



# Specialty Manufacturing, Inc.

## Technical Bulletin

### **A104 Stop Arm / Crossing Arm**

Installation Instructions – Crossing Arms & Stop Arms  
Air – Vacuum or Electric [Includes 5, 5.5, 6 and 7 series]

Effective Date: 8/27/01 Revised Date: 9/14/11

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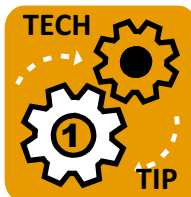
# Installation Instructions – Crossing Arms & Stop Arms

## Purpose:

The SMI crossing arm control is designed to be mounted on the front bumper of a bus on the passenger side. Installation methods vary depending on the bus design, bumper form and the system desired for activation. An SMI mounting bracket kit is designed for your particular bus chassis and is recommended to ensure proper installation and location. Contact the local bus or SMI parts distributor for information on the various mounting bracket kits available.

## Description: Crossing Arm

1. Mount the crossing arm control to the bracket(s) to be used prior to mounting the bracket(s) on the bumper. The crossing arm should be mounted on the passenger side such that the arm will be in line with the outer edge of the front wheel when extended or per the state specifications if different. Note – each mounting bracket kit includes the appropriate bracket(s), pictorial instructions.
2. Make wiring connections per “Wiring Diagram ‘1-2-5-6’”. Troubleshooting Guides for the units are available by request to SMI and/or local distributor. (see end of document for contact information)



For any operation involving the removal of fuses or modification of circuits, consult your bus owner’s manual for OEM recommendations. Always use the proper fuse puller when performing this maintenance.



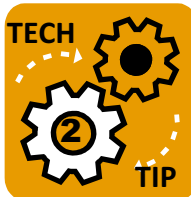
**SMI recommends** a 5A fast blow fuse for each stop arm or crossing arm on the 12 Volt connection (Red Wire). OEM’s may choose to use a different fuse type or rating based on the specific circuit used on the bus. If so, the OEM assumes the responsibility of the component function. Always consult your bus owner’s manual for OEM recommendations.

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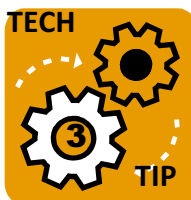


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3. If an air unit is to be actuated in conjunction with an existing air unit, a separate regulator – solenoid valve (P/N 001660) for each is recommended to ensure proper operation. Connect the air source to the inlet port of the regulator (P/N 001690) and the outlet port of the solenoid valve (P/N 001680) to the unit. The regulator should be set fully counter-clockwise closed position and then after installation is complete, ***gradually*** increase the air pressure by pulling the locking ring cap upward and turning this cap clockwise until the hinge is extended to approximately 90 degrees. *Relock the cap by pushing the ring downward.*
4. If a vacuum unit is to be actuated in conjunction with an existing vacuum unit, no new valves or switches are needed. Connect the vacuum source to the outlet port of a check valve (P/N 001699), connect the check valve inlet port to the inlet port of a solenoid valve (P/N 001680) and connect the outlet port of the solenoid valve to the unit.



**SMI Recommendation:** The solenoid valves should be mounted as close to the units as reasonably possible using care not to kink the tubing.



Transpec brand assemblies will need 90 psi to open unit. This unit will need a separate regulator & solenoid. Must not exceed 120psi.)



**SMI CAUTION:** *Do not exceed the maximum* (NON TRANSPEC CROSSING ARMS) pressure required to open to 90 degrees (typically ~12 psi.), otherwise damage to the unit may result.

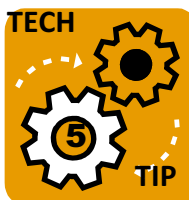
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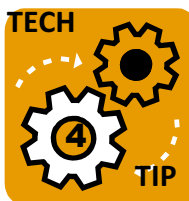
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## Description: Stop Arm

1. Stop arms are designed to be mounted on the bus side near the driver window and near the rear on the driver side and/or near the rear on the passenger side per the individual state specifications. Care should be taken to position the unit so it does not interfere with a window mechanism.
2. Drill a 9/16" hole in the vehicle's outer skin at the point(s) directly behind the air or vacuum inlet port and/or wiring outlet locations when the unit is positioned in the desired location.
3. The air and vacuum units, install a connector into the stop arm port on the backside and attach a desired length of tubing to reach the solenoid valve location.
4. Push tubing and any wire leads through the proper holes with protective grommets. Level the stop arm onto the bus body such that the weight of the unit does not rest on the tubing and/or wires. Mark the location of the four mounting holes pierced in the base.
5. Drill 3/16" holes at the four marked places and attach the unit with #14 x 3/4" sheet metal screws or equivalent.



**SMI Recommendation:** When the unit is a Vacuum or Air type with lights, 5/16" holes may be made for the light wires behind their point(s) of exit.



**SMI Recommendation:** The vacuum or air assemblies with lights, 5/16" holes may be made for the light wires behind their point(s) of exit but the installer assumes all warranty issue claims for damaged wire insulation.

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6. Verify the unit does not have silicone sealant all the way around the cover on the base. There should be a small area left unsealed toward the back. This is to allow the unit to “breathe”, and allow any condensation to evaporate.



**SMI CAUTION:** Using or substituting other than all genuine SMI components with the unit, blades, strobe lighting and lenses will void warranty.



**SMI CAUTION:** The installer assumes all warranty issue claims for damaged wire insulation.



**SMI CAUTION:** SMI mounting brackets must be used on all SMI crossing arms and must be installed according to instructions to include the splash shield. Failure to follow correct installation procedures will void warranty on all parts of the crossing arm..

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Rev. Level	Rev. Date	Details		Description of Change
		Page	Para.	
ORG	8/27/2001	ALL	ALL	INITIAL RELEASE
A	9/15/2011	ALL	ALL	NEW FORMAT

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