

CA-1500 Preventative Maintenance Procedure

Date:		Engineer:		SN:		Site:	
PRELIMINARY ACTIONS							
Discuss with Customer for any known Instrument problems				Details:			
Carry out any outstanding software upgrades, ECR's or TB's if supplied with PMI kit.				Details:			
Verify analyser is functioning correctly by checking QC charts				Details:			
1. MAIN UNIT HYDRAULICS				✓	4. SAMPLER UNIT		✓
Clean waste chambers					Clean and lubricate sampler mechanism		
Replace Pharmed tubing from piercer rinse through PV to waste					Check and clean all sampler sensors		
Replace Silicon tubing from waste chamber through pinch valve					5. PNEUMATIC UNIT		✓
Check Teflon seal on volumetric units (Engineer stock) (see Note 1)					Replace piston rings from stock if required (see Note 3 overleaf)		
Replace hydraulic connector No. 19 at bottom of waste trap					Check Condition of tubing & replace if necessary		
Replace tubing from T-piece to MV9					Check raw vacuum >650 mmHg with Druck		
Replace MV2 & MV5					6. MAIN UNIT PNEUMATIC		✓
Clean sample & reagent probes hydraulic lines & check for leaks					2.2 Kg/cm ² Pressure. Check & adjust if necessary		
Clean sample & reagent probe rinse spit					1.0 Kg/cm ² Pressure. Check & adjust if necessary		
Replace external waste tubing					Clean vacuum trap chamber		
Check & clean distilled water keg if necessary					400 mmHg vacuum. Clean bellows needle & adjust		
2. MAIN UNIT MECHANICAL				✓	Confirm Pressures/Vacuum using Druck meter		
Confirm switch No. 103 is fitted correctly (see Note 2 overleaf)					7. MAIN UNIT CHECKS & ADJUSTMENTS		✓
Clean detector & cooler unit & incubation wells					Check & adjust all mechanical positions		
Clean sample & reagent probe externally					Check & adjust detector wells temp (37C ±2) #1 C ° _____ #2 C ° _____		
Clean & lubricate sample probe mechanism					Check & adjust cooler temperature (15C ±2) C ° _____		
Clean & lubricate reagent probe mechanism					Check & adjust reagent probe temperature (see Note 8) D/A= _____		
Clean & lubricate catcher unit mechanism					Check & adjust clotting detectors (see Note 6 overleaf)		
					Perform Program Version Check Ver. _____		
3. MAIN UNIT GENERAL				✓	Perform touch screen, ID read, printer & host test (see Note 4)		
Check tubing for damage or leaks. Replace if necessary					Test UPS operation (see Note 7 overleaf)		
Clean ventilation fans					8. QUALITY CONTROL		✓
Clean inside of main unit by use of vacuum cleaner					Perform reproducibility check on PT, APTT & Fbg. (see Note 5)		
Remove all safety sensor bypass devices					Run QC samples and verify results are within specification		
					Return Analyser back to the Customer and run patient samples		
PARTS USED							
Part Number	Description					Quantity	
If PMI has not been completed or a follow on call is required please enter the details below							
Sign off details							
Customer Name: _____		Customer Signature: _____		Engineer Signature: _____			

Return original to Sysmex UK service administration and leave copy with customer

For reference purposes only

Required Parts List		
Part No.	Description	Quantity
442-5055-4	Tube Polyurethane 1.8 x 3.4	50 cm
443-9670-5	Air Valve WTKV-015-2FKM	2
443-9675-3	Valve Seal 2 Port WTKV019-17 (PEI)	2
226-3227-4	Lamp Halogen JCR/M (6V10W) H20-3L	1
442-5287-4	Tube Silicone 1/4 x 1/8 F7398	30cm
442-6486-5	Tube Pharmed BPT 1/8 x 1/4	20 cm
442-5338-7	Tube Polyurethane 4 x 6	500 cm
442-3429-1	Hydraulic Connector No.19	1
Reference Notes		
Note 1	Check cycle counter. If it is around 300 000. Replace TEFLON seal AR401-P5-XV. 346-8220-1 (car stock)	
Note 2	Confirm switch no. 103 is fitted INSIDE switch mounting plate no. 175. If fitted below, then refit switch correctly	
Note 3	Piston rings should be replaced every 24 months. Record date of change on label or PU inside covers. Replace vacuum piston rings every 12 months if vacuum modification kit has not been fitted.	
Note 4	Check with customer for any known problem on these listed items. If so, then take action	
Note 5	Run at least 10 replications. Verify results are within specification listed in the operator's manual.	
Note 6	<p>Carry out the offset/gain calibration. Confirm the status of LED light output by checking the D/A values. Any LED registering a D/A value around or less than 50 should be changed immediately. If a value of 75 or less is achieved then change LED at the next PMI.</p> <p>Transmitted light detectors, check that target value of 4000 can be attained using 200ul of fluid in cuvette. Min. D/A values are the same as for the clotting detectors. If the DA value is low even with a new lamp fitted you might need to clean the Chromogenic filters. In dusty environments this might need doing once every 2 years.</p> <p>LED Calibration only: Verify results by running QC tests on all clotting assays. Recalibrate as necessary</p> <p>LED replacement and/or cleaning of Chromogenic filters Re-run a standard curve for all calibrates assays and QC the instrument.</p> <p>Lamp replacement: Verify results by running QC on assays which use transmitted light detectors. Recalibrate as necessary</p>	
Note 7	<p>The unit has a "test" button which will switch to battery power for a short time. When the test button is pressed and the unit is on battery the battery charge indicator then becomes an indicator of battery capacity, reducing the number of LED's that are lit as the batteries run time is reduced. Two points to note:</p> <p>A) When the test button is pressed and the batteries fail the unit returns to mains with no loss of output.</p> <p>B) The battery test will not work if the battery is very low. (This means pressing the test button is a safe way to have a quick check of the batteries but does not give an indication of the effective run time of the battery.)</p> <p>Should the battery indicator be very low or the battery test fail or not start at all, please inform the service admin team a.s.a.p. for a replacement UPM to be sent out by POWERVAR.</p>	
Note 8	If the probe was replaced the DA value can be found on the reagent probe and should be entered/displayed accordingly. However, If the original probe (new analyser) is still fitted this is factory set as per batch release.	