

MOTORCYCLE SERVICE NEWS

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YAMAHA INTERNATIONAL CORPORATION

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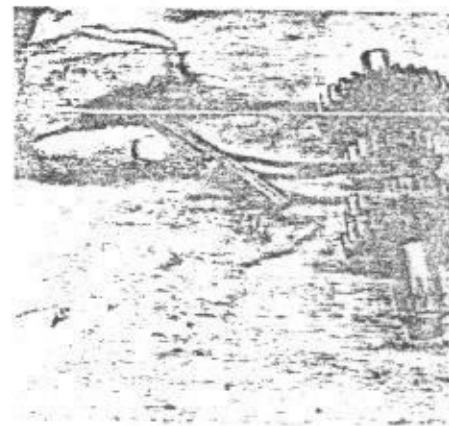
ALL MODELS

SPACING TRANSMISSION AXLES AND GEARS

The drive axle and individual gears must have minimum side-to-side play to prevent "popping out of gear". In many cases, shims are installed at the factory. However, each time any engine is reassembled, the transmission and gears should be measured and side play adjusted when necessary with additional shims. This procedure will reduce repeated transmission damage and customer dissatisfaction (such as DTL's repeatedly popping out of 3rd gear), and will increase service department profitability.

MEASURING INDIVIDUAL GEAR SIDE PLAY:

A spinning gear is usually held in place either by (1) a circlip and shim on both sides, or (2) a circlip and shim on one side, with a shouldered section of the axle on the other side. Any spinning gear should have between .003" - .005" side play for maximum efficiency. If there is no side play, the gear will bind up. If there is too much side play, the gear will move over when the sliding gear tries to engage it. This can cause the engaging dogs to become rounded. If a shim is needed, measure the axle diameter, select the proper shim from the list on page four (arranged by shim sizes), and install so the spinning gear is moved toward the sliding gear that engages it (to maintain complete engagement).



MAIN AXLE SPACING:

Since tightening the clutch retaining nut pulls the main axle completely to one side, adjustment of this axle is normally not necessary. (Axle cannot move from side to side). That is, however, as long as factory installed shims are kept in place on the right end of the axle (parts book will verify size and location). Refer to drawing #4 for standard main axle shim location.

MEASURING DRIVE AXLE SIDE PLAY:

1. Measure distance between axle bearings in case. Measure the depth of each case, from top of the case down to the transmission bearing inner race. Adding the depth of both case halves (subtracting thickness of flat edge laid across case to assist in measurement) will give total distance between bearings.

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