

Bulletin
Number 5035

Issue 1

Date 6.12.48

Sheet 1 of 2 Sheets

MODELS AFFECTED

1934-47 10 and 12 H.P.
1937-47 14, 16 and 20 H.P.
1948-49 "60" and "75", Land-Rover

UNIT AFFECTED

ENGINE

COMPLAINT

SUBJECT

PISTON IDENTIFICATION AND FITTING

The only pistons now supplied by us for the models listed above are :—

<i>Model</i>	<i>Type of piston</i>	
10, 12 and 14 H.P.	Nelson Bohnalite	
16 H.P.	Nelson Bohnalite or Lo-Ex	
20 H.P.	Nelson Bohnalite	
"60" and Land-Rover	Specialloid or Lo-Ex	} These are similar in appearance; the method of fitting is the same.
"75"	Lo-Ex	

Nelson Bohnalite pistons have split skirts, while the Lo-Ex and Specialloid have solid skirts.
See Figs. 1—4.

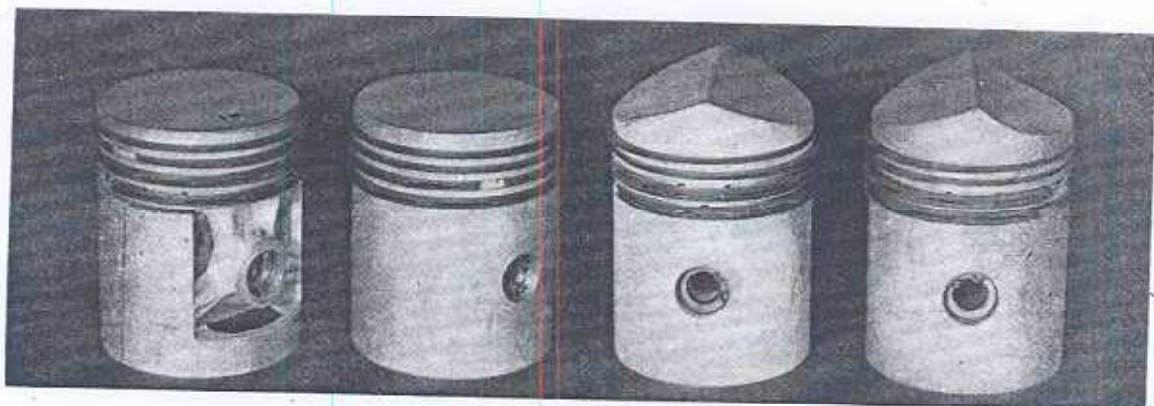


Fig. 1. Nelson Bohnalite
10, 12, 14, 16 and 20 H.P.

Fig. 2. Lo-Ex
16 H.P.

Fig. 3. "60" and "75"
(High compression)

Fig. 4. "60", "75" and
Land-Rover
(Low compression)

Change of compression ratio (1948-49 models only)

A reduction in compression ratio during the 1948 season on "60" and "75" car engines was made by fitting pistons having a different crown pattern (Figs. 3 and 4). For full details of this change, see Service Bulletin 5003.

All Land-Rover engines have low-compression pistons.

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PISTON FITTING

Pistons for all the models listed at the head of this bulletin should be fitted to a clearance of 0.0013 in. \pm 0.0001 (0,033 mm. \pm 0,0025) between the piston thrust face at the bottom of the skirt and the cylinder bore. This figure is obtained on production engines by a process of selective assembly; a similar scheme may be employed after re-boring, by making full use of the stock of pistons available.

As a general rule, and especially in cases where only a small stock of pistons is held, a practice should be made of boring the cylinder block to the individual pistons to be fitted.

Before fitting the pistons after boring the cylinder block, check that the clearance is correct in the following manner.

Insert each piston, without the gudgeon pin and rings, upside down into the top of its respective cylinder bore with a length of .0015 in. (0,04 mm.) strip feeler inserted between the plain thrust face and the cylinder wall. If the piston becomes tight with approximately $\frac{1}{8}$ in. (12 mm.) of skirt still protruding from the bore diameter, it can be accepted as a satisfactory fit.

Nelson Bohnalite pistons should be fitted with the slot in the skirt to the camshaft side of the engine, i.e., on the opposite side to the thrust; it is immaterial which way the plain Lo-Ex and Specialloid types are fitted.

GUDGEON PIN FITTING

When piston assemblies are supplied by us, the gudgeon pin is already correctly fitted; in cases where pistons and gudgeon pins are supplied as separate items, proceed as follows:—

1. Nelson Bohnalite (1934-47 models).

In this case, one only of the gudgeon pin bores has to be reamed out by the fitter to allow a light drive fit of the pin at that end. When using new pistons, as assistance in subsequent removal and replacement of the gudgeon pin, the top of the piston should be stamped with a "X" immediately above the bore so reamed. When stripping, production pistons will be found already marked in this way; on some pistons "IN" may be substituted for "X" (Fig. 1).

After the reaming operation, the piston should be immersed in water at 70° C. (158° F.) for five minutes to expand the other bore. Remove from the bath and immediately fit to the connecting rod by lightly driving home the gudgeon pin.

2. Lo-Ex or Specialloid (1937-47 16 H.P.; 1948-49 "60" and "75", Land-Rover).

With this type of piston, both the gudgeon pin bores should be reamed out until the gudgeon pin, while not falling through either bore under its own weight when dry, can be easily pressed in by hand.

OVERSIZE GUDGEON PINS

Piston assemblies supplied by us which have oversize gudgeon pins fitted are stamped on the crown with the appropriate identification letter:—

- B — .001 in. (0,025 mm.) oversize
- C — .003 in. (0,075 mm.) "
- D — .005 in. (0,13 mm.) " (Nelson Bohnalite only)

Such assemblies should only be fitted as complete engine sets.

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