

Bulletin
Number 5005

Issue 3

Date 22.9.48

Sheet 1 of 4 Sheets

MODELS AFFECTED

1948 "60" AND "75"
1948 "LAND-ROVER"

UNIT AFFECTED

ENGINE

COMPLAINT

SUBJECT

ENGINE TIMING

Firing order.

"60" AND "LAND-ROVER" 1, 3, 4, 2.

"75" 1, 5, 3, 6, 2, 4.

Tappet clearance.

The correct tappet clearance is .010 in. (0,25 mm.) on the inlet valves and .012 in. (0,30 mm.) on the exhaust valves, with the engine COLD.

Adjustment for this clearance is provided by a set-screw and locknut on the rocker. (See Figs. 1 and 2). When adjustment is required, slacken the lock-nut and rotate the set-screw to give the correct clearance by means of a screwdriver. The lock-nut should be securely tightened after adjustment, great care being taken to ensure that this operation does not upset the clearance.

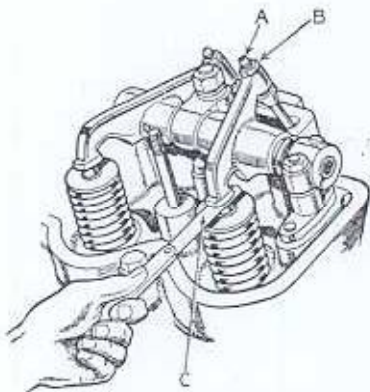


Fig. 1 Inlet tappet adjustment.
A—Tappet adjusting screw.

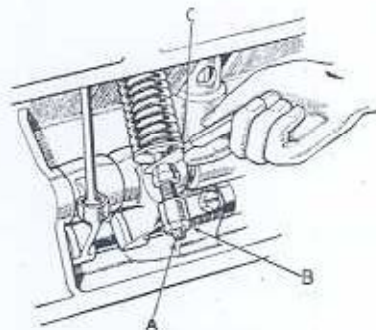


Fig. 2 Exhaust tappet adjustment.
B—Locknut.
C—Feeler gauge.

The tappet clearance should be set with the engine cold and it is essential to ensure that the valve to be adjusted is really closed. To do this, set the valve receiving attention fully open and then move the engine one complete turn, to bring the tappet on to the back of the cam.

It cannot be emphasized too strongly that the clearances must be correct. If anything less than the indicated clearance is used, a fall in power output will follow and any greater clearance will mean noisy tappets.

Notation.

Throughout the text which follows, "No. 1" cylinder is that at the front of the engine.

This sheet replaces that already in your file which bears the SAME bulletin and sheet numbers, but of a LOWER issue number. The old copy should be removed and destroyed.

Bulletin
Number 5005

Issue 3

Date 22.9.48

Sheet 2 of 4 Sheets

MODELS AFFECTED
1948 "60" AND "75"
1948 "LAND-ROVER"

UNIT AFFECTED
ENGINE

COMPLAINT

SUBJECT

ENGINE TIMING

Flywheel markings.

The flywheel markings and timing pointer are exposed when the inspection cover on the right-hand side of the flywheel housing is removed.

The markings and their meanings are as follows:—

(1) The line against which the letters T.D.C. are stamped, when brought dead opposite the pointer, means that No. 1 piston is on Top Dead Centre, i.e., at the top of its stroke.

(2) There are three ignition timing markings on the flywheel: F.A. 7° for high-compression car engines (see Service Bulletin 5003); F.A. 11° for low-compression car engines (see Service Bulletin 5003) and F.A. 15° for Land-Rover engines.

Some early flywheels have only a single T.D.C./F.A. line and it will therefore be necessary in such cases, to set the ignition timing 2 flywheel teeth B.T.D.C. for high-compression car engines, 3 teeth B.T.D.C. for low-compression car engines and 4 teeth B.T.D.C. for Land-Rover engines.

The correct F.A. mark, when set opposite the pointer, indicates the firing-point of No. 1 cylinder when the octane selector on the distributor is set in the standard position, e.i., the point at which the distributor points should be just opening, with the rotor in the firing position, for No. 1 or No. 4 cylinder ("60" and Land-Rover) or No. 6 cylinder ("75").

(3) The line against which the letters E.P. are stamped, when set opposite the pointer, indicates the point at which No. 1 exhaust valve should be at the peak of its lift (fully open). It is 114° after T.D.C. (31 flywheel teeth).

Valve timing.

If the timing chain and hydraulic tensioner should have been removed, the procedure to re-time the engine is as follows (See Fig. 3).

(1) Set the exhaust tappets to .012 in. (0.30 mm.) clearance (See Sheet 1 of this bulletin) and slacken the inlet tappet adjusting screws as far as possible.

(2) Rotate the camshaft in the running direction until No. 1 exhaust valve is fully open.

The use of a dial indicator is the only reliable method of determining this point. It should be mounted on a stud adjacent to No. 1 exhaust rocker and with its aid the possibility of an error in determining the exhaust peak is eliminated. It is possible to do the job correctly without a dial indicator, but much time is wasted and the possibilities of an error very much magnified.

(3) Rotate the engine in the running direction until the E.P. mark on the flywheel is in line with the pointer.

This sheet replaces that already in your file which bears the SAME bulletin and sheet numbers, but of a LOWER issue number. The old copy should be removed and destroyed.

Bulletin
Number 5005

Issue 3

Date 22.9.48

Sheet 3 of 4 Sheets

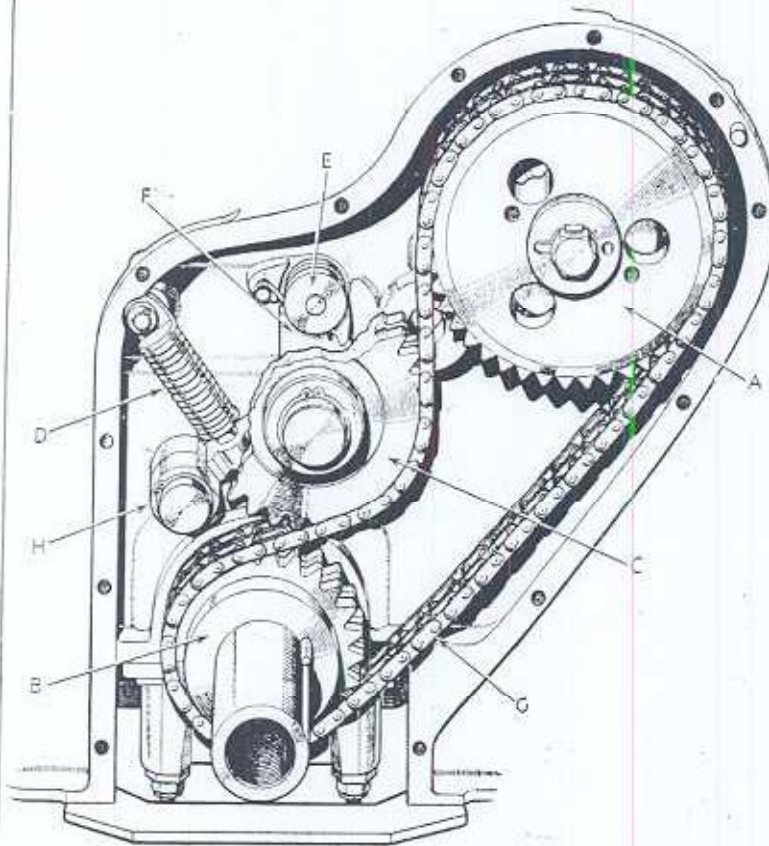
MODELS AFFECTED
1948 "60" AND "75"
1948 "LAND-ROVER"

UNIT AFFECTED
ENGINE

COMPLAINT

SUBJECT

ENGINE TIMING



- A—Camshaft chainwheel.
- B—Crankshaft chainwheel.
- C—Jockey pulley.
- D—Hydraulic tensioner.
- E—Pawl.
- F—Ratchet.
- G—Timing chain (driving side).
- H—Jockey pulley arm.

Fig. 3 Timing gears.

4. Fit the timing chain, ensuring that there is no slack on the driving side (G).
5. Hold the ratchet pawl (E) clear and replace the complete jockey pulley (C, F and H), meshing the pulley with the chain.
6. Check the timing and correct if necessary. The camshaft chainwheel (A) is made with three irregularly spaced keyways, so that if the timing will not come correct in the first position tried, alternatives are provided.
7. Replace the hydraulic tensioner (D) comprising cylinder, piston and spring; these items must be assembled dry to prevent the formation of an air lock. Retain at its upper end with a split pin. Fit the circlip at (H), retaining the jockey pulley assembly. Engage the ratchet (E, F).
8. Set the inlet tappets to .010 in. (0,25 mm.) clearance (see Sheet 1 of this bulletin).

Ignition timing.

1. Check the contact breaker clearance and adjust if necessary. The correct gap with the points fully open is .012 in. (0,30 mm.).

This sheet replaces that already in your file which bears the SAME bulletin and sheet numbers, but of a LOWER issue number. The old copy should be removed and destroyed.

Bulletin
Number 5005

Issue 4

Date 22.9.48

Sheet 4 of 4 Sheets

MODELS AFFECTED

1948 "60" AND "75"
1948 "LAND-ROVER"

UNIT AFFECTED

ENGINE

COMPLAINT

SUBJECT

ENGINE TIMING

2. Rotate the engine in the running direction until the *correct* F.A. line on the flywheel is in line with the pointer, with both valves on No. 1 cylinder closed. (See Sheet 2 of this bulletin).

On early engines the common T.D.C./F.A. mark should be disregarded for ignition setting and the firing point set at either 2, 3 or 4 teeth before the T.D.C. line, depending upon the type of engine.

3. The distributor rotor will now correspond with No. 1 cylinder high tension lead terminal.

4. Set the octane selector to the standard position on the sliding scale.

5. Set the distributor points just breaking by slackening the pinch-bolt at the base of the distributor head and rotate the distributor bodily in the required direction. Do not forget to re-tighten the pinch bolt.

This sheet replaces that already in your file which bears the SAME bulletin and sheet numbers, but of a LOWER issue number. The old copy should be removed and destroyed.