

Shift Cable Lost Motion and Attachment

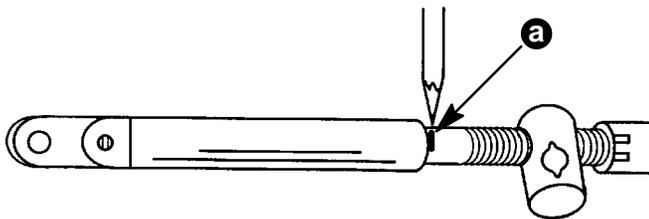
ALL MODELS

Lost motion in the remote control mechanism and the control cable does exist. It is important that the amount of lost motion be determined and the information used to correctly attach the shift cable. Pulling and pushing the remote control cable from the engine end, even with 30 lbs. of force, may not always reveal all the lost motion. This is especially true if the components are worn, stiff, dry or the remote control cable has sharp bends. Lost motion of 0.25 inch (6 mm) is not uncommon today and obviously affects shifting quality and gear/clutch life if not addressed.

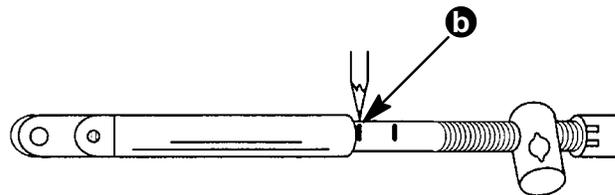
The recommended procedure is to operate the remote control to determine the lost motion in the remote control and shift cable. This procedure will replace the methods previously described for all Mariner and Mercury product.

Remote Control Method of Determining Lost Motion in the Shift System:

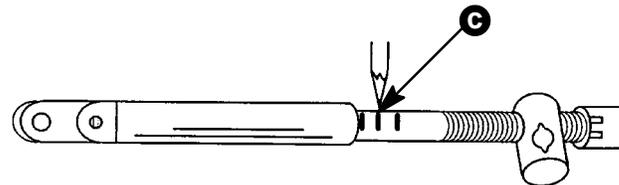
Move the remote control lever to forward wide open throttle (WOT). A remote control that "pulls the cable to shift into forward" will pull the engine end of the cable in. If the remote control "pushes the cable to shift into forward", move the control lever to reverse WOT. Return the remote control lever slowly to neutral. Place a mark on the shift cable at location (a) where the cable end has stopped.



Move the remote control lever in the opposite direction WOT and return it slowly to neutral. Place a mark on the shift cable at location (b) where the engine cable end has stopped. The distance between (a) and (b) is remote control and control cable lost motion.



Mark the midpoint (c) between mark (a) and mark (b).



Shift Cable Installation:

PRELOAD TOWARD REVERSE MODELS:

9.9/15, 20/25, 40/45/50 4 cyl., 50/60 loop charged 3 cyl., 50/60/70 direct charged 3 cyl., 75/80/85 4 cyl., 70/75/80/90 3 cyl., 90/115/140/150 6 cyl., 100/115 4 cyl., 150 Mag. II/Mag.III and XR4/XR6 with 1.78:1 Gear Ratio.

Align the cable end with the forward mark on the shift cable.



Adjust the shift cable barrel to attain the same length between the cable barrel receptacle and the hole in the end of the cable as exists between the cable barrel and the pin of the shift guide block. **Turn cable barrel 3 turns (more turns on control cables longer than 20 feet) to apply a slight preload toward reverse.**

NON-PRELOAD MODELS:

135 thru 225 (except 150 Mag. II/Mag. III and XR4/XR6), 300, 3.4 Litre, 250/275 Models.

Align the center mark on the shift cable with the cable end.



Adjust the shift cable barrel to attain the same length between the cable barrel and the hole in the end of the cable as exists between the cable barrel receptacle and the pin of the shift guide block.

CHECK SHIFT CABLE ADJUSTMENT:

NOTE: To properly align the shift dogs in the lower unit and to prevent possible shift linkage damage on some models, rotate the propeller shaft while shifting into forward and reverse.

1. **SHIFT REMOTE CONTROL INTO FORWARD.**
The propeller shaft should be “engaged” when turned counterclockwise on standard rotation or clockwise on counter rotation. If the propeller shaft is not engaged, adjust the cable barrel.
2. **SHIFT REMOTE CONTROL INTO NEUTRAL.**
The propeller shaft should turn freely. If not, adjust the cable barrel and repeat steps 1 and 2.
3. **SHIFT REMOTE CONTROL INTO REVERSE.**
The propeller shaft should be “engaged” when turned clockwise on standard rotation or counterclockwise on counter rotation. Check for addition movement of the shift guide block toward reverse or binding (too much preload) on “Preload Toward Reverse” models. If the propeller shaft is not engaged or the shift guide is not all the way to the end or binds at the end, adjust the cable barrel and repeat steps 1 thru 3.
4. **SHIFT REMOTE CONTROL INTO NEUTRAL.**
The propeller shaft should turn freely. If not, adjust cable barrel and repeat steps 1 thru 4.