



Medical Corporation®

## HEATLESS COMPRESSED AIR DRYER

---

### NDM SERIES

233551

3 SCFM

233552

5 SCFM

233553

10 SCFM

233554

15 SCFM

233555

24 SCFM

233556

34 SCFM

233557

41 SCFM

233558

53 SCFM

233559

66 SCFM

233560

88 SCFM

233561

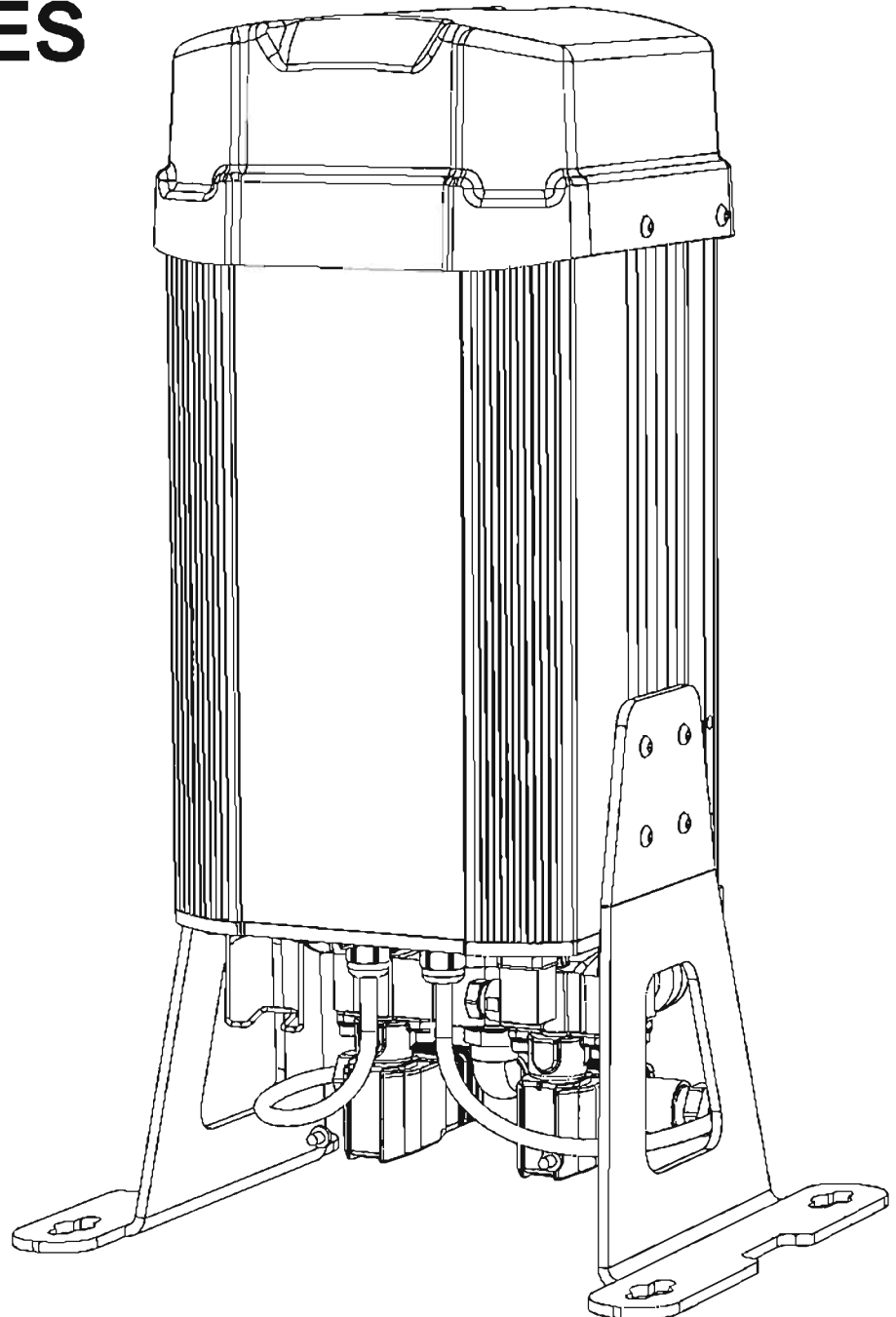
106 SCFM

233562

132 SCFM

233563

177 SCFM



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## MAINTENANCE & SERVICE MANUAL

# GENERAL INFORMATION

## Copyright

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## Document Introduction

This manual provides manufacturers prescribed procedures for the maintenance and service procedures for a Ohio Medical compressed air dryer. The procedures illustrated in this document are only to be performed by authorized personnel. For further information regarding the procedures outlined in this document contact Ohio Medical Corporation before proceeding. Read this document carefully before attempting to service this dryer.

## General Safety

For your own safety, when carrying out maintenance work on the dryer, all relevant national safety regulations must be complied with relating to pressurized and electrical systems. Only authorized, competent and trained personnel should maintain the dryer. This user guide is intended solely for such personnel and is to be used only as a reference. It should not be used to replace conventional training.



**WARNING:** indicate any situation or operation that may result in potential damage to the product, injury to the user, or render the product unsafe.



**NOTES:** highlight important sections of information where particular care and attention should be paid.

## Warranty guidelines

Our standard warranty is 24 months from startup or 30 months from date of shipment. The Dryer should be installed, operated and maintained in accordance with the manufacturer's guidelines. Only genuine service parts should be used and no modifications should be made. For further information please contact us at [www.ohiomedical.com](http://www.ohiomedical.com).

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# 1. SERVICE INTERVALS

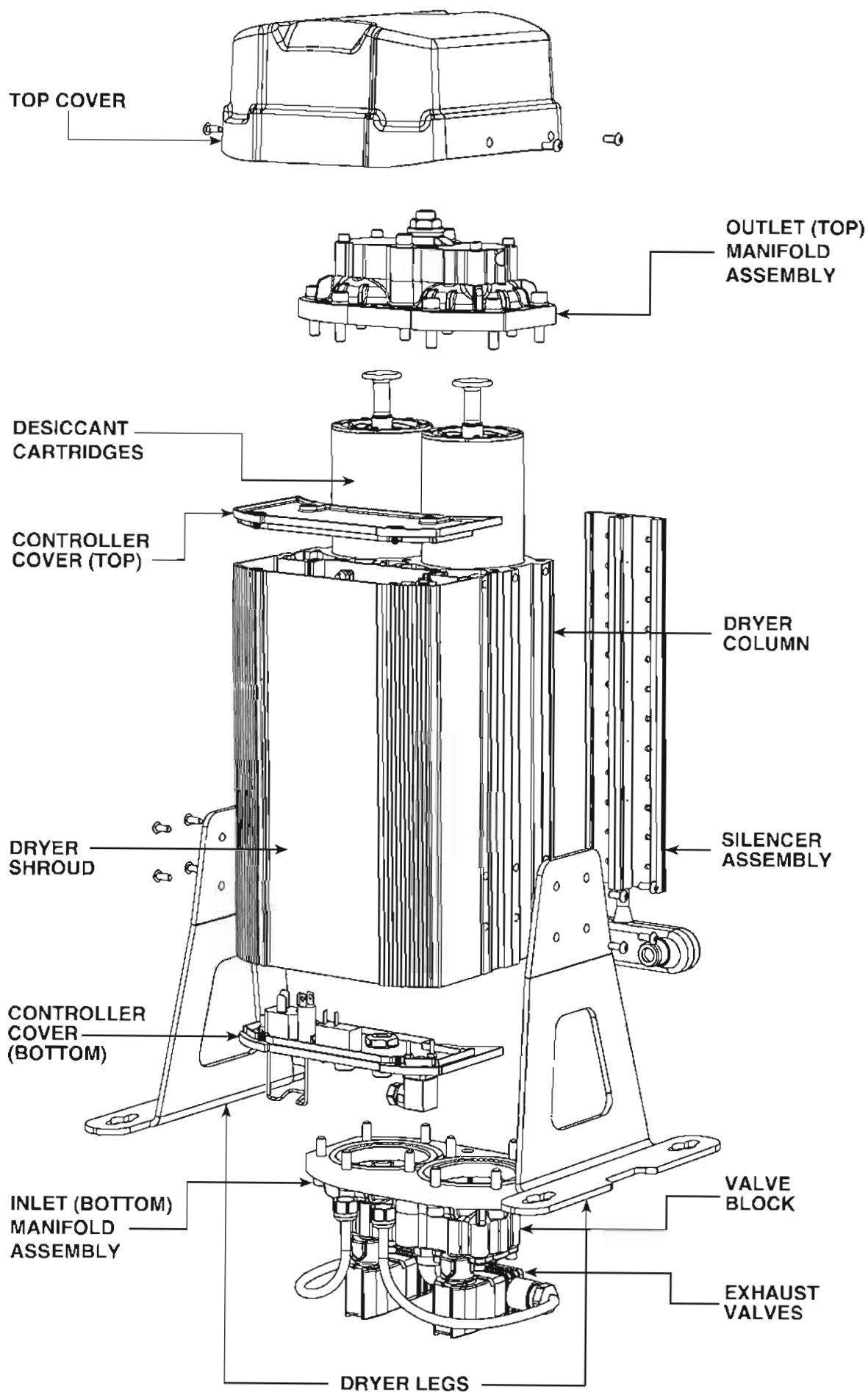
The following table details the recommended service intervals for this product and the service kits to be used.

Service Type	Recommended Service Intervals											
	2 Years (12,000 Hrs)	4 Years (24,000 Hrs)	6 Years (36,000 Hrs)	8 Years (48,000 Hrs)	10 Years (60,000 Hrs)	12 Years (72,000 Hrs)						
A	✓	✓	✓	✓	✓	✓						
B	1	2	3	4	5	6						
Additional For ES Models Only												
C	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years	11 Years	12 Years
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

DRYER PART NUMBER	Required Service Kits		
	Service A	Service B	Service C
233551	NDK-010	NDK-010 + NVK-050 (3, 6)	NSK-130
233552	NDK-020	NDK-020 + NVK-050 (3, 6)	NSK-130
233553	NDK-030	NDK-030 + NVK-050 (3, 6)	NSK-130
233554	NDK-040	NDK-040 + NVK-050 (3, 6)	NSK-130
233555	NDK-050	NDK-050 + NVK-050 (3, 6)	NSK-130
233556	NDK-060	NDK-060 + NVK-090 (2, 4, 6)	NSK-130
233557	NDK-070	NDK-070 + NVK-090 (2, 4, 6)	NSK-130
233558	NDK-080	NDK-080 + NVK-090 (2, 4, 6)	NSK-130
233559	NDK-090	NDK-090 + NVK-090 (2, 4, 6)	NSK-130
233560	NDK-100	NDK-100 + NVK-130 (2, 4, 6)	NSK-130
233561	NDK-110	NDK-110 + NVK-130 (2, 4, 6)	NSK-130
233562	NDK-120	NDK-120 + NVK-130 (2, 4, 6)	NSK-130
233563	NDK-130	NDK-130 + NVK-130 (2, 4, 6)	NSK-130

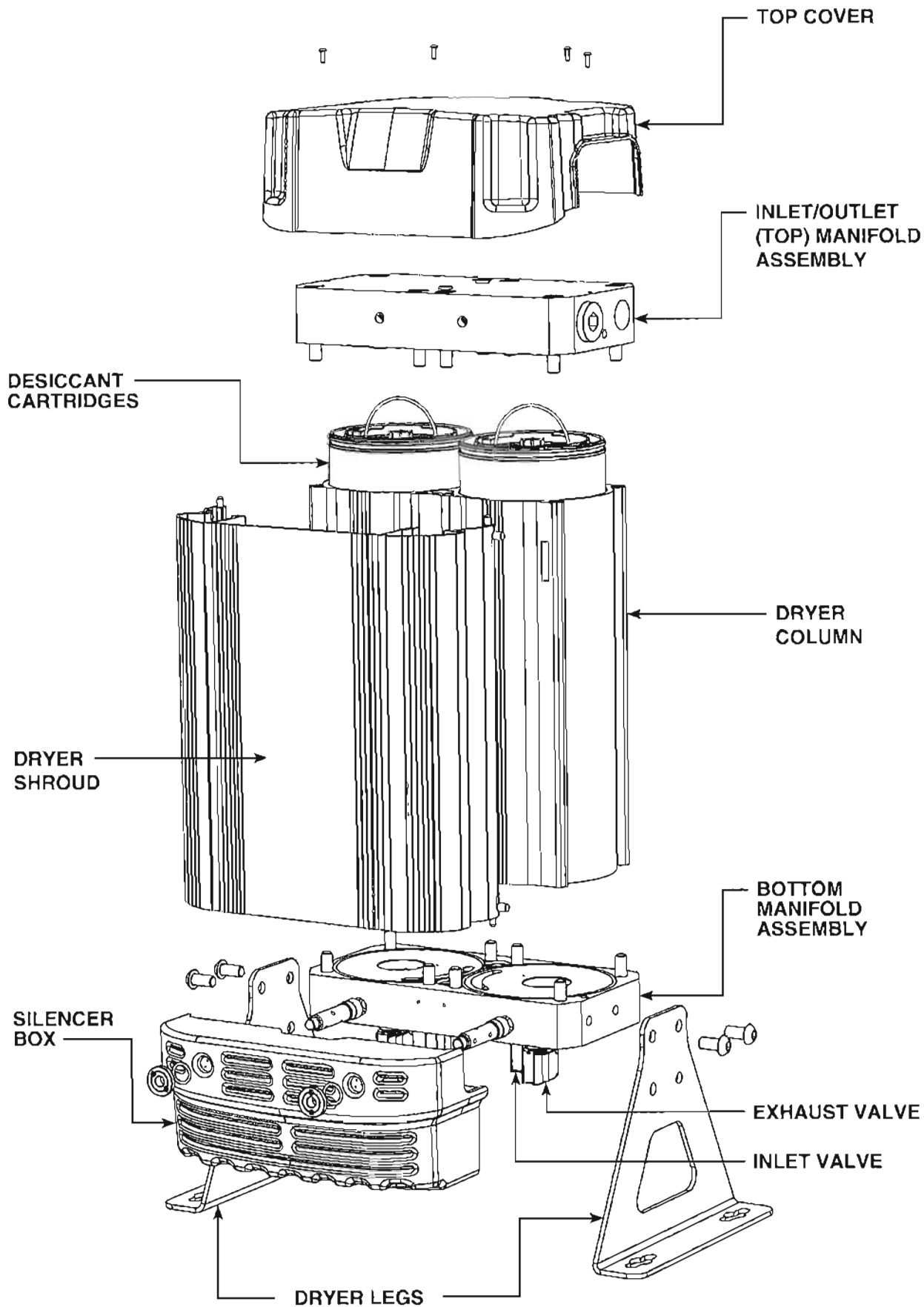
## 2.0 Product Assembly

### 2.1 Product Assembly 233551 to 233555



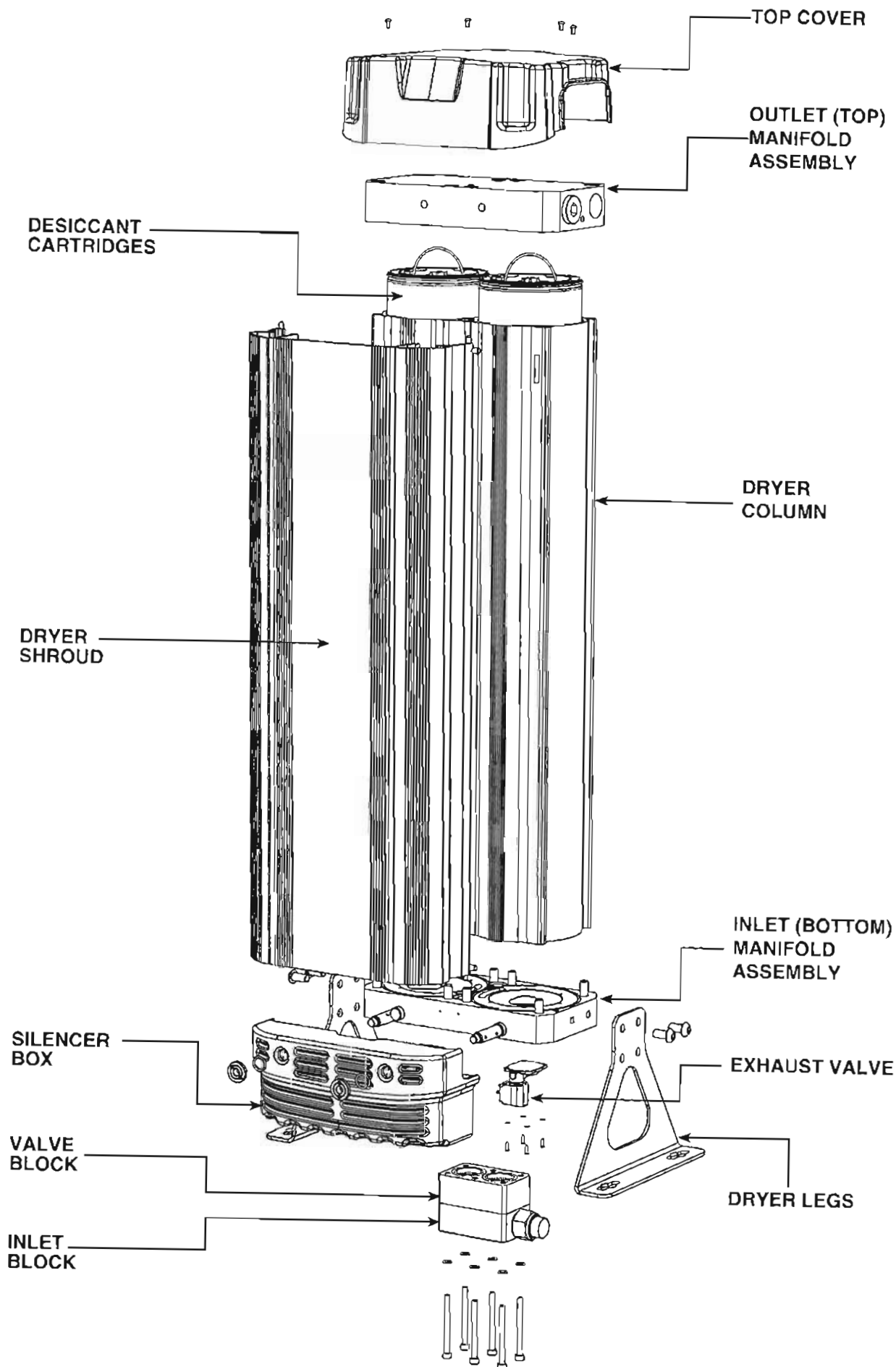
## 2.0 Product Assembly

### 2.2 Product Assembly 233556 to 233559



## 2.0 Product Assembly

### 2.2 Product Assembly 233556 to 233559



### 3.0 Recommended Tools

The following tools will be required to service the dryer:

For Dryers 233551 to 233555

SOCKETS: 5.5mm, 7mm and 17mm

ALLEN KEY SOCKETS: 3mm, 5mm and 8mm

SCREWDRIVER

TORQUE WRENCH (0-10NM)

ALLEN KEY 4mm

SPANNER 17mm

SPANNER 19mm

For Dryers 233556 to 233563

TERMINAL SCREW DRIVER

ALLEN KEY 3mm

ALLEN KEY 4mm

ALLEN KEY 6mm

ALLEN KEY 8mm

TORQUE WRENCH (8-60NM)

TORQUE SOCKET 6mm

TORQUE SOCKET 8mm

20mm PIN SPANNER

BEARING PULLER

### 4.0 Dryer Shut Down Procedure



Before performing any maintenance or service operations on this product, ensure the product is isolated from the compressed air supply and fully de-pressurized. Also ensure the product is switched off and/or isolated from the main electrical power.

#### PROCEDURES

- Close the inlet and outlet valves.

The dryer might still be pressurized! In order to de-pressurize the dryer; ensure the dryer is isolated from the compressed air source:

- o Cycle the dryer twice to ensure the dryer exhausts and is completely depressurized.
  - o When fully depressurized the 'clicking' of the exhaust valves will be heard but no air exhausted.
- When the dryer is fully depressurized, isolate from the power supply.



(Every 12,000 hrs or 24 months)

Please refer to figure 1

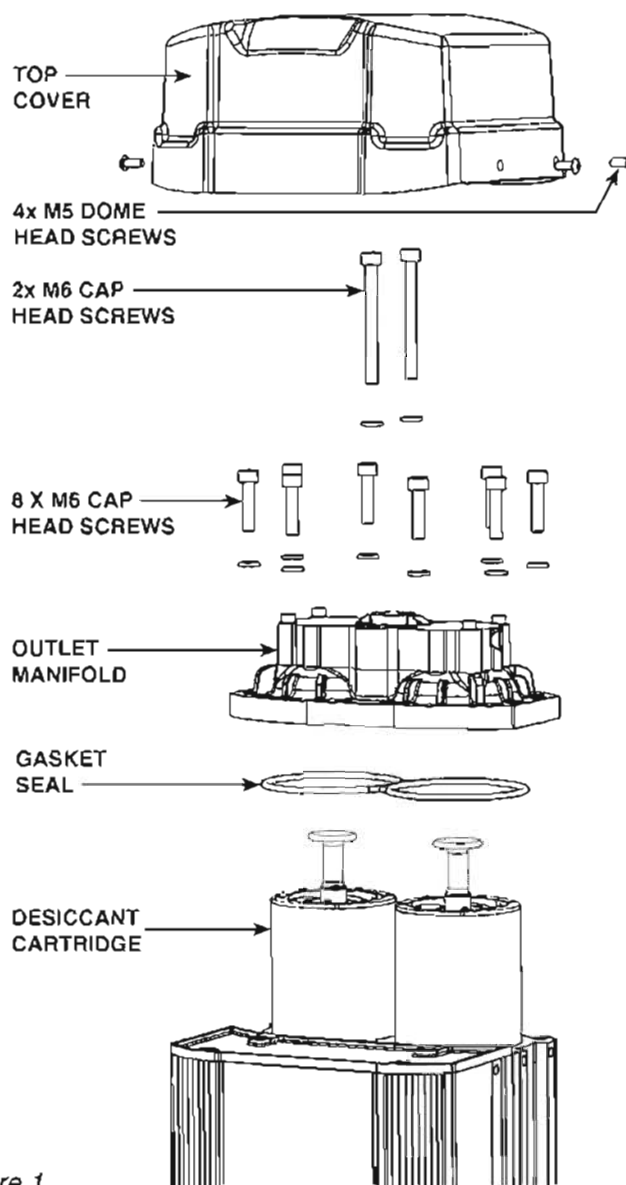


Figure 1.

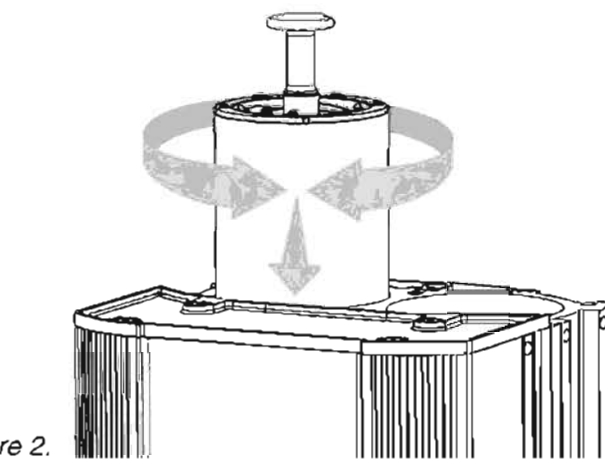


Figure 2.

Insert desiccant cartridge and rotate until it sits correctly within the dryer column then push downwards until you hear a click.

1. Ensure the dryer is shut down and fully depressurized before attempting any maintenance work. (See page 8)

2. Remove the 4x M5 dome head screws to release the top cover and lift from assembly.

3. Remove the 2x M6 cap head screws as shown from the outlet (top) manifold.

4. Remove the 8x M6 cap head screws to remove the outlet (top) manifold from the dryer column.

5. Remove the gasket seal.

6. Remove the 2x cartridges using the handle to withdraw them from the column.

7. Check and clean the outlet (top) manifold and dryer column as required paying particular attention to the gasket sealing areas.

8. Remove the new cartridges and gasket seal from the service kit provided.

9. Insert the new gasket seal into the gasket groove on the underside of the outlet (top) manifold ensuring it is fully retained.

10. Insert the 2x new desiccant cartridges and rotate until they sit correctly into place. Then press down until they stop and the cartridge is below the top surface of the dryer column (See Figure's 2 & 4 page 13)

11. Replace the outlet (top) manifold and secure with the 10x M6 cap head screws tightening to a torque setting of 5Nm. Refer to the page 31 and follow the correct tightening sequence.

12. The seal between the dryer column and outlet (top) manifold should be checked for leaks prior to fitting the top cover and operating the dryer.

13. Replace the dryer top cover and secure with the 4x M5 screws. These screws should be hand tightened or tightened at a torque setting of less than 1Nm.

## 5.0 Service "A" Instructions:

### 5.2 replacing Desiccant Cartridges 233556 to 233562

(Every 12,000 hrs or 24 months)

*Please refer to figure 1*

1. Ensure the dryer is shutdown and fully depressurized before attempting any maintenance work. (See Page 6)
2. Remove the 4x M5 screws as shown to remove the dryer top cover.
3. Remove the 8x M12 cap head screws and 8x washers to remove the top manifold from the dryer column.
4. Discard the gasket seal.
5. Lift the wire handle and remove the cartridge from the dryer column. (See figure 2).
6. Check and clean the top manifold and dryer column as required, paying particular attention to the gasket sealing faces.
7. Remove the new cartridges and gasket seal from the service kit provided.
8. Insert 2x new desiccant cartridges and press them down until they stop and the cartridge is below the top surface of the dryer column.
9. Insert the new gasket seal placing it into the gasket groove in the top manifold ensuring it is fully retained.

10. Ensure both handles are folded flat.

11. Replace the top manifold and secure with the 8x M12 cap head screws tightening to a torque setting of 80Nm.

**NOTE:** Refer to the page 32 and follow the correct tightening sequence.

12. The seal between the dryer column and top manifold should be checked for leaks prior to fitting the top cover and operating the dryer

13. Replace the dryer top cover and secure with the 4x M5 screws. These screws should be hand tightened only or tightened to a torque setting of less than 1Nm.

If service A is complete reset the dryer, refer to page 30.

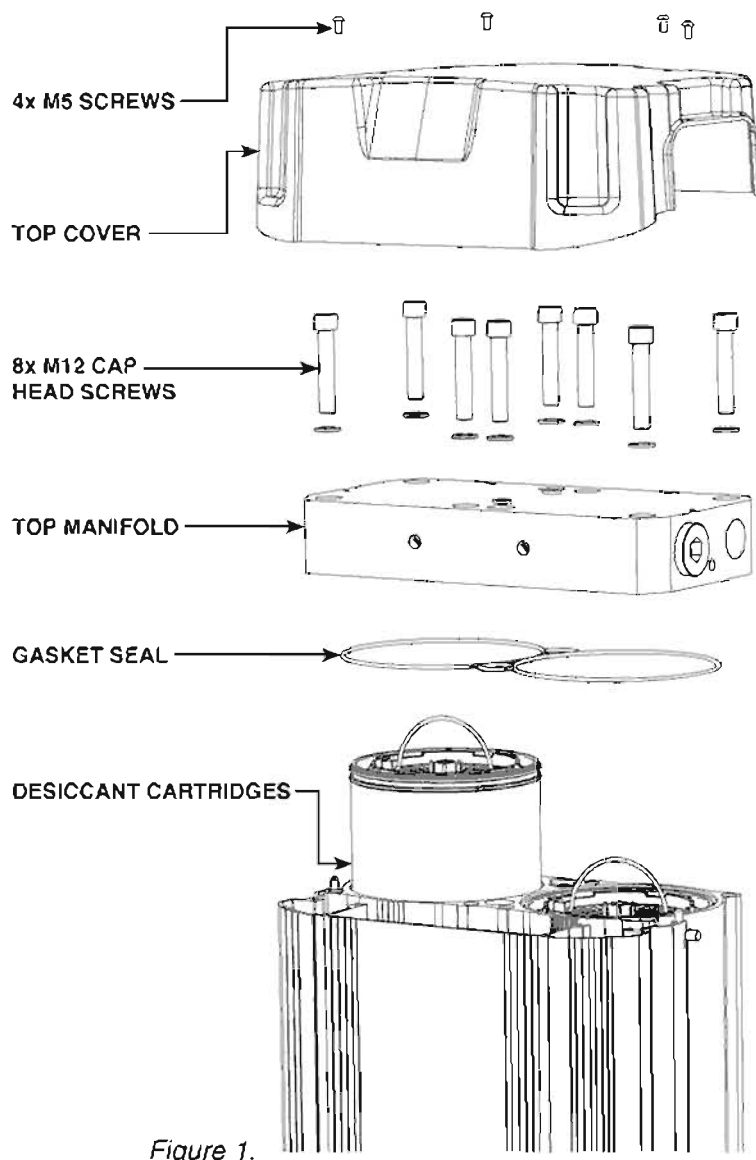


Figure 1.

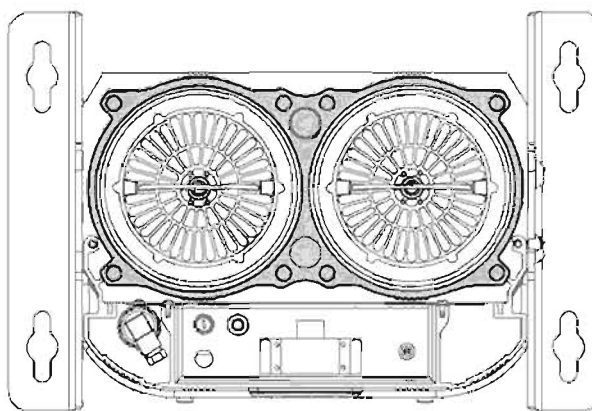


Figure 2.



Care must be taken when removing the desiccant cartridges not to damage the top face of the dryer column. This is a sealing face! (Sealing face shown as the shaded area)

## 5.0 Service "A" Instructions:

### 5.3 replacing Desiccant Cartridges 233563

(Every 12,000 hrs or 24 months)

Please refer to Service "A" instructions on page 10 of this service manual

**NOTE:** The 177 SCFM dryer has 2x cartridges per side. (See Figure 3)

#### REPLACING DESICCANT CARTRIDGES

1. Lift handle and remove the upper cartridges from the dryer and discard them.

**NOTE:** Ensure the upper cartridges have disconnected from the cartridge joining rings and the lower cartridges before attempting to lift from the dryer.

2. Remove the lower cartridges from the dryer and discard.

3. Identify upper and lower cartridges from the service kit.

4. Insert joining ring into the head of the lower cartridge.

5. Insert lower cartridges separately into dryer.

6. Insert upper cartridges separately into dryer.

7. See page 10 for reassembling top manifold

DRYER CARTRIDGE  
(UPPER)

CARTRIDGE JOINING  
RINGS

DRYER CARTRIDGE  
(LOWER)

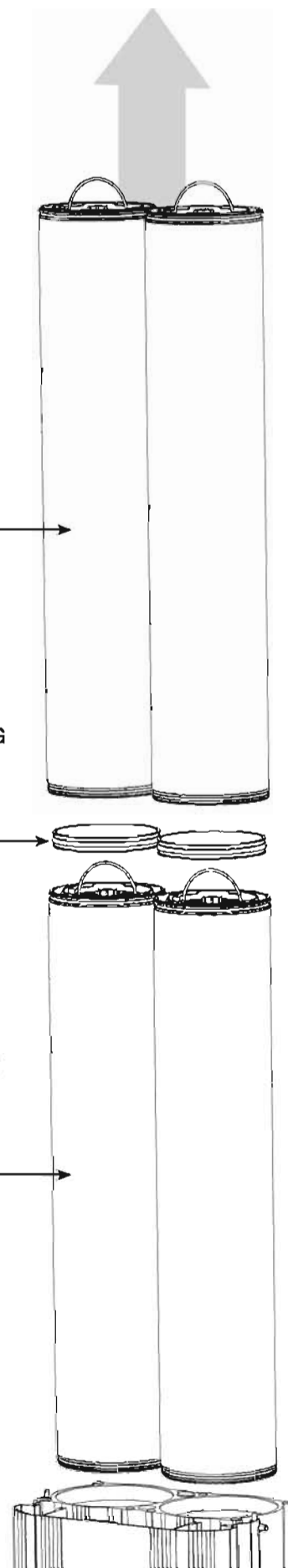


Figure 3

## 5.0 Service “A” Instructions:

### 5.4 Filter & Desiccant Cartridge Break down



To ensure the filter/desiccant cartridge is inserted properly and seals correctly it can only be inserted one way.

## 5.0 Service “A ” Instructions:

### 5.5 Replacing “O” rings and Nitrile ball within the outlet manifold 233551 to 233555

(Every 12,000 hrs or 24 months)

Please refer to figure 4.

1. Ensure the dryer is shut down and fully depressurized before attempting any maintenance work. (See page 8)

2. Remove the 4x M5 dome head screws to release the top cover and lift from assembly.

3. Remove the 2x M6 x 50 and the 8x M6 x 25 cap head screws as shown from the outlet (top) manifold to release it from the assembly.

4. Remove the 4x M4 cap head screws and washers to remove the purge block from the outlet (top) manifold.

5. Remove and discard the 3x O rings sat on the underside of the purge block. (See Figure 3.)

6. Insert the new O rings from the service kit provided and replace into the grooves on the underside of the purge block. (See Figure 3.)

7. Remove and discard the nitrile ball from the outlet manifold.

8. Replace the nitrile ball from the service kit, into the 3 way valve orifice.

9. Sit the purge block back on top of the outlet manifold and replace the 4x M4 cap head screws at torque setting of 3Nm.

10. Sit the manifold assembly back on top of the dryer column and replace the 2x M6 x 50 and 8x M6 x 25 cap head screws at a torque setting of 5Nm.

**NOTE:** Refer to the page 31 and follow the correct tightening sequences.

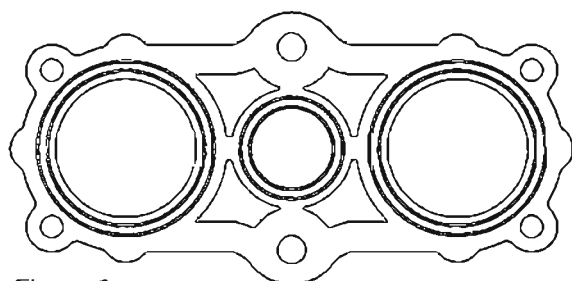


Figure 3.

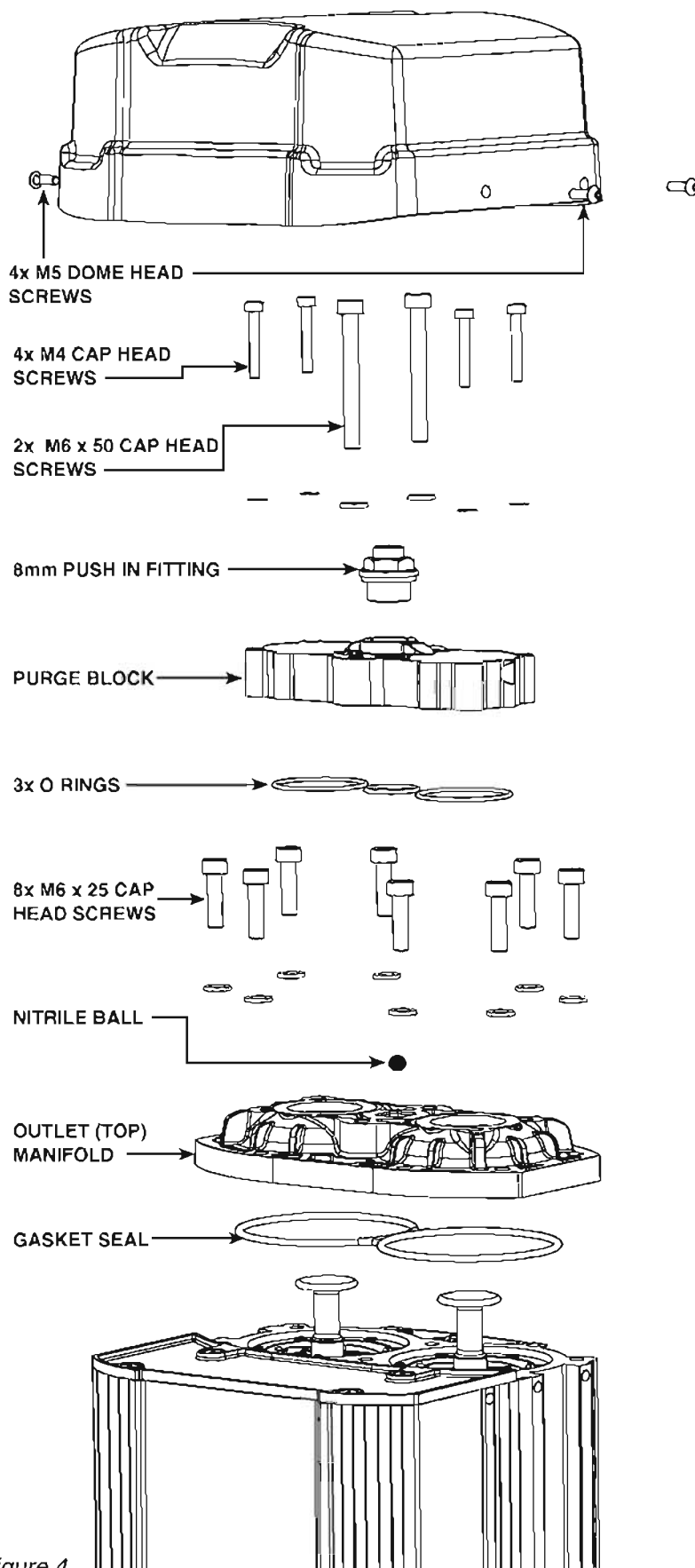


Figure 4.

## 5.0 Service “A ” Instructions:

### 5.6 Replacing “O” rings, Nitrile ball, and Gasket Seal within the inlet manifold 233551 to 233555

(Every 12,000 hrs or 24 months)

Please refer to figure 5.

1. Ensure the dryer is shut down and fully depressurized before attempting any maintenance work. (See page 8)
2. Unclip the solenoid plug from the valve stem.  
(See Figure 2 & 3 on page 16)
3. Remove the 8x M4 cap head screws and washers from the valve block to release the exhaust valves.
4. Remove the 2x M6 cap head screws to release the valve block from the inlet manifold.
5. Remove and discard the 3x O rings on the underside of the valve block.
6. Insert the new O rings from the service kit and replace into the grooves on the underside of the valve block.  
(See Figure 6 on page 15)
7. Remove the 8x M6 cap head screws from the inlet manifold to release it from the dryer.
8. Remove and discard the nitrile ball from the inlet manifold.
9. Replace the nitrile ball from the service kit and replace into the 3 way valve orifice. (See Figure 7 on page 15)
10. Remove and discard the gasket seal from the underside of the inlet manifold.
11. Insert the new gasket seal from the service kit into the gasket seal grooves on the underside of the inlet manifold.

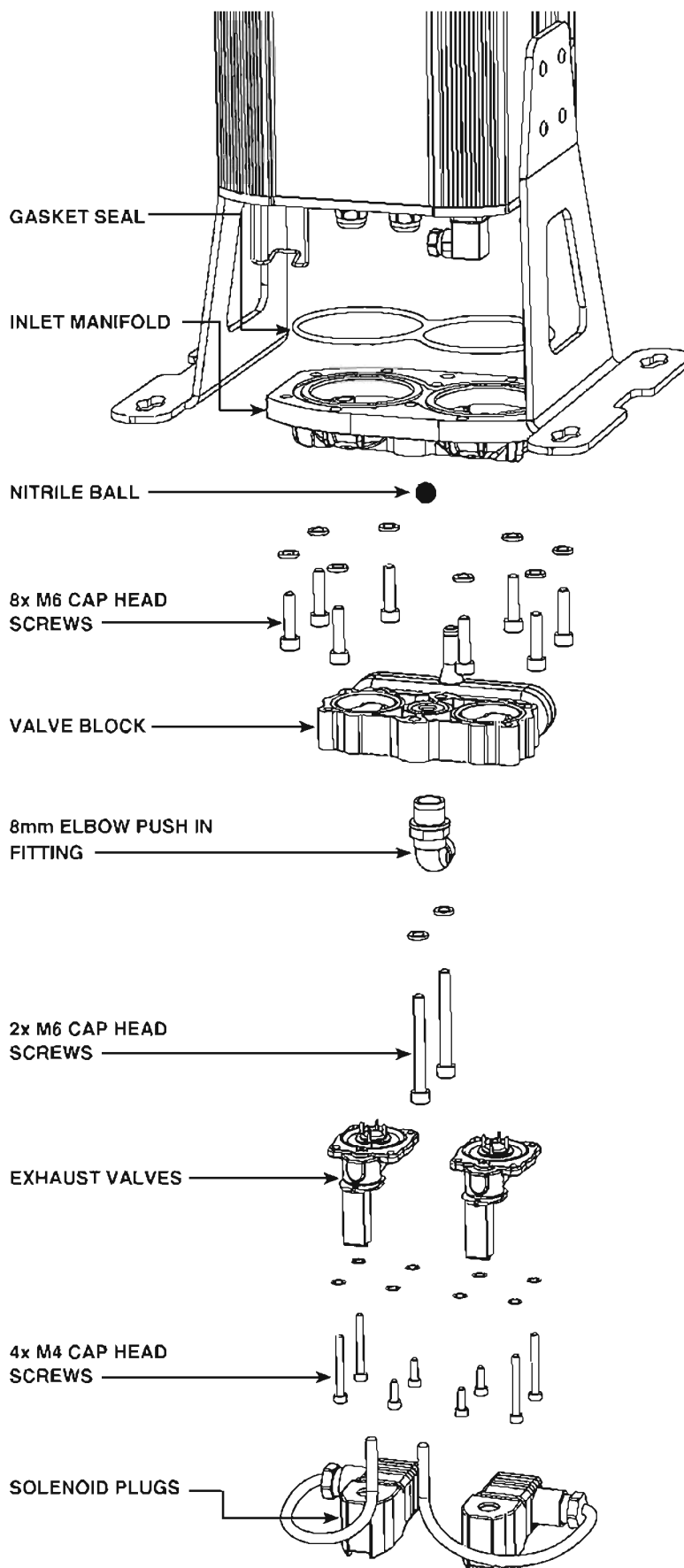


Figure 5.

## 5.0 Service “A ” Instructions:

### 5.6 Replacing “O” rings, Nitrile ball, and Gasket Seal within the inlet manifold 233551 to 233555

(Every 12,000 hrs or 24 months)

Please refer to figure 4, page 13.

12. To reassemble, place the valve block on top of the inlet manifold ensuring the profiles of the screw holes line up correctly.

13. Sit the exhaust valves on top of the valve block, ensuring the profiles of the screw holes line up correctly.

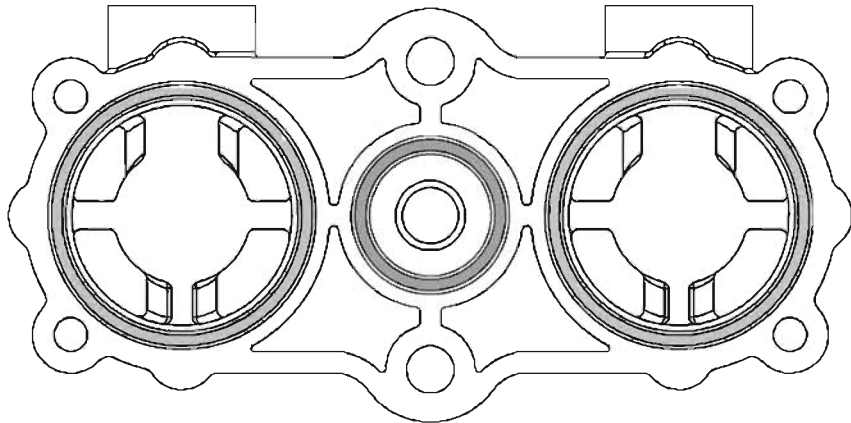
14. Insert 4x M4 cap head screws through both exhaust valves and tighten at a torque setting of 3Nm. Refer to the page 31 and follow the correct tightening sequence.

15. Place the manifold assembly back onto the dryer and insert the 2x M6 cap head screws through the valve block tightening at a torque setting of 5Nm.

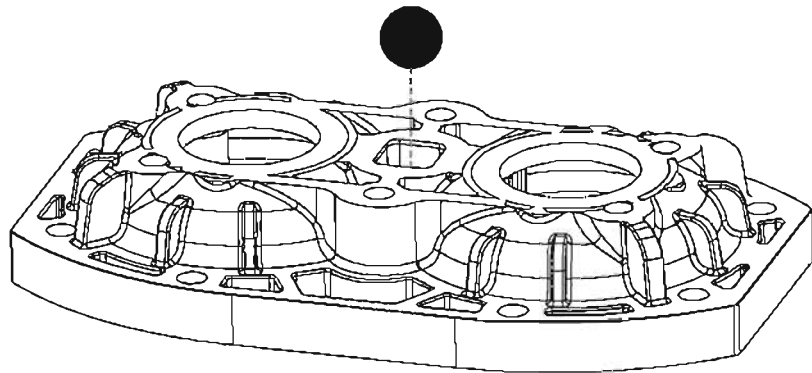
16. Insert the 8x M6 cap head screws into the inlet manifold and tighten to a torque setting of 5Nm. Refer to the page 31 and follow the correct tightening sequence.

17. To finish the assembly reattach the solenoid plugs to the exhaust valve.

When service A is complete reset the dryer, refer to page 31.



*Figure 6.*



*Figure 7.*

## 6.0 Service "B" Instructions:

### 6.1 Replacing Exhaust Valves 233551 to 233555

(Every 36,000 hrs or 60 months)

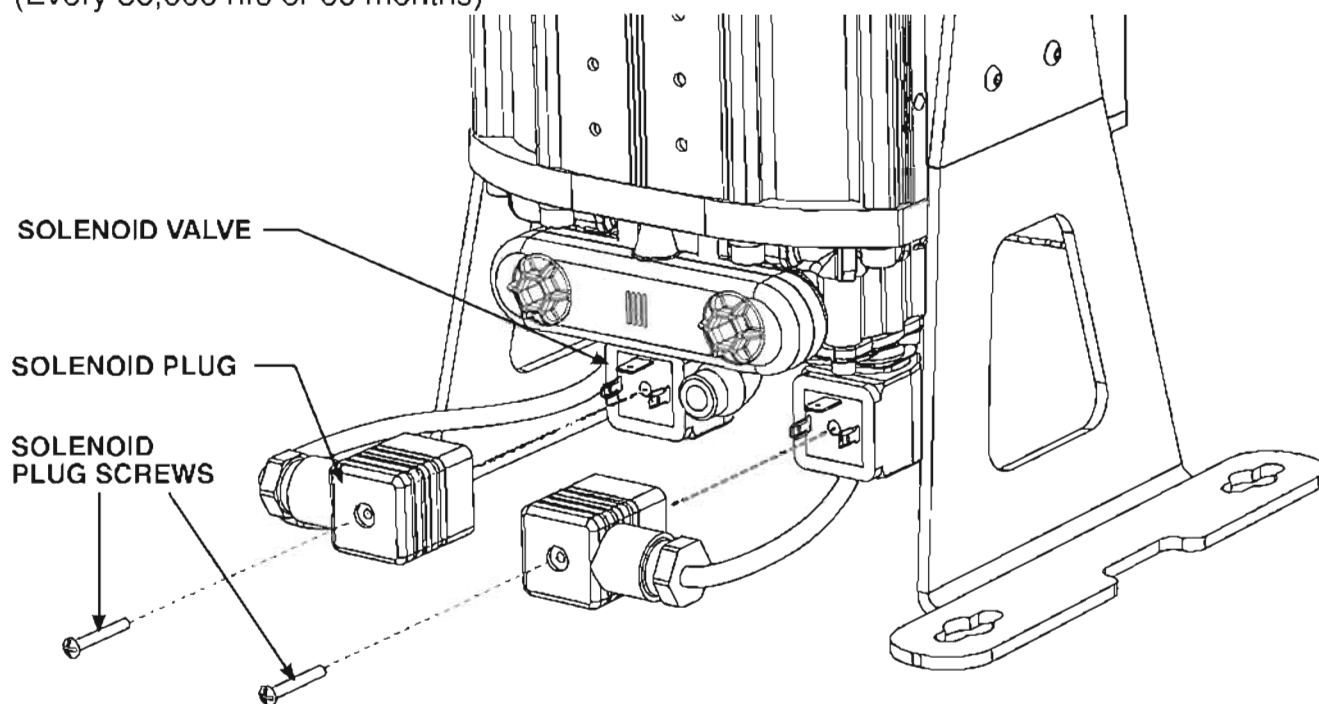


Figure 1.

1. Ensure the dryer is shut down and fully depressurised before attempting any maintenance work. (See page 8)

2. Remove the solenoid valve plugs by removing the plug screws and pulling the plug free from the solenoid. (See Figure 1)

3. Remove the solenoid valve by unclipping the retaining clips and sliding the solenoids down and free from the valve stems. (See Figures 2 & 3)

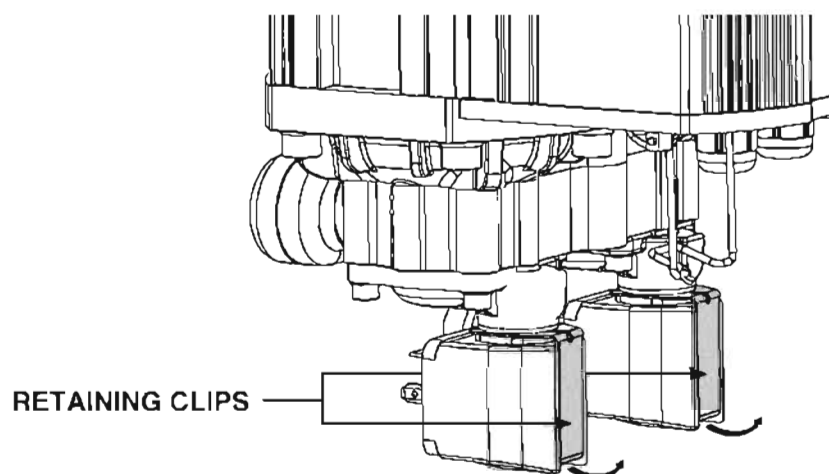


Figure 2.

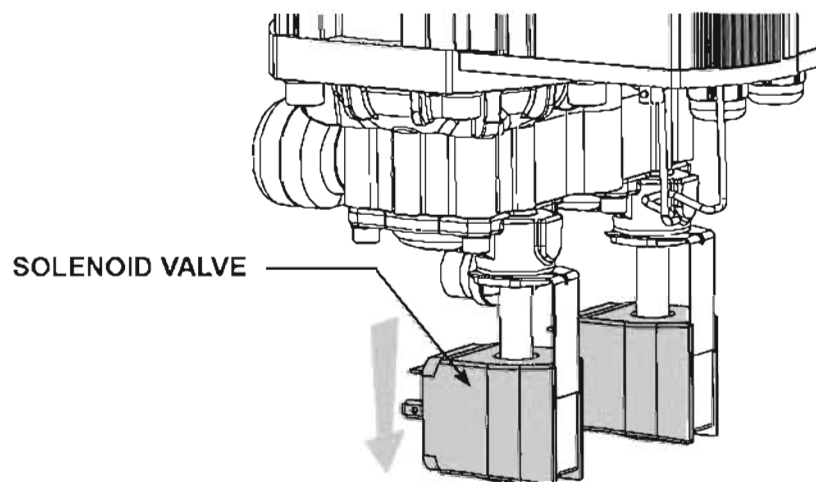


Figure 3.



## 6.0 Service "B" Instructions:

### 6.1 Replacing Exhaust Valves 233551 to 233555

(Every 36,000 hrs or 60 months)

4. Remove the 8x M4 socket head screws and the 8x M4 spring washers and release the exhaust valve bodies and diaphragms from the inlet manifold.

(See Figures 4 & 5)

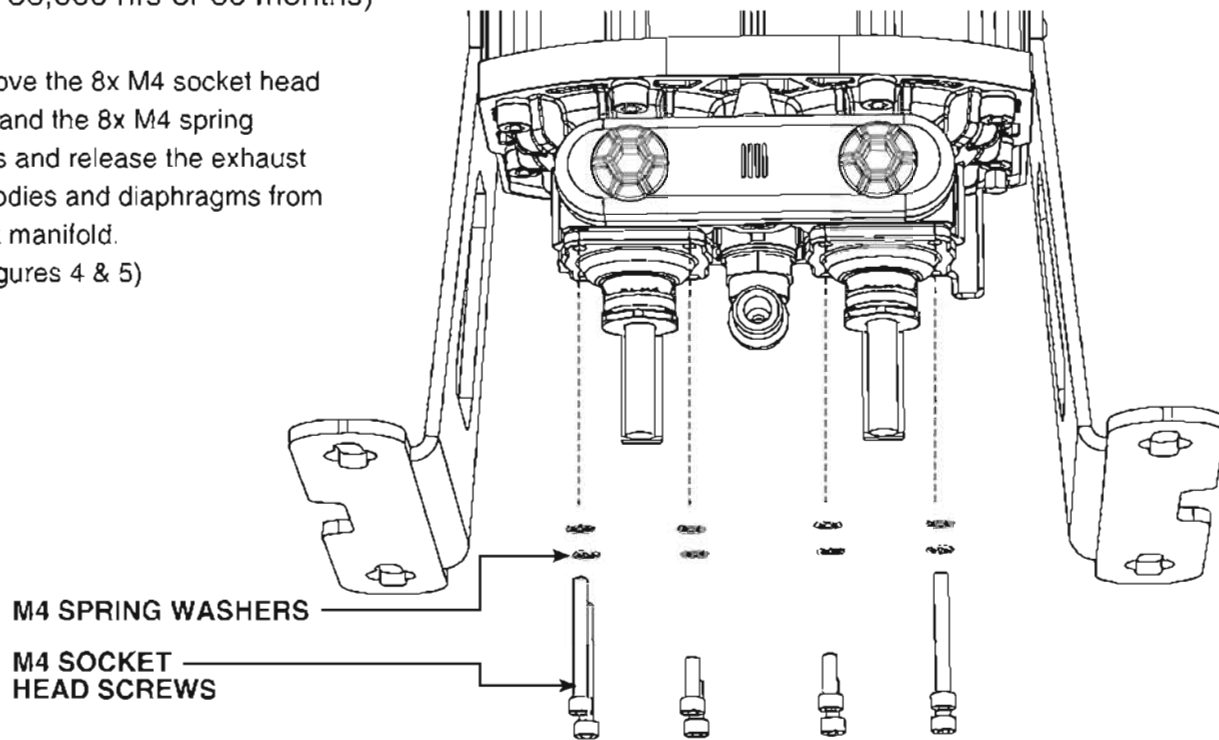


Figure 4.

5. Replace the 2x diaphragms and 2x exhaust valve bodies from the service kit.

6. Insert the 8x M4 socket head screws and 8x washers and tighten to a torque setting of 3Nm.

**NOTE:** Refer to the page 31 and follow the correct tightening sequence.

When service B is complete reset the dryer, refer to page 29.

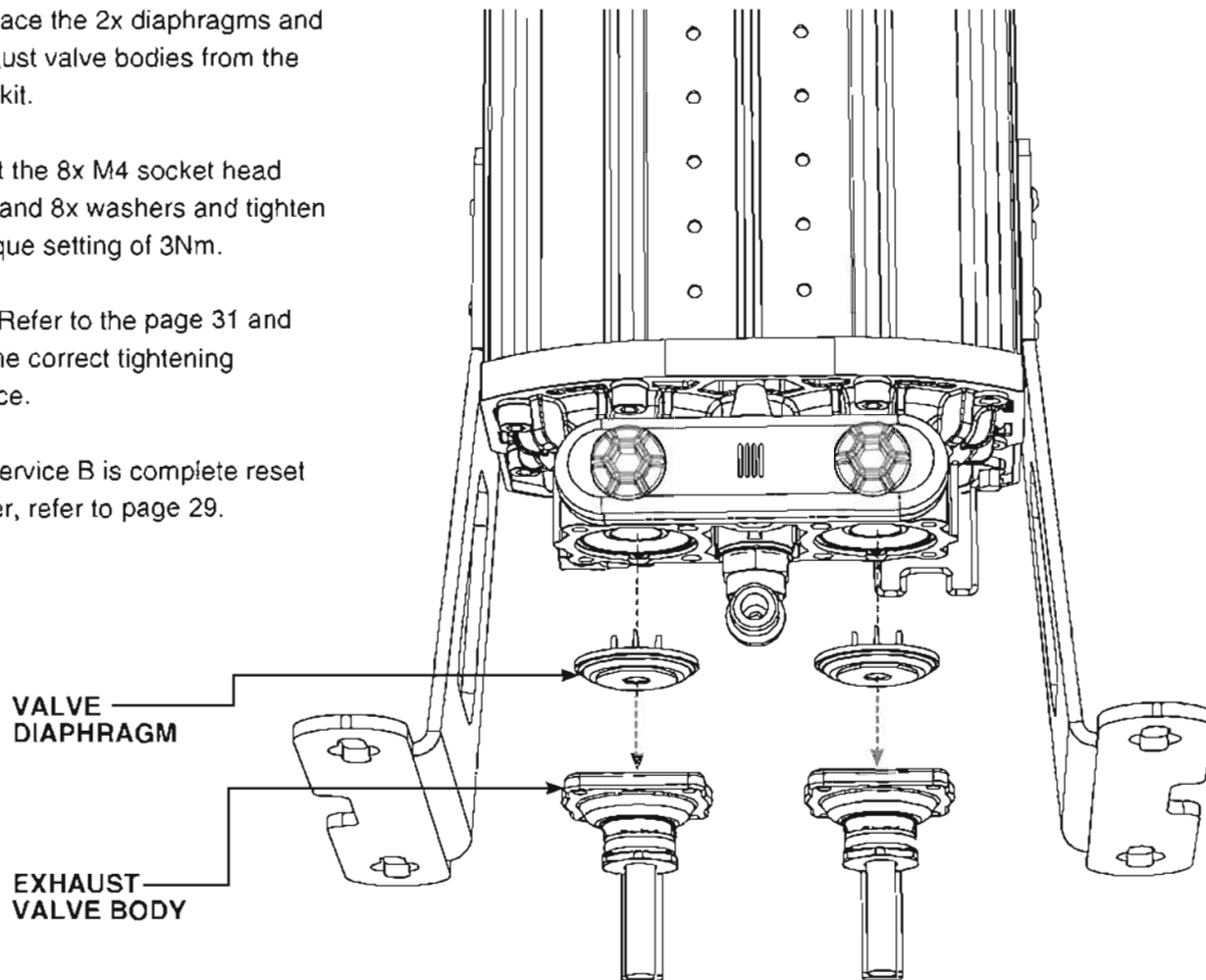


Figure 5.

## 6.0 Service “B ” Instructions:

### 6.2 Replacing Inlet Control and Exhaust Valves 233556 to 233563

(Every 24,000 hrs or 4 Years)

1. Ensure the dryer is shutdown and fully depressurized before attempting any maintenance work.

(See page 8).

2. Detach each of the solenoid plugs from the solenoids by removing the 4x plug screws and releasing the plugs.

(See Figure 1)

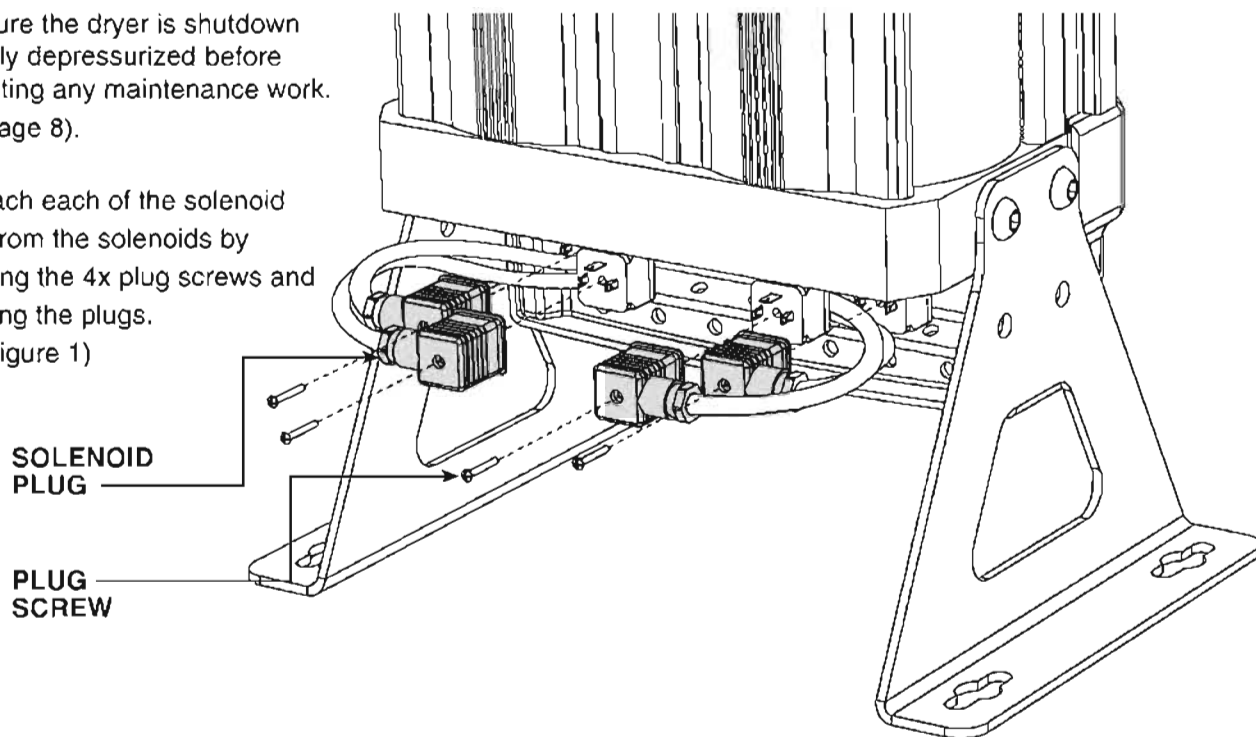


Figure 1.

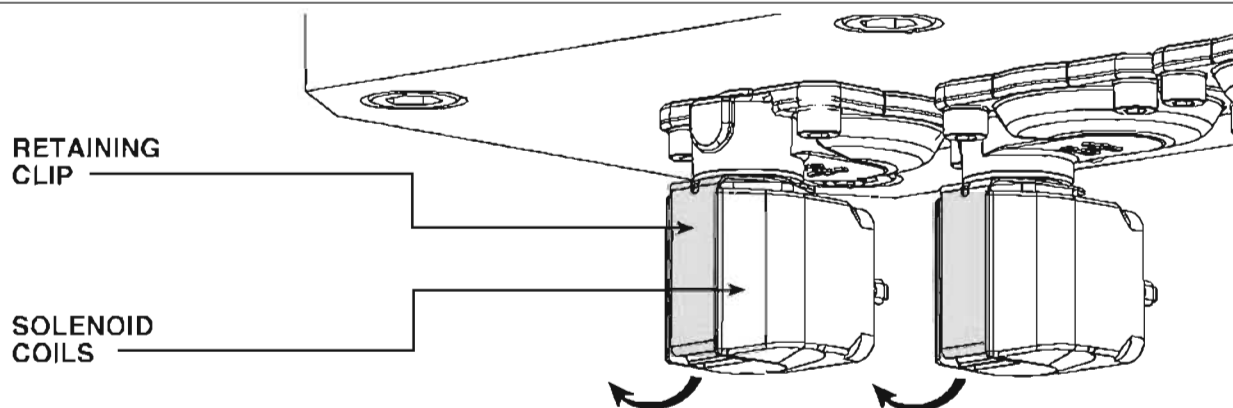


Figure 2.

3. Remove the solenoid coils by unclipping and sliding the coils from the valve stems.

(See Figure's 2 & 3)

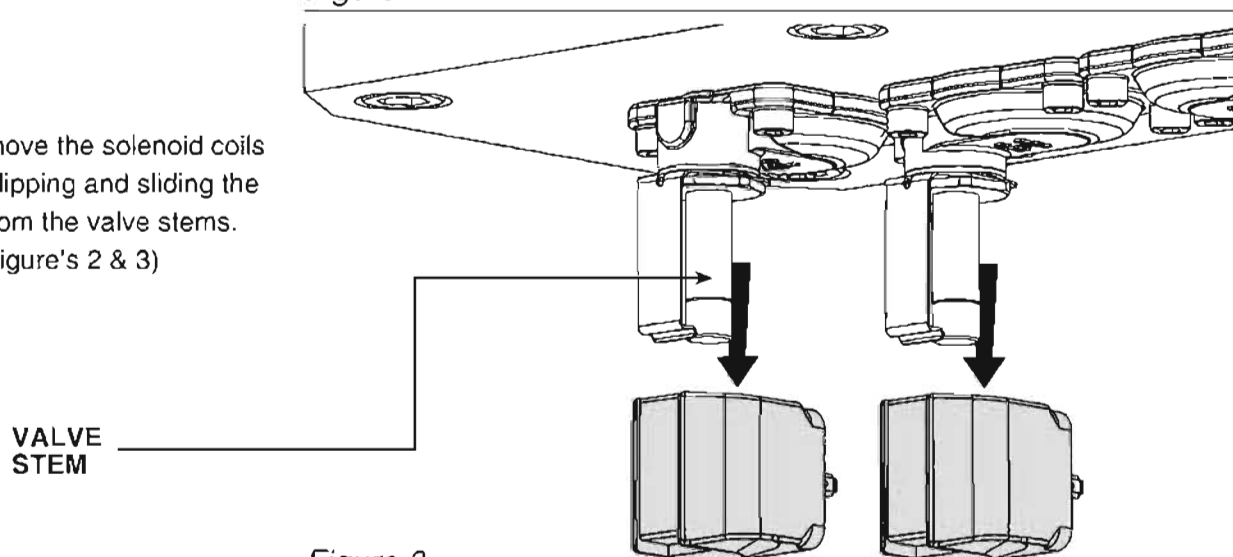
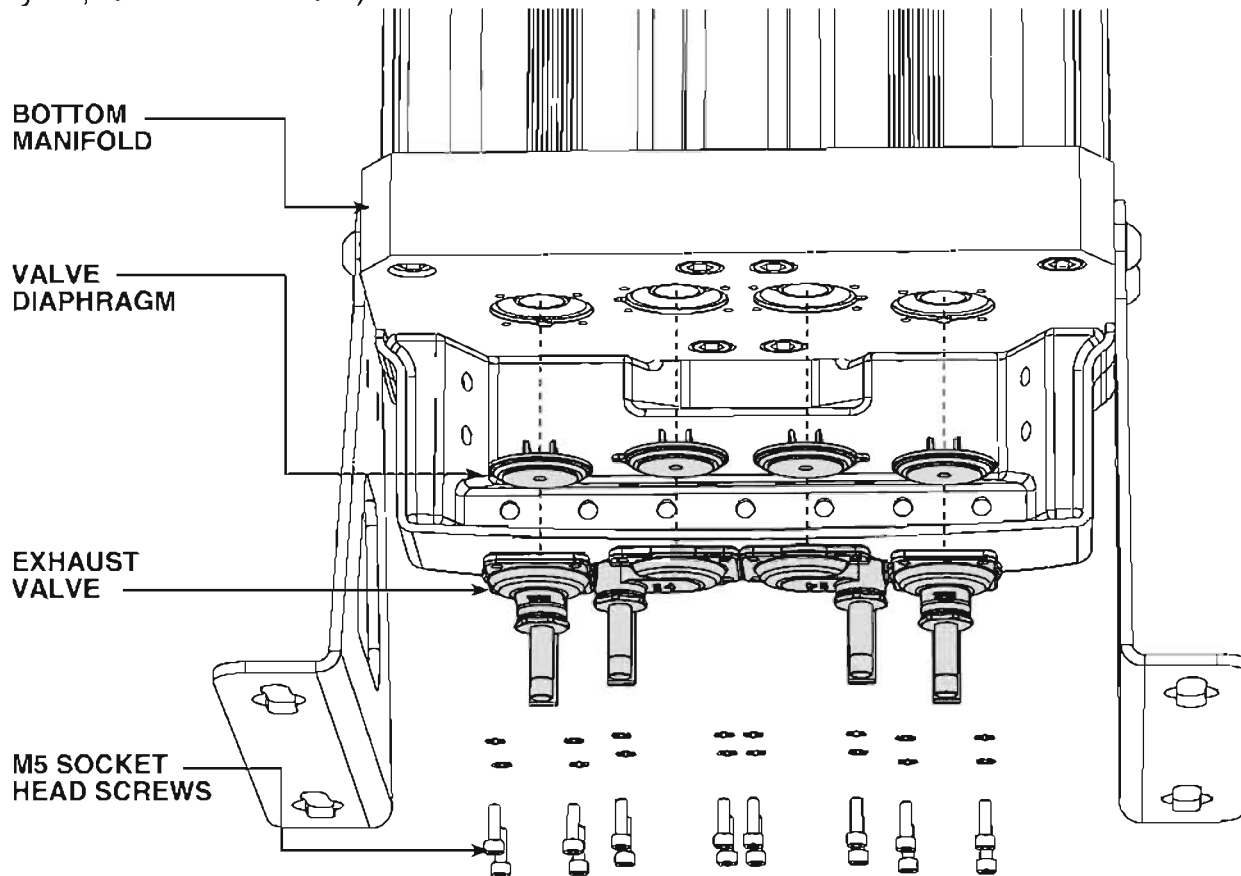


Figure 3.

## 6.0 Service “B ” Instructions:

### 6.2 Replacing Inlet Control and Exhaust Valves 233556 to 233563

(Every 24,000 hrs or 4 Years)



*Figure 4.*

4. Remove the 16x M5 socket head screws and the 16x spring washers and discard them. Remove and discard the exhaust valve bodies from the bottom manifold. (See Figure 4)

5. Remove and discard the 4x diaphragms from the bottom manifold. (See Figure 4)

6. Replace the 4x diaphragms and 4x exhaust valves from the service kit and replace the 16x M5 socket head screws and spring washers from the service kit and tighten to a torque setting of 6Nm. (See Figure 4)

**NOTE:** Refer to the page 30, and follow the correct tightening sequence.

7. Reattach the 4x solenoid coils and 4x solenoid plugs. (See Figure 1 page 18).

When service B is complete reset the dryer, refer to page 30.

## 6.0 Service “B” Instructions:

### 6.3 Replacing Inlet Control Valves 233556 to 233563

(Every 24,000 hrs or 4 Years)

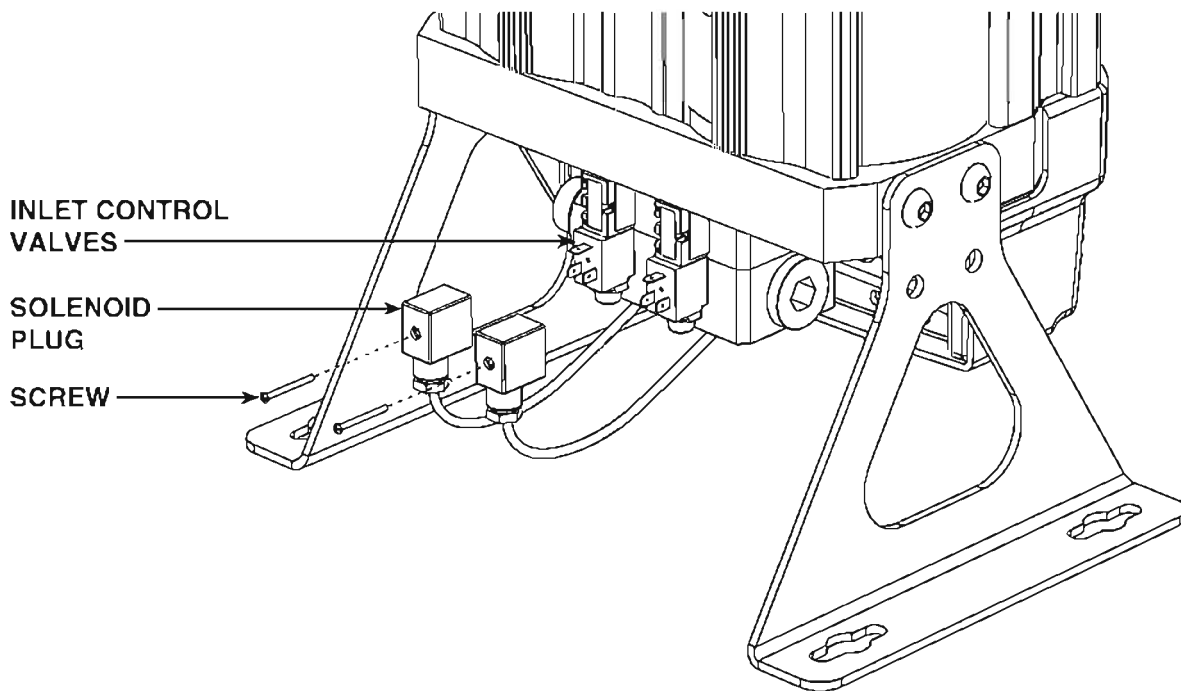


Figure 1.

1. Ensure the dryer is shut down and fully depressurized before attempting any maintenance work. (See page 8).

2. Remove the screws and release the solenoid plugs from the inlet control valves. (See Figure 1)

3. Remove the 6x M8 socket head cap screws and 6x washers from the inlet block to release both the valve block and inlet block from the bottom manifold and from each other. (See Figure 2)

4. Remove and discard the 2x O rings from the inlet block and replace them from the service kit. (See Figure 2)

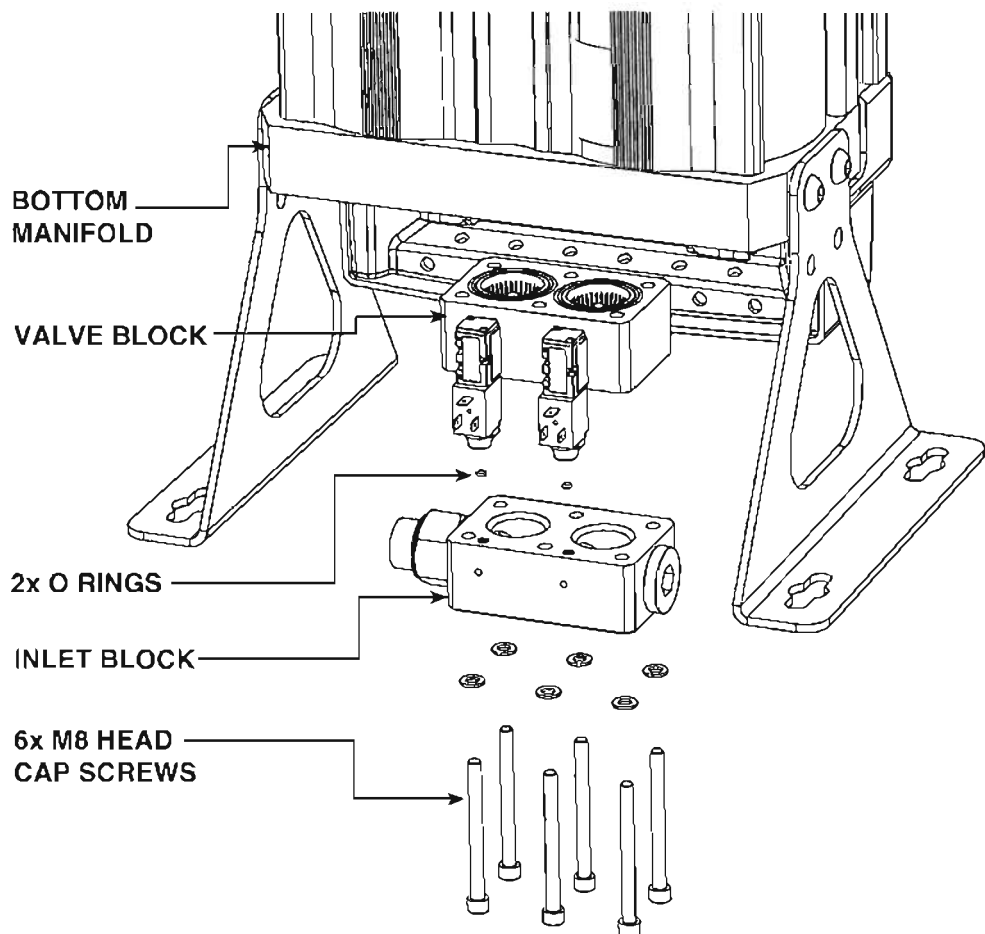


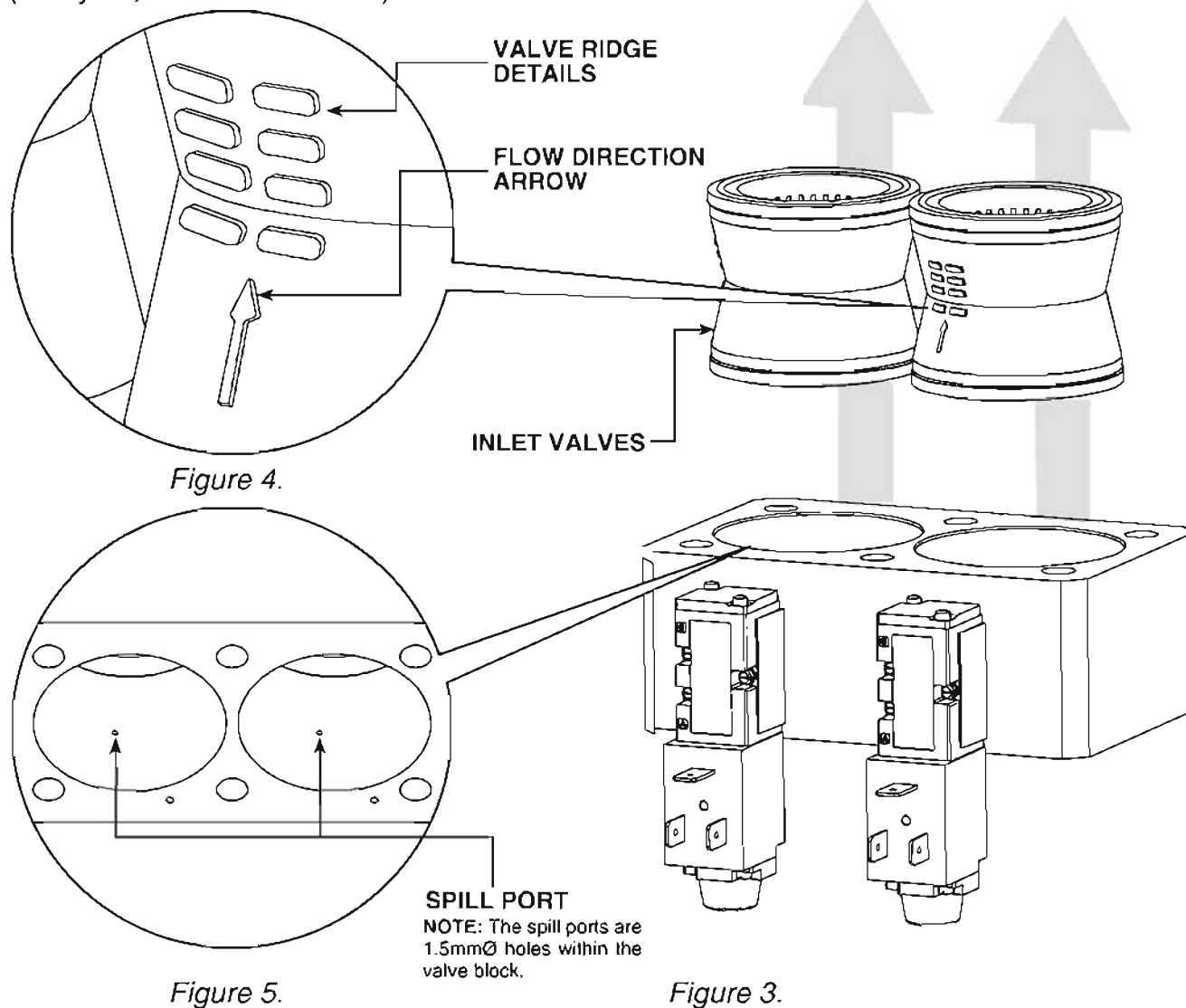
Figure 2.

## 6.0 Service "B" Instructions:

### 6.3 Replacing Inlet Control Valves

233556 to 233563

(Every 24,000 hrs or 4 Years)



5. Remove the inlet valves from the valve block by pushing them out. (See Figure 3).

6. Discard the old inlet valves.

7. Insert the new inlet valves into the valve block ensuring the flow direction arrow is pointing as shown and the valve ridge details cover the spill port. (See Figures 4 & 5)

8. Replace the 6x M8 socket head cap screws and 6x washers and tighten at a torque setting of 20Nm. (See Figure 2)

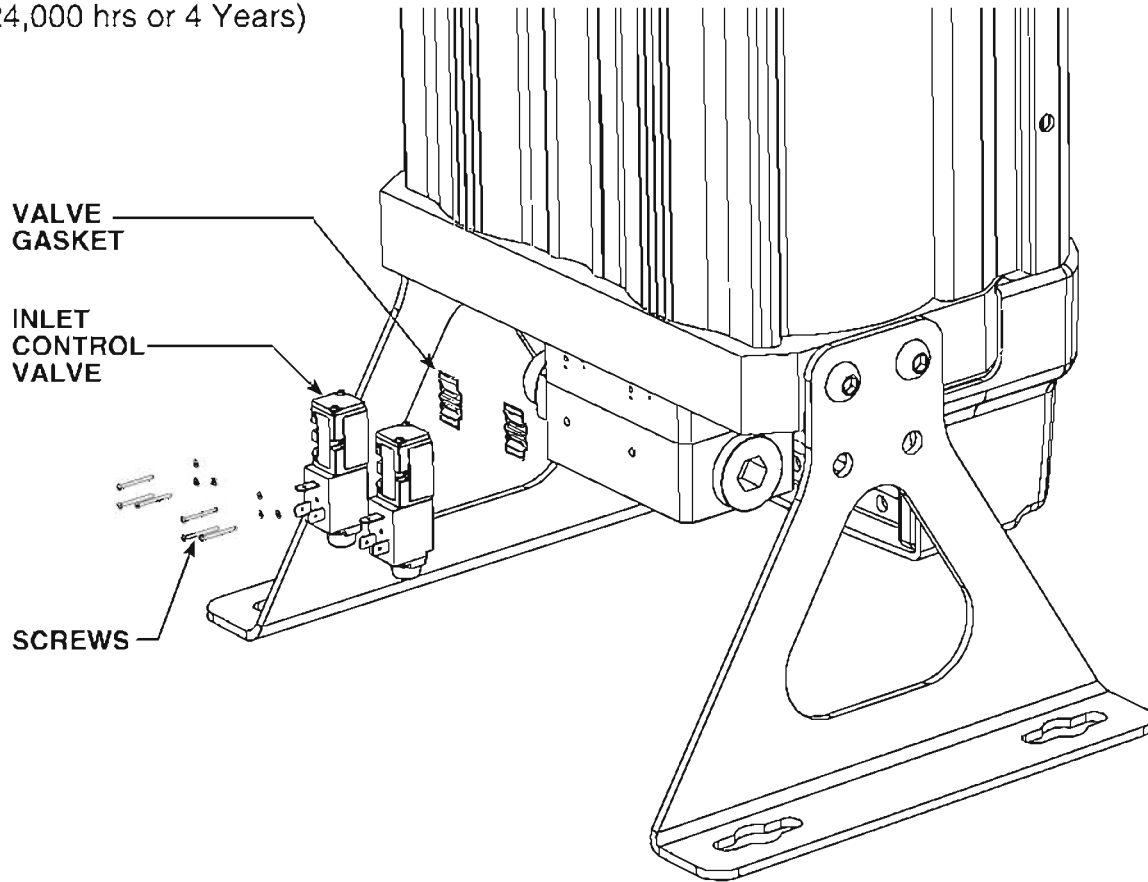
9. Reattach the solenoid plugs and the screw to complete the assembly. (See Figure 1 page 18).

When service B is complete reset the dryer, refer to page 30.

## 6.0 Service “B ” Instructions:

### 6.4 Replacing Inlet Control and Exhaust Valves 233560 to 233563

(Every 24,000 hrs or 4 Years)



*Figure 1.*

1. Remove the 6x fixing screws and 6x washers to release the inlet control valves from the valve block.  
(See Figure 1)
2. Discard the valve gaskets and inlet control valves and replace from the service pack.
3. Replace the 6x fixing screws and 6x washers.
4. Replace the solenoid plug and screw (See Figure 1 on page 12)

When service B is complete reset the dryer, refer to page 18.

## 6.0 Service “B ” Instructions:

### 6.4 Replacing Inlet Control and Exhaust Valves 233560 to 233563

(Every 24,000 hrs or 4 Years)

SILENCER BOX

SILENCER  
FIXING  
NUT

O RING

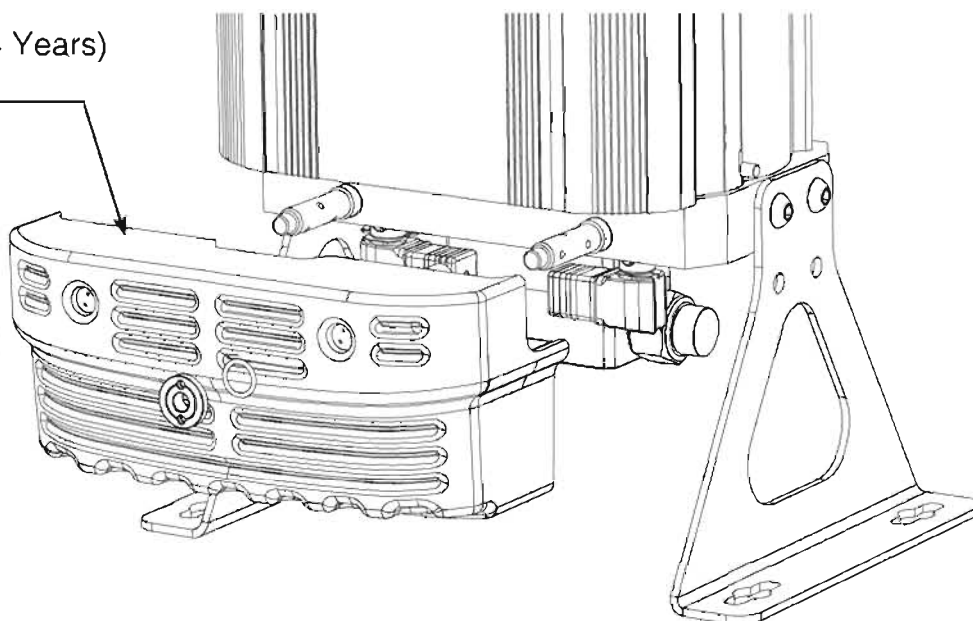


Figure 1.

1. Ensure the dryer is shutdown and fully depressurized before attempting any maintenance work. (See page 8)

2. Unscrew the silencer fixing nut using a 20mm pin spanner and remove the O ring to release the silencer box from the assembly. (See Figure 1)

3. Remove the 8x M5 socket head screws and the 8x spring washers and remove the exhaust valve bodies and diaphragms from the inlet (bottom) manifold. (See Figure 2)

4. Replace the 2x diaphragms and 2x exhaust valves from the service kit.

5. Replace the 8x M5 socket head screws and spring washers and tighten at a torque setting of 6Nm. Reattach the 2x solenoid valves and 2x plugs. (See Figure 2)

**NOTE:** Refer to the page 32 and follow the correct tightening sequence.

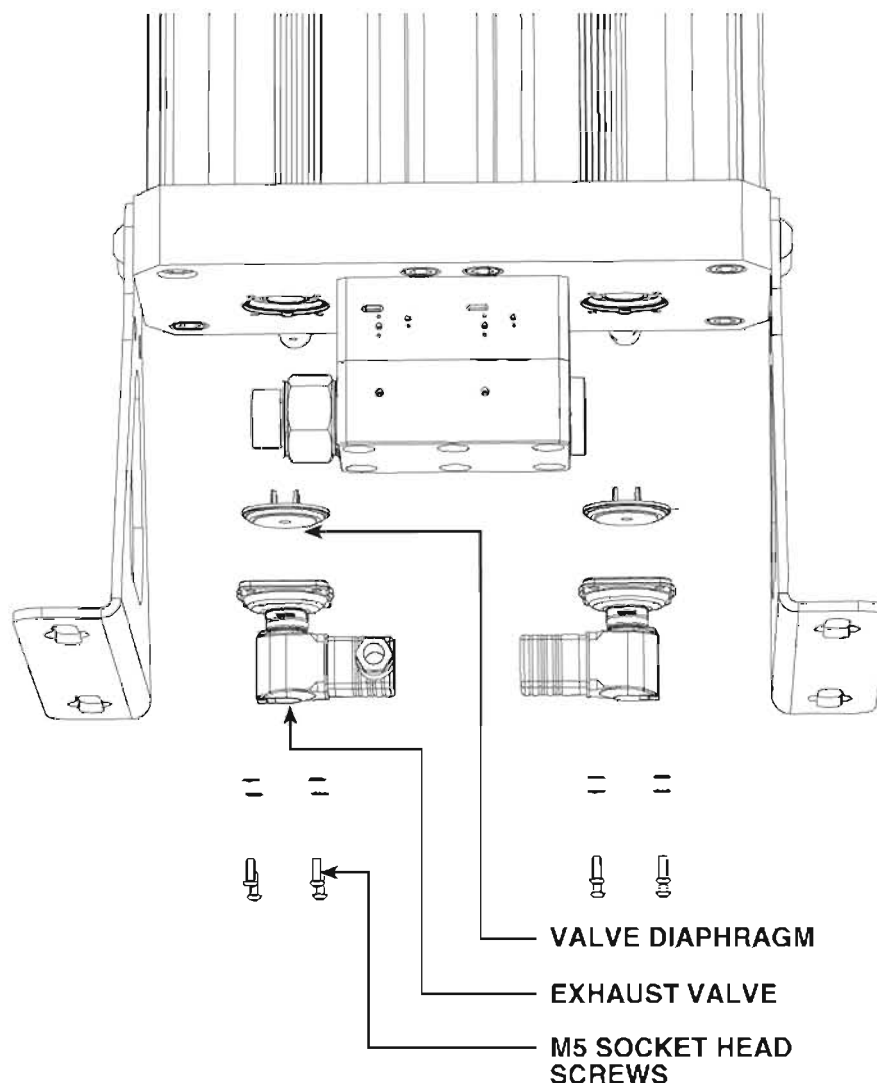
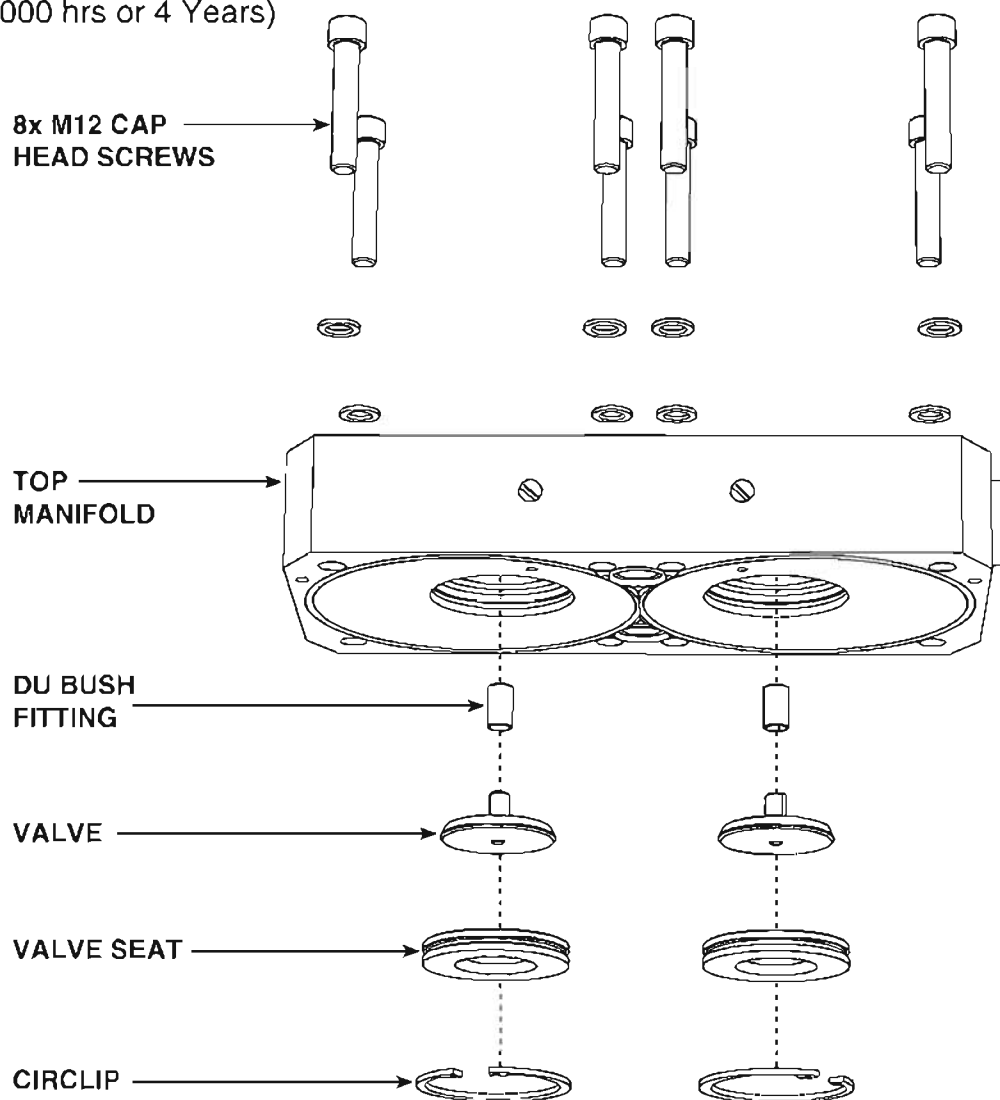


Figure 2.

## 6.0 Service “B ” Instructions:

### 6.5 Replacing Outlet Valves 233560 to 233563

(Every 24,000 hrs or 4 Years)



*Figure 1.*

*Please refer to figure 1*

1. Ensure the dryer is shutdown and fully depressurized before attempting any maintenance work.  
(See page 8)
2. Remove the 4x M5 screws to remove the dryer top cover.
3. Remove the 8x M12 cap head screws and 8x washers to remove the top manifold from the dryer column.
4. Using a pair of circlip pliers, remove each circlip.
5. Remove the valve seat using a pair of bearing pullers and then remove the valve.
6. Remove the DU bush and replace it from the service kit.
7. Replace the valve and valve seat from the service guide and re-insert the circlip.
8. Place the manifold back on top of the dryer column and insert the 8x M12 cap head screws and 8x washers and tighten at a torque setting of 80Nm.  
**NOTE:** Refer to the page 32 and follow the correct tightening sequence.
9. Replace the top cover and insert the 4x M5 screws to secure it in place.



## 7.0 Service “C ” Instructions:

### 7.1 Replacing or Re-Calibrating the Dew Point Sensor (ES Models only) 233551 to 233555

(Every 6,000 hrs or 12 months)

1. Ensure the dryer is shut down and fully depressurized before attempting any maintenance work. (See page 8)

2. Remove the 4x M5 screws to release the top cover and lift from assembly. (See Figure 1)

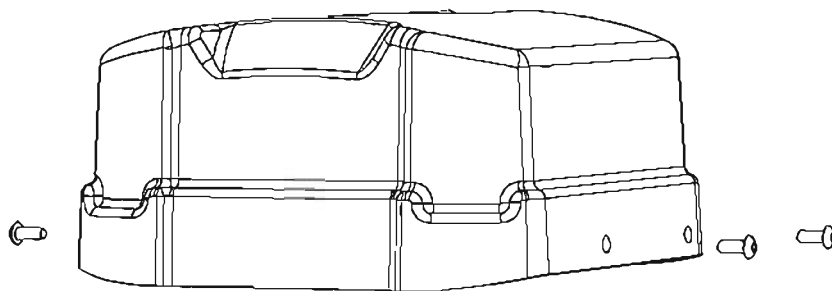
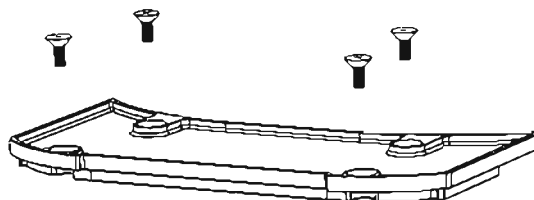


Figure 1.

3. Remove the controller top over by removing the 4x screws. (See Figure 2)



4. Remove the plug screw and detach the plug from the sensor (See Figure 3 & 4)

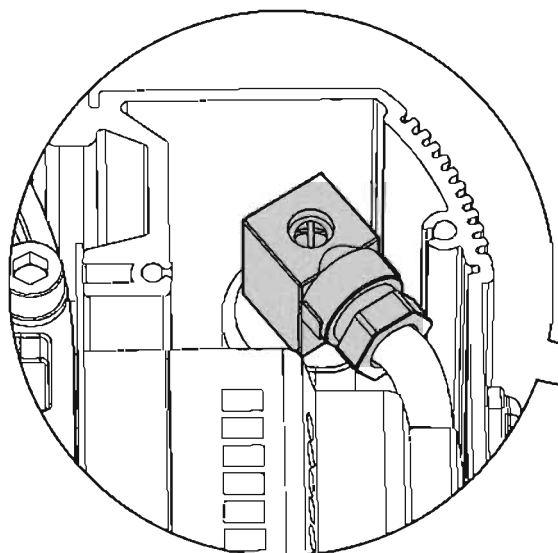
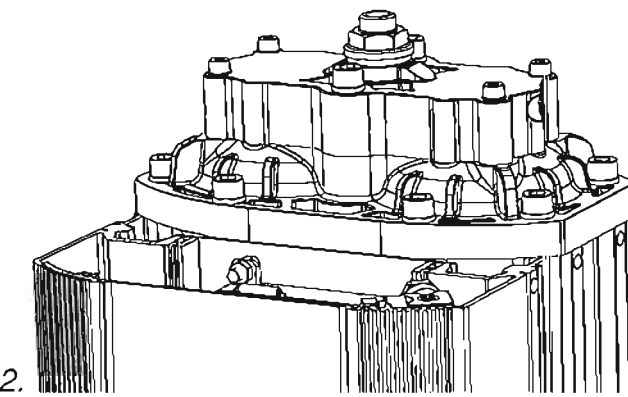


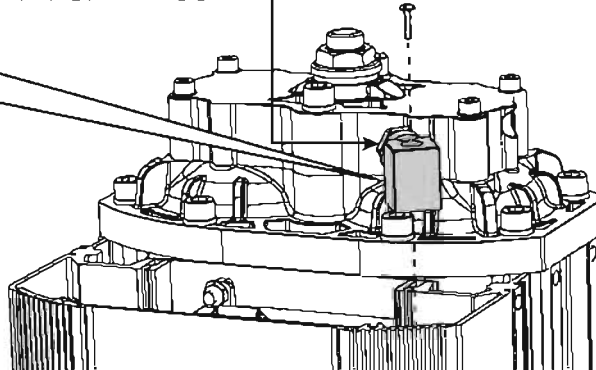
Figure 3.

Figure 2.



DEW POINT PLUG

Figure 4.



## 7.0 Service “C” Instructions:

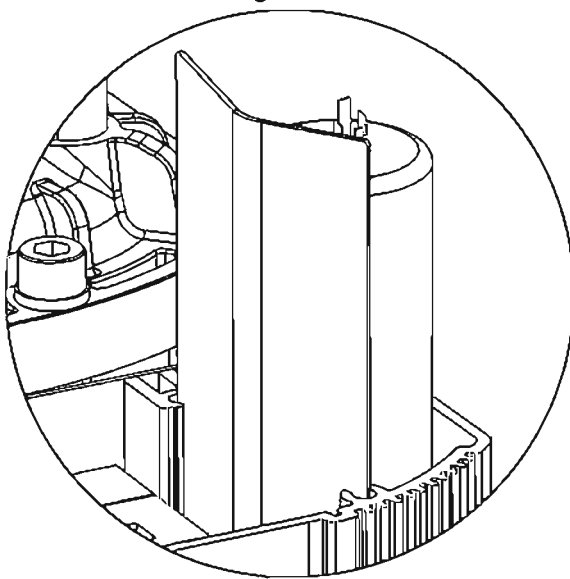
### 7.1 Replacing or Re-Calibrating the Dew Point Sensor (ES Models only) 233551 to 233555

(Every 6,000 hrs or 12 months)

4. Remove the dew point sensor assembly by sliding the sensor bracket upwards from the dryer shroud to expose the sensor block fixing screws. (See Figure 4 page 25 & Figure 5 this page).

5. Remove the 2x fixing screws from the assembly to detach the sensor from the bracket. (See Figure 5)

Figure 6.



6. Unscrew the dew point sensor from the sensor block and replace it with the new or re-calibrated sensor. (See Figure 7)

7. Re-attach the dew point sensor to the sensor bracket using the 2x fixing screws and replace the dew point sensor assembly by sliding the bracket back into the dryer shroud.

8. Replace the dew point sensor plug and plug screw.

9. Replace the controller cover.

10. Replace the dryer top cover.

When service C is complete reset the dryer, refer to page 29.

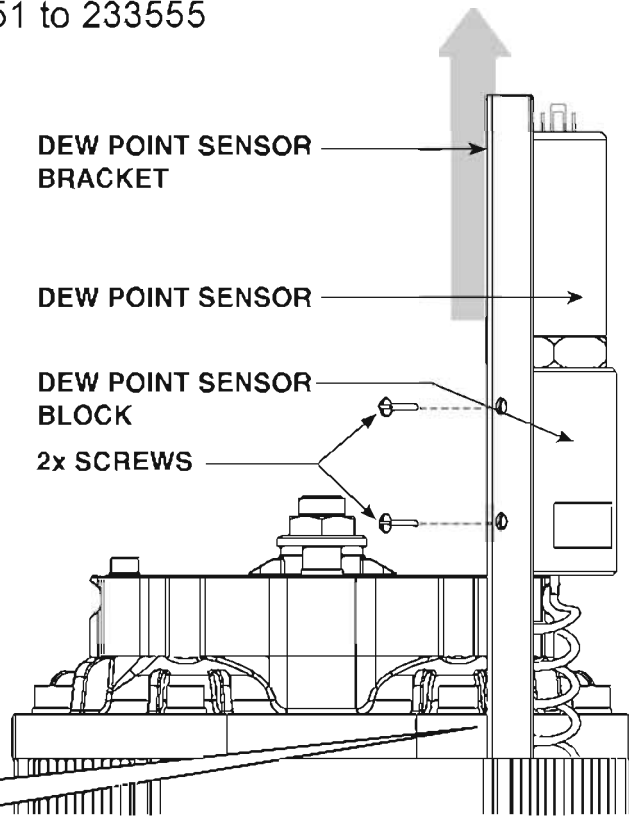


Figure 5.

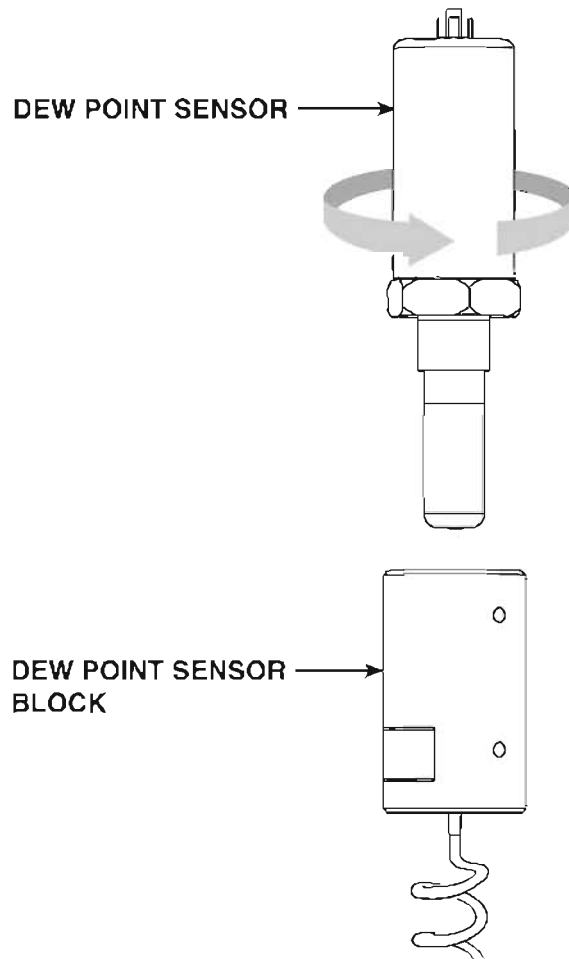


Figure 7.

## 7.0 Service “C ” Instructions:

### 7.2 Replacing or Re-Calibrating the Dew Point Sensor (ES Models only) 233556 to 233563

(Every 6,000 hrs or 12 months)

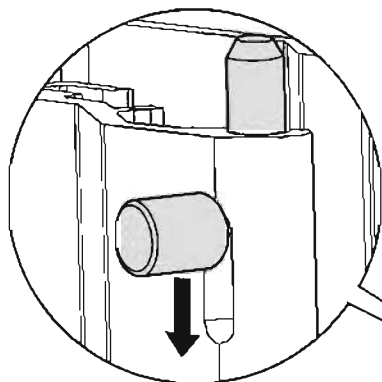


Figure 2.

M4  
SCREWS

CONTROLLER  
CHASSIS PLATE

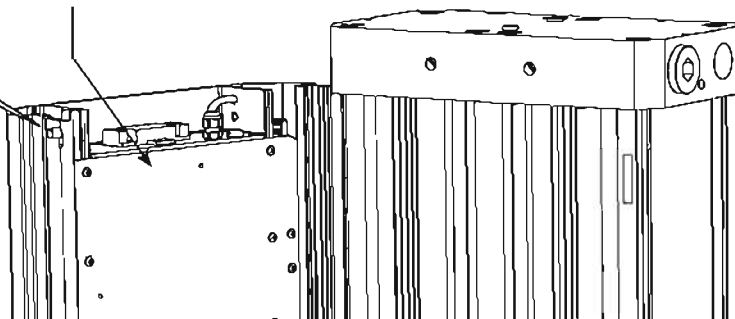


Figure 1.

1. Ensure the dryer is shutdown and fully depressurized before attempting any maintenance work. (See page 8).

2. Remove the 4x M5 screws to remove the top cover. (See Figure 1)

3. Release the catches located at the top and bottom of the shroud to open it. (See Figure's 1 & 2)

4. Remove the screw from the sensor plug and detach it from the dew point sensor assembly. (See Figure 3 & 4)

SENSOR  
PLUG  
SCREW

SENSOR  
PLUG

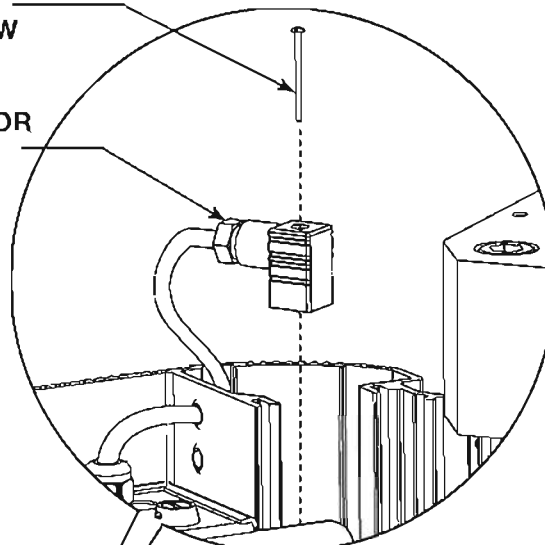


Figure 4.

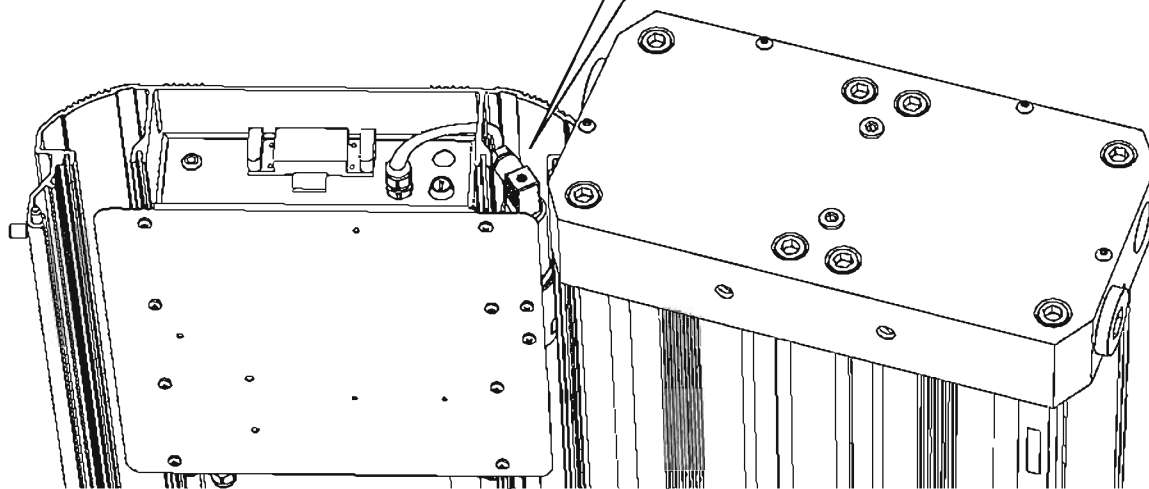


Figure 3.

## 7.0 Service "C" Instructions:

### 7.2 Replacing or Re-Calibrating the Dew Point Sensor (ES Models only) 233556 to 233563

(Every 6,000 hrs or 12 months)

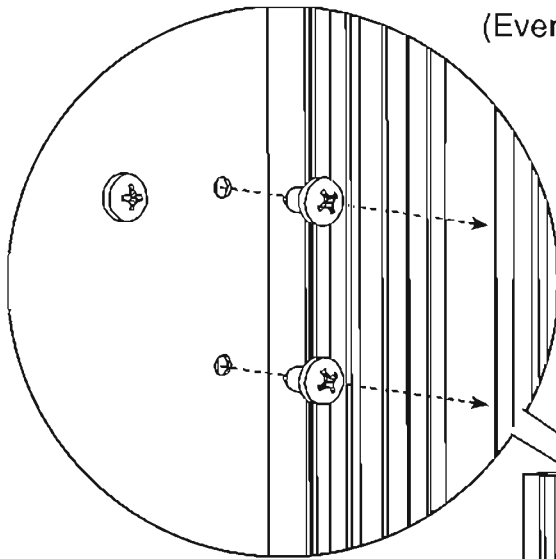


Figure 5.

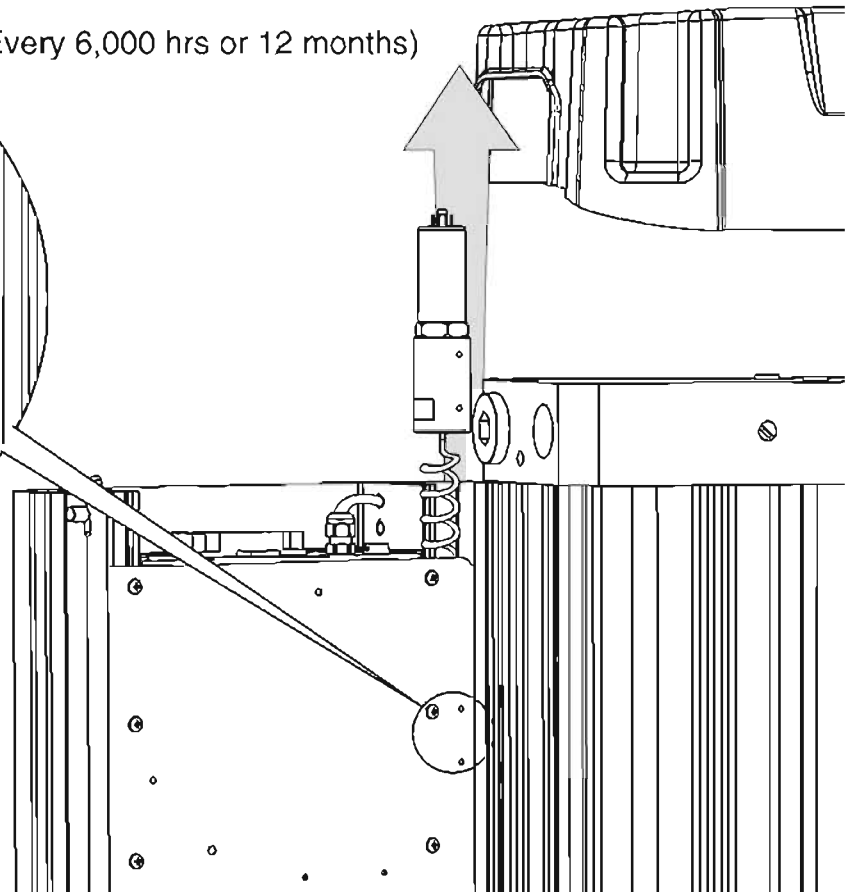
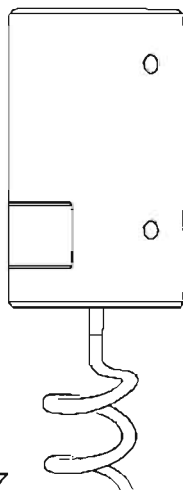
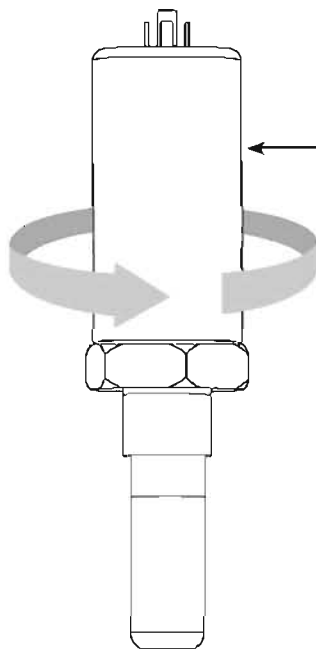


Figure 6.

5. Remove the 2x fixing screws from the controller chassis plate and release the dew point sensor assembly. (See Figure 5 & 6)
  6. Unscrew the dew point sensor from the sensor block and replace with the new or re-calibrated sensor. (See Figure 7)
  7. Reattach the new or re-calibrated dew point sensor and sensor block assembly to the controller chassis plate using the 2x fixing screws.
  8. Replace the sensor plug and screw to complete the sensor assembly. (See Figure 3 & 4 page 27)
  9. Close the shroud and ensure the latches are in position.
  10. Replace the top cover and insert the 4x M5 screws. These screws should be hand tightened only. (See Figure 1 page 27)
- When service C is complete reset the dryer, refer to page 30.



DEW POINT SENSOR

SENSOR BLOCK

Figure 7.

## 8.0 Resetting the Dryer Controller

### 8.1 Resetting the dryer controller 233551 to 233555 ES Model only

1. Ensure the dryer is on and running, see dryer start up procedure on page 33.

2. Remove the 4x M5 to release the top cover. (See Figure 1)

3. Place a magnet on the marked area in Figures 1 & 2 (re-set area) for 8 - 10 seconds until the controller resets. (See Figure's 1 & 2 )

4. Once re-set the hours run counter will show '00000'.

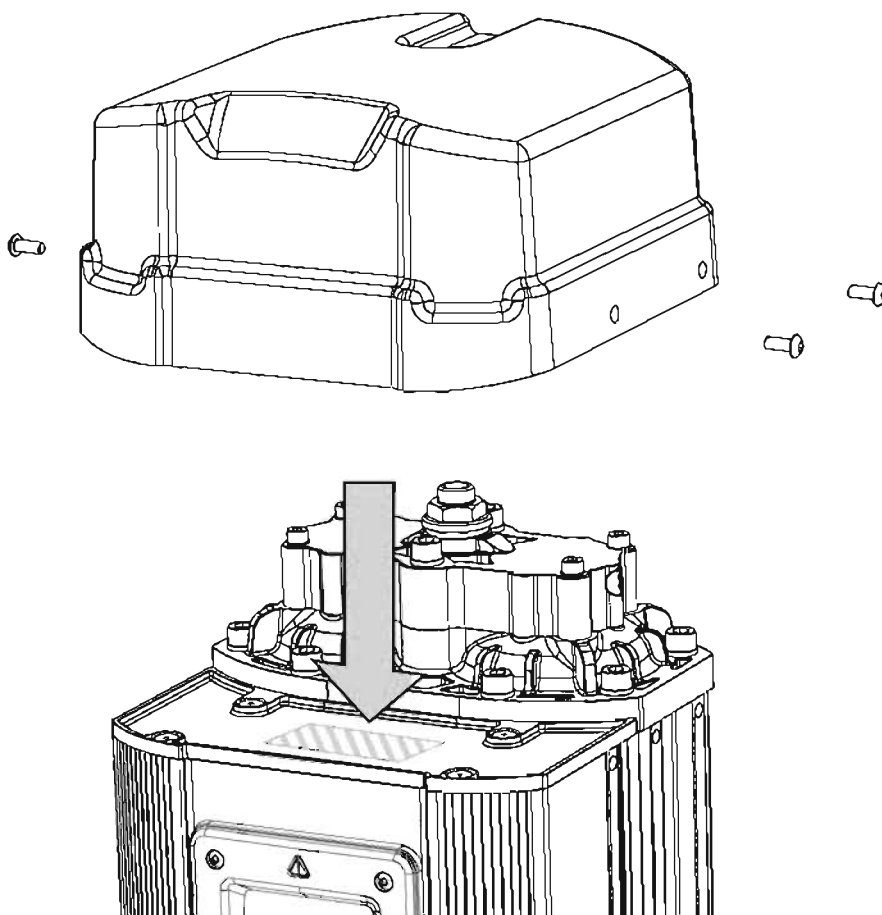


Figure 1.

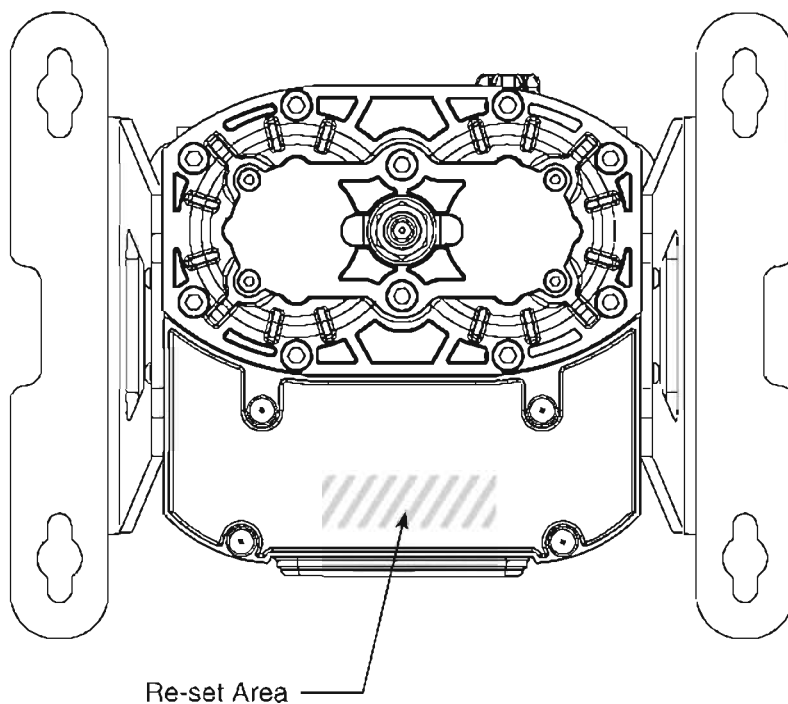
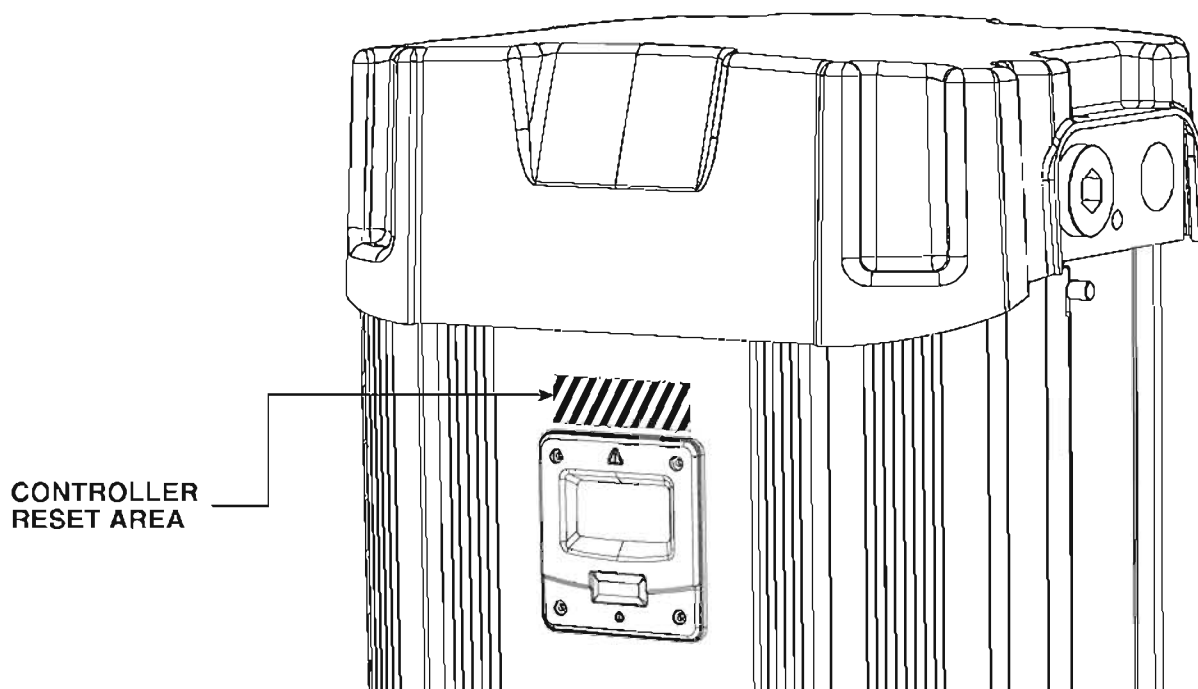


Figure 2. (Top view with cover off)

## 8.0 Resetting the Dryer Controller

### 8.2 Resetting the dryer controller 233556 to 233563

ES Model only



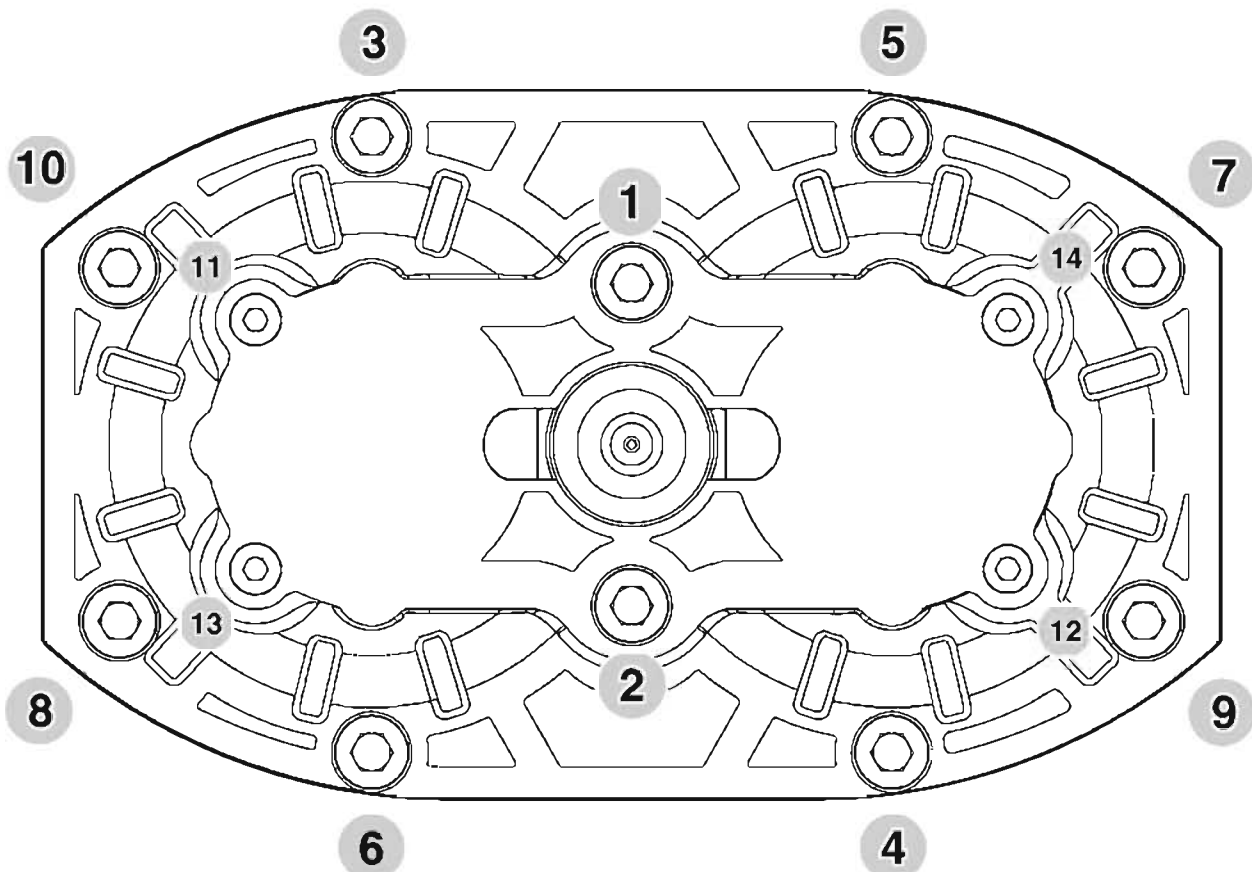
*Figure 1.*

1. Ensure the dryer is on and running, see dryer start up procedure on page 33.
2. Place a magnet over the controller reset area shown in Figure 1 for 8-10 seconds until the dryer re-sets. (See Figure 1)
3. Once re-set the hours run counter will show '00000'.

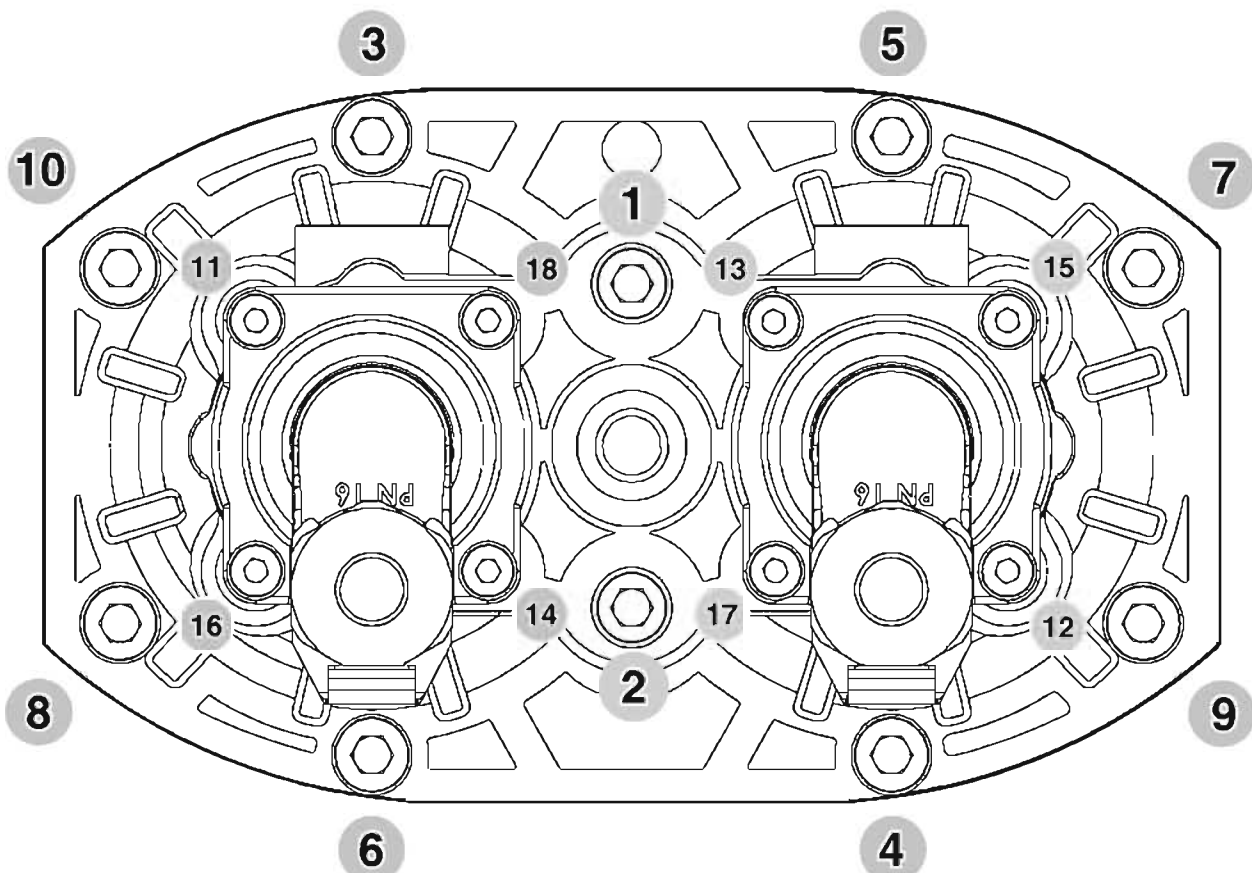
**NOTE:** Magnet not included in the service kit.

## 9.0 Manifold Tightening Sequences

### 9.1 Manifold Tightening Sequences 233551 to 233555



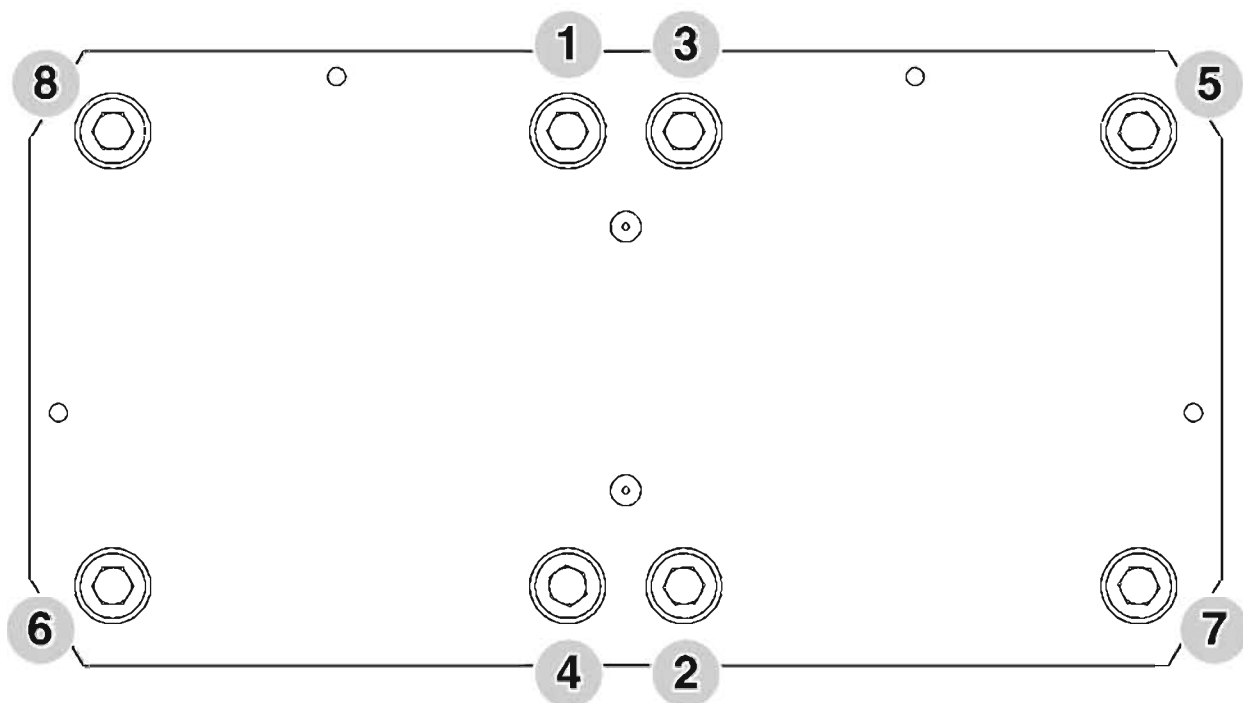
*Outlet (top) manifold*



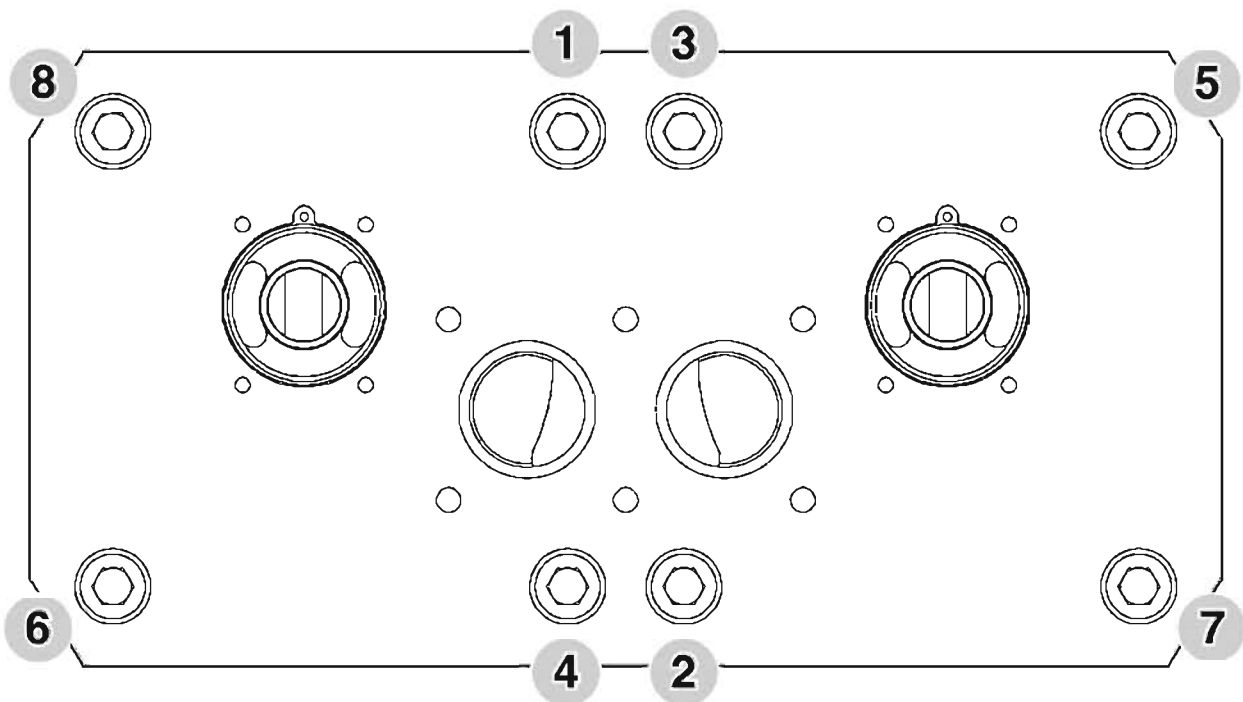
*Inlet (bottom) manifold*

## 9.0 Manifold Tightening Sequences

### 9.2 Manifold Tightening Sequences 233556 to 233563



*Top manifold*



*Bottom manifold*



# 10.0 Dryer Start-up Procedure

## 10.1 Dryer Start-up procedure



Do not allow the dryer to flow air unless powered up, switched on and cycling. Resulting effect could be cartridge contamination; requiring replacement cartridges.

- Connect all pipe work.
  - Ensure the inlet operating pressure parameters are between 4-16 barg.
  - Ensure the inlet air temperature is between 1.5°C-50°C.
- Connect the IEC power supply underneath the dryer using the retaining clip to secure in position.
- Open the inlet and outlet valves.
- Turn on the dryer using the switch located underneath the front of dryer body.

### ES Models only

- The dryer will display its status and commence normal operation. When the dryer is powered up the display will show "initializing dryer" for approximately 20 seconds, ensuring the dryer is in equilibrium state before commencing operation.

# 11.0 Other Dryer Checks and Non-serviceable items

## 11.1 Other dryer checks and non-serviceable items

### DAILY CHECKS

Visual and functional check of the dryer should be carried out daily:

- Check the dryer for any external damage.

Assess and eliminate any defects found.

- If the red service light appears, the dryer must be serviced.

Contact the service department and request a dryer service kit. (ES Models Only)

- Remove any loose dust or dirt from the dryer; clean all surfaces that appear to have attracted unwanted contaminants.
- Check the dewpoint sensor display (where applicable). If the dew point is not achieved, the dewpoint reading on the display will alternate with "dewpoint alarm" every 5 seconds. The no-volt alarm will also activate. (ES Models Only)

**Contact the service department and request a product service.**

### MAINTENANCE GUIDELINES

- Maintenance operations only to be conducted when the system has been shut down and fully depressurized
- All connections must be undone with care, paying particular attention to the areas that become pressurized
- Do not modify or adjust the control settings.
- Only certified OMC approved replacement parts to be used.
- Always check all connections for leakage and secure seating.
- Ensure all loose parts are removed or secured to the dryer before operation.

# 12.0 Troubleshooting

## 12.1 Troubleshooting

Problem	Problem Caused	Solution
<b>Poor dew point performance</b>	1. Insufficient inlet pressure 2. Electrical Fault 3. Moist or contaminated desiccant 4. Too high air consumption 5. Excessive inlet air temperature 6. Insufficient purge air 7. Exhaust silencer blocked	1. Inlet pressure min 4 barg. If not adjust inlet pressure settings. 2. Ensure the power is on and the dryer front panel is illuminated; check the dryer is cycling correctly. 3. Eliminate the cause of contamination. Replace cartridges – do not re-use. 4. Ensure the performance of the dryer matches the required system air consumption. 5. Check against technical specification. 6. Purge incorrectly adjusted. Consult service personnel to adjust settings (Factory pre-set). 7. Consult service personnel.
<b>Failure of dryer to cycle</b>	8. Controller not functioning correctly ES Only 9. Controller not illuminated ES Only 10. Insufficient inlet pressure 11. Failure to de-pressurize when cycling 12. Outlet flow stops	8. Ensure the controller is powered; check the on screen column status to ensure it is powering the solenoid valves during normal cyclic operation. 9. Check power to unit & fuse: T2A 250V (located at Fig 8.A). 10. Inlet pressure = min 4 barg. If not adjust inlet pressure settings. 11. Solenoid valve not functioning correctly; if there is power to the coil, replace valve. A correctly working valve outputs an audible click when it energises. 12. Check inlet air supply.
<b>Constant depressurisation</b>	13. Failure to initialize dryer 14. Erratic air flow from exhaust	13. Switch off and restart dryer. Ensure dryer is pressurized before powering dryer to allow dryer to initialize before commencing operation. 14. Faulty or damaged valve; service required.

## REFERENCE TO KNOWN ISSUE

### Opening the inlet valve too quickly

Valve should be opened slowly allowing the pressure to build up gradually.

### Inlet/outlet head pipe

Diameter too small.

Pipe work unsupported.

Inlet pipe work from low point in system, allowing bulk water to collect and enter the dryer.

### Electrical Controller (ES Model Only)

Incorrect fuse fitted or fuse blown. Check the plug and fuse located on top of the controller back plate inside the dryer front cover.

### Additional Items

Use of non-authorized components.

Untrained / unauthorized maintenance / installation personnel used.

Increase in air consumption without relation to the flow capacity of the dryer.

Purging the dryer with cleaning agents that could damage the components or the desiccant.

Covers removed or loose during operation.

Failure to carry out a service when indicated by the dryer.

Do not allow the dryer to flow air unless powered up, switched on and cycling. Resulting effect could be cartridge contamination; requiring replacement cartridges.

# 13.0 Service Record and Notes

## 13.1 Service record and notes

The following table allows the customer to document the service history of the product and to make notes related to each service.

DRYER SERVICE RECORD			
PRODUCT CODE:		PRODUCT SERIAL NO.	
.....		.....	
SERVICE TYPE A / B / C	DATE	SERVICED BY (PRINT/SIGN)	NOTES

[illegible]



**Ohio Medical Corporation®**  
1111 Lakeside Drive  
Gurnee, IL 60031-4099

1-800-448-0770

[www.ohiomedical.com](http://www.ohiomedical.com)

[servicedept@ohiomedical.com](mailto:servicedept@ohiomedical.com)

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