

B.S.A. CYCLES Ltd.

(Proprietors: The Birmingham Small Arms Co. Ltd.)

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"SERVICE."

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Adjustment of Gearbox on 1930 2.49 h.p. Side-valve, 2 49 h.p. O.H.V. and 3.49 h.p. Side-valve machines.

If difficulty is experienced in obtaining the correct meshing of the pinion dogs, or with the pinions slipping out of mesh, providing that the clutch is in correct adjustment, the gearbox itself should be adjusted as follows:—

Disconnect the gear control rod from the change-speed lever on the gearbox end cover.

Remove the inspection cover from the top of the gearbox, thus obtaining a view of the high-gear operating forks.

Turn the gearbox control shaft by means of a spanner engaged with the hexagon nut retaining the change-speed lever on the gearbox end cover, until the centre of the cam peg in the control shaft coincides with the peak of the cam in the high-gear selector fork.

It is important that the centre of the peg comes absolutely opposite the highest point on this high-gear selector fork cam.

When in this position the pinions will be in middle—that is, second—gear, and the spring-loaded plunger on the gearbox end cover should fall correctly into the second notch of the quadrant, which is held by screws on to the end cover.

If the spring-loaded plunger does not disengage fully with the notch, then the quadrant is out of adjustment, and the screws holding it should be slackened off and the quadrant tapped gently in such a direction as to enable the spring-loaded plunger to fall fully into the second notch from the right when looking at the gearbox end cover.

With the plunger still engaged in the second notch screw up the quadrant tightly and check over the position of the cam peg in the control shaft, making sure that the control shaft does not revolve and that the centre of the cam peg still coincides with the peak of the cam.

Replace the inspection cover.

Move the change-speed lever on the tank into the middle gear position.

It may now be found when the gear control rod is offered up to the change-speed lever on the gearbox end cover that the rod is slightly too long or too short. If so, it must be adjusted to drop into position without altering that of the change-speed lever on the gearbox end cover.

To do this slacken off the hexagon locknut at the adjustable toggle end of the rod and adjust the rod itself until the fixed toggle at the bottom end can be engaged with the change-speed lever on the gearbox end cover, with the spring-loaded plunger still fully engaged in the second notch.

Make sure that the holes in the fixed toggle are in line and match up with the hole in the control lever so that the swivel pin can be replaced without turning the toggle.

Tighten up the locknut of the adjustable toggle end and finally test the adjustment by moving the change-speed lever on the tank to neutral, top, and bottom gear positions, turning the back wheel by hand to facilitate this and noting that the spring plunger on the end cover is fully engaged with the corresponding notches in the quadrant.