



1125 North McDowell Blvd.  
 Petaluma, CA. 94954  
 (707) 763-7799

Instructions for  
 Preventive Maintenance Kit 370-0004  
 X5100 Series Pneumatic Inker

**370-0004 SHUTTLE MAINTENANCE KIT PARTS LIST**

The following is a list of parts included in the 370-0004 shuttle maintenance kit. To order additional kits or shuttle parts not included in this kit, contact your local Xandex distributor or contact Xandex Customer Service at (707) 763-7799, toll free in the US at (800) 767-9543, FAX (707) 763-2631 or visit us on the internet at [www.Xandex.com](http://www.Xandex.com)

<b>NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
502-0303	THREADLOCKER LOCTITE 222, .5ML	1
510-3422	SET SCREW	1
511-1003	WASHER	1
517-0066	SPRING, COMPRESSION	2
518-0003	60" TWIN AIR HOSE	1
820-0100	SHUTTLE PREVENTIVE MAINTENANCE INSTRUCTION	1

Items necessary for maintenance not included in the Shuttle Maintenance Kit are:

- Isopropyl Alcohol\*
- Teflon Sealant Tape\*

\*Not available from Xandex

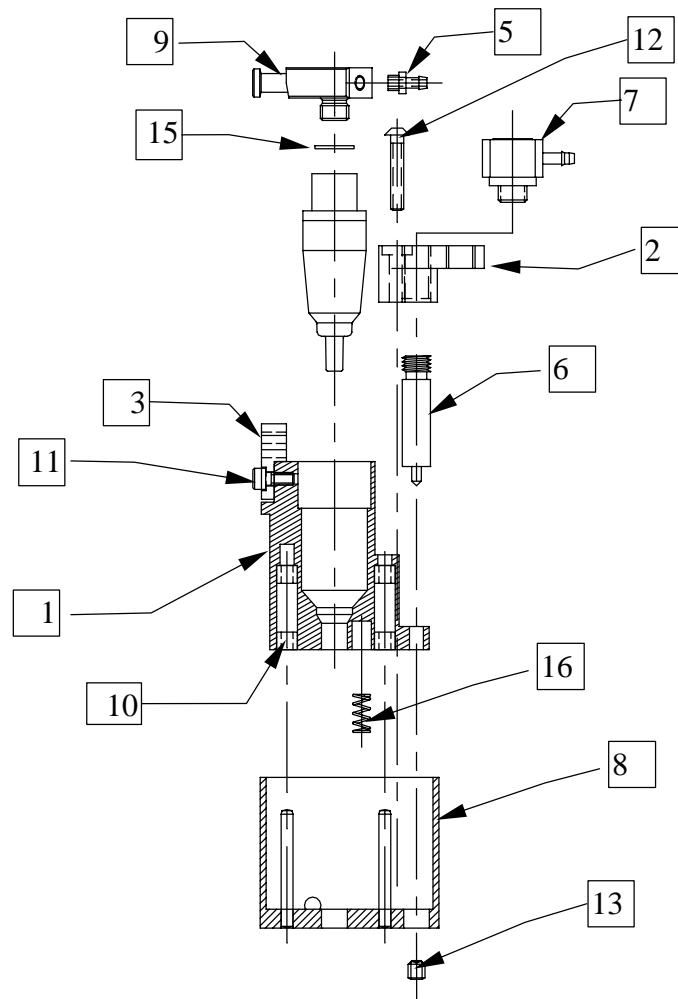
**PNEUMATIC SHUTTLE MAINTENANCE SCHEDULE**

The recommended periodic preventive maintenance schedule for the Xandex pneumatic shuttle is as follows;

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



## PART IDENTIFICATION REFERENCE



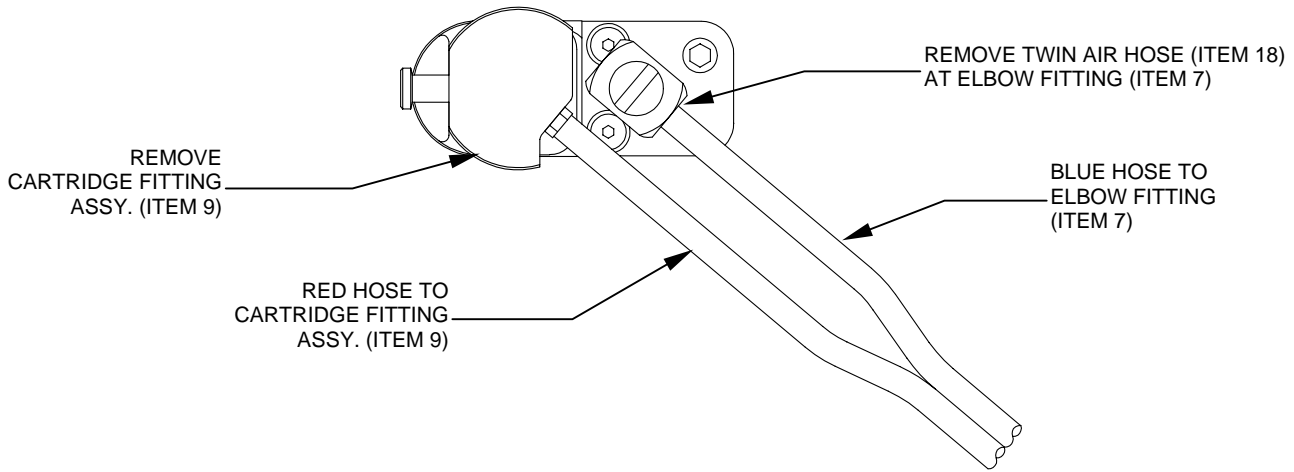
ITEM	NUMBER	ITEM DESCRIPTION
1	120-0531	SHUTTLE MODEL 5100
2	120-0532	BRKT, SOLENOID 5100
3	120-0533	CLAMP, CARTRIDGE 5100
4	160-0018	COUPLING MALE TWIN 1/16 ID
5	160-0021	FITTING HOSE 1/16X3-56 R K I
6	160-0034	CYLINDER SM-2 SUBMINIATURE MNT RGLTR/FLTR /WS
7	160-0073	FTNG ELBW SWVL 1/16X10-32 SS
8	231-0014	HSNG ASSY SHUTTLE 5100
9	231-0016	FITTING ASSY CART 5100
10	509-0020	SLEEVE 2MMX3.5MMX3MM
11	510-2303	SCR SHC 2-56 X 3/16 SS
12	510-2808	SCR BHS 2-56 X 1/2 SS
+13	510-3422	SCSET 4-40X1/8 CUP BLK
14	510-6418	SCR SSET 10-32X1/2 SS NYL TP (not shown in this view)
+15	511-1003	WASHER .125X.25X.02 BUNA 65
+16	517-0066	SPRG COMP .109X.012X1/4
+17	502-0303	THREADLOCKER LOCTITE 222
+18	518-0003	TUBING TWIN COLOR 1/8X1/16ID

+ Included in PM Kit

## SHUTTLE MAINTENANCE PROCEDURE

It will be necessary to have a 0.050" Allen wrench and a 0.49" Gauge Pin

1. Remove the ink cartridge (if installed). Remove the inker from the prober. Retain all inker mounting screws.



2. Remove the *cartridge fitting assembly* (Item 9) from the *inker assembly*. Inspect the *cartridge fitting assembly* (Item 9) for ink contamination or damage. Clean *cartridge fitting assembly* (Item 9) as necessary and replace the washer (Item 15).
3. Disconnect the *twin pneumatic hose* (Item 18) from the shuttle at the *elbow fitting* (Item 7) connection (grasp, do not crush, the hose with needle nose pliers over the fitting point and pull gently to disconnect, being careful not to damage hose). 60" of extra hose is included in the kit (Item 18). If the *twin pneumatic hose* (Item 18) has been damaged, measure the old hose and replace it with the same length of new *twin pneumatic hose* (Item 18).

## SHUTTLE DISASSEMBLY

1. Remove the two 2-56 X 1/2 SS *screws* (Item 12) from the *solenoid bracket* (Item 2), then remove the *solenoid bracket / cylinder assembly* (Items 7, 2 and 6).
2. While holding the *shuttle* (Item 1) in the *housing assembly* (Item 8), turn the *housing assembly* (Item 8) upside-down.
3. Carefully lift the *housing assembly* (Item 8) off of the *shuttle* (Item 1), paying attention to the two *compression springs* (Item 16) located in the *shuttle* (Item 1).
4. With the *housing assembly* (Item 8) removed, remove the two *compression springs* (Item 16) and place in a safe location.

## SHUTTLE ASSEMBLY MAINTENANCE

**With the Shuttle removed and disassembled, perform the following checks to verify condition/operation.**

1. Clean the *shuttle* (Item 1) and *housing assembly* (Item 8) with Isopropyl Alcohol and a clean lint free cloth. Inspect the *shuttle* (Item 1) and *housing assembly* (Item 8) for obvious signs of wear or rubbing. Replace as necessary

2. Inspect the *pneumatic cylinder* (Item 6), mounted on the *solenoid bracket* (Item 2) by manually pulling on the cylinder shaft and verify smooth operation.
3. Connect an air line to the *elbow fitting* (Item 7) on the *solenoid bracket* (Item 2) and apply/remove 80 PSI. Check for leaking *elbow fitting* (Item 7) or *cylinder* (Item 6) and verify the operation of the *cylinder* (Item 6) under pressure.
4. Inspect the *cartridge fitting assembly* (Item 9) for ink contamination or damage. Clean the *cartridge fitting assembly* (Item 9) as necessary and replace the *washer* (Item 15). The RED side of the *twin pneumatic hose* (Item 18) connects to the *cartridge fitting assembly* (Item 9).
5. Inspect the *compression springs* (Item 16) for fatigue or physical deformation. Free length of the *spring* is  $0.250'' \pm 0.005''$  nominal. The two *compression springs* (Item 16) should differ from each other in length by no more than  $0.016''$ . Replace as needed.
6. Remove the nylon tipped *set screw* (Item 13) from the bottom of the *shuttle* (Item 1).

## RE-ASSEMBLY

1. Holding the *shuttle* (Item 1) upside-down, install the two *springs* (Item 16) in the appropriate holes and slide the *housing assembly* (Item 8) over the *shuttle* (Item 1).
2. Turn the assembly right side up and install the *solenoid bracket / cylinder assembly* (Items 2 and 6), using the two *screws* (Item 12) removed during disassembly and tighten to 3-5 in-lbs.
3. Apply a dab of Loctite 222 to the threads of the new *set screw* (Item 13) from the kit and install through the hole in the bottom of the *housing assembly* (Item 8). Take care that there is no excess Loctite on the nylon tip of the *set screw* (Item 13). Check the shuttle actuation adjustment by placing a  $0.049''$  gauge pin in the side hole in the *housing assembly* (Item 8). Adjust the *set screw* (Item 13) through the hole in the base of the *housing assembly* (Item 8) until the *shuttle* (Item 1) lightly contacts the gauge pin.
4. Connect the BLUE side of the *twin pneumatic hose* (Item 18) to the *elbow fitting* (Item 7) on the *solenoid bracket* (Item 2) and apply/remove 80 PSI a few times, verifying smooth actuation of the shuttle.
5. Re-install the inker on the prober and place test dots to verify inker operation.

