

The air or vacuum stop / crossing arm are used when the bus has an air or vacuum supply source. Both units contain a diaphragm.

***Note:** that components that are determined to be 'at fault' are not necessarily defective. The fault may be due to loose connections, dirty contacts, etc. as well as worn parts. The situations listed below are those that are most often encountered in the field. If further help is needed, contact the Engineering department at Specialty Manufacturing Company.

A. Unit will not open to 90 degrees:

1. Loss of vacuum pressure- vacuum pressure should be at 18-20 inches of mercury
2. Loss of air pressure- air pressure should be @12psi but should not exceed 15 psi. Excessive pressure may cause damage to the solenoid, the diaphragm or may bend the hinge. Air pressure regulator- Abide by Air pressure requirements to prevent damage to the solenoid or to the diaphragm.
*(Air Crossing Arm (p/n 28132) will need 90 psi to open unit. This unit will need a separate regulator & solenoid or can use straight air providing it does not exceed 110psi.)
Note: Solenoid valves must be checked under pressure during activation of the electric solenoid.
3. Faulty diaphragm- while the diaphragm will operate with leakage around the retaining ring, diaphragms can develop cracks or splits over a period of years. Recommend replacement.
4. Faulty solenoid valve- we recommend replacing with a new solenoid valve to troubleshoot the problem. Refer to Technical Bulletin #3907: *Valve Replacement*
5. We recommend that a separate solenoid & regulator be used for each Air unit to ensure there is enough air pressure to open both units simultaneously. (ie, one for the Air crossing arm and another one for the Air stop arm)
6. Damaged hinge- excessive air pressure can bend hinge assembly. Once bent- the interference will not allow the unit to open to full 90° position. Hinge assembly will need to be replaced.
7. System air leakage in lines- this can be determined by pressure checks at various points in the system.
8. Verify fasteners are not loose at hinge points or at other areas-
Note: Fasteners should be checked for looseness, once per year, particularly at the hinge point areas.
Note: All fasteners used by Specialty Manufacturing Company have aeronautical grade locking systems via serrations of nylon.

B. Unit is opening too quickly (~1 to 2 seconds):

1. Make sure that the restrictor has been installed in the vacuum system.

C. Unit opens normally but goes in prematurely:

1. Listen for air bleeding. If so, check regulator.
2. Check for condensation in air lines. In cold weather, the condensation could freeze. This needs to be blown out. Is there a filter system on the air intake?

D. Unit doesn't sit flush against side of bus. The blade is 1-2 inches from sitting inside windguard:

1. Check fitting in middle of back of base. It may be screwed in too far, causing interference with the diaphragm plate. The exposed threads prevent the unit from fully closing.

E. Purchased a new diaphragm and it doesn't fit properly. Unit won't close.

1. Replace Hinge, spring and cable as well. Hinge assembly may be damaged or the unit may be an older unit.

F. Stop Arm Lights delay shut off until after 8-way flashers are off and unit closes

1. Lights are controlled by the 8-way flasher control box. Verify 12V across red and black wires.
2. Strokes: You may see a decrease in voltage to strobes in extreme cold weather. This is typically caused by the signal voltage from the 4 or 8 light flasher NOT being steady or by a low voltage condition originating with the 4 or 8 light flasher NOT supplying enough source voltage to run the lighting system, especially in cold weather environments where the temperature drops close to or below freezing causing the reduced voltage condition. See SMC Technical Bulletin #A001 for complete details on how to correct this problem.