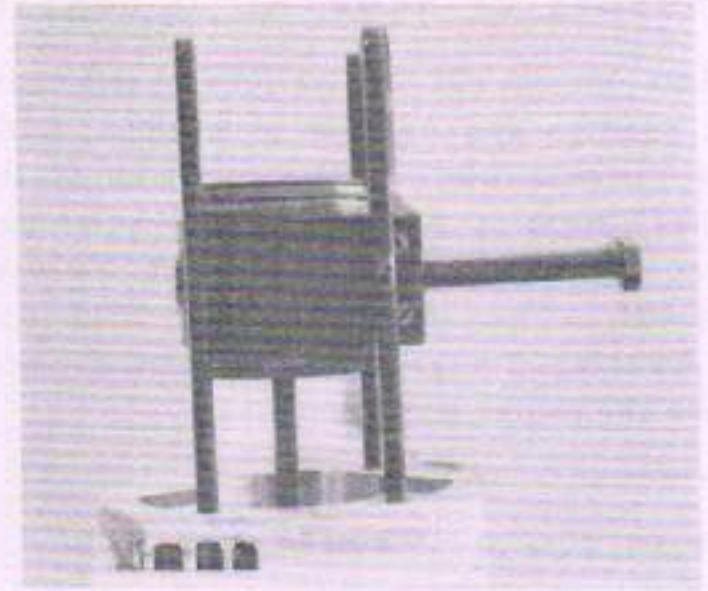


FIG. 21

### 18. DISMANTLING AND SPLITTING THE CRANKCASE :

Take off the two remaining housing screws, M6x45 (a), from crankcase LH side, i.e. under the magneto.

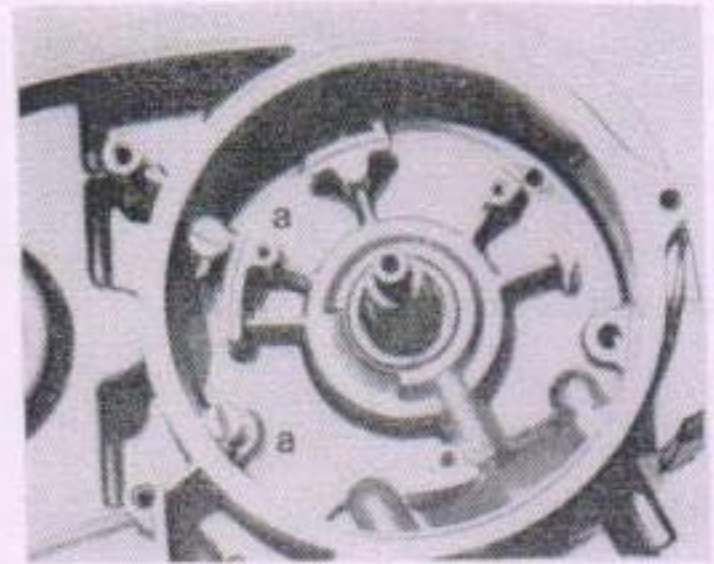


FIG. 22

On the right hand side take off screw M6x65 (b), off the cylinder base.

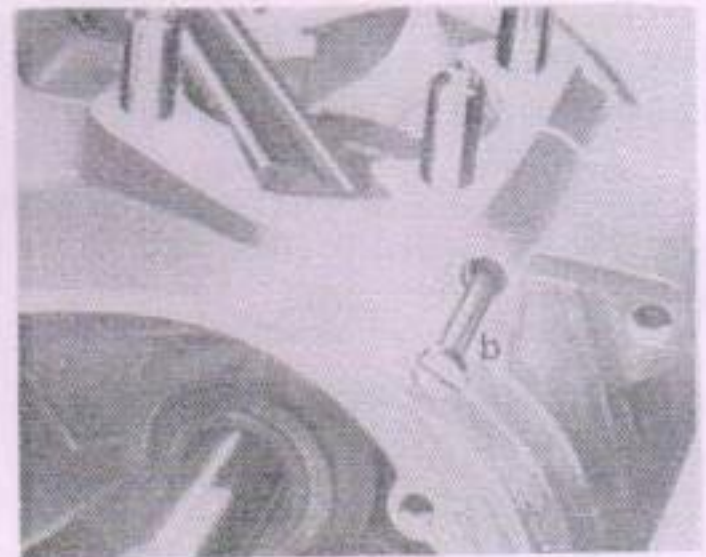


FIG. 23

Next, take the complete gear box block from the clamping fixture and place it, right hand side down, on two wooden planks. Press simultaneously on selector and kick-starter shafts and separate the two housing halves, then carefully lift away the top half. To help the work along, it may be necessary to gently tap the housing, using a plastic mallet.

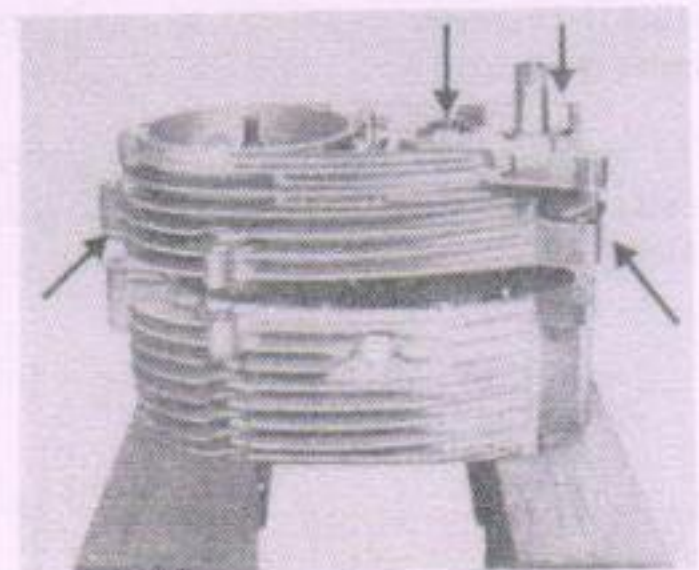


FIG. 24

## 19. SEQUENCE OF REMOVAL OF SHAFTS:

Before taking out the various shafts, note the position and number of washers, shims and distance pieces fitted, as well as the correct meshing position of the gears and mark these with a reference line for easy assembly. This procedure will help you in reducing the gauging and setting work, when the engine is reassembled.

The sequence of removal of shafts is :

- a) Gear selector shaft with selector gears and steel balls. While removing, hold the gears tightly, so that, the balls do not fall. Take note of the special spacer over the rollers.
- b) Kickstarter shaft assembly.
- c) Main drive shaft complete with 0.5 mm shim washer.
- d) Crankshaft assembly.

**NOTE:** Carefully inspect all shafts and gears for traces of wear & proper alignment as soon as they are removed.

## 20. REMOVING BALL BEARINGS AND NEEDLE ROLLER BEARINGS :

To take out the ball bearings and bushes, heat up the housings, then pull them off with any standard puller.

## 21. TAKING OFF SPLIT JOURNAL BEARING :

Take off the ball retainers of the crankshaft journal bearings. You can then pull off the inner races with a standard puller.

To remove the outer races, heat the crankcases and knock them against a wooden plank.

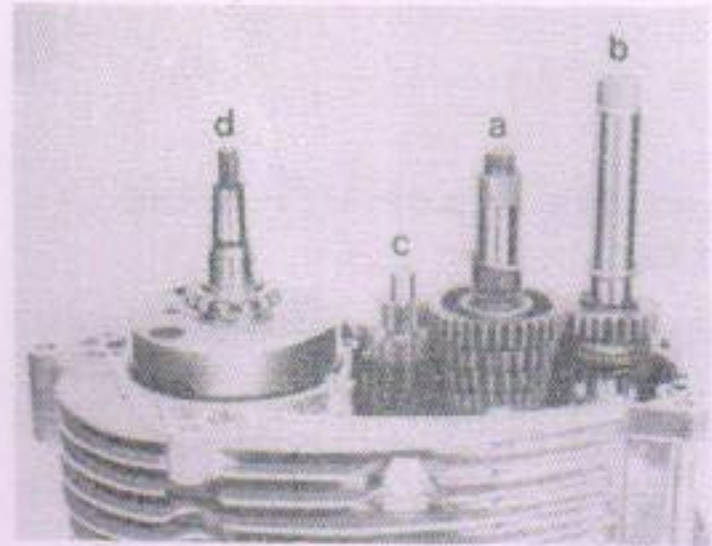


FIG. 25

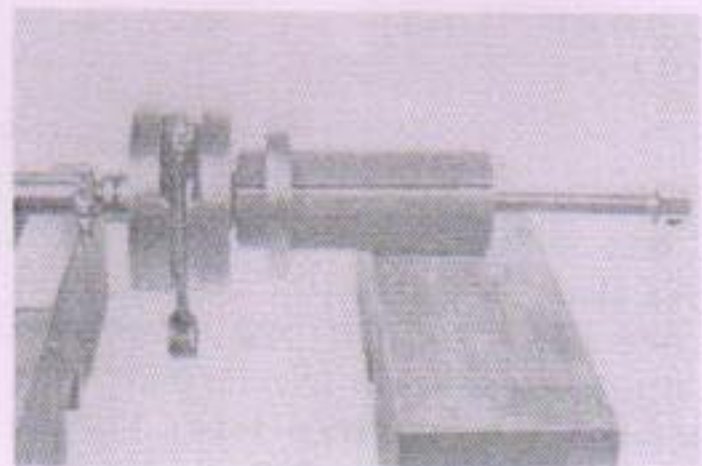


FIG. 26

22. REMOVAL OF LOCK PINS & SPRING :

With the aid of a thin screwdriver, slide the spring off the groove. Remove the spring and locking pins from the selector shaft.

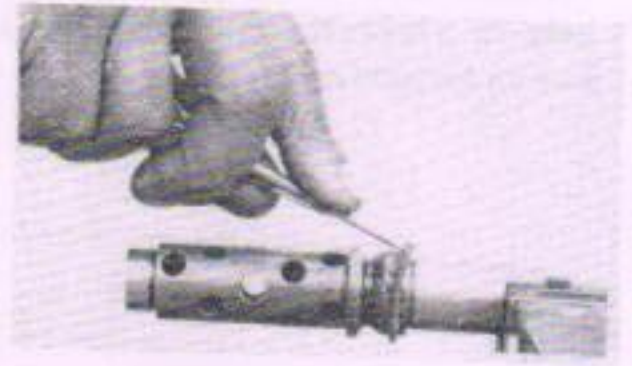


FIG. 27

23. DISMANTLING THE GEAR SHIFT SHAFT ASSEMBLY :

The gear shift shaft assembly consists of the following parts :

- a. Pawl deflector
- b. Gear slide bush
- c. Gear shift shaft
- d. Pawls
- e. Torsion spring
- f. Circlip
- g. Compression spring
- h. Round head rivet
- i. Compression spring
- j. Locking pin

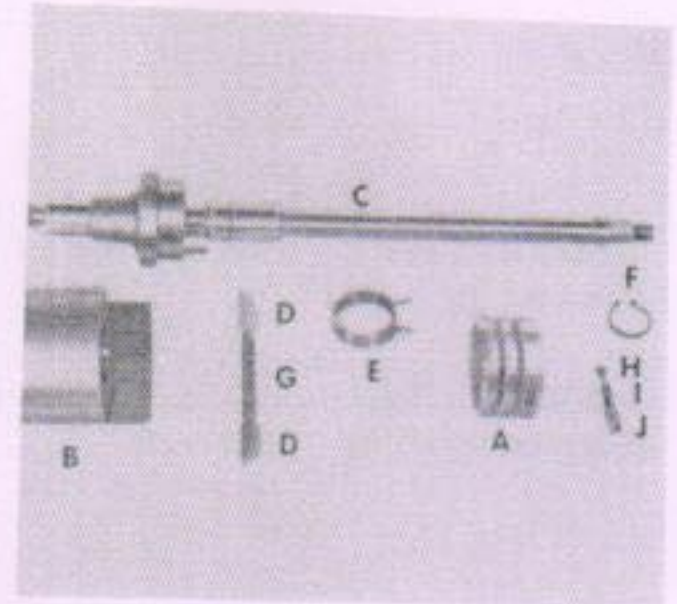


FIG. 28

Hold the gear shift shaft assy. in a vice with soft jaws. With the help of service tool SK-A 213, rotate the pawl deflector in the clockwise direction until the locking pin (j) compression spring (i) and Round head rivet (h) can be removed.

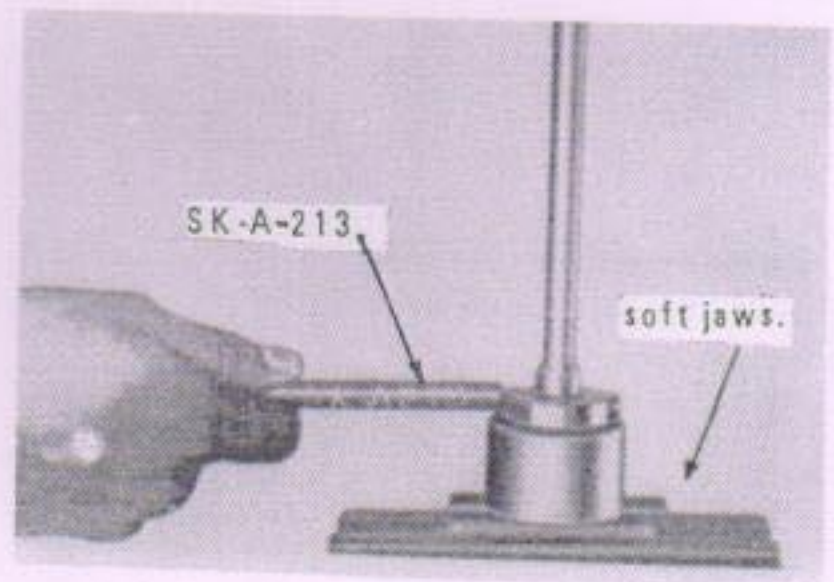


FIG. 29

Remove the circlip.

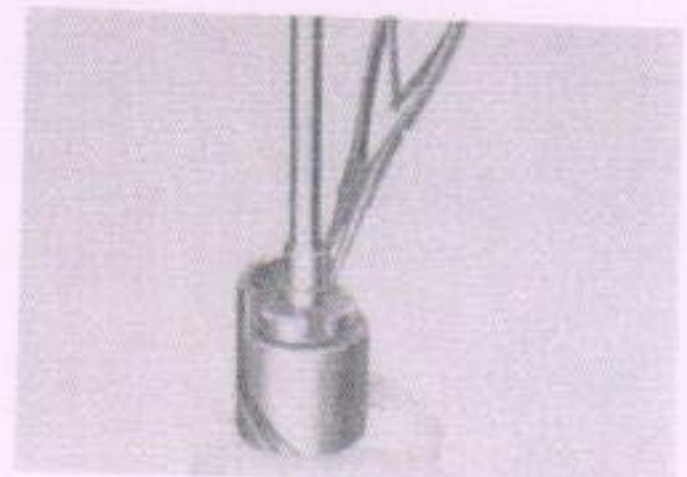


FIG. 30

Hold the gear slide bush with your hand from underneath so that it can be lifted off together with the pawl deflector. This will help in preventing the pawl from dropping out under spring pressure.

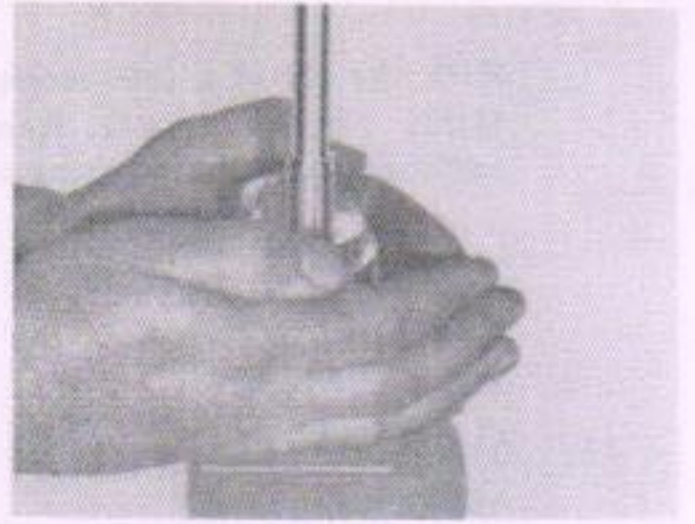


FIG. 31

#### 24. DISMANTLING THE KICKSTARTER ASSEMBLY :

Remove circlip, Hold the kickstarter lever firmly and release it slowly.

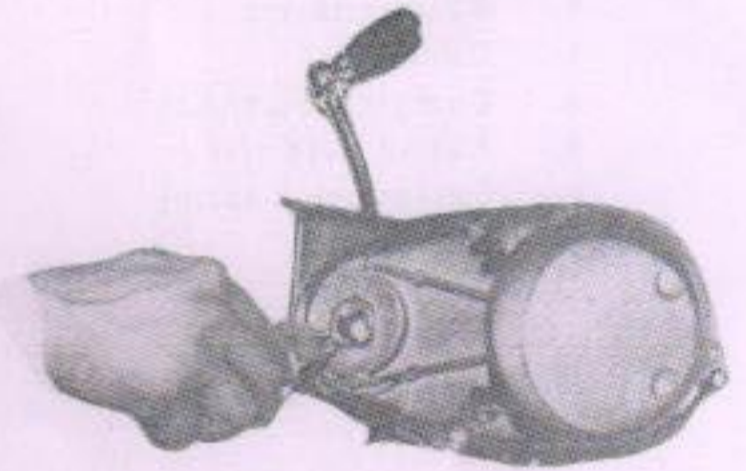


FIG. 32

Carefully take off lever (A) and lift the cover plate (B). The kickstarter spring (C) can now be removed.

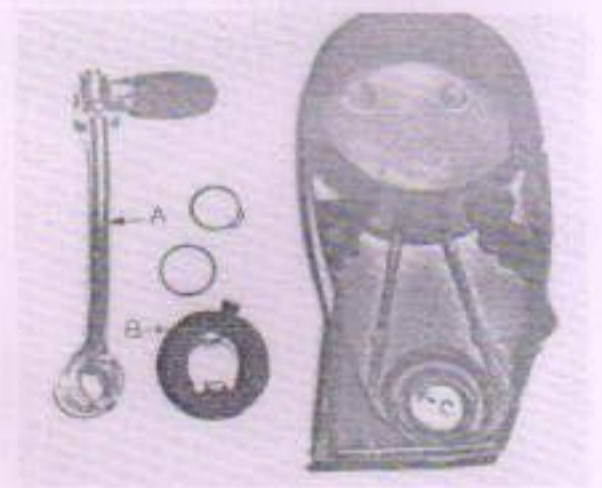


FIG. 33

## ENGINE GAUGING & ASSEMBLY

- i) Clean all engine parts thoroughly before assembly.
- ii) Replace all gaskets as required and ensure clean and smooth gasket seating faces for perfect sealing. It is recommended to replace all gaskets and oil seals with new ones whenever engines are totally dismantled.
- iii) Replace defective or damaged parts with genuine Enfield spare parts.
- iv) To fit ball bearings, bushes, needle roller cages, heat the crankcase covers uniformly all over to approximately  $85^{\circ}\text{C}$  before assembly.
- v) Apply engine oil to oil seals, bearings and other moving parts before assembly.

### 1. CRANKSHAFT GAUGING :

Fit gasket on to the crankcase RH. Then with a depth caliper measure dimension A = the distance between crankcase parting face to the stop face of bearing outer race.

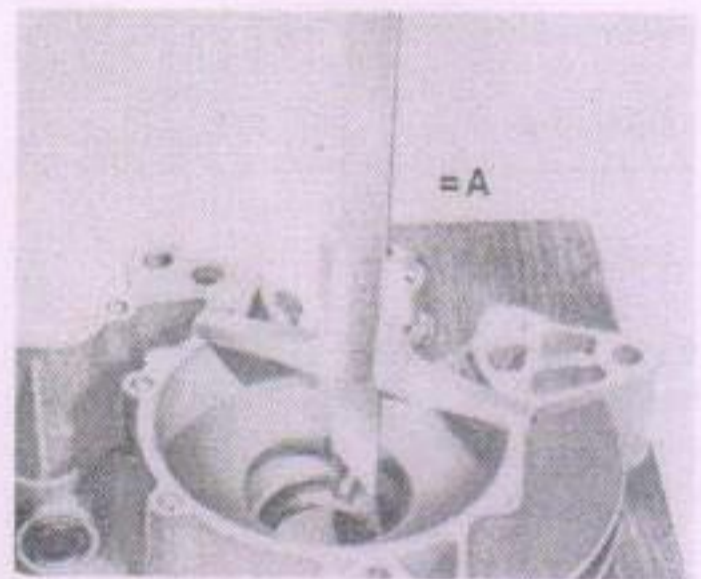


FIG. 34

Repeat on the crankcase LH without gasket = Dimension B.

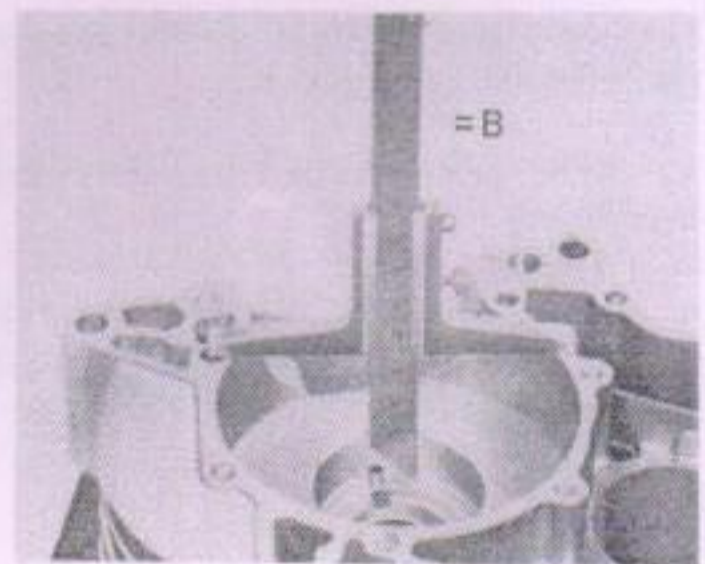


FIG. 35

Press inner races of journal bearings on to crankshaft until they stop against the crank webs. To do so, wedge a suitable object (such as bar a) into the space between the webs opposite the journal so that their clearance will not alter.

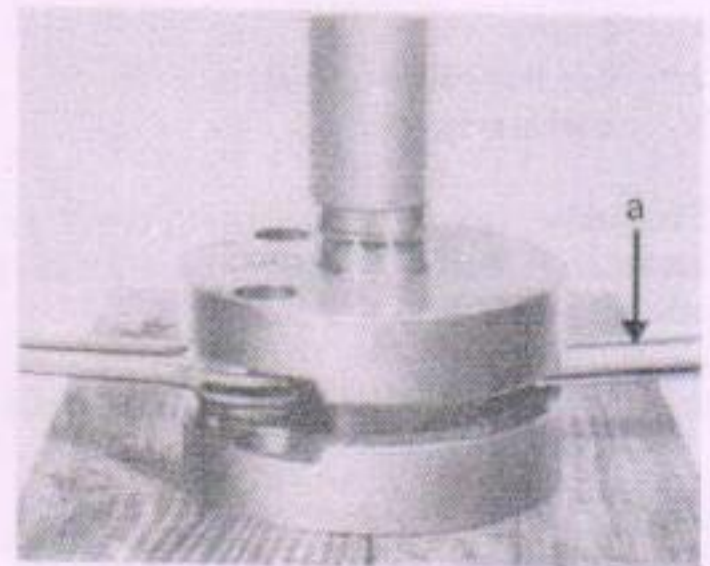


FIG. 36

Fit the ball retainers and outer races of the shoulder ball bearings, then with a caliper measure across both outer races=dimension C.

Permissible axial play should be 0.05 to 0.1 mm (.002"-.004").

Example :

	A	=	44.4 mm
+	B	=	38.2 mm
-----			
			82.6 mm
-	C	=	80.3 mm
-----			
			2.3 mm
-axialplay	=		0.1 mm
-----			
			2.2 mm
-----			

Make up the difference of 2.2 mm by fitting 1.1 mm packing washers on both crankcases behind shoulder bearing outer races.

## 2. PRE ASSEMBLY OF KICKSTARTER SHAFT

The kickstarter shaft assembly consists of the following components :

- A. Shim washer (to be fitted after gauging)
- B. Circlip
- C. Circlip
- D. Shim washer (to be fitted after checking clearance between driver and kickstarter gear).
- E. Driver
- F. Return spring
- G. Kickstarter gear
- H. Washer
- I. Circlip
- J. Constant shim 1 mm thick
- K. Kickstarter shaft

Fit circlip (B) on to the first groove on the kickstarter shaft (K) followed by the kickstarter gear (G).

Insert washer (H) and lock with circlip (I).

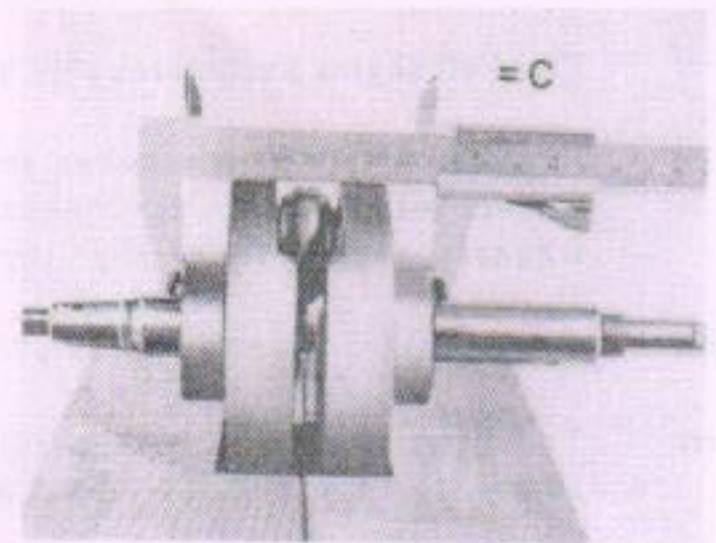


FIG. 37

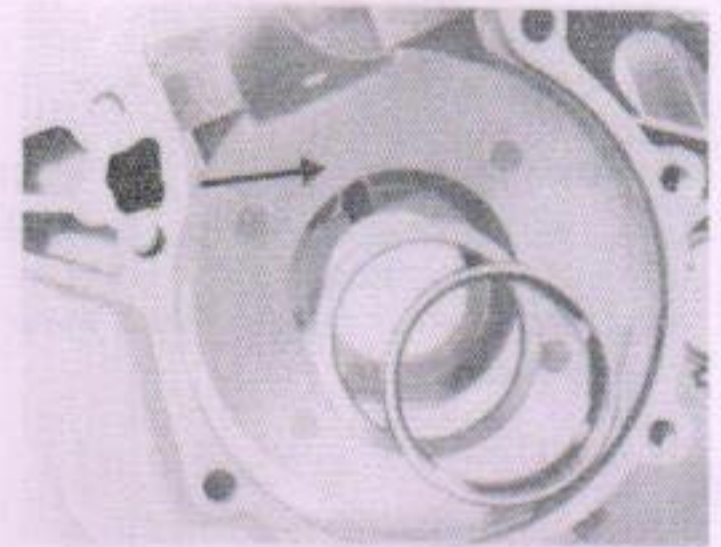


FIG. 38

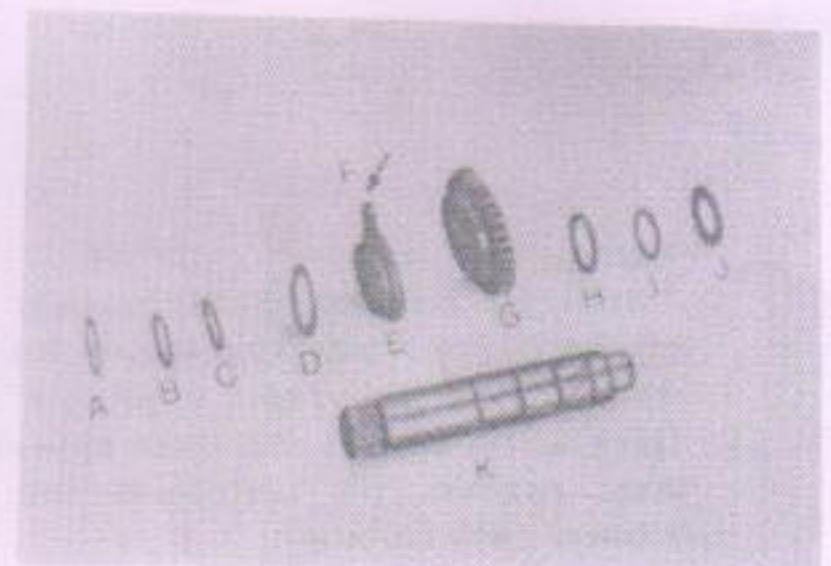


FIG. 39

### 3. GAUGING OF KICKSTARTER SHAFT

Check the clearance between the opposing teeth between driver and kickstarter gear on the shaft. It should be between 0.6 to 0.8 mm. If the clearance is not as specified, correct it by adding or removing the required shims between circlip and driver. Fit a 1 mm thick washer to the short stub end as constant shim washer.



FIG. 40

### 4. PRE ASSEMBLY OF MAIN DRIVE SHAFT :

Slide a packing washer of 0.5 mm thick on the longer shaft end as shown in figure 40.

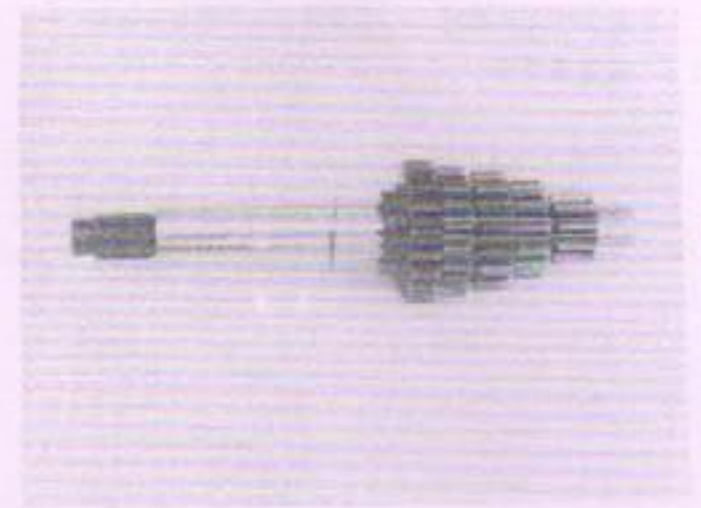


FIG. 41

### 5. PRE ASSEMBLY OF SELECTOR SHAFT:

Introduce locking spring onto the selector shaft. Fit the locking pins onto the selector shaft, slide the spring onto the locking pin grooves with the aid of a thin screwdriver. Ensure that the joint of the locking spring is not located in the groove of the locking pins.

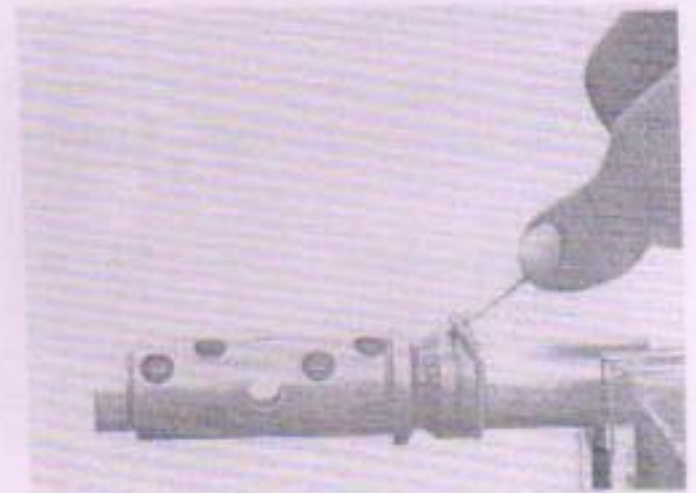


FIG. 42

### 6. PRE ASSEMBLY OF SELECTOR SHAFT GEARS :

The gears are assembled in such a way that the flat machined face of the first gear, faces the projected flat face with lubricating groove on the second gear.

The slotted lubricating groove of the subsequent gears are assembled to face the flat machined surface of the earlier gear.

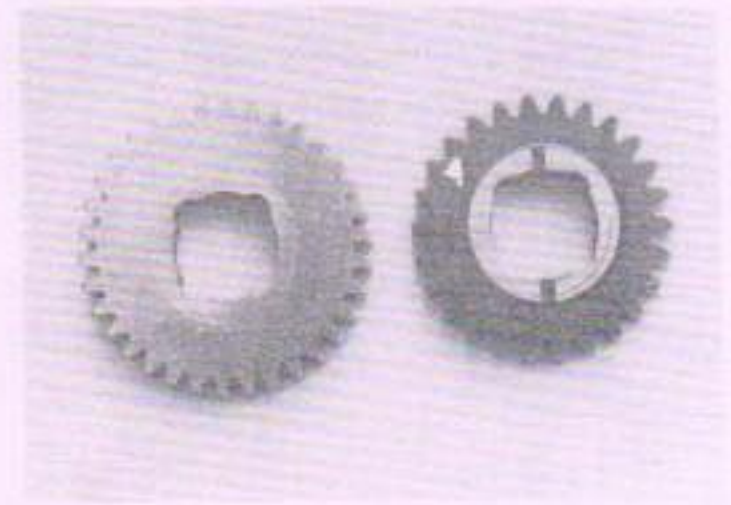


FIG. 43



**IMPORTANT :**

Gears are correctly assembled, if looking at the assembly from top, the broader flat on the ball reception pocket always points in the clockwise direction.

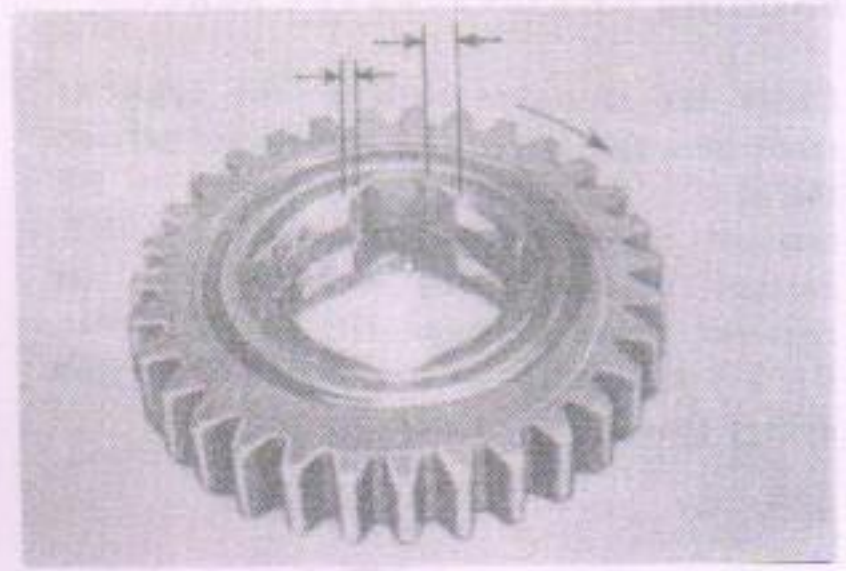


FIG. 44

**7. GAUGING THE SELECTOR SHAFT GEARS:**

First gauge from end face of the selector shaft to side face of the fifth gear as shown in figure, using a depth vernier.

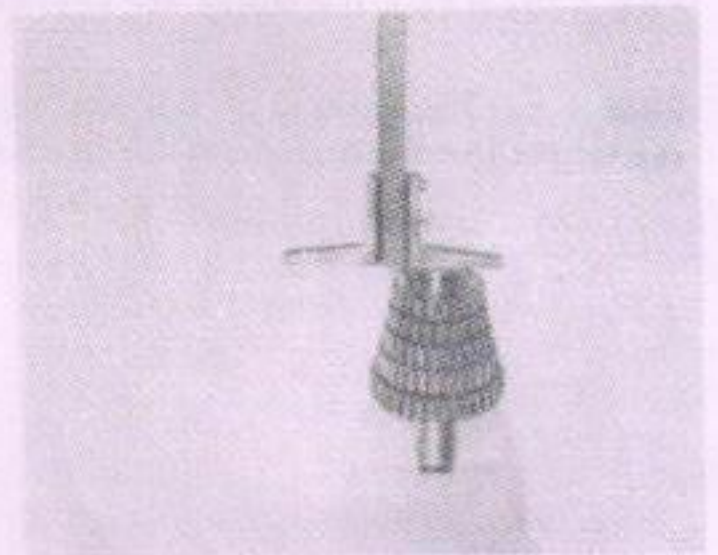


FIG. 45

Second gauge from shaft end face to stepped face on shaft as shown in figure, using a depth vernier.

The values given do not necessarily agree with the values actually measured.

First gauging	=	10.5 mm
Second gauging	=	9.2 mm
Difference	=	<u>1.3 mm</u>

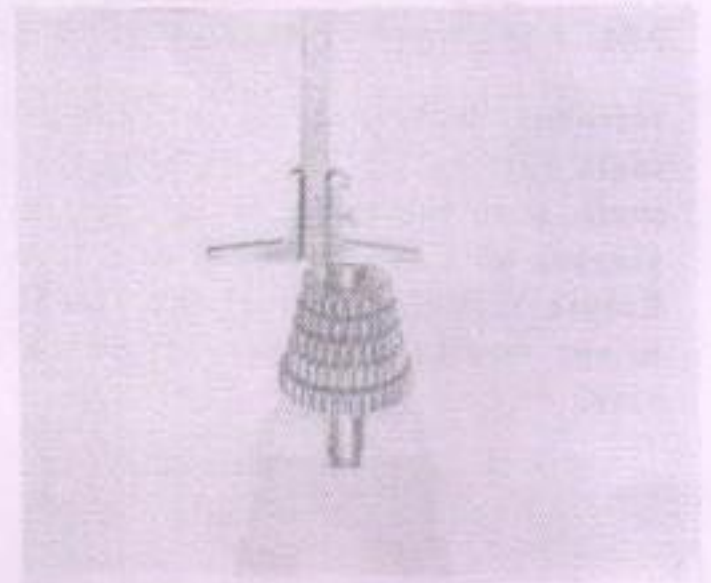


FIG. 46

This difference is made up by shims and is fitted, depending upon the meshing of these gears with main drive shaft gears.

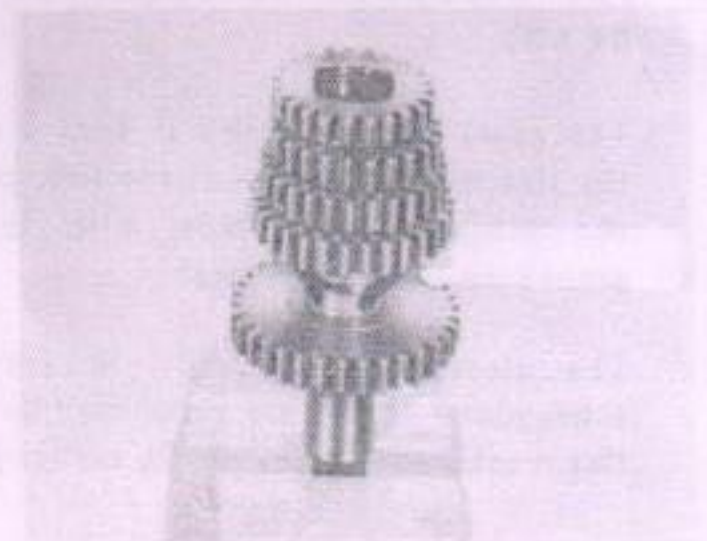


FIG. 47

## 8. SELECTOR SHAFT ASSEMBLY :

Assemble the selector shaft with the gauged shims and gears. Before each selector gear is fitted, place four 7 mm dia balls into the grooves on the shaft. With the gears correctly gauged and assembled the end face of the fifth gear would be flush with the shoulder of the selector shaft.

**NOTE :** Do not use grease to hold the steel balls in their grooves during assembly.

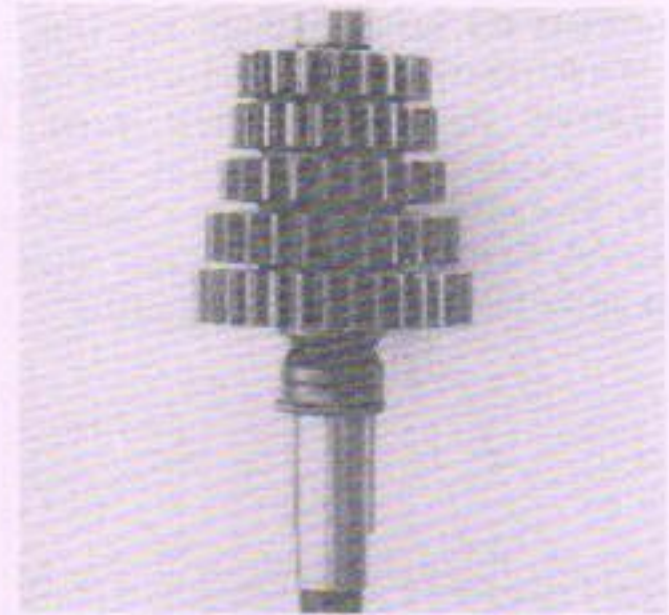


FIG. 48

## 9. PRE ASSEMBLY OF FOOT SHIFT SHAFT:

Hold the foot shift shaft (C) in a vice with soft jaws. Insert the pawls (D) with the compression spring (G), such that the larger face of the shift pawls are towards the locking pin (K) on the foot shift shaft.

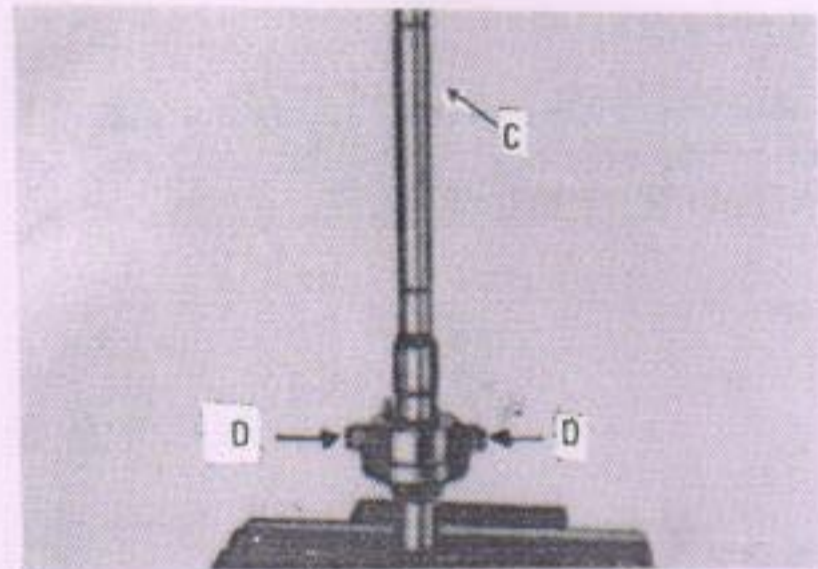


FIG. 49

Slide the service tool SK-A-301 over the pawls to keep the pawls pressed in position.

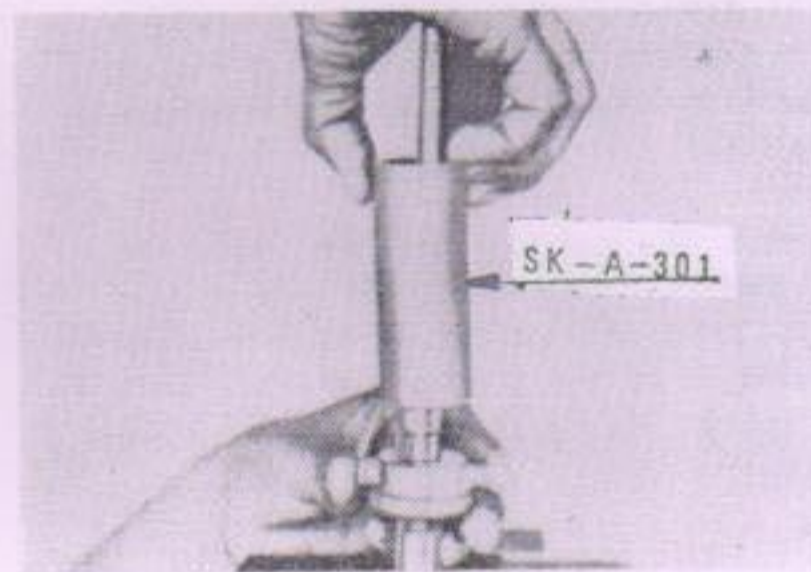


FIG. 50

Slide the gear slide bush onto the service tool SK-A-301, ensuring that the locking tooth on gear slide bush faces the locating pin (K) as shown in figure.

Remove the service tool SK-A-301 thus releasing the pawls.

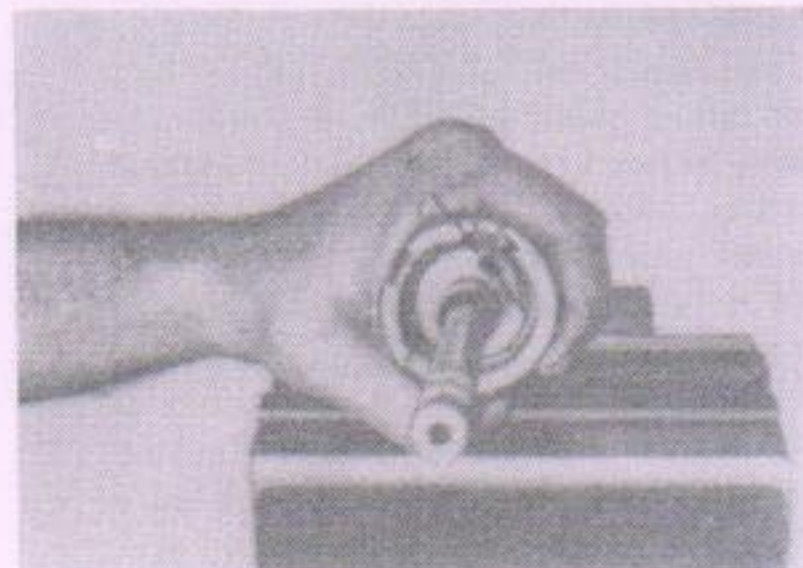


FIG. 51

To fit the torsion spring onto the pawl deflector, insert the spring with its top stop into the lower recess of the pawl deflector and the bottom stop into the top recess. The spring should be unloaded as shown in figure. The spring is eased into position with a pair of flat pliers which ensure that the stops enter the recesses far enough.

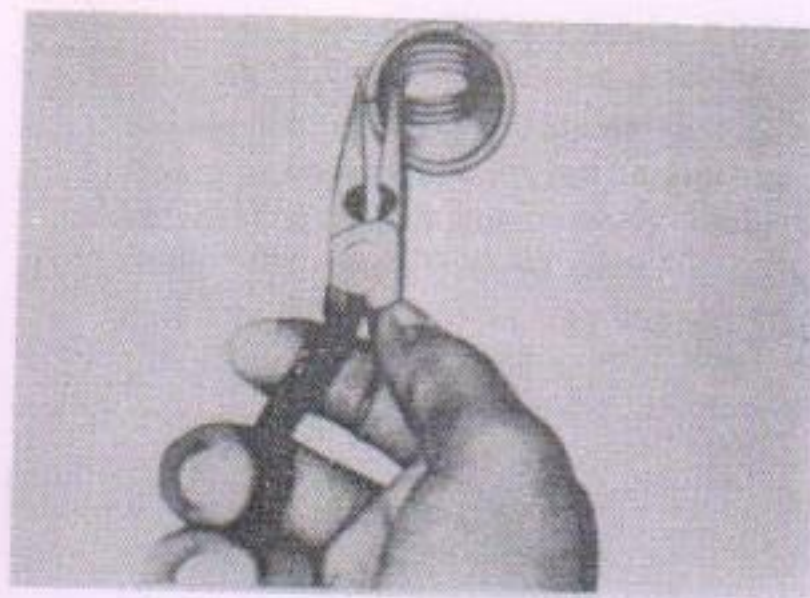


FIG. 52

Tension the spring with the aid of a screwdriver and plier as shown in figure.

To make the fitting easier, a second screwdriver can be used to press the spring against the recesses in the pawl deflector.

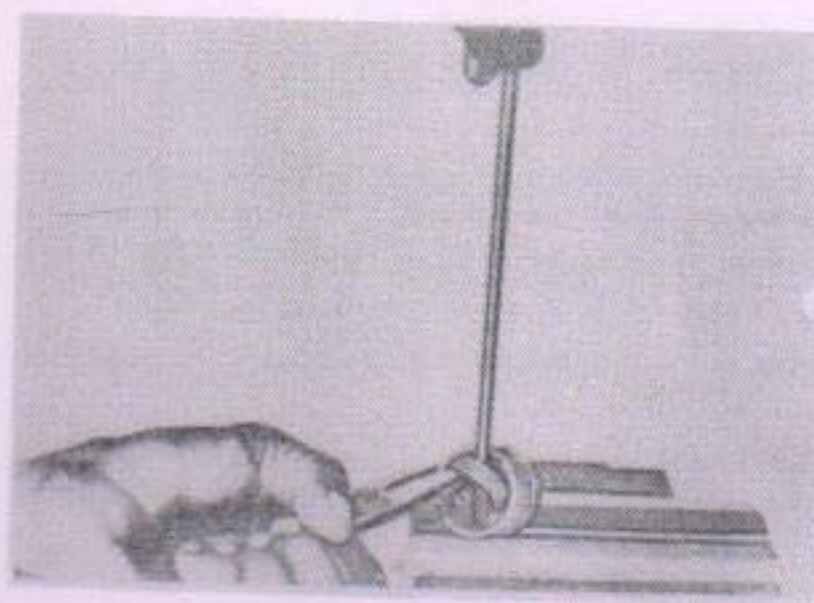


FIG. 53

Fit the pawl deflector with spring onto the foot shift shaft. Ensure that the locating pin on the foot shift shaft passes in between the spring stops.

To check the correct assembly, hold the pawl deflector firmly, fit the service tool SK-A-213 into the tapered slot of the pawl deflector, shift the service tool both sides and check for automatic spring return action.

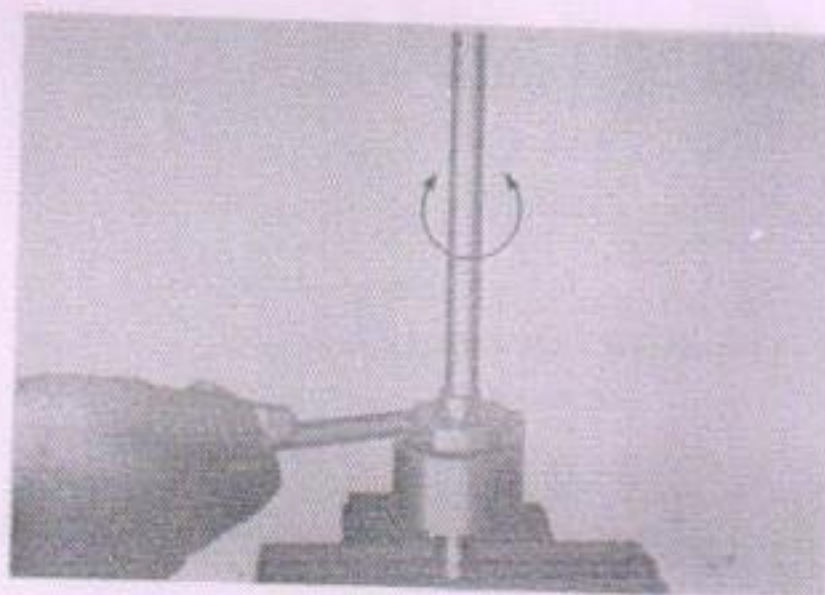


FIG. 54

Fit the circlip into the groove on the foot shift shaft. Check axial play of the gear slide bush and pawl deflector assembly. If the play is found more than 0.1-0.2 mm add necessary shims between the pawl deflector and circlip. Using the service tool SK-A-213 rotate the pawl deflector and fit the round headed rivet (H) compression spring (I) and locking pin (J) into the hole on the pawl deflector. Rotate the pawl deflector, so that, the locking pin is engaged onto the locking slots provided on the gear slide bush. Ensure that the pawl deflector is in the second gear position before it is assembled onto the engine. Assemble the 'O' ring over the foot shift shaft and slide it in position.

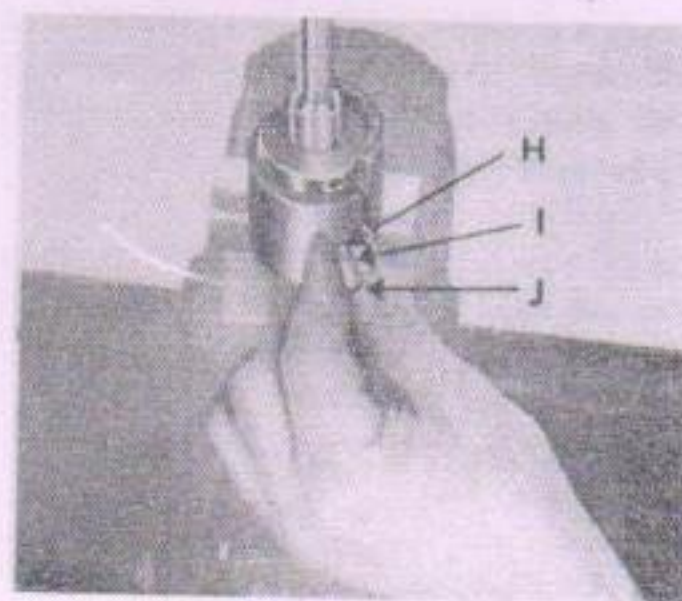


FIG. 55

#### 10. PREASSEMBLY OF CRANKSHAFT :

Assemble both the shoulder ball bearings (thumb press fit) over the inner races on the crankshaft assembly.

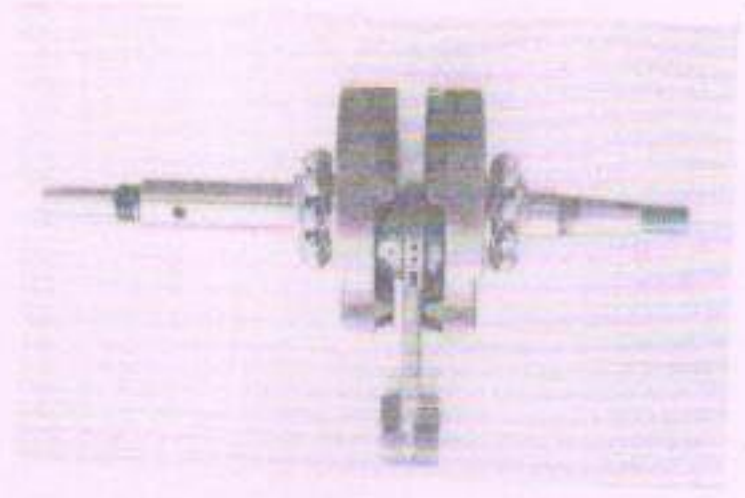


FIG. 56

#### 11. ASSEMBLY OF KICK STARTER SHAFT, MAIN DRIVE SHAFT AND SELECTOR SHAFT ONTO THE CRANKCASE RH:

The following sequence must be carried out when assembling the gear box after all shafts have been gauged.

- a. Fit the crankshaft assembly in position.
- b. Fit the kickstarter shaft along with constant shim ensuring that the ratchet spring hooks onto the split spring dowel.
- c. Insert the main drive shaft into the RH crankcase along with 0.5 mm constant shim washer.
- d) Mount the complete selector shaft assembly along with the spacer ring. Take care that the steel balls inside the gears do not jump out during assy.

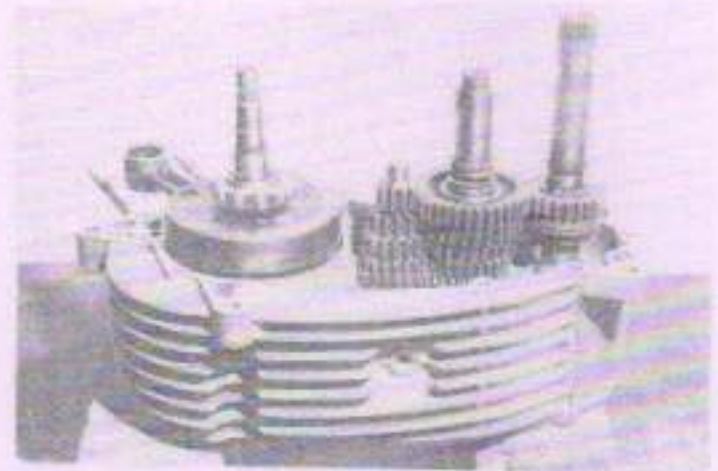


FIG. 57

#### 12. GAUGING KICKSTARTER SHAFT :

The gauging should be carried out with the centre gasket placed over the crankcase cover LH.

Gauge from gasket face of crankcase LH to the face of the kick starter bush using a depth vernier.

Example : 45.7mm.

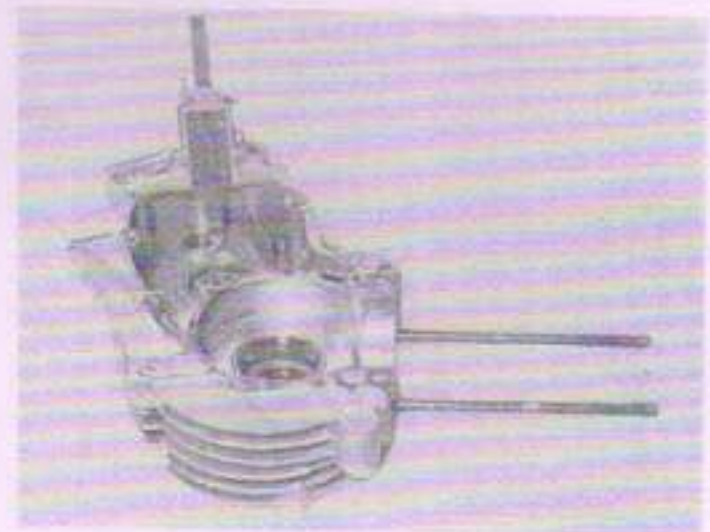


FIG. 58

Mount gauging yoke SK-A-206 onto the crankcase RH as shown in figure. Using a depth vernier measure the dimension from the top of the gauging yoke to the first circlip from the top.

Example : 15.8 mm.

Since the height of the gauging yoke is = 60.0 mm.

Actual dimension =  $60.0 - 15.8 = 44.2$  mm.  
 Example :  $45.7 - 44.2 = 1.5$  mm.

To maintain the required axial play 0.1 mm. to 0.2 mm. fit shims of 1.3-1.4 mm. over the top circlip of the shaft.

### 13. GAUGING SELECTOR SHAFT :

Mount gauging yoke SK-A - 206 onto the gasket face of crankcase L.H. as shown in figure. Gauge using the depth vernier, dimension from the top of the gauging yoke to the inner race of the selector shaft bearing.

Example: 106.3 mm.

Since the height of the gauging yoke is = 60.0 mm.

Actual dimension from the gasket to the inner race of bearing =  $106.3 - 60.0$   
 -----  
 46.3mm.  
 -----

Mount gauging yoke SK-A-206 onto the Crankcase RH as shown in figure. Using a depth vernier, measure the dimension from the top of the gauging yoke to the end face of the final gear.

Example : 12.9 mm.

Since the height of the gauging yoke is = 60 mm

Actual dimension =  $60.0 - 12.9 = 47.1$  mm.

Example :  $47.1 - 46.3 = 0.8$  mm.

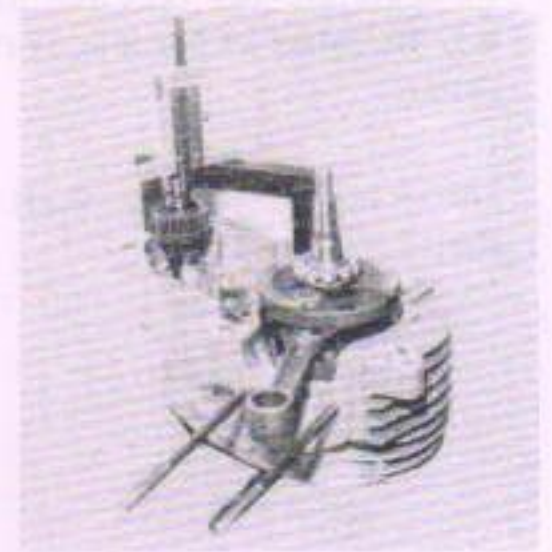


FIG. 59

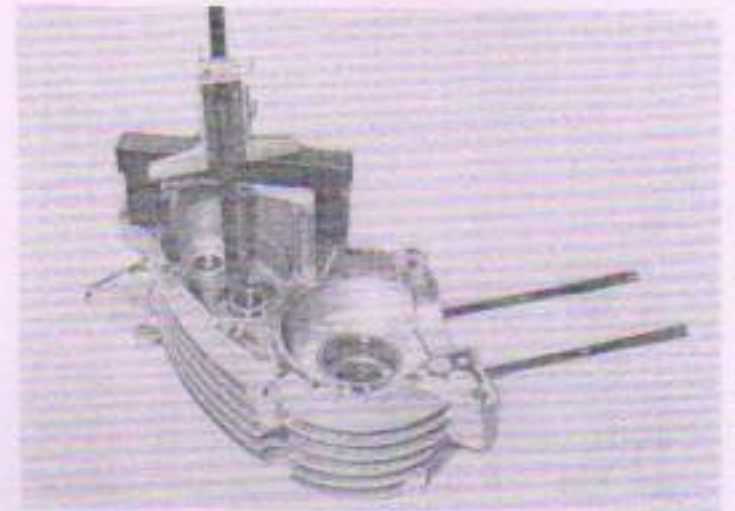


FIG. 50

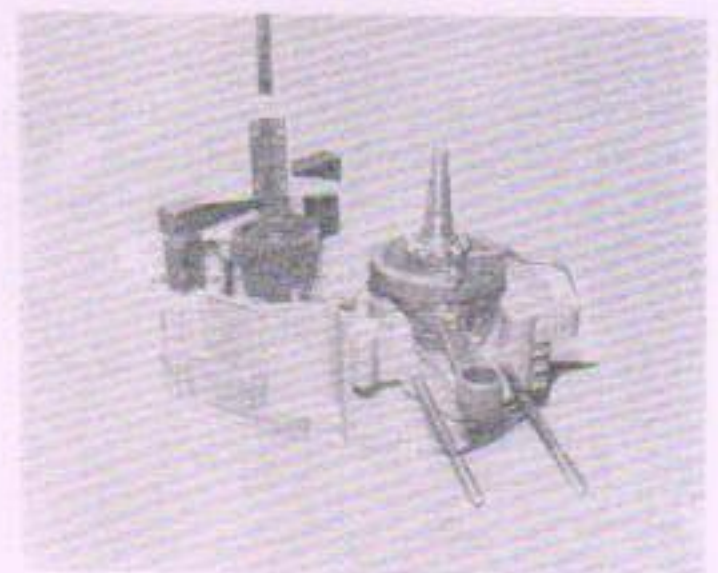


FIG. 61

To maintain the required axial play of 0.1 mm fit shims of 0.7 mm, at the selector shaft collar.

Shimming of selector shaft and kickstarter shaft.

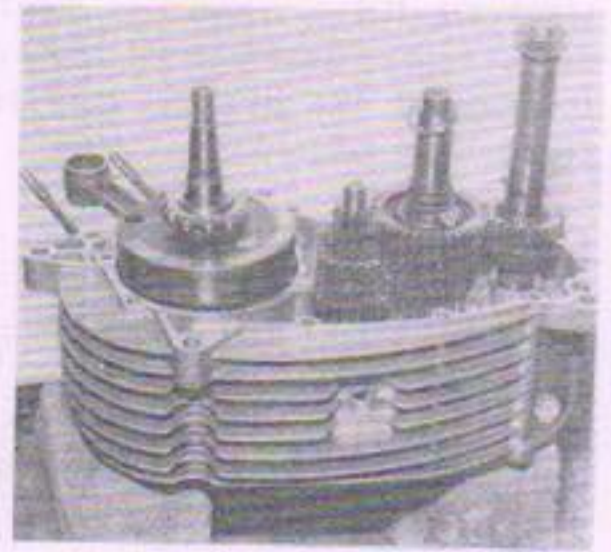


FIG. 62

#### 14. MOUNTING THE CRANKCASE :

Assemble the dowel bushes in position of the crankcase R.H.

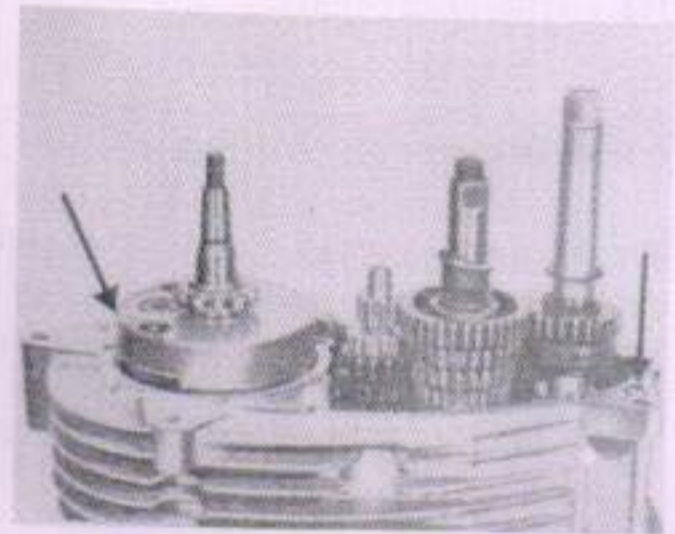


FIG. 63

Centre main drive shaft on bearing in crankcase R.H. If necessary, insert clutch wheel along with the two shim washers and needle roller bearings from below to achieve it.



FIG. 64

Fit crankcase LH. Take care to position centre gasket properly, and press the crankcase in position. If required gently tap the crankcase with a plastic mallet

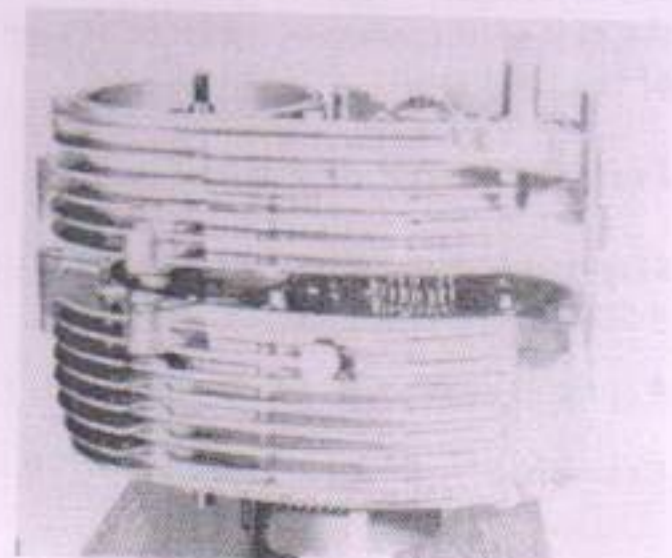


FIG. 65

Bolt together both halves from the left with 2 screws, M6x45 in the magneto casing.

Tightening torque . . 0.75 to 0.85 kgm.

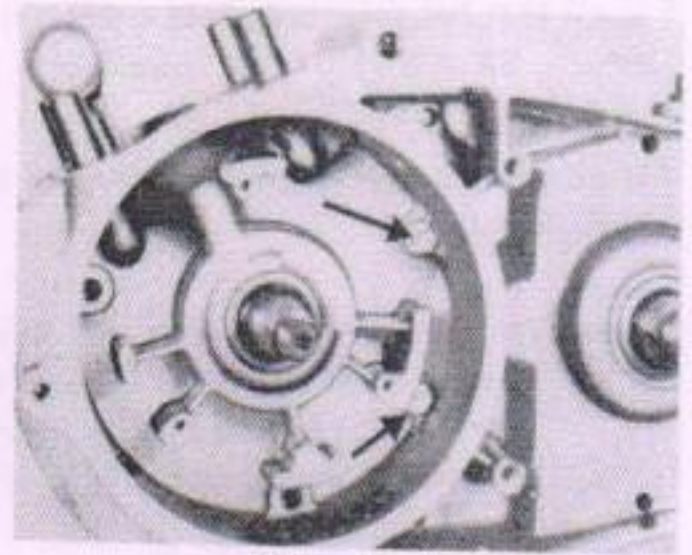


FIG. 66

From the right, fit one bolt M6x65, at the cylinder base.

Tightening torque . . 0.75 to 0.85 kgm.

Now mount the engine onto Clamping fixture SK-A-314 for further assembly.



FIG. 67

#### 15. DRAWING SELECTOR SHAFT INTO BEARING OF CRANKCASE LH:

Mount ring SK-E-003 onto the selector shaft flush against the casing, fit the front drive sprocket and tighten the nut fully. This is done to ensure that the selector shaft is drawn fully out. Now remove the nut, sprocket and the ring.

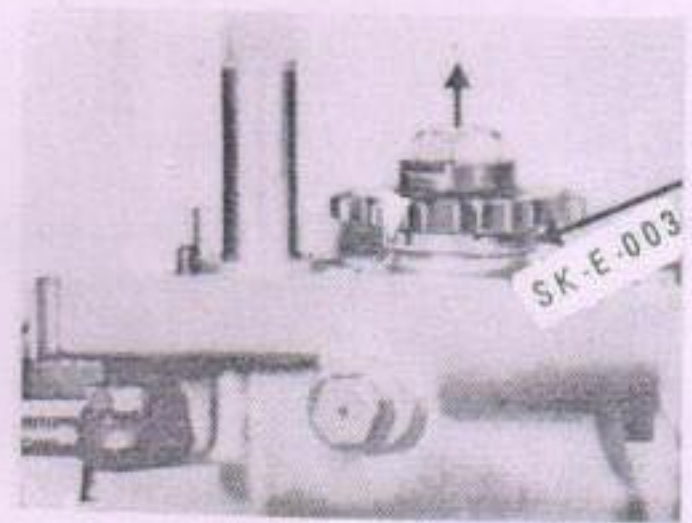


FIG. 68

#### 16. FITTING THE OIL SEALS ON THE CRANKCASE LH:

Smear the lips of the oil seal with engine oil before fitting them.

Fit magneto side oil seal for crankshaft with hollow punch SK-E-031.

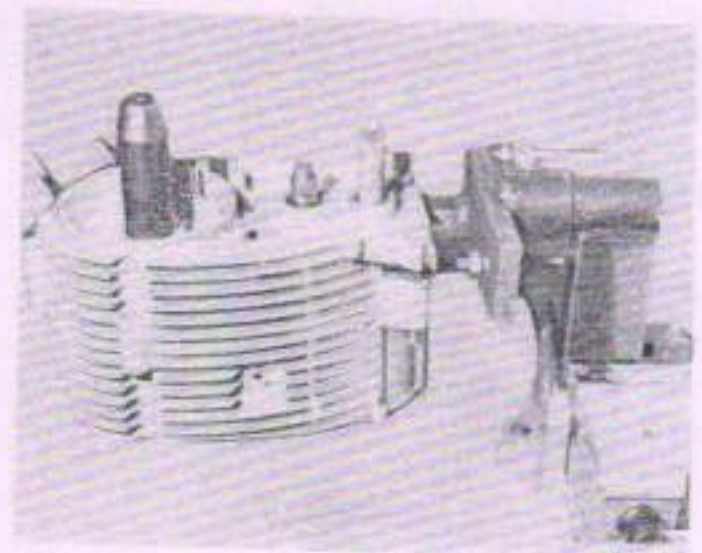


FIG. 69

Fit oil seal for selector shaft using assembly sleeve SK-A-217 and hollow punch MV-6-734.

Fit oil seal for kickstarter shaft with hollow punch MV-6-734.

Note : While fitting oil seals for the kickstarter shaft and selector shaft, note that the chamfered side of the oil seal must face towards the crankcase.



FIG. 70

#### 17. FITTING OIL SEAL ON THE CRANKCASE RH:

Fit the oil seal onto the crankshaft, using the assembly sleeve SK-E-028 to avoid the seal lips from being damaged by the crankshaft threads. Drive oil seal home with hollow punch SK-E-031.

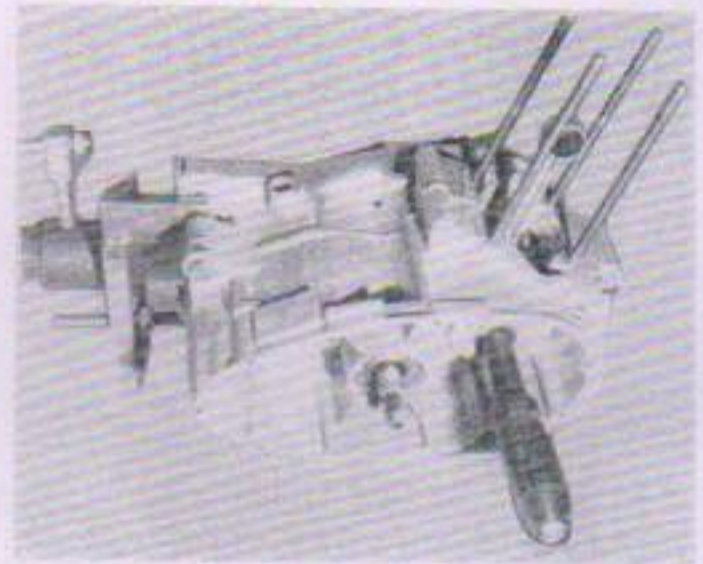


FIG. 71

#### 18. ASSEMBLY OF CRANKSHAFT PINION & PUSH ROD WITH SHIFT FORK ASSEMBLY

Fit two 5 mm dia steel balls (with little bit of grease) into the reception pockets on the crankshaft and assemble the pinion. Take care to align the ball recess in pinion with the steel balls. Assemble the tab washer and nut. Tighten the nut by holding the crankshaft with 10mm. D.E. spanner to 7.0 to 7.5 kgm.

NOTE : LH THREAD.

Lock the nut using tab washer. Rotate the selector shaft gently and push the push rod with shift fork assembly and locate it in 2nd gear position.

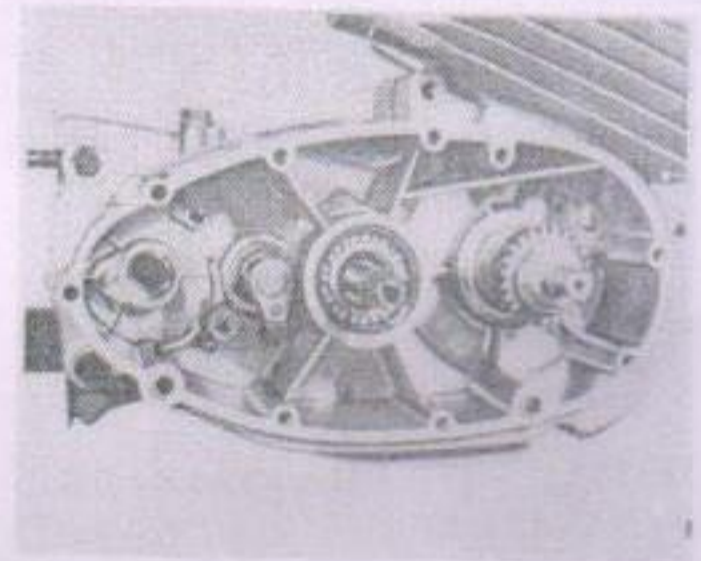


FIG. 72



### 19. ASSEMBLY OF F.D. SPROCKET .

Fit the F.D.Sprocket on selector shaft followed by lock washer and nut. Tighten to 7.0 to 7.5 kgm. torque. Fold the lock plate in position to hold nut.

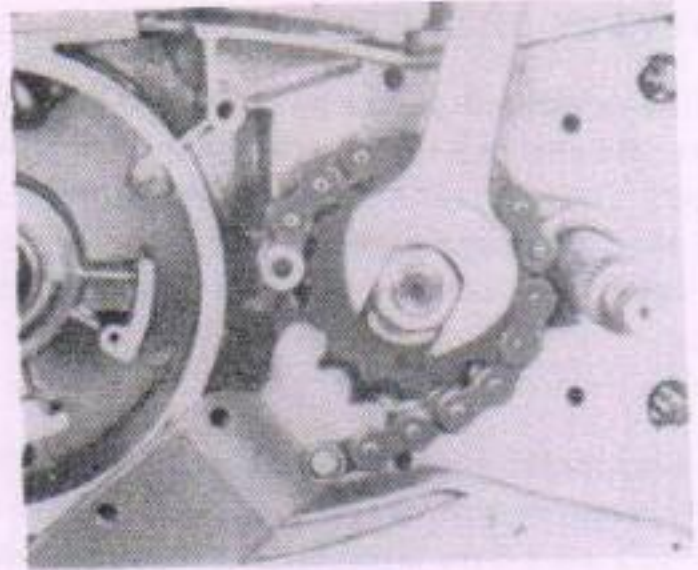


FIG. 73

### 20. GAUGING MAIN DRIVE SHAFT :

Fit the clutch gear, cover plate and clutch nut. Tighten and with wooden spatula SK-E-001 shift the cover plate to the top position. Then with the depth vernier inserted through marking bore, measure distance to the clutch bell.

Example = 29.2 mm.

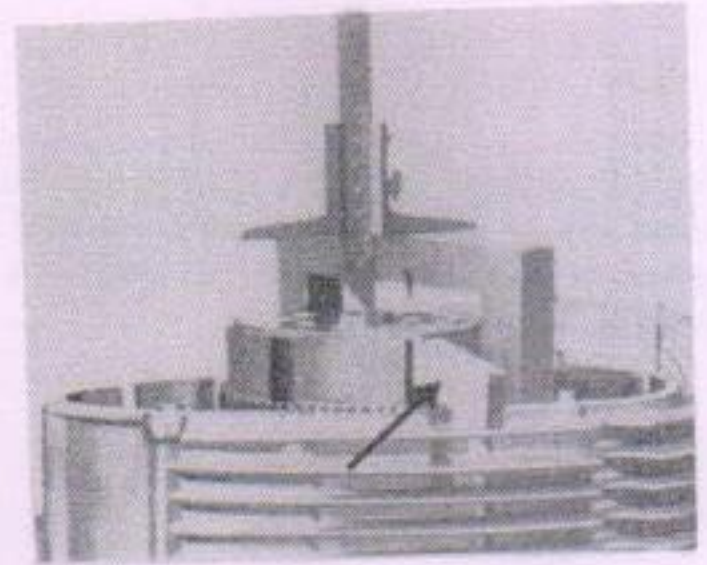


FIG. 74

Take the wooden spatula away from the cover plate and then press the main drive shaft down all the way to the stop and measure the distance again.

Example = 28.4 mm.

29.2 - 28.4 = 0.8 mm.

Axial play = 0.1 mm.

Shims required = 0.7 mm.

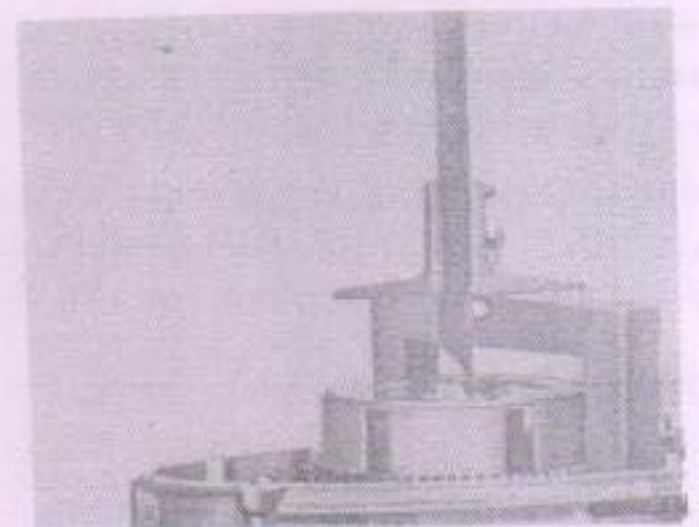


FIG. 75

To obtain the required axial play of 0.1 mm., fit 0.7 mm. shims between ball bearing in clutch bell and clutch pinion.

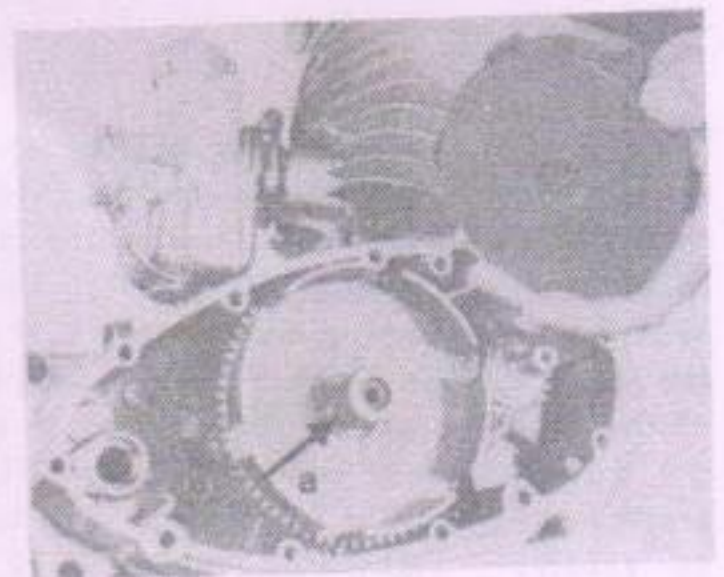


FIG. 76

21. ASSEMBLY OF CLUTCH :

Fit the measured shims onto the main drive shaft. Mount the clutch pinion, clutch hub, clutch, plates, steel plates, anti rattle springs and then fit cover plate, taking care to align the reference mark on the pinion and clutch hub.

To align bores for the spring cups correctly, the clutch hub is marked with a reference line and all plates with internal splines have a punched hole for aligning.

The dished steel plate alongwith two friction plates one on either side, held fast using the anti-rattle springs are to be assembled as a set as shown in figure 78.

Note that the dished side of the steel plate must face the gear box. Having placed the clutch plates in position, fit the cover plate, so that, dished side again faces the gear box.

Having fitted the cover plate and tab washer run down the nut (tightening torque 3.0 to 3.3 Kgm.) using magneto key SK-A-297.

Secure nut by folding in tab washer.

Next, insert the spring cups with clutch springs and fit service tool SK-A-235 with three bolts SK-A-326 and insert thrust plate (with the dished face facing clutch cover) between the clamping bolt of the tool and the clutch springs. Tighten the clamping bolt of the tool and align the thrust plate with the mounting studs until the plate is fully pressed down. Fit the five M4 nuts and tighten evenly. Tightening torque 0.12 to 0.15 kgm. Remove tool and fit thrust pin with radial bearing and shim washers.



FIG. 77

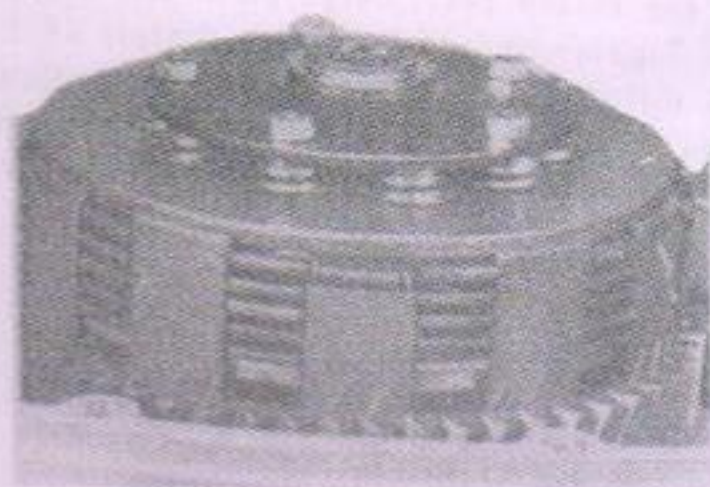


FIG. 78

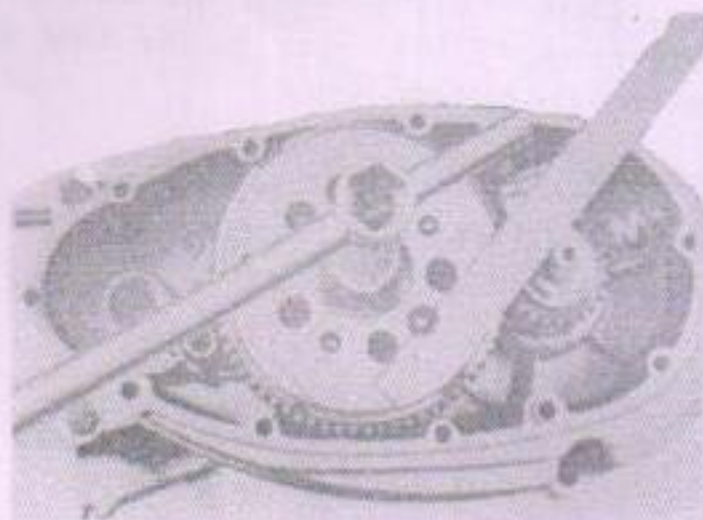


FIG. 79

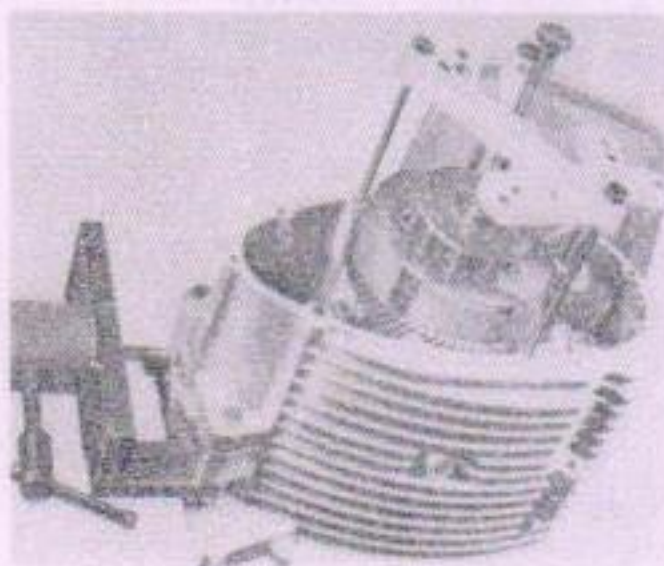


FIG. 80

## 22. SETTING CLUTCH TONGUE AND CLUTCH :

To obtain the largest possible resetting range for the clutch the thrust pin should contact at the centre of the clutch pad. To do this, first coat the pad with chalk, then fit the clutchcover with gasket using four cover mounting screws. Operate the clutch actuating arm on the housing and then remove the cover and check whether the clutch pad contacts the thrust pin roughly at the centre. If it does not, reset with the screw for the clutch pad on the cover to the required level.

Again mount the Clutch cover with 4 mounting screws, and check the Clutch actuating arm play at the clutch cover. It should be possible to move the clutch actuating arm by hand from its position of rest by about 2 to 3 mm, at the hook for the clutch cable. If the play is less or more, correct by removing or fitting the appropriate number of shim washers under the thrust pin.

## 23. ASSEMBLY OF GEAR SELECTOR SPINDLE :

Introduce the foot shift shaft assembly into the kickstarter shaft and while assembling it in position ensure that :

- a) the helical groove engages with the sliding pin on the shift fork assembly,
- b) the tapered groove on the pawl deflector engages with the pin on the crankcase R.H.

Oil all moving parts.

## 24. MOUNTING THE CLUTCH HOUSING COVER :

Insert 2 press-fit dowels into the right hand housing half, fit the gasket, then the clutch housing cover. Fit the 11 housing screws :

- 3 Screws M6x140 (a)
- 8 Screws M6x154 (b)

and run them down at a torque of 0.75 to 0.85 kgm.

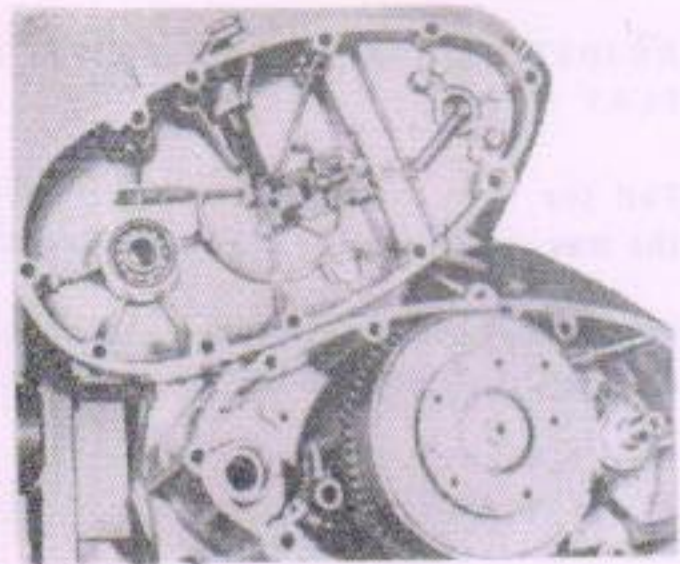


FIG. 81

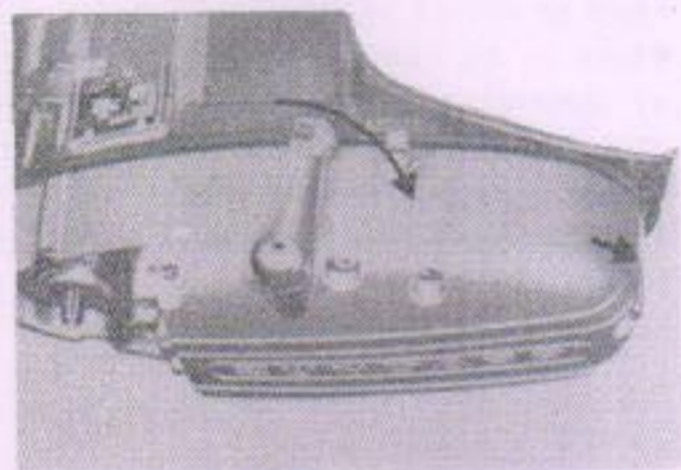


FIG. 82

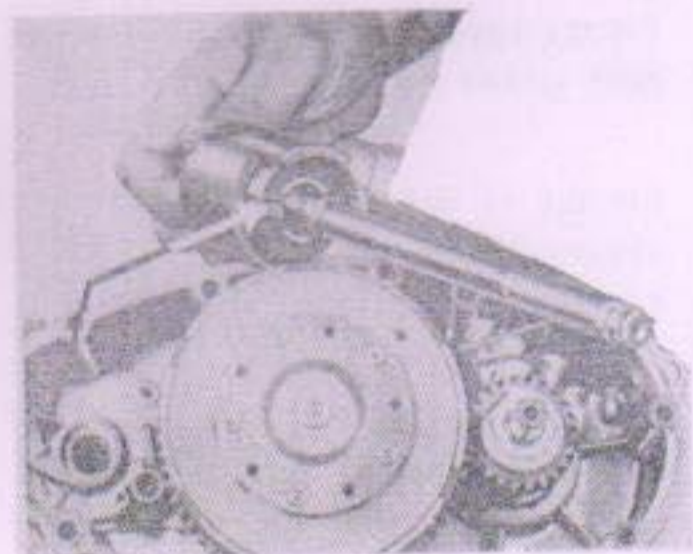


FIG. 83

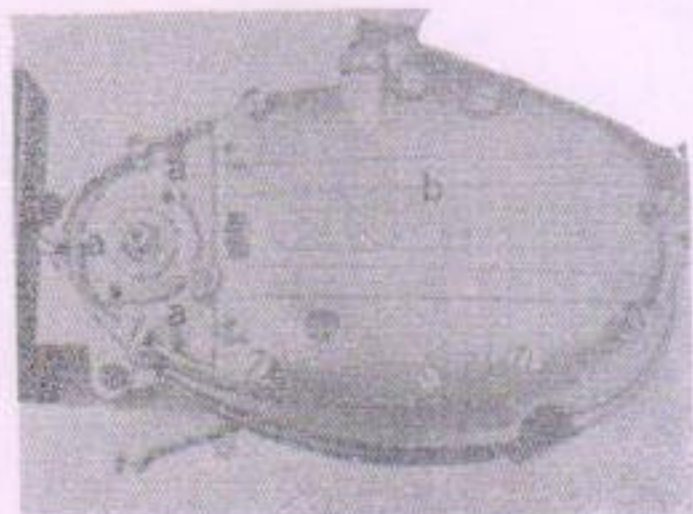


FIG. 84

25. ADJUSTING THE FOOT SHIFT SHAFT PLAY :

Pull the foot shift shaft towards the left all the way to the stop as shown, in figure 85.

Screw the setting dome by hand until it just contacts the clutch cover.

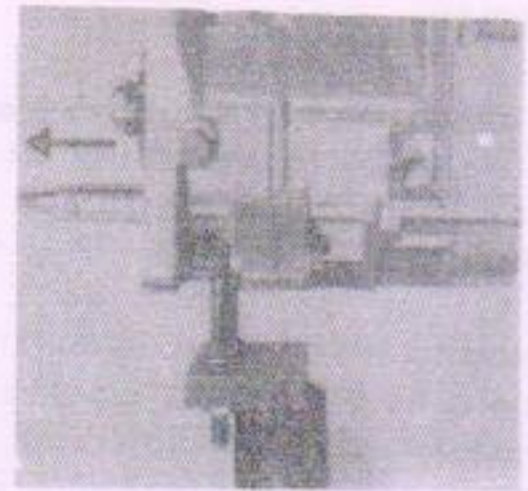


FIG. 85

Push the foot shift shaft towards the right hand as shown in figure and screw the setting dome in by hand again counting the number of quarter turns until it just contacts the clutch cover housing. Now unscrew the dome by half the number of quarter turns counted. Fix the lock plate and screws and secure them firmly.

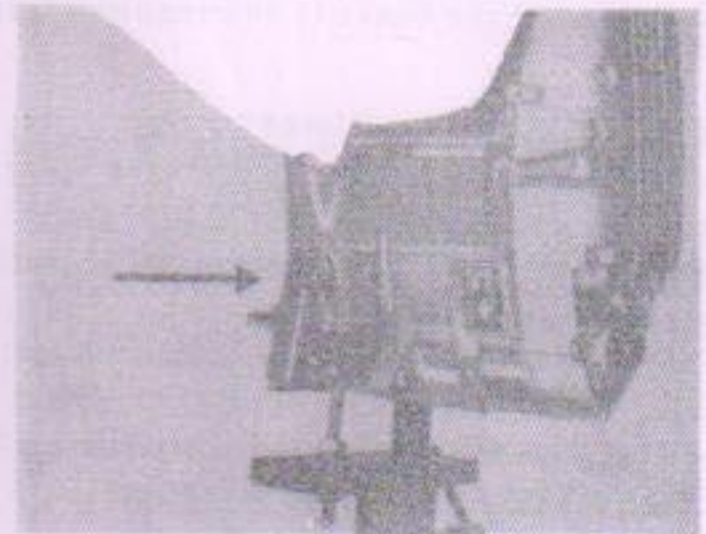


FIG. 86

26. FITTING CLUTCH INSPECTION COVER:

Fit the cover and secure with the two counter sunk screws M 5x20.

Fit the oil drain plug. Fill the engine with approximately 650 ml. of SAE 50 grade engine oil and tighten oil filler plug.

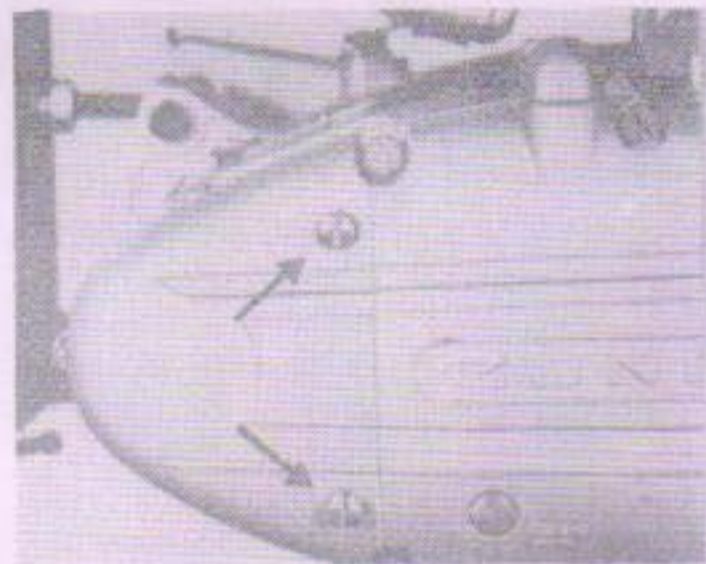


FIG. 87

## 27. INSPECTING CONNECTING ROD :

Fit gauging mandrel ZSK-351-4 along with needle roller bearings into connecting rod small end. Turn the crankshaft until mandrel lies against crankcase front seating face. The gap between the mandrel and the face must be the same on both sides. Reverse the mandrel and compare the values. Repeat the above procedure with mandrel against the rear seating face of the crankcase. The gap between the two must be the same on either side.

Correct any deviation by straightening out the connecting rod with the service tool MV-6-115.

Fit cylinder base gasket in position.

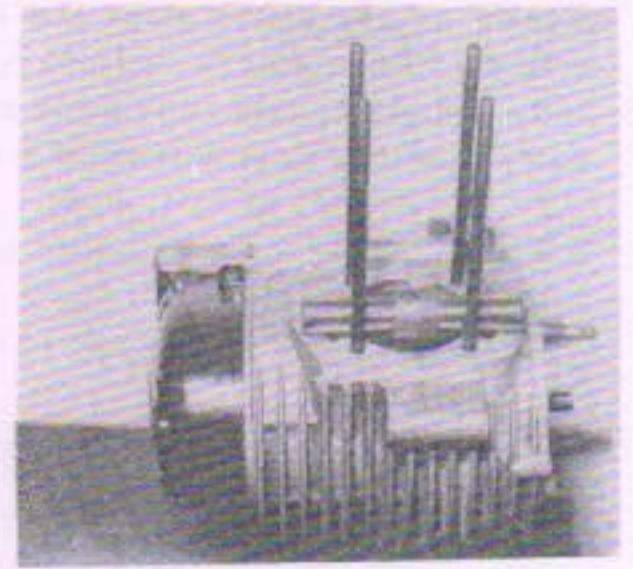


FIG. 88

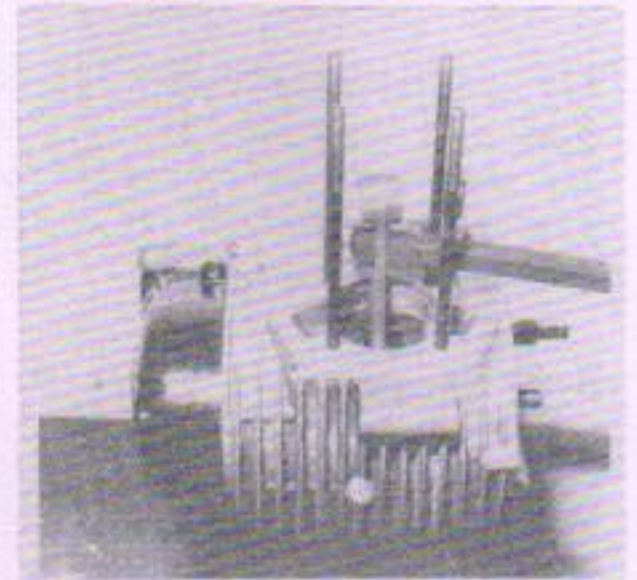


FIG. 89

## 28. MOUNTING PISTON AND CYLINDER :

Fit the piston with the arrow mark on the piston crown facing towards exhaust port. Introduce small end needle roller bearing into the connecting rod small end. Then introduce gudgeon pin with the insertion tool SK-E-025, taking care to support the connecting rod, with your thumb. Cover the mouth of the crankcase with a clean cloth, and fit the circlips. Remove the cloth.

Fit piston rings and support piston with the special fork tool SK-E-002.

NOTE : Top ring - 'L' ring.  
Bottom ring - 'R' ring.

While fitting piston rings, check ring gap by fitting inside the cylinder. The recommended ring clearances in service are :

'L' Ring = 0.05 mm. to 0.2 mm.  
'R' Ring = 0.2 mm. to 0.4 mm.

If the gap is more than recommended, replace with new piston rings.

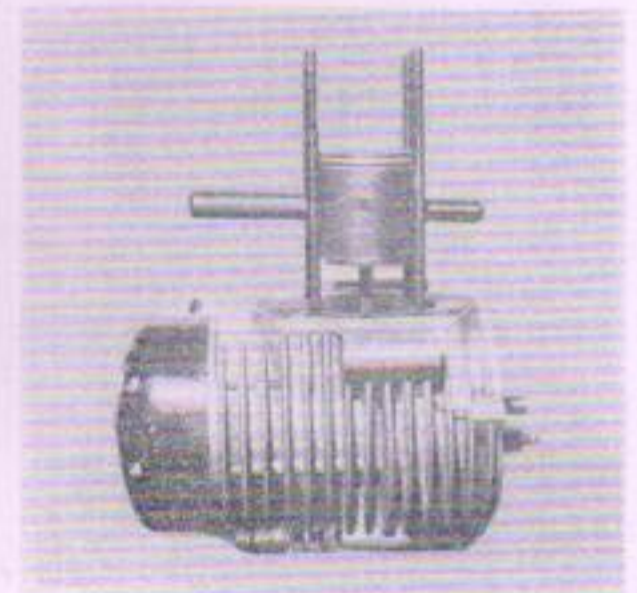


FIG. 90

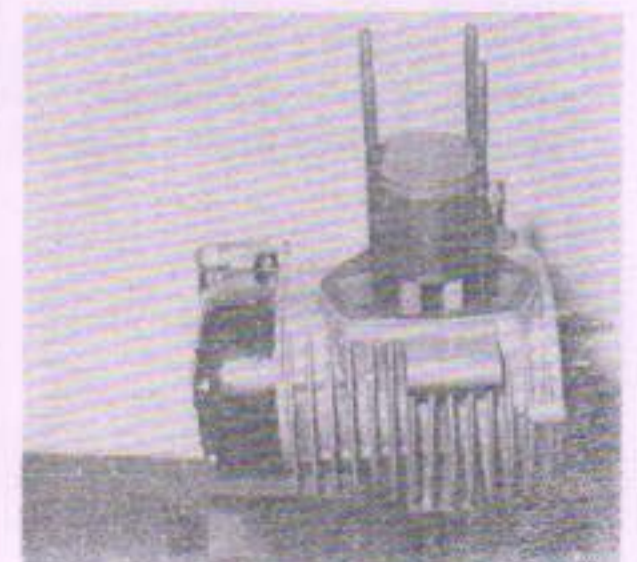


FIG. 91

Gently oil the piston rings and inside bore of cylinder. Fit cylinder. Introduce piston carefully and gently into cylinder to ensure smooth entry of piston rings without any damages.

**NOTE:** Take care to locate piston rings in their grooves properly.

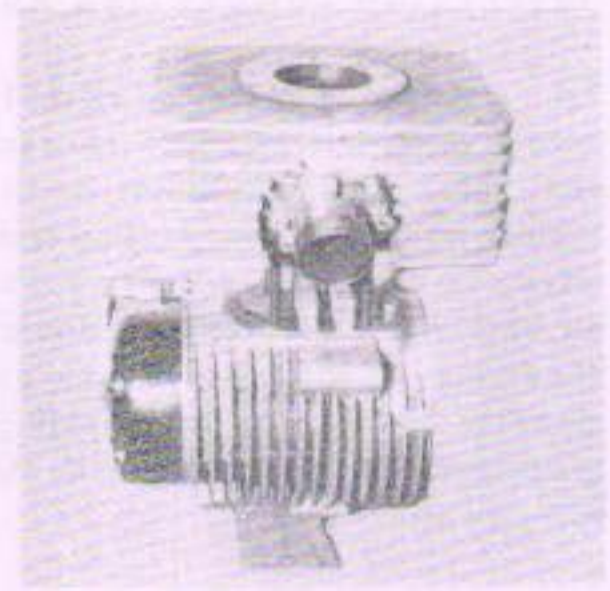


FIG. 92

Fit cylinder head gasket. Assemble cylinder head with spark plug, taking note to assemble the chamfered portion of the inside to be on exhaust port side. This is very important for effective scavenging.

Assemble the eight thick washers along with 4 Nos. of M8 nuts and 4 Nos. of M8 allen cap screws. To ensure uniform seating of cylinder head, work on nuts/allen screws diagonally.

Tightening torque 1.8 to 2.0 kgm.

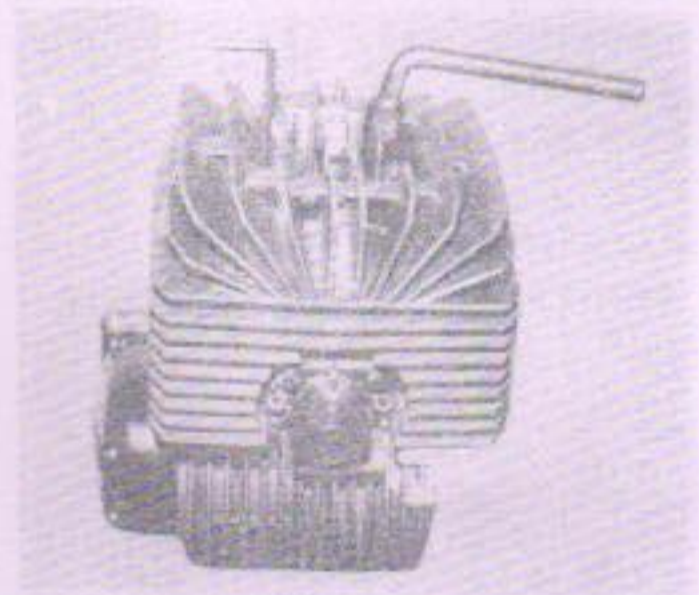


FIG. 93

## 29. MOUNTING MAGNETO:

Take the adaptor plate, clamping piece and magneto stator coils. Loop the wires through the clamping piece and assemble the adaptor plate and clamping piece using 4 C'SK screws M4 x 16 in position.

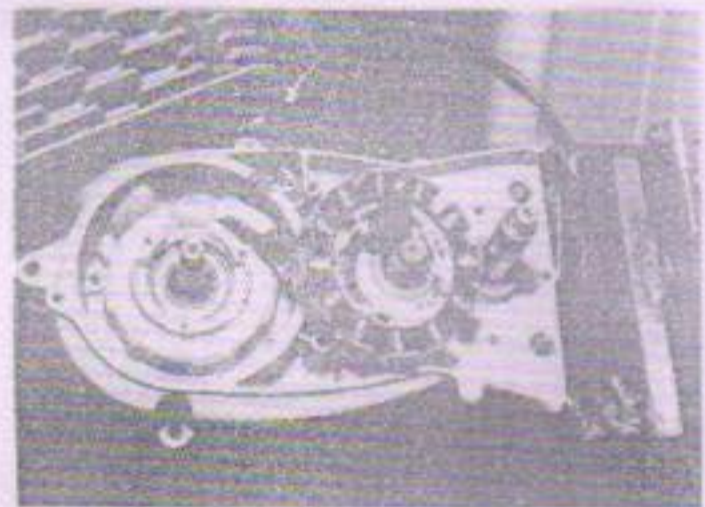


FIG. 94

Assemble the magneto stator coil assembly using 3 Nos. M4 x 25 cheese head screws and washers. Route the wiring harness into the opening provided on the crankcase LH.



FIG. 95

Fit woodruff key into the slot on the crankshaft. Thoroughly clean the crankshaft and inside bore of the rotor to be free from oil, grease, etc. Assemble the rotor ensuring key way to align with woodruff key. Tighten magneto rotor by holding it using special tool SK-A-297.

Tightening torque 3.5 to 4.0 kgm.

Mount the dial gauge in place of spark plug. Identify the TDC. Set dial to zero. Check whether the marking on magneto rotor coincides with mark 'A' on crankcase.

Rotate the magneto rotor clockwise to coincide with mark 'B' on crankcase. The dial would read 1.8 to 2.0 mm. Mark 'B' on crankcase is the spark timing mark.

Take a 2 mm. dia pin and insert it through the hole in trigger magnet carrier plate. With the piston at spark timing mark 'B', this hole should align with the blind hole on the pick up coil. If required, adjust the stator by rotating it to bring in correct alignment.

### 30. CHECKING IGNITION TIMING :

The ignition timing can be checked only with the engine running. Mount the engine on vehicle frame, connect wiring, carburettor, fuel lines, silencer assy., etc.

Fit spark plug with the timing light in series with it.

Start the engine and run around 3000 rpm. Hold the timing light against the mark on crankcase/Rotor. The light output from timing light, would make the line on magneto appear as a stationary line.

If the lines on magneto and crankcase line 'B' coincide, then the timing is perfect.

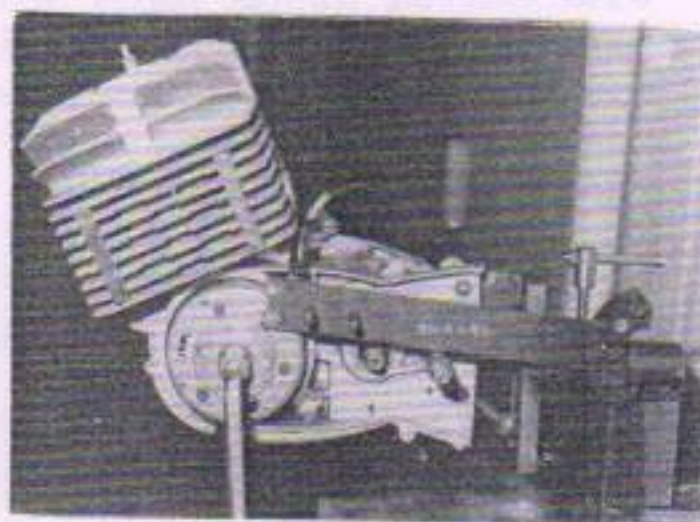


FIG. 96

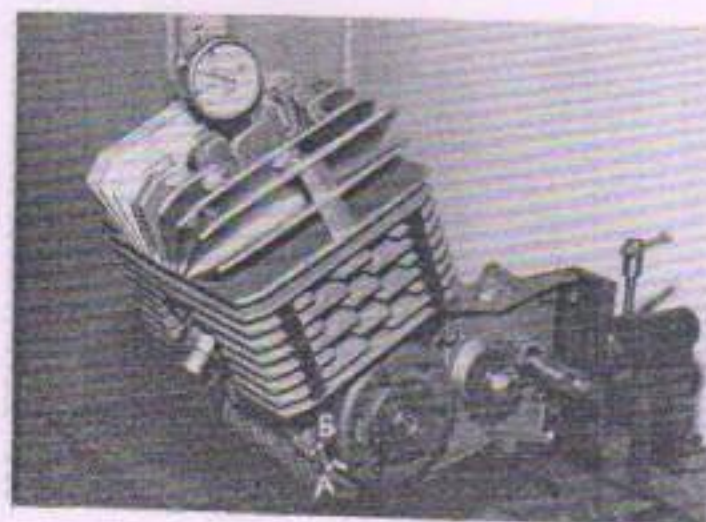
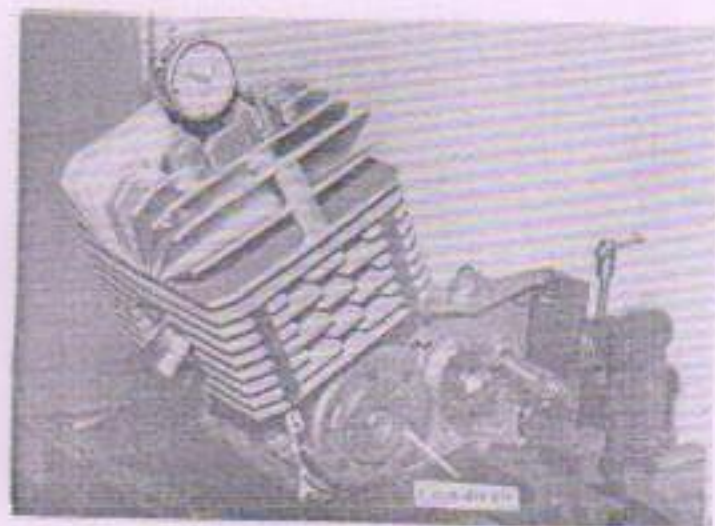


FIG. 97



FIG' 98



FIG. 99

### 31. SETTING IGNITION TIMING :

While checking ignition timing, if the rotor mark appears to be before or after the crankcase Mark 'B' in the direction of magneto rotation (advance or retard respectively) note the difference.

- a. Loosen three screws located on face of rotor for the trigger magnet carrier plate.
- b. Rotate the plate in clockwise or anticlockwise direction to correct advance or retard errors respectively.
- c. The amount of correction made can be measured by the angular markings provided on one of the windows of the rotor.
- d. In case the adjustment is beyond the scope provided on rotor, then remove rotor.
- e. Loosen the three mounting screws of the stator assy. and adjust the stator assy. for required correction.

**NOTE :** For correcting advance error the stator plate has to be rotated in anticlockwise direction and vice versa.

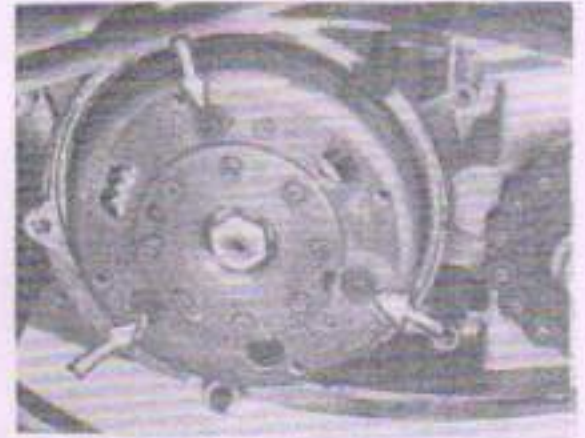


FIG. 100

### 2. MOUNTING BALANCING WEIGHT :

Mount the balancing weight with 4 Nos. M5 x 16 cheese head screws alongwith plate washers and spring washers.

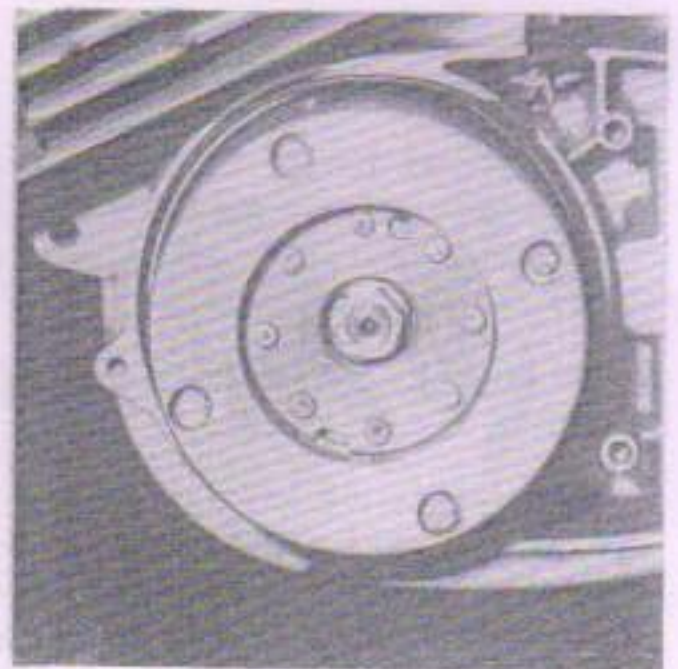


FIG. 101



### 33. ASSEMBLY OF KICKSTARTER :

Fit the kickstarter spring 'C' in such a way that the spring can be tensioned in anti-clockwise direction from the inside of the cover. Grease the spring well. Fit the cover plate 'B' so that the lug on the inner diameter of the coverplate fits into the eyelet of the spring. Fit the kickstarter pedal through the plate from the other side, so that, it engages in the larger shoulder. Hold the casing cover with one hand and pre-tension the kickstarter spring by turning the kickstarter pedal lever through almost one revolution, until the stop nose of the coverplate lies in front of the top stop on the cover. Finally, fit the circlip.

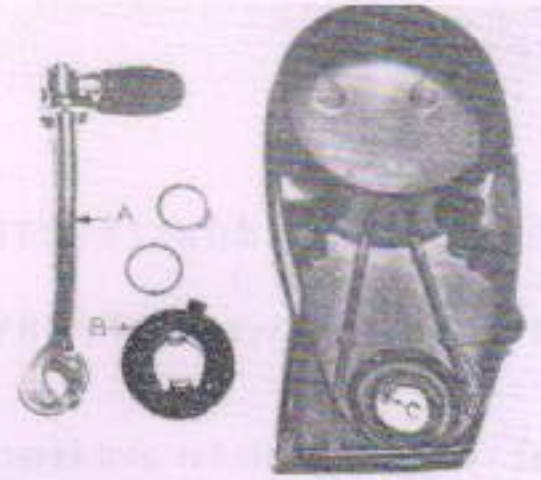


FIG. 102

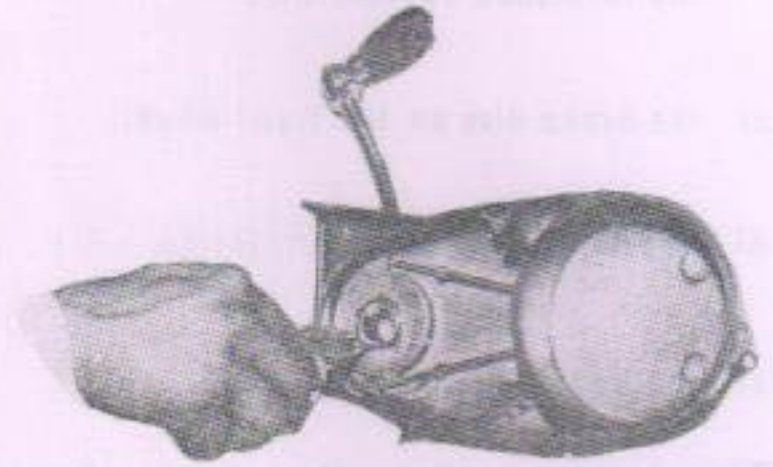


FIG. 103

### 34. FITTING MAGNETO COVER :

This must be done after the chain has been assembled on the sprockets.

Assemble the magneto sealing 'O' ring and then mount the LH cover. Secure, using 2 screws M6x55 and a M6x22 screw. Tighten fully.

Fit the gear change lever assembly.



FIG. 104

## DISC BRAKES

### 1. OPERATION & CONSTRUCTION :

The disc brake system of FURY comprises of:

- a) a master cylinder and reservoir on the RH side of handle bar,
- b) a caliper assembly of the double piston type with two friction pads mounted on the fork tube bottom LH,
- c) the brake disc on the front wheel,
- d) hydraulic hose pipe connecting a & b,
- e) the hydraulic fluid.

The braking action is achieved by the hydraulic pressure from the master cylinder actuated by the front brake lever operation. This hydraulic pressure operates the disc pads in the caliper assy. to work on the disc, of the wheel. As such it is imperative to maintain the brake fluid level in the reservoir. The reservoir has provision to indicate the max. and min. oil level. If required top it up with BHARAT HEAVY DUTY OR DOT 3 BRAKE FLUID.

When handling the disc brake fluid, observe the following precautions :

- a. Brake fluid absorbs moisture (Hygroscopic) very quickly and then becomes useless.
- b. As such never reuse brake fluid drained or flushed from the system.
- c. Never use brake fluid from an old or unsealed container as this would have been contaminated with moisture in air.
- d. Do not allow the brake fluid to contact painted surfaces as it can remove the paint finish.

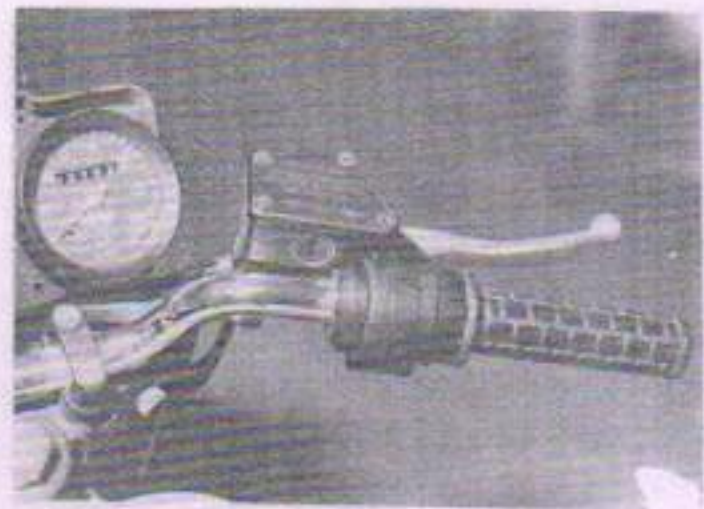


FIG. 105



FIG. 106

## 2. FLUSHING :

The disc brake system should be flushed out (i.e. draining the old fluid and refilling with fresh fluid) once in every 10,000 kms. or 12 months, whichever occurs earlier .

This is required to keep the system in good operating condition .

- a. Use only DOT 3 or Bharat Heavy Duty brake fluid.
- b. Attach a length of plastic tube to the bleeder nipple of the hydraulic unit (caliper assembly) as illustrated. Immerse the other end of the plastic tube in a trough of new brake fluid contained in a glass beaker.
- c. Unscrew the bleeder nipple about 1/2 turn.
- d. Apply the front brake lever slowly, allowing it to return unassisted. Repeat this operation by allowing a slight pause between each brake application.
- e. Keep topping-up the fluid level in the reservoir using fresh fluid, whenever it falls to min. level and continue.
- f. when clean fluid, which is completely free of bubbles emerges from the plastic tube in the beaker, the flushing operation is completed.
- g. Now apply the brake lever hard, hold it and tighten the bleeder nipple. Fit the rubber cap over the nipple.
- h. Check fluid level in the reservoir and fill it up, if required to correct level.



FIG. 107

## 3. BLEEDING :

Bleeding the braking system is required whenever.

- a) the hand brake lever travel is excessive and
- b) the brake action is not effective and spongy.

The bleeding procedure is identical to that of flushing the system as described above, except that it is only necessary to continue the process of hand lever operation, and topping up with new fluid, until the bubbles cease to come out of the plastic tube.

#### 4. FRICTION PAD REPLACEMENT :

The friction pads (2) are held in position inside the caliper assembly by means of 3 fixing pins and a tension clip.

In order to remove the friction pads,

- a) Remove the inspection cover, withdraw the three fixing pins & tension clip
- b) The 2 friction pads can now be lifted up from the caliper assembly.
- c) Inspect the pads for uneven or excessive wear or scoring. The min usable thickness of friction pads is to the bottom level of the groove,
- d) Clean the pads with the aid of a soft brush. Do not use any solvent or wire brush for removing deposits from the pads.
- e) Smear the piston faces and brake pad recesses lightly with disc brake fluid and assemble the wheel.
- f) Assemble friction pads, fixing pins, clip and cover in position.
- g) Rotate the front wheel, apply brakes several times to align the pads. Gently loosen the front wheel axle nut, rotate the wheel, tighten the wheel with the brakes applied.

#### CAUTION :

When new friction pads are fitted, it takes atleast 100 Kms. of run for them to bed-in. During bedding-in period, avoid hard brake application .

It is always recommended to fit the friction pads as pairs only.



FIG. 108



FIG. 109

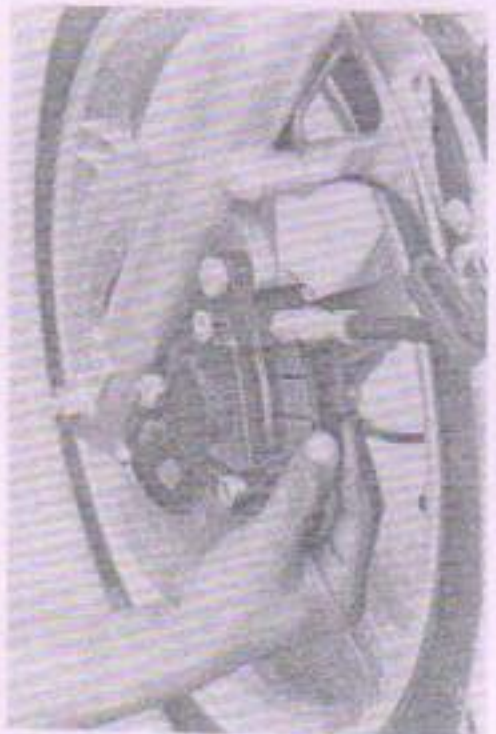


FIG. 110

# CARBURETTOR

## 1. FUNCTION :

The function of the carburettor is to provide combustible air-fuel mixture, by breaking the fuel into tiny particles ( in the form of vapour) and by mixing the fuel vapour with air in a proper ratio and deliver it into the engine.

In general, all carburettors are designed to provide the engine with the desired ratio of atomised fuel-air mixture at the required quantity levels to cater to both road and load speed of engines.

In the MIKCARB Carburettor fitted to 'FURY' Motorcycles the atomisation and mixing of fuel and air is carried out by, 3 systems, viz.

- a) Pilot jet system
- b) Main jet system
- c) Starting jet system

Pilot jet system :

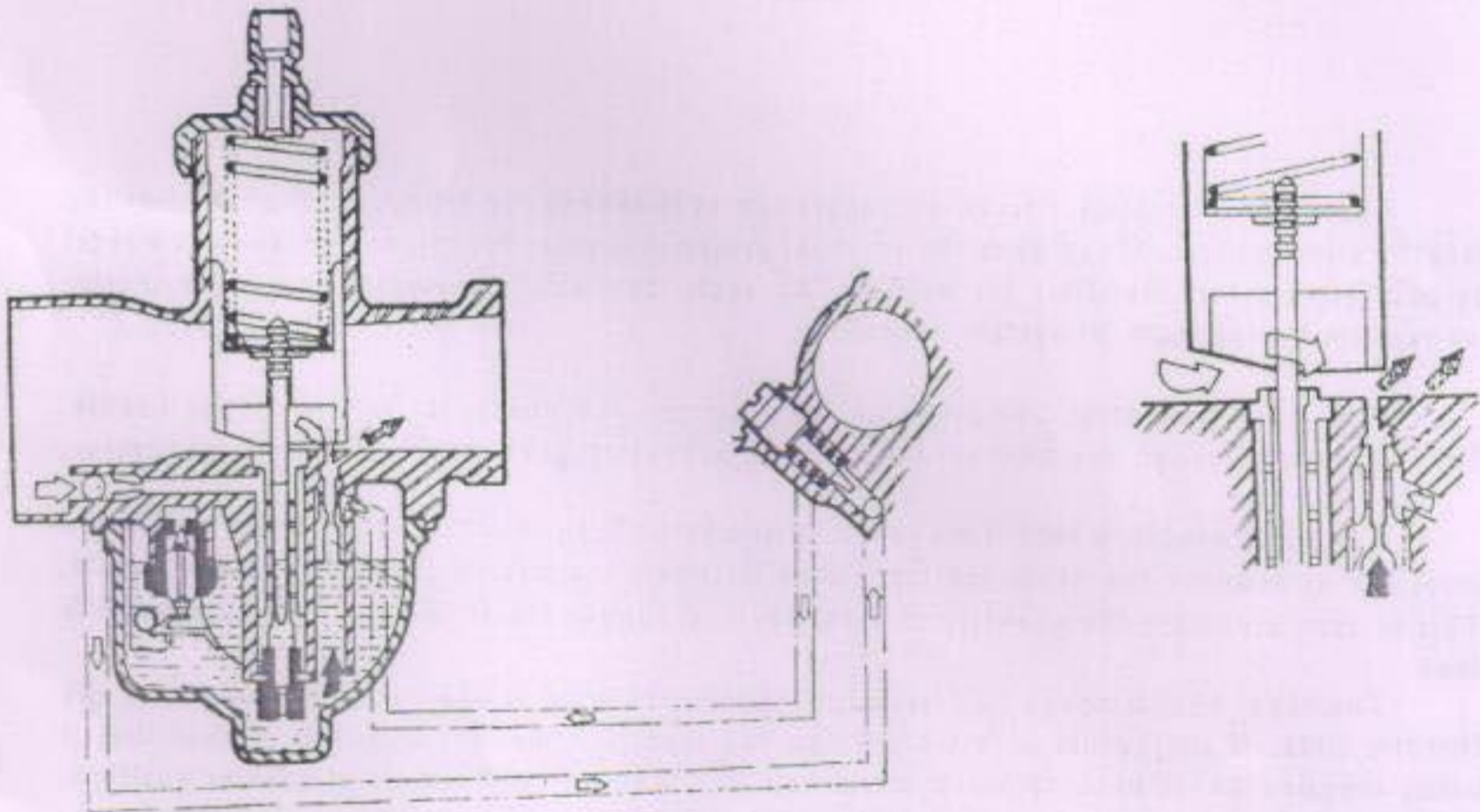


FIG. 111

The pilot jet system supplies the engine requirements at lower engine speeds only, i.e., during idling rpms. This function is carried out by the pilot jet and pilot air screw. The pilot air screw governs the air fuel mixture ratio. Adjusting the screw by screwing-in beyond the specified limits would make the mixture rich and vice versa.

Main jet system :

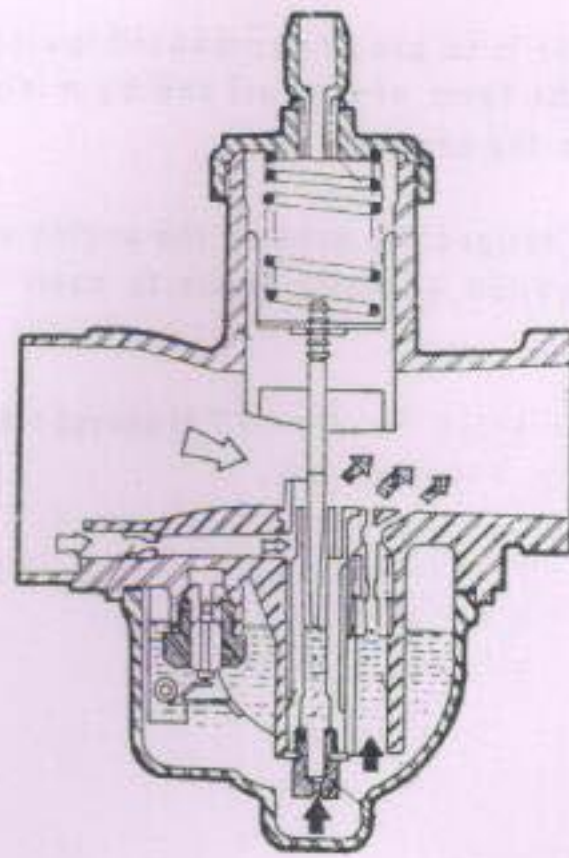


FIG. 112

The main jet system comes into operation at speeds above idling, i.e. the moment the throttle slide is lifted. When once the main jet system becomes functional, it provides a total by-pass circuit for the pilot jet system. As such, the pilot jet system becomes totally inoperative during main jet system operation.

The main jet system comprises of the main jet, the needle jet and the taper needle. The fuel flows through the main jet (also known as metering jet) during the main jet system.

The taper needle, which is mounted on the throttle slide, while operated up and down increases or reduces the cross sectional area between the needle jet bore and the needle. This in turn monitors the quantity of atomised fuel supplied with respect to engine speed & load.

The taper needle shank has five grooves in it, so that, it can be set in relation to the throttle slide. If the needle is set higher on the throttle slide, the quantity of fuel that is being supplied would become much more than, if it would have been set at a lower position. However, it is to be noted that the fuel supplied is governed by the above mechanism only on part throttle condition. With the throttle fully opened, the fuel supplied is monitored by the main jet only.

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## Starting jet system :-

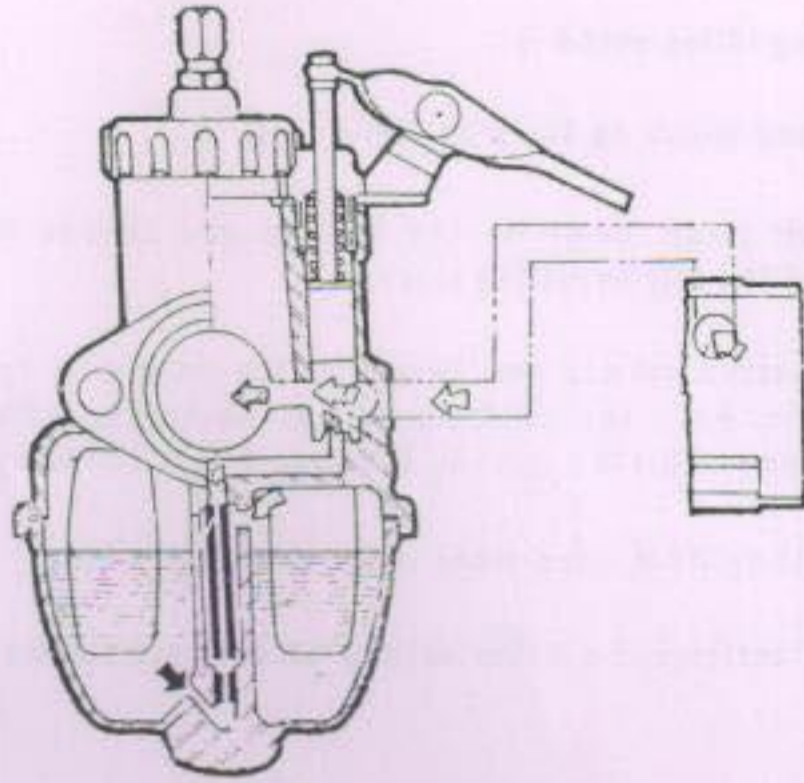


FIG. 113

The starting jet system provided in this carburettor is to aid starting, under adverse condition such as that experienced during cold winter mornings.

The starting jet system comes into operation, when the choke lever is pushed down and thereby lifting the choke plunger from its seat. This enables an additional quantity of fuel to be supplied to the engine in addition to that of pilot jet system.

This action makes the fuel air mixture to become richer for better starting ability.

### 2. MOUNTING :

Special care must be exercised while mounting the carburettor. It should be ensured that the carburettor is positioned vertical and fitted firmly into the inlet manifold. There must not be any air/gas leak at this joint, as otherwise a steady idling speed cannot be achieved.

### 3. SERVICING :

The carburettor should be cleaned thoroughly with petrol only. Ensure that all parts are in serviceable condition. Before mounting the carburettor, always ensure that the slide is free to move up and down by operating the throttle twist grip. Also, ensure that the starter piston (choke plunger) is properly set in position.

#### Caution :

Never use sharp instrument or wire to clean the carburettor parts. If the passages are blocked, make use of high pressure air. Handle all parts with great care and gently. Run down any threaded connection lightly. Never use force.

#### 4. SETTING IDLING :

It is always recommended to set idling speed of the engine while the engine is still warm, i.e. after a short run.

The procedure for setting idling speed is :

- a) Start the engine and warm up for 2 to 3 minutes.
- b) Turn the pilot air screw down to the bottom and reduce the engine RPM to the slowest rate, using the idle adjusting screw.
- c) Open out the air screw slowly and keep a watch on engine speed. At a point, engine speed will increase. Find the position where the engine RPM is maximum and the engine firing uniform. This is normally between  $1\frac{1}{4}$  to  $1\frac{3}{4}$  turns of the air screw.
- d) Now adjust the idling RPM once more with the idling screw.

Besides the above two settings, no other setting of the carburettor is required for normal operating conditions.



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