

SLICK SHIFTER

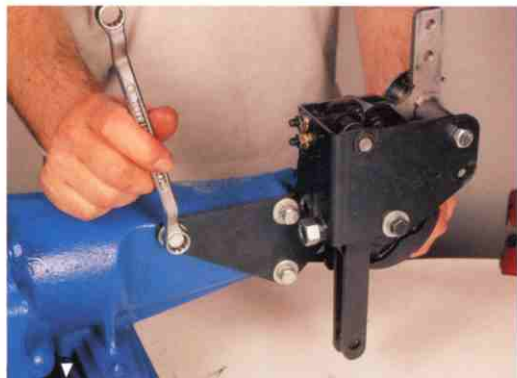
CLASSIC H-pattern gearboxes such as the Toploader, T-10, Muncie and Aussie Four-Speed were never renowned for their smooth operation. Fitting an aftermarket shifter has always been the first step toward improving them but selection lever movement has remained limited to the same basic H-pattern that the factories intended. As the shots show, things are different now.

The Renegade sequential four-speed mechanism is available and can transform your boring old H-pattern into a serious race shifter. The way it works is simple. From neutral, you just pull back on the gear lever to get first. The lever then pops back to the upright position. Changing up through the rest of the gears is accomplished in the same way. Not

surprisingly, changing down is a matter of pushing the lever forwards repeatedly. From neutral, pushing the gear lever forward sets reverse gear while pulling it backwards gets neutral again.

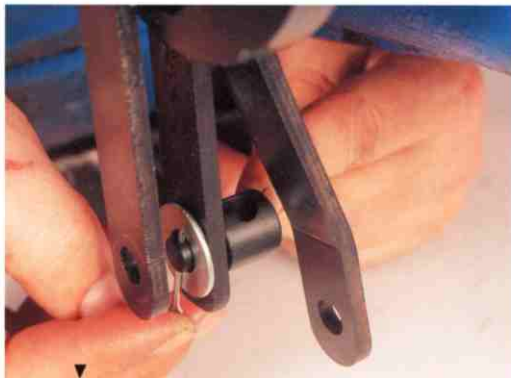
These things work beautifully if they're set up correctly, so we went to the manufacturer to find out how to do it. Ordinarily, you'd be fitting the shifter to the gearbox while it's still mounted in the car but this would have been almost impossible to photograph so we did it on a bench.





STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

Bolt the mechanism to the mounting plate and then bolt the plate to the original mounting points on the 'box'. You have to lubricate all the moving parts in the selector with grease



STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

Locate the first and second selector lever and fit an unthreaded swivel block, using the standard thickness 3/8-inch washer and split pin to retain it. On the other side of the lever, a wave washer is fitted between the lever and the block



STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

Bolt the front levers to the stubs of the selector fork mechanisms. These are designed to have pretty much the same orientation as the factory



STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

Wind the front retaining nut and lock nut a fair way onto the thread of the selector rod so they're a good distance from the swivel block. Insert the rod into the block and wind on the two rear nuts until they do make contact with the block



STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

The internally-threaded swivel blocks are for the front of the selector rod. A wave washer is fitted between the block and the selector as shown. Because the levers for the selector forks are thicker, the thinner washers supplied must be used between them and the split pins



STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

Pull the gear stick backwards to set the shift lever into the first gear position. This will pull the selector rod and engage first gear but you need to ensure there's no slack. To do this push the selector forward with your thumb as shown, making sure the front nuts aren't in contact with the swivel block. If a gap opens up between the swivel block and rear nuts, wind the rear nuts back into contact with the swivel block



STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

Wind the front nuts into contact with the front of the swivel block, then pull the gear stick back to select second gear. Back off the rear nuts and push the selector lever as far backward as it will go to make sure second gear is fully engaged. If a gap opens up at the selector end between the front nuts and the swivel block, wind the front nuts back until they make contact with the swivel block then rewind the rear nuts into contact. Push the gear stick forward and you should get a good change back into first



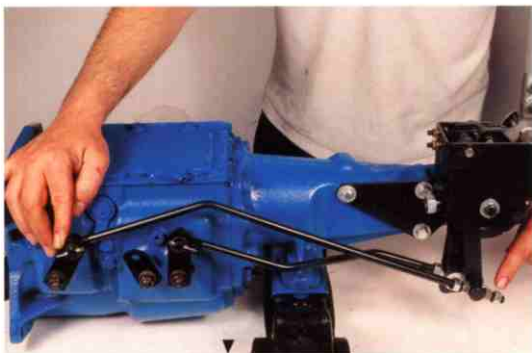
STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

Third/fourth is next. Fit the swivel block as shown. You'll need multi-grips to compress the wave washer enough to get the split-pin into place. Depending on what gearbox you have, the swivel blocks at the selector rod ends are sometimes on the inside of the levers, sometimes on the outside. The exact orientation of all the parts are in the specific instructions for your particular gearbox



STEP 1 2 3 4 5 6 7 8 **9** 10 11 12 13

When we say move the nuts, obviously there's no point moving the lock-nuts until you've established the correct position of the main nuts



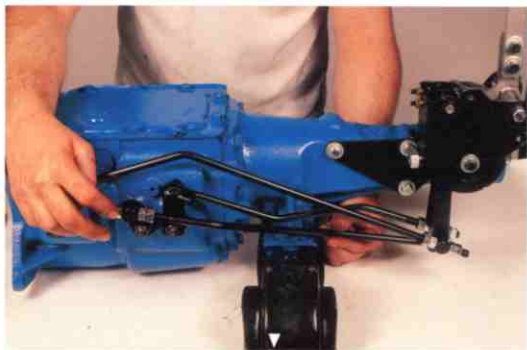
STEP 1 2 3 4 5 6 7 8 9 **10** 11 12 13

Check for slack in third and fourth the same way as for first and second. When you're checking for gaps between the nuts and the swivel blocks, ensure that the clearances within the unit are set correctly. Do this by applying finger pressure to the selector lever in the direction of neutral before tightening the nuts



STEP 1 2 3 4 5 6 7 8 9 10 **11** 12 13

Wind the front nuts into contact with the swivel block and pull the gear stick into the fourth gear position. Loosen the rear nuts, make sure fourth is selected properly, and if a gap opens up between the front nuts and the swivel block, wind them back into contact with the block, then re-tighten the rear nuts



STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

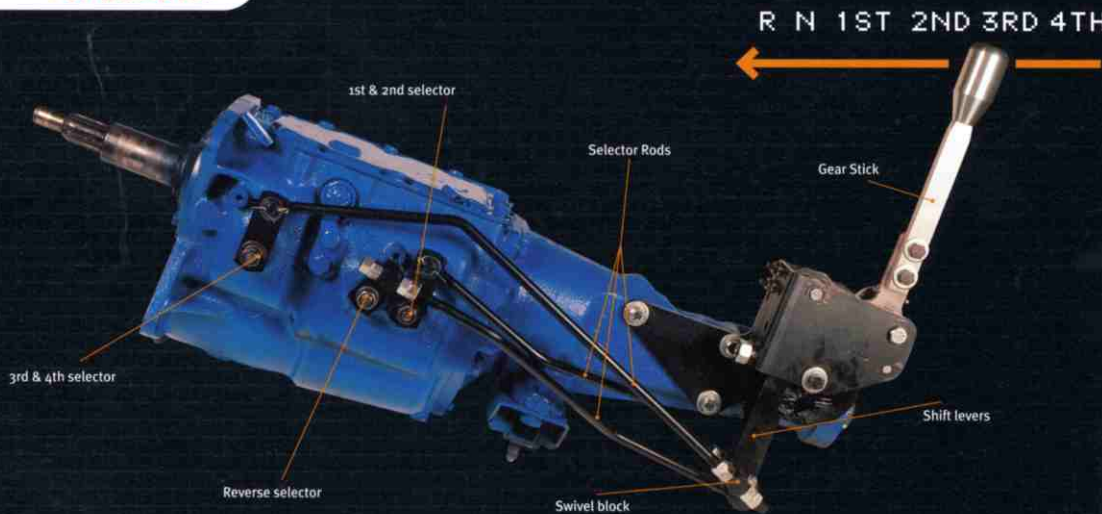
Reverse is last. It must be set up with the selector mechanism set in neutral. Make sure the selector fork lever is as far back as it will go and then tighten the nuts at the selector lever. Ensure that all the rods clear each other during the changes. If they do foul on each other, rotate them around until they clear



STEP 1 2 3 4 5 6 7 8 9 10 11 12 13

The gear stick can be bolted directly to the shift mechanism but this repositioning block is also supplied so tailor it to suit. When you've finished setting up the unit, make sure you use Loctite when you tighten the gear stick in its final position

TOPLOADER



THIS isn't like other shift mechanisms. You can't just poke a screwdriver through all the levers and tighten up the nuts at the gearbox as with ordinary shifters. This is because the cams that operate them fix the movements of the shift levers. With an ordinary shifter you can just keep pulling until it's in. Here, the mechanism moves just 16mm in each direction and that's it! Despite the extra difficulty in setting up a Renagate, you'll be pleased you did so every time you pull your next gear in the quest for more speed more quickly. You can find out more by visiting www.renagate.com or calling Mike's Dyno Tuning on 03 9793 9113.