



Project Number:		Tracking Code: TC0737--1443	
Requested by: Kevin Meredith		Date: 9/11/2007	Product Rev: 0
Part #: MPS-02-7.70-01-L-V-LC, MPT-02-01-L-RA-LC, MPT-02-6.30-01-L-V-LC		Lot #: NA	Tech: Tori Meek, Tony Wagoner
Part description: MPX			Qty to test: 45
Test Start: 09/11/2007	Test Completed: 11/20/2007		

**MATE/UNMATE TESTING**

**MPS-02-7.70-01-L-V-LC mated with MPT-02-01-01-L-RA-LC**  
**MPS-02-7.70-01-L-V-LC mated with MPT-02-6.30-01-L-V-LC**

**MPS-08-7.70-01-L-V-LC mated with MPT-08-01-01-L-RA-LC**  
**MPS-08-7.70-01-L-V-LC mated with MPT-08-6.30-01-L-V-LC**

## CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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### SCOPE

To perform the following tests: MATE/UNMATE TESTING

### APPLICABLE DOCUMENTS

Standards: EIA Publication 364

### TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) After soldering, the parts to be used for LLCR and DWV/IR testing were cleaned according to TLWI-0001.
- 4) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 5) The automated procedure is used with aqueous compatible soldering materials.
- 6) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
- 7) Any additional preparation will be noted in the individual test sequences.
- 8) Solder Information: Lead Free
- 9) These parts were wave soldered
- 10) Samtec Test PCBs used: PCB-100917-TST-XX

**FLOWCHARTS****Mating/Unmating (2 Position)**

	<b>MPT-02-6.30-01-L-V-LC MPS-02-7.70-01-L-V-LC</b>	<b>MPT-02-01-RA-V-LC MPS-02-7.70-01-L-V-LC</b>
<b>TEST STEP</b>	<b>GROUP A 10 Boards 100 Cycles</b>	<b>GROUP B 10 Boards 100 Cycles</b>
<b>01</b>	Contact Meas.	Contact Meas.
<b>02</b>	Mating / Unmating	Mating / Unmating
<b>03</b>	Data Review	Data Review
<b>04</b>	100 Cycles	100 Cycles
<b>05</b>	Mating / Unmating	Mating / Unmating
<b>06</b>	Contact Meas.	Contact Meas.
<b>07</b>	Data Review	Data Review
<b>08</b>	Thermal Aging (Mated)	Thermal Aging (Mated)
<b>09</b>	Mating / Unmating	Mating / Unmating
<b>10</b>	Contact Meas.	Contact Meas.
<b>11</b>	Data Review	Data Review
<b>12</b>	Humidity (Mated)	Humidity (Mated)
<b>13</b>	Mating / Unmating	Mating / Unmating
<b>14</b>	Contact Meas.	Contact Meas.

**Thermal Aging = EIA-364-17, Test Condition 4, 105 deg C;**

**Time Condition 'B' (250 hours)**

**Humidity =EIA-364-31, Test Condition 'B' (240 Hours)**

**and Method III (+25 ° C to +65 ° C @ 90%RH to 98% RH)**

**ambient pre-condition and delete steps 7a and 7b**

**Mating/Un-Mating Forces = EIA-364-13**

**Contact Gaps/Height - No standard method. Usually measured optically**

**Mating/Unmating ( 8 Position)**

	<b>MPT-08-6.30-01-L-V-LC MPS-08-7.70-01-L-V-LC</b>	<b>MPT-08-01-RA-V-LC MPS-08-7.70-01-L-V-LC</b>
<b>TEST STEP</b>	<b>GROUP A 10 Boards 100 Cycles</b>	<b>GROUP B 10 Boards 100 Cycles</b>
<b>01</b>	Contact Meas.	Contact Meas.
<b>02</b>	Mating / Unmating	Mating / Unmating
<b>03</b>	Data Review	Data Review
<b>04</b>	100 Cycles	100 Cycles
<b>05</b>	Mating / Unmating	Mating / Unmating
<b>06</b>	Contact Meas.	Contact Meas.
<b>07</b>	Data Review	Data Review
<b>08</b>	Thermal Aging (Mated)	Thermal Aging (Mated)
<b>09</b>	Mating / Unmating	Mating / Unmating
<b>10</b>	Contact Meas.	Contact Meas.
<b>11</b>	Data Review	Data Review
<b>12</b>	Humidity (Mated)	Humidity (Mated)
<b>13</b>	Mating / Unmating	Mating / Unmating
<b>14</b>	Contact Meas.	Contact Meas.

**Thermal Aging = EIA-364-17, Test Condition 4, 105 deg C;**

**Time Condition 'B' (250 hours)**

**Humidity =EIA-364-31, Test Condition 'B' (240 Hours)**

**and Method III (+25 ° C to +65 ° C @ 90%RH to 98% RH)**

**ambient pre-condition and delete steps 7a and 7b**

**Mating/Un-Mating Forces = EIA-364-13**

**Contact Gaps/Height - No standard method. Usually measured optically**

## ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

### THERMAL:

- 1) EIA-364-17, *Temperature Life with or without Electrical Load Test Procedure for Electrical Connectors*.
- 2) Test Condition 4 at 105° C.
- 3) Test Time Condition B for 250 hours.
- 4) All test samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

### HUMIDITY:

- 1) Reference document: EIA-364-31, *Humidity Test Procedure for Electrical Connectors*.
- 2) Test Condition B, 240 Hours.
- 3) Method III, +25° C to + 65° C, 90% to 98% Relative Humidity excluding sub-cycles 7a and 7b.
- 4) All samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

### CONTACT GAP:

- 1) Gaps above the surrounding plastic surface were measured before and after stressing the contacts (e.g. thermal aging, mechanical cycling, etc.).
- 2) Typically, all contacts on the connector are measured.

### MATING/UNMATING:

- 1) Reference document: EIA-364-13, *Mating and Unmating Forces Test Procedure for Electrical Connectors*.
- 2) The full insertion position was to within 0.003" to 0.004" of the plug bottoming out in the receptacle to prevent damage to the system under test.
- 3) One of the mating parts is secured to a floating X-Y table to prevent damage during cycling.

**RESULTS****CONTACT GAPS: MPS****RA-V (2 position)**

- **Initial**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **After 100 Cycles**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **Thermal**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **Humidity**
  - **Min**----- 1.5 mm
  - **Max**----- 1.6 mm

**RA-V (8 position)**

- **Initial**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **After 100 Cycles**
  - **Min**----- 1.4 mm
  - **Max**----- 1.5 mm
- **Thermal**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **Humidity**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm

**V-V (2 position)**

- **Initial**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **After 100 Cycles**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **Thermal**
  - **Min**----- 1.5 mm
  - **Max**----- 1.6 mm
- **Humidity**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm

**V-V (8 position)**

- **Initial**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **After 100 Cycles**
  - **Min**----- 1.4 mm
  - **Max**----- 1.5 mm
- **Thermal**
  - **Min**----- 1.5 mm
  - **Max**----- 1.5 mm
- **Humidity**
  - **Min**----- 1.5 mm
  - **Max**----- 1.6 mm

**CONTACT GAPS: MPT****RA-V (2 position)**

- **Initial**
  - Min----- 1.7 mm
  - Max----- 1.9 mm
- **After 100 Cycles**
  - Min----- 1.7 mm
  - Max----- 1.9 mm
- **Thermal**
  - Min----- 1.6 mm
  - Max----- 1.7 mm
- **Humidity**
  - Min----- 1.7 mm
  - Max----- 1.7 mm

**RA-V (8 position)**

- **Initial**
  - Min----- 1.8 mm
  - Max----- 1.9 mm
- **After 100 Cycles**
  - Min----- 1.7 mm
  - Max----- 1.9 mm
- **Thermal**
  - Min----- 1.6 mm
  - Max----- 1.7 mm
- **Humidity**
  - Min----- 1.7 mm
  - Max----- 1.8 mm

**V-V (2 position)**

- **Initial**
  - Min----- 1.8 mm
  - Max----- 1.8 mm
- **After 100 Cycles**
  - Min----- 1.8 mm
  - Max----- 1.8 mm
- **Thermal**
  - Min----- 1.6 mm
  - Max----- 1.7 mm
- **Humidity**
  - Min----- 1.6 mm
  - Max----- 1.9 mm

**V-V (8 position)**

- **Initial**
  - Min----- 1.8 mm
  - Max----- 1.9 mm
- **After 100 Cycles**
  - Min----- 1.8 mm
  - Max----- 1.9 mm
- **Thermal**
  - Min----- 1.6 mm
  - Max----- 1.7 mm
- **Humidity**
  - Min----- 1.6 mm
  - Max----- 1.7 mm

**Mating – Unmating Forces, RA-V****(2 Position)**

- **Initial**
  - **Mating**
    - **Min ----- 1.0 Lbs.**
    - **Max----- 2.3 Lbs.**
  - **Unmating**
    - **Min ----- 0.9 Lbs.**
    - **Max----- 1.2 Lbs.**
- **After 5 Cycles**
  - **Mating**
    - **Min ----- 1.2 Lbs.**
    - **Max----- 2.5 Lbs.**
  - **Unmating**
    - **Min ----- 1.1 Lbs.**
    - **Max----- 1.7 Lbs.**
- **Thermal**
  - **Mating**
    - **Min ----- 0.7 Lbs.**
    - **Max----- 0.9 Lbs.**
  - **Unmating**
    - **Min ----- 0.5 Lbs.**
    - **Max----- 0.9 Lbs.**
- **Humidity**
  - **Mating**
    - **Min ----- 0.8 Lbs.**
    - **Max----- 1.0 Lbs.**
  - **Unmating**
    - **Min ----- 0.8 Lbs.**
    - **Max----- 1.1 Lbs.**

**(8 Position)**

- **Initial**
  - **Mating**
    - **Min** ----- 4.1 Lbs.
    - **Max** ----- 5.3 Lbs.
  - **Unmating**
    - **Min** ----- 3.8 Lbs.
    - **Max** ----- 4.5 Lbs.
- **After 100 Cycles**
  - **Mating**
    - **Min** ----- 4.4 Lbs.
    - **Max** ----- 5.4 Lbs.
  - **Unmating**
    - **Min** ----- 4.3 Lbs.
    - **Max** ----- 5.3 Lbs.
- **Thermal**
  - **Mating**
    - **Min** ----- 3.4 Lbs.
    - **Max** ----- 4.7 Lbs.
  - **Unmating**
    - **Min** ----- 3.4 Lbs.
    - **Max** ----- 4.3 Lbs.
- **Humidity**
  - **Mating**
    - **Min** ----- 3.4 Lbs.
    - **Max** ----- 4.3 Lbs.
  - **Unmating**
    - **Min** ----- 3.0 Lbs.
    - **Max** ----- 3.5 Lbs.

**Mating – Unmating Forces, V-V****(2 Position)**

- **Initial**
  - **Mating**
    - **Min ----- 0.8 Lbs.**
    - **Max----- 2.3 Lbs.**
  - **Unmating**
    - **Min ----- 0.8 Lbs.**
    - **Max----- 1.8 Lbs.**
- **After 5 Cycles**
  - **Mating**
    - **Min ----- 0.8 Lbs.**
    - **Max----- 1.3 Lbs.**
  - **Unmating**
    - **Min ----- 0.8 Lbs.**
    - **Max----- 1.3 Lbs.**
- **Thermal**
  - **Mating**
    - **Min ----- 0.5 Lbs.**
    - **Max----- 2.6 Lbs.**
  - **Unmating**
    - **Min ----- 0.3 Lbs.**
    - **Max----- 2.0 Lbs.**
- **Humidity**
  - **Mating**
    - **Min ----- 0.5 Lbs.**
    - **Max----- 0.8 Lbs.**
  - **Unmating**
    - **Min ----- 0.5 Lbs.**
    - **Max----- 0.8 Lbs.**

**(8 Position)**

- **Initial**
  - **Mating**
    - **Min** ----- 3.7 Lbs.
    - **Max** ----- 5.5 Lbs.
  - **Unmating**
    - **Min** ----- 3.6 Lbs.
    - **Max** ----- 4.7 Lbs.
- **After 5 Cycles**
  - **Mating**
    - **Min** ----- 3.9 Lbs.
    - **Max** ----- 7.4 Lbs.
  - **Unmating**
    - **Min** ----- 3.7 Lbs.
    - **Max** ----- 6.6 Lbs.
- **Thermal**
  - **Mating**
    - **Min** ----- 3.0 Lbs.
    - **Max** ----- 6.6 Lbs.
  - **Unmating**
    - **Min** ----- 2.8 Lbs.
    - **Max** ----- 4.1 Lbs.
- **Humidity**
  - **Mating**
    - **Min** ----- 2.5 Lbs.
    - **Max** ----- 3.0 Lbs.
  - **Unmating**
    - **Min** ----- 2.3 Lbs.
    - **Max** ----- 3.0 Lbs.

**DATA SUMMARIES****CONTACT GAPS: 2 POSITION****RA-V (MPS)**

Initial Measurements		Mating Measurements		Thermal Measurements		Humidity Measurements	
<i>Minimum</i>	1.5000	<i>Minimum</i>	1.4841	<i>Minimum</i>	1.5120	<i>Minimum</i>	1.5020
<i>Maximum</i>	1.5480	<i>Maximum</i>	1.5361	<i>Maximum</i>	1.5400	<i>Maximum</i>	1.5480
<i>Average</i>	1.5203	<i>Average</i>	1.5153	<i>Average</i>	1.5264	<i>Average</i>	1.5252
<i>St. Dev.</i>	0.0122	<i>St. Dev.</i>	1.5153	<i>St. Dev.</i>	1.5264	<i>St. Dev.</i>	1.5252
<i>Count</i>	20	<i>Count</i>	20	<i>Count</i>	20	<i>Count</i>	20

**RA-V (MPT)**

Initial Measurements		Mating Measurements		Thermal Measurements		Humidity Measurements	
<i>Minimum</i>	1.7320	<i>Minimum</i>	1.7121	<i>Minimum</i>	1.6020	<i>Minimum</i>	1.6620
<i>Maximum</i>	1.9320	<i>Maximum</i>	1.9061	<i>Maximum</i>	1.7200	<i>Maximum</i>	1.7360
<i>Average</i>	1.8548	<i>Average</i>	1.8251	<i>Average</i>	1.6708	<i>Average</i>	1.7098
<i>St. Dev.</i>	0.0497	<i>St. Dev.</i>	0.0408	<i>St. Dev.</i>	1.6708	<i>St. Dev.</i>	1.7098
<i>Count</i>	20	<i>Count</i>	20	<i>Count</i>	20	<i>Count</i>	20

**V-V (MPS)**

Initial Measurements		Mating Measurements		Thermal Measurements		Humidity Measurements	
<i>Minimum</i>	1.4880	<i>Minimum</i>	1.4801	<i>Minimum</i>	1.4860	<i>Minimum</i>	1.4920
<i>Maximum</i>	1.5360	<i>Maximum</i>	1.5401	<i>Maximum</i>	1.5560	<i>Maximum</i>	1.5420
<i>Average</i>	1.5213	<i>Average</i>	1.5164	<i>Average</i>	1.5313	<i>Average</i>	1.5183
<i>St. Dev.</i>	0.0121	<i>St. Dev.</i>	1.5164	<i>St. Dev.</i>	1.5313	<i>St. Dev.</i>	1.5183
<i>Count</i>	20	<i>Count</i>	20	<i>Count</i>	20	<i>Count</i>	20

**V-V (MPT)**

Initial Measurements		Mating Measurements		Thermal Measurements		Humidity Measurements	
<i>Minimum</i>	1.7660	<i>Minimum</i>	1.7561	<i>Minimum</i>	1.6180	<i>Minimum</i>	1.6220
<i>Maximum</i>	1.8360	<i>Maximum</i>	1.8141	<i>Maximum</i>	1.6800	<i>Maximum</i>	1.9000
<i>Average</i>	1.8040	<i>Average</i>	1.7847	<i>Average</i>	1.6511	<i>Average</i>	1.6721
<i>St. Dev.</i>	0.0168	<i>St. Dev.</i>	1.7847	<i>St. Dev.</i>	1.6511	<i>St. Dev.</i>	1.6721
<i>Count</i>	20	<i>Count</i>	20	<i>Count</i>	20	<i>Count</i>	20

**CONTACT GAPS: 8 POSITION****RA-V (MPS)**

Initial Measurements		Mating Measurements		Thermal Measurements		Humidity Measurements	
<i>Minimum</i>	1.4520	<i>Minimum</i>	1.4381	<i>Minimum</i>	1.4720	<i>Minimum</i>	1.4660
<i>Maximum</i>	1.5240	<i>Maximum</i>	1.5221	<i>Maximum</i>	1.5360	<i>Maximum</i>	1.5440
<i>Average</i>	1.4948	<i>Average</i>	1.4892	<i>Average</i>	1.5087	<i>Average</i>	1.5095
<i>St. Dev.</i>	0.0161	<i>St. Dev.</i>	1.4892	<i>St. Dev.</i>	1.5087	<i>St. Dev.</i>	1.5095
<i>Count</i>	40	<i>Count</i>	40	<i>Count</i>	40	<i>Count</i>	40

**RA-V (MPT)**

Initial Measurements		Mating Measurements		Thermal Measurements		Humidity Measurements	
<i>Minimum</i>	1.7480	<i>Minimum</i>	1.7441	<i>Minimum</i>	1.5960	<i>Minimum</i>	1.6540
<i>Maximum</i>	1.9180	<i>Maximum</i>	1.9201	<i>Maximum</i>	1.6920	<i>Maximum</i>	1.7480
<i>Average</i>	1.8485	<i>Average</i>	1.8621	<i>Average</i>	1.6596	<i>Average</i>	1.7010
<i>St. Dev.</i>	0.0438	<i>St. Dev.</i>	1.8621	<i>St. Dev.</i>	1.6596	<i>St. Dev.</i>	1.7010
<i>Count</i>	40	<i>Count</i>	40	<i>Count</i>	40	<i>Count</i>	40

**V-V (MPS)**

Initial Measurements		Mating Measurements		Thermal Measurements		Humidity Measurements	
<i>Minimum</i>	1.4480	<i>Minimum</i>	1.4440	<i>Minimum</i>	1.4580	<i>Minimum</i>	1.4480
<i>Maximum</i>	1.5300	<i>Maximum</i>	1.5360	<i>Maximum</i>	1.5360	<i>Maximum</i>	1.5800
<i>Average</i>	1.4851	<i>Average</i>	1.4868	<i>Average</i>	1.4985	<i>Average</i>	1.5028
<i>St. Dev.</i>	0.0185	<i>St. Dev.</i>	1.4868	<i>St. Dev.</i>	1.4985	<i>St. Dev.</i>	1.5028
<i>Count</i>	40	<i>Count</i>	40	<i>Count</i>	40	<i>Count</i>	40

**V-V (MPT)**

Initial Measurements		Mating Measurements		Thermal Measurements		Humidity Measurements	
<i>Minimum</i>	1.7760	<i>Minimum</i>	1.8040	<i>Minimum</i>	1.6260	<i>Minimum</i>	1.5820
<i>Maximum</i>	1.8780	<i>Maximum</i>	1.8920	<i>Maximum</i>	1.6960	<i>Maximum</i>	1.7000
<i>Average</i>	1.8098	<i>Average</i>	1.8354	<i>Average</i>	1.6549	<i>Average</i>	1.6473
<i>St. Dev.</i>	0.0170	<i>St. Dev.</i>	1.8354	<i>St. Dev.</i>	1.6549	<i>St. Dev.</i>	1.6473
<i>Count</i>	40	<i>Count</i>	40	<i>Count</i>	40	<i>Count</i>	40

## DATA SUMMARIES Continued

## MATING/UNMATING: 2 POSITION

## RA-V

	Initial				After 5 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	16.2	1.01	13.8	0.86	18.4	1.15	17.8	1.11
Maximum	36.3	2.3	19.4	1.2	39.5	2.5	26.4	1.7
<b>Average</b>	<b>21.4</b>	<b>1.3</b>	<b>15.5</b>	<b>1.0</b>	<b>23.6</b>	<b>1.5</b>	<b>20.5</b>	<b>1.3</b>
	After Thermal				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	10.9	0.7	7.5	0.5	12.4	0.8	12.9	0.8
Maximum	14.2	0.9	13.9	0.9	16.7	1.0	18.0	1.1
<b>Average</b>	<b>12.5</b>	<b>0.8</b>	<b>11.1</b>	<b>0.7</b>	<b>14.4</b>	<b>0.9</b>	<b>15.1</b>	<b>0.9</b>

## V-V

	Initial				After 100 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	12.0	0.75	12.0	0.75	12.8	0.80	12.5	0.78
Maximum	36.8	2.3	29.0	1.8	20.6	1.3	20.6	1.3
<b>Average</b>	<b>21.4</b>	<b>1.3</b>	<b>16.0</b>	<b>1.0</b>	<b>17.3</b>	<b>1.1</b>	<b>15.3</b>	<b>1.0</b>
	After Thermal				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	8.5	0.5	4.8	0.3	8.3	0.5	8.3	0.5
Maximum	41.3	2.6	31.5	2.0	12.8	0.8	12.4	0.8
<b>Average</b>	<b>27.5</b>	<b>1.7</b>	<b>17.0</b>	<b>1.1</b>	<b>10.4</b>	<b>0.6</b>	<b>10.3</b>	<b>0.6</b>

## MATING/UNMATING: 8 POSITION

## RA-V

	Initial				After 100 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	65.9	4.12	61.1	3.82	71.0	4.44	68.8	4.30
Maximum	84.8	5.3	71.7	4.5	86.7	5.4	84.5	5.3
<b>Average</b>	<b>77.3</b>	<b>4.8</b>	<b>68.3</b>	<b>4.3</b>	<b>79.8</b>	<b>5.0</b>	<b>74.3</b>	<b>4.6</b>
	After Thermal				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	54.6	3.4	55.0	3.4	55.0	3.4	48.0	3.0
Maximum	75.7	4.7	69.4	4.3	69.4	4.3	56.8	3.5
<b>Average</b>	<b>66.7</b>	<b>4.2</b>	<b>59.7</b>	<b>3.7</b>	<b>59.7</b>	<b>3.7</b>	<b>51.3</b>	<b>3.2</b>

## V-V

	Initial				After 5 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	58.7	3.67	57.8	3.61	62.6	3.91	58.7	3.67
Maximum	87.8	5.5	75.5	4.7	117.6	7.4	106.1	6.6
<b>Average</b>	<b>67.0</b>	<b>4.2</b>	<b>63.5</b>	<b>4.0</b>	<b>82.3</b>	<b>5.1</b>	<b>74.7</b>	<b>4.7</b>
	After Thermal				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	48.2	3.0	45.4	2.8	39.3	2.5	36.5	2.3
Maximum	104.8	6.6	65.4	4.1	47.8	3.0	47.6	3.0
<b>Average</b>	<b>69.5</b>	<b>4.3</b>	<b>53.9</b>	<b>3.4</b>	<b>43.3</b>	<b>2.7</b>	<b>41.7</b>	<b>2.6</b>

**DATA****CONTACT GAPS: 2 POSITION (RA-V)****MPS**

Initial										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.524	1.52	1.51	1.514	1.506	1.524	1.532	1.53	1.518	1.516
2	1.5	1.524	1.548	1.522	1.5	1.504	1.534	1.528	1.526	1.526
After 100 Cycles										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.5221	1.5001	1.4901	1.5261	1.5021	1.5141	1.5261	1.5321	1.5101	1.5281
2	1.5041	1.5241	1.5361	1.5141	1.5021	1.4841	1.5221	1.5361	1.5141	1.5181
After Thermal										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.53	1.522	1.514	1.526	1.524	1.534	1.528	1.53	1.528	1.526
2	1.524	1.52	1.53	1.54	1.512	1.512	1.532	1.538	1.528	1.53
After Humidity										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.538	1.522	1.514	1.526	1.518	1.504	1.506	1.542	1.518	1.548
2	1.54	1.532	1.524	1.536	1.528	1.502	1.522	1.542	1.526	1.516

**MPT**

Initial										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.814	1.874	1.84	1.846	1.836	1.886	1.882	1.838	1.932	1.732
2	1.872	1.884	1.926	1.812	1.87	1.792	1.898	1.88	1.896	1.786
After 100 Cycles										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.8661	1.8261	1.8701	1.8221	1.8501	1.7741	1.8341	1.8201	1.8561	1.7741
2	1.8001	1.8401	1.8201	1.8121	1.8301	1.8301	1.8461	1.8121	1.9061	1.7121
After Thermal										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.654	1.686	1.67	1.688	1.66	1.664	1.674	1.648	1.72	1.602
2	1.692	1.676	1.7	1.652	1.682	1.646	1.702	1.686	1.686	1.628
After Humidity										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.667	1.734	1.708	1.724	1.706	1.734	1.7	1.698	1.736	1.662
2	1.706	1.736	1.734	1.716	1.728	1.672	1.732	1.7	1.716	1.686

**CONTACT GAPS: 2 POSITION (V-V)****MPS**

Initial										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.488	1.52	1.52	1.524	1.526	1.534	1.52	1.522	1.496	1.526
2	1.532	1.53	1.526	1.518	1.53	1.514	1.51	1.522	1.536	1.532
After 100 Cycles										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.4801	1.5141	1.5141	1.5281	1.5161	1.5401	1.5241	1.5201	1.4901	1.5301
2	1.5201	1.5121	1.5201	1.5181	1.5201	1.5041	1.5161	1.5321	1.5101	1.5181
After Thermal										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.486	1.528	1.538	1.526	1.528	1.544	1.54	1.506	1.522	1.538
2	1.544	1.53	1.544	1.542	1.538	1.526	1.52	1.524	1.546	1.556
After Humidity										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.492	1.528	1.52	1.5	1.528	1.504	1.532	1.498	1.496	1.54
2	1.51	1.51	1.528	1.522	1.534	1.534	1.498	1.524	1.542	1.526

**MPT**

Initial										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.792	1.824	1.814	1.806	1.81	1.79	1.814	1.814	1.82	1.792
2	1.798	1.778	1.794	1.808	1.82	1.796	1.816	1.766	1.836	1.792
After 100 Cycles										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.7661	1.7981	1.7861	1.8041	1.7741	1.7761	1.7901	1.7981	1.7821	1.7781
2	1.7561	1.7761	1.7761	1.8081	1.8021	1.7621	1.8141	1.7841	1.7741	1.7881
After Thermal										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.64	1.676	1.66	1.654	1.656	1.62	1.67	1.646	1.648	1.638
2	1.626	1.654	1.654	1.667	1.656	1.618	1.68	1.654	1.64	1.664
After Humidity										
Measured in Millimeters										
Pos.#	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	1.766	1.648	1.64	1.652	1.664	1.622	1.678	1.638	1.67	1.652
2	1.9	1.664	1.652	1.672	1.654	1.642	1.648	1.66	1.682	1.638

**CONTACT GAPS: 8 POSITION (RA-V)****MPS**

Initial						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.518	1.506	1.5	1.488	1.502	
2	1.51	1.516	1.496	1.472	1.496	
3	1.502	1.524	1.492	1.468	1.452	
4	1.5	1.504	1.508	1.484	1.476	
5	1.486	1.5	1.474	1.508	1.484	
6	1.494	1.496	1.494	1.498	1.476	
7	1.49	1.51	1.504	1.498	1.474	
8	1.518	1.514	1.496	1.464	1.498	
After 100 Cycles						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.5001	1.5201	1.4781	1.4981	1.4821	
2	1.5081	1.5121	1.4801	1.4721	1.4921	
3	1.5181	1.5201	1.4901	1.4721	1.4501	
4	1.5041	1.5041	1.5061	1.4801	1.4921	
5	1.5021	1.5021	1.4901	1.4941	1.4841	
6	1.4921	1.4481	1.5101	1.4941	1.4901	
7	1.4841	1.4641	1.4801	1.4381	1.4901	
8	1.5221	1.4521	1.4521	1.4781	1.5201	
After Thermal						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.526	1.502	1.48	1.492	1.496	
2	1.528	1.53	1.49	1.49	1.492	
3	1.522	1.524	1.494	1.48	1.472	
4	1.528	1.506	1.516	1.484	1.51	
5	1.512	1.528	1.494	1.506	1.516	
6	1.524	1.512	1.518	1.508	1.512	
7	1.522	1.536	1.53	1.514	1.502	
8	1.514	1.524	1.518	1.482	1.512	
After Humidity						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.526	1.498	1.494	1.518	1.494	
2	1.522	1.542	1.5	1.484	1.508	
3	1.522	1.544	1.506	1.482	1.466	
4	1.508	1.52	1.522	1.476	1.498	
5	1.506	1.542	1.474	1.522	1.528	
6	1.506	1.534	1.494	1.512	1.502	
7	1.52	1.542	1.53	1.514	1.496	
8	1.514	1.498	1.502	1.504	1.51	

**MPT**

Initial						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.884	1.864	1.762	1.896	1.76	
2	1.84	1.838	1.894	1.856	1.79	
3	1.842	1.844	1.868	1.818	1.838	
4	1.748	1.874	1.872	1.872	1.856	
5	1.88	1.874	1.876	1.848	1.888	
6	1.84	1.824	1.88	1.868	1.852	
7	1.864	1.812	1.79	1.898	1.77	
8	1.898	1.892	1.918	1.884	1.768	
After 100 Cycles						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.9181	1.8801	1.8341	1.8841	1.8161	
2	1.8441	1.8761	1.9201	1.8921	1.8401	
3	1.8301	1.8581	1.8801	1.8621	1.8561	
4	1.7441	1.9101	1.8701	1.8961	1.8981	
5	1.8661	1.8981	1.8861	1.8781	1.8841	
6	1.8521	1.8461	1.8381	1.8781	1.8901	
7	1.7841	1.8561	1.7981	1.9061	1.8141	
8	1.9081	1.8681	1.8441	1.8861	1.7901	
After Thermal						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.658	1.68	1.598	1.664	1.614	
2	1.642	1.644	1.664	1.654	1.638	
3	1.662	1.658	1.676	1.64	1.664	
4	1.596	1.69	1.674	1.676	1.672	
5	1.688	1.682	1.674	1.656	1.692	
6	1.662	1.66	1.672	1.674	1.67	
7	1.654	1.648	1.626	1.68	1.632	
8	1.688	1.678	1.678	1.67	1.636	
After Humidity						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.7	1.734	1.654	1.72	1.654	
2	1.684	1.686	1.724	1.726	1.684	
3	1.708	1.69	1.692	1.7	1.684	
4	1.662	1.732	1.748	1.724	1.71	
5	1.658	1.738	1.716	1.712	1.704	
6	1.724	1.712	1.728	1.726	1.667	
7	1.722	1.672	1.66	1.716	1.656	
8	1.724	1.712	1.71	1.7	1.668	

**CONTACT GAPS: 8 POSITION (V-V)****MPS**

Initial					
Measured in Millimeters					
Pos.#	B1	B2	B3	B4	B5
1	1.48	1.488	1.472	1.468	1.502
2	1.448	1.496	1.464	1.474	1.504
3	1.484	1.508	1.474	1.462	1.5
4	1.488	1.494	1.476	1.484	1.494
5	1.498	1.462	1.506	1.478	1.49
6	1.494	1.488	1.468	1.462	1.484
7	1.482	1.476	1.5	1.458	1.472
8	1.46	1.498	1.514	1.53	1.524
After 100 Cycles					
Measured in Millimeters					
Pos.#	B1	B2	B3	B4	B5
1	1.476	1.486	1.472	1.476	1.496
2	1.444	1.496	1.47	1.476	1.498
3	1.486	1.496	1.46	1.462	1.51
4	1.492	1.492	1.498	1.484	1.498
5	1.472	1.468	1.518	1.482	1.498
6	1.478	1.496	1.472	1.468	1.484
7	1.47	1.496	1.504	1.464	1.482
8	1.466	1.512	1.518	1.536	1.52
After Thermal					
Measured in Millimeters					
Pos.#	B1	B2	B3	B4	B5
1	1.482	1.49	1.462	1.484	1.502
2	1.458	1.5	1.476	1.478	1.5
3	1.494	1.508	1.482	1.474	1.51
4	1.504	1.5	1.502	1.51	1.502
5	1.506	1.48	1.524	1.508	1.494
6	1.498	1.506	1.49	1.492	1.516
7	1.504	1.51	1.524	1.474	1.514
8	1.486	1.5	1.536	1.526	1.532
After Humidity					
Measured in Millimeters					
Pos.#	B1	B2	B3	B4	B5
1	1.494	1.482	1.464	1.48	1.49
2	1.448	1.49	1.508	1.48	1.58
3	1.514	1.484	1.49	1.484	1.532
4	1.49	1.498	1.528	1.496	1.514
5	1.5	1.468	1.542	1.518	1.498
6	1.488	1.528	1.5	1.488	1.5
7	1.51	1.516	1.542	1.488	1.526
8	1.47	1.516	1.526	1.522	1.518

**MPT**

Initial						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.784	1.82	1.796	1.812	1.796	
2	1.8	1.826	1.808	1.806	1.812	
3	1.836	1.814	1.792	1.81	1.8	
4	1.818	1.808	1.802	1.802	1.812	
5	1.8	1.776	1.8	1.878	1.808	
6	1.832	1.798	1.8	1.812	1.798	
7	1.824	1.822	1.808	1.822	1.808	
8	1.8	1.838	1.806	1.808	1.798	
After 100 Cycles						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.812	1.826	1.828	1.876	1.814	
2	1.818	1.828	1.844	1.86	1.852	
3	1.85	1.838	1.804	1.856	1.83	
4	1.828	1.836	1.812	1.842	1.848	
5	1.824	1.81	1.82	1.884	1.828	
6	1.832	1.836	1.834	1.842	1.81	
7	1.84	1.864	1.824	1.84	1.838	
8	1.806	1.892	1.824	1.84	1.824	
After Thermal						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.626	1.662	1.646	1.638	1.646	
2	1.65	1.67	1.648	1.65	1.654	
3	1.665	1.654	1.644	1.65	1.662	
4	1.662	1.652	1.652	1.648	1.667	
5	1.65	1.642	1.654	1.696	1.654	
6	1.665	1.654	1.658	1.664	1.646	
7	1.667	1.65	1.667	1.648	1.648	
8	1.638	1.668	1.664	1.664	1.652	
After Humidity						
Measured in Millimeters						
Pos.#	B1	B2	B3	B4	B5	
1	1.582	1.668	1.636	1.636	1.624	
2	1.626	1.667	1.667	1.648	1.652	
3	1.64	1.646	1.65	1.644	1.654	
4	1.64	1.664	1.626	1.652	1.67	
5	1.616	1.634	1.634	1.7	1.636	
6	1.652	1.642	1.662	1.674	1.63	
7	1.667	1.658	1.668	1.654	1.644	
8	1.634	1.654	1.648	1.652	1.642	

**DATA Continued****MATING/UNMATING: 2 POSITION****RA-V**

Sample#	Initial				After 5 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	21.1	1.32	14.2	0.89	25.4	1.59	18.7	1.17
2	21.4	1.34	15.2	0.95	21.0	1.31	19.4	1.21
3	21.4	1.34	15.2	0.95	20.2	1.26	18.9	1.18
4	36.3	2.27	19.4	1.21	39.5	2.47	26.4	1.65
5	18.7	1.17	16.5	1.03	21.6	1.35	20.0	1.25
6	16.2	1.01	13.8	0.86	18.4	1.15	17.8	1.11
7	17.8	1.11	15.7	0.98	22.1	1.38	21.8	1.36
8	19.5	1.22	14.4	0.90	23.0	1.44	20.5	1.28
9	21.0	1.31	16.0	1.00	22.1	1.38	20.5	1.28
10	20.8	1.30	14.4	0.90	22.9	1.43	21.0	1.31

Sample#	After Thermal				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	12.6	0.79	7.5	0.47	12.4	0.78	12.9	0.80
2	13.4	0.84	11.0	0.69	14.8	0.92	14.9	0.93
3	12.3	0.77	10.7	0.67	15.4	0.96	16.3	1.02
4	11.2	0.70	9.1	0.57	14.7	0.92	15.4	0.96
5	10.9	0.68	11.0	0.69	12.7	0.79	14.1	0.88
6	11.5	0.72	12.3	0.77	13.9	0.87	14.8	0.93
7	13.1	0.82	13.9	0.87	16.1	1.01	16.5	1.03
8	14.2	0.89	11.5	0.72	13.8	0.86	14.7	0.92
9	12.5	0.78	12.6	0.79	16.7	1.04	18.0	1.13
10	12.8	0.80	10.9	0.68	13.8	0.86	13.6	0.85

## V-V

Sample#	Initial				After 100 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	27.0	1.69	15.2	0.95	18.6	1.16	14.7	0.92
2	26.6	1.66	12.6	0.79	19.2	1.20	13.9	0.87
3	30.9	1.93	13.3	0.83	19.7	1.23	12.5	0.78
4	36.8	2.30	29.0	1.81	19.0	1.19	16.3	1.02
5	22.7	1.42	17.1	1.07	20.6	1.29	20.6	1.29
6	12.0	0.75	12.0	0.75	12.8	0.80	12.5	0.78
7	12.8	0.80	14.4	0.90	14.6	0.91	14.9	0.93
8	14.2	0.89	15.5	0.97	17.4	1.09	16.5	1.03
9	15.0	0.94	15.4	0.96	15.2	0.95	16.0	1.00
10	15.7	0.98	15.7	0.98	15.8	0.99	15.0	0.94

Sample#	After Thermal				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	39.5	2.47	24.6	1.54	8.9	0.56	9.9	0.62
2	24.3	1.52	8.0	0.50	11.2	0.70	9.9	0.62
3	20.5	1.28	12.3	0.77	10.2	0.64	8.8	0.55
4	32.2	2.01	4.8	0.30	8.3	0.52	8.6	0.54
5	36.3	2.27	25.1	1.57	10.7	0.67	11.7	0.73
6	24.0	1.50	14.9	0.93	10.9	0.68	12.0	0.75
7	8.5	0.53	11.0	0.69	12.8	0.80	12.3	0.77
8	41.3	2.58	31.5	1.97	8.4	0.52	8.3	0.52
9	16.8	1.05	13.1	0.82	12.3	0.77	12.4	0.77
10	31.2	1.95	24.3	1.52	10.1	0.63	9.3	0.58

**MATING/UNMATING: 8 POSITION****RA-V**

Sample#	Initial				After 100 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	77.6	4.85	70.9	4.43	76.8	4.80	69.4	4.34
2	84.8	5.30	65.8	4.11	84.3	5.27	75.0	4.69
3	79.0	4.94	70.1	4.38	85.4	5.34	84.5	5.28
4	84.6	5.29	71.7	4.48	85.6	5.35	75.0	4.69
5	79.5	4.97	70.1	4.38	75.0	4.69	70.9	4.43
6	73.9	4.62	69.6	4.35	86.7	5.42	78.9	4.93
7	75.5	4.72	70.4	4.40	79.4	4.96	77.6	4.85
8	75.7	4.73	61.1	3.82	76.0	4.75	68.8	4.30
9	65.9	4.12	64.3	4.02	71.0	4.44	70.7	4.42
10	76.3	4.77	69.0	4.31	77.8	4.86	72.3	4.52

Sample#	After Thermal				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	64.5	4.03	55.4	3.46	55.4	3.46	55.0	3.44
2	61.6	3.85	55.0	3.44	55.0	3.44	51.7	3.23
3	54.6	3.41	55.5	3.47	55.5	3.47	48.8	3.05
4	65.3	4.08	59.5	3.72	59.5	3.72	49.0	3.06
5	63.5	3.97	57.1	3.57	57.1	3.57	51.2	3.20
6	73.3	4.58	62.6	3.91	62.6	3.91	54.4	3.40
7	75.7	4.73	69.4	4.34	69.4	4.34	56.8	3.55
8	66.7	4.17	62.2	3.89	62.2	3.89	48.0	3.00
9	73.0	4.56	61.3	3.83	61.3	3.83	48.2	3.02
10	69.0	4.31	58.7	3.67	58.7	3.67	50.2	3.14

## V-V

Sample#	Initial				After 5 Cycles			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	87.8	5.49	72.5	4.53	85.0	5.31	78.4	4.90
2	63.0	3.94	59.4	3.71	73.4	4.59	58.7	3.67
3	59.7	3.73	60.2	3.76	75.0	4.69	69.1	4.32
4	64.2	4.01	62.4	3.90	84.0	5.25	73.6	4.60
5	62.9	3.93	60.0	3.75	90.7	5.67	82.9	5.18
6	61.0	3.81	57.8	3.61	72.3	4.52	66.7	4.17
7	66.2	4.14	65.1	4.07	79.2	4.95	69.8	4.36
8	78.4	4.90	75.5	4.72	117.6	7.35	106.1	6.63
9	68.5	4.28	63.0	3.94	83.4	5.21	80.0	5.00
10	58.7	3.67	58.7	3.67	62.6	3.91	61.4	3.84

Sample#	After Thermal				After Humidity			
	Mating		Unmating		Mating		Unmating	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
1	52.6	3.29	55.4	3.46	43.4	2.71	42.2	2.64
2	48.2	3.01	55.8	3.49	41.1	2.57	42.4	2.65
3	73.4	4.59	57.9	3.62	46.2	2.89	43.7	2.73
4	50.6	3.16	48.5	3.03	47.8	2.99	47.6	2.97
5	89.8	5.61	56.2	3.51	46.2	2.89	39.0	2.44
6	68.0	4.25	45.9	2.87	40.9	2.56	40.1	2.50
7	104.8	6.55	65.4	4.09	42.3	2.64	40.3	2.52
8	65.4	4.09	55.2	3.45	43.0	2.69	41.8	2.62
9	79.8	4.99	53.1	3.32	42.6	2.66	43.1	2.69
10	62.4	3.90	45.4	2.84	39.3	2.46	36.5	2.28

**EQUIPMENT AND CALIBRATION SCHEDULES****Equipment #:** OGP-01**Description:** 6"X 6" Video Measuring Machine**Manufacturer:** Optical Gauging Products**Model:** Smartscope 200 CFOV**Serial #:** SF2001956**Accuracy:** See Manual

... Last Cal: 03/13/07, Next Cal: 03/13/08

**Equipment #:** OV-03**Description:** Cascade Tek Forced Air Oven**Manufacturer:** Cascade Tek**Model:** TFO-5**Serial #:** 0500100**Accuracy:** Temp. Stability: +/- .1C/C change in ambient

... Last Cal: 06/62/07, Next Cal: 06/22/08

**Equipment #:** TCT-03**Description:** Dillon Quantrol TC2 Test Stand**Manufacturer:** Dillon Quantrol**Model:** TC2**Serial #:** 02-1033-03**Accuracy:** Speed Accuracy: +/- 5% of indicated speed; Displacement: +/- 5 micrometers.

... Last Cal: 5/18/07, Next Cal: 5/18/08

**Equipment #:** THC-04**Description:** Temperature/Humidity Chamber**Manufacturer:** Thermotron**Model:** SM-8-3800**Serial #:** 37782**Accuracy:** See Manual

... Last Cal: 09/21/2007, Next Cal: 09/21/2008