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SMC Block Assembly Description

This bulletin is to inform distributors and end users of the proper assembly of the SMC Block with and without air distribution. This is the assembly procedure for the physical components; and has no reference to the programming or Controls set-up of the unit. Please reference the Electrical Prints for proper connection locations and settings of the complete unit.

Please see illustration below for varying versions of our standard build assembly. The number of pneumatic valves and Module Blocks will vary based on size of system and number of external components connected. Many systems have multiple SMC Block assemblies. In this example, there is a Main SMC Block and a Conveyance SMC Block.

Illustration 1



These photos are indicative of just a few variations of assembly. The (2 Module and 5 valve) assembly as shown in first photo is the most commonly occurring build on a standard machine, with an additional conveyance SMC assembly opposite the panel side of machine. The assembler must review the Electrical Prints for required components and assembly.

This next illustration is of the Components in the training assembly. It is highly recommended when building, that you gather all required parts prior to assembly. Review the Electrical Prints for quantity of modules required and number of pneumatic valves if included. Multiple pages are in sequence in the print book for this build, there is not a single page build for these units. There is no reference or page in print for the End Cap on assembly, as these have no function other than to seal and protect system, close contacts; unless it is a Pneumatic assembly. Then it will have an additional valve port for an end cap, as shown in photos.

For example:

Orion Packaging Systems * A division of Pro Mach 4750 County Road 13 NE Alexandria, MN 56308 (800) 333-6556 * www.support.orionpackaging.com Page **1** of **8**

Bulletin #: 022321-01

Issue Date: February 23, 2020



Illustration 3 Electrical Schematic



Starting Assembly:

Orion Packaging Systems * A division of Pro Mach 4750 County Road 13 NE Alexandria, MN 56308 (800) 333-6556 * www.support.orionpackaging.com Page **2** of **8**

Bulletin #: 022321-01

Issue Date: February 23, 2020

Gather and validate all components required are present: 2 assemblies for this build shown below.

Illustration 4



Assembly of Non-Pneumatic builds can start at either end. All components will align and "click" together, and then attached or included hardware will secure. There are alignment posts or nubs on each piece which will only connect seamlessly if correctly aligned. Be sure to use caution as to not damage the rubber gaskets or seals on each component.

All Modules and communication blocks of build come with the Locking Assembly Pre-Installed. End Caps will come with 2 bolts to secure.

Illustration 5



A Phillips Head screwdriver is all that is required for this assembly.

Utilizing 2 different size Phillips Head Screwdrivers will make this assembly smoother, as to the varying screw head size.

Orion Packaging Systems * A division of Pro Mach 4750 County Road 13 NE Alexandria, MN 56308 (800) 333-6556 * www.support.orionpackaging.com Page **3** of **8**

Bulletin #: 022321-01

Issue Date: February 23, 2020

A SMC Block assembly that includes Pneumatic valves will **require the Assembler to start in the Middle** of the block, and then work in either direction after. As previously stated, Non-Pneumatic Assemblies can start at either end.

Illustration 6



Orion Packaging Systems * A division of Pro Mach 4750 County Road 13 NE Alexandria, MN 56308 (800) 333-6556 * www.support.orionpackaging.com Page **4** of **8**

Bulletin #: 022321-01

Issue Date: February 23, 2020

1. Start with Initial Air Component and 3 provided Female to Female starter Rods. Insert into 3 dedicated locations and secure using the 3 bolts provided with the Air component.

NOTE: You must start with Female to Female starter Rods, not Add-On Male to Female ends, as shown. The single Male to Female Add-Ons can be used to extend for number of Valves in addition to the starter. In this example, these are a 2 Valve, Female to Female starter rod, and 1 Add-On set, which would provide proper length for 3 valves and the End component. Each Valve comes with a set of 3 Add-On extension rods for the 3 rods securing each valve.

Illustration 7



2. Once 3 starter rods are installed and secured, attach Connection Bracket to module using the 2 smaller screws provided with component. There are 4 holes in unit, but only 2 have the threaded insert inside. The kit comes with 4 screws total, 2 smaller with lockwasher and flat washer, for attachment to component and 2 larger for attachment to assembly.

Orion Packaging Systems * A division of Pro Mach 4750 County Road 13 NE Alexandria, MN 56308 (800) 333-6556 * www.support.orionpackaging.com Page **5** of **8**

Bulletin #: 022321-01

Issue Date: February 23, 2020

Illustration 8



3. At this point, assembler can continue to the right with pneumatic assembly by sliding lower valve components on to rods and then bolting on end module. Then attaching actual valves to lower half. Or, they can attach initial Pneumatic component to Electronic components to the left, secure and then return to completing pneumatic assembly to the right.

Orion Packaging Systems * A division of Pro Mach 4750 County Road 13 NE Alexandria, MN 56308 (800) 333-6556 * www.support.orionpackaging.com Page **6** of **8**

Bulletin #: 022321-01

Issue Date: February 23, 2020

Illustration 9





Orion Packaging Systems * A division of Pro Mach 4750 County Road 13 NE Alexandria, MN 56308 (800) 333-6556 * www.support.orionpackaging.com Page **7** of **8**

Bulletin #: 022321-01

Issue Date: February 23, 2020

Illustration 10



Orion Packaging Systems * A division of Pro Mach 4750 County Road 13 NE Alexandria, MN 56308 (800) 333-6556 * www.support.orionpackaging.com Page **8** of **8**