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|---|--|----------------|-------------|
|  | MODIFICATION BULLETIN Replaces MB 91.6/4 | AIRPL MODEL | 91.6/4B |
| | | 91 Safir | PAGE 1 OF 2 |

Engine Gipsy Major I and X. Replacement of rocker bracket bolts.

| | | | |
|--|--------------------------------|----------------|-------------------------|
| URGENCY: III x) | EFFECT ON WEIGHT DISTRIBUTION: | | |
| TIME OF DELIVERY FOR NECESSARY PARTS: | WEIGHT CHANGE LBS. | STATION IN. | MOMENT CHANGE LBSIN. |
| | - | - | - |

MARKING: None

Drawings: Not essential

Parts required per each plane equipped with Gipsy Major X engine (Cylinder heads of alumin):

| Item | <u>Included in fig. 1</u> | |
|------|---------------------------|--------|
| 01 | 12 Bolts | 34680 |
| 02 | 12 Nuts | N.372 |
| 03 | 8 Tab Washers | N.3757 |
| 04 | 4 Lock Washers | N.3760 |
| 05 | 4 Lock Plates | 34682 |
| 06 | 8 Spacers | 34681 |
| 07 | 4 Spacers | 34697 |

Parts required per each plane equipped with Gipsy Major I engine. (Cylinder heads of bronze):

| Item | <u>Included in fig. 2</u> | |
|------|---------------------------|--------|
| 01 | 12 Bolts | 34680 |
| 02 | 12 Nuts | N.372 |
| 03 | 8 Tab Washers | N.3757 |
| 04 | 4 Lock Washers | N.3760 |
| 05 | 4 Lock Plates | 34682 |
| 06 | 12 Spacers | 34681 |

These parts can be ordered from the de Havilland, care of:
 The Spares Controller
 No. 1 Factory

Aircraft concerned:

91102 - 91148

Spare Parts not involved

x) Should be installed during next major overhaul of the engine.

29/4 1949

| | | |
|---|--|---|
| SAAB SERVICE DEPT: <i>C. Larsson</i> | SAAB DESIGN DEPT: <i>W. Larsson</i> | ROYAL SWEDISH AERONAUTICS BOARD: <i>W. Larsson</i> |
|---|--|---|

The de Havilland Engine Co. Ltd.,

Leavesden.

Nr. Watford, Herts.

England.

When ordering, please, refer to:

Modification Gipsy 1448

Following parts per each plane are obsolete:

| | |
|----------------|-----------|
| 8 Bolts | 1902-36 |
| 4 Bolts | 1902-37 |
| 12 Nuts | 802-70 |
| 12 Washers | 800 S.P.2 |
| 12 Cotter pins | 802-86/2 |

If Modification Bulletin 91.6/4 has been put in, the following

parts should also be obsolete:

| | |
|--------------|-----------|
| 12 Bolts | 1902-52/A |
| 4 Brackets | 1902-56 |
| 8 Tabwashers | 1902-55/1 |
| 4 Tabwashers | 1902-54 |

According to the engine manufacturer the nuts for the rocker bracket bolts may be tightened too much in order to be able to fit the cotter pins. Too tight nuts may cause failure of the bolts.

For this reason install new bolts and replace castle nuts and cotter pins with lock plates and tab washers.

Working procedure:

Remove the rocker gear cover

Remove the rocker bracket and the stirrup bracket.

Level off the projections for the washers on the cylinder heads with a facing cutter.

The cutter diameter should be 19 mm and the cutting radius 0.75 - 1.00 mm.

Increase the diameter of the three bolt holes located in the cylinder head, valve guide casing and rocker bracket respectively and that of the hole for one of the rocker bracket bolts through the stirrup bracket from 8.125 mm to 9.125 mm.

Check that all parts are carefully cleaned prior to installation.

Place the valve guide casing, the rocker bracket and the stirrup bracket on the cylinder head.

Install bolts, washers, spacers, lock plates and nuts in accordance with figs 1 and 2 respectively.

When tightening the nuts, proceed as follows:

Firstly, tighten the nuts enough to pull the unit together without pre-loading the bolts.

Secondly, tighten the nuts $3/12$ of a turn, at a rate of $1/12$ of a turn at a time.

Unscrew the nuts completely and return to the initial condition. Then tighten the nuts $1/6$ of a turn; at a rate of $1/12$ of a turn at a time.

It has been found that by using this method the approx. torque, during the final tightening of the nut will be approx. 300 inlb.

The tab washer under the bolt head should be located as shown in the figure.

Note: Reinstall the rocker gear covers. The tab washer should be left unlocked until the engine has completed its initial ground run. The nuts should then be checked tightened and the tab washers finally locked.



MODIFICATION BULLETIN

Replaces MB 91.6/4

91.6/4B

PAGE 2 OF 2

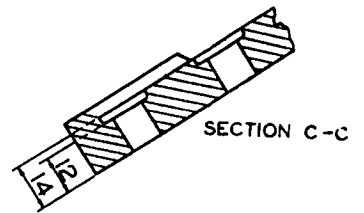
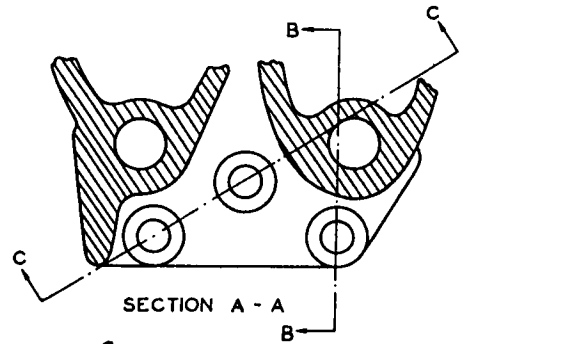
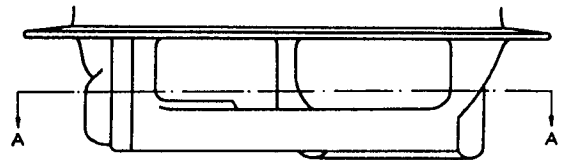
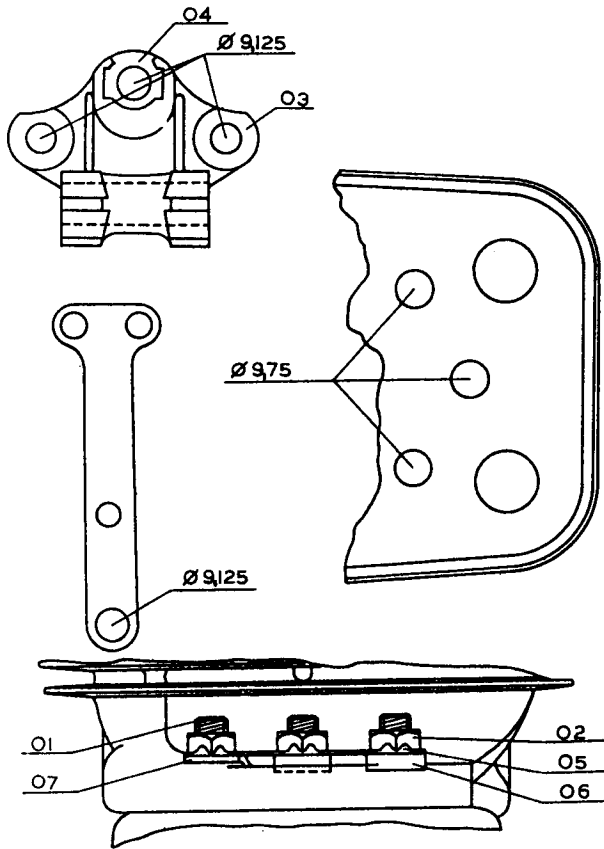
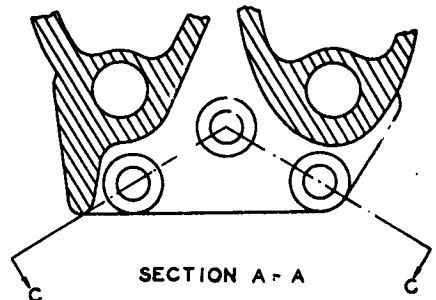
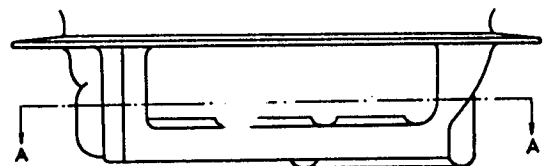
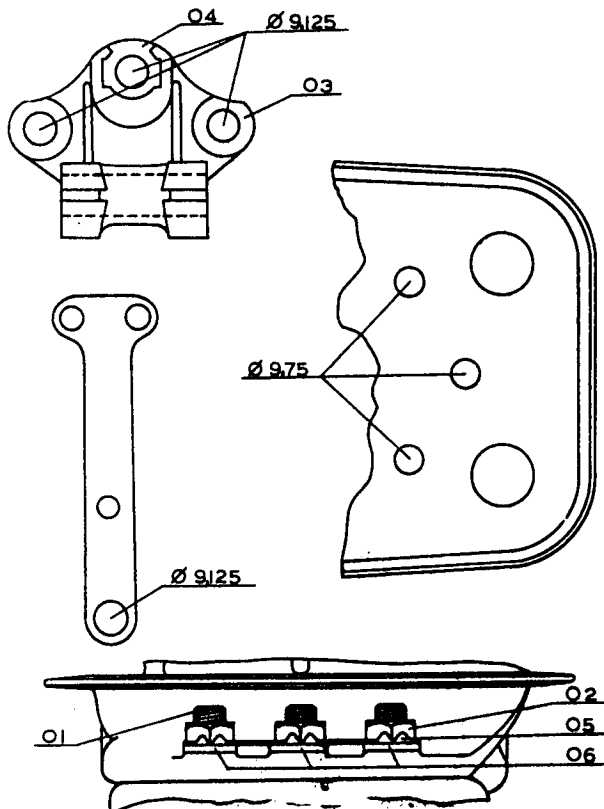


FIG. 1

SECTION B - B



SECTION C - C

FIG. 2