

LETS KEEP OUR MODEL A HAPPY

By Claude Sipe, Tech Advisor

SHIFTING THE MODEL A TRANSMISSION

Our Model "A" will not be happy for very long if we "grind" the gears! So this month I would like to talk about proper shifting technique with standard Model A transmissions and why we have to "double clutch". The first thing we need to understand is how a Model "A" transmission differs from a modern unit. The modern transmission is equipped with "syncro rings". Their sole job is to keep the transmission synchronized [all spinning at the same speed] when you change gears! In a Model "A" transmission you do not have "syncro rings" so you must do the job, using the clutch and engine speed. At first it sounds difficult, but with a little practice you can get pretty good at it. First we will talk about "up shifting", that is going from a lower gear to a higher gear. Let's say you are just starting out and you are in 1st gear, the front of the transmission always turns at engine speed, and the back of the transmission always turns at road speed. In low gear that means if you are going 15mph. The front of the transmission is turning about 1200 rpm and the rear of the transmission is only turning about 400rpm. Everything works fine until you try to go to 2nd gear. When you push in the clutch and move the shift lever to neutral the front of the transmission is still spinning close to the same speed as it was. If we want to shift to 2nd gear we need to slow it down to about 800rpm! Double clutching is how we reduce the speed. This is the procedure for up shifting: depress the clutch, let off the gas pedal, shift the transmission to neutral, release the clutch pedal for a fraction of a second and then immediately push it down again, [the engine speed has slowed down and this will slow the gears in the front of the transmission] now move the transmission lever to 2nd gear and release the clutch. If you have timed this correctly the transmission will shift smoothly with out any grinding. The procedure to go from 2nd to 3rd is exactly the same, you must slow down the gears in the front of the transmission to make a smooth shift. Practice up shifting until it becomes one smooth procedure, then you can try down shifting as it is a little more difficult. The procedure for downshifting is as follows: First be certain your vehicle is not going too fast to down shift! The top speed to shift down to second gear from high gear is about 30mph, and 25 is more like it. First if you are going faster than 25mph,slow the vehicle down with the service brake. When you downshift, the front of the transmission needs to speed up! Here's how you do that: depress the clutch, move the transmission to neutral, release the clutch and with the clutch released rev the engine to twice the rpm it was going before you started the shift [if you are going 25mph the back of the transmission is turning about 1200 rpm and you need to make the front turn 2400rpm so second gear will mesh] depress the clutch and move the lever to second gear, release the clutch again. This definitely takes more practice than up shifting but with practice you can get pretty good. The procedure to go from 2nd to 1st gear is basically the same, just remember top speed to down shift is even less, about 15mph, and 10mph is even better. The basic idea of either up shifting or downshifting is to make the engine and front of the transmission turn the speed it will need to go, when the shift is completed. I am sure with a little practice, you will be able to shift smoothly, you'll be proud of yourself, and your Model "A" transmission will last a long time!

Lets keep our Model "A" happy!

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Sparton March 2010