

## Some Dremel Tricks for Rowe Equipment Hoppers, Lost Keys, OBAs, Magnetic head gaps By Bruno D Puglia East Coast Amusements

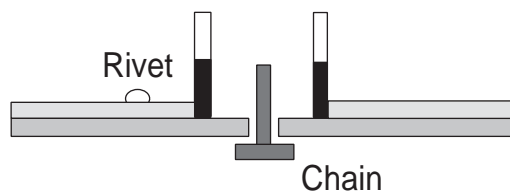
> **Hoppers** - Worn track edges: With excessive wear the hopper track plate edges get rounded or uneven and the coins fall off the track. I have re-cut the plate edges with a Dremel tool and a good cutter. The idea is to get the edge back to 90 degrees. The cutter is flat on the end so it does not cut at the end. Other cutters may work but this one works best for me. Its worth the few extra bucks you have to pay for it. I grind the flat end of the tool a few degrees so it does not cut into the flat edge of the hopper plate. When it is hot after grinding I dip it into water.



Dremel Cutter # 9901 with flat smooth end

I cut back the worn edges hopper coin tracks with the Dremel tool so the upper plates are back to having 90 degree edges. I keep the tool moving and you do not have to cut to much off to get back to 90 degree edges. I have done many hoppers and they all worked fine after using the cutter process.

Use cutter on both edges



> Another hopper problem is the lower rivet near the agitator rivet has an edge was not smooth or the rivet is loose and can come up away from the plate, or it has both these problems. The coin cannot slide over the rivet. Generally its quarters and quarter sized coins but other coins like nickels can get caught between the rivet and the gray agitator in small coin hoppers. This catching locks up the hopper and/or chews up the edges of the gray agitator. Sometimes motor gear box damages occurs because of these rivet jam problems. I have fixed many loose rivets and I have had to file/Dremel away the edge so the rivet is smooth so coin slides over the rivet. Use one of those very small round cutters/grinders. Check out ROWE BILL CHANGER HOPPER REPAIR > Bruno's page at <http://www.eastcoastamusements.com/>

**Warning:** The metal chips are bad news so protect your eyes and skin. These metal chips can cause infections. Protect your clothes too. I use long rubber gloves, apron and I put paper towels on the work area.

>**Drilling out hardened locks.** Sometimes I use the Dremel tool and with this cutter to hack away broken or no key locks. Again the extra cost of the cutter is worth it. If you have a better system for those no key or broken hardened locks, lets hear about it.



Dremel Cutter # 9903 Rounded end with cutting edge

>**OBA rear creasing rollers to tight.** The OBA acceptor rear creasing rollers want to be free to roll and you don't want them tight again the lower belts. If they are hitting the lower belts the acceptor can have varying degrees of wow and flutter thus adding drag on the motor. The Dremel tool with a good cutter makes it easy to enlarge the shaft screw holes SLIGHTLY to the towards the rear of the acceptor and then you can adjust the creasing rollers so they are free and away from the lower belts.

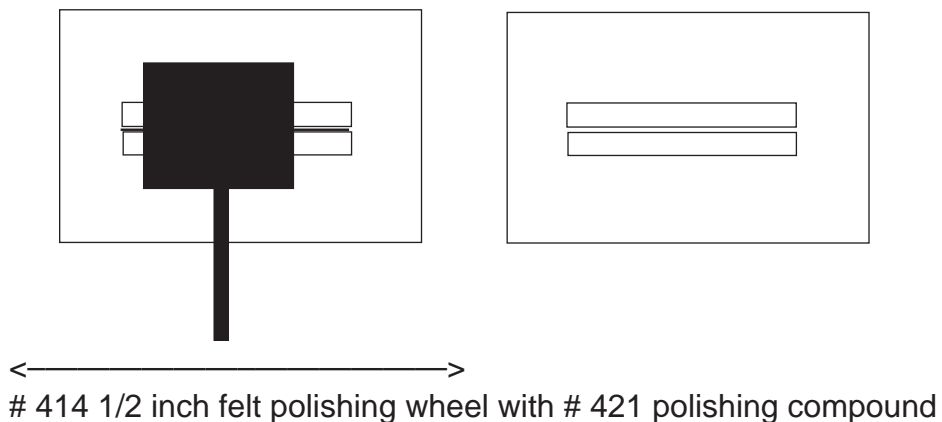


Bruno

## Restoring a magnetic head's gap !

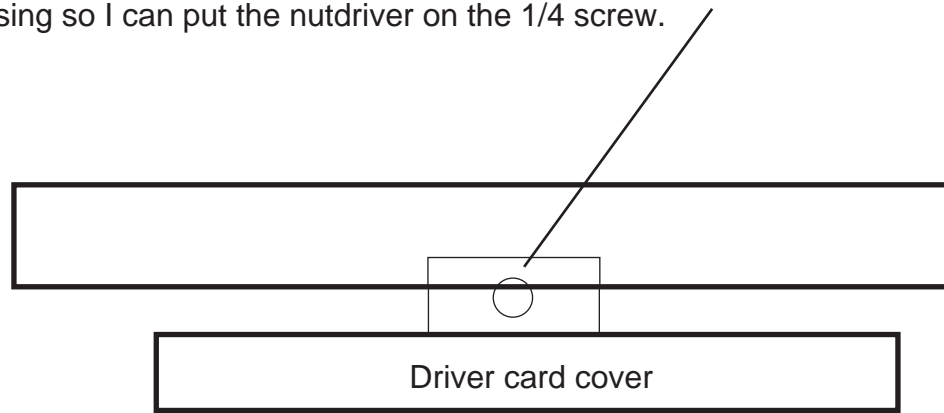
I do not use this procedure on sensor type pickup heads.

Magnetic heads in bill acceptors take a beating from the bills passing over the head. Cleaning, and where required, lubrication keeps the acceptance rate high and the reject rate low which reduces the magnetic head wear. Over time the magnetic head gap can become shorted when the metal smears across the gap and this will reduce the acceptance rate. One of the Bruno tricks is to re-surface the head and restore the gap opening with Dremel tool. A # 414 1/2 inch felt polishing wheel with #421 polishing compound is used at slow speed to lightly polish the head gap. Move the Dremel tool side to side along the head's gap. Don't over do it ! In many cases this will restore to gap opening. This extends the head life and this helps keep the end user's, or your, cost of the repair/rebuild down. I don't know what other repair shops or techs do but I have been doing this procedure for many years. There are other polishing compounds up might fine useful. Formax makes a series of compounds and some companies offer 4 and 6 bar compound kits.



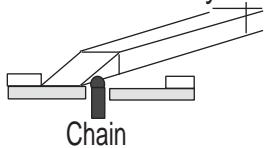
**Early BC-12R dual stackers - Sometimes found in converted BC12R to BC1400**

The early BC-12R dual stackers have an acceptor housing atop the stacker section which blocks you from getting a 1/4" nut driver on the upper screw for the driver card metal cover. I use the Dremel tool with a 9901 or 9903 cutter to cut away that part of the acceptor housing so I can put the nutdriver on the 1/4 screw.



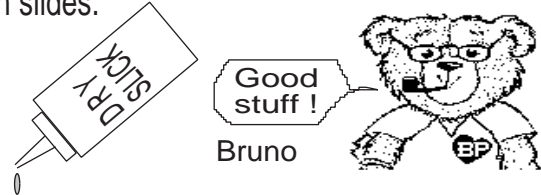
## CLEANING ROWE HOPPERS !

Just brushing a Rowe hopper is not good enough to get rid of dirt build up on either side of the chain. A person should not scrap the plate with a sharp object like a screwdriver, wire brush, or use something like steel wool. Would you use these items to scrap a teflon coated pan ? Of course not ! You can make a wooden chisel out of hard wood or file/grind the back end of the hopper brush into a chisel. How often should you clean hoppers ? What ever you do don't wait till the hopper stops picking up coins. If you do the damage to the tracks has already occurred.



## Dry Slick !

What can you use to clean Rowe hoppers and your coin mechs ? A product called Dry Slick is a very good cleaner when wet and when it dries, it leaves slick surface film which does not collect dirt. I do not recommend its use where a build up will cause a serious tightening. (such as tight shaft and nylon bearing). There is no problem when used on a Rowe hopper or on a coin mech area where the coin slides.

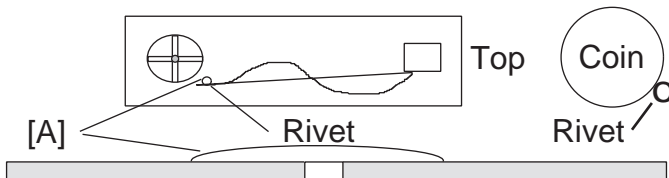


Consider having me REFURBISH your hoppers. I'll take care of the rivet problem, fix the track edges better than new and replace worn parts. If you don't have the baffle plate with the nylon strip on it I'll put it in. The cost will normally run \$80 to \$100 per hopper but the cost will be a good return on your investment. You have better running hoppers, extend the life of the hopper and other parts like motors and the gear boxes. I do more than just do a cleaning and replace an agitator. . Get those hoppers refurbished now, don't wait !

Hopper jams or coins bridges can be caused by dumping the coins into the hopper and/or shaking the coins down. Slowly pour the coins into the hopper. Failure to do it right leads to coin bridges and/or coin jams. The coin jams can cause hopper motor or gear box failures. Re-read the manual for instructions. Make sure items like paper clips, string, paper, etc, does not get into the hoppers.

## Hopper Rivet Jams

We have seen two rivet problems with the small rivet near the gray agitator. We have noted gray agitators with nicks in the rounded blade edge surfaces. These nicks are caused when quarters or quarter sized coins get stuck between the rivet and the gray agitator ( point A ). This occurs when the rivet is loose rivet or the rivet no longer has a smooth edge. If you take the main plates apart you can hammer/punch a loose rivet tight. If the edge of the rivet is no longer smooth you can file the edge smooth so the coin slides over the rivet.



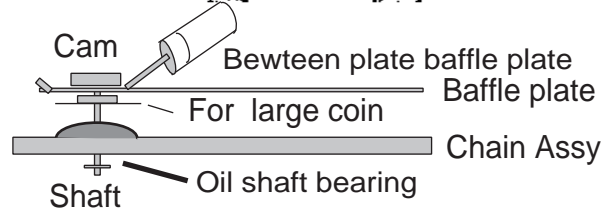
## HOPPER PLACES TO OIL !

We have found it pays to oil both nylon bearings used for the hopper shaft. Oiling the area where the cam/s hit the baffle plate with Magic Wand, Radio Shack or 3 in 1 Oil will reduce the amount of friction and make the hopper easier to turn. This will reduce wear and tear on the hopper Motor. Do not use other stuff like WD-40 on the hopper. RAD Dry slick should be used on the chain.

Never oil or WD-40 the hopper chain !



Never use WD-40 on a Rowe machine or acceptor



**WARNING:** Some of the hoppers I have seen lately have stripped holes. The metal used in the plate assembly, baffle plate, and even worst, the material used for the chain adjustment block can not take abuse. Automatic nutdrivers or drills can, and have, caused stripping of the holes. Extreme care must be used when tightening screws. The three chain adjustment screws need snug tension and the lock washers will hold the block in place. Fast is not better. Gross is not better !

At some point in time you may want to check out my other Bear notebook articles because they contain a great deal of related material. You will find them on Bruno's Page in <http://www.eastcoastamusements.com/> then: left click on: **Visit his page for service notes and tips.** **OR:** <http://www.eastcoastamusements.com/services.htm> and then click on the BEAR with the flower!!

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You will want to check the East Coast Amusements site for revised or new articles. I do have more titles in the works. Here are some the posted articles.

**ROWE 4900 ACCEPTOR ISSUES**  
**ROWE BC-1 BILL CHANGER**  
**THE MAGIC WAND (Dick's - my favorite)!**  
**CONNECTORS - FIXING AND TESTING (another good one)**  
**ROWE BILL CHANGER HOPPER REPAIR**  
**MEASURING VOLTAGES**  
**BUCKET POWER ON ERRORS**  
**ROWE STACKERS**  
**MAG HEAD LOOP SECRETS**  
**DREMEL & ROWE STUFF**  
**FEK MOTOR TEST UNIT**  
**OBA ACCEPTORS**  
**JACKPOTTING, FS, BUCKET POWER ON & CRASHES**  
**BC-8 to BC-35 Bill Changers**  
**CBA\_UCBA**  
**Basics\_101**  
**BCxx00\_bill\_changers**

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To East Coast Amusements  
> THANKS ! Bruno

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