

CABLE ADDRESS
"SUZUKI HAMAMATSU"
TELEPHONE
Hamamatsu (0534) 47-1111
TELEX
4225-122 SUZUKI HAM

SUZUKI MOTOR CO., LTD.

Hamamatsu-Nishi P. O. Box 1,
432-91, Hamamatsu,
Japan.

Your ref. _____
Our ref. YS-037

Hamamatsu, 19th November, 1973.

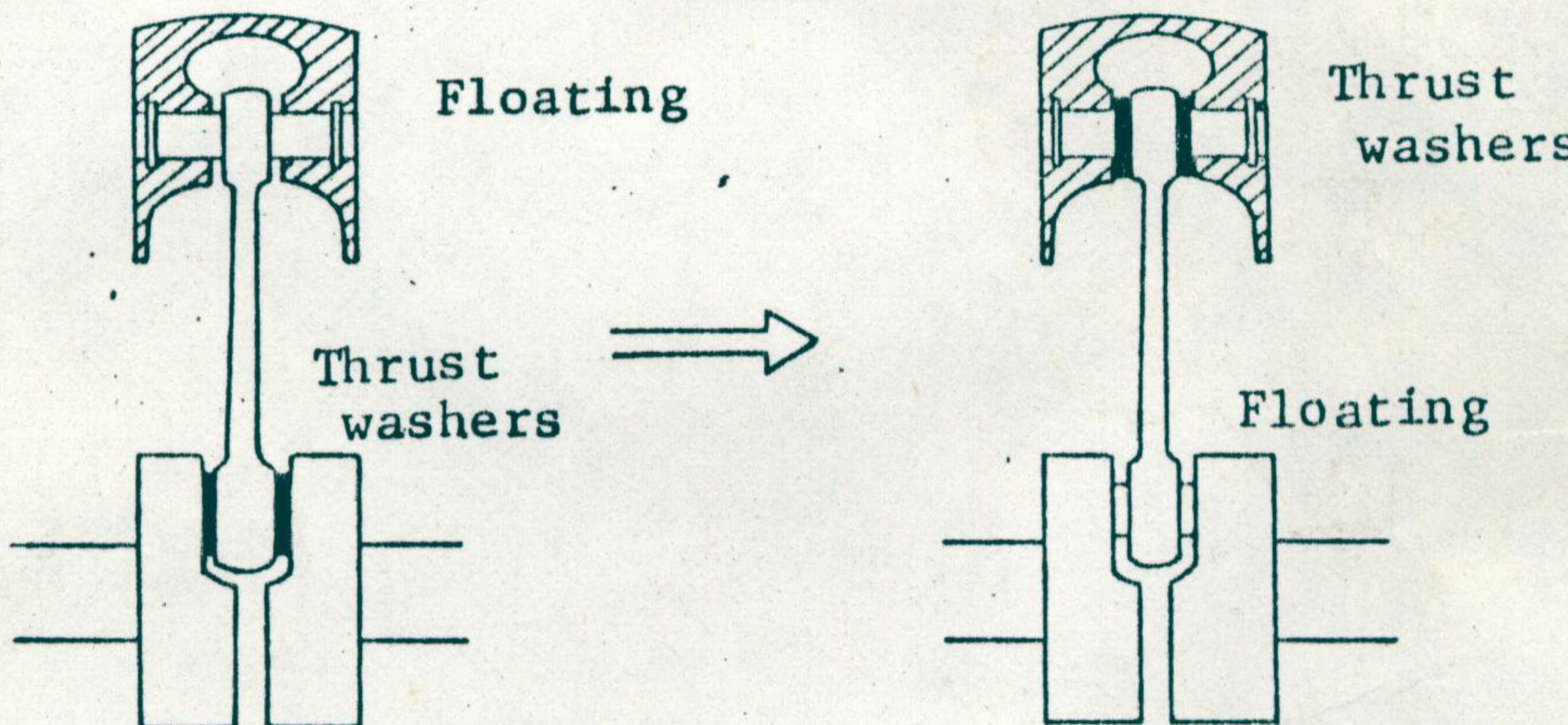
Mortlocks Sales & Service
Box A31, G.P.O.,
Perth 6001,
W.A., Australia

Dear Sirs,

RE: MODIFICATION OF CRANKSHAFT AND PISTON ON TR500-II

Please be advised that we have recently made a modification on Crankshaft and Piston for model TR500-II (water cooled engine).

The modification was intended for increasing the durability of crankshaft in the same way as it was done on model GT750, of which you were informed previously in detail through our Service Bulletin (Issue No. M-045), that is to say, the con-rod has come to be restricted its side-way movement by two washers placed on both sides of con-rod small end in stead of its having been kept in place at the big end with the thrust washers on the crank-pin on the conventional machine.



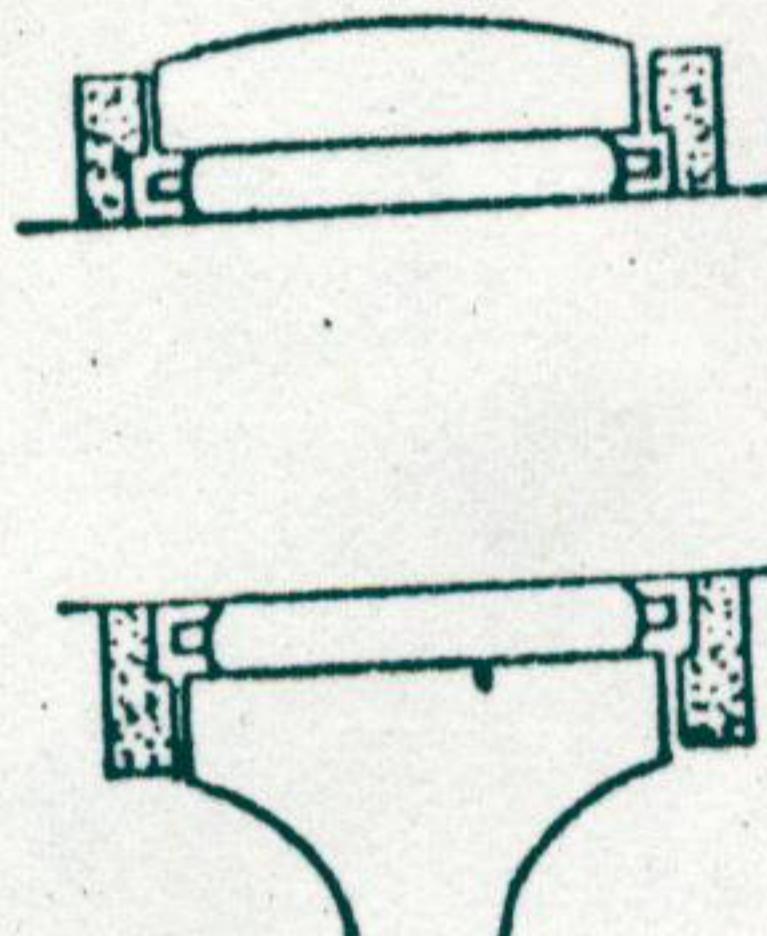
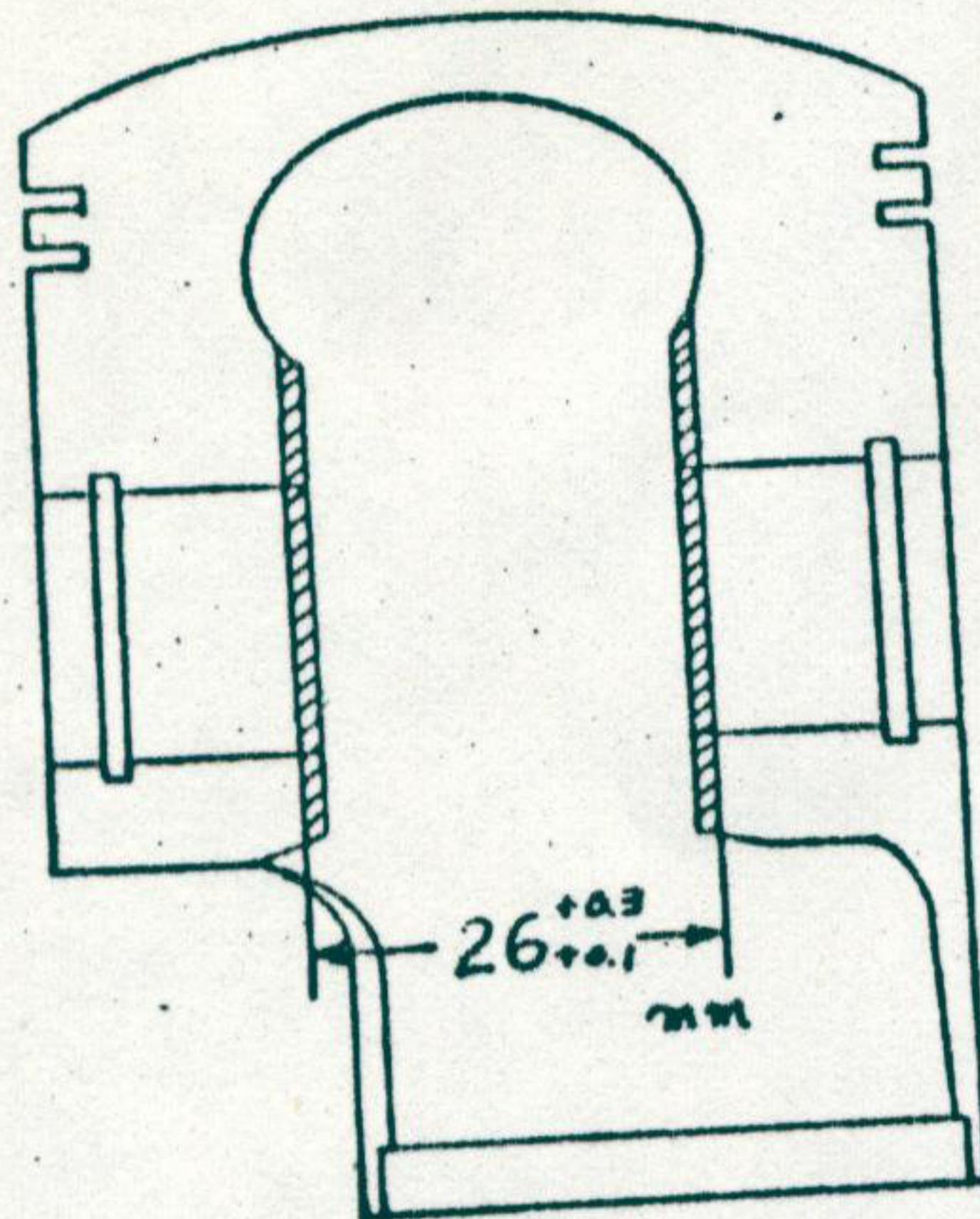
Then, although you may have a crankshaft assembly and several sets of pistons as spare for this model in stock, we send to you this modified crankshaft and pistons including the thrust washers free under separate cargo (By sea).

<u>Part No.</u>	<u>Part Name</u>	<u>Q'ty</u>
12200XR0521	Crankshaft Ass'y	1
12110-15200	Right Piston	2
12120-15200	Left Piston	2
09169-18001	Washer	8

- cont'd -

19th November, 1973.

As you can learn from the above illustration, there is no interchangeability between the conventional and modified crankshafts, however if you cut off the end boss of piston pin hole of spare piston stocked so as to be the specified measure shown below, it can be used.



Please take note of the following points;

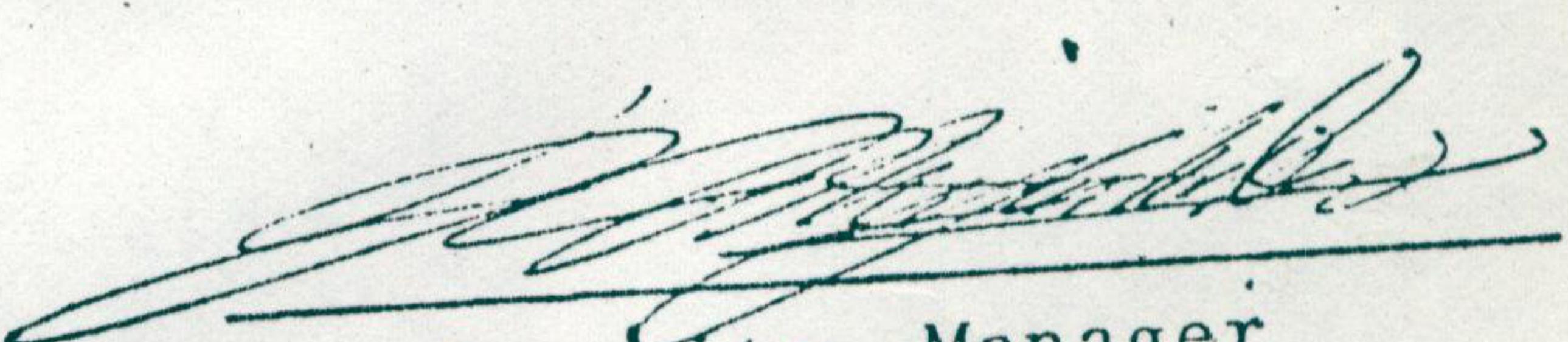
1. Never use the modified piston on the conventional crankshaft.
2. After cutting off the end boss of spare piston, finish the surface with the emery sand paper.
3. Be careful not to install the con-rod small end thrust washer in reverse direction.

We look forward to hearing from you any information in this regard in future.

With kind regards,

Yours faithfully,

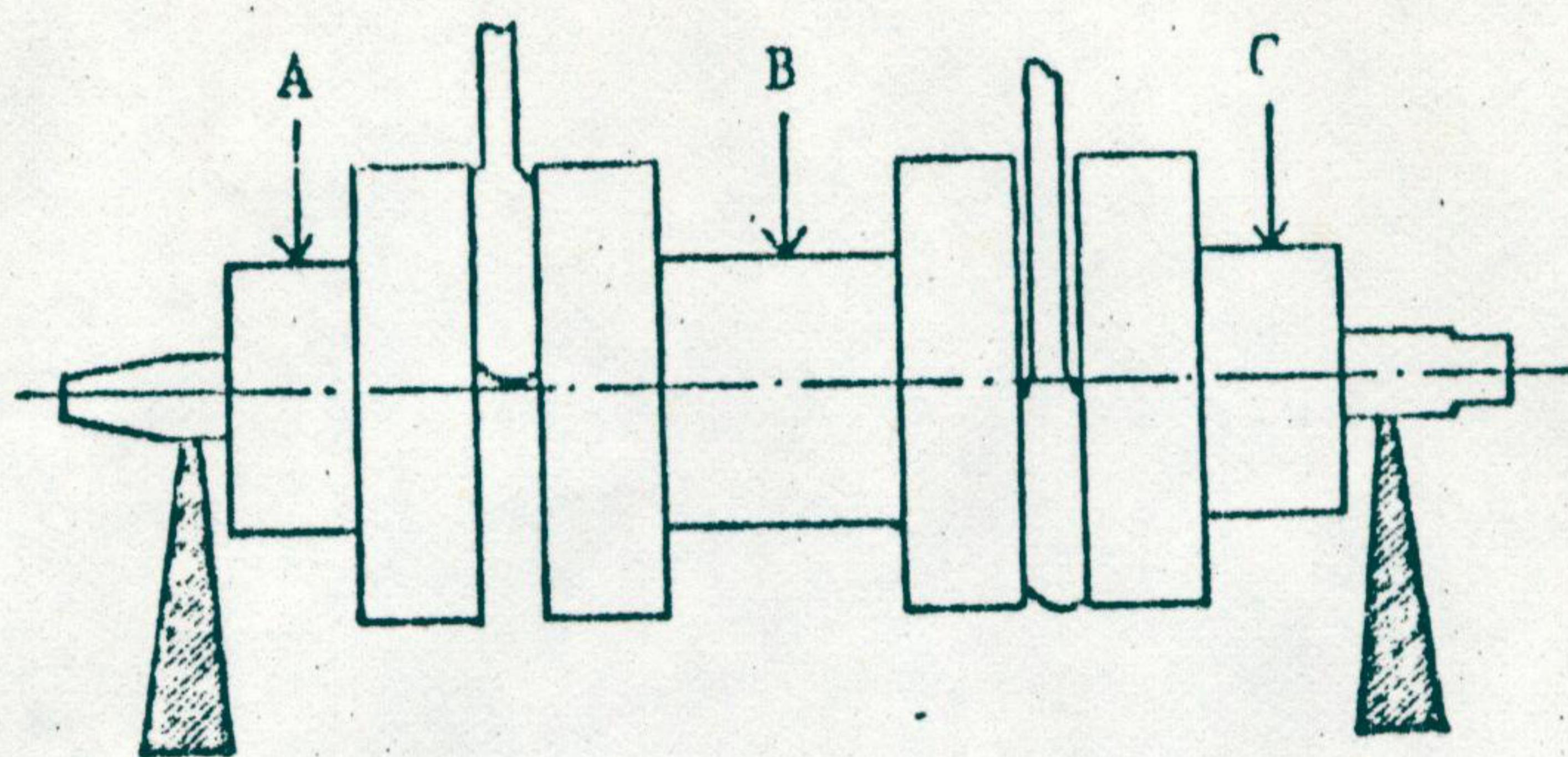
SUZUKI MOTOR CO., LTD.


T. Miyashita, Manager
International Service Dept.

KN/to

* Deflection of crankshaft assembly

Check the deflection of the crankshaft at the point A, B and C as illustrated with the crankshaft supported at the both end when disassembling the engine and keep the deflection within 0.05 mm (0.002 in.).



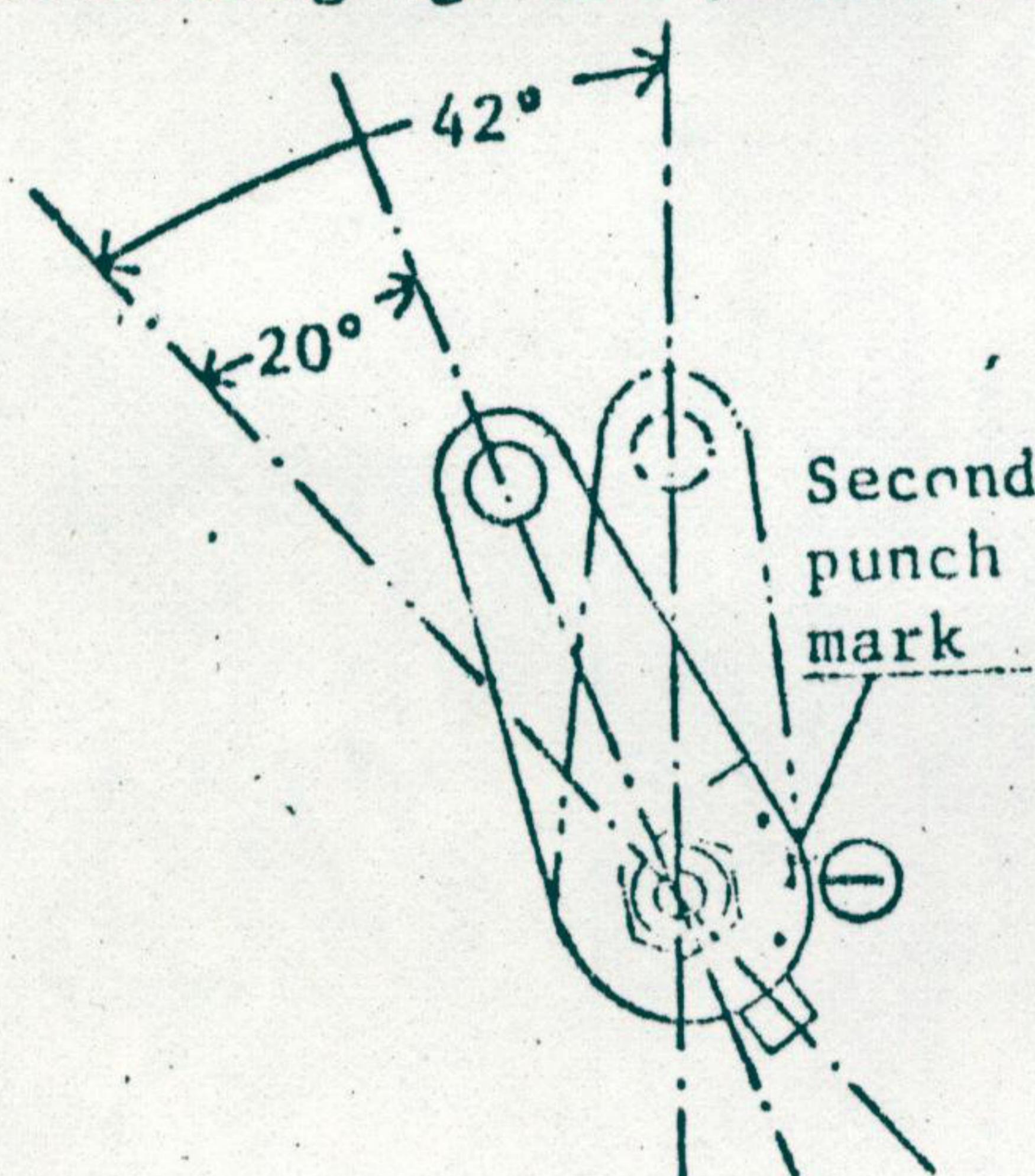
* Liquid gasket for the crankcase

SUZUKI SEAL 99000-31010 is to be used as the crankcase gasket.

* Adjustment of engine oil amount

Usually set the oil pump lever to the position that the second punch mark on the lever aligns with the mark line on the peg of the pump body as shown in the illustration. This is equivalent to approx. 20 degree of lever opening angle.

During the engine breaking-in, however, it is recommended to set the lever at more than 20 degree of opening angle for protecting against piston scuffing.



Lever opening angle	Amount of oil pumped at 6,000 rpm
20 degree	126 cc/h (4.3/4.4 oz, US/Imp)
42 degree	300 cc/h (10.1/10.6 oz, US/Imp)

The specified oil is Shell Super M or Castrol R30.

* Fuel

Gas and oil premixture with ratio of 30 : 1 is to be used.
Specified oil is Shell Super M or Castrol R30.

* Clutch drive plate

When replacing clutch drive plates, it is to be observed to apply transmission oil to both faces of them before assembling.

* Transmission oil.

The specified oil is Shell Super M or Castrol R30.

Amount of transmission oil 1,200 cc (2.54/2.11 pt, US/Imp)

* Adjustment of the drive chain

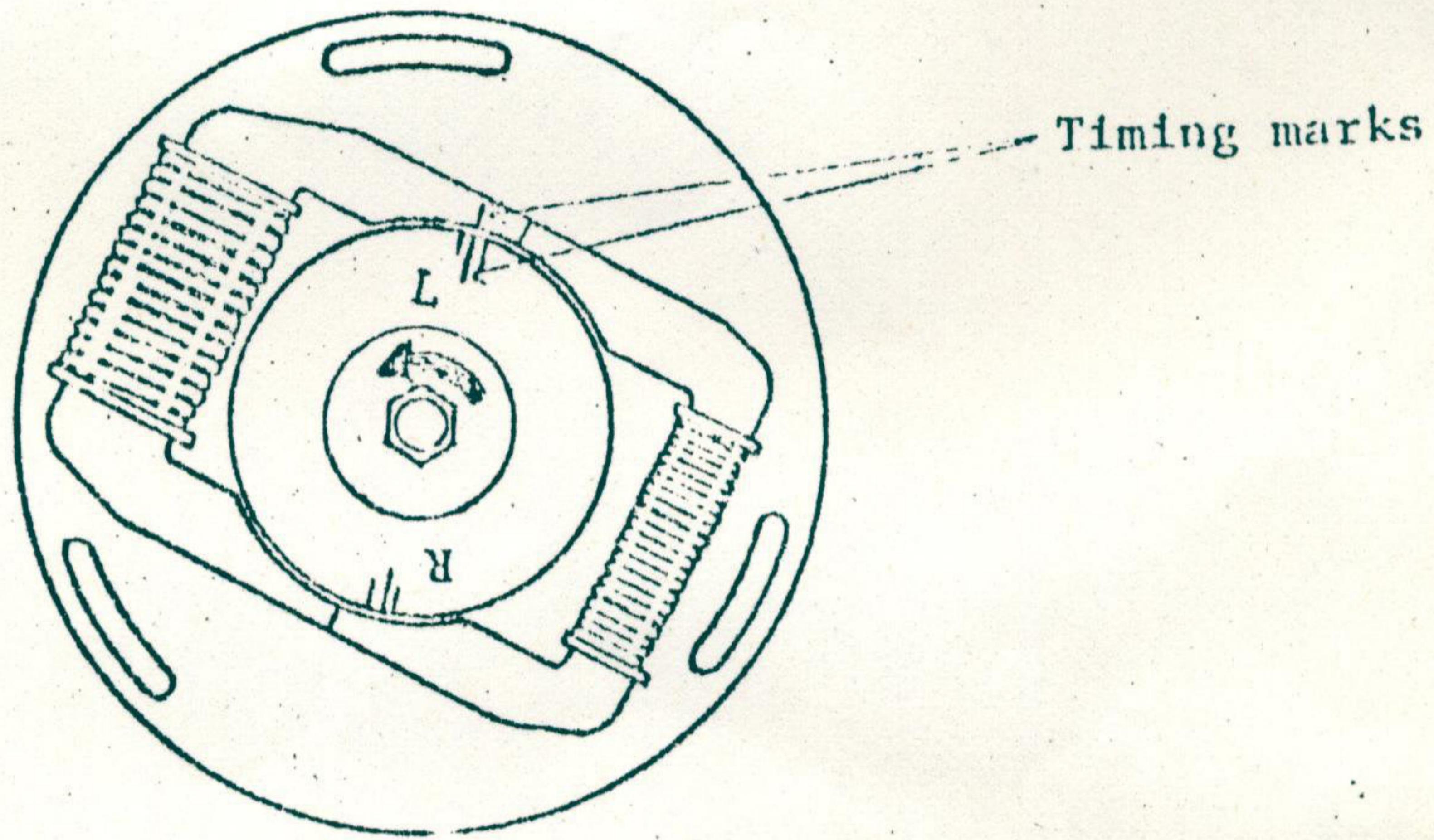
Since the rear swinging arm is comparatively short in length and, in consequence, the drive chain tension varies much in accordance with depressed condition of the rear suspension, the special attention should be paid to the adjustment of the drive chain in its slack.

Adjust the slack of the drive chain so that there is about 10 mm (0.39 in.) at the middle of two sprockets under the condition that the rear suspensions are depressed.

In case the drive chain is brand new, adjust the slack less than 10 mm (0.39 in) in due consideration of primary stretch for it.

* Adjustment of the ignition timing.

Adjust the ignition timing so that the "L" marked line on the inner rotor just aligns with the mark line on the stator when the left side of piston stroke is at 3.1 mm (0.122 in.) before T.D.C..



* Spark plug

Standard spark plug is NGK B-10.5EP. But according to the racing condition, choose the best suitable spark plug from among B-9.5EP, B-10EP, B-10.5EP, B-11EP.

In case the brand NGK is unavailable, BRAND CHAMPION may be used by following equivalent of heat range.

NGK	CHAMPION
B-9.5EP - B-10EP	are equivalent to N59G
B-10.5EP- B-11EP	are equivalent to N57G

* The specified tightening torque of Bolts and Nuts

1. Cylinder head nuts

250-300 kg-cm (18.0-21.7 ft-lb)

2. Cylinder head bolts

150-200 kg-cm (10.8-14.5 ft-lb)

3. Crankcase bolts 10¢

250-300 kg-cm (18.0-21.7 ft-lb)

4. Crankcase bolts 8¢

200-250 kg-cm (14.5-18.0 ft-lb)

5. Crankcase bolts 6¢

100-150 kg-cm (7.2-10.8 ft-lb)

6. Front axle nut

400-500 kg-cm (29.0-36.2 ft-lb)

7. Rear swinging arm pivot

450-700 kg-cm (32.5-50.6 ft-lb)

shaft nut

540-800 kg-cm (39.0-57.9 ft-lb)

8. Rear axle nut

700-900 kg-cm (50.6-65.1 ft-lb)

9. Chain adjuster collar nut

200-250 kg-cm (14.5-18.0 ft-lb)

10. Rear shock absorber nuts

CARBURETOR SPECIFICATION

* Main Jet	#300 - #330
Needle Jet	Q-2 (primary choke height 8.2mm)
* Jet Needle	6DI6-4th or 3rd notch from the top
Cut-away	2.0
Pilot Jet	#35
Air Screw	1 & 1/2 turns
Valve Seat	3.3mm

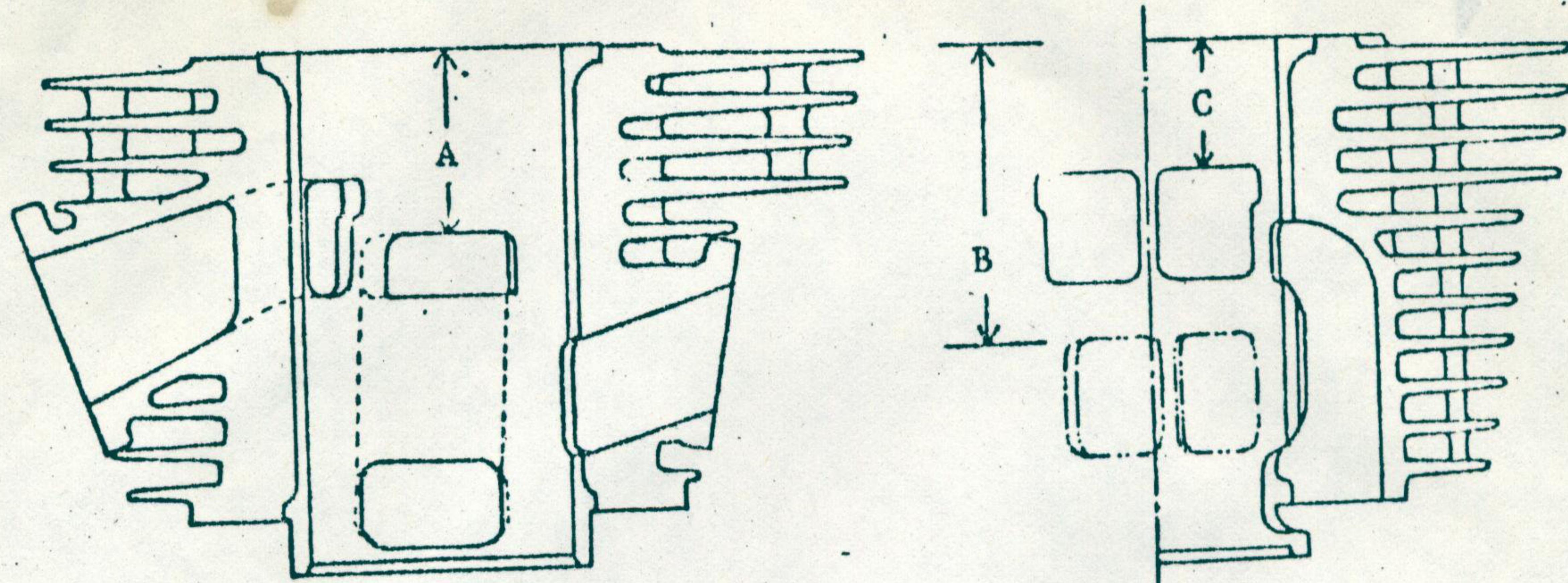
* All machines are checked, after they are assembled, by bench-test and actual riding, then the best suitable main jet and jet needle clip position are decided. Therefore, each machine has the different carburetor specification for obtaining the best performance.

MAINTENANCE

TR500 I

* **Cylinder**

The cylinder port timing is as shown in the illustration.

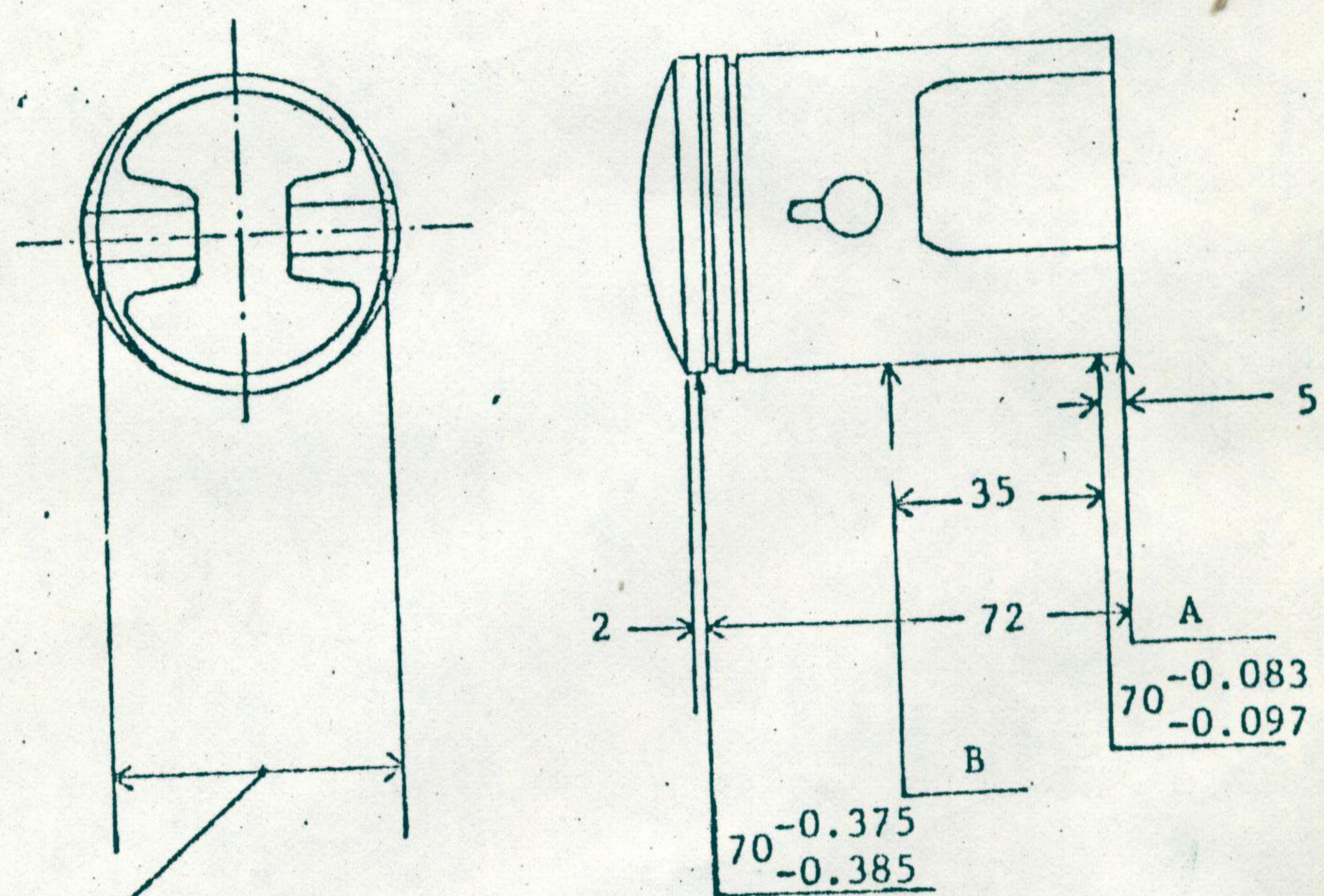


A : 49 mm (1.929 in) B : 110 mm (4.331 in) C : 34 mm (1.339 in)

Inside diameter: 70.05-70.065 mm (measured at 25-30 mm from top surface)

* **Piston**

The measurement of the piston is as shown in the illustration.



0.09 mm ovalness in diameter when measured at B.
0.07 mm ovalness in diameter when measured at A.

* **Breaking-in**

When replacing the cylinder and the piston with new spare parts, it should be observed that the engine be operated with around 7,000 r.p.m. for minimum 30 minutes.

After taking this procedure, remove the cylinder and sand the cylinder and piston with # 400 emery cloth, whenever localized scuffing occurs or high spots are recognized.