



## Removing Broken Clutch Fork Pins

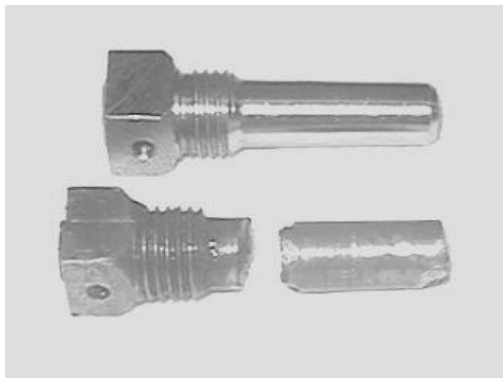
Bruce Miles called recently and asked for any ideas on how to remove a broken clutch fork pin. Ryan had salvaged a transmission with an A type overdrive that he wanted to put in his car. They discovered that the clutch fork pin was broken in both the salvaged transmission and in the one removed from the car. This matches my experience, nearly all of the half dozen transmissions I've owned either had a broken clutch fork pin or I broke it when I tried to remove it.

The following photos are of a transmission case that the throw-out bearing and main shaft have been removed for clarity.



Clutch fork with pin installed

The clutch fork pin prevents the clutch fork from rotating on the clutch-operating shaft. The end of the pin is tapered and fits into a matching hole in the clutch-operating shaft. The top of the pin is threaded and screws into the clutch fork. The pin usually breaks between the threads and the tapered part in the shaft. When the pin breaks the fork is free to rotate about 30 degrees on the shaft but it is impossible to slide the fork off the shaft. I believe there are two reasons the pins break. First, the earlier pins were very brittle. The pins available now are made of a much tougher material and are less prone to breaking. The second cause is that the pins are frequently over tightened causing the tapered part of the pins to become stuck. The pins then break when removed. I have never had a problem with a pin in a transmission that I had reassembled because I always use a new pin, lubricate the tapered part of the pin and I'm careful to not over tighten the pin.



A new and a broken clutch fork pin.

There are a number of stories on the Internet about people sawing the clutch operating shaft or grinding off the clutch fork, etc just to get the pieces out. That method requires replacement of the shaft and fork ---- money better spent on taking the spouse to dinner.

It is very easy to remove the tapered part of the pin that is stuck in the operating shaft. First, one drills a 1/8 to 3/16 inch hole in the clutch fork directly across from the hole where the pin is inserted. Next, the fork is aligned on the shaft in the same position as if an unbroken pin were in place. Finally, the broken part of the pin is driven out with a pin punch inserted in the drilled hole.

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Drilling hole in clutch fork



Driving out remaining piece of pin.

To minimize possible future problems removing broken pins, before I install a fork, I always drill a 3/16-inch hole in the end of the pinholes of forks that don't already have a hole.