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Instructions for  
Xandex Pneumatic Controller Preventive  
Maintenance Sets  
370-0105 and 370-0106  
for controller models 350-0002, 350-0018,  
350-0022 and 350-0023 with Serial  
Number 4000 OR HIGHER

## **IMPORTANT! READ BEFORE INSTALLING!**

This instruction applies ONLY to Xandex Pneumatic Controllers with serial numbers 4000 OR HIGHER that utilize an external 24VDC power supply and have integral Cartridge and Shuttle valves. ***If your controller has a serial number less than 4000 and plugs directly into a 100-240VAC wall socket, installing the valves in this set will result in an inoperable controller.*** If your controller serial number is less than 4000, you must order a different maintenance kit. See instruction 820-0117 in the Product Manuals / Controller Maintenance section at [www.xandexsemi.com](http://www.xandexsemi.com). If your controller operates a Xandex X5200 or 5210 Remote Valve Inker (used on TEL P8 and P12 probers) the controller does not have internal valves. See your product manual for maintenance requirements.

Two solenoid driven air valves are used in Xandex pneumatic controllers to drive the pneumatic shuttle and cartridge. Valve one (V1) supplies air to the pneumatic ink cartridge, and is referred to as the Cartridge Valve. Valve two (V2) supplies air to the pneumatic shuttle and is called the Shuttle Valve. These two valves have the same form factor, but are not interchangeable. In controllers with serial numbers 4000 OR HIGHER, the Cartridge Valve is a 12VDC valve and the Shuttle Valve is a 24VDC valve. Failure to install the correct valve at either location will result in a non-operational controller.

## **PNEUMATIC CONTROLLER PREVENTIVE MAINTENANCE SCHEDULES**

Preventive maintenance for Xandex pneumatic controllers requires replacement of one or two of the controller valves at the intervals specified below.

Controller Model	Replace	Interval
All Models	Cartridge Valve (V1)	Continuous High Speed Use = 6 months All other applications = Every 12 million cycles
All Models	Cartridge Valve (V1), Shuttle Valve (V2) and internal tubing as required.	Every 24 months

Two valve replacement sets are available from Xandex to facilitate controller preventive maintenance. Instructions for both sets and all controller models are detailed in this document.

- Cartridge Valve Set, containing a single valve assembly, electrical connectors and replacement instructions. This set is used for the 6 and 12 million cycle controller preventive maintenance.
- Dual Valve Set containing two valve assemblies, electrical connectors, adequate tubing to replace all internal controller pneumatic routes in all Xandex pneumatic controllers and replacement instructions. Internal tubing can be damaged during dual valve replacement and this can result in leaking connections at the valve and coupling connections. Replacement tubing is provided so it can be replaced as required. This set is used for the 24 month controller preventive maintenance.





## MAINTENANCE SET PART LISTS

Part lists for the single and dual valve sets are provided in the 370-0105 and 370-0106 drawing Bill of Material (BOM) provided with this instruction. Reference the appropriate BOM for item number, part number and descriptions used in this instruction.




## SAFETY INFORMATION

Safety and Hazard identification symbols used in this document are intended to be compliant with ANSI/NEMA Z 535.6 2006. The table below lists the symbols used in this document along with a description of each type of safety hazard. Failure to observe identified safety risks may result in serious injury or death.

### Safety and Hazard Identification Symbols

SYMBOL	DESCRIPTION
	<b>DANGER</b> = Indicates a hazardous situation which, if not avoided, will result in death or serious injury
	<b>WARNING</b> = Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	<b>CAUTION</b> = Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	<b>NOTICE</b> = Indicates a practice that is not related to personal injury, but may cause damage to equipment or property.

## BEFORE YOU BEGIN

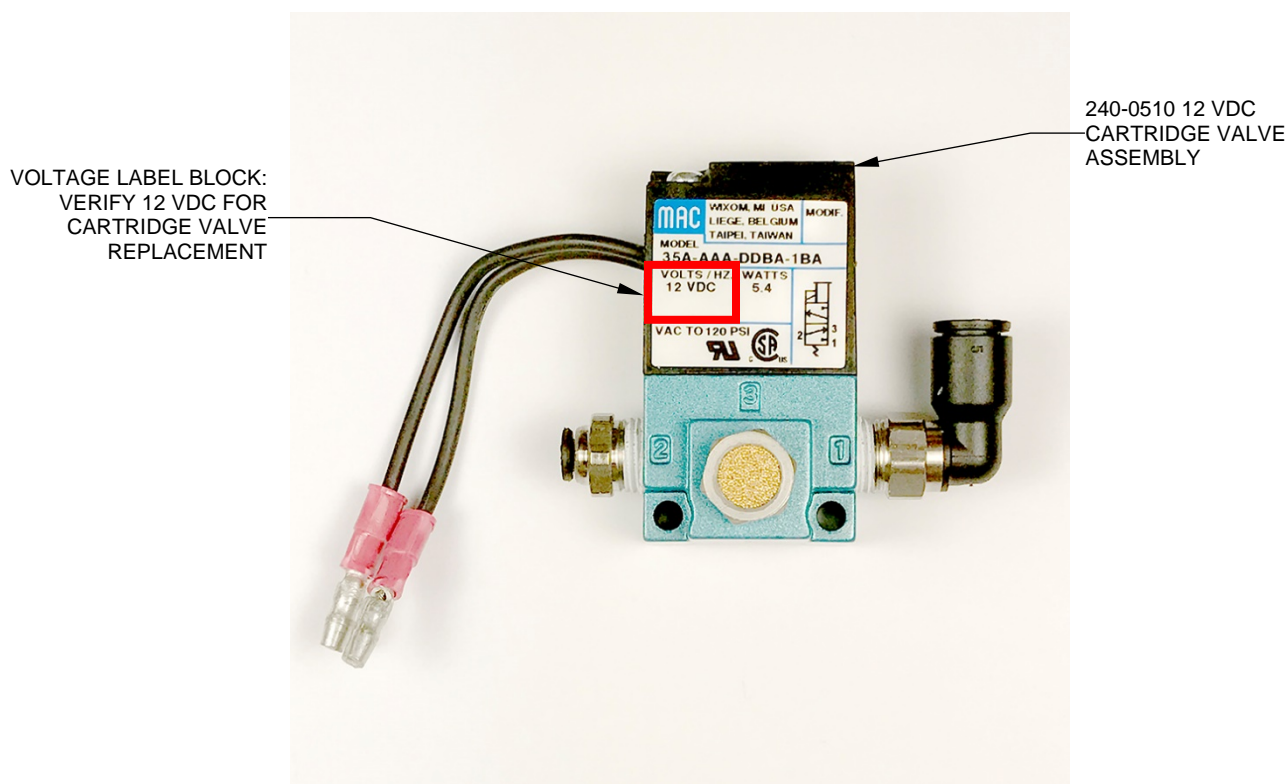
	<i>Making any modifications to the controller circuitry or components other than Xandex recommended maintenance procedures may void your controller warranty, disable protections provided by the manufacturer and expose the user to electric shock hazard.</i>
	<i>Use appropriate ESD precautions when working inside of the controller! Disconnect all inputs/outputs from the rear panel of the controller, including power, input air and all inker electronic and pneumatic connections. Remove the controller to an appropriate ESD safe maintenance area for servicing.</i>
	<i>Do not place undue strain on internal electrical connections when working inside the controller. Failure to follow recommended procedures may result in damage to the controller unit.</i>

## 370-0105 CARTRIDGE VALVE REPLACEMENT SET INSTALLATION

Replacement of the cartridge valve is similar in all Xandex pneumatic controllers. Illustrations of the appropriate cartridge valve fittings are supplied in this section. Use this instruction for cartridge valve replacement in all controllers.

### With Power and Main Air removed:

1. Remove the four (4) cover screws from each side of the controller (8 total screws) and remove the controller cover.
2. Locate the Cartridge Valve (V1) mounted on the back wall of the controller housing. Reference Controller Drawing(s) 350-0002 (Standard) or 350-0018 (Motorized-Z), included in this instruction, to identify valve locations.
3. Remove the two (2) Phillips mounting screws and nuts securing the valve to the controller back wall and remove the valve. Retain the screws and nuts to re-install the valve.
4. Disconnect the input and output pneumatic hoses from the valve by depressing the colored fitting collar and pulling on the pneumatic hose simultaneously.
5. Disconnect the two (2) snap in connectors that connect the valve wires to the controller wiring harness.
6. Unpackage the 240-0510 12V Cartridge Valve Assembly and verify that the label on the valve body reads 12 VDC. See Figure 1.



**Figure 1. 240-0510 12 VDC Cartridge Valve Assembly**

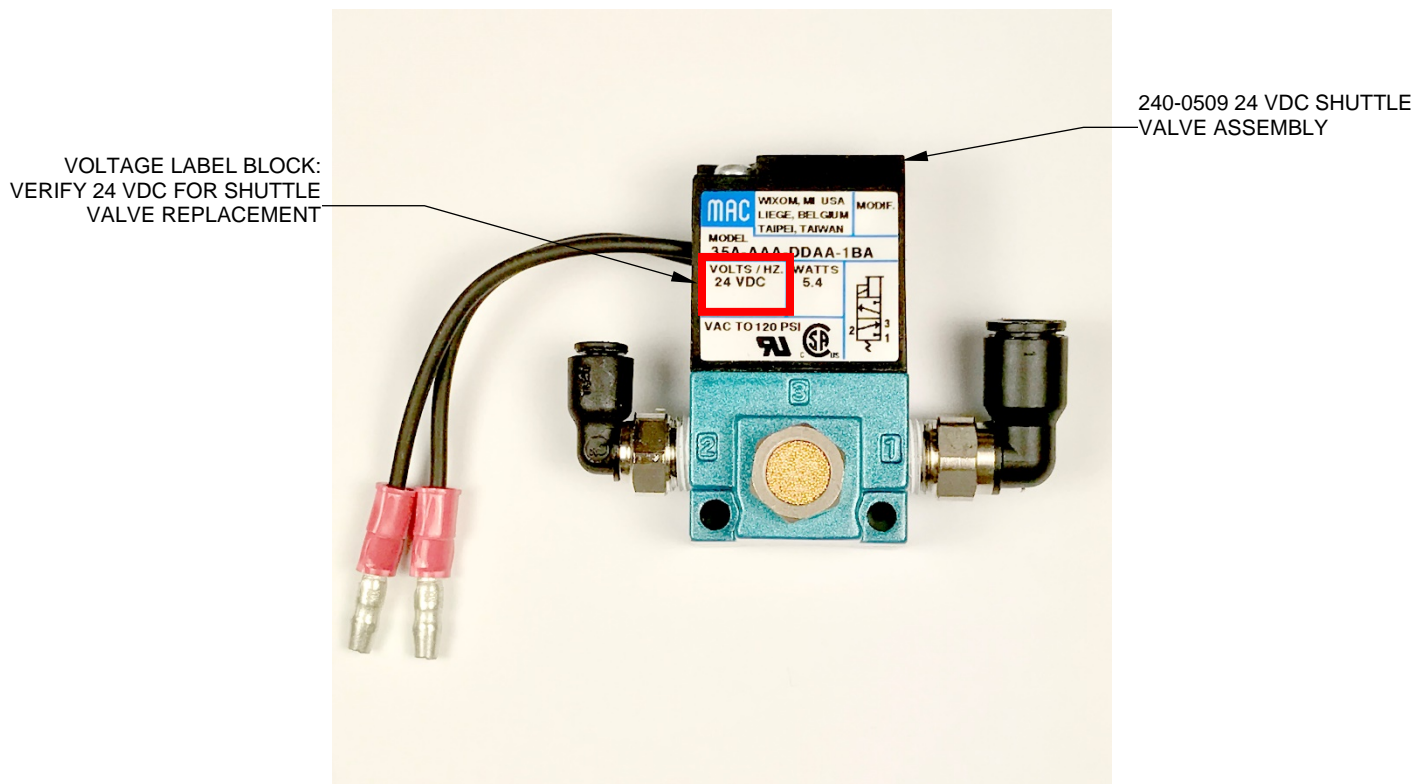
7. Install the pneumatic lines into the new Cartridge Valve fittings, insuring that each hose is firmly seated in the valve fitting.
8. Connect the two (2) snap in connectors on the valve wires to the receptacle connectors on the controller. Polarity does not matter.
9. Install the replacement valve assembly in the controller base, securing with the two Phillips screws and nuts retained when the old valve was removed.
10. If the Shuttle Valve will also be replaced, see Standard Controller Shuttle Valve (V2) Replacement section.
11. If only the Cartridge Valve is being replaced, apply power and main air. Check for air leaks and repair as necessary. Refer to “Controller Diagnostics” section of this instruction appropriate for your controller and perform appropriate valve functional and diagnostic tests. Re-install the controller cover after testing is satisfactory.

### **370-0106 SHUTTLE VALVE (V2) REPLACEMENT**

The procedure for Shuttle Valve replacement in the 350-0002 (Standard) pneumatic controller and the 350-0018 (Motorized-Z) controller is the same.

1. Locate the Shuttle Valve (V2), which in both controller types is mounted to the lower right side wall of the controller, when facing the controller front panel. Reference Controller Drawing(s) 350-0002 (Standard) or 350-0018 (Motorized-Z) included in this instruction, for valve location.
2. Access to the Shuttle Valve (V2) retaining nuts is difficult with top down (cover removed) access only. To provide better access to the valve retaining nuts, remove the four screws located on the bottom front edge of the controller that retain the controller front panel. With the screws removed, carefully rotate the front panel up or to the left, to gain better access to the shuttle valve. The wiring harness is designed to allow this rotation without disconnecting wiring from the front panel.
3. Remove the two (2) Phillips mounting screws and nuts securing the valve to the controller wall and remove the valve. Retain the screws and nuts to re-install the valve.
4. Disconnect the input and output pneumatic hoses from the valve by depressing the colored fitting collar and pulling on the pneumatic hose simultaneously.
5. Disconnect the two (2) snap in connectors that connect the valve wires to the controller wiring harness.
6. Unpackage the 240-0509 24V Shuttle Valve Assembly and verify that the label on the valve body reads 24 VDC. See Figure 2.





**Figure 2. 240-0509 24 VDC Shuttle Valve Assembly**

7. Install the pneumatic lines in the new Shuttle Valve fittings, insuring that each hose is firmly seated in the valve fitting.
8. Connect the two (2) snap in connectors on the valve wires to the receptacle connectors on the controller. Polarity does not matter.
9. Install the replacement valve assembly in the controller base, securing with the two Phillips screws and nuts removed previously.
10. Align the front panel back into the controller housing and install the four (4) screws removed in step number 2.
11. Apply power and main air. Check for leaks and repair as necessary. Refer to “Controller Diagnostics” section of this instruction appropriate for your controller and perform appropriate valve functional and diagnostic tests. Re-install the controller cover after testing is satisfactory.

## PNEUMATIC TUBING REPLACEMENT GUIDELINES

**IMPORTANT:** Read this section completely before beginning tubing replacement.

The tubing used in Xandex pneumatic controllers is made of polyurethane. The recommended preventive maintenance schedule calls for inspection and replacement of the pneumatic tubing within the controller at 24 month intervals to insure trouble free operation. Tubing replacement is a recommendation for units in high volume production environments. At a minimum, tubing should be inspected at 24 month intervals for leaks, cracks, compression and replaced as required.

Tubing replacement is done in conjunction with Shuttle and Cartridge Valve replacement. Remove the valves per instructions and replace tubing as the valves are reinstalled.

It is important that tubing is not kinked or pinched to restrict air flow. The recommended method for tubing replacement is to cut the tubing lengths listed in the chart on the controller drawing for your controller model before beginning. Reference the tubing ID and length tables in drawing 350-0002 sheet 4 for Standard controller or 350-0018 sheet 4 for the Motor-Z controller. Use a sharp cutting tool (diagonal cutters or similar tool) to cut tubing. Make 90 degree cuts without burrs. It is helpful to label each tube length with tube ID and at each end with beginning and end point designations with an indelible marker as it is cut.

Remove and replace **one tube length at a time** to avoid misconnection. Exception to this is when a “T” fitting is in the route. The best method in this case is to disconnect the tubing from the three endpoints and remove the “T” fitting and tubing together. Replace the three tubing sections on the “T” fitting with appropriate tube lengths, reinstall the “T” fitting (with tubing) into the controller and reconnect the three tubing endpoints. See “Brass: T” Fittings” in the Connection Types section that follows.

Use caution when routing tubing around electrical connections. Do not place stress on electrical connections.

## PC BOARD REMOVAL

In order to replace some of the tubing runs, the controller PC Board must be removed to access tubing routes. Follow the procedure below to remove the PC Board. Reference drawings 350-0002 or 350-0018 for part ID and location.

### NOTICE

***Use appropriate ESD precautions when working inside of the controller! Disconnect all inputs/outputs from the rear panel of the controller, including power, input air and all inker electronic and pneumatic connections. Remove the controller to an appropriate ESD safe maintenance area for servicing.***

With the controller completely disconnected from power and air supply and the top cover removed:

1. Reference drawing 350-0002 sheet 3 or 350-0018 sheet 3 and locate the four screws that retain the PC Board to the controller enclosure. Screws are located approximately at the four corners of the board. The PC board is secured by these four screws to four stand-offs mounted to the floor of the controller enclosure.
2. With the mounting points identified, remove the electrical connectors from J1-J5 on the Standard controller or J1-J7 on the Motor-Z controller.

3. Remove the four screws that retain the PC Board, lift the board off of the stand-offs and place the board on an ESD safe surface or in an ESD safe container or bag until the board is replaced after tubing replacement.
4. To replace the board, reverse the removal procedure, making sure that none of the tubing runs or electrical wiring are crimped or compressed when the board is re-seated.

## **TUBING CONNECTION TYPES**

### ***Air Input Connection (A1)***

The air input coupling, designated A1 on all models, uses a compression lock nut to retain the internal tubing. To disconnect the tube from this fitting, use a 7/16 wrench to loosen the silver compression nut and slide the nut back over the tubing. Support the coupling with one hand and pull the tubing, gently moving it from side to side to disconnect the tube from the barbed fitting in the coupling. To reconnect new tube to the fitting, press the end of the appropriate tube length onto the barbed fitting in the coupling. Slide the compression nut over the unconnected end of the tube and tighten it onto the coupling. Connect the other end of the tube to its appropriate endpoint.

### ***Locking Collar Fittings***

All valve and Elbow fittings use a locking collar to retain the tubing in the fitting. To remove tubing from this type of connection, depress the fitting collar and pull on the tube simultaneously. To install tubing, depress the fitting collar and push the tubing firmly into the fitting. The fitting collar should retain the tubing when the tubing is gently pulled (tugged) after installation.

### ***Shuttle Connection (A2) Barbed Fittings***

On all controller models, the Shuttle output coupling on the back of the controller, has two barbed fittings that connect to 518-0002 1/8 O.D. tubing. To remove tubing from the barbed fittings on A2, grasp the tubing as close to the coupling as possible and pull on the tubing, gently moving the tubing from side to side if necessary, until the tubing is disconnected. To replace tubing, push the tubing onto the barbed fitting until the cut end of the tubing stops against the coupling body. Note that the RED tubing from the Cartridge Valve (V1) connects to the top barbed fitting and the BLACK tubing from the Shuttle Valve (V2) connects to the bottom barbed fitting on the A2 Shuttle connection.

### ***Brass "T" Fittings***

The Standard controller utilizes one (1) brass "T" fitting, and the Motor-Z controller utilizes two (2) brass "T" fittings. When installing tubing to a brass "T" fitting, the tubing must be warmed using a hot air gun to soften the tubing before installing the tubing onto the barbed ports of the fitting.

## **CONTROLLER DIAGNOSTIC TESTS**

There are several internal diagnostic tests available for testing the operation of the all Xandex Pneumatic Controllers. To enter the Diagnostics mode, apply power to the Controller with the "RESET" button depressed. All tests should be run after each preventive maintenance is performed to verify controller operation prior to return to service.

- **Test Thumbwheels**

1. Place the toggle switch on the front panel to SET-UP, set the thumbwheels to 12345, then reset the LCD Counter.
2. Press the RESET button and verify that the counter increments 15 counts.
3. Place the toggle switch to RUN, set the thumbwheels to all 1's, reset the LCD Counter, and press RESET. The counter should increment one count.
4. Repeat the procedure for the rest of the digits (2 through 9). With the thumbwheels set for 00000, the counter increments 10 counts.

- **Test Dot Size Potentiometer**

1. Place the toggle switch to DISABLE, set the HOURS thumbwheels to 01, then reset the LCD Counter.
2. With the Dot Size knob set at the minimum position, press the RESET button and verify that the LCD Counter does not increment.
3. Set the knob to 50% and press RESET. The Counter should display approximately 130 counts. (Variations in Dot Size knob alignment to scale may occur. An increment of  $\pm 10$  is not significant in this case.)
4. Reset the LCD Counter, adjust the knob to maximum, and press RESET. The Counter should display 255 counts.

- **Test Cartridge Valve. To test fire the Cartridge Valve 20 times:**

1. Set the HOURS thumbwheels to 02
2. Place the toggle switch to DISABLE
3. Reset the LCD Counter
4. Press RESET. *The cartridge valve fires 20 times, each time incrementing the LCD Counter.*

- **Test Shuttle Valve. To test fire the Shuttle Valve 20 times:**

1. Set the HOURS thumbwheels to 03
2. Place the toggle switch to DISABLE
3. Reset the LCD Counter
4. Press RESET. *The shuttle valve fires 20 times, each time incrementing the LCD Counter.*

- **Life Test** *This test will continuously fire the Cartridge and Shuttle valves for a predetermined number of cycles as set on the thumbwheels.*

1. Place the toggle switch to DISABLE.
2. Set the HOURS thumbwheels to 10.
3. Set the DOTS X1000 thumbwheels for the desired number of cycles times 1000 (i.e.: 250 Equals 250,000 cycles).
4. Reset the LCD Counter.
5. Press RESET. *The Controller begins continuous firing, incrementing the Counter each cycle. To discontinue the Life Test prior to reaching the set amount, remove power.*

## 350-0018 Motorized Z Controller Diagnostic Tests

All references to “mode switch” in the following tests refer to the top mode (toggle) switch. The bottom mode switch should be set to RUN during testing.

- **Test Thumbwheels**

1. Place the mode switch on the front panel to SETUP, set the DOTS X1000 thumbwheels to 12345, then reset the LCD Counter.
2. Press the RESET button and verify that the counter increments 15 counts.
3. Place the toggle switch to RUN, set the thumbwheels to all 1's, reset the LCD Counter, and press RESET. The counter should increment one count.
4. Repeat the procedure for the rest of the digits (2 through 9). With the thumbwheels set for 00000, the counter increments 10 counts.

- **Test Cartridge Valve.** *To test fire the Cartridge Valve 20 times:*

1. Set the DOT SIZE thumbwheels to 02
2. Place the mode switch to DISABLE
3. Reset the LCD Counter
4. Press RESET. *The cartridge valve fires 20 times, each time incrementing the LCD Counter.*

- **Test Shuttle Valve.** *To test fire the Shuttle Valve 20 times:*

1. Set the DOT SIZE thumbwheels to 03
2. Place the mode switch to DISABLE
3. Reset the LCD Counter
4. Press RESET. *The shuttle valve fires 20 times, each time incrementing the LCD Counter.*

- **Test Pressure Valve.** *To test fire the Pressure Valve 20 times:*

1. Set the DOT SIZE thumbwheels to 09
2. Place the mode switch to DISABLE
3. Reset the LCD Counter
4. Press RESET. *The pressure valve fires 20 times, each time incrementing the LCD Counter.*

- **Life Test.** *This test will continuously fire the Cartridge, Shuttle and Pressure valves for a predetermined number of cycles as set on the thumbwheels.*

1. Set the DOT SIZE thumbwheels to 10
2. Place the mode switch to DISABLE
3. Set the DOTS X1000 thumbwheels for the desired number of cycles times 1000 (i.e.: 250 Equals 250,000 cycles). If the thumbwheel count is zero, the valves cycle 6,553,600 times.
4. Reset the LCD Counter.
5. Press RESET. *The Controller begins continuous firing, incrementing the LCD Counter each cycle. To discontinue the Life Test prior to reaching the set amount, remove power.*

- **Alarm Test.** *Pressing the RESET button will toggle the state of the alarm signal.*

1. Set the DOT SIZE thumbwheels to 06
2. Place the mode switch to DISABLE
3. Press RESET to change the state of the alarm. *The alarm alternately is turned on and off.*

**Note:** *The alarm test is used to verify that the audible alarm is functional, not to enable or disable the alarm itself. To enable or disable the alarm function, a jumper must be moved on the controller PCB. See your product manual for instructions.*

## **Pneumatic Shuttle Maintenance**

In addition to maintaining the pneumatic controller, periodic preventive maintenance of the inker shuttle mechanism is recommended to insure continued, trouble free operation of your Xandex pneumatic inking system. The recommended maintenance schedule is as follows;

- Off-line use = 6 month intervals
- In-Line / Post Probe use = Once per year

Shuttle preventive maintenance kits are available, which include all parts necessary for one normal shuttle maintenance procedure. These kits may be ordered direct from Xandex or through your local Xandex distributor. To determine which kit to order, consult the inker assembly drawing in your inker manual for the shuttle assembly part number used on your inker, then reference the following table.

Inker Model Reference	Shuttle Assembly Part Number	Preventive Maintenance Kit Part Number
All models except those listed below	216-0001 216-0002 216-0003 216-0005 316-0005	370-0001
Series X1100, X1200, X1300, X7100	316-0001 316-0002 316-0003	370-0002
Series X5200	216-0004	370-0003
Series X5100	X5100 Series Inkers (integral shuttle)	370-0004

To order or for assistance selecting the correct kit for your inker, contact Xandex Customer Service at (707) 763-7799 or Toll Free in the U.S. (800) 767-9543. FAX (707) 763-2631. Each kit comes with maintenance instructions. To view the instruction sheet and parts list for each kit, visit our web site at <http://www.xandexsemi.com/>

# SERVICE AND SUPPORT INFORMATION



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## ***International Distributors***

### **China**

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Zhang Jiang Hi-Tech Park  
PuDong New Area  
Shanghai 201203  
Peoples Republic of China  
Telephone: 86-21-50275859  
Fax: 86-21-50275877  
Contact: Jason Huang  
Email: [ptis@premtek.com.cn](mailto:ptis@premtek.com.cn)  
Website: [www.premtek.com.tw](http://www.premtek.com.tw)

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Email: [pji@premtek.com.tw](mailto:pji@premtek.com.tw)  
Website: [www.premtek.com.tw](http://www.premtek.com.tw)



**DRAWINGS SUPPLIED WITH THIS INSTRUCTION**

Drawing Title	Drawing Number
PNEUMATIC CONTROLLER, STANDARD WITH BILL OF MATERIALS	350-0002
PNEUMATIC CONTROLLER, MOTOR-Z WITH BILL OF MATERIALS	350-0018
SET, SINGLE VALVE REPLACEMENT WITH BILL OF MATERIALS	370-0105
SET, DUAL VALVE REPLACEMENT WITH BILL OF MATERIALS	370-0106
PNEUMATIC CONTROLLER CARTRIDGE VALVE ASSEMBLY, 12VDC WITH BILL OF MATERIALS	240-0510
PNEUMATIC CONTROLLER SHUTTLE VALVE ASSEMBLY, 24VDC WITH BILL OF MATERIALS	240-0509


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## REVISIONS

REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
C	CHANGED ITEM 3 TO 240-0510 ASSEMBLY, REV. NOTES 2 & 3, DEL. NOTE 1	4351	MRW	09/13/17	SM

### NOTES:

- △<sub>C</sub> 1. DELETED.
- △<sub>C</sub> 2. BAG VALVE ASSY (ITEM 3) IN BUBBLE BAG (ITEM 4,) AND LABEL "240-0510 VALVE ASSY 12V".
- △<sub>C</sub> 3. BAG ITEM 5 AND LABEL WITH DESCRIPTION AND PART NUMBER.
4. DELETED.
5. ADD LABELS ITEMS 8 & 9 TO EXTERIOR OF BOX IN A CONSPICUOUS LOCATION.
6. MUST BE ROHS COMPLIANT IN ACCORDANCE WITH EU DIRECTIVE 2011/65/EU.

APPROVALS		DATE	ITEM	QTY	PART NUMBER	DESCRIPTION										
DRAWN	R.PERRY	08/06/99			INTERPRET DRAWING PER ASME Y14.5M-1994	 1360 REDWOOD WAY, SUITE A PETALUMA, CA 94954 (707) 763 7799										
CHECKED	<i>[Signature]</i>	9/14/17			TOLERANCES UNLESS OTHERWISE SPECIFIED											
ENGRG	J.G.	01/24/00			DIMENSIONS ARE IN INCHES DECIMALS											
NEXT ASSEMBLIES.....USED ON			1 PL ±      FRACTIONS ± 2 PL ±.010      ANGLES ±1° 3 PL ±.005 4 PL ±      63/ ALL SURFACES			TITLE SET, SINGLE VALVE REPLACEMENT DO NOT SCALE DRAWING <table border="1"> <tr> <td>SIZE</td> <td>SCALE</td> <td>SHEET</td> <td>DRAWING NUMBER</td> <td>REV</td> </tr> <tr> <td>A</td> <td>1/1</td> <td>1 OF 1</td> <td>370-0105</td> <td>C</td> </tr> </table>	SIZE	SCALE	SHEET	DRAWING NUMBER	REV	A	1/1	1 OF 1	370-0105	C
SIZE	SCALE	SHEET	DRAWING NUMBER	REV												
A	1/1	1 OF 1	370-0105	C												

## **BILL OF MATERIAL**

**P/N 370-0105  
REV C**

### **SET-SINGLE VALVE REPLACEMENT**

<b>ITEM</b>	<b>NUMBER</b>	<b>ITEM DESCRIPTION</b>	<b>QNTY</b>	<b>U/M</b>
3	240-0510	VALVE ASSY CART 12V PNEU CNTRLR	1.00	EA
4	514-0205	PKGING BUBBLE BAG 4X5.5	1.00	EA
5	517-0005	TIES CABLE PLT.7M-C	2.00	EA
8	512-0097	LBL ROHS COMPLIANT 1.5 X 1.0	1.00	EA
9	512-0049	LBL GREEN E ROHS .5IN DIA	1.00	EA
10	820-0322	MANUAL PNEU CNTRLR PREV MAINT SETS	1.00	EA

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## REVISIONS

REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
C	CHANGE ITEM 3 TO 240-0509, CHANGE ITEM 16 TO 240-0510, DELETE NOTE 1, REVISE NOTES 2, 3 & 4	4351	MRW	09/18/17	SM

### NOTES:



1. DELETED.



2. BAG VALVE ASSY (ITEM 3) IN BUBBLE BAG (ITEM 4)  
AND LABEL "240-0509 SHUTTLE VALVE ASSY 24V".




3. BAG ITEM 5 AND LABEL WITH DESCRIPTION AND PART NUMBER.



4. BAG VALVE ASSY (ITEM 16) IN BUBBLE BAG (ITEM 4)  
AND LABEL "240-0510 CARTRIDGE VALVE ASSY 12V".

5. ADD LABELS ITEMS 13 & 14 TO EXTERIOR OF BOX IN A  
CONSPICUOUS LOCATION.

6. MUST BE ROHS COMPLIANT IN ACCORDANCE WITH  
EU DIRECTIVE 2011/65/EU.

APPROVALS		DATE	ITEM	QTY	PART NUMBER	DESCRIPTION
DRAWN	MRW	12/14/15			INTERPRET DRAWING PER ASME Y14.5M-1994	 1360 REDWOOD WAY, SUITE A PETALUMA, CA 94954 (707) 763 7799
CHECKED	<i>[Signature]</i>	9/18/17			TOLERANCES UNLESS OTHERWISE SPECIFIED	
ENGRG	D. JEGLIA	12/14/15				
NEXT ASSEMBLIES.....USED ON			DIMENSIONS ARE IN INCHES <u>DECIMALS</u> 1 PL ±      FRACTIONS ± 2 PL ±.010      ANGLES ±1° 3 PL ±.005 4 PL ±      63/ ALL SURFACES			TITLE SET, DUAL VALVE REPLACEMENT DO NOT SCALE DRAWING
SIZE	SCALE	SHEET	DRAWING NUMBER		REV	
A	1/1	1 of 1	370-0106		C	

## BILL OF MATERIAL

**P/N 370-0106**  
**REV C**

### SET-DUAL VALVE REPLACEMENT

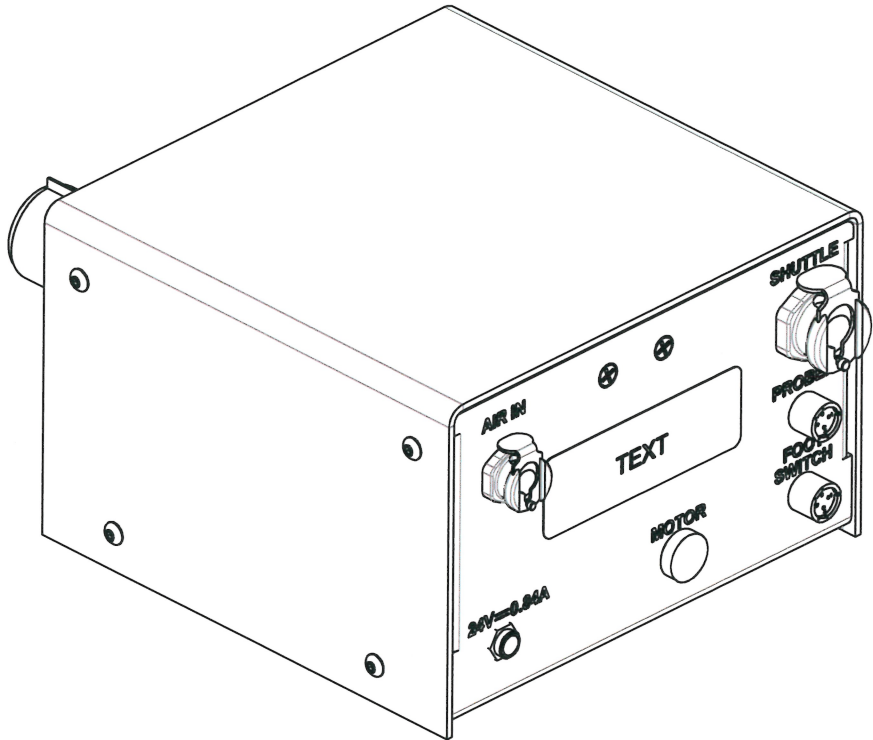
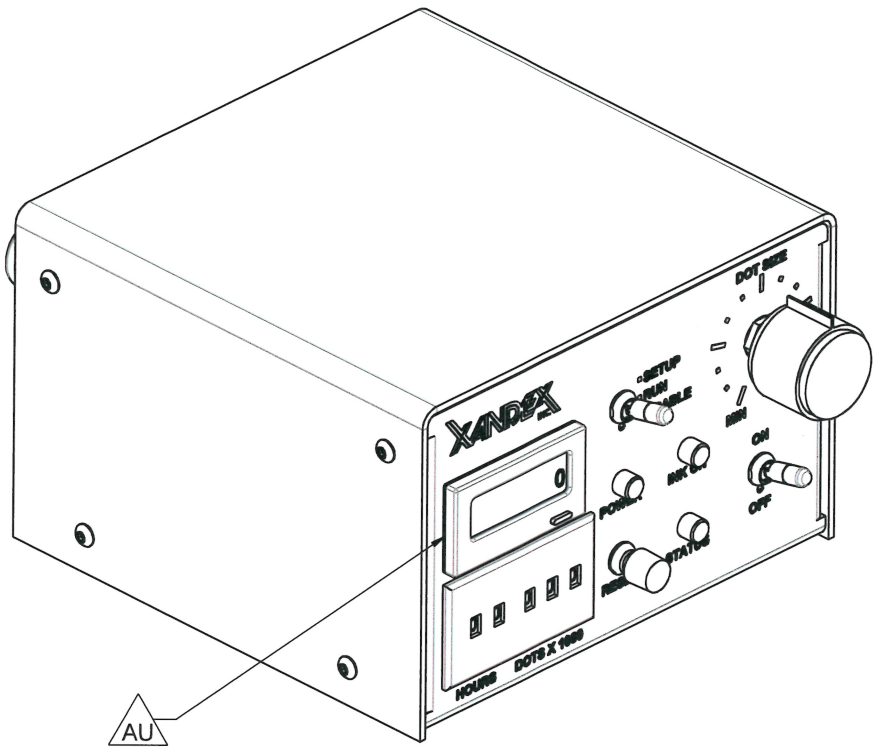
ITEM	NUMBER	ITEM DESCRIPTION	QNTY	U/M
3	240-0509	VALVE ASSY SHUTTLE 24V PNEU CNTRLR	1.00	EA
4	514-0205	PKGING BUBBLE BAG 4X5.5	2.00	EA
5	517-0005	TIES CABLE PLT.7M-C	2.00	EA
6	518-0002	TBNG 1/16ID X 1/8OD POLY BLK	1.00	FT
7	518-0009	TBNG .150ID X 1/4OD POLY BLUE	3.00	FT
10	160-0367	FTNG TEE .170-.188 ID TUBE	2.00	EA
11	518-0010	TBNG 1/16ID X 1/8OD RED	1.00	FT
12	820-0322	MANUAL PNEU CNTRLR PREV MAINT SETS	1.00	EA
13	512-0097	LBL ROHS COMPLIANT 1.5 X 1.0	1.00	EA
14	512-0049	LBL GREEN E ROHS .5IN DIA	1.00	EA
16	240-0510	VALVE ASSY CART 12V PNEU CNTRLR	1.00	EA



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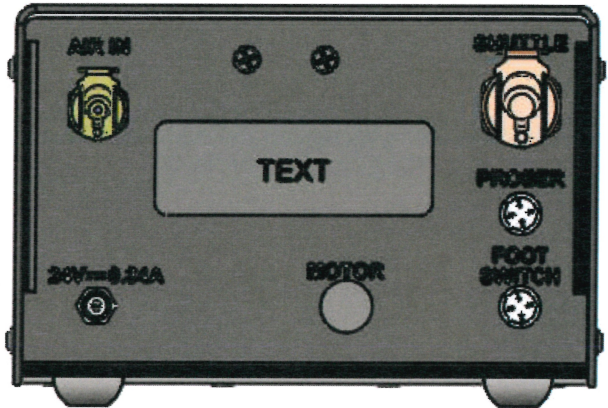
REVISIONS

REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
AU	LCD COUNTER REPLACEMENT, FRONT PANEL (ITEM 3) WAS 111-0601, HARNESS (ITEM 17) WAS 240-0503	4365	MRW	09/06/19	<i>JB</i>



NOTES:

- NOT ALL COMPONENTS SHOWN IN ALL VIEWS FOR CLARITY.
- CAUTION: EXERCISE CARE IN HANDLING PAINTED PARTS TO AVOID SCRATCHES.
- APPLY LABELS IN APPROXIMATE LOCATIONS SHOWN.
- SOLDER ALL ELECTRICAL CONNECTIONS AND WIRE SPLICES PER IPC-A-610-E.
- PIN 1 IS THE FIRST PIN LOCATED COUNTER-CLOCKWISE FROM THE RED DOT.
- POSITION INSIDE NUT ON RESET SWITCH SO THAT NO THREAD IS VISIBLE AFTER DRESS NUT (ITEM 25) IS INSTALLED AND DISCARD OUTSIDE HEX NUT. REMOVE HEX NUT FROM TOGGLE SWITCHES AND DISCARD BEFORE INSTALLING TOGGLE SWITCH DRESS NUT.
- CONNECT CABLE (ITEM 18) FOR GROUND BETWEEN PC BOARD AND GROUND STUD.
- PROGRAM PC BOARD (ITEM 19) WITH PROGRAM (ITEM 41) PER W/I (SEE BOM). APPLY LABEL (ITEM 32) TO VISIBLE SURFACE OF ALARM. INSTALL PROGRAMMED AND LABELED PC BOARD ASSEMBLY INTO HOUSING.
- ORIENT ALL FITTINGS AS SHOWN.
- MINIMIZE GAPS BETWEEN THE TOP COVER (ITEM 1), FRONT PANEL (ITEM 3), AND BASE (ITEM 2) BY STARTING ALL EIGHT SCREWS (ITEM 29), COMpressing THE COVER, AND THEN TIGHTENING THE SCREWS.
- PERFORM DIAGNOSTICS AS SPECIFIED IN THE W/I (SEE BOM).
- PLACE COMPLETED ASSEMBLY IN A BAG (ITEM 34) ALONG WITH DESSICANT (ITEM 35). APPLY LABEL (ITEM 33).
- MUST BE RoHS COMPLIANT IN ACCORDANCE WITH EU DIRECTIVE 2011/65/EU
- INSTALL SET SCREW INTO END OF STANDOFF WITH SHALLOW THREADS. SCREW WILL PROTRUDE .19" - .25" BEYOND END OF STANDOFF.

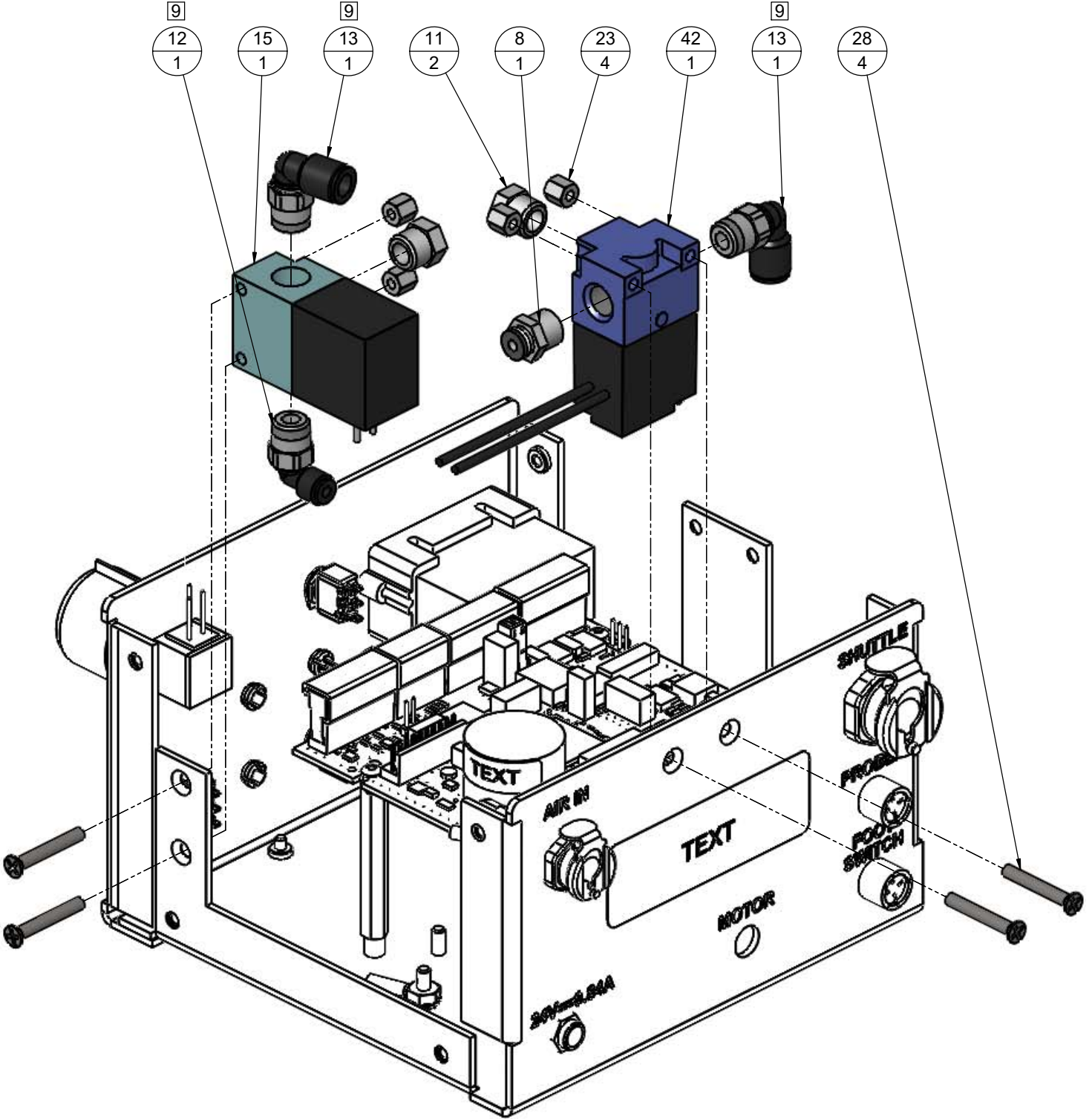
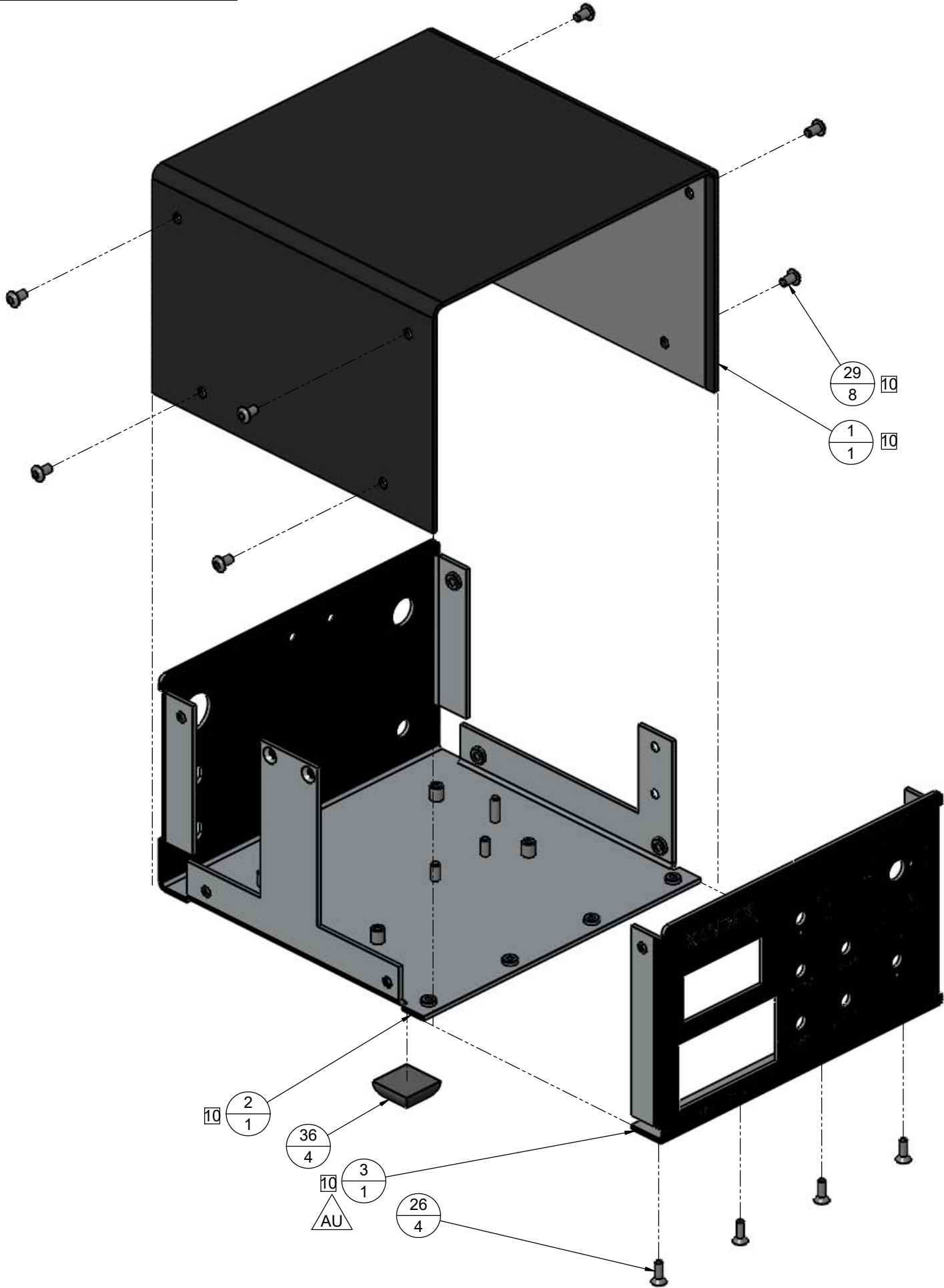



APPROVALS	DATE	INTERPRET DRAWING PER ASME Y14.5M-1994	<b>XANDEX</b> INC. 1360 REDWOOD WAY, SUITE A PETALUMA, CA 94954 (707) 763-7799			
DRAWN MRW	1/8/2012	TOLERANCES UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				
CHECKED <i>SMC</i>	9/11/19	DECIMALS 1 PL ±.1 FRACTIONS ± 2 PL ±.01 ANGLES ± 1° 3 PL ±.005 4 PL ±	TITLE <b>PNEUMATIC CONTROLLER, STANDARD</b>			
ENGRG J.BUTLER	1/8/2012	DO NOT SCALE DRAWING	SIZE <b>D</b>	SCALE <b>1:2</b>	SHEET <b>1 OF 5</b>	DRAWING NUMBER <b>350-0002</b>
NEXT ASSEMBLIES.....USED ON		THIRD ANGLE PROJECTION	REV <b>AU</b>			



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REVISIONS					
REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
—	SEE SHEET 1	—	—	—	—





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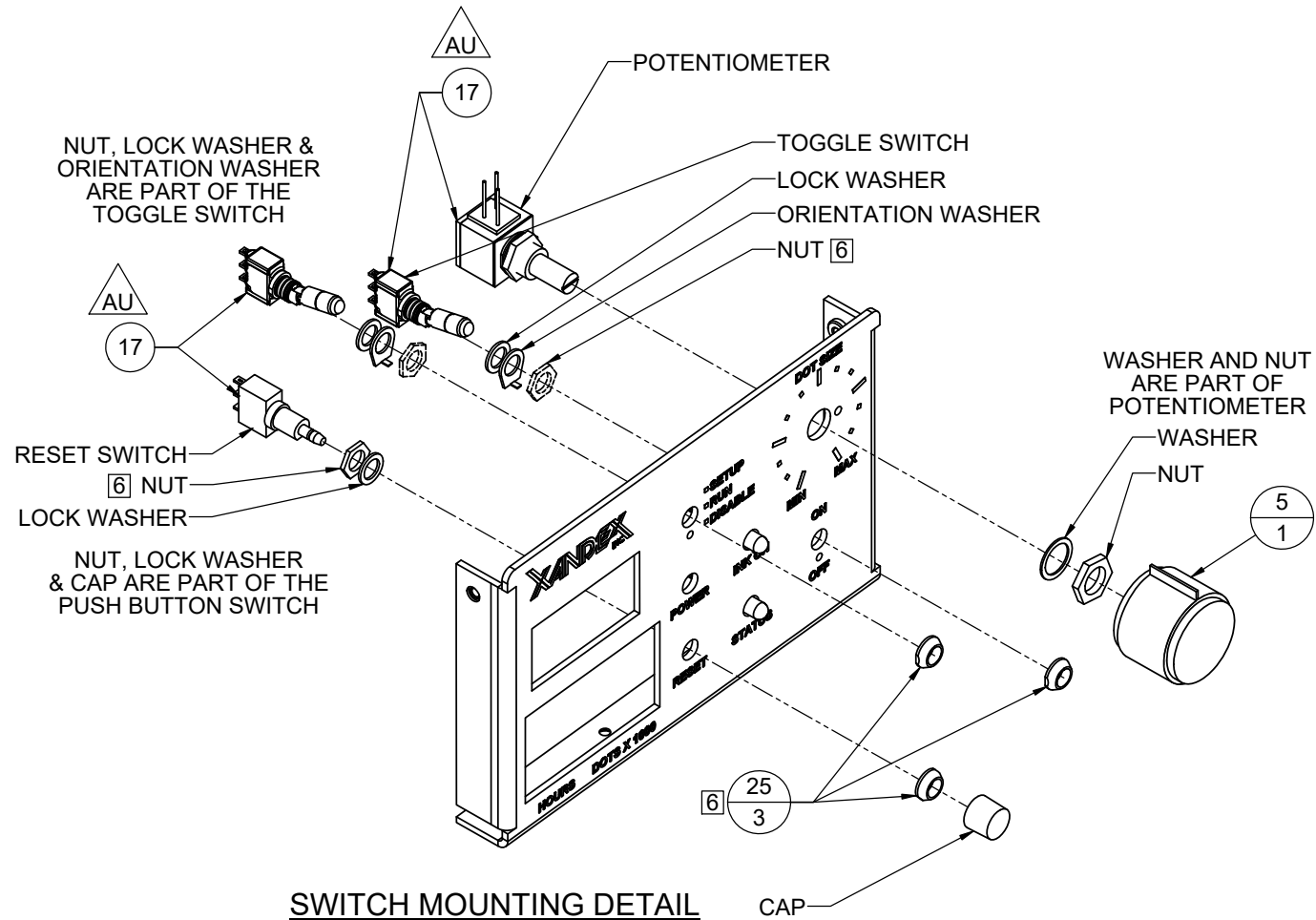
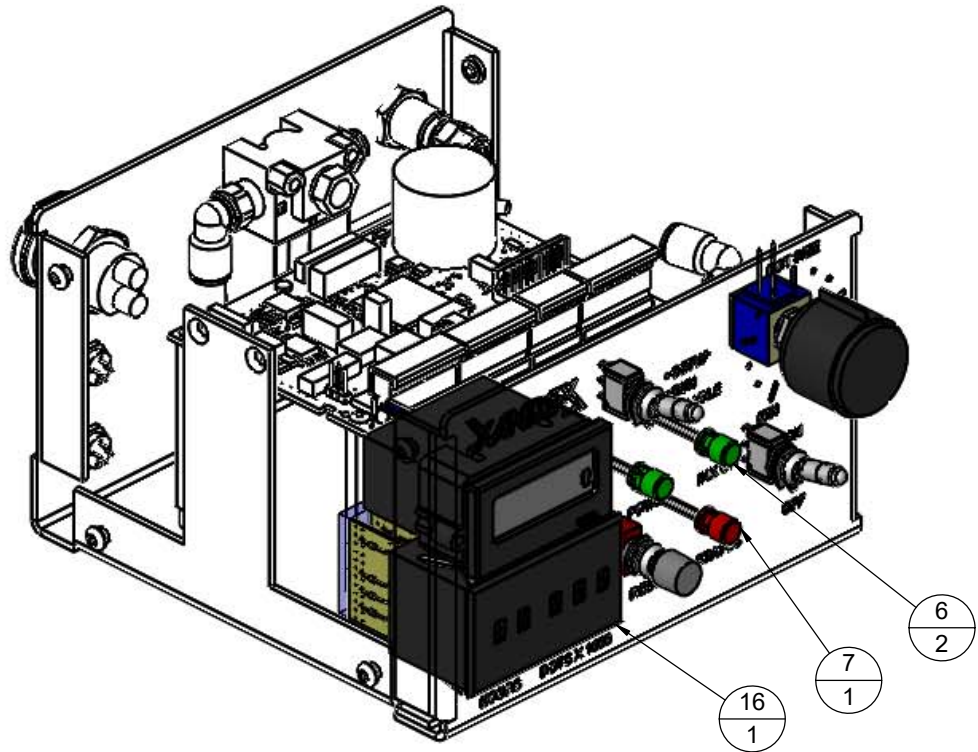
TITLE  
**PNEUMATIC CONTROLLER,  
STANDARD**

DO NOT SCALE DRAWING

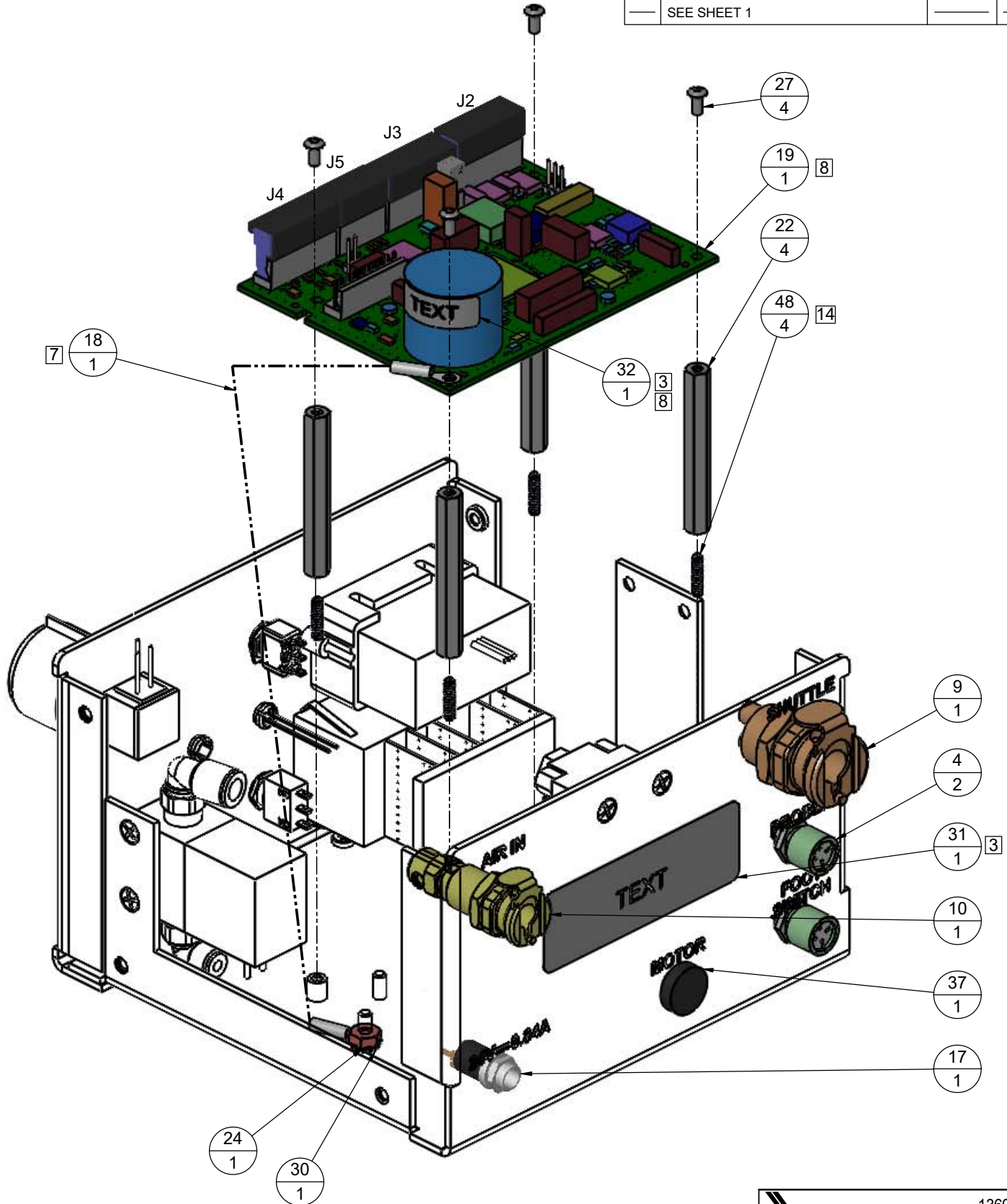
SIZE <b>D</b>	SCALE <b>1:2</b>	SHEET <b>2 OF 5</b>	DRAWING NUMBER <b>350-0002</b>	REV <b>AU</b>
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SWITCH MOUNTING DETAIL



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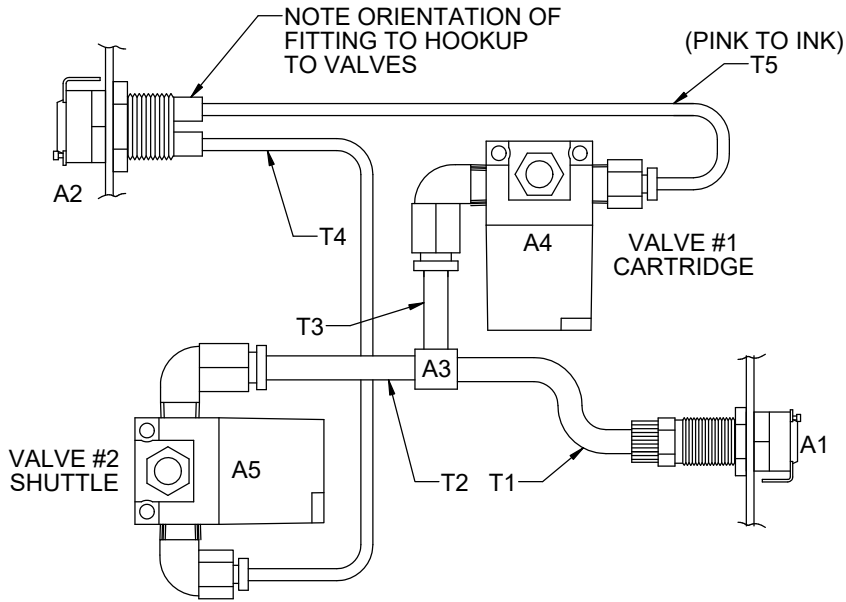
TITLE  
**PNEUMATIC CONTROLLER,  
STANDARD**

DO NOT SCALE DRAWING

SIZE <b>D</b>	SCALE <b>1:1</b>	SHEET <b>3 OF 5</b>	DRAWING NUMBER <b>350-0002</b>	REV <b>AU</b>
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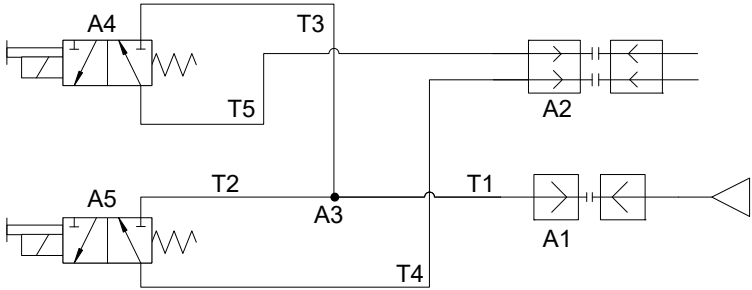
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REVISIONS					
REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
—	SEE SHEET 1	—	—	—	—



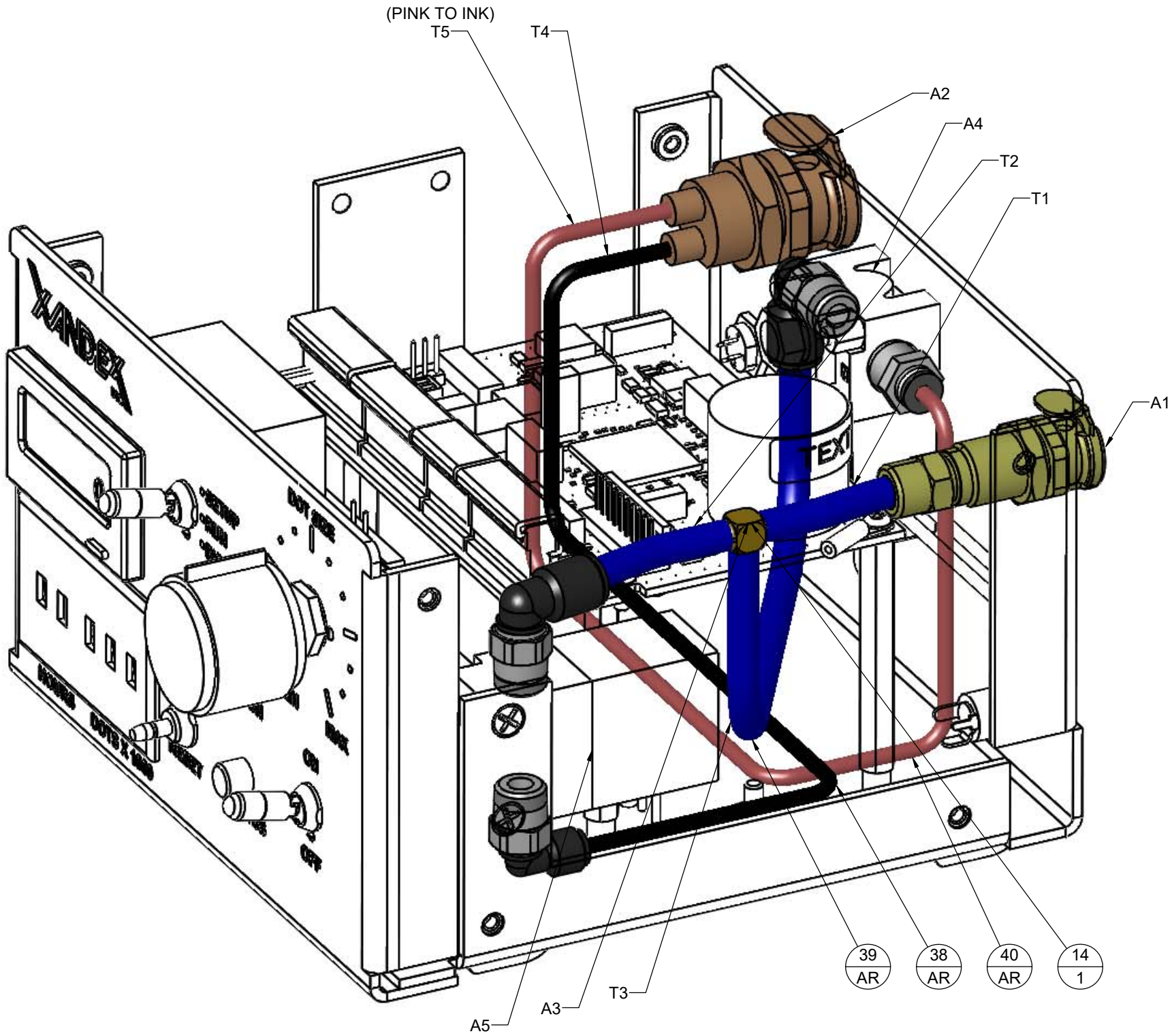
PNEUMATIC PLUMBING DIAGRAM

TUBE ID	SIZE	LENGTH	MATERIAL	TUBE COLOR
T1	1/4 OD TUBE	1.5	(39)	BLUE
T2	1/4 OD TUBE	1.5	(39)	BLUE
T3	1/4 OD TUBE	8.0	(39)	BLUE
T4	1/8 OD TUBE	9.5	(38)	BLACK
T5	1/8 OD TUBE	9.5	(40)	RED



PNEUMATIC SCHEMATIC

REF	DESCRIPTION
DESIG.	
A1	AIR INPUT
A2	SHUTTLE OUTPUT
A3	TEE
A4	CARTRIDGE VALVE
A5	SHUTTLE VALVE



XANDEX

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(707) 763-7799

TITLE

PNEUMATIC CONTROLLER,  
STANDARD

DO NOT SCALE DRAWING

SIZE	SCALE	SHEET	DRAWING NUMBER	REV
D	2:1	4 OF 5	350-0002	AU



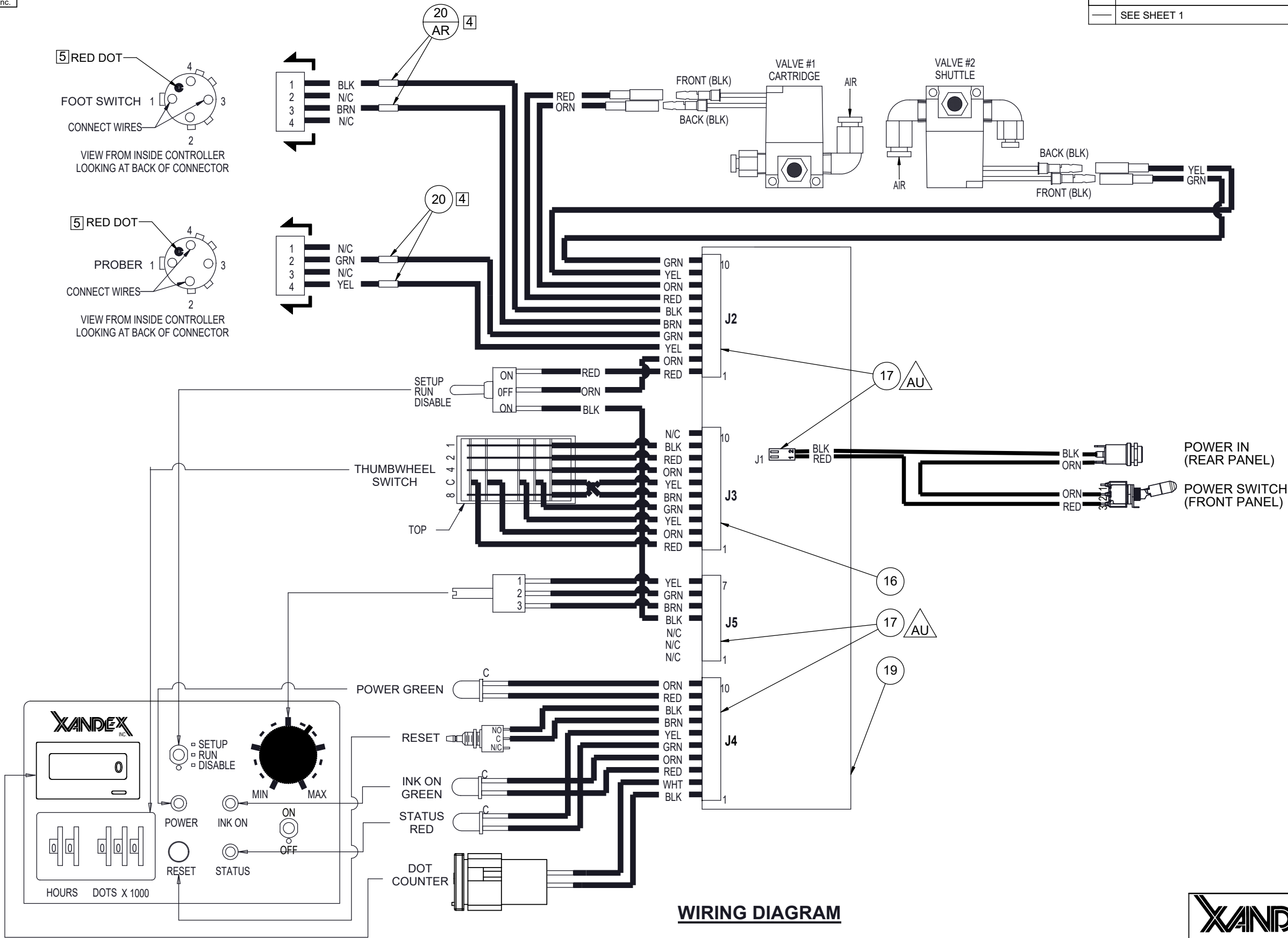
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D

C

B

A



WIRING DIAGRAM

<b>XANDEX</b> INC.		1360 REDWOOD WAY, SUITE A PETALUMA, CA 94954 (707) 763-7799	
TITLE <b>PNEUMATIC CONTROLLER, STANDARD</b>			
DO NOT SCALE DRAWING			
SIZE <b>D</b>	SCALE <b>1:1</b>	SHEET <b>5 OF 5</b>	DRAWING NUMBER <b>350-0002</b>
			REV <b>AU</b>

D

C

B

A

# **BILL OF MATERIAL**

**P/N 350-0002  
REV AU**

## **PNEU CONTROLLER BASIC**

<b>ITEM</b>	<b>NUMBER</b>	<b>ITEM DESCRIPTION</b>	<b>QNTY</b>	<b>U/M</b>
1	111-0002	CONTROLLER COVER	1	EA
2	111-0600	HSG BASE PNEU CNTRLR	1	EA
3	111-0658	PNL FRONT PNEU CNTRLR	1	EA
4	158-0001	CONN CIRCULAR RECPT 4 PIN	2	EA
5	158-0054	KNOB DOT SIZE CONTROL	1	EA
6	158-0147	LENS TI 3/4 LED GREEN	2	EA
7	158-0148	LENS TI 3/4 LED RED	1	EA
8	160-0011	CONN FTTG 1/8 QUICK 1/8 O	1	EA
9	160-0014	CPLG BODY 1/16ID AIR 2 IN	1	EA
10	160-0015	COUPLING BODY PNL MNT 1/4	1	EA
11	160-0031	SILENCER ARW ASP-1BV VENT	2	EA
12	160-0365	FTNG ELBOW 1/8NPT X 1/8OD	1	EA
13	160-0366	FTNG ELBOW 1/8NPT X 1/4OD	2	EA
14	160-0367	FTNG TEE .170-.188 ID TUB	1	EA
15	240-0261	VALVE ASSY PNEU CNTRLR	1	EA
16	240-0262	CBL THMBWHEEL SW P CNTRLR	1	EA
17	240-0511	HARNESS PNEU CNTRLR	1	EA
18	240-0507	ASSY CBL GND PNEU CNTRLR	1	EA
19	250-1226	PCA PNEU CNTRLR INKER	1	EA
20	503-0001	SHRINK TUBE 1/16 BLACK	0	IN
21	507-0076	SOLDER LEAD FREE NO CLEAN	0	EA
22	131-0358	STANDOFF FXF 4-40 X 2 LG	4	EA
23	509-1404	STANDOFF 1/4HEX FEMALE 6-	4	EA
24	509-3400	NUT HEX KEP 6-32	1	EA
25	509-8730	NUT DRESS THRU BRASS NI P	3	EA
26	510-3206	SCR FHS 4-40 X 3/8 BLK	4	EA
27	510-3804	SCR BHS 4-40 X 1/4 BLK	4	EA
28	510-4616	SCR FHP 6-32 1 INCH BLK	4	EA
29	510-4804	SCR BHS 6-32 X 1/4 BLK	8	EA
30	511-0706	WSHR STAR #6	1	EA
31	512-0031	LBL S/N PNEU CNTRLR BASIC	1	EA
32	512-0232	LBL PRGM PNEU CNTRLR STD	1	EA
33	512-0242-01	LBL CNTRLR BAG 350-0002	1	EA
34	514-0109	BAG POLY GUSSETED 8X4X18	1	EA
35	514-0604	DESICCANT 1 UNIT TYVEK BA	1	EA
36	517-0006	RUBBER FEET ADHSV .3HX.81	4	EA
37	517-0137	BUMPER PUSH-IN RUBBER	1	EA
38	518-0002	TBNG 1/16ID X 1/8OD POLY	0	FT
39	518-0009	TBNG .150ID X 1/4OD POLY	0	FT
40	518-0010	TBNG 1/16ID X 1/8OD RED	0	FT
41	955-1151	PRGM PNEU INKER STD	0	EA
42	240-0508	ASSY CART VALVE 12V PNEU	1	EA
43	159-0048	PWR SPLY 100-240VAC IN 24	1	EA
44	158-0051	@CORD AC LINE	0	EA
45	158-0407	CORD AC CONTINENTAL EUROP	0	EA
46	158-0408	SM CORD AC UNITED KINGDOM	0	EA

## **BILL OF MATERIAL**

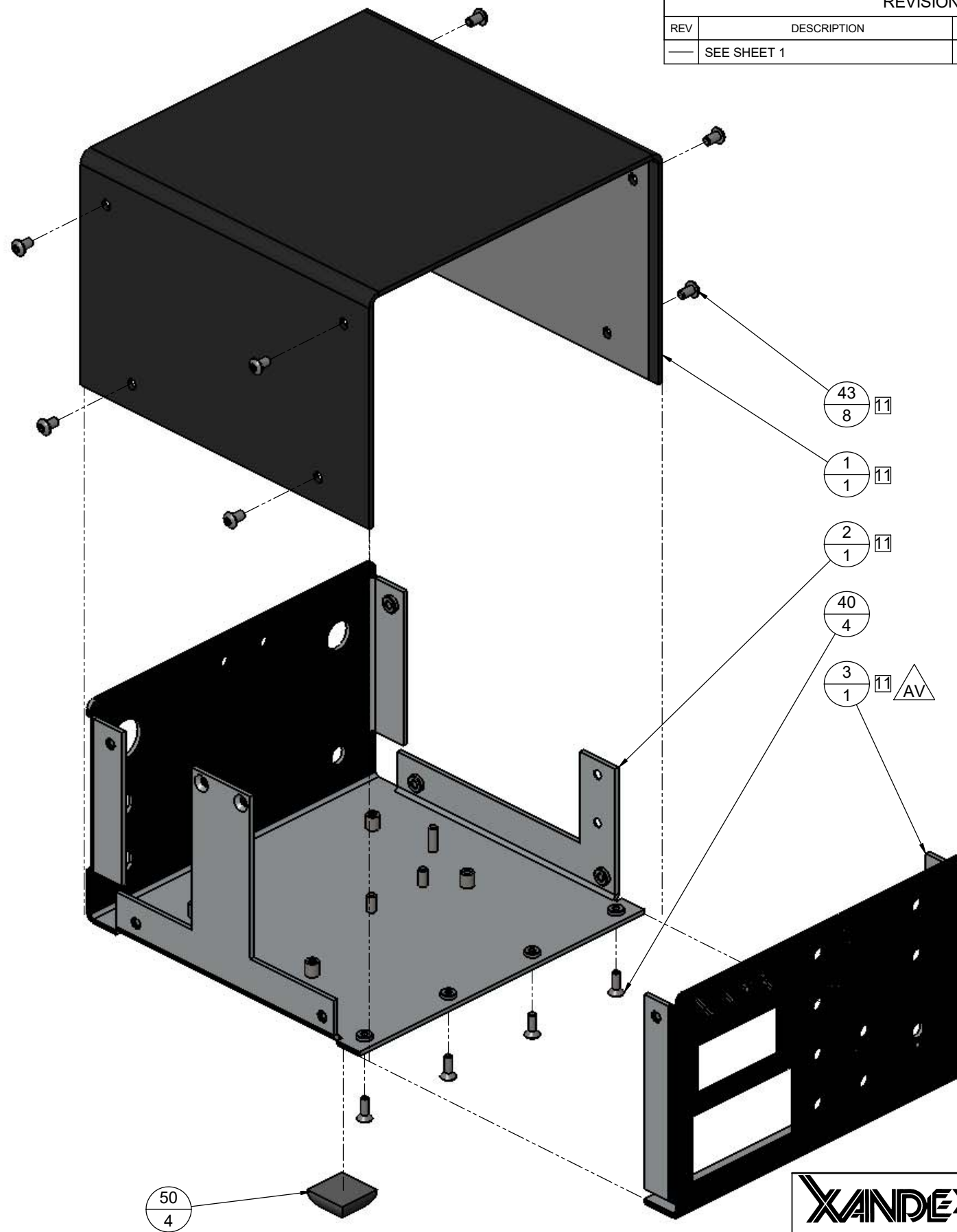
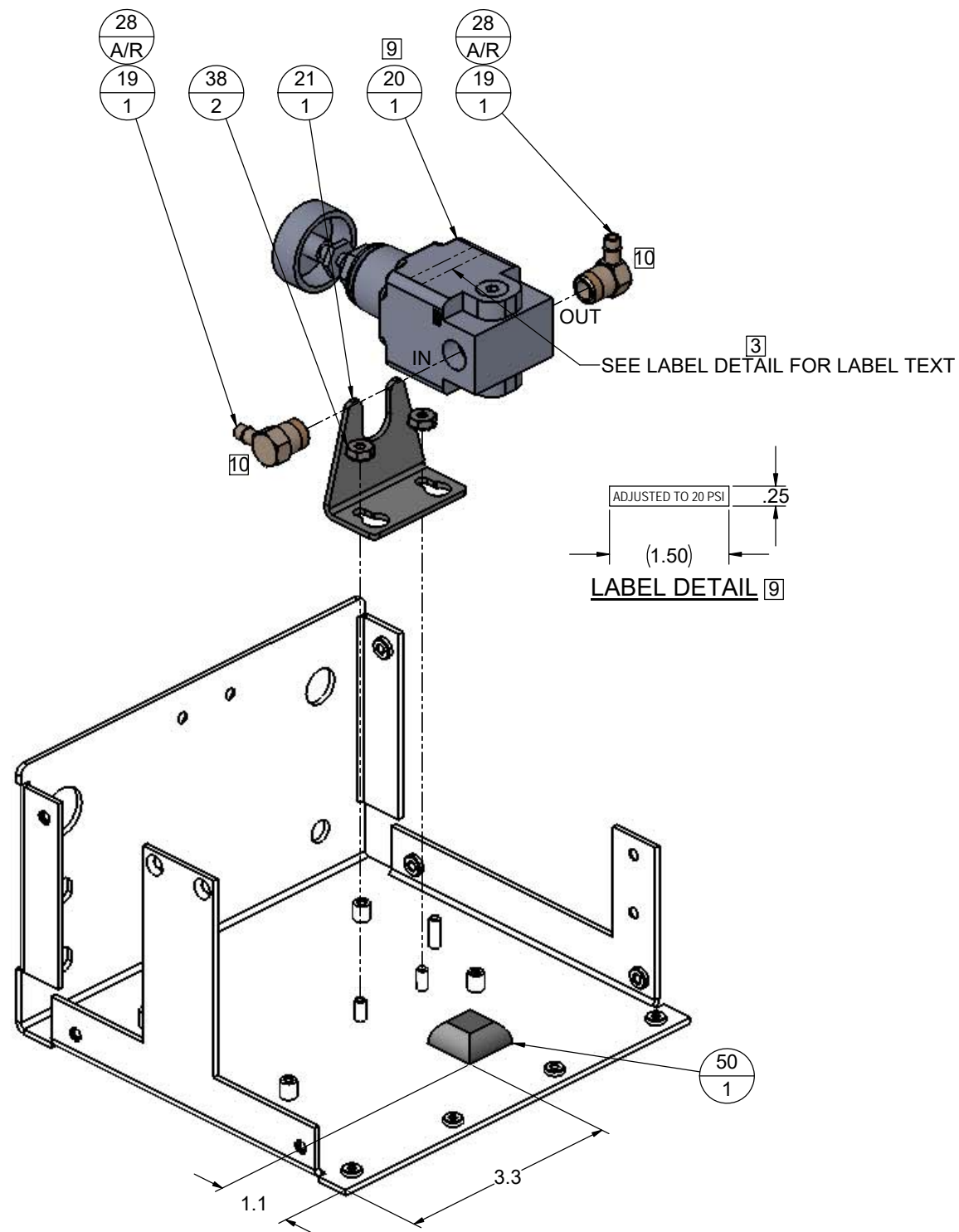
**P/N 350-0002  
REV AU**

**PNEU CONTROLLER BASIC**

<b>ITEM</b>	<b>NUMBER</b>	<b>ITEM DESCRIPTION</b>	<b>QNTY</b>	<b>U/M</b>
47	158-0727	CORDSET AC PWR JAPAN PSE	0	EA
48	510-2407	SET SCR 4-40 X 1/2 LD SS	4	EA



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REVISIONS					
REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
—	SEE SHEET 1	—	—	—	—

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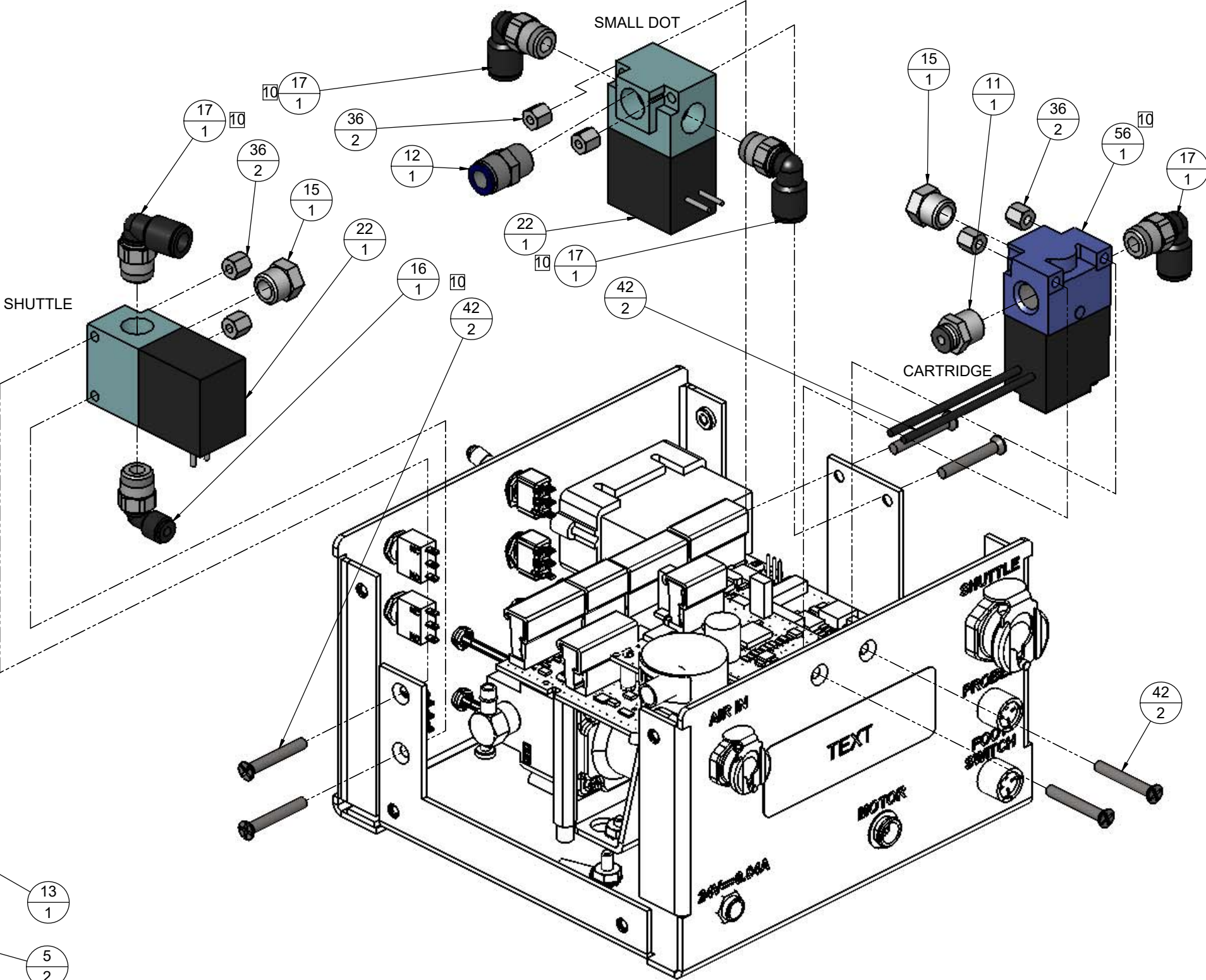
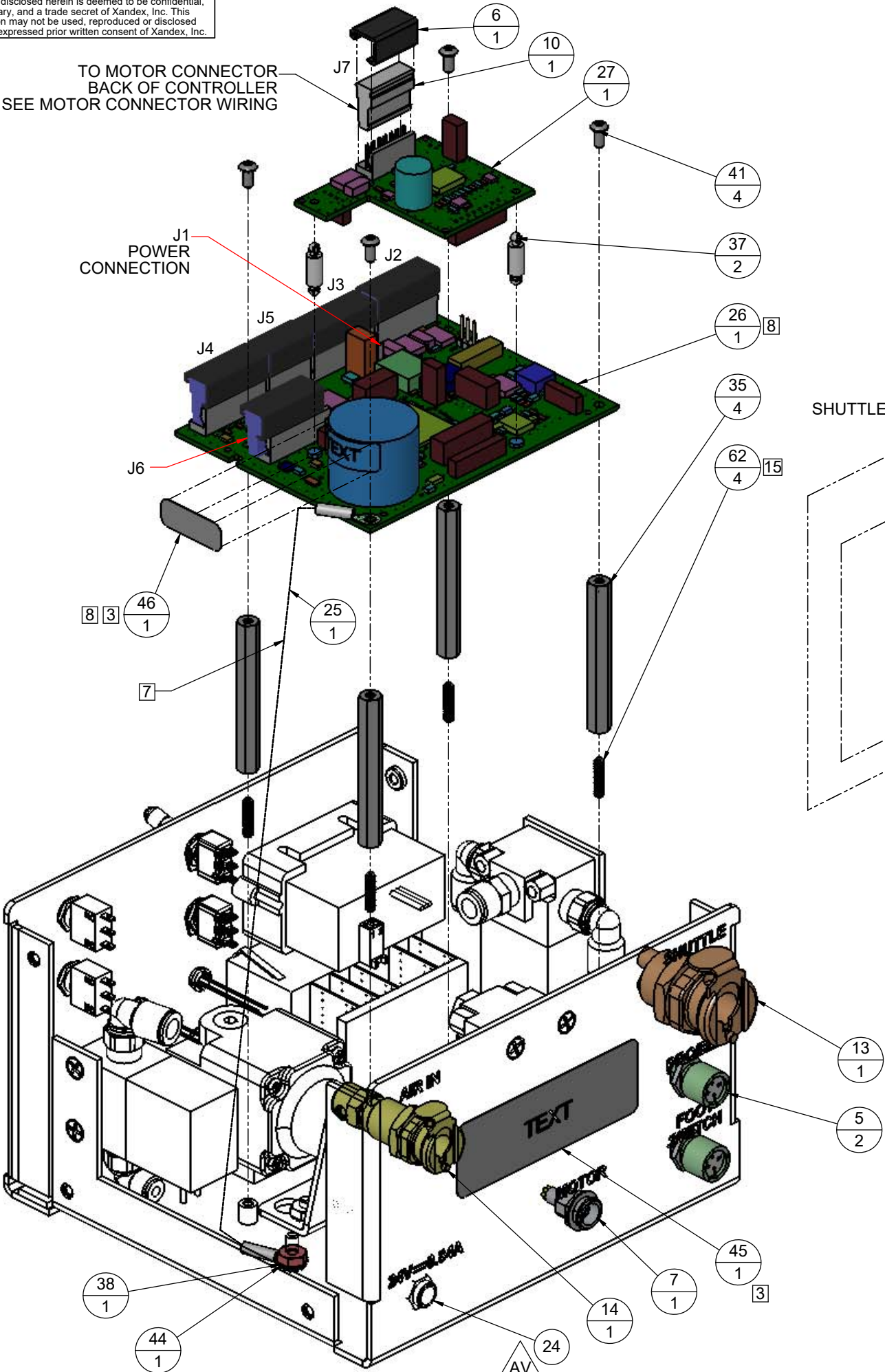
TITLE	PNEUMATIC CONTROLLER, MOTORIZED Z
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DO NOT SCALE DRAWING

SIZE <b>D</b>	SCALE <b>1:1</b>	SHEET <b>2</b> OF <b>5</b>	DRAWING NUMBER <b>350-0018</b>	REV <b>AV</b>
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REVISIONS					
REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
—	SEE SHEET 1	—	—	—	—

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TITLE

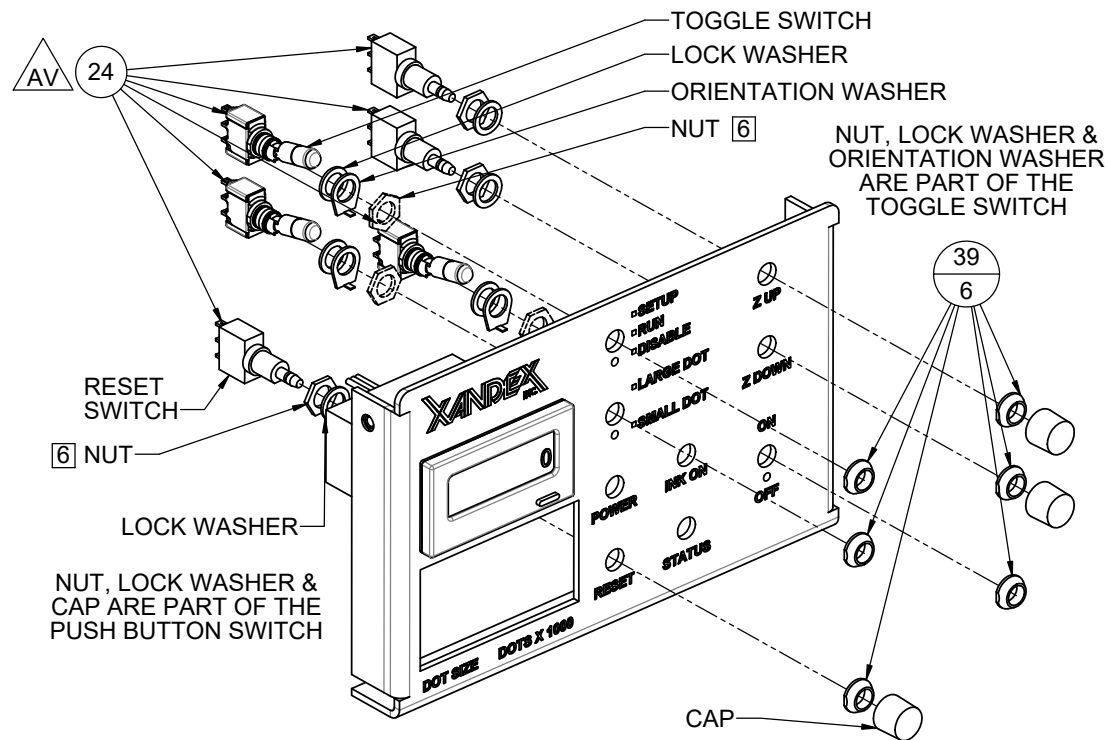
**PNEUMATIC CONTROLLER,  
MOTORIZED Z**

DO NOT SCALE DRAWING

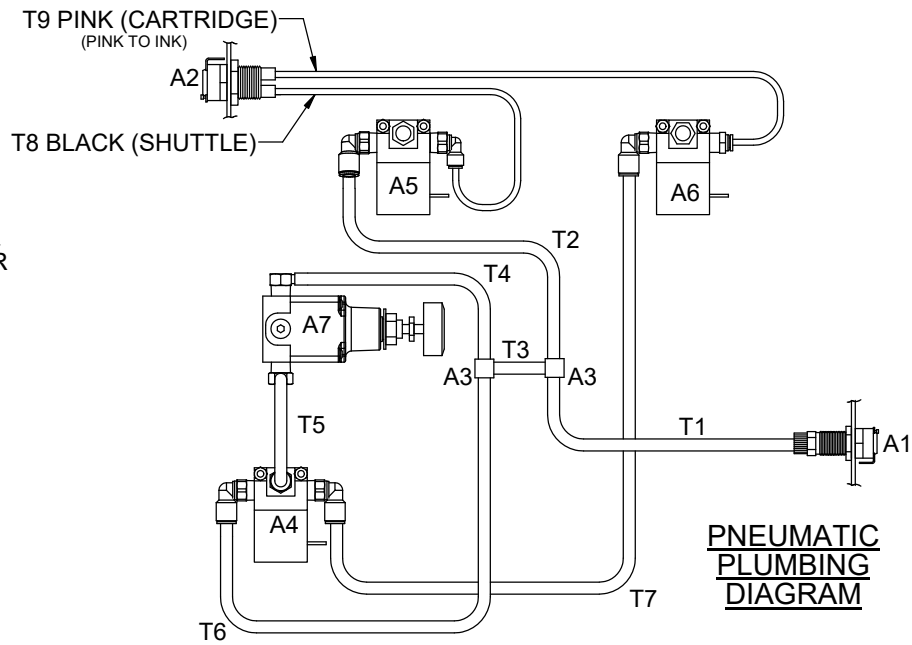
SIZE	SCALE	SHEET	DRAWING NUMBER	REV
<b>D</b>	<b>1:1.5</b>	<b>3 OF 5</b>	<b>350-0018</b>	<b>AV</b>



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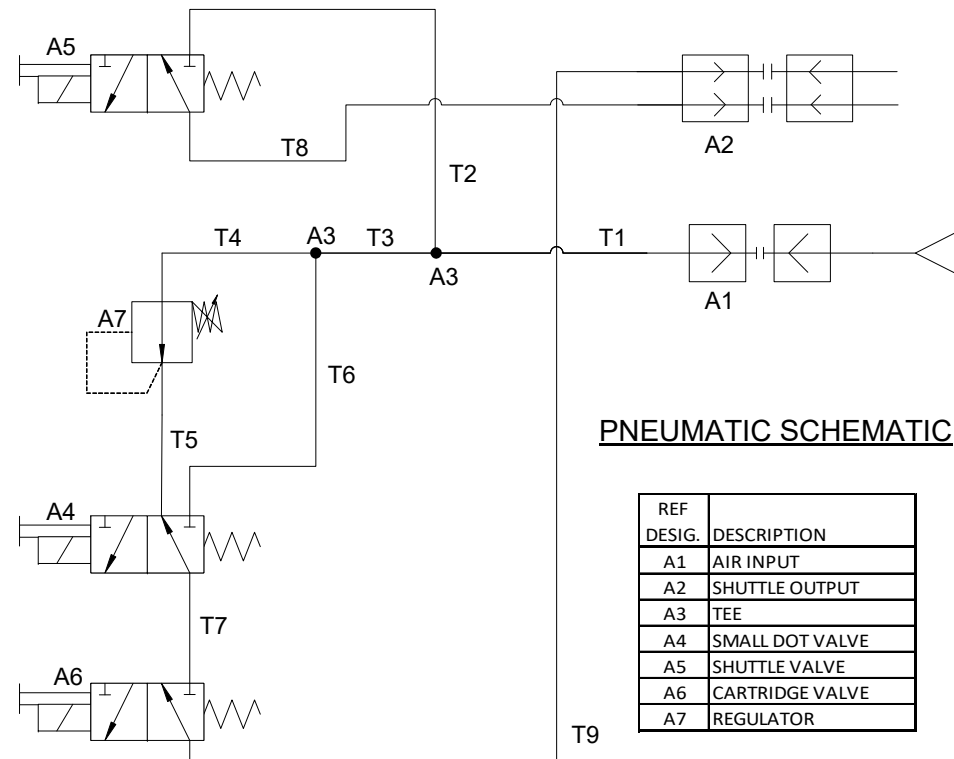


SWITCH MOUNTING DETAIL



PNEUMATIC  
PLUMBING  
DIAGRAM

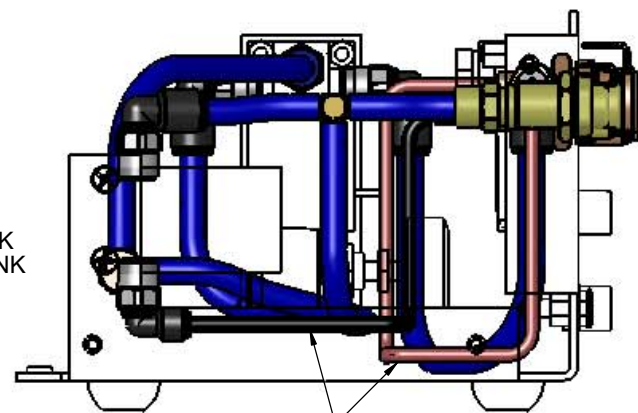
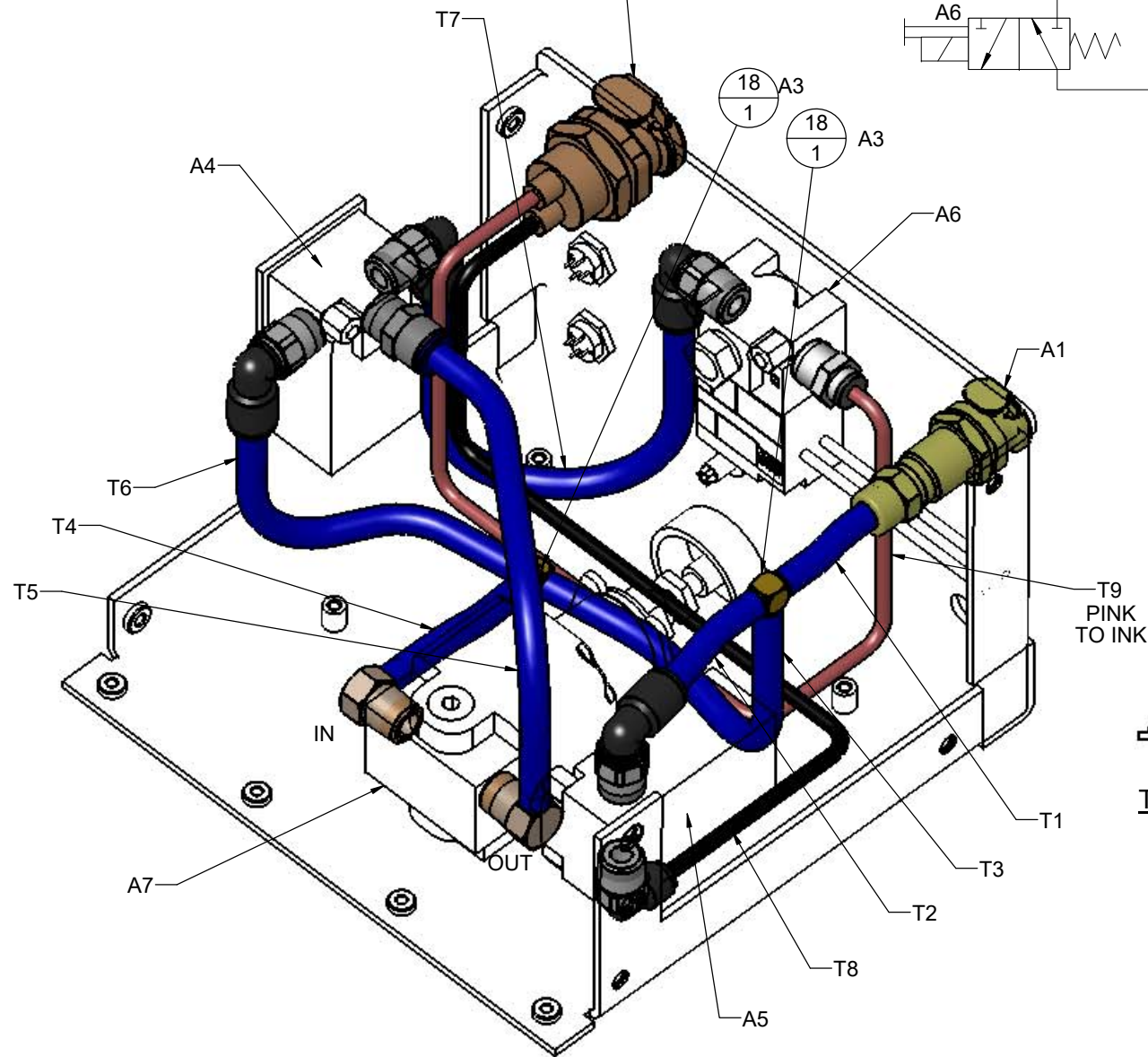
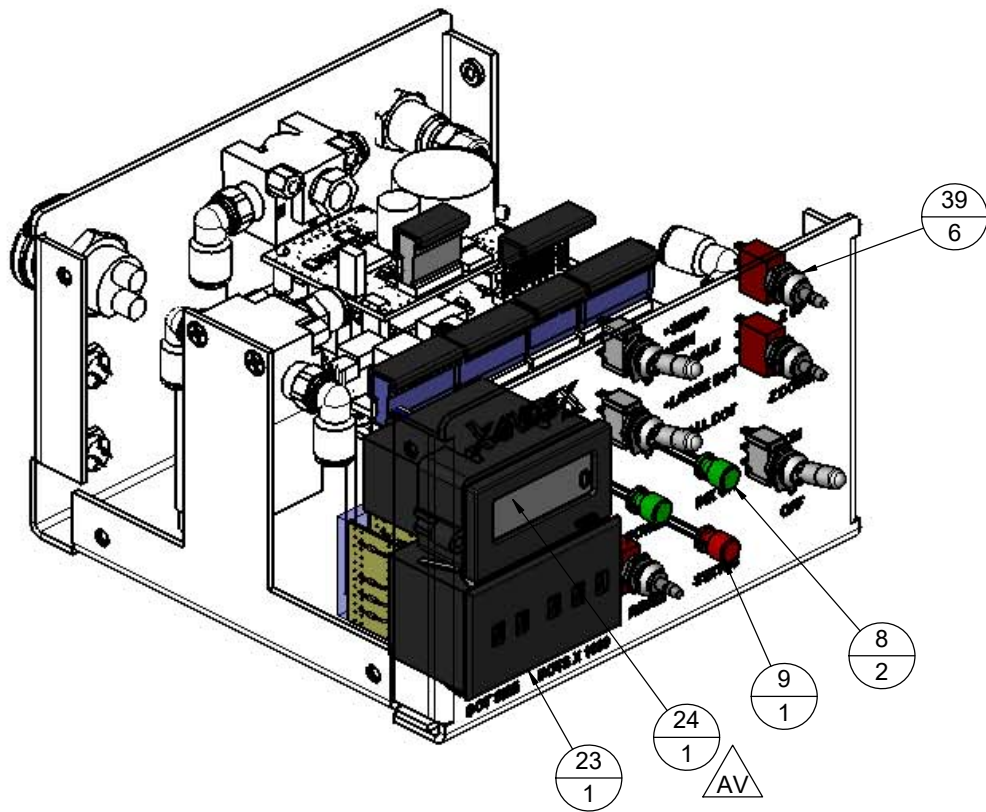
A2  
CONNECTIONS:  
CARTRIDGE (PINK TUBE) TOP  
SHUTTLE (BLACK TUBE) BOTTOM



PNEUMATIC SCHEMATIC

REF DESIG.	DESCRIPTION
A1	AIR INPUT
A2	SHUTTLE OUTPUT
A3	TEE
A4	SMALL DOT VALVE
A5	SHUTTLE VALVE
A6	CARTRIDGE VALVE
A7	REGULATOR

TUBE ID	SIZE	LENGTH	MATERIAL	TUBE COLOR
T1	1/4 OD TUBE	1.5	(52)	BLUE
T2	1/4 OD TUBE	1.5	(52)	BLUE
T3	1/4 OD TUBE	6.0	(52)	BLUE
T4	1/4 OD TUBE	2.5	(52)	BLUE
T5	1/4 OD TUBE	6.0	(52)	BLUE
T6	1/4 OD TUBE	5.0	(52)	BLUE
T7	1/4 OD TUBE	5.0	(52)	BLUE
T8	1/8 OD TUBE	9.5	(51)	BLACK
T9	1/8 OD TUBE	9.5	(53)	RED



TUBING SIDE VIEW

1360 REDWOOD WAY, SUITE A  
PETALUMA, CA 94954  
(707) 763-7799

TITLE  
**PNEUMATIC CONTROLLER,  
MOTORIZED Z**

DO NOT SCALE DRAWING

SIZE	SCALE	SHEET	DRAWING NUMBER	REV
D	1:1	4 OF 5	350-0018	AV



# BILL OF MATERIAL

**P/N 350-0018**  
**REV AV**

## PNEU CONTROLLER MOTOR Z

ITEM	NUMBER	ITEM DESCRIPTION	QNTY	U/M
1	111-0002	CONTROLLER COVER	1.00	EA
2	111-0600	HSG BASE PNEU CNTRLR	1.00	EA
3	111-0659	PNL FRONT PNEU CNTRLR MOTOR Z	1.00	EA
4	112-0067	LBL 80 PSI NOTICE	1.00	EA
5	158-0001	CONN CIRCULAR RECPT 4 PIN SOLDER	2.00	EA
6	158-0005	COVER PANDUIT EC100F-7	1.00	EA
7	158-0009	RECEPTACLE 7 PIN PNL MNT	1.00	EA
8	158-0147	LENS TI 3/4 LED GREEN	2.00	EA
9	158-0148	LENS TI 3/4 LED RED	1.00	EA
10	158-0406	CONN 7 POS .10 CENTER	1.00	EA
11	160-0011	CONN FTTG 1/8 QUICK 1/8 OD	1.00	EA
12	160-0012	CONN FTTG 1/8 NPT QK 1/4 OD	1.00	EA
13	160-0014	CPLG BODY 1/16ID AIR 2 IN	1.00	EA
14	160-0015	COUPLING BODY PNL MNT 1/4 OD X 1/8 ID	1.00	EA
15	160-0031	SILENCER ARW ASP-1BV VENT	2.00	EA
16	160-0365	FTNG ELBOW 1/8NPT X 1/8OD TUBE	1.00	EA
17	160-0366	FTNG ELBOW 1/8NPT X 1/4OD TUBE	4.00	EA
18	160-0367	FTNG TEE .170-.188 ID TUBE	2.00	EA
19	160-0368	FTNG ELBOW 1/8NPT X .170-.188 ID BARB	2.00	EA
20	160-0369	REGULATOR PRECISION MINI .7-30PSIG	1.00	EA
21	160-0370	BRKT REGULATOR MTG	1.00	EA
22	240-0261	VALVE ASSY PNEU CNTRLR	2.00	EA
23	240-0262	CBL THMBWHEEL SW P CNTRLR	1.00	EA
24	240-0512	HARNESS PNEU CNTRLR MOTOR Z	1.00	EA
25	240-0507	ASSY CBL GND PNEU CNTRLR	1.00	EA
26	250-1226	PCA PNEU CNTRLR INKER	1.00	EA
27	250-1227	PCA DAUGHTER CARD MOTOR Z	1.00	EA
28	502-0107	TAPE TEFLON PIPE DOPE 1/4 WIDTH	0.00	EA
29	503-0001	SHRINK TUBE 1/16 BLACK	0.00	IN
30	507-1280	WIRE STRD 28AWG PVC BLK	0.00	IN
31	507-1282	WIRE STRD 28AWG PVC RED	0.00	IN
32	507-1285	WIRE STRD 28AWG PVC GRN	0.00	IN
33	507-1286	WIRE STRD 28AWG PVC BLU	0.00	IN
34	507-1289	WIRE STRD 28AWG PVC WHT	0.00	IN
35	131-0358	STANDOFF FXF 4-40 X 2 LG NYLON	4.00	EA
36	509-1404	STANDOFF 1/4HEX FEMALE 6-32X1/4 LG ALUM	6.00	EA
37	509-1406	STANDOFF LOCKING NYLON 10MM LONG	2.00	EA
38	509-3400	NUT HEX KEP 6-32	3.00	EA
39	509-8730	NUT DRESS THRU BRASS NI PLATED	6.00	EA
40	510-3206	SCR FHS 4-40 X 3/8 BLK	4.00	EA
41	510-3804	SCR BHS 4-40 X 1/4 BLK	4.00	EA
42	510-4616	SCR FHP 6-32 1 INCH BLK	6.00	EA
43	510-4804	SCR BHS 6-32 X 1/4 BLK	8.00	EA
44	511-0706	WSHR STAR #6	1.00	EA
45	512-0077	LBL S/N PNEU CNTRLR MOTOR Z	1.00	EA
46	512-0236	LBL PRGM PNEU CNTRLR MOTOR-Z STD	1.00	EA

## BILL OF MATERIAL

**P/N 350-0018**  
**REV AV**

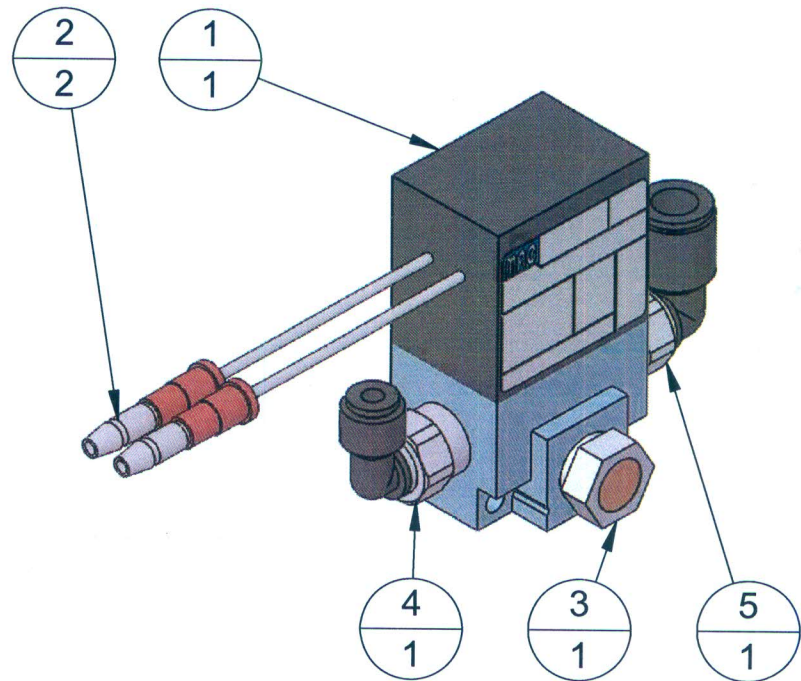
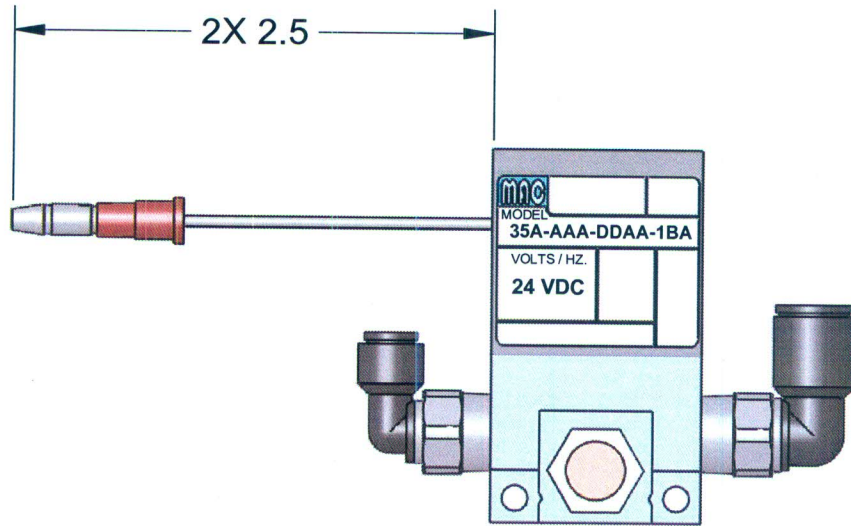
**PNEU CONTROLLER MOTOR Z**



ITEM	NUMBER	ITEM DESCRIPTION	QNTY	U/M
47	512-0242-06	LBL CNTRLR BAG 350-0018	1.00	EA
48	514-0109	BAG POLY GUSSETED 8X4X18 4MIL	1.00	EA
49	514-0604	DESICCANT 1 UNIT TYVEK BAG	1.00	EA
50	517-0006	RUBBER FEET ADHSV .3HX.81 SQ	5.00	EA
51	518-0002	TBNG 1/16ID X 1/8OD POLY BLK	0.00	FT
52	518-0009	TBNG .150ID X 1/4OD POLY BLUE	0.00	FT
53	518-0010	TBNG 1/16ID X 1/8OD RED	0.00	FT
54	955-1155	PRGM PNEU INKER MOTOR-Z STD	0.00	EA
55	507-0076	SOLDER LEAD FREE NO CLEAN .015 WIRE	0.00	EA
56	240-0508	ASSY CART VALVE 12V PNEU CNTRLR	1.00	EA
57	159-0048	PWR SPLY 100-240VAC IN 24VDC 30W OUT	1.00	EA
58	158-0051	@CORD AC LINE	0.00	EA
59	158-0407	CORD AC CONTINENTAL EUROPE	0.00	EA
60	158-0408	SM CORD AC UNITED KINGDOM	0.00	EA
61	158-0727	CORDSET AC PWR JAPAN PSE MARKED	0.00	EA
62	510-2407	SET SCR 4-40 X 1/2 LD SS	4.00	EA



# REVISIONS

REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
A	INITIAL RELEASE	4351	MRW	06/19/17	SM



APPROVALS		DATE	INTERPRET DRAWING PER ASME Y14.5M-1994		1360 REDWOOD WAY, SUITE A PETALUMA, CA 94954 (707) 763-7799
DRAWN	MRW	6/19/2017			
CHECKED	<i>[Signature]</i>	9/14/17	TOLERANCES	<b>TITLE</b> <b>VALVE ASSY, SHUTTLE,</b> <b>24V, PNEUMATIC CONTROLLER</b>	
ENGRG	S.McCREARY	6/19/2017	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
NEXT ASSEMBLIES.....USED ON			DECIMALS 1 PL $\pm .1$ FRACTIONS $\pm$ 2 PL $\pm .01$ ANGLES $\pm 1^\circ$ 3 PL $\pm .005$ 4 PL $\pm$	DO NOT SCALE DRAWING	
 THIRD ANGLE PROJECTION			63 $\checkmark$ ALL SURFACES		
SIZE	SCALE	SHEET	DRAWING NUMBER	REV	
A	1:1	1 OF 1	240-0509	A	

## **BILL OF MATERIAL**

**P/N 240-0509**  
**REV A**

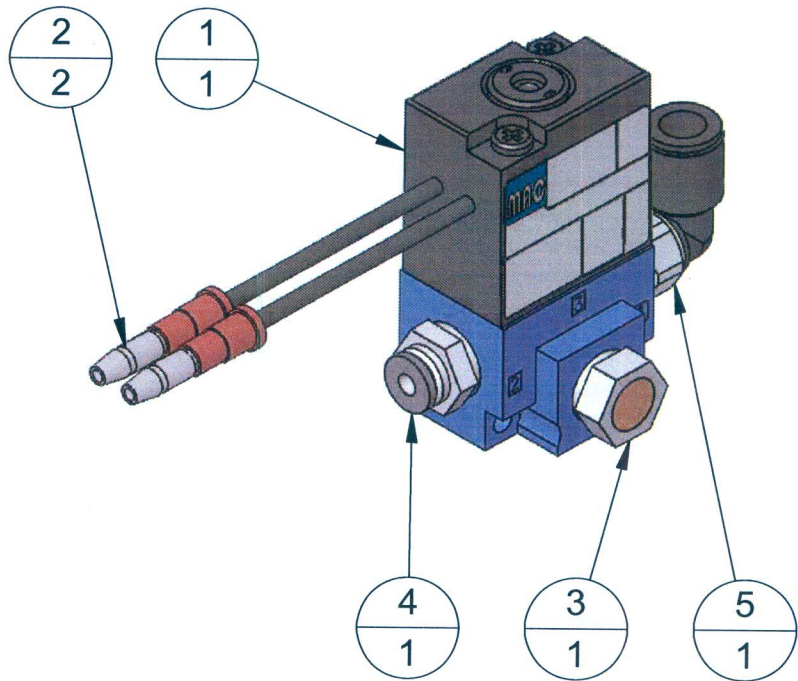
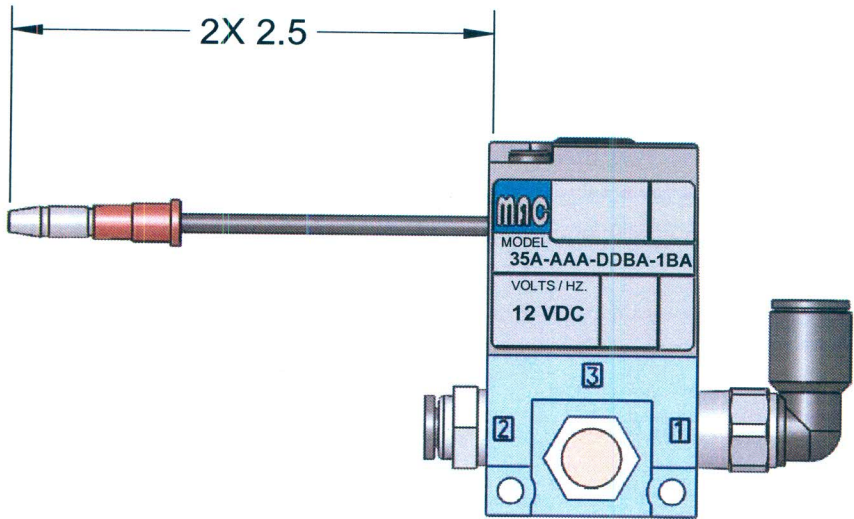
**VALVE ASSY SHUTTLE 24V PNEU CNTRLR**




<b>ITEM</b>	<b>NUMBER</b>	<b>ITEM DESCRIPTION</b>	<b>QNTY</b>	<b>U/M</b>
1	160-0001	VALVE AIR 24VDC 1/8IN PORT INLINE	1.00	EA
2	519-0030	SNAP PLUG 18-22 AWG INSULATED	2.00	EA
3	160-0031	SILENCER ARW ASP-1BV VENT	1.00	EA
4	160-0365	FTNG ELBOW 1/8NPT X 1/8OD TUBE	1.00	EA
5	160-0366	FTNG ELBOW 1/8NPT X 1/4OD TUBE	1.00	EA



# REVISIONS

REV	DESCRIPTION	CHANGE NUMBER	BY	DATE	APPROVED
A	INITIAL RELEASE	4351	MRW	06/19/17	SM



APPROVALS		DATE	INTERPRET DRAWING PER ASME Y14.5M-1994		1360 REDWOOD WAY, SUITE A PETALUMA, CA 94954 (707) 763-7799			
DRAWN	MRW	6/19/2017						
CHECKED		9/19/17	TOLERANCES	TITLE  <b>VALVE ASSY, CARTRIDGE, 12V, PNEUMATIC CONTROLLER</b>				
ENGRG	S.McCREARY	6/19/2017	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
NEXT ASSEMBLIES.....USED ON			DECIMALS 1 PL ±.1    FRACTIONS ± 2 PL ±.01    ANGLES ± 1° 3 PL ±.005 4 PL ±	DO NOT SCALE DRAWING				
 THIRD ANGLE PROJECTION			63 / ALL SURFACES					
				SIZE <b>A</b>	SCALE <b>1:1</b>	SHEET <b>1 OF 1</b>	DRAWING NUMBER <b>240-0510</b>	REV <b>A</b>

## BILL OF MATERIAL

**P/N 240-0510**  
**REV A**

**VALVE ASSY CART 12V PNEU CNTRLR**


ITEM	NUMBER	ITEM DESCRIPTION	QNTY	U/M
1	160-0371	VALVE AIR 3WAY 1/8NPT 12VDC	1.00	EA
2	519-0030	SNAP PLUG 18-22 AWG INSULATED	2.00	EA
3	160-0031	SILENCER ARW ASP-1BV VENT	1.00	EA
4	160-0011	CONN FTTG 1/8 QUICK 1/8 OD	1.00	EA
5	160-0366	FTNG ELBOW 1/8NPT X 1/4OD TUBE	1.00	EA



**Product manual description and part number:** Xandex Pneumatic Controller PM Kit Instruction 820-0322

**Product description and part number:** Xandex Pneumatic Controller PM Kit 370-0105 (single valve) and 370-0106 (dual valve) controller maintenance kits.

## Initial Release

<u>Revision</u>	<u>Number</u>	<u>Date</u>	<u>Department</u>	<u>Review after redline ?</u>	<u>Approval</u>	<u>Date</u>
A	ECO4284	09/12/2016	Customer Operations	Y/N	K.Anderson 	09/12/2016
			Marketing	Y/N	NA	
			Engineering	Y/N	NA	
			Quality Assurance	Y/N	NA	
			Project Lead	Y/N	NA	
			Field Service	Y/N	NA	

## Revisions

<u>Revision</u>	<u>Number</u>	<u>Date</u>	<u>Description of Changes</u>	<u>Approval</u>	<u>Date</u>
B	ECO4351	07/21/2017	New valve assemblies, step changes per procedure review	K. Anderson	07/21/2017

Print manual double sided on 8.5 x 11 Letter size paper in portrait orientation. Assemble drawing package after the last page of 820-0322 and corner staple instruction and drawing package in top left hand corner.



**When assembling drawing package, print 350-xxxx controller drawings on 11x17 paper and fold using engineering fold / fold-out as described below.**

Typically used for ledger size sheets (11" x 17") that are bound in proposals or technical documents. The sheet is folded just off-center then the larger panel is folded in half on itself - the narrowest panel can be pulled out to expand the sheet to its full width, while the left edge is free to be bound in a book or binder.