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# THE SERVICE DEPARTMENT

BY GARY BRAY

## HIDDEN WEAR

*A number of times people write in that have clutch problems with big singles and twins. I have a 650 BSA that not only slips, but also at a dead stop with the clutch in, it wants to go, three or four miles per hour. I know it's adjusted right, but this only helps a little.*

*Is there a way to rework the old plates without the expense of new ones?*

**Ron Warning**  
Yakima, Washington

Clutch problems of this sort are not uncommon with the early BSA twins and singles, particularly when the machine has a large number of miles on it. The actual cause of drag and slip may come from one of three areas in the clutch other than the clutch plates themselves.

First, excessive play in the thick steel clutch plate behind the chain wheel can create severe drag. Wear at this point will mean replacement of the steel plate and clutch sleeve. To determine if a problem does exist here the clutch must be removed from the transmission mainshaft and completely dismantled. Under no circumstances should an attempt be made to remove the clutch sleeve from the mainshaft without the proper puller.

Extreme wear in the clutch chainwheel inserts may cause improper alignment of the chain wheel bearing race and the two sets of caged ball bearings on which the chainwheel runs. In cases where the chainwheel inserts are not worn sufficiently to warrant replacement, yet the outer ball bearing protrudes past the edge of the bearing race, the race should be forced over slightly in its housing to compensate for what wear has taken place.

The slots in the chainwheel in which the ears of the lined or driven plates rest will more than likely be grooved. These slots should be filed smooth. In the event of damage or wear in these slots, it may be desirable to replace the chain-wheel entirely. Unless there is obvious damage, the lined or driven clutch plates need no special care other than being sure that they fit freely in the clutch housing. The steel driving plates should be checked for trueness and straightened or replaced if distortion is present.

## A SPORTSTER TIP

*I have read the article on the '64 Harley-Davidson Sportster XLCH and the '65 Harley-Davidson XLH. I have a '64 XLH and had the same trouble with play in the throttle linkage. This bothered me so much when cornering on the machine that I finally thought about trying two small ball point pen springs. I took the control wire loose at the carburetor end*

*and slipped on the two springs after I had found two that had the right tension. The correct tension will keep the wire tight but will not push the throttle open.*

**Kenny Brett**  
Sumner, Mississippi

## ADD A GEAR?

*I have a 1962 Yamaha M12 Trailmaster which has a three-speed gearbox. Is it possible to install a four-speed gearbox without too much trouble and cost? If not, what sprockets could be replaced to give me a higher cruising speed since the bike is used mainly for street riding?*

**Jay Newell**  
Creston, Iowa

The design of most transmissions prohibit adding one or more gears. There simply isn't enough room in the gear case. I don't mean to imply that such an undertaking is impossible, but the machine work and necessary changes to the gear selector mechanism would create costs far too great to make the project worthwhile.

For use on the street where higher cruising speeds are needed, a Yamaha YG-1 37-tooth rear sprocket can be fitted to your machine. This should give you a top speed of approximately 40 mph.

## TIRED OF CRANKING

*I recently bought a 1965 Matchless G-80 scrambler similar to the editor's bike. The machine handles and runs very good except for starting. The engine is hard to turn over due to its single cylinder and stroke. The plug I am using is a KLG 220. I gapped the plug at .002 and then I looked to see how it sparked. The spark did not look that hot so then I checked the spark on a different plug to be certain the magneto was functioning properly. The spark looked very good and even when the engine was turned over slowly the plug would give a good hot spark. The machine will start but it either has to be pushed or keep cranking it over until it starts. Is there any other plug available for the G-80 that gives a better spark or is it that I have to get used to its procedure?*

**Richard DiGiovanni**  
Wyandanch, L.I., N.Y.

Large displacement single cylinder machines are rather touchy in the starting department and do require some getting used to. It is possible, however, that much of your starting difficulty can be overcome by being sure that the magneto points are clean and properly set at 0.012. If the machine is not subjected to prolonged high rpm, a hotter spark plug than the KLG 220 should make starting easier. I would suggest using a KLG/#FE80, NGK/#B6E or Lodge 2HLN.

## FROM INSIDE-OUT

*Perhaps you would be kind enough to come to my assistance. I am contemplating buying a used BMW R-26. It needs only minor repairs i.e., replacement of crumpled muffler, smashed tail-light assembly, scratched headlight trim ring, and speedometer.*

*However, there is one thing that makes me leery of the cycle. Halfway down each side of the transmission case directly*

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