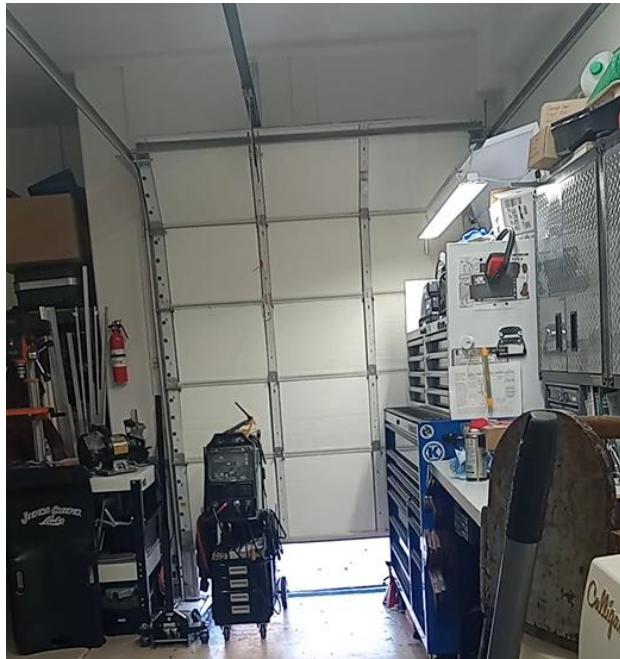


Garage Door Maintenance



Contents

Purpose	2
Rollers.....	2
Torque	2
One Side Bolt Hinges.....	3
How the Pin Works.....	3
Removal Process	4
Cleaning & Replacement.....	5
Overcoming Excess Hinge Tightness	6
Lubrication	7

Purpose

This document describes the steps to maintain your garage door system.

Rollers

Over time the rollers tend to wear out. Additionally, they get noisy due to wear and you may have rollers that don't have ball bearings (photo below left – black) so it would benefit you to upgrade (photo below right - blue.)



Most videos on-line show hinges with bolts on both sides of the hinge. These are very straightforward to remove and replace (photo below left) however sometimes you run into hinges with bolts ONLY on one side (photo below right.) The following section describes the tricks to working with one-side-bolt hinges.



Torque

The hinge bolts should be fastened with about 5-10 foot-pounds of torque. I used 8, but had to keep some of the screws around 5-6 as they seemed to be stripping. You might think higher torque is needed but the door weight is actually supported by the other (non-roller) hinges in the middle of the door. You don't really need a torque wrench – just get them reasonably tight.

One Side Bolt Hinges

These are extremely perplexing at first until you realize the one little trick that is necessary to understand how these work.

How the Pin Works

The photo below explains the magic. Looking at the pin (in my hand,) observe that there is a raised key (see red arrow) near the head. Also observe that both the door frame pin hole (white) and hinge bracket pin hole (silver) have notches that accommodate the raised key.



As can be seen, the pin can ONLY be inserted/removed when the hinge bracket is completely folded down – at this time the pin can be inserted/removed as long as the raised key is pointing down (so it lines up with the slots in the door/hinge components).

Once you insert the pin, and raise the hinge bracket and bolt it in, the pin is cleverly trapped and cannot slide out because the raised key is blocked by the frame/hinge key holes no longer lining up.

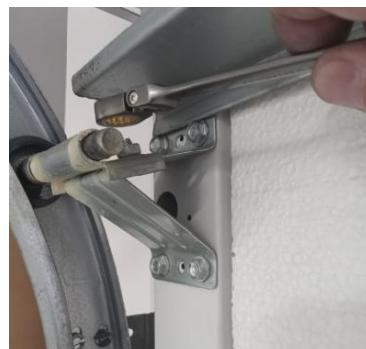
Removal Process

Referring to the 4 photos below:

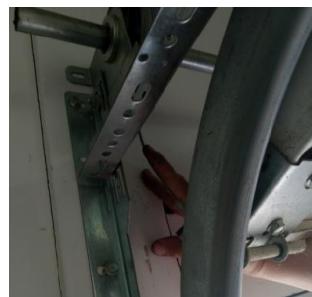
1. Remove the two bolts holding the hinge to the door.
2. Flip the hinge all the way down – so the key holes line up.
3. Twist the pin until the pin key is pointing straight down, at this point you should be able to push the pin out of the hinge. Note: you may have to move the door up/down a little to move the pin away from any obstacles.
4. Once the pin has been removed, you can simply twist the hinge assembly around and pull the roller out of the track.



The top roller is even easier. Referring to the photo below, simple remove the two bolts and the roller bracket comes off as expected.



The bottom roller is more difficult and I have not yet figured out how to get it off – even with the bolts removed it won't come off the door. When working on the bottom roller you need to move the door all the way to the top (to remove the spring tension.) However, because the bottom roller pin is not housed in a tube (like the others) I didn't see a benefit in bothering with it.



Cleaning & Replacement

You need to get new rollers and (ideally) sleeves to make them quieter.

I purchased a set of 12 rollers on Amazon ([link](#)) for \$29 and the roller sleeves ([link](#)) for \$30.



Ideally you would just pop the old roller out, insert a sleeve, and pop the new roller back in. However, it requires a little more work in the real world due to wear and dirt.

First you need to clean hinge using degreaser and a 14mm bore brush, then insert the sleeve, followed by the roller.



Then you need to affix the sleeve lock washer using a 9/16 socket and hammer – see below. You want to leave some gap between the lock washer and the sleeve so that it can move around a bit – the purpose of the lock washer is to prevent the sleeve from working itself off the end and falling off.



You can now re-attach the roller assembly to the door using the reverse steps taken to remove it.

Overcoming Excess Hinge Tightness

Ideally all the rollers would slip in as described in the preceding section, however some of them will be too tight and cause the sleeve to “crumple” when you push the roller into the hinge. In these cases, you will need to do something like is shown below (lubricating the sleeve does NOT work – I tried it.)

Using a set of flathead screwdrivers, work one of them into the middle area of the hinge (thus spreading the hinge tube – make sure the screwdriver doesn’t extend ‘into’ the tube or it will block the sleeve.) Without removing the screwdriver (because the tube will snap back to its smaller size) insert the sleeve followed by the roller.



Once the sleeve and roller are properly positioned, you can remove the screwdriver. At this point the hinge will grip the sleeve/roller so tight that you will no longer be able to move it (technically you could omit the lock washer on this hinge, but it is more consistent to put it on anyway.

Lubrication

You should lubricate the chain, sprockets, spring, and spring bearings using [garage door lubrication](#) (I used 3-In-One but there are many good choices.)



Additionally, you should check the chain tightness. If it is loose, you should tighten it. It should not be sagging below the chain rail.

Ideally you would do this step once or twice a year.