

TOOL OF THE MONTH

Flywheel Pullers



The new flywheel puller (left) can be seen here next to the older version. Both will work on the new PVL flywheel, but the new version is a more efficient tool for getting the job done. The new puller is specific to the racing engine and is made of high quality materials that will last through years of use by professional engine builders.

Over the last two months we have discussed the ins and outs of ignition systems. Being able to service your ignition system is a critical step in being prepared in the shop. There are not many tools required to service the ignition system on 4-cycle racing engines, but this is one you can't live without if you have any plans of doing your own engine work. A proper flywheel puller is the only correct and safe way to remove a flywheel from your race engine. Without using the recommended tool, you risk the chance of damaging the flywheel which could lead to a potential reliability issue.

There are a couple types of flywheel pullers available to the racer. Some types of pullers, like pulley pullers, are not an approved method for removing the flywheel. This type of puller can physically damage the flywheel. This is no different than changing a tire with pliers; sooner or later it may come off, but not with out severe damage to your equipment. If the right tool is used, the nuts can be used over again without worry of them being stripped out the next time. Removing a flywheel is much the same; the proper puller for the job will make the task easy and ensure that the job is done right.

Briggs and Stratton now offers two types of

The new PVL puller requires just 3 steps to remove the flywheel. The flywheel nut is removed the same as above. The puller is then threaded onto the flywheel center hub.



pullers for their racing engines: the older two bolt style that utilizes the fan mounting bolts on the Animal flywheel or the two specific puller holes on the World Formula's flywheel, and the new center pulling puller available for the new PVL flywheel. The older Animal flywheel puller can still be used on the new PVL flywheel; unfortunately the new PVL puller will not work on other flywheels.

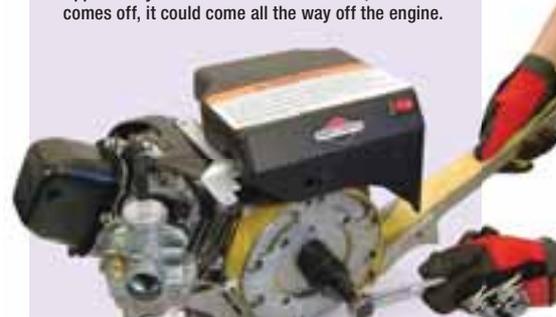
The older puller uses the holes in the flywheel to pull off of. The center of the puller is supported against the flywheel nut once the nut has been

loosened and backed off a couple of threads. The bolts from the puller are turned into the flywheel a sufficient amount for positive engagement. The nuts on the bolts are then turned evenly towards the flywheel, working back and forth between the two. Once the force of the puller becomes sufficient the flywheel will come off with a pop. The nut, still on the crankshaft, will keep the flywheel from coming completely off. Once loose, the puller and flywheel nut can be removed followed by the flywheel. This procedure is the same for the World Formula cast iron flywheel, but the puller is physically smaller because the bolt centers are closer together.

No matter what engine you are working on, always consult the service manual for the proper steps to removing the flywheel.

New Way:

The outside of the flywheel is held using a strap wrench while the puller's center bolt is turned in against the flywheel using a 3/4" or 19mm wrench. The flywheel will come off with a pop. Remember, the flywheel is not supported by the crankshaft nut this time, so when it comes off, it could come all the way off the engine.



The new puller for the PVL flywheel uses the external threads on the flywheel hub to pull off of. This puller is more compact and utilizes its internal threads to screw onto the flywheel's hub. First the flywheel nut is removed and then the puller is threaded hand tight onto the flywheel hub. The outside of the flywheel can be held by a strap wrench while the center bolt is then turned using a 3/4" or 19mm wrench. The flywheel will once again come off with a pop. Remove the flywheel with care and keep in mind that the flywheel is no longer kept on the crankshaft with the flywheel nut and can come completely off. That is all there is to it! It is very easy and efficient to use and doesn't even require removal of the cooling fan.

Old Way:

Below: To remove the flywheel using the old style Briggs and Stratton puller, the flywheel nut must first be loosened. This is best done using a strap wrench to hold the flywheel while using a 15/16" socket on a standard ratchet. Never use a torque wrench to remove fasteners, it can affect their calibration and make them inaccurate. Only back the nut off by one or two turns.



Above: The flywheel puller is then installed into the cooling fan holes. Make sure to hand turn the bolts in a sufficient amount (about 1/2") before putting force on the nuts. Once in place, using the upper nuts, start to evenly put pressure on the flywheel by turning them clockwise. When they become tight enough, the flywheel will pop off the crankshaft taper. The puller and crankshaft nut can then be removed followed by the flywheel.

Briggs flywheel pullers have come with both metric and American threads for the various phases and model of engines. Make sure that you have the right thread for the flywheel you are pulling. Most modern Animal engines utilize a metric thread for the puller holes.

Always remember that engine work should only be done by a qualified individual. Specialized tools are needed to both remove and install flywheels and this should never be done with substituted tools not designed specifically for this function. Once removed, the flywheel will need to be reinstalled again. This should be done using a strap and torque wrench and be installed using the manufacturer's recommended torque for each specific application. If you are working on a variety engine brands, only utilize the specified tools and procedures recommended by the manufacture or the aftermarket parts being used.

This is just another example of how having the right tool for the job can make the team's mechanic's job easier. Much

Only use the manufacturer's approved puller for your application. Pullers like this, or of similar designs, are not approved and should never be used to remove an engine's flywheel.



PVL Puller Part Number 19584

like you don't want to use a vice-grip to hold a socket head bolt, you don't want to use the wrong puller to remove your flywheel. Using the wrong puller can ultimately hurt the reliability of your engine, and cost you

money in the long run. Being professional involves having the right tool in your box for the specific job at hand, the flywheel puller should be one that is standard in all qualified tool boxes. **NKN**

Reinstalling the flywheel should be done to the manufacturer's specification. Normally a strap wrench is used to hold the flywheel from turning while a torque wrench is used to put the manufacturer's recommended torque on the flywheel nut.



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