

How to Change Valve Springs

Warning: Any modifications are performed at your own risk. This guide is for information only. GX160Parts.Com accepts no warranty for damage to engines or to self as a result of following the information in this guide.

In order to change the valve springs you will need the following tools:-

- 10mm socket
 - Spark Plug Socket
 - 10mm Spanner
 - 13mm spanner
 - 12mm Socket
 - Feeler Gauge
 - Length of rope
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The easiest method of replacing the valve springs on a GX engine is to remove the exhaust as this will enable more room for working. Once the exhaust has been removed remove the rocker cover and the spark plug. Turn the engine over by hand to ensure the piston is at TDC on the compression stroke (both rockers will be loose). If not, not only will you be adjusting the valve lash at the wrong settings but you risk dropping the valves into the cylinder barrel which will require a top end rebuild to retrieve.

Slide the rocker arms off of the valves and turn them to the side. You do not need to remove the rocker arms. Just turn them to the side. It is a good idea to remove the exhaust valve rotator from the exhaust valve collet at this stage so you don't lose it down the engine!

Now take a length of rope and insert this down the spark plug hole. This will prevent the valves from dropping down into the cylinder barrel and will also make it easier to fit the retaining collets.

Push the valve spring and retainer down and position them so you can slide them up, off the tip of the valve. Now replace the standard valve springs with stiffer valve springs (either GX140 Valve Springs, G4 Valve Spring or G200 Valve Spring). Replace the inlet and exhaust valve collet and refit the exhaust valve rotator. Slide the rocker arms back over the valves and remove the rope from the combustion chamber.

Now we will set the valve clearances (ie the gap between the rocker arm and the top of the valve). Using a feeler gauge we will set the inlet clearance to 2thou and the exhaust to 3thou. This is the standard setting for kart racing but there are variations on this. Our advice is to test which settings suit your engines and circuit best. Adjust the gap using the Rocker Arm Adjusters and then lock in place using the Rocker Arm Adjusting Nut.

After the valve clearances have been set, turn the engine over a few times and recheck.

You can then refit the Rocker Cover and Exhaust.

Reliability Modification

The following reliability modification is permitted under MSA regulations and recommended for any engine which is not running standard parts. This modification decreases the chances of dropping the inlet valve due to valve bounce, using stiffer springs, etc.

The modification involves fitting an exhaust valve collet and exhaust valve rotator onto the inlet valve which secures the collet. However, in order to ensure the rocker arm adjuster sits on a full thread we advise fitting a single 8mm washer between the cylinder head and the base of the valve rocker post to raise the post. This will allow you to safely adjust the valve clearances.