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Service Note

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M400 IZS O-RING RETROFIT

I. Scope:

This procedure will instruct the user on performing the IZS O-ring retrofit. This ring will provide increased long-term stability to M400 IZS towers.

II. Background:

A potential problem has been discovered in the M400 IZS tower. It involves the feedback detector being able to vibrate away from the aperture. When this happens, the analyzer will experience drifts and sudden shifts of the O3 value during CALS (internal generation of O3 for IZS). This can best be detected by lifting the front of the analyzer an inch or so and allowing it to drop, (or by shaking the analyzer), while it is generating O3. If a shift in the output of the O3 generator of more than 1% occurs, you should follow this procedure to cure the problem.

III. Tools:

A. Adjustable wrench or 9/16" and 7/16" wrenches.
B. #2 Phillips head screwdriver.
C. O-ring, API PN# OR12

IV. Procedure:

A. Remove power to analyzer.
B. Remove all pneumatic fittings from the IZS tower.
C. Unplug IZS lamp from lamp supply.
D. Unplug IZS detector from Motherboard, being sure to remove any tie wraps holding the detector wire into the chassis.
E. Remove 4 tower mounting screws from underside of chassis.
F. Remove tower from chassis.
G. Remove Detector cover from tower.
H. Lay tower with Detector PCB facing up.
I. Remove 2 screws holding Detector PCB to standoffs.
J. Carefully remove 2 screws from Detector hold-down ring.
K. Carefully pull Detector and PCB off the tower.
L. Verify that aperture is laying flat inside the hole.

M. Push O-ring into hold, ensuring that it seats as far into the hole as possible. O-ring may not lay completely flat. Push it as flat as possible against the aperture.

N. Push the O-ring on the detector towards the wires at the back of the detector.

O. Insert the Detecor into the hole until it seats against the O-ring. Carefully push the O-ring up the detector until it seats against the tower.

P. Seat the Hold-down ring against the detector O-ring and install the screws.

Q. Installation is the reverse of removal.

R. After installation, allow the analyzer one hour to warm up. Calibrate the analyzer on span gas and zero air.

S. Press CALS on the front panel. Allow the analyzer to stabilize for 30 minutes. If the displayed concentration is within 5% of the expected concentration, you are finished. If not, you will have to perform the remaining steps.

T. Press SETUP-MISC-O3-GEN-ADJ. (For AMX, press SETUP-MORE-O3-ADJ).

U. Press TEST until you see IZSREF=, (for AMX, it is O3GEN=). Wait 5 minutes. Adjust the detector tower until the voltage displayed is 2500 +-100 mV. Adjustment is made by turning the Potentiometer, R7, located on the detector pre-amp card on the tower. Adjustment of the IZS lamp, (by physically turning the lamp), may be necessary. Press EXIT to return to the Sample Menu.

V. Press SETUP-MISC-O3-GEN-CAL. (For AMX, press SETUP-MORE-DIAG-ENTR. Press NEXT 3 times. This should be O3 CAL. Press ENTR). The analyzer will enter into an O3 gen calibration. This takes about 1 hour.

W. After the analyzer has finished with its O3 gen calibration, program an IZS sequence to run zero air for 10 minutes, followed by HI span for 30 minutes.

Allow this sequence to run 5 cycles.

If you have any questions or difficulty please contact API Customer Service by phone or fax.