

3IN1 AUTO DOOR-CLOSER HINGE



USER GUIDE

Model Type - SA+SA+SA1+SA1 For Door <320 Pounds (150 kg)

www.watersonusa.com

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D BEFORE INSTALLATION



1 BEFORE INSTALLATION



Swing freely



2-1 The quality of door installation is SUPER important and could affect the self-closing feature greatly.

2-1.1 Install like regular hinges with reliable precision and hinge alignment. After installing the door,

2-1.2 **Moving Freely Without Any Interference:** Push the door edge lightly from 90°to 0°and the door should swing FREELY.

2-1.3 **No Bounce Back in the Lower Closing Angle:** Try to close the door by hand. Fix first if the door springs back in lower angle and can't easily to be latched.

2-2 If the above 2 concerns have solved – move to the hinge adjustment section. If no - follow the 3 check points (2-2.A~2-2.C) below to solve the problems.

2-2.A : Do your door and frame have enough clearance in between or they are hitting each other?

2-2.A1 Use a piece of 0.3-0.5mm thick metal (credit card / gap gauge) to verify the clearance.







2-2.B: Do your door lock and the strike plate match properly or they are creating interference?

2-2.B1 Check you latch bolt. It should engage properly with the strike plate.



2-2.B2 Realign the strike plate/ create fitting depth for it or Grind it a bit off/ replace the original strike plate.



BEFORE ADJUSTMENT

2-2.C: Is your door binding or sagging? Or there are uneven gap between frame and door?Use shim to adjust the door position. **2-2.C1** Check the type of binding problem first, see the four types of door binding below. Then loosen all the screws 2-2.C2 Adhere the shims as illustrated and fasten two screws indicated with arrows. (not all the way) KNOW THE FOUR TYPES OF PROBLEMS • Door Panel may be tilted Large gap is present at latching side I'M SHIM. NEXT Move the door to LATCH SIDE by shimming. Move the door Follow 4 Follow to LATCH SIDE t reinstall reinstall these screws these screws by shimming. first. first. FIRST Move the door to HINGE SIDE by shimming-

Large gap is present at hinge side



• Door panel may be tilted



ADJUSTMENT PROCEDURE

3-1 Go to the hinges with numeric adjusters. Set up minimum closing power. Adjust N-7 numeric adjuster for closing power.

3-1.A How to Increase or decrease power setting

3-1.A1 Use 5 mm hex wrench to adjust closing power.

3-1.A2 To increase power: adjust the numeric adjuster to higher numbers 3-1.A3 To decrease power: press down the numeric adjuster and turn to lower numbers.





3-1.B1 Each adjuster includes N-7 setting value.

One setting value provides about 15-22 pounds(7-10 kgs) of closing power.

3-1.B2 Adjust one by one, set up the minimum closing power for your door.

3-1.B3 The door may slam at this stage. Keep going. Just make sure the door could close at 20°





3-2Go to TOP and Middle 1 hinge (Type SA Hinge) to set up mechanical buffer in 20°-80°. Only adjust the bottom of hinge.

3-2.A What does A mechanical buffer do

SA mechanical buffer provides speed control in 20-80°. You can adjust it through the speed screw at the bottom of the hinge.

3-2.B How to increase or decrease buffer

3-2.B1 Adjust the Bottom section of the SA hinge with 5 mm hex wrench.

3-2.B2 Turn 5 mm hex wrench from + to – to slower speed & from - to + to faster speed

3-2.B3 Adjust this mechanical buffer 1/2 turn at a time. Test the door opening again.

3-2.B4 If the speed screw is more engaged in the barrel, the brake is more engaged.





3-3 Lock in the adjustment

3-3.A Make sure self-closing feature works in all angles.

3-3.B Tighten the 2 side setscrews on each hinge using 3 mm hex wrench to lock in the settings.



Tighten all the set screws to lock the settings!

3-4 Go to Middle 2 and Bottom hinge (Type SA1 Hinge) to set up mechanical buffer in 0°-20°. Only adjust the bottom of hinge.

3-4.A What does A1 mechanical buffer do

A1 mechanical buffers provide speed control in 0-20°. You can adjust it through the speed screw at the bottom of the hinge.

3-4.B How to increase or decrease buffer

3-4.B1 Adjust the Bottom section of the SA1 hinge with 5 mm hex wrench.

3-4.B2 Turn 5 mm hex wrench from + to – to slower speed & from - to + to faster speed

3-4.B3 Adjust this mechanical buffer 1/2 turn at a time. Test the door opening again.

3-4.B4 If the speed screw is more engaged in the barrel, the brake is more engaged.

*If the buffer system of SA1 is more engaged, you may need to release the buffer system of SA. The braking in SA1 and SA is interactive. You could add one more click for power adjuster to add more force.



3-5 Lock in the adjustment

- 3-5.A Make sure self-closing feature works in all angles.
- 3-5.B Tighten the 2 side setscrews on each hinge using 3 mm hex wrench to lock in the settings.

Tighten all the set screws to lock the settings!



HINGE ORIENTATION & CODE FOR HINGE

- S: Spring power; offers closing force
- H: Hydraulic buffer; offers speed buffer
- A1: Mechanical buffer; offers speed buffer for 0-20°
- A: Mechanical buffer; offers speed buffer for 20-90°

B: Hold-open for 90°±5°



Hinge Function Types								
Type for order	Mechanism	Тор	Function	Bottom	Function			
DS	Spring power + Spring power	S	Spring power	s	Spring power			
SA1	Spring power + Latch speed adjuster	S	Spring power	A1	Speed adjuster Control closing speed in 0°-20°			
SA	Spring power + Swing speed adjuster		Spring power	Α	Speed adjuster Control closing speed in 20°-90°			
SB	Spring power + Hold-open	S	Spring power	В	Hold-open 90°±5°			
HS	Hydraulic Buffer + Spring power	Н	Hydraulic Damper	S	Spring power			
HA	Hydraulic Buffer + Swing speed adjuster	н	Hydraulic Damper	Α	Speed adjuster Control closing speed in 20°-90°			

5 TOOLS YOU NEED

• In WATERSON Hinge Box

