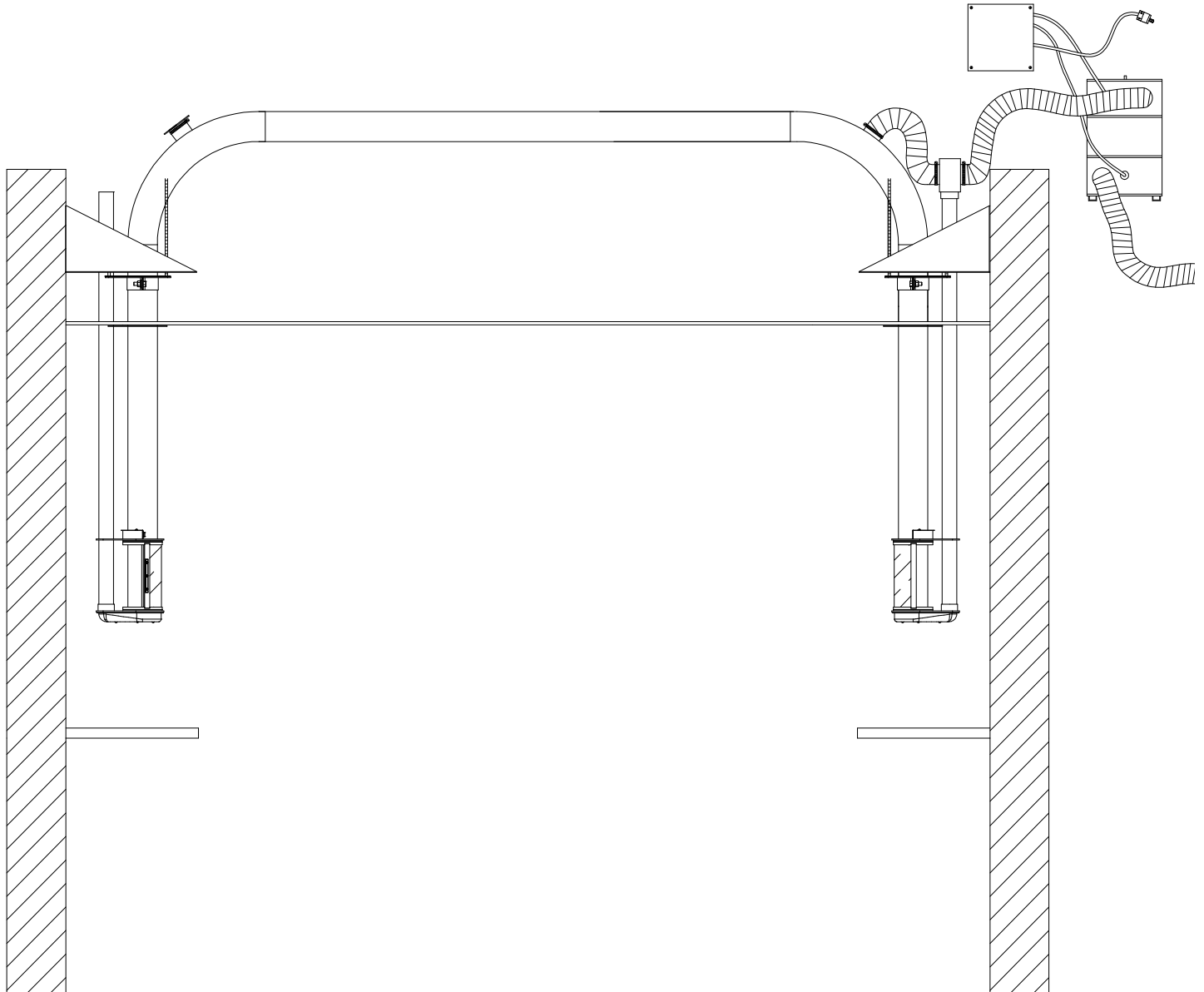


HT-19 Pneumatic Transport System



HT-19 Pneumatic Transport System

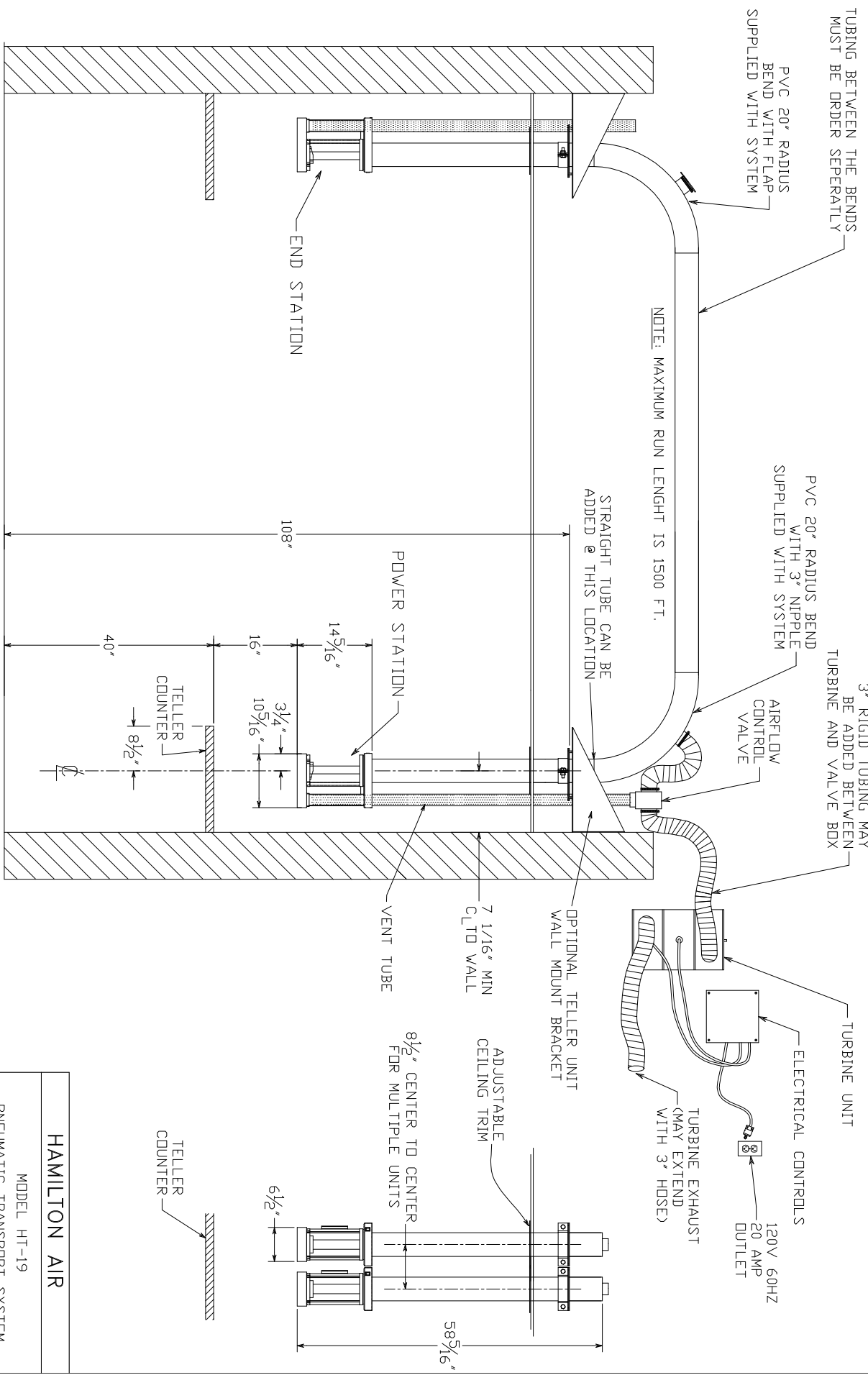
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NOTE: SYSTEMS SHIPPED AFTER **MAY 31, 2008** REQUIRE THE INTERCONNECTION CABLE BETWEEN END STATIONS AND THE ELECTRICAL CONTROL UNIT TO BE **CAT5** CABLE WITH RJ45 CONNECTIONS.

NOTE: TURBINE AND CONTROL BOX MAY BE REMOTELY LOCATED IN UTILITY CLOSET, MECHANICAL ROOM, ETC.

Rev - 1	NOTES FOR I/D&CAT5 CABLE
Rev - 2	



HAMILTON AIR

MODEL HT-19
PNEUMATIC TRANSPORT SYSTEM

HT-19 Pneumatic Transport System

Description:

The HT-19 Pneumatic Transport System is a “point-to-point” type of tube system utilizing remote mounted turbine motors for quiet operation at both end stations. There is also a remote mounted electrical control unit for all connections between end stations and turbine motors. All electrical requirements are also located at this electrical control box. The unit is capable of transporting goods, weighing up to 5 lbs., very quickly, for up to 1500 feet. With built in safety, the unit will only operate if both doors are closed and will shut off if either door is opened while in operation. With the HT-19’s quiet operation, it is a good choice for replacing an existing “Point-to-Point” system with motors mounted at the end station. We can also supply Hamilton’s “Double Sided Teller” unit for use on one end or both ends of the system.



Standard “End Station”



Optional “Double Sided Teller”

Standard Operation:

The HT-19 Pneumatic Transport System is shipped standard where it will only operate if **BOTH** station doors are closed. Placing the carrier inside the station, closing the door, and pressing the black send button on the top-left of the unit will send the carrier to the other end station. If either door is open the unit will not send the carrier. If a door is opened while the unit is running, the unit will shut off and the carrier will stop. To continue the operation, you must close the door and re-send the carrier.

Optional Auto-Send Operation:

This is accomplished by adding a jumper onto the control board connector J4, Pins #1 and #2. The HT-19 Pneumatic Transport System will then be set to “Auto-send” when either station door is closed. The black button now operates as a “Recall” function to call the carrier back to your station. The “Recall” function will only operate if both doors are closed. Removing the jumper returns the system to standard operation.

HT-19 Pneumatic Transport System

Bill of Materials:

As Shown in Figure #1

Quantity	Description	Part Number
2	Standard Teller Units Complete	99-914
Optional	Double Sided Teller	99-920
2	PVC 20" Radius Bends with 3" Nipple	T9608
2	PVC to Steel Tube Adapters	T9705
2	PVC Tube Sleeves	T9602
1	Flap Valve Kit	T9715
1	HT-19 Turbine Unit	B5470
1	HT-19 I/O Electrical Control Unit	99-1013
1	HT-19 Air Flow Control Valve	B5471
96	Inches of 3" Diameter Hose	B2948
4	Hose Clamps 3"	H1074

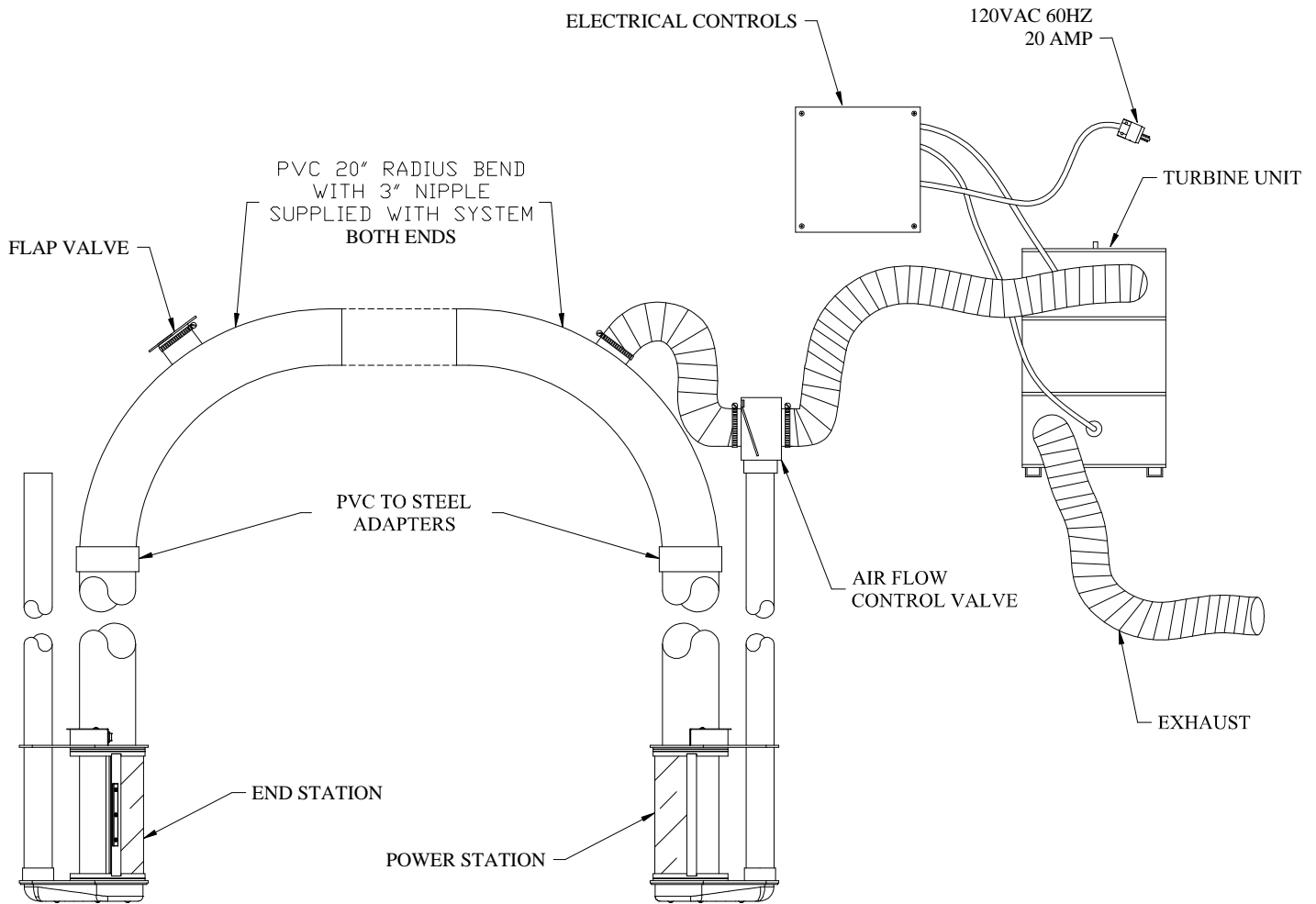


Figure 1

HT-19 Pneumatic Transport System

Installation:

Location:

The Turbine Unit and Electrical Control Unit should be mounted in close proximity to each other to accommodate connecting the turbine power cables to the electrical control unit. **Extending the cables between the Turbine Unit and Electrical Control Unit is NOT recommended.** The Turbine Unit and Electrical Control Unit should be mounted in a location that noise from the turbine motors will not offend the users. This can be in a remote location such as a machine room, utility closet, above ceiling, etc. The three inch (3") hose, between the Turbine Unit and the Air Flow Control Valve, can be lengthened, with rigid pipe, to accommodate this remote location. The exhaust can also be ducted to a remote location, with three inch (3") hose and/or rigid pipe, to reduce noise. Size requirements are shown in figure #2.

Electrical:

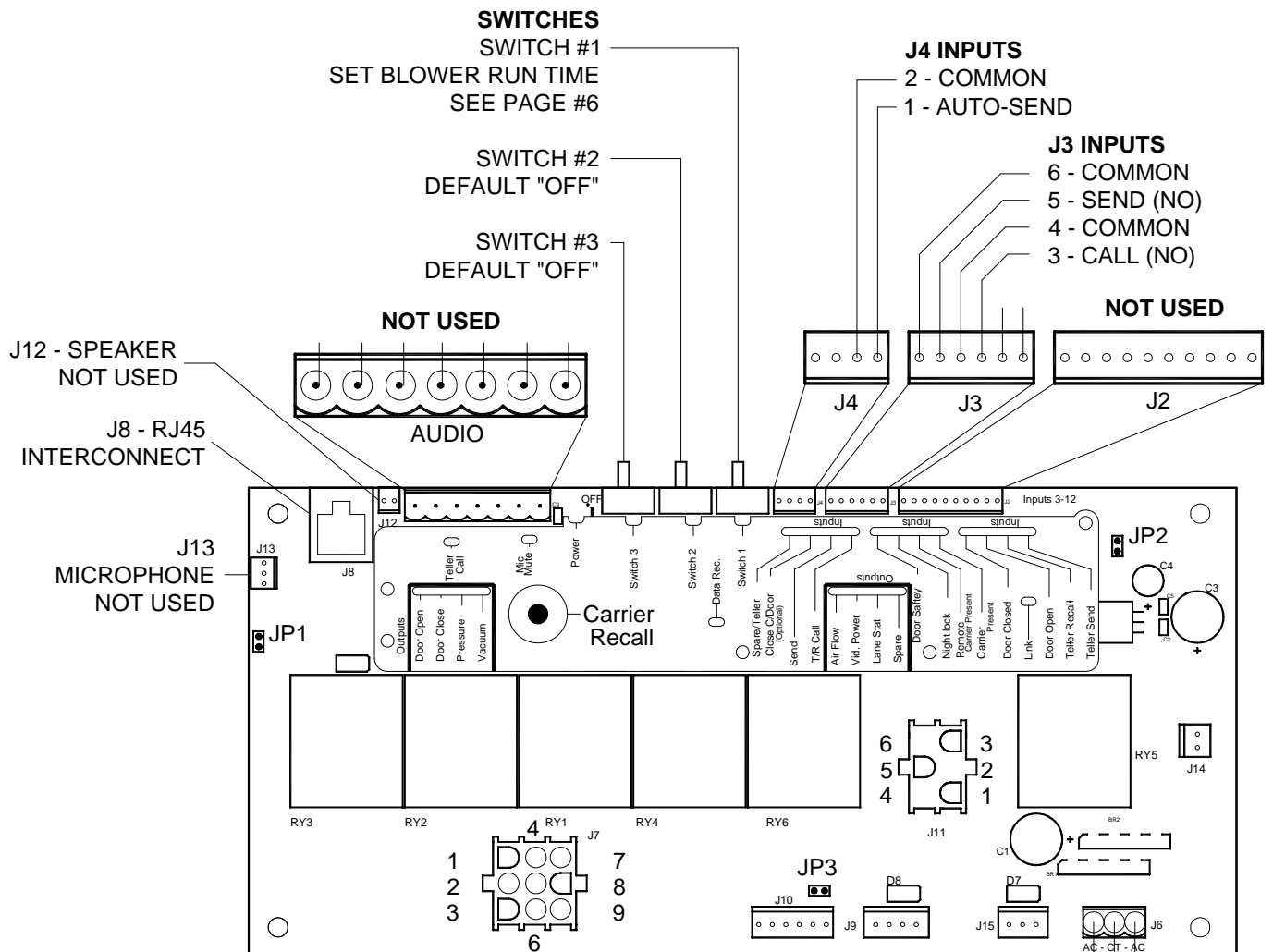
The power, for the HT-19 Pneumatic Transport System, is provided through the Electrical Control Unit. The Electrical Control Unit requires a 120 volt AC, 60 Hz, 20 amp outlet. A power cord is factory wired to the electrical control unit. The turbine motors will be field wired to the electrical control unit. This is explained in the "Field Electrical Connections" section of this manual. The CAT5 interconnect cables from the terminals are also field wired to the electrical control unit and explained in the "Field Electrical Connections" section.

Air Flow Control Valve:

The Air Flow Control Valve will be located on top of the black exhaust tube from the back of one of the end station terminals. This terminal will now be considered the "Power Station" and the other the "End Station". **If one "Double Sided Teller" terminal is used, it is required to be the "End Station" and connection of the Airflow Control Valve will be on the standard terminal. If two "Double Sided Teller" terminals are used, it is required to have an Airflow Control Valve at both ends and a 3" air connection to both ends from the turbine unit.** Using RTV silicone adhesive, seal the two and a quarter inch (2-1/4") I.D. coupler, on the Airflow Control Valve, over the black exhaust tube. Confirm that the black exhaust tube is sealed to the teller terminal also. Attach the Airflow Control Valve so to have sufficient clearance for the connection of the three inch (3") hoses to the other couplers. Connect a length of three inch (3") hose to the top fitting of the turbine unit and the other end to the air flow control valve fitting marked "**To Turbine**" (**This is the fitting opposite of the rubber flap inside the Airflow Control Valve.** Example: When turbine creates pressure, this rubber flap closes off the 3" hose connected to the elbow, forcing the air down the 2-1/4" exhaust tube and into the teller terminal lifting the carrier) as shown in Figure 5. Then connect the fitting with the flap, on the air flow control valve, to the three inch (3") fitting, on the tube elbow, located above the power station. This would be repeated on second end station if using two double sided tellers. The tube connection to the turbine would be the lower port on this second station.

HT-19 Pneumatic Transport System

Control Board Settings & Connections



SWITCHES
 SWITCH #1
 SET BLOWER RUN TIME
 SEE PAGE #6
 SWITCH #2
 DEFAULT "OFF"
 SWITCH #3
 DEFAULT "OFF"

J4 INPUTS
 2 - COMMON
 1 - AUTO-SEND
J3 INPUTS
 6 - COMMON
 5 - SEND (NO)
 4 - COMMON
 3 - CALL (NO)

J12 - SPEAKER
 NOT USED
 J8 - RJ45
 INTERCONNECT
 J13
 MICROPHONE
 NOT USED

NOT USED
 AUDIO

NOT USED

JUMPER SETTINGS
JP1
 DEFAULT "ON"
JP2
 DEFAULT "ON"
JP3
 NOT USED

POWER INPUT
 24 VAC
 CENTER TAP
 24 VAC
J7 OUTPUTS
 1 - NOT USED
 2 - PRESSURE
 3 - NOT USED
 4 - NOT USED
 5 - HOT, BLOWER MOTORS
 6 - NOT USED
 7 - NOT USED
 8 - VACUUM
 9 - NOT USED

HT-19 Pneumatic Transport System

Blower Run Time Set

The “blower run time” is set using switch number one (SW1), which is located on the control board in the control unit. The unit is shipped with a default time stored of about 3 seconds. This procedure will overwrite any existing times set in system. This time can be reset as often as necessary. **Power failure will NOT affect the times stored.**

To restore default blower run times:

- 1) Turn power “OFF” to unit.
- 2) Turn SW1 “ON”.
- 3) Turn power “ON” to unit.
- 4) Return SW1 to “OFF”.
- 5) Default blower run time is restored.

The blower run time can be set with both directions of carrier travel using the same time or individual times for the two directions of carrier travel.

Setting procedure for blower run time. (Single time for both directions)

- 1) Before beginning, the carrier must be in the power station unit with both doors closed.
- 2) Turn SW1 to the “ON” position. (LED indicator will light)
- 3) Push and hold the end station “Teller Recall” button until carrier arrives in the end station. Releasing button stores the time for this cycle.
- 4) Turn SW1 to the “OFF” position to store the cycle time for both directions.

Setting procedure for blower run time. (Individual cycle time for each direction)

- 1) Before beginning, the carrier must be in the power station unit with both doors closed.
- 2) Turn SW1 to the “ON” position. (LED indicator will light)
- 3) Push and hold the end station “Teller Recall” button until carrier arrives in the end station. Releasing button stores the time for this cycle.
- 4) Push and hold the power station “Teller Recall” button until carrier arrives in the power station. Releasing button stores the time for this cycle.
- 5) Turn SW1 to the “Off” position to store the individual cycle times for each direction.

HT-19 Pneumatic Transport System

Size Requirements:

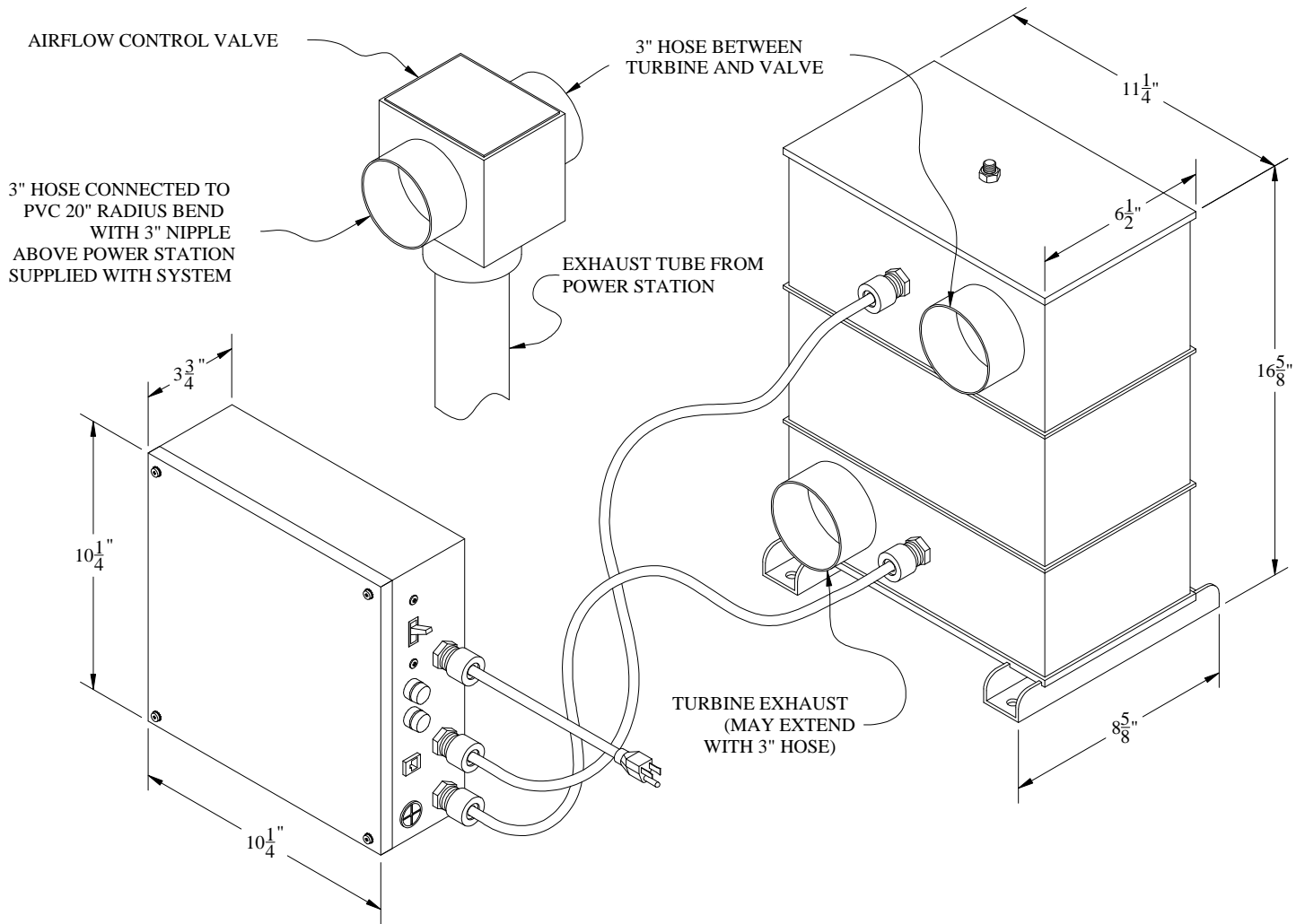


Figure 2

HT-19 Pneumatic Transport System

Field Electrical Connections:

Note: Make all connections with main power disconnected.

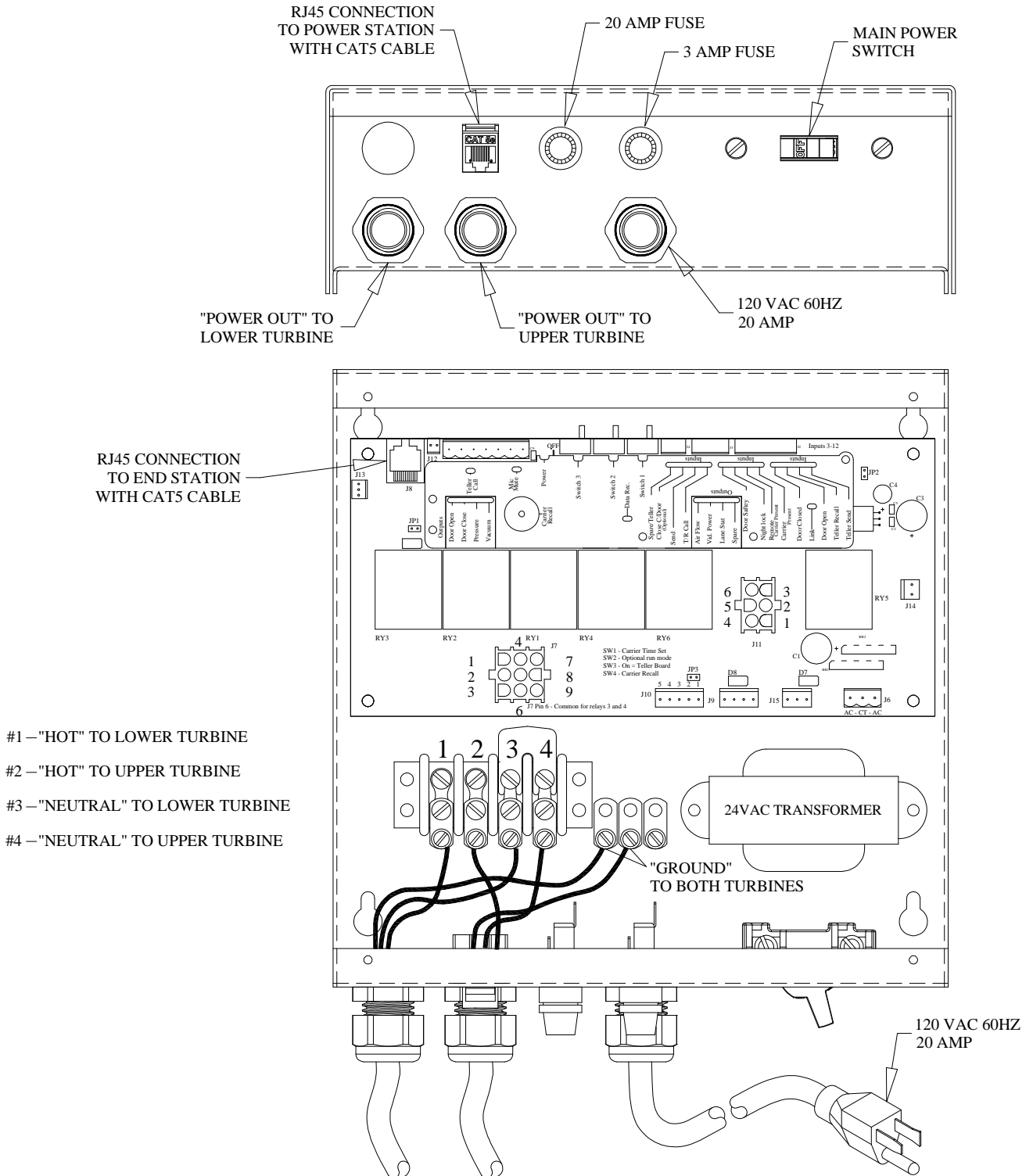


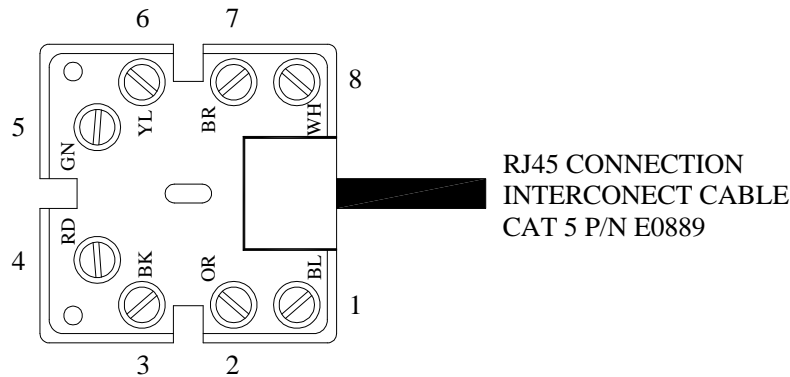
Figure 3

HT-19 Pneumatic Transport System

Field Interconnect Cable Connections:

Note: Make all connections with main power disconnected.

End-station terminals are currently being shipped with a multi-conductor interconnect cable attached. This cable can be connected to the supply RJ45 junction boxes as shown below. The RJ45 junction box can be connected at the end station with CAT5 cable making the connection to the electrical control unit, or the junction box can be used at the electrical control unit using a multi-conductor interconnect cable.



TELLER CONNECTION		
WIRE COLORS		TERM. #
TELLER	CONNECTION BOX	
WHITE	YELLOW	6
BLACK	GREEN	5
GREEN	RED	4
RED	N/A	N/A

CAT5 Interconnect



Wire	Pin #	Teller Connections
White/Orange	1	
Orange	2	
White/Green	3	
Blue	4	Recall
White/Blue	5	Door Closed
Green	6	Common
White/Brown	7	
Brown	8	

HT-19 Pneumatic Transport System

Turbine Unit and Air Flow Control Valve Details:

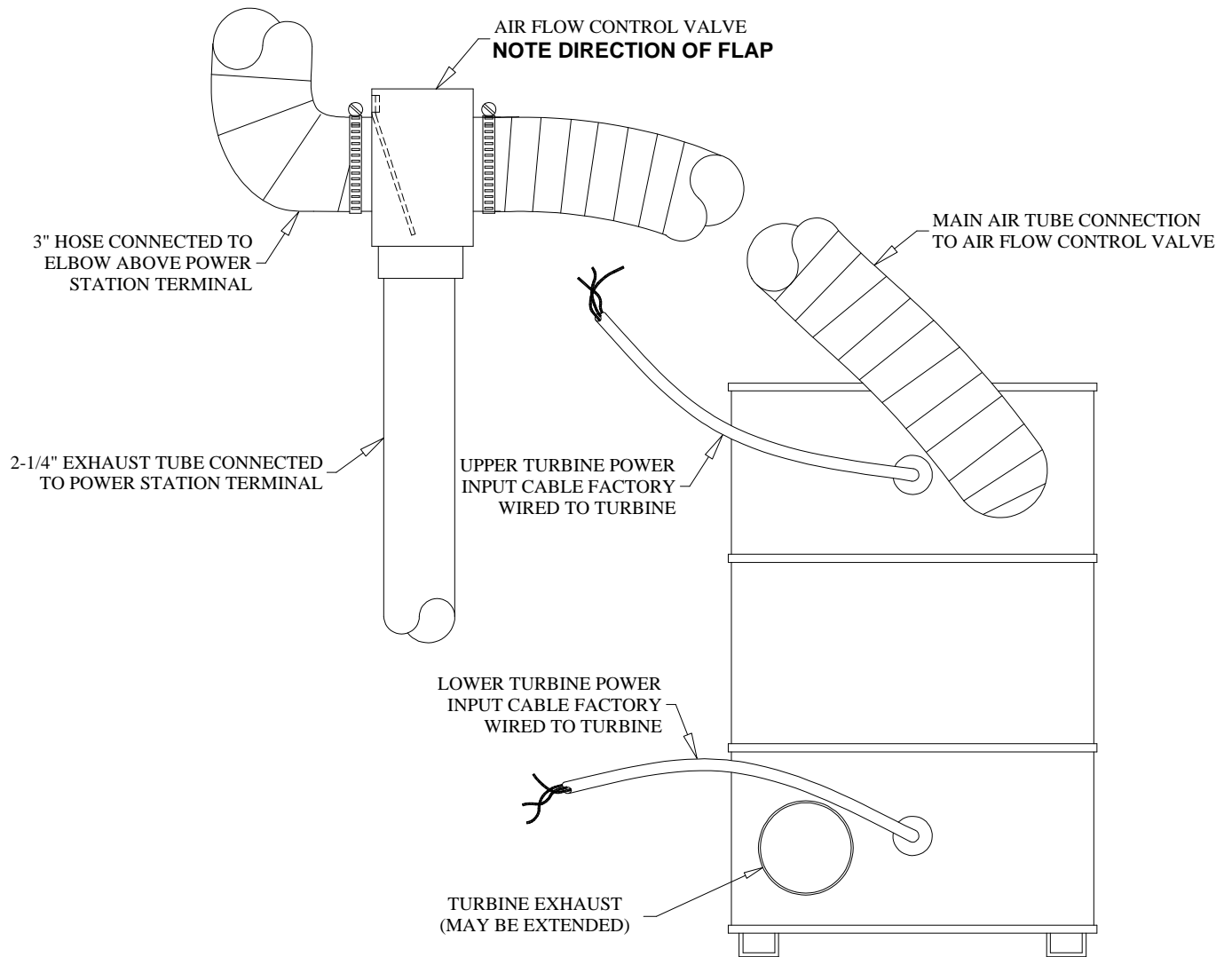


Figure 4

HT-19 Pneumatic Transport System

Logic Electric Diagram:

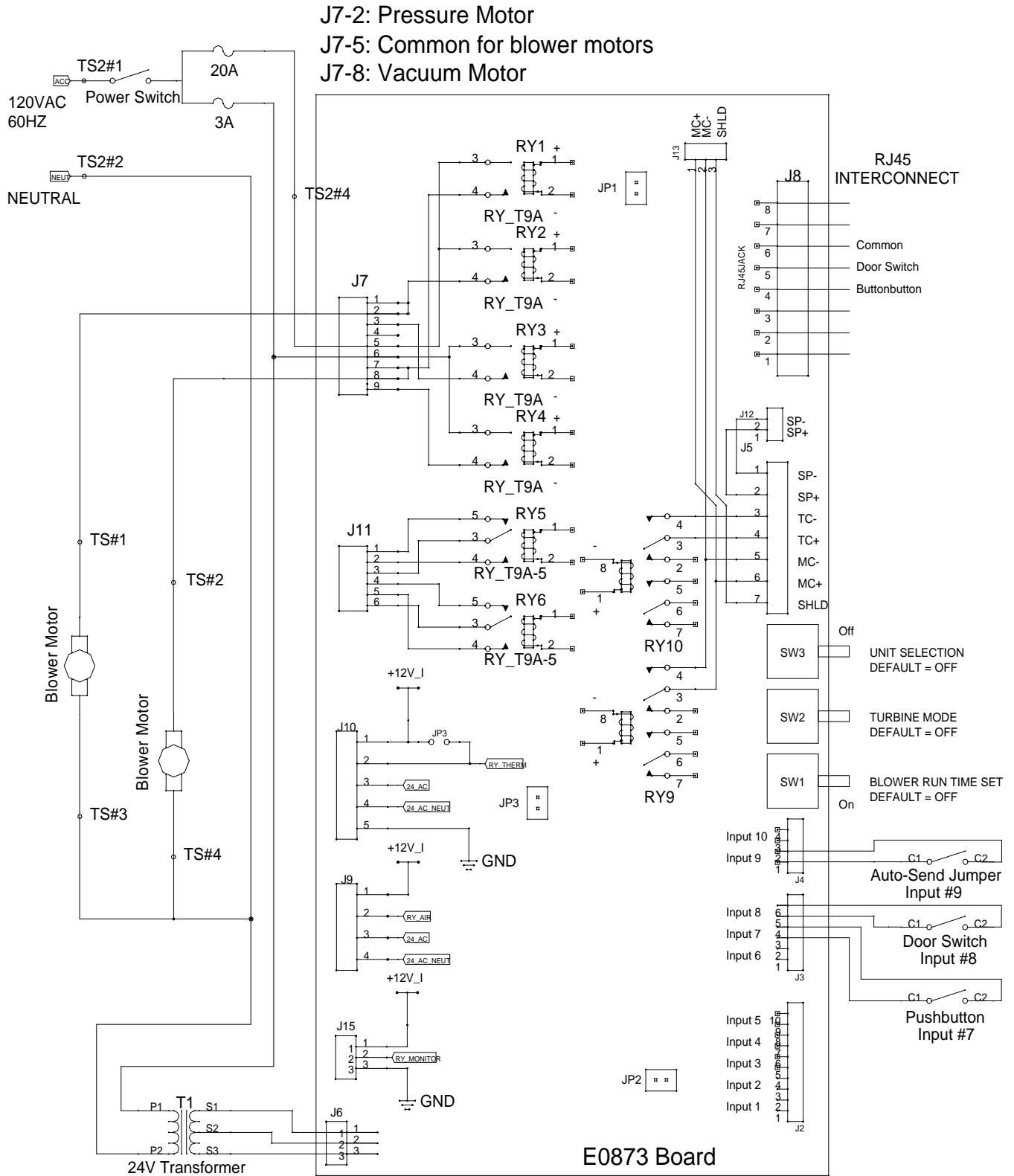
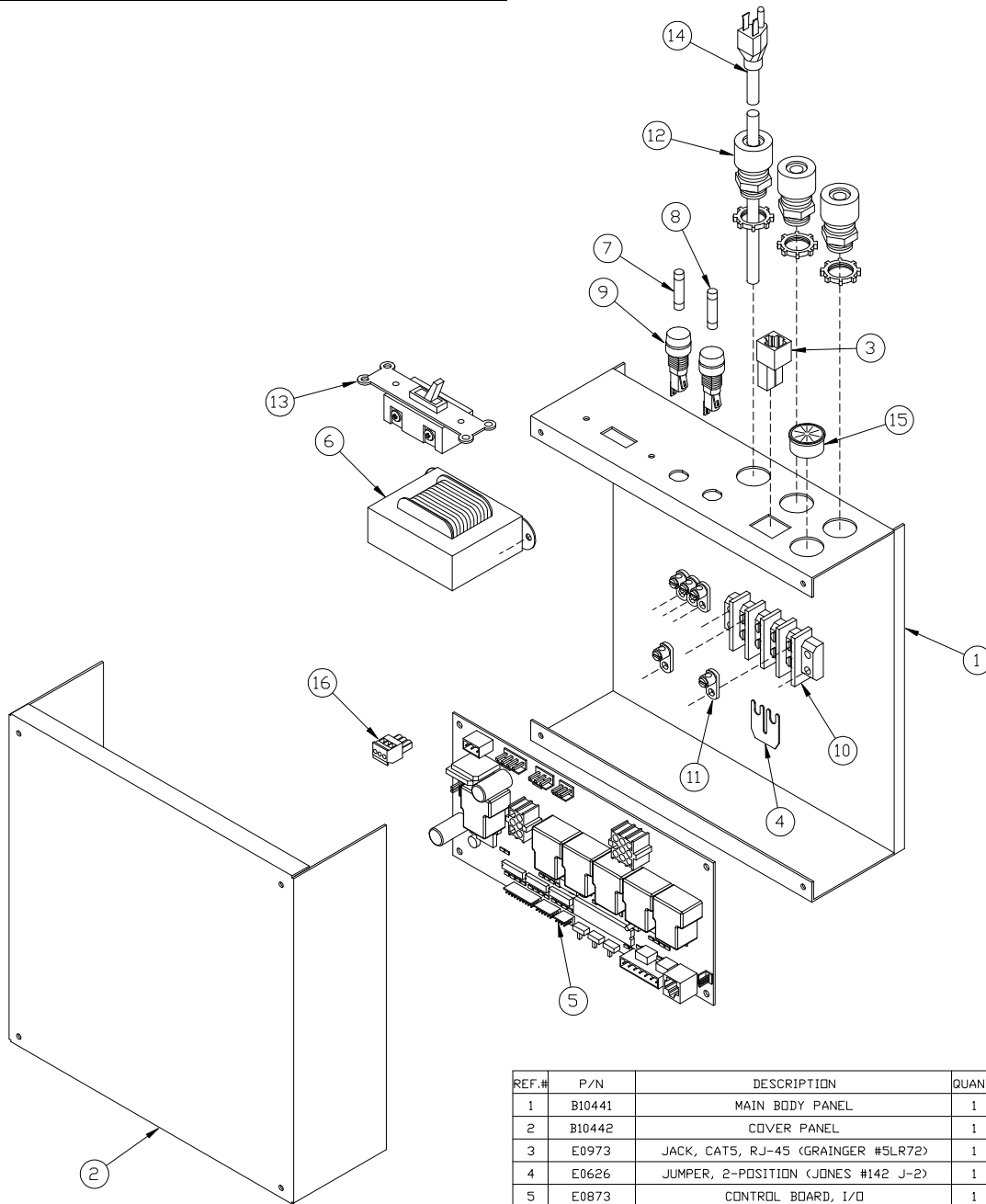


Figure 5

HT-19 Pneumatic Transport System

Electrical Control Cabinet Exploded Parts Detail:



REF.#	P/N	DESCRIPTION	QUANT.
1	B10441	MAIN BODY PANEL	1
2	B10442	COVER PANEL	1
3	E0973	JACK, CAT5, RJ-45 (GRAINGER #5LR72)	1
4	E0626	JUMPER, 2-POSITION (JONES #142 J-2)	1
5	E0873	CONTROL BOARD, I/O	1
6	E0504	24VAC TRANSFORMER (HOBART #P-1372)	1
7	E0267	20 AMP SLOW BLOW FUSE (MDA-20)	1
8	E0369	3 AMP FAST BLOW FUSE (AGC-3)	1
9	E0263	FUSE HOLDER (LITTELFUSE #H342858)	2
10	E0365	4 POSITION TERMINAL STRIP (CINCH #4-142)	1
11	E0625	CONNECTION LUG (T&B #71003)	7
12	E0366	CORD GRIP (T&B #2522)	3
13	E0628	SINGLE POLE SWITCH (LEVITON #3031-2)	1
14	E0367	POWER CORD 14/3, 8' LONG (20amp)	1
15	E0368	BUSHING (HEYCO #2119)	2
16	E0974	TERMINAL BLOCK, 3-PDS. (WEIDMULLER #152651000)1	1

REVISION 1 (10/31/11) ITEM #1 WAS P/N B6909, #2 WAS B6910