Tribomatic®
14 Gun Master Control Module

Part 108 184A

Nordson.

NORDSON CORPORATION • AMHERST, OHIO • USA

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FEATURES

General

The TRIBOMATIC Master Control Module controls from one to fourteen Gun Control Modules. It is designed to fit into an industry standard 19 inch equipment rack, or into a TRIBOMATIC cabinet, as part of a system with up to fourteen guns.

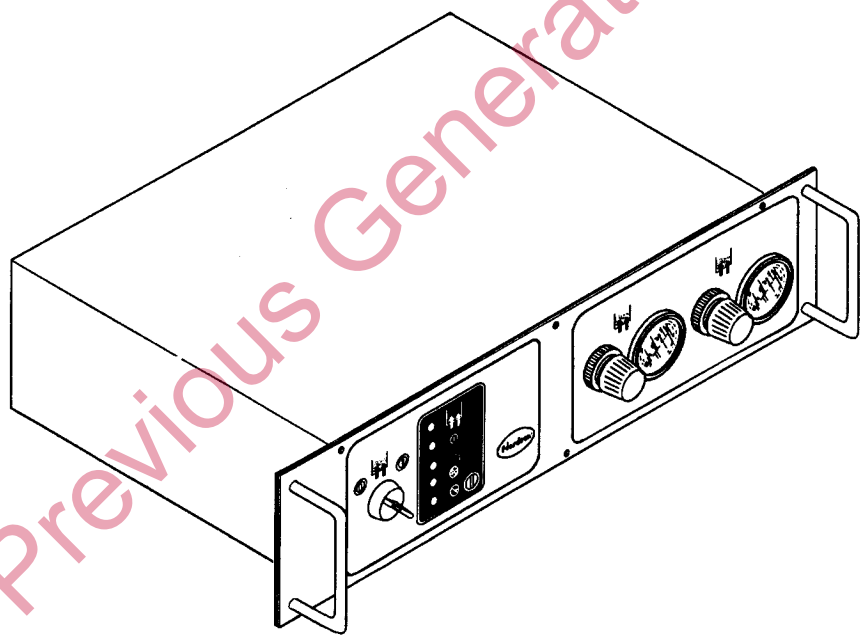

Figure 2-1 — TRIBOMATIC® Master Control Module

Two feed hopper fluidizing air regulators and gauges are provided. LED indicators are provided for fluidizing air ON, main power ON, low charge alarm, fan interlock, and conveyor interlock. The conveyor interlock can be by-passed with the keyswitch on the display board.

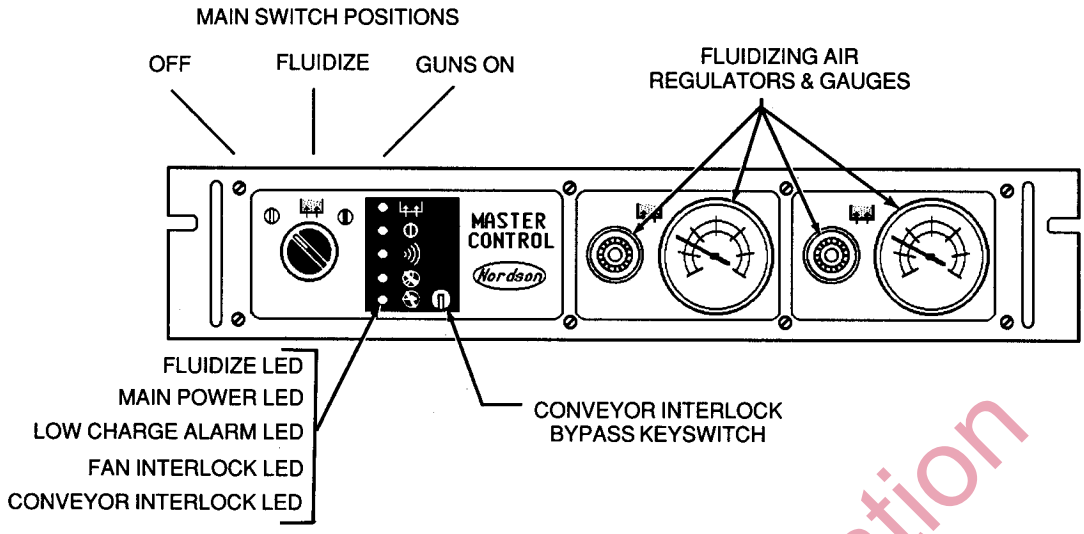

Figure 2-2 — Front Panel Controls

External Gun Control Module Triggering

If desired, separate automatic gun triggering can be accomplished by changing the dipswitch settings on the master control module main circuit board and wiring external switches (customer supplied) through a connector provided with the module. A separate dipswitch is provided for each of the gun control module circuits.

Interlocks

Connectors are provided on the main circuit board for electrically interlocking the master control module with the booth exhaust fan and/or the conveyor. If an interlock circuit is opened, the master control module will cut power and air to the gun control modules, shutting down the powder spray system. If these circuits are not used, they must be jumpered at the connectors before the system will operate. A key operated conveyor by-pass switch is provided to disable the conveyor interlock, if desired.

Alarm

An optional external alarm with a buzzer and flashing amber light is available; when installed it will signal the operator if the charge signal from one or more automatic guns falls below the alarm level set at the gun control modules.

REAR PANEL CONNECTIONS

Connections on the rear panel include:

- 14 plugged holes (knockouts) for gun control module power and control cables.
- Plugged hole for an optional external low charge alarm wiring.
- Plugged hole for main power service line.
- Plugged hole for external trigger wiring.
- Plugged hole for exhaust fan interlock wiring.
- Plugged hole for conveyor interlock wiring.
- Plugged hole for solenoid valve exhaust air.
- Module cabinet ground stud.
- Quick disconnects for air tubing: two for fluidizing air out (4 mm), one for pilot air out (4 mm), and one for supply air in (6 mm).

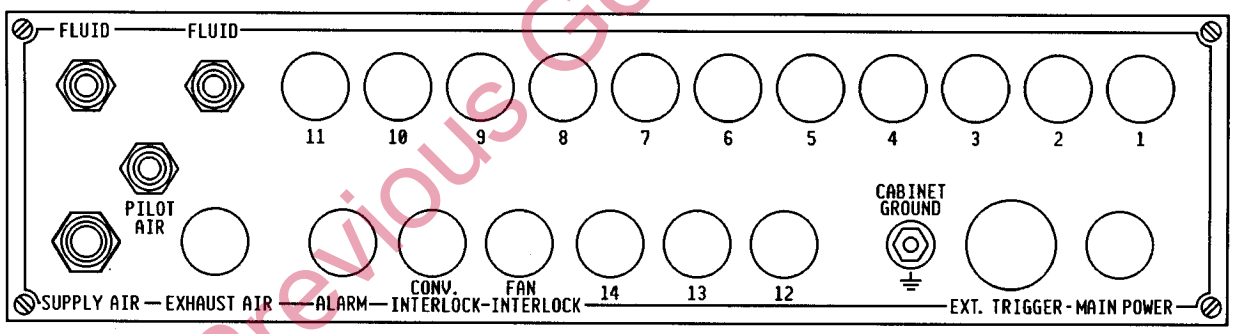

Figure 2-3 — Rear Panel Connections

INPUT POWER AND AIR

The Master Control Module operates on 100, 115, 200, 220, or 240 VAC single phase nominal input power at 50-60Hz. A voltage selector switch located inside the module cabinet allows the customer to select the proper setting.

Supply air pressure should be 80-100 psi (maximum 140 psi or 9,6 bar). Use of coalescent type air filters and a refrigerant or regenerative dessicant type air drier capable of producing a dew-point not exceeding 38° F (3,3° C) is recommended.

INTERNAL COMPONENTS

Inside the master control cabinet are a main switch, display board, two air pressure regulators and gauges, two solenoid valves and a manifold block, a transformer assembly consisting of a mounting plate, transformer, voltage selector switch, and two fuses, and a main circuit board.

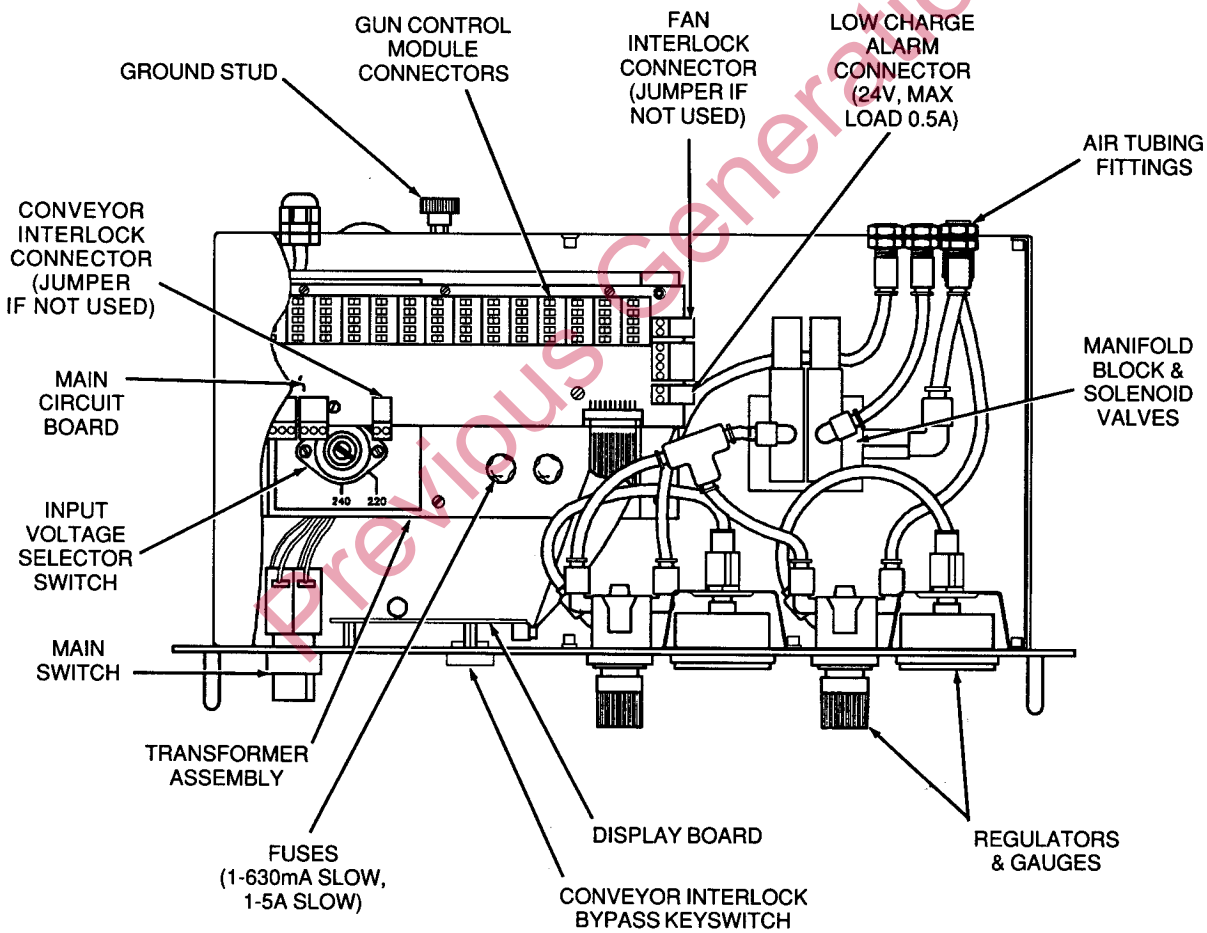

Figure 2-4 — Internal Component Location

OPERATION

When the master control module main switch is turned to the fluidizing position, a solenoid valve inside the module is energized and the fluidizing air LED on the display panel will light. The valve opens and allows air to flow to the two air pressure regulators mounted on the front panel. From the regulators, air flows through air tubing to the “FLUID” air tubing fittings on the rear panel.

When the master control module main switch is turned to the "ON" position, a second solenoid valve will be energized and the main power LED on the display panel will light. The valve will open, allowing pilot air to flow to the pilot-operated valve in the SAH or RAC cabinet, which will in turn open and allow system air to flow to the gun control modules. Regulators in the gun control modules control the pressure of air delivered to the powder pumps and gun diffusers.

Turning the main switch to the "ON" position also closes a switch and energizes the gun control modules. If the gun control module main switches are ON, solenoid valves in the gun control modules open, allowing regulated air to flow to the powder pumps and gun diffusers.

If a low charge condition is sensed by a gun control module, a signal is sent to the master control module and the alarm LED on the display panel will light. If the optional external alarm is installed, a flashing amber light and horn will be activated.

If the exhaust fan or conveyor external interlock relay (customer-supplied, normally closed) opens, the interlock LED will light, and power and air to the gun control modules will be shut off. Until the external relay is closed, spraying operations cannot be restarted. The conveyor interlock can be by-passed with the keyswitch on the display board.

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SECTION 3
INSTALLATION

INTRODUCTION

This section includes instructions for installing a master control module in a system cabinet or rack, installing the system cabinet or rack in the spray area, and adding another automatic gun to an existing system, using an available kit.

MASTER CONTROL INSTALLATION

A Master Control Module can be installed in a TRIBOMATIC cabinet, or in a standard 19 inch equipment rack. Systems are usually shipped with the master control and gun control modules installed, and all internal electrical and pneumatic connections made. These instructions are provided should the module need to be replaced, or if the system configuration is modified.

Electrical Connections

Before installing the module, electrical connections should be made as described in the following steps.

WARNING! Electrical connections should be made only by a qualified electrician. Power supply wire gauge must be of sufficient size and insulation rating to meet temperature and power requirements. All installations must conform to all local, state and federal codes.

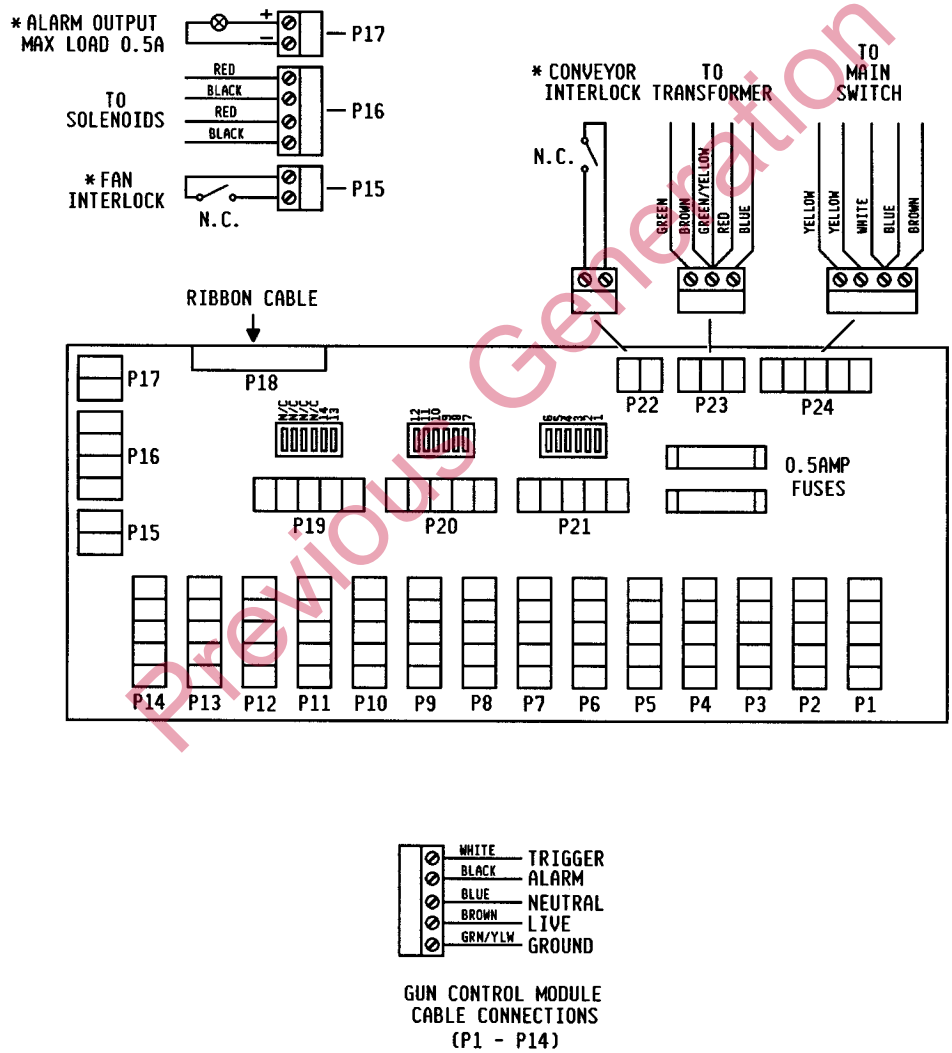
WARNING! To prevent electrical shock during installation and servicing, a power isolation device such as a disconnect switch or breaker must be installed in the service line ahead of the master control console.

1. Remove the eight upper screws from the front and rear panels and remove the top cover from the master control console, being careful not to damage the gaskets.

Note: Module cabinets are gasketed to ensure dust-free interior. Always check to ensure gaskets around panels and instruments are in good condition before re-installing panels and/or instruments.

2. Remove plastic plugs from holes numbered 1-14 in the rear panel. Install 15 mm strain relief connectors (P/N 630 915, optional) in holes.

3. Lead cables from gun control modules through strain relief connectors and wire to the corresponding plug-in terminals (P1 - P14) on the main circuit board, as shown in Figure 3-1. Tighten strain relief connectors to capture the cables and seal the cabinet.



GUN CONTROL MODULE
CABLE CONNECTIONS
(P1 - P14)

Figure 3-1 — Main Circuit Board Electrical Connections
(Internal, Gun Control Modules, & Fan & Conveyor Interlocks)

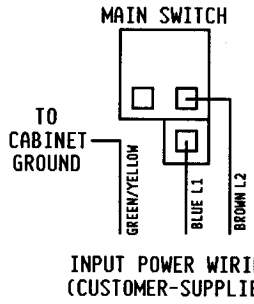


Figure 3-2 — Input Power Connections

4. Route (customer supplied) input power cable through a 15mm strain relief connector and connect leads to the main switch as shown in Figure 3-2.

5. A sticker showing the factory voltage setting is located on the rear panel of the master control module. Check to ensure that the voltage selector switch is set for the correct input power.

6. Check to ensure fuses on main circuit board and fuses on transformer mounting plate are good, replace if necessary.

WARNING! Use only fuses with same rating as original equipment.

Optional Connections

Fan and Conveyor Interlocks

Note: If these interlocks are not used, install jumpers at main circuit board connectors P15 (fan) and P22 (conveyor).

1. Remove plastic cap from labeled holes on rear panel. Install 15 mm (P/N 630 915, optional) strain relief connectors in holes.

2. Route cables from normally closed switches (customer supplied) through strain relief connectors and wire to plug-in terminals on main circuit board (P15 - fan, P22 - conveyor) as shown in Figure 3-1.

3. Tighten strain relief connectors until cables are fully captured.

External Alarm Installation

1. If installing the optional 24V external low charge alarm (P/N 630 246), remove plastic cap from "Alarm" knockout, install 15 mm strain relief connector (P/N 630 915), and pull a 2-wire cable through connector.

2. Route cable to plug-in terminal P17 and connect leads as shown in Figure 3-1. Tighten strain relief connector until cable is fully captured.

3. Install external alarm in location where flashing light will be visible to operator. Connect cable leads to terminals on alarm.

External Triggering

Refer to Figure 3-3.

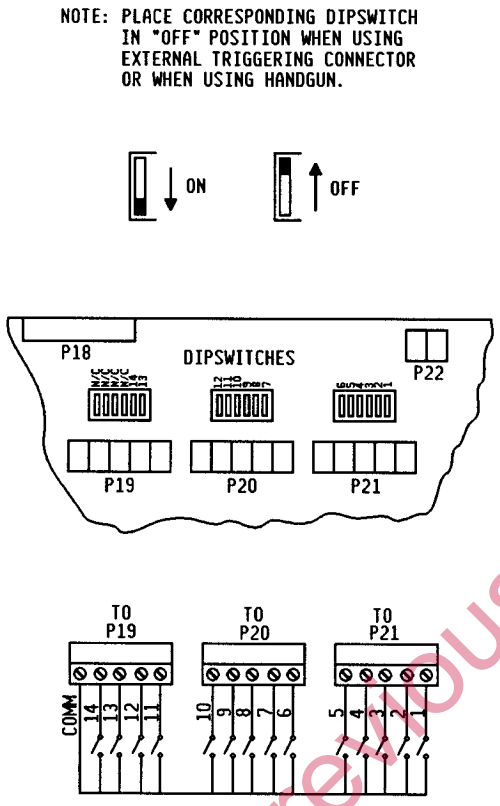


Figure 3-3 — External Trigger Connections

1. If one or more gun control modules are to be externally triggered, the appropriate numbered dipswitch(es) on the master control module main circuit board must be moved to the "OFF" position.

2. Remove plastic cap from hole labeled "Ext. Trigger" and install 21 mm strain relief connector (P/N 630 851).

3. Route cable(s) from external switch(es) through connector, and wire to plug-in terminals P19, P20, and P21. Tighten connectors until cable is fully captured.

Completing Master Control Module Installation

1. Check all pneumatic and electrical connections for tightness, and reinstall top cover, taking care not to damage gaskets. Secure cover in place with eight screws, four each in upper front and rear panels.

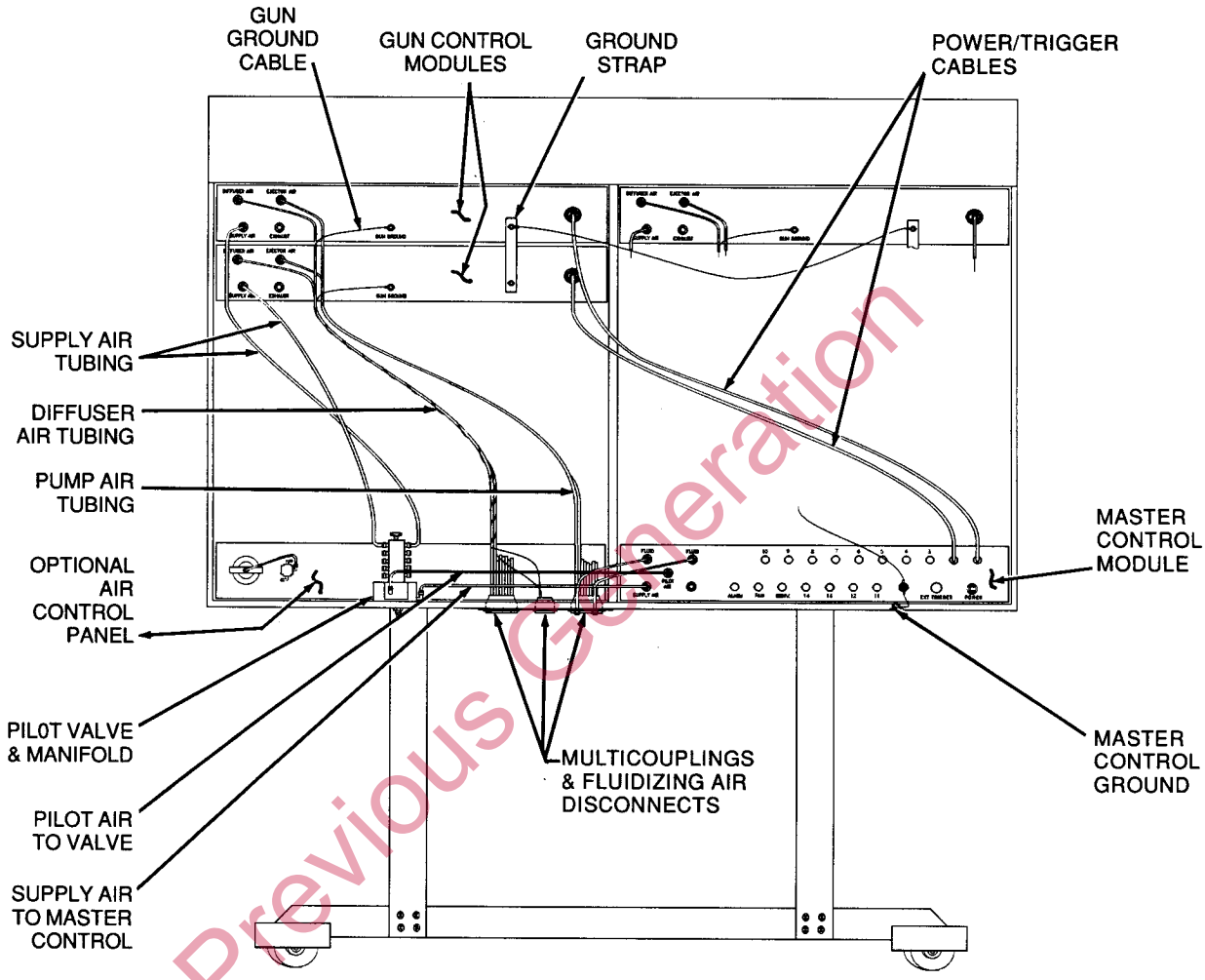


Figure 3-4 — Typical Cabinet Configuration
(SAH-12/X System Shown)

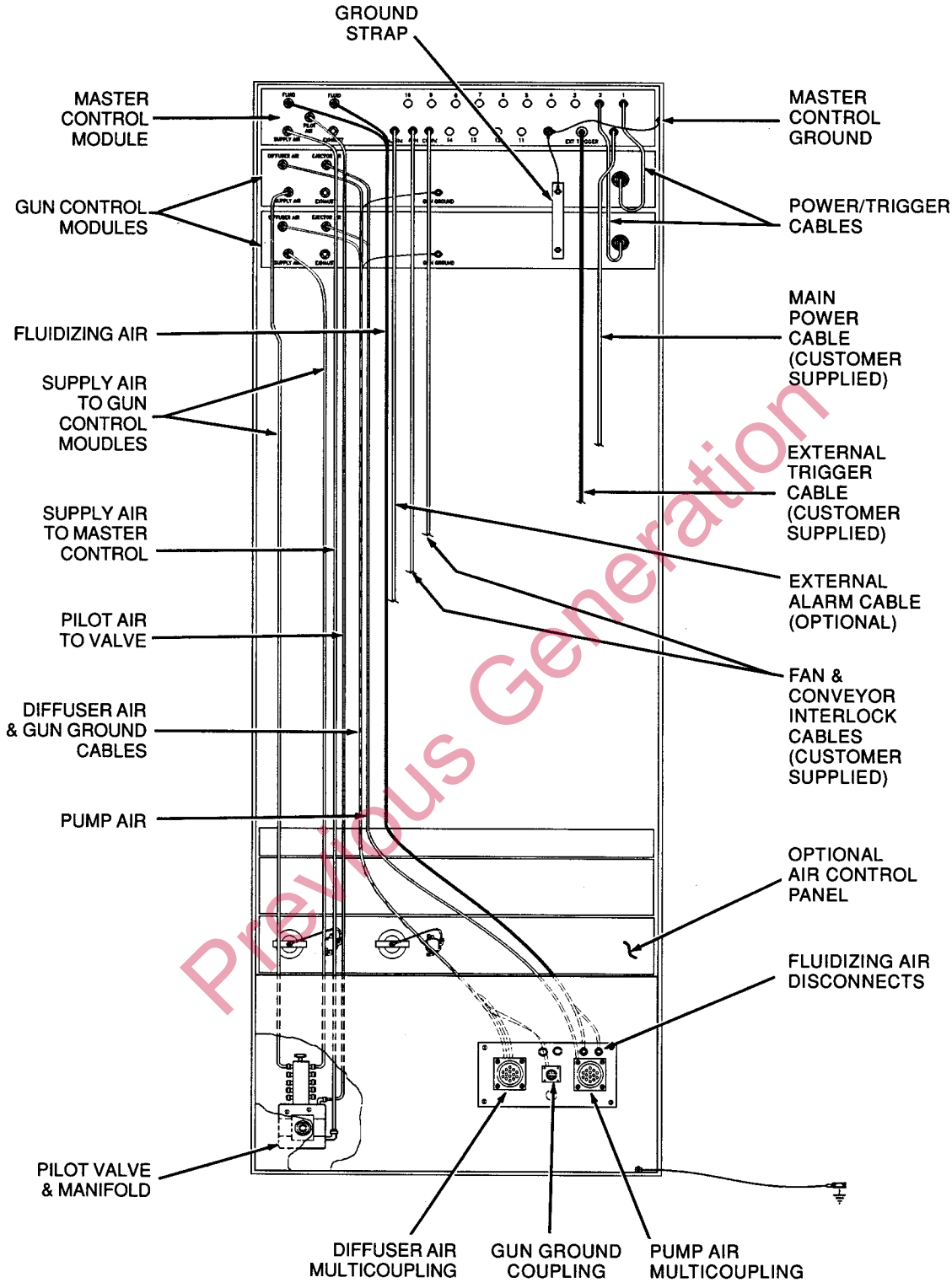


Figure 3-5 — Typical Rack Configuration

2. Install the module in the cabinet or rack, using the appropriate fasteners in the open ended slots on the sides of the front panel.

3. Connect air tubing to the quick disconnect fittings on the rear panel as follows:

Function	Tubing Size
Supply air	6 mm
Fluidizing air	4 mm
Pilot air	4 mm

Refer to Figures 3-2 thru 3-5 for typical installations and tubing routings.

4. Connect module cabinet ground to rack or cabinet ground. Check to ensure that all gun control modules and master control module are securely grounded to the cabinet or rack, and that the cabinet or rack is connected to a true earth ground.

WARNING! All equipment in the spray area must be grounded, and ground connections must be periodically inspected. Sparks from ungrounded equipment can cause fires and explosions.

CABINET/RACK INSTALLATION

The control cabinet (or rack) is delivered with the master control module, gun control modules and air control components already installed and all internal electrical wiring and air tubing connected. It is quickly and easily installed in the spray area and connected to the other components of the powder spray system.

1. Position the control cabinet or rack in a location where it is easily accessible and no more than 5 meters (16 ft.) away from the hoppers and powder pumps.

2. Check air tubing connections to master control and gun control modules.

3. Connect air supply hose to quick disconnect fitting at bottom rear of rack or underside of cabinet. Female quick disconnects for 3/4 and 1/2 inch I.D. air hose are available. Refer to the parts list in Section 7.

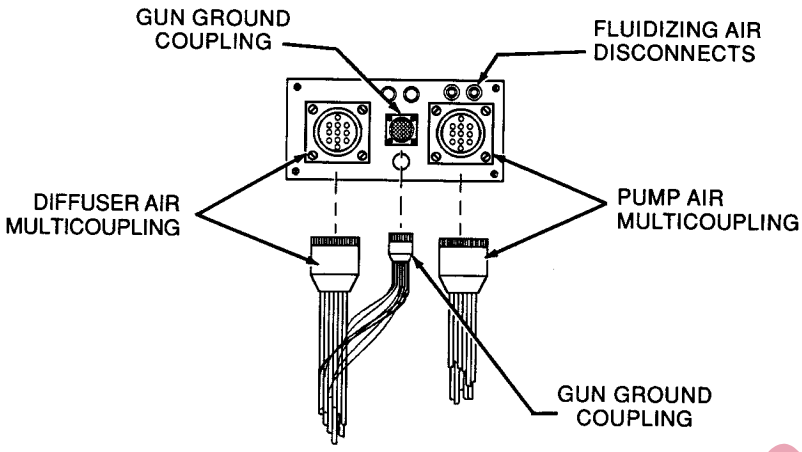


Figure 3-6 — Multicoupling Connections

Note: It is recommended that a refrigerant or regenerative desiccant type air dryer capable of producing a dewpoint of 38°F (4°C) be used, along with coalescent type air filters, to condition the system air supply.

4. Connect the external multicouplings to the mating halves mounted on the underside of the cabinet or bottom rear of the equipment rack.

Systems with more than 6 guns will use two multicouplings - one with black air tubing for the ejectors (powder pumps) and two lengths of blue tubing for fluidizing air, and one with blue air tubing for the gun diffusers. The gun ground cables are wrapped around the diffuser air tubing and terminate in a separate small coupling.

Systems with 6 or less guns will use only one multicoupling, in which all the air tubing and ground cables terminate in one coupling.

5. Connect black air tubing to powder pump inlet fittings. Connect blue air tubing bundled with black tubing to fluidizing air fitting(s) at feed hopper plenum(s).

6. Connect blue diffuser air tubing (with ground cable wrapped around it) to inlet fittings on gun diffusers. Connect ground cables to ground studs on guns.

7. Connect a ground cable between the cabinet or rack and a true earth ground.

8. Route (customer supplied) input power cable to the master control module and connect as described previously in the master control module installation instructions under the heading "Electrical Connections".

ADDING AUTOMATIC GUN TO EXISTING SYSTEM

A kit can be ordered to add an automatic gun to an existing system. It consists of an automatic gun, connectors for sprayheads, a diffuser, powder pump, and gun control module. To use this kit, there must be an empty slot in the cabinet or rack, and the system master control module must have less than 14 gun control modules connected to it.

Note: This kit does not include sprayheads, nozzles, gun holders, suction tubes, or powder feed tubing. These components must be ordered separately, as usage depends on the application. Refer to Section 25B of the Nordson Finishing Equipment Components catalog for part numbers.

To install the kit in an existing system:

1. Remove the screws securing the master control module front panel to the cabinet or rack and pull module out. If necessary, disconnect electrical cables and air tubing from rear of module cabinet first.

2. Remove 8 screws from top of front and rear panels and lift cover off master control module.

3. Remove plastic cap from unused knockout and install a 15 millimeter strain relief connector (P/N 630 915) in hole. Pull power/trigger cable furnished with gun control module through strain relief connector and connect to open connector on main circuit board (P1 through P14) as shown in Figure 3-1 . Plug connector back into main circuit board. Tighten strain relief connector until cable is fully captured.

4. Replace the master control module top cover, secure with screws, and reinstall in cabinet or rack. Reconnect cables and tubing removed in Step 1.

5. Install the gun control module in the cabinet or rack. Ground the module to the cabinet as shown in Figures 3-4 thru 3-6, or, using a copper strap (P/N 630 885), connect it to an adjacent module.

6. Connect 6 mm I.D. air tubing from the manifold to the gun module fitting labeled "Supply".

7. Connect spare 4 mm I.D. blue air tubing with ground cable from the internal multicoupling on the bottom or rear of the cabinet or rack to the gun module fitting marked "Diffuser". Connect the ground cable to the red connector on the gun module rear panel. Connect spare 4 mm I.D. air tubing from the internal multicoupling to the fitting on the gun module rear panel labeled "Ejector".

8. Install a powder pump for the new gun on a feed hopper and connect black air tubing (4 mm) to pump inlet fitting. Refer to Manual No. 37-7 for further information on the powder pump (for Gen. 3 pumps, see Manual No. 37-16).

9. Install the automatic gun in a holder (optional). Install the diffuser on the gun, and connect blue air tubing (4 mm) to the diffuser inlet fitting. Connect the ground cable to the gun ground stud. Install powder feed tubing between the diffuser and the powder pump. Refer to Manual No. 37-1 for further information on the automatic gun and diffuser (for Gen. 3 diffusers, see Manual No. 37-17).

SECTION 4
OPERATION

This section covers operating instructions for a TRIBOMATIC Powder Spray System utilizing 19 Inch Gun Control Modules and a 14 Gun Master Control Module.

START-UP

WARNING! Make sure all equipment in spray area is connected to a true earth ground before beginning spray operations. Ungrounded equipment can store a potentially dangerous charge.

WARNING! Make sure fire detection system and all safety interlocks are working properly before beginning spray operations. Never operate system while fire detection system is in by-pass mode.

1. Check to ensure that all equipment in the spray area is grounded, and that the ground connections are secure.

2. Start booth exhaust fan and powder recovery system, if used.

3. Check system air filters. Drain bowls and clean or replace filter elements. Make sure air dryer is functioning properly.

4. Fill feed hopper two-thirds full with clean, dry powder.

5. Turn master control module main switch to "Fluidizing" position and adjust fluidizing air regulators to 5-15 psi (34-103 kPa). Allow powder time to become fluidized (until powder assumes the characteristics of a liquid).

6. Make sure all gun control module main switches are in "ON" position. For a first-time system start-up, turn diffuser and ejector (pump) air regulators all the way counterclockwise, so that air pressure can be adjusted gradually to produce optimum results.

7. Turn master control module main switch to "Full On" position. Adjust gun control module diffuser and ejector air pressure regulators. Refer to gun control module manual (Manual No. 37-8) for proper air pressures and ratios.

8. Start conveyor and test spray workpieces.

SHUTDOWN

1. Turn master control module main switch to "OFF" position. Air delivery to diffusers, pumps and feed hopper will be shut off.

2. Shut down recovery system, if used. Shut off booth exhaust fans.

3. Dismantle powder pumps and check venturi throats for wear. For optimum performance, throats should be replaced every week, depending on number of operating hours. Heavy duty venturi throat s are available for use with more abrasive powders. Refer to Manual No. 37-7 (for Gen. 3 pumps, see Manual No. 37-16).

4. Clean booth, powder spray equipment, and spray area.

5. Drain air filters. Check booth cartridge filters and final filters and replace if necessary.

SECTION 5
PREVENTIVE MAINTNANCE

DAILY

WARNING! Do not use compressed air to blow powder off skin or clothing. Compressed air can be injected under skin, causing serious injury or death.

WARNING! Always wear appropriate respiratory protection when working in the spray area. Refer to MSDS (Material Safety Data Sheet) furnished by powder manufacturer for information on powders being used and personal protection necessary.

1. Check air filters and air dryer. Clean or replace filter elements and drain bowls.

2. Check all equipment ground connections, safety interlocks and fire detection equipment for secure connections and proper operation. Optical fire detection equipment lenses should be cleaned every four hours, or more often if needed.

WARNING! Always make sure powder spray gun ground cables are connected before operating gun or cleaning. Operation, or cleaning gun with compressed air, without ground cable connected will allow gun to build up a potentially dangerous charge. Always ground gun and nozzles before handling.

3. Remove powder feed hoses from pumps and blow out hoses into booth (with booth exhaust fan on). Remove pumps from hoppers, disassemble and clean. Do not use sharp or pointed objects to clean pump parts as scratches on "wetted" parts will contribute to powder build-up and impact fusion. Replace venturi throat if noticeable wear, when compared to a new throat, has occurred.

4. Make sure ground cables are connected to powder spray guns. Blow out guns with compressed air. Always blow powder into booth, never back through feed tubing to pump. Remove diffuser, disassemble and clean.

5. With booth exhaust fans running, clean booth with squeegee or other non-sparking, non-conductive device. Do not scratch booth walls while cleaning. Check cartridge filters (collectors) and final filters and replace if necessary.

WEEKLY

1. Thoroughly clean booth, powder feed hoppers, and recovery system. Clean or replace filters.

2. Blow out feed hopper exhaust vent tubing from hopper into booth.

3. Thoroughly clean spray area. Wipe down control modules and cabinet with clean cloth.

SECTION 6
TROUBLESHOOTING

The following troubleshooting procedures are for the TRIBOMATIC 14 Gun Master Control Module. Troubleshooting procedures for other system components can be found in their respective manuals.

Problem:	Probable Cause:	Correction:
No power, all LEDs off.	1. Input power failure.	1. Check input power supply.
	2. Loose connection or shorted wiring.	2. Make sure internal cable connections are secure, check for signs of shorts. Repair or replace wiring if shorted.
	3. Blown fuse.	3. Check fuses. Replace fuses if necessary. Refer to Figure 8-1 for fuse ratings.
	4. Transformer failure.	4. Check for 7 to 10 VAC between green and red wires at connector P23 and between blue and brown wires at connector P24. If correct voltage not obtained, replace transformer assembly.
	5. Circuit board failure.	5. Replace circuit board.

Problem:	Probable Cause:	Correction:
One or more LEDS off.	1. Loose connection or shorted wiring.	1. Make sure internal cable connections are secure, check for signs of shorts. Repair or replace wiring if shorted.
	2. Display board failure.	2. Replace display board.
	3. Circuit board failure.	3. Replace circuit board.

Problem:	Probable Cause:	Correction:
No air output, LEDs on.	1. Loose connection or shorted wiring.	1. Make sure internal cable connections are secure, check for signs of shorts. Repair or replace wiring if shorted.
	2. Solenoid valve failure.	2. Disconnect solenoid leads. Connect ohmmeter probes across red and black lead to solenoid. Reading across leads should be approximately 345 ohms. Replace solenoid valve if correct reading not obtained.
	3. Circuit board failure.	3. Connect voltmeter across connector P16 pins 1 & 2, 3 & 4 with master control console main switch in "Full On" position. Reading across pins should be 24VDC. Replace circuit board if correct reading not obtained.

SECTION 7
MODULE PARTS LISTS

INTRODUCTION

This section contains illustrated parts lists for the Master Control Module and miscellaneous cabinet/rack parts.

Using The Indented Parts Lists

The number in the **REF.** column indicates the number assigned to the part in the illustration preceding the list. A dash or the code NS (Not Shown) is used for parts that are not included in the illustration.

A letter in the **NOTE** column refers to a note below the parts list which gives additional information concerning that part. **Special attention should be given to noted parts.**

The six digit number in the **PART NO.** column is the Nordson Corporation part number assigned to that part. A series of dashes in this column means that the part cannot be ordered separately; it can only be obtained as part of the assembly or subassembly it is a component of.

The **DESCRIPTION** column gives the Nordson Corporation name of the part, together with its dimensions and other physical properties where appropriate, and is the name that should be used when ordering replacement parts. Indented parts are components of assemblies and/or subassemblies. For example:

Ref.	Note	Part No.	Description
1		000 000	Top Level Assembly
2		000 000	• Assembly or Part
3		000 000	• • Part

If you order item 1, items 2 & 3 will be included.
If you order item 2, item 3 will be included.
If you order item 3, you will receive item 3 only.

The number in the **QTY.** column is the quantity required per unit or assembly. When the quantity is not applicable, a dash will appear in the column. An "ASR" in the column means that the quantity required per installation should be ordered.

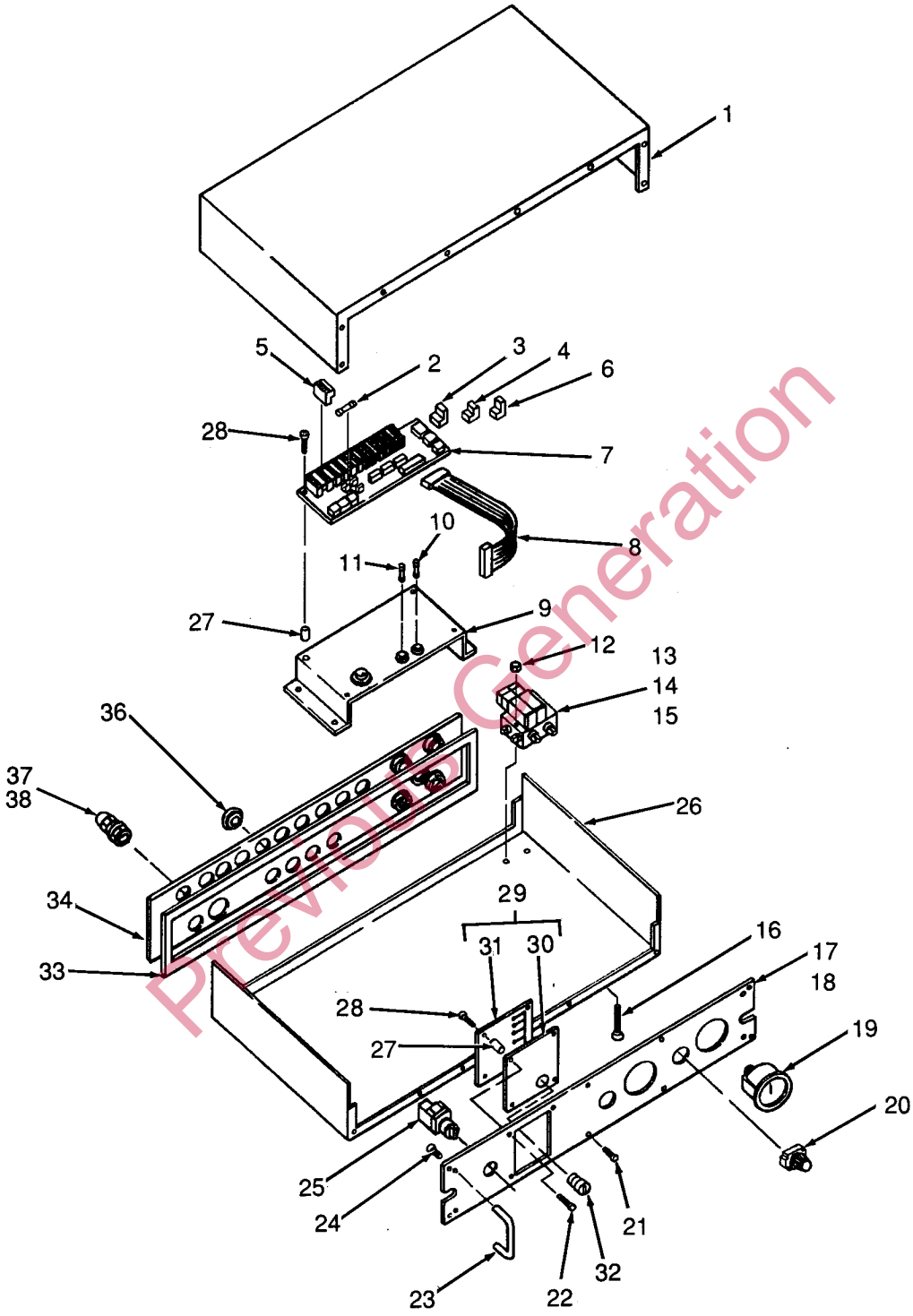


Figure 8-1 — Exploded View of Master Control Module

Ref.	Note	Part No.	Description	Qty.
		630 870	Control, Master, 14 Gun	-
1		630 824	• Plate, Top	1
2		630 862	• Fuse, 0.5 A, Slow-Blow	2
3		630 922	• Connector, 4-Pole	2
4		630 921	• Connector, 3-Pole	2
5		630 923	• Connector, 5-Pole	17
6		630 920	• Connector, 2-Pole	1
7		630 874	• Board, Circuit, M/C	1
8		630 867	• Cable, Ribbon	1
9		630 871	• Transformer Assembly	1
10		630 970	• • Fuse, 5A, Slow-Blow	1
11		630 576	• • Fuse, 630 mA, Slow-Blow	1
12		630 931	• Nut, M4	2
13		630 971	• Valve, Solenoid, Assembly	1
14		630 972	• • Gasket, Valve, Base	2
15		630 973	• • Valve, Solenoid	2
16		630 930	• Screw, Black, M4, Long	2
17		630 868	• Panel, Front	1
18		630 826	• Gasket	1
19		630 550	• Gauge, 0-4 Bar, 50 mm Dia.	2
20		630 082	• Valve, Air Regulator	2
21		630 927	• Screw, Black, M4	20
22		630 928	• Screw, Black, M3	4
23		630 849	• Handle	2
24		630 929	• Screw, Flush, M4	4
25		630 872	• Switch, Main	1
26		630 823	• Plate, Bottom	1
27		630 933	• Standoff, Threaded	9
28		630 932	• Screw, M3	14
29		630 875	• Display, M/C, Complete	1
30		630 877	• • Window, M/C	1
31		630 876	• • Board, Circuit, Display	1
32		630 878	• • Switch, Key	1
32		630 826	• Gasket	1
33		630 888	• Panel, Back, M/C, 14 Gun	1
34		630 925	• Cap, Flush, 15 mm	ASR
35		630 926	• Cap, Flush, 21 mm	ASR
NS		630 597	• Tubing, 4 mm, Blue	ASR
NS		630 599	• Tubing, 6 mm, Blue	ASR
36	A	630 915	Conduit, Cable, 15 mm	ASR
37	A	630 851	Conduit, Cable, 21 mm	ASR
NS	A	630 246	Alarm, External, 24VDC, W/ Cable	1

Note (A)- Optional parts, must be ordered separately.

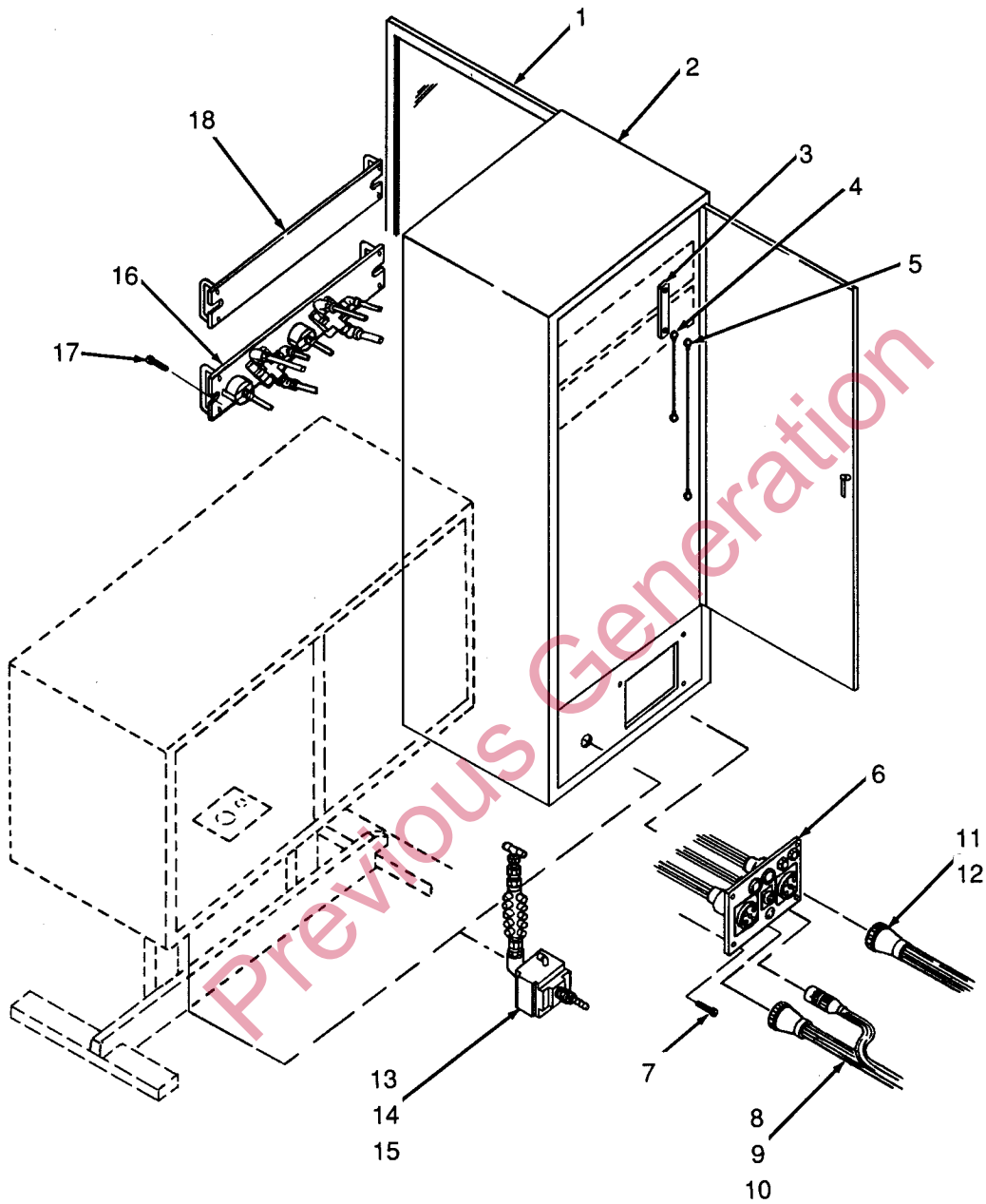


Figure 8-2 — Cabinet/Rack Miscellaneous Parts

Ref.	Note	Part No.	Description	Qty.
1	A	630 814	Door, 19" Rack	1
2	A	630 815	Cabinet, 19 Inch, Rack, Std.	1
NS	AB	630 905	Tubing, Gun, w/Ground Wire	ASR
NS	A	630 165	Coupling, Quick, Disc., ¾"	ASR
NS	A	630 164	Coupling, Quick, Disc., ½"	ASR
3	C	630 885	Plate, Ground	ASR
4	C	630 886	Cable, Ground, 20cm	ASR
5	C	630 887	Cable, Ground, 1 Meter	ASR
6		630 909	Coupling, 14 Gun, Rack Mount	1
NS		630 912	• Plate, Mounting	1
NS		630 913	• Connector, Multi, Panel	2
NS		630 914	• Connector, Ground	1
NS		630 831	• Union, Bulkhead, 4mm ID	2
NS		630 313	• Connector, Ground, Red	2
7		630 927	• Screw, M4, Black	ASR
8		630 896	Coupling, Multi, AH-14, Gun, 7 Meters	1
9		630 917	• Connector, Multi	1
10		630 918	• Connector, Ground, Gun	1
NS		630 306	• Plug, Ground, Male	2
NS	A	630 895	Coupling, Multi, AH-14, Gun, 10 Meters	1
NS		630 917	• Connector, Multi	1
NS		630 918	• Connector, Ground, Gun	1
NS		630 306	• Plug, Ground, Male	2
11		630 897	Coupling, Multi, AH-14, Pump, 5 Meters	1
12		630 917	• Connector, Multi	1
NS	A	630 894	Coupling, Multi, AH-14, Pump, 8 Meters	1
NS		630 917	• Connector, Multi	1
13		630 880	Valve, Main, W/ Manifold	1
14		630 882	• Manifold	1
15		630 881	• Valve, Main	1
16	A	630 819	Panel, Air, Aux., Complete	1
NS		630 816	• Panel, Front	1
NS		630 082	• Valve, Air Regulator	2
NS		630 550	• Gauge, 0-4 Bar, 50mm Dia.	2
NS		630 849	• Handle	2
NS		630 929	• Screw, Flush, M4	4
17		630 934	• Screw, M6, Black	2
18	C	630 859	Panel, Blank	ASR

Note (A) - Optional parts, must be ordered separately.

Note (B) - For repair of gun multicouplings.

Note (C) - Quantity of components depend on cabinet size and system configuration.