

TOOLS & AIDS



Illus. C08-01

For this workshop we recommend the »Hohner Instant Workshop Set MZ99831, the essential tools for all HOHNER HARMONICA WORKSHOPS.

This toolkit for professional players and harmonica service technicians includes the Hohner Service Set MZ99331 and contains in addition all further tools necessary for replacing individual defective reeds as described in this workshop.

For this Workshop C08 - Reed Replacement you will need the following tools:



Illus. C08-02

Tool 2:

Reed Lifting Blade with Reed Wrench

An essential tool for many reed adjustment operations.

Featured in workshops:

- »Workshop C04 - Centering
- »Workshop C05 - Regapping
- »Workshop C07 - Tuning

C08 - Reed Replacement



Illus. C08-03

Tool 10: Combination Deriveting Tool

Special pliers to remove the old rivet and also punch a hole into the windsaver to glue over the top of bolt head. Comes with two different interchangeable bits.

Featured in Workshops:

- »Workshop C08 - Reed Replacement
- »Workshop C08.1 - Perforated Windsavers



Illus. C08-04

Tool 11: Reamer 1.4

To ream up the holes in reed plate and reed so that they fit the new stud bolt for mounting the replacement reed.

Used in workshop:

- »Workshop C08 - Reed Replacement



Illus. C08-05

Tool 12: Universal Holder

Holds the reamer and is also needed to set the stud bolt in the plate.

Used in workshop:

- »Workshop C08 - Reed Replacement

C08 - Reed Replacement



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Tool 13: Drill Bit

Needed for deburring reed plate and replacement reed.

Used in workshop:

»Workshop C08 - Reed Replacement



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Tool 14: Tap 1.4

Cuts an M1.4 thread into the reed plate.

Used in workshop:

»Workshop C08 - Reed Replacement



Illus. C08-08

Tool 15: Screwdriver

To affix the stud bolt.

Used in workshop:

»Workshop C08 - Reed Replacement

C08 - Reed Replacement



Illus. C08-09

Tool 16: Star Nut Spanner

To secure the special star nut with which the replacement reed is affixed.

Used in workshop:

»Workshop C08 - Reed Replacement



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Aid 17: Special Nut 1.4

Screws onto the stud bolt to fix the replacement reed into place

Used in workshop:

»Workshop C08 - Reed Replacement



Illus. C08-11

Aid 18: Stud Bolt M1.4

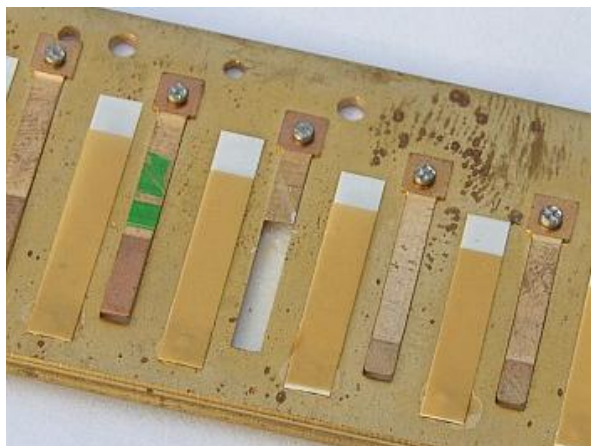
Screws into the reed plate to durably mount the replacement reed.

Used in workshop:

»Workshop C08 - Reed Replacement

C08 - Reed Replacement

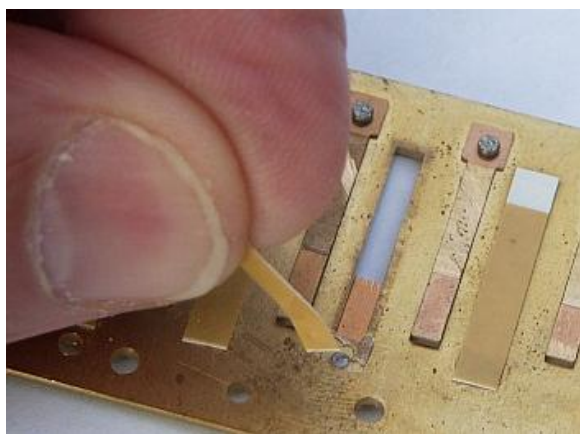
Step 01 - Remove the defective reed



Illus. C08-12

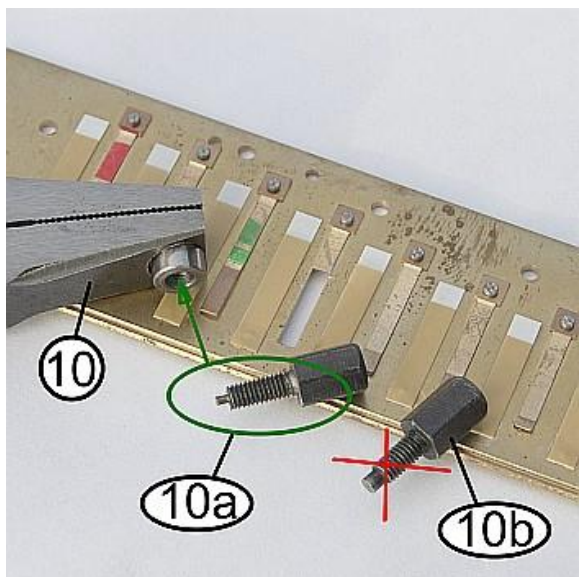
There is a significant disadvantage to replacing complete sets of reed plates: Usually only one or two reeds are actually defective, the remainder are frequently perfectly OK.

Instead of discarding entire reed plates with up to 31 reeds in good working order, it really does make sense to simply replace the broken reeds.



Illus. C08-13

Remove the windsaver from the opposite side of the reed plate to the defective reed. You don't even have to clean the surface yet, this can be done later.



Illus. C08-14

To enable the player to remove defective reeds, Hohner has developed

Combined De-Riveting Tool (10).

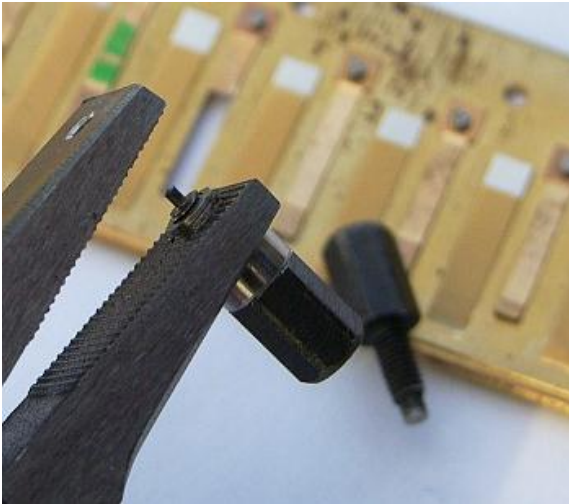
This is a special pair of pliers with two interchangeable bits (**10a & 10b**) designed for two different purposes:

To press out the rivet with which the old reed is affixed to the reed plate (10a).

To punch a hole into a windsaver as described in **»Workshop C08.1 - Perforated Windsavers (10b)**.

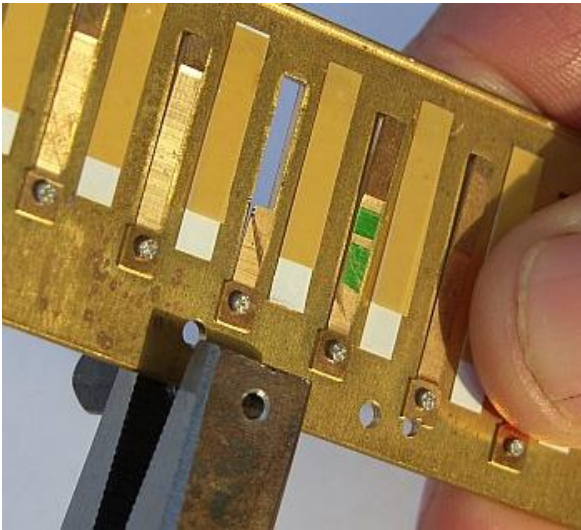
It's therefore essential to select the correct bit 10a for the de-riveting process, as shown in Ill. C08-14.

C08 - Reed Replacement



Illus. C08-15

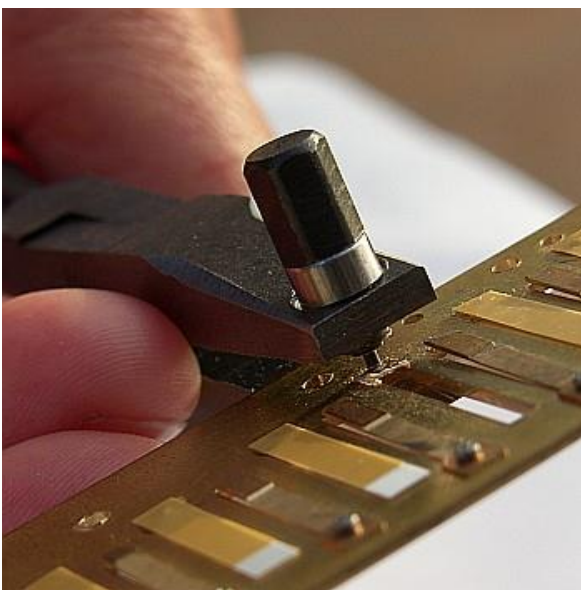
Here the bit 10a for de-riveting has been screwed into the pliers.



Illus. C08-16

III. C08-16 shows the side from which you have to access the reed plate.

The rivet head (thicker part) is placed into the hole of the de-riveting pliers, facing downwards.



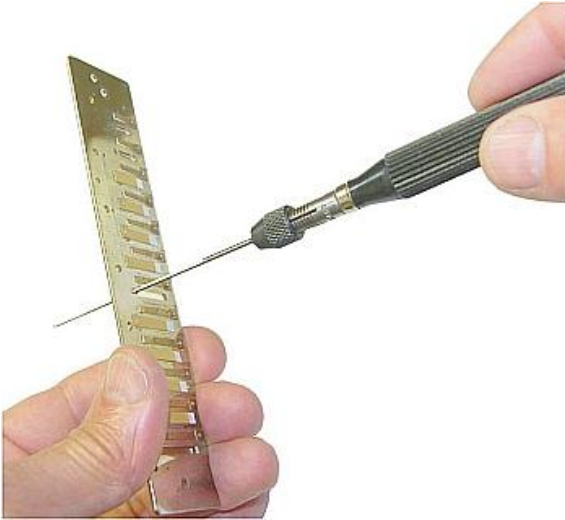
Illus. C08-17

And here's how to punch out the reed.

Make sure that the pin is positioned exactly on the center of the rivet before you close the pliers. You'll need to press quite hard.

C08 - Reed Replacement

Step 02 - Ream the rivet hole to 1.3mm



Illus. C08-18

In order to be able to screw in a stud bolt to attach the new reed, we first have to use the Reamer (11), mounted in the Universal Holder (12), to enlarge the rivet hole to approx. 1.3mm diameter so that it fits the stud bolt.

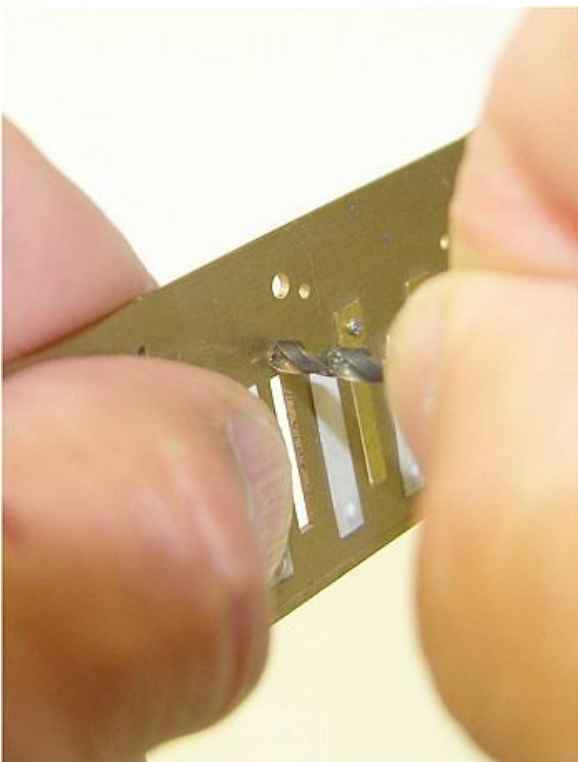
Caution:

As the core diameter of the stud bolt is only 1.3mm and this is a 1.4mm reamer, please only ream about halfway in.



Illus. C08-18

Step 03 - Deburring



Illus. C08-19

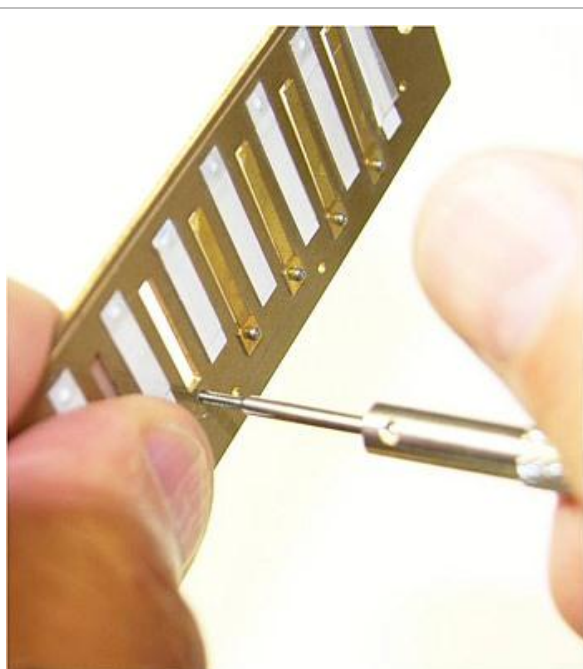
When reaming out the hole, a tiny burr forms on the reed plate. In order to avoid play at a later point in time between reed and plate, it's necessary to deburr the plate with the Drill Bit (13), using minimal pressure.



Illus. C08-19-1

Step 04 - Tapping M1.4

C08 - Reed Replacement



Illus. C08-20

Now the thread for the stud bolt is cut into the reed plate using the **Tap M1.4 (14)**.

When performing this operation, it's extremely important that the tap is positioned exactly at right angles to the reed plate on both axes before you start to cut the thread. Then twist the tap until it turns smoothly in the thread.



Illus. C08-20-1



Illus. C08-21

In order to accurately insert the stud bolt into the thread you have cut in the reed plate, the bolt should first be mounted in the **Universal Holder (12)**.

Now you can screw the stud **M1.4 (18)** into the reed plate.

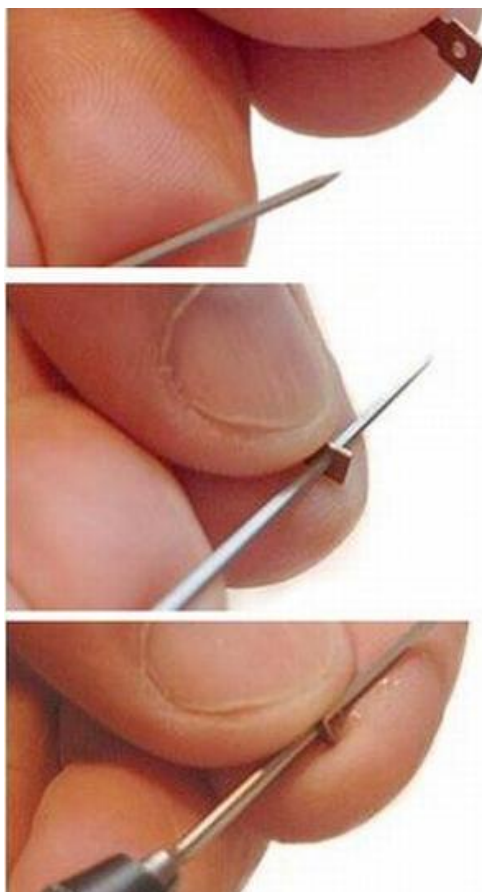


Illus. C08-21-1

As soon as the screw has found the thread, release it from the holder. Of course you can insert and screw the stud in by hand, but it's easier using the holder.

Step 06 - Reaming out the hole in the reed

C08 - Reed Replacement



Illus. C08-22

The existing hole in the reed needs to be enlarged to fit the external diameter of the stud bolt (1.4mm).

The **Reamer 1.4 (11)** in the **Universal Holder (12)** is inserted into the hole at rights angles to the surface of the reed and pushed in the whole way.

It's better that the hole in the reed is too large than too small, as this facilitates centering the reed and is one of the major advantages of this method as opposed to riveting.

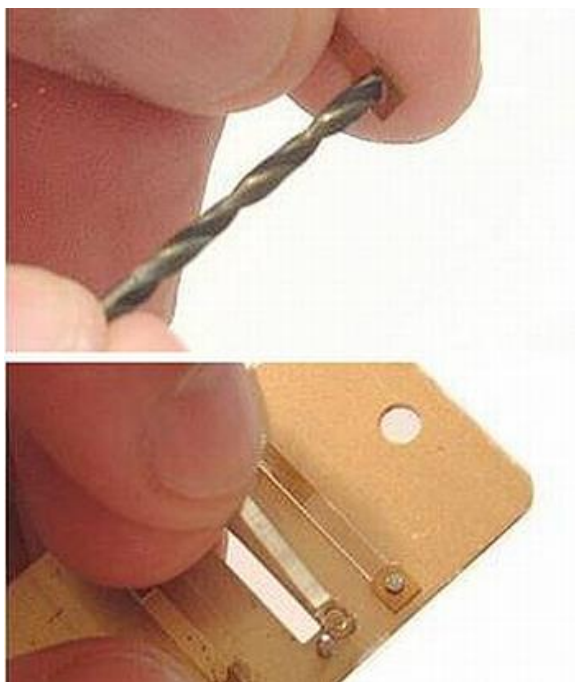
Caution:

Be careful not to deform the reed between your fingers or by pushing the reamer in too hard.



Illus. C08-22-1

Step 07 - Deburring and mounting the reed



Illus. C08-23

When reaming out the hole, a tiny burr will form on the reed. In order to avoid play at a later point in time between reed and plate, it's necessary to deburr the reed with the Drill Bit (13), using minimal pressure.



Illus. C08-23-1

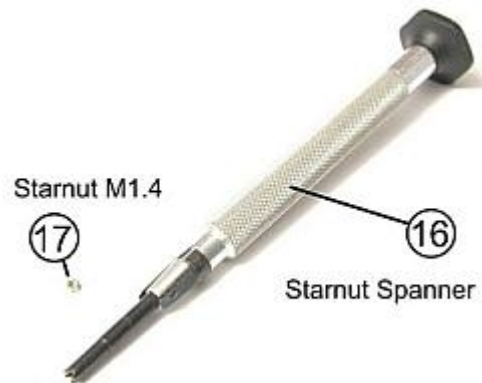
Step 08 - Setting the star nut

C08 - Reed Replacement



Illus. C08-24

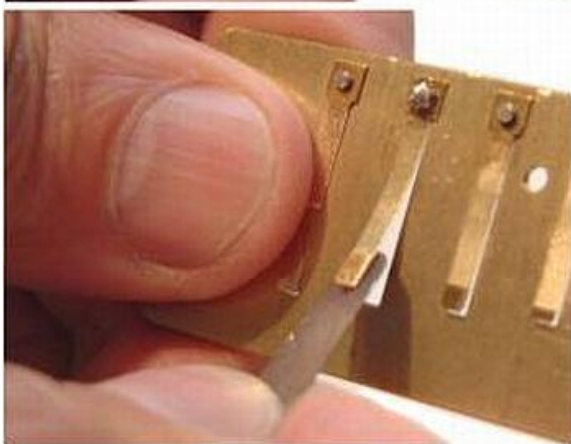
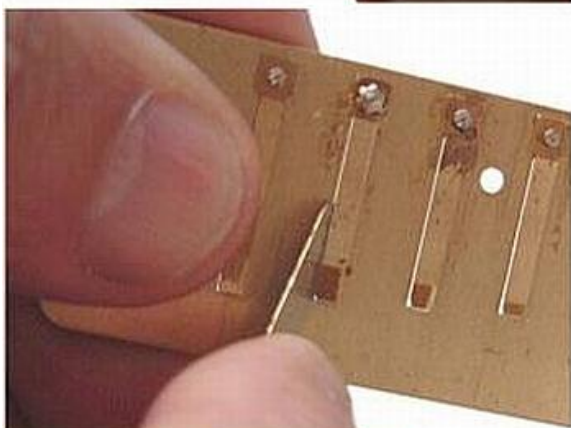
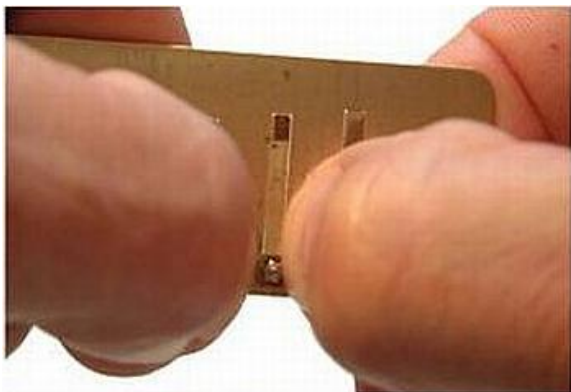
First of all the Star Nut (17) is placed in the Star Nut Spanner (16). In order to prevent the little nut from falling out of the spanner, you have to work from underneath to place it upon the stud.



Illus. C08-24-1

C08 - Reed Replacement

Step 09 - Centering and Locking

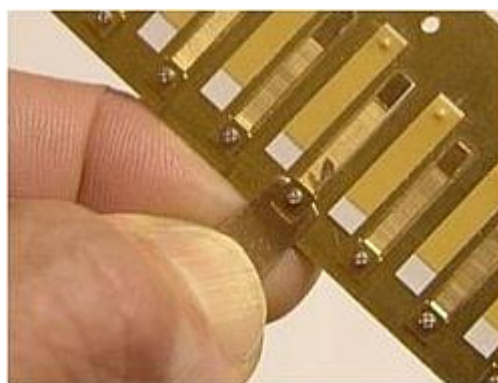


Illus. C08-25

Now proceed as shown in:

- »Workshop C04 - Centering
- »Workshop C05 - Regapping
- »Workshop C07 - Tuning

The reed needs to be centered so that it can oscillate freely through the slot just like any other reed. Adjust the offset to your liking, tune the reed and your instrument is ready to go again!



Illus. C08-25-1