

Simple, Portable, Personal DIY Book Scanner by **nalfonso**

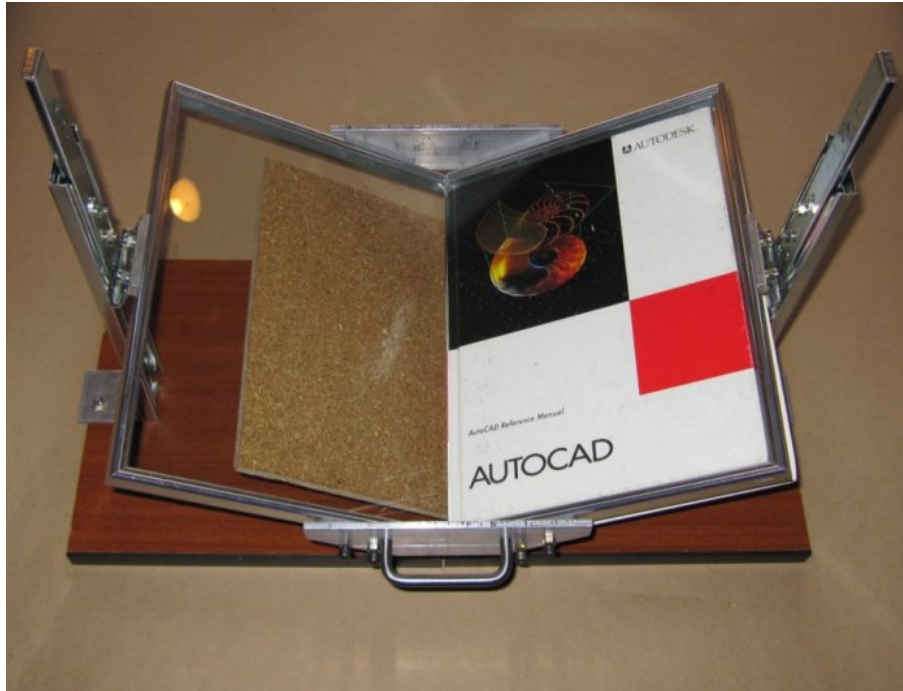


Fig. 1

Fully assembled book scanner.

This document covers only the scanner's main mechanical subsystem. The other subsystems (camera mounts, camera control, display and processing software used) will be documented later.

The assembly sequence is shown in the following pictures.



Fig. 2



Fig. 3

The base is made of two board sections joined by brass rod dowels.
The four little plates serve as guides for the sliding cradle.

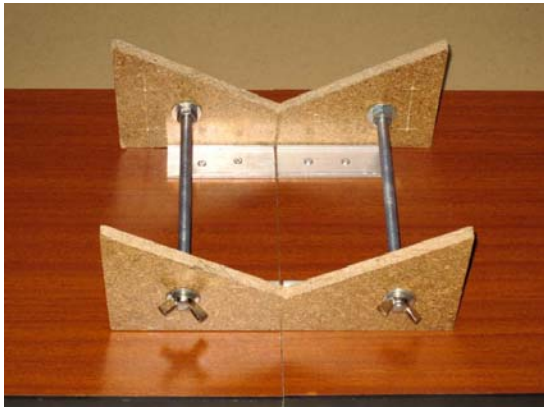


Fig. 4

The two cradle boards are joined by threaded rod, nuts and wingnuts.



Fig. 5

A hinged book support simply sits on the cradle.



Fig. 6

The glass platten shown upside down. The platten is framed by (you guessed it!) knock-down aluminum picture frame components. The inside angle is 120° . Each 4 mm tempered glass plate is 230 by 300 mm.

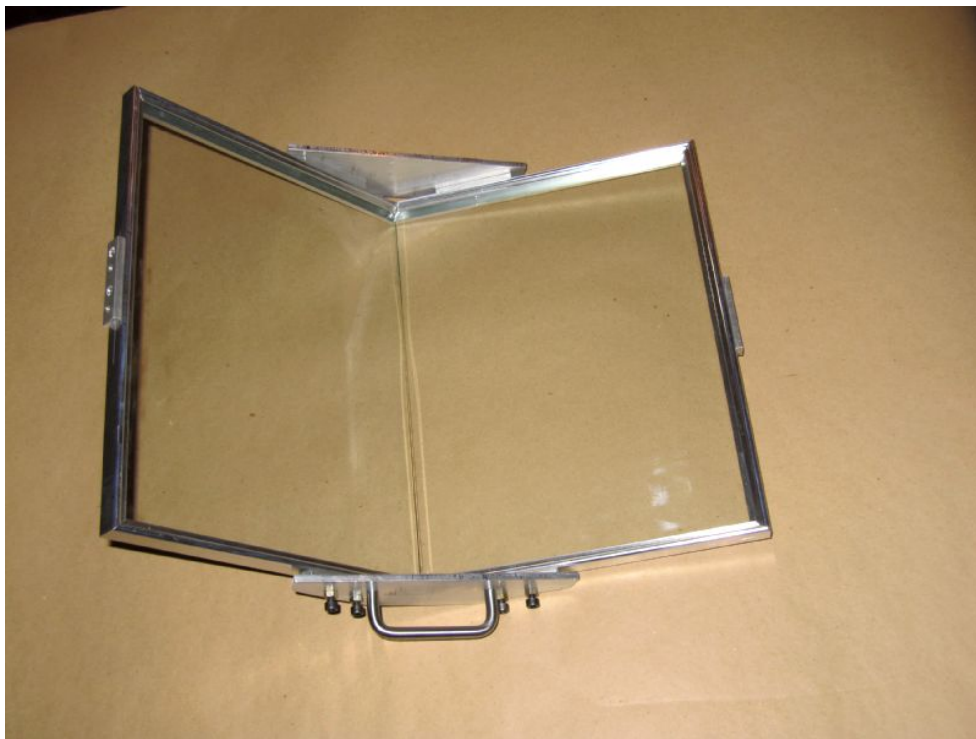


Fig. 7

The glass platten shown upright. Since the aluminum frame sections have very thin walls, six (6) 5 mm aluminum plates were drilled, tapped and then pop-riveted to the frame to receive the 5 mm Allen head bolts. The Allen head bolts are tightened by hand and then the lock nuts are tightened with an 8 mm wrench.



Fig. 8

The platten halves are joined with two aluminum plates. This is the one at the rear. The front plate bears the handle.



Fig. 9

The platten is secured to the side rails by hinges bolted to the two elements. The drawer slides used are three-section, the end section can be removed by releasing the latch shown in Fig. 11



Fig. 10

The platten is placed on top of the book support resting on the cradle base, and the end drawer slide sections are bolted to the frame, one on each side.



Fig. 11

The bottom end section on each side is now swung outwards, and the platten is lifted slightly in order to allow reassembly of the drawer slide.



Fig. 12

The assembled drawer slide is now readied for attaching it to the base.



Fig. 13

Two nuts are all it takes to secure each side's drawer slide.

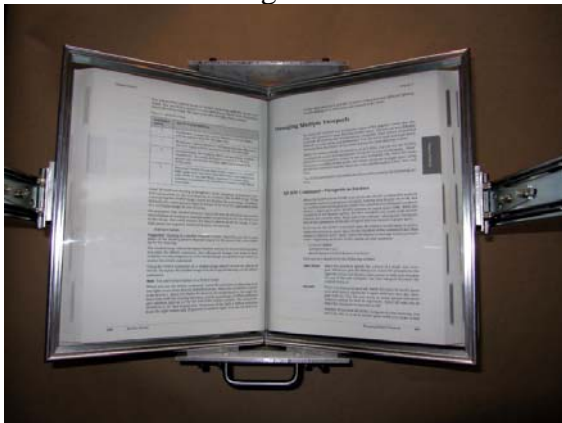


Fig. 14

That's it! Place your book under the platten. This one has letter-size pages and is about 5 cm thick.



Fig. 15

Close view of the front joining plate.

To disassemble, the steps are reversed.



Fig. 16

By removing the outer bolts on each the front and rear plates, the platten can be folded as shown above, to reduce its size.



Fig. 17

The disassembled scanner. All parts have been stacked for this picture, and all the loose small parts are shown in the front, including the only two tools needed for assembly.



Fig. 18

All the parts shown in this document can fit perfectly in a 5" deep briefcase.

Portable enough for you?

Of course, padding is not shown, but not too much of it is necessary.

See more DIY book scanners at <http://www.diybookscanner.org/forum/>