



MGC Diagnostics Corporation
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MGC DIAGNOSTICS*

Account Name: UOF KANSAS MED CENTER Date Of PM 04-06-2021
 Customer PO Number: _____ Case Number: 00196458
 Hospital Asset Number: _____ Serial Number: 242000485
 System Age: 1yr. Install Date: 2/3/2020 System Part Number: 830007-902

Platinum RTD Elite Series™ Preventive Maintenance

Check the box for the appropriate system.

- Platinum Elite RDL Platinum Elite RDX
 PM kit/parts received from: SOTK PM kit LN _____

Note: Only MGC Diagnostics Corporation certified trained personnel are to attempt this procedure

Tools / Supplies Required

Allen wrenches Standard Screwdriver Manometer (KPa, CM H2O)
 Silicon Lubricant (104185-001) Phillips Screwdriver Vacuum Flow Meter (ml/min)
 Needle-nose pliers

PRE – PREVENTIVE MAINTENANCE

- Calibrate the system to determine current working status.
 Pre-measure vacuum flow rate for reference 465 ml/m

CONTROL MODULE / ENGINE

- Locate the in-line filter (535289-012) near the vacuum pump exhaust port and replace.
 Check O2 cell status, replace if necessary. Replaced Y/N? _____ Cell Date Code _____ LN _____
 Locate the in-line (yellow/tan) restrictor near the O2 cell, note the orientation of this restrictor and replace it if needed.
 Check all internal/external tubing fittings and electrical connections.
 Address any issues with the emitter determined earlier with the full calibration.
 Inspect/check the vacuum fittings for the vacuum circuit

GENERAL: (Box)

- General - Verify lower door-lock switch is in correct position, adjust if necessary. (Phillips)
 General - Check both the door and power indicator lights for proper operation
 General - Inspect door seal for drying or cracking, lubricate if needed. (104185-001)
 General - Remove debris from floor mat and behind the footrest.
 Verify internal door seal inflation regulator pressure is set to 20 psi +/- 2 psi.
 General - Clean the box cal-pump cylinder and re-lubricate. (104185-001)
 General - Perform a box chamber leak test. (Reference service manual 142187-001 or 142212-001 for instructions)



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PARTITION PANEL AREA

- Check all electrical connections and pneumatic connections for proper fastening.
- Measure, verify and record the reference pressure from the deadweight assembly.
Measured value: 19.6 (manometer)
- Replace the in-line filter on the cal gas line near the cal/ref PCB (535289-011) (needle nose pliers)
- For systems using the old style MUX regulators, verify the MUX valve outputs, ensuring they are within the appropriate range.
- Set box gain to 58 +/- 3% (Reference service manual 142187-001 for instruction) (standard)

GENERAL:

Arm /column assemblies

- 1. Remove U-Covers and verify/secure arm and head pivot bolts (9) and adjust for smooth and stable operation.
(Allen wrenches)
- 2. Secure and inspect all tubing connections at arm mount/bulkhead reinstall all covers.

Head Assembly

- 1. Remove head covers to ensure the demand valve/right angle assembly is secure and tight. (Phillips)
- 2. Check solenoid ring for tightness, check tubing in head for proper seating, check grounding straps for tightness.
Inspect tubing routings. Check EMI ground straps for tightness.
- General - If needed replace umbilical with 701066-XXX GC or 701080-¹⁰²XXX RTD. (Phillips) LN 50098951
- General - If needed replace the rubber coupler on the 3 liter syringe. Replace with (536003-001).
- General - Verify the functionality of the intercom system.
- General - Gas circuit leak check. Ensure regulators maintain pressure for 3 minutes +/- 300psi.

SAMPLE CIRCUIT

- Vacuum flow reading, verify the vacuum gauge reading and measure the vacuum flow rate using a flow meter.
Current vacuum gauge reading: 13 in Hg measured vacuum flow reading: 475 ml/min

DIFFUSION

- Run RTD AutoCal and verify the resulting values meet MGCD specifications. Check MUX valve output if needed.

NITROGEN WASHOUT: (for RDX systems only)

N/A (RDL)

- Calibrate the O₂ analyzer to verify gain and phase delay are within specifications.

SOFTWARE/HARDWARE: (all systems)

- Current version: B.6.0.65 Service Pack 1

POST - PREVENTIVE MAINTENANCE

- Calibrate the system.

SYRINGE QC / VERIFICATION: (all systems)

- Perform spirometry QC. See Quality Control procedure (140255-001).



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DIFFUSION VERIFICATION

N/A (D)

- Run DLCO Auto cal and verify results
- Perform a DLCO QC. See Quality Control procedure (140255-001).

N2 (RDX Only)

N/A (RDL)

- Perform a nitrogen washout QC. See Quality Control procedure (140255-001).

PLETH (All systems)

- Perform a TGV / RAW bio control test to verify pleth values are within your normal limits.
- Perform Isothermal bottle verification (if available). N/A

RESULTS

- Gather a copy of the "QC Report" and include it with this PM check list, attach these to Salesforce.
- Make arrangements to get the customer a copy of this form and service report.
- Fill out the preventive maintenance label and place label on the left rear access panel.
- Update the "last PM date" within Salesforce with the corresponding date.

Comments: _____

Field Rep: Bob Taylor Date: 04-06-2021

Calibration Log - University of Kansas Medical Center

Workstation: DESKTOP-HRD532T Elite Platinum RDL - 002

4/6/2021 12:43:04 PM

	Value	Min	Max
Environment 4/6/2021 12:43:03 PM			
Room Temperature (C)	25.2	15.0	35.0
Barometric Pressure (mmHg)	729.5	500.0	800.0
Relative Humidity (%)	41.0	0.0	100.0

Pneumotach 4/6/2021 12:43:03 PM

Syringe Volume (L)	3.00		
Expiratory			
Gain (L/Sec/V)	1.802	0.300	2.200
Mean Volume (L)	3.027	2.940	3.060
Volume Range (L)	0.062	-0.090	0.090
Error (%)	0.900	-2.010	2.010
Inspiratory			
Gain (L/Sec/V)	1.806	0.300	2.200
Mean Volume (L)	2.984	2.940	3.060
Volume Range (L)	0.047	-0.090	0.090
Error (%)	-0.527	-2.010	2.010

DLCO Analyzers 4/6/2021 12:43:03 PM

CO			
Reference Gas (%)	0.000		
Calibration Gas (%)	0.300		
Phase Delay (Sec)	0.780	0.500	1.100
10-90% Response (Sec)	0.085	0.050	0.200
Gain (%/V)	1.027	0.400	1.600
Offset (V)	0.007	-0.500	0.500

CH4

Reference Gas (%)	0.000		
Calibration Gas (%)	0.300		
Phase Delay (Sec)	0.785	0.500	1.100
10-90% Response (Sec)	0.090	0.050	0.200
Gain (%/V)	1.224	0.500	2.000
Offset (V)	0.004	-0.500	0.500

CO2

Reference Gas (%)	0.00		
Calibration Gas (%)	5.00		
Phase Delay (Sec)	0.725	0.500	1.100
10-90% Response (Sec)	0.065	0.050	0.350
Gain (%/V)	17.24	5.00	35.00
Offset (V)	-0.011	-0.100	0.500

Box Pressure 4/6/2021 12:43:03 PM

Box Volume (L)	716.00		
Cal Pump Volume (ml)	50.00		
Frequency (Hz)	1.30	1.20	1.50
Gain (ml/V)	55.99	45.00	70.00
Offset (V)	0.076	-0.500	0.500

Name: QC, Syringe	ID: 1234	BSA:	Date: 04/06/2021
Tech: Boccardi, Luigi	Height:	Age: 36	
Doctor:	Weight: 205.00	Sex: Male	Race: Caucasian

Quality Control
Actual

---- SPIROMETRY ----

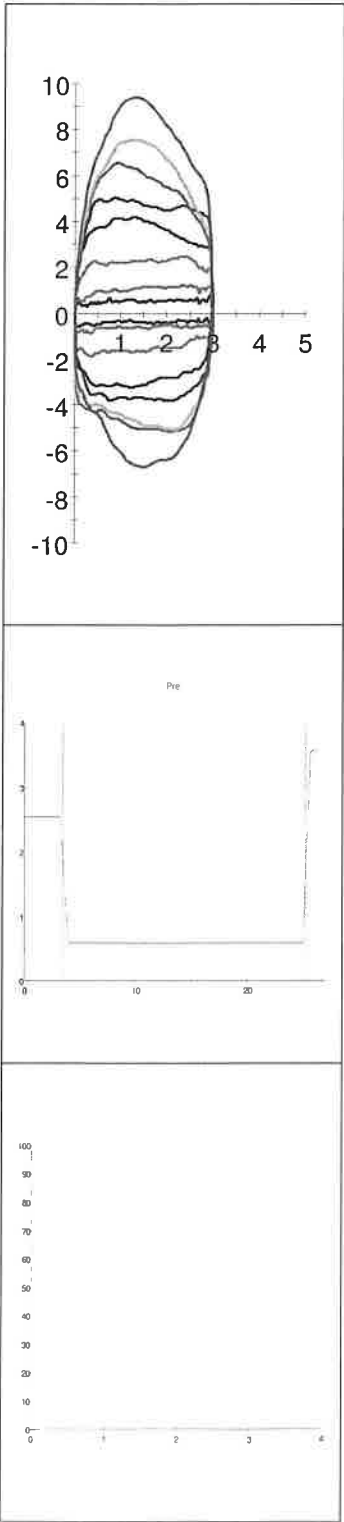
FVC (L) 3.02

---- DIFFUSION ----

IVC (L) 1.96

VA (L) 2.99

DLCOunc (ml/min/mmH) -0.28



RESEARCH PURPOSE ONLY

University of Kansas Medical Center
 3901 Rainbow Blvd
 Kansas City, KS 66160

Name: Taylor, Bob	ID: 7152	BSA: 2.07	Date: 04/06/2021
Tech: Boccardi, Luigi	Height: 69.00	Age: 62	
Doctor:	Weight: 200.00	Sex: Male	Race: Caucasian

Diagnosis:

Dyspnea: Cough: Wheeze:
 TbcO Prod: Yrs Smk: Pks/Day: Yrs Quit:

Medications:

Pre Test Comments:

Post Test Comments:

	Pre-Bronch			Post-Bronch		
	<u>Actual</u>	<u>Pred</u>	<u>%Pred</u>	<u>Actual</u>	<u>%Pred</u>	<u>%Chng</u>
---- SPIROMETRY ----						
FVC (L)	2.81	4.41	63			
FEV1 (L)	2.30	3.40	67			
FEV1/FVC (%)	81.79	77.35	105			
FEF 25% (L/sec)	6.39	7.42	86			
FEF 75% (L/sec)	0.94	0.83	112			
FEF 25-75% (L/sec)	2.18	2.81	77			
FEF Max (L/sec)	7.25	8.85	81			
FIVC (L)	2.78					
FIF Max (L/sec)	3.71					
---- LUNG VOLUMES ----						
SVC (L)	3.09	4.41	69			
IC (L)	2.75	3.00	91			
ERV (L)	0.34	1.50	22			
TGV (L)	2.00	3.54	56			
RV (Pleth) (L)	1.66	2.23	74			
TLC (Pleth) (L)	4.75	6.80	69			
RV/TLC (Pleth) (%)	35.00	33.22	105			
Trapped Gas (L)						
---- DIFFUSION ----						
DLCOUNC (ml/min/mmHg)	23.73	26.45	89			
DLCOCOR (ml/min/mmHg)		26.45				
DL/VA (ml/min/mmHg/L)	5.07	4.21	120			
VA (L)	4.68	6.28	74			
---- AIRWAYS RESISTANCE ---						
Raw (cmH2O/L/s)	1.90	1.45	131			
Gaw (L/s/cmH2O)	0.53	1.03	51			
sRaw (cmH2O*s)	5.10	< 4.76				
sGaw (1/cmH2O*s)	0.20	0.20	97			