

Tips for Using Motion Pro Flywheel and Rotor Pullers



Flywheel pullers are essential engine service tools and they are used in a lot of different jobs. Motion Pro has a huge selection of flywheel and rotor pullers for just about any motorcycle or ATV, and this tool is one of our most popular products. Most pullers are simple tools, usually consisting of an outer body that attaches to the flywheel and a lead screw to push on the crankshaft. Some pullers are just a hardened bolt that threads into the flywheel. Virtually every flywheel or rotor is attached to the crankshaft by a taper on the crank, which matches the flywheel. Torque from the fixing bolt holds the flywheel securely on the shaft.

Pulling a flywheel or rotor looks easy enough. So what's the big deal? Well, sometimes it isn't such an easy job. Corrosion, heat cycling, or over-torquing the fixing bolt can make the flywheel difficult to remove. Many mechanics resort to using a large breaker bar or air impact tools when a flywheel won't come off easily. Try to avoid the temptation, because both of these techniques are sure ways to damage the flywheel, the puller, or even the crank, which is a very bad and expensive outcome.

There are two simple tricks to employ when faced with a stubborn flywheel. When do you know you have a stuck flywheel? With your handy-dandy torque wrench, of course! The best way to remove a flywheel is to use a torque wrench set to 50 ft-lbs. Most flywheels will come off with less torque than this. If it does not come free at this level of torque, don't just go crazy and put more torque on it.

If you have reached the 50 ft-lb limit, head back to your tool box and get a good sized flat face steel hammer, like a 12 or 16 oz ball peen hammer. Many times a medium swing hammer blow to the flywheel puller will deliver enough shock to jar the flywheel loose. To do this, use the hammer to strike the end of the flywheel puller to shock it. Remember to wear safety glasses and make sure that you have something to catch the flywheel, as sometimes it can jump off the end of the crank when you deliver the hammer blow. The last thing you want to do is damage the flywheel if it falls on the floor.

If the flywheel won't budge after striking it a few times with a hammer, it's time to break out the big guns—the propane torch. When all else fails, heating the flywheel can often do the trick. Applying heat to the flywheel itself will expand it, while the greater mass of the crank will stay cool and expand much more slowly. The differential in expansion rates will help to loosen the flywheel from the crank. But first, before you light the torch up, give the flywheel a good cleaning to get off any oil or other flammable compounds. Also make sure to get rid of any flammable liquids in the

area, remove the gas tank and put it away in a safe place away from the work area, and make sure that the area you are working in is properly ventilated. The last thing you want to do is set your bike, yourself, or your garage on fire. Once the flywheel is clean and dry, and you have taken the proper precautions, put on your safety goggles and gloves and fire up the torch. Apply heat to the hub of the flywheel. One important point here: Only apply heat to the center of the flywheel. Focus the flame of the torch, and don't get it near the outer rim of the flywheel. Some flywheels use adhesive or other fixing compounds to locate the magnets in the rim that can be damaged by concentrated heat, and some magnets can be damaged by excessive heat as well. So concentrate the heat at the hub only. Once again, be prepared to catch the flywheel if it pops off, but make sure to wear gloves or other protection to avoid burning yourself on the hot flywheel.

These two techniques are all you really need to remove a stuck flywheel with a minimum of effort. About the only situation that would resist these procedures would be the flywheel on that ATV that you just pulled out of the lake, where it had been sunk for 6 months. In THAT situation, there is an old mechanics joke, "R&R ATV."