

Issue 2

Date 31/7/50

Sheet 1 of 4 Sheets

MODELS AFFECTED

1950-51 "75"
1950-51 LAND-ROVER

UNIT AFFECTED

ENGINE

ENGINE TIMING

Firing order.

LAND-ROVER 1, 3, 4, 2.
"75" 1, 5, 3, 6, 2, 4.

Tappet clearance.

The correct tappet clearances with the engine at normal running temperature are given in the table below :—

Model	Inlet valves	Exhaust valves
Land-Rover	.010 in. (0,25 mm.)	.012 in. (0,30 mm.)
"75"	.008 in. (0,20 mm.)	.012 in. (0,30 mm.)

Tappet clearance may be set cold to the same figures on Land-Rover engines only.

Adjustment for this clearance is provided by a set-screw and locknut on the rocker. (See Figs. 1, 2 and 3.). 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. 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.

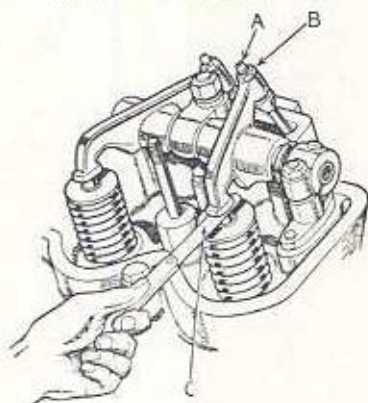


Fig. 1.
Inlet tappet adjustment (Land-Rover).

A—Tappet adjusting screw.

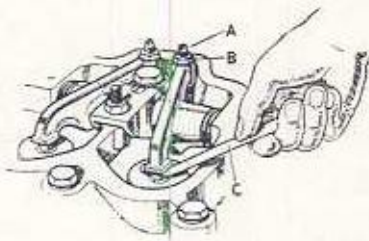


Fig. 2.
Inlet tappet adjustment ("75").

B—Locknut.

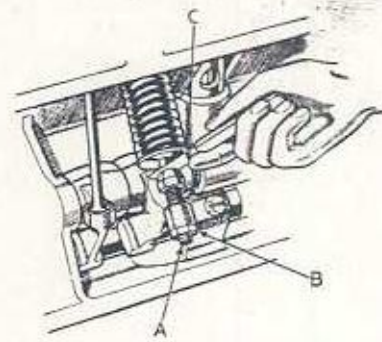


Fig. 3.
Exhaust tappet adjustment.
C—Feeler gauge.

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.

Reissued 31.7.50 to advise that "75" tappet clearances must only be set with the engine at normal running temperature.

This sheet replaces that already in your file dated 20.9.49, which should be removed and destroyed.

Issue 1

Date 20/9/49

Sheet 2 of 4 Sheets.

MODELS AFFECTED
1950 "75"
1950 LAND-ROVER

UNIT AFFECTED
ENGINE

ENGINE TIMING

Notation.

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

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 two ignition timing markings on the flywheel: F.A. 8° for car engines and F.A. 15° for Land-Rover engines. The 8° mark is 2 flywheel teeth and the 15° mark, 4 flywheel teeth before T.D.C.

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, i.e., 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 (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° before 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. 4).

(1) Set the exhaust tappets to the correct 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.

Issue 1

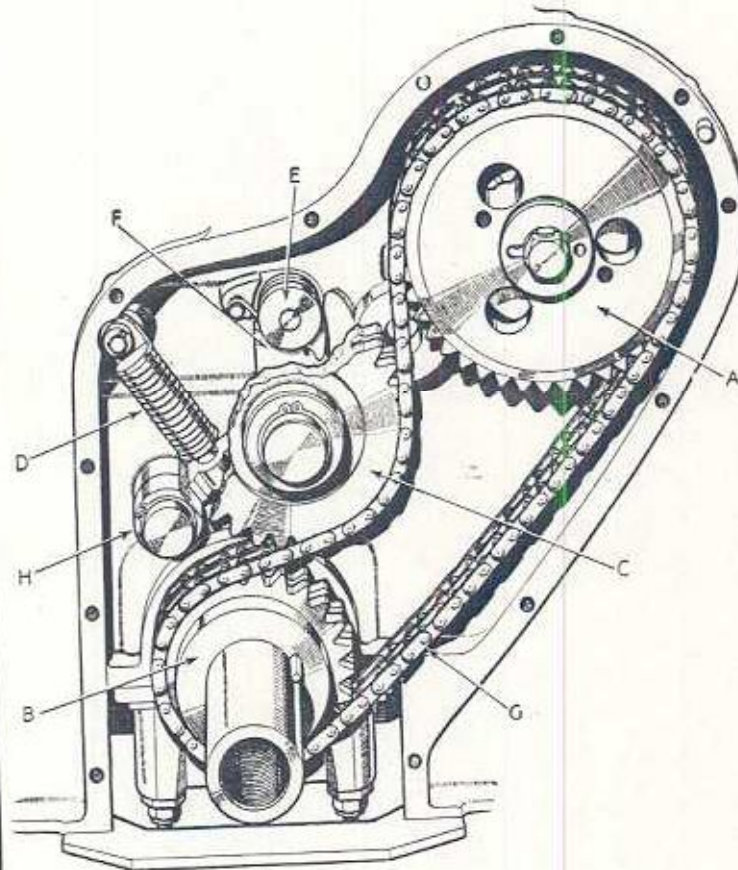
Date 20/9/49

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MODELS AFFECTED
1950 "75"
1950 LAND-ROVER

UNIT AFFECTED
ENGINE

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. 4.—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 the correct clearance (see Sheet 1 of this bulletin).

Issue 2

Date 12/3/51

Sheet 4 of 4 Sheets

MODELS AFFECTED
1950-51 "75"
1950-51 LAND-ROVER

UNIT AFFECTED
ENGINE

ENGINE TIMING

Ignition timing.

1. Check the distributor contact breaker clearance and adjust if necessary. The correct gap with the points fully open is .014 to .016 in. (0,35 to 0,40 mm.).
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).
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 rotating the distributor bodily in the required direction. Do not forget to re-tighten the pinch bolt.

Re-issued 12.3.51 to alter distributor contact breaker clearance.

This sheet replaces that already in your file dated 20.9.49, which should be removed and destroyed.