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| REPORT NO.:      | T53840-01           |
|------------------|---------------------|
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| CLIENT P.O. NO.: | 008218-00           |
| CONTRACT:        | N/A                 |
| TOTAL PAGES (IN  | CLUDING COVER): 846 |
| DATE:            | July 3, 2007        |

# **TEST REPORT**

#### ELECTROMAGNETIC INTERFERENCE (EMI) TEST REPORT ON A HFC-6000 CONTROLS

for

HF Controls 16650 Westgrove Drive Suite 500 Addison, TX 75001

|   | (sd)   |
|---|--|
| STATE OF ALABAMA<br>COUNTY OF MADISON   | Wyle shall have no liability for damages of any kind to person or property, including special or consequential damages, resulting from Wyle's providing the services covered by this report.   |
| <u>Robert D. Hardy. Department Manager</u> , being duly sworn, deposes and<br>says: The information contained in this report is the result of complete and carefully<br>conducted testing and is to the best of his knowledge true and correct in all respects. | PREPARED BY:<br>McFadden, Senior Project Engineer Date<br>APPROVED BY:<br>APPROVED BY:<br>Determine 7/19/07  |
| SUBSCRIBED and sworms to before me this 20th day of Delly 20 07   | James E Feller, NCT, Senior Project Engineer       Date         WYLE Q. A.: <u>Bissingle</u> <u>Missingle</u> <u>Missingle</u> WYLE Q. A.: <u>Bissingle</u> <u>Missingle</u> <u>Missingle</u> WYLE Q. A.: <u>Bissingle</u> <u>Missingle</u> <u>Missingle</u> Main F. Terceno, Q. A. Manager       Date |
| Notary Public in and for the State of Alabama at Large<br>My Commission expires $24425576, 22011$   | ACCREDITED<br>CERT. # 845.01<br>ISO 9001:2000  |

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WH-1404. Rev. Feb '97

ATTACHMENT "A"

### 11.0 RS101, RADIATED MAGNETIC FIELD TEST METHOD, 30 HZ TO 100 KHZ

#### 11.1 Requirements

The EUT shall not exhibit any malfunction, degradation of performance, or deviation from specified indications beyond the tolerances indicated in the individual equipment or subsystem specification when subjected to the radiated magnetic fields of levels shown in the RS101 Limit figure on Page No. RS101-2.

The requirements are met when frequency scan rates comply with the maximum rates as shown in the following table; reference MIL-STD-461E, Section 5.18.3.4c.2c.

| Frequency Bands<br>(MHz) | Analog Scans<br>Maximum Scan<br>Rate | Stepped Scans<br>Maximum Step Size | Dwell Time at Frequency<br>(f <sub>o</sub> ) |
|--------------------------|--------------------------------------|------------------------------------|--|
| 30 Hz to 1 MHz           | 0.0999 f <sub>o</sub> /sec           | 0.15 f <sub>o</sub>                | 1 second                                     |

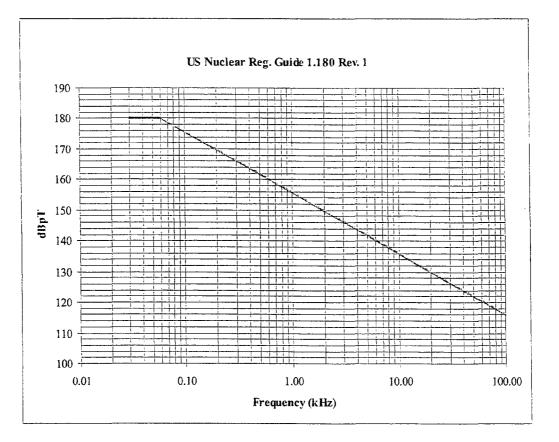
The operating modes designated below shall be used in performing the EMI tests.

|                | EUT Operational Modes   |  |  |
|----------------|---|--|--|
| Operating Mode | Operating Mode Description  |  |  |
| Active         | The EUT is powered and functional. The EUT operation was defined by the customer. |  |  |

The EUT was supplied power through filters. The EUT was powered with the facility 120 VAC, 60 Hz power source and 125 VDC power source. The EUT maximum AC current was measured and found to be 30.0 amperes and DC current was measured and found to be 0.194 amperes.

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### 11.1 Requirements (continued)



**RS101** Limit

### 1. Test Equipment

The EMI Test equipment required for this test is listed below. Actual test and measuring equipment are listed in the Instrumentation Equipment Sheet.

| Item Description             | Frequency Range  | Manufacturer/Model No.                         | Quantity |  |
|------------------------------|------------------|--|----------|--|
| Spectrum Analyzer            | 3 Hz to 44 GHz   | Agilent/E4446A                                 | 1        |  |
| Oscilloscope                 | DC to 500 MHz    | Tektronix/TDS 220                              | 1        |  |
| Controller                   | N/A              | Quantum Change – EMI Test,<br>Version 3.4.k.14 | 1        |  |
| Arbitrary Waveform Generator | DC – 15 MHz      | Agilent/33120A                                 | 1        |  |
| Variable Frequency AC Power  | 20 Hz to 250 kHz | Powertron/250S-HF                              | 1        |  |
| Magnetic Loop Sensor         | 10 Hz to 100 kHz | Solar 9229-1                                   | 1        |  |
| Magnetic Radiating Loop      | 10 Hz to 100 kHz | Solar 9230-1                                   | 1        |  |
| Current Probe                | DC to 50 MHz     | Tektronix TCP 202                              | ]        |  |
| Isolation Transformer        | N/A              | Solar  | 1        |  |
| L.I.S.N.                     | 10 kHz to 50 MHz | FCC/LISN-50-15-1-01-MS462E                     | 1/Line   |  |

### 2. Test Conditions

The EUT and the EMI measuring equipment were set up in accordance with the figure shown on the next page. The following conditions were adhered to:

- 3. Power lines and power line returns were configured as required by the system configuration. The power lead length between the EUT and the L.I.S.N. was two meters with separation at the L.I.S.N kept to a minimum.
- 4. No bonding interfaces exceeded the system bonding impedance requirements as shown in the test setup.
- 3. All signal/control test cables were positioned approximately 5 cm (2 in.) above the ground plane (floor).
- 4. The cable/wire bundles, listed in the Test Positions for RS101 Measurement Table were tested. Injection locations (Position Under Test) were in accordance with the customer representative instructions.

| Position Under<br>Test I.D. | Cable Description | Location Description |
|-----------------------------|-------------------|----------------------|
| 1                           |                   |                      |
| 2                           |                   |                      |
| 3                           |                   |                      |
| 4                           |                   |                      |
| 5                           |                   |                      |
| 6                           |                   |                      |
| 7                           | А                 | Back Side            |
| 8                           | А                 | Back Side            |
| 9                           | ]                 |                      |
| 10                          |                   |                      |
| 11                          |                   |                      |
| 12                          |                   |                      |
| 13                          |                   |                      |
| 14                          |                   |                      |
| 1                           |                   |                      |
| 2                           | А                 | Front Side           |
| 3                           |                   |                      |
| 1                           | А                 | Left Side            |
| 1                           | А                 | Top Middle           |

# Test Positions for RS101 Measurement

# Page No. RS101-4 Test Report No. T53840-01

| Position Under<br>Test I.D. | Cable Description | Location Description                  |
|-----------------------------|-------------------|---------------------------------------|
| 1                           |                   | Front Side                            |
| 2                           |                   |                                       |
| 3                           | В                 |                                       |
| 4                           |                   |                                       |
| 1                           | В                 | Back Side                             |
| 2                           |                   |                                       |
| 3                           |                   |                                       |
| 4                           |                   |                                       |
| 6                           |                   |                                       |
| 5                           | Į                 |                                       |
| 7                           |                   |                                       |
| 8                           | В                 | Back Side                             |
| 9                           |                   |                                       |
| 10                          |                   |                                       |
| 11                          |                   |                                       |
| 12                          |                   |                                       |
| 13                          |                   |                                       |
| 14                          |                   |                                       |
| 1                           | -                 |                                       |
| 2                           | С                 | Front Side                            |
| 4                           |                   | · · · · · · · · · · · · · · · · · · · |
| 1                           |                   |                                       |
| 2                           |                   |                                       |
| 3                           | 4                 |                                       |
| 4                           | 4                 |                                       |
| 5                           | 4                 |                                       |
| 6                           | -                 |                                       |
| 7                           | с                 | Back Side                             |
| 8                           | 4                 |                                       |
| 9                           | 4                 |                                       |
| 10                          |                   |                                       |
| 11                          | 4                 |                                       |
| 12                          | 4                 |                                       |
| 13                          | 4                 |                                       |
| 14                          |                   |                                       |

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| Position Under<br>Test I.D. | Cable Description | Location Description |
|-----------------------------|-------------------|----------------------|
| 1                           |                   |                      |
| 2                           | D                 | Front Side           |
| 3                           |                   |                      |
| 1                           | D                 |                      |
| 2                           |                   | Left Side            |
| 3                           |                   |                      |
| 4                           |                   |                      |
| 5                           |                   |                      |
| . 6                         |                   |                      |
| 7                           |                   |                      |
| 8                           |                   |                      |
| 9                           |                   |                      |
| 10                          |                   |                      |
| 11                          | D                 |                      |
| 12                          |                   |                      |
| 13                          |                   |                      |
| 14                          | !                 |                      |
| 15                          |                   |                      |
| 16                          |                   | Left Side            |
| 17                          |                   |                      |
| 18                          |                   |                      |
| 19                          |                   |                      |
| 20                          |                   |                      |
| 21                          |                   |                      |
| 22                          |                   |                      |
| 23                          |                   |                      |
| 24                          |                   |                      |
| 25                          |                   |                      |
| 26                          |                   |                      |
| 27                          |                   |                      |
| 28                          |                   |                      |

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| Position Under<br>Test I.D. | Cable Description | Location Description |
|-----------------------------|-------------------|----------------------|
| 1                           |                   |                      |
| 2                           |                   |                      |
| 3                           |                   |                      |
| 4                           |                   |                      |
| 5                           |                   |                      |
| 6                           | D                 | Back Side            |
| 7                           |                   |                      |
| 8                           |                   |                      |
| 9                           |                   |                      |
| 10                          |                   |                      |
| 11                          |                   |                      |
| 12                          |                   |                      |
| 13                          | D                 | Back Side            |
| 14                          |                   |                      |
| 1                           |                   |                      |
| 2                           |                   |                      |
| 3                           |                   |                      |
| 4                           |                   |                      |
| 5                           |                   |                      |
| 6                           |                   |                      |
| 7                           |                   |                      |
| 8                           |                   |                      |
| 9                           | D D               | Right Side           |
| 10                          |                   |                      |
| 11                          |                   |                      |
| 12                          |                   |                      |
| 13                          |                   |                      |
| 14                          |                   |                      |
| 15                          |                   |                      |
| 16                          |                   | υ                    |
| 17                          | ]                 |                      |
| 18                          |                   |                      |

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# 11.3 Test Conditions (continued)

.

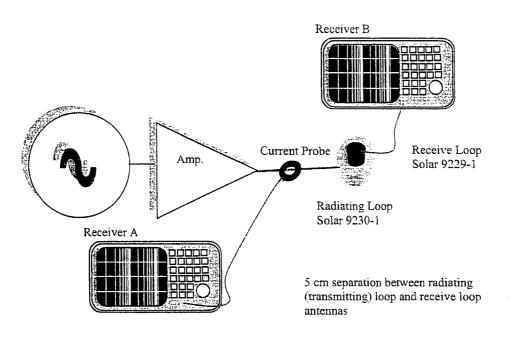
| Position Under<br>Test I.D. | Cable Description | Location Description |
|-----------------------------|-------------------|----------------------|
| 19                          |                   |                      |
| 20                          |                   |                      |
| 21                          |                   |                      |
| 22                          |                   |                      |
| 23                          |                   | Diebe Side           |
| 24                          |                   | Right Side           |
| 25                          |                   |                      |
| 26                          |                   |                      |
| 27                          | ]                 |                      |
| 28                          | ]                 |                      |
| 1                           |                   |                      |
| 2                           |                   | Front Side           |
| 3                           | E                 | From Side            |
| 4                           |                   |                      |
| 1                           | E                 | Left Side            |
| 2                           |                   |                      |
| 3                           |                   |                      |
| 4                           | ]                 |                      |
| 5                           |                   |                      |
| 6                           |                   |                      |
| 7                           |                   |                      |
| 8                           |                   |                      |
| 9                           |                   |                      |
| 10                          |                   |                      |
| 11                          | E                 | Left Side            |
| 12                          |                   |                      |
| 13                          |                   |                      |
| 14                          |                   |                      |
| 15                          |                   |                      |
| 16                          |                   |                      |
| 17                          |                   |                      |
| 18                          |                   |                      |
| 19                          |                   |                      |
| 20                          |                   |                      |
| 21                          |                   |                      |

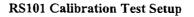
### Page No. RS101-8 Test Report No. T53840-01

| Position Under<br>Test I.D. | Cable Description | Location Description |
|-----------------------------|-------------------|----------------------|
| 1                           |                   |                      |
| 2                           |                   |                      |
| 3                           |                   |                      |
| 4                           |                   |                      |
| 5                           |                   |                      |
| 6                           |                   |                      |
| 7                           |                   | Deels Cide           |
| 8                           | E                 | Back Side            |
| 9                           |                   |                      |
| 10                          | 1                 |                      |
| 11                          | ]                 |                      |
| 12                          |                   |                      |
| 13                          |                   |                      |
| 14                          |                   |                      |
| 1                           | E                 | Right Side           |
| 3                           |                   |                      |
| 4                           |                   |                      |
| 5                           |                   |                      |
| 6                           |                   |                      |
| 7                           |                   |                      |
| 8                           |                   |                      |
| 9                           |                   |                      |
| 10                          |                   |                      |
| 11                          | _                 |                      |
| 12                          | E                 | Right Side           |
| 13                          |                   |                      |
| 14                          |                   |                      |
| 15                          |                   |                      |
| 16                          | _                 |                      |
| 17                          |                   |                      |
| 18                          | 1                 |                      |
| 19                          | 4                 |                      |
| 20                          | 4                 |                      |
| 21                          |                   | <u> </u>             |

#### 11.4 System Measurement Check (Calibration) Setup

Initially all of the test equipment power is off; the test equipment was connected as shown in the RS101 Calibration Setup figure. A loop calibration was performed according to the method called out in MIL-STD-461E, Paragraph 5.18.3.4(b).





### 11.5 System measurement Check (Calibration) Method

Wyle Laboratories uses commercially purchased EMI test software from Quantum Change. The "EMI Test" Software is specifically designed for EMI testing. There are two calculations used to verify the correct operation of the RS101 test and system. The first is the Current Probe Calculation. The Current Probe Test Level calculations are created from the basic equations as follows:

$$TL = (RA + PF + FCF)$$

where:

TL = Test Level (dBpT) RA = Receiver A's Amplitude (dB $\mu$ V) from Current Probe CF = Current Correction Factor (dB) FCF = Field Correction Factor, derived from the formula as shown below

 $dBpT = 20Log(Amperes*95^{c06})$ 

 $dBpT = 20Log(Ampere/l^{e-06}) + 20Log(95^{e06}/l^{e-06})$ 

Simplified to

dBuA + 39.6

#### 11.5 System measurement Check (Calibration) Method (continued)

For example, assume that current reading (Receiver A's Amplitude) of  $39.15 \ dB\mu V$  is obtained, the Received Amplitude, the Current Probe Correction Factor (dB), and the Field Correction Factor are added.

$$TL = (39.2 + 31.3 + 39.5)$$
$$TL = 110.0$$

The second calculation is the Antenna Loop Test Level equation. The Antenna Loop Test calculations are made from the basic equation as follows:

$$TL = (RA + AF)$$

where: TL = Test Level (dBpT) RA = Receiver B's Amplitude (dB $\mu$ V) from Current Probe AF = Antenna Loop's Correction Factor (dB)

For example, assume that Antenna Loop input reading (Receiver B's Amplitude) of 56.2  $dB\mu V$  is obtained the Received Amplitude, and the Antenna Loop's Correction Factor (dB), are added.

$$TL = (56.2 \div 53.8)$$
  
 $TL = 110.0$ 

The Receiver A results are then compared against the results obtained from the Receiver B as described within the following steps. The current probe and antenna loop measurements results must be within  $\pm 3$  dB from each other. The Current Probe Equation is used to control the magnetic field severity test levels during frequency sweeps.

- 1. The signal source was set to a frequency of 1 kHz and the output was adjusted to provide a magnetic flux of 110 dBpT.
- 2. The Receiver "A" output was measured and results calculated from the Current Probe calculation equation
- 3. The Receiver "B" output was measured and results calculated from the Antenna Loop calculation equation
- 4. The measurement results from both receivers was verified and recorded.

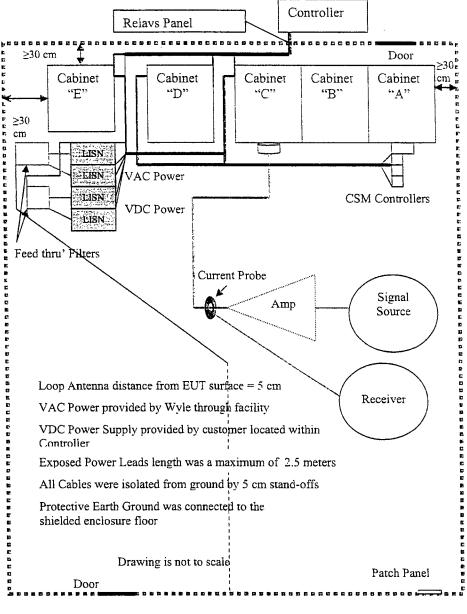
### 11.6 Test Setup

The EUT and the EMI measuring equipment were set up in accordance with the figure shown on the next page. The following conditions were adhered to:

- 1. Power lines and power line returns were configured as required by the system configuration. The power lead length between the EUT and the L.I.S.N. was two meters with separation at the L.I.S.N kept to a minimum.
- 2. No bonding interfaces exceeded the system bonding impedance requirements as shown in the test setup.

### 11.6 Test Setup (continued)

3. All signal/control test cables were positioned approximately 5 cm (2 in.) above the ground plane (floor) as shown in the RS101 Test Setup figure.



**RS101 Test Setup** 

#### 11.7 Test Procedure

The EUT was exposed to the required interference signals while being monitored for any evidence of susceptibility. The susceptibility of the EUT to electromagnetic interference was tested in accordance with the procedure outlined in MIL-STD-461E and in the steps below.

- 1. The EUT setup and configuration were verified to be in accordance with the RS101 Test Setup figure on Page No. RS101-11. The EUT was operated in accordance with the operating mode specified above.
- 2. The field radiating loop was positioned 5 cm from the surface of the EUT and in accordance with the Position Under Test Table from Section 10.3 of this report. The plane of the loop was parallel to the plane of the EUT's surface.
- 3. The loop antenna was supplied with sufficient current to produce magnetic flux densities approximately 10 dB greater than the applicable specification limit at the test frequencies and the EMI test software was configured not exceed 15 Amperes (183 dBpT).
- 4. The applicable frequency range was scanned as shown within the test requirements section of this report. Scan rates up to 3 times faster than Table III of MIL-STD-461E were acceptable. The appropriate test data was recorded.
- 5. Step (4) was repeated for each location listed within Position Under Test Table as directed by the customer representative.
- 6. The loop locations and test setup were photographed prior to disassembly.

#### 11.8 Test Results

The EUT was subjected to radiated magnetic fields in the frequency range of 30 Hz to 100 kHz in accordance with the U.S. Nuclear Regulatory Commission Regulatory Guide 1.180, Revision 1, October 2003, Figure 4.3, Test Requirements. The EUT did not exhibit susceptibility to the radiated magnetic fields and complies with the Regulatory Commission Regulatory Guide RS101 requirements. No anomalies were observed during testing. The table below contains a summary of the results.

# 11.8 Test Results (continued)

| Positions<br>Under | Cabinet/Controller |                      | Compliant w/ Standard |    |
|--------------------|--------------------|----------------------|-----------------------|----|
| Test               | Description        | Location Description | Yes                   | No |
| 1 to 14            | A                  | Back Side            | X                     |    |
| 1 to 3             | A                  | Front Side           | X                     |    |
| 1                  | A                  | Left Side            | X                     |    |
| 1                  | A                  | Top Middle           | X                     |    |
| 1 to 4             | В                  | Front Side           | X                     |    |
| 1 to 14            | В                  | Back Side            | X                     |    |
| 1 to 4             | В                  | Front Side           | X ·                   |    |
| 1 to 14            | В                  | Back Side            | X                     |    |
| 1,2&4              | С                  | Front Side           | X                     |    |
| 1 to 14            | C                  | Back Side            | x                     |    |
| 1 to 3             | D                  | Front Side           | X                     |    |
| 1 to 21            | D                  | Left Side            | X                     |    |
| 1 to 14            | D                  | Back Side            | X                     |    |
| 1 to 21            | D                  | Right Side           | x                     |    |
| 1 to 4             | Е                  | Front Side           | X                     | 1  |
| 1 to 21            | E                  | Left Side            | X                     |    |
| 1 to 14            | E                  | Back Side            | X                     |    |
| 1 to 21            | E                  | Right Side           | X                     |    |

The test documentation listed below follows this page in the indicated sequence:

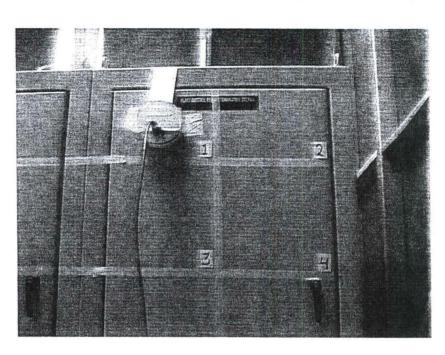
- Photographs
- Magnetic Field Susceptibility Data Sheets
- Instrumentation Equipment Sheet
- Test Equipment Factors

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# PHOTOGRAPHS

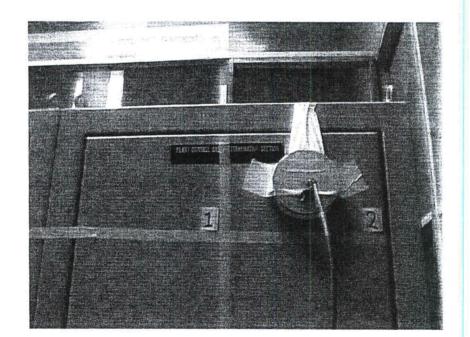
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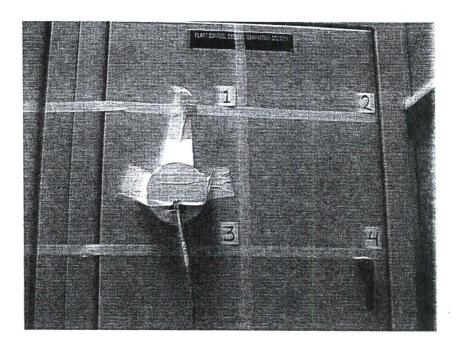
Photograph No. 1

RS101 Cabinet A, Back Side, Position 1



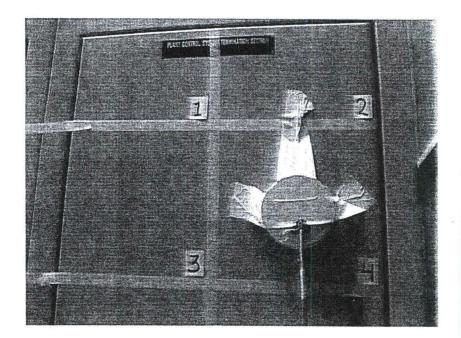
Photograph No. 2

RS101 Cabinet A, Back Side, Position 2



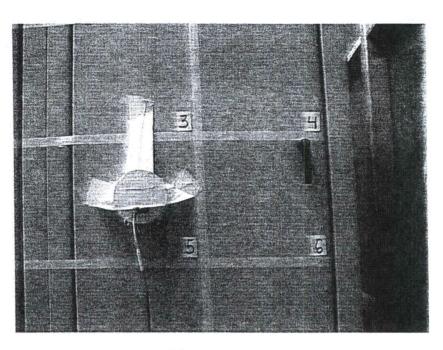
Photograph No. 3

RS101 Cabinet A, Back Side, Position 3



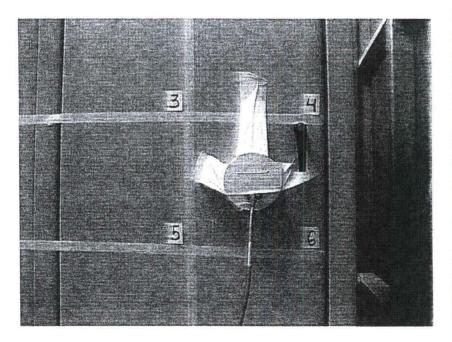
Photograph No. 4

RS101 Cabinet A, Back Side, Position 4



Photograph No. 5

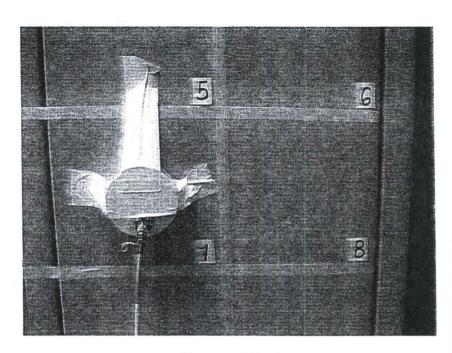
RS101 Cabinet A, Back Side, Position 5



Photograph No. 6

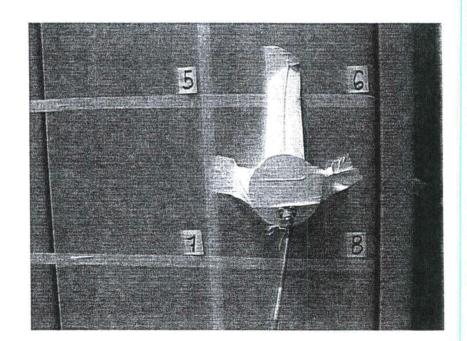


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Photograph No. 7

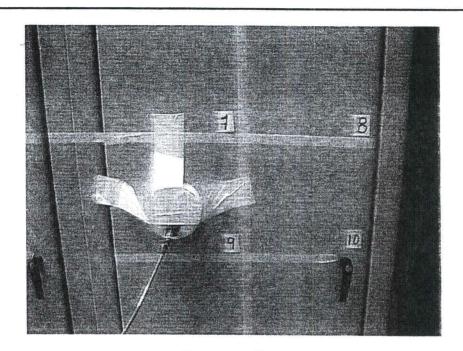
RS101 Cabinet A, Back Side, Position 7



Photograph No. 8

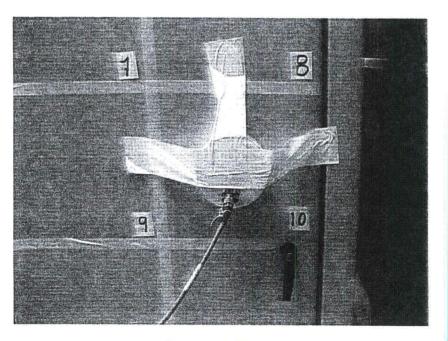
RS101 Cabinet A, Back Side, Position 8

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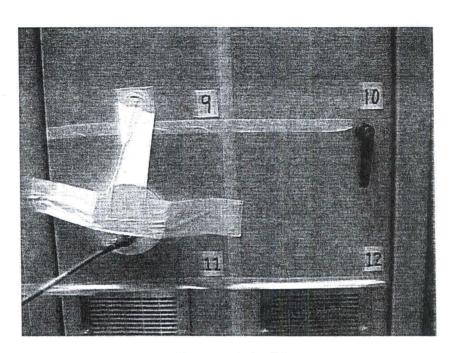
Photograph No. 9

RS101 Cabinet A, Back Side, Position 9



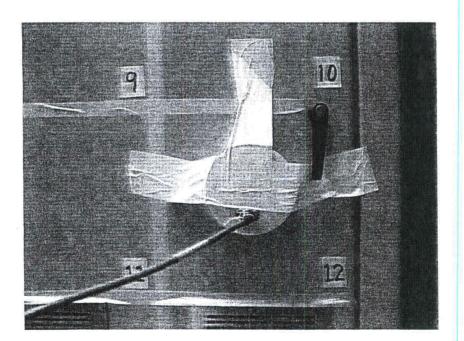
Photograph No. 10

RS101 Cabinet A, Back Side, Position 10



Photograph No. 11

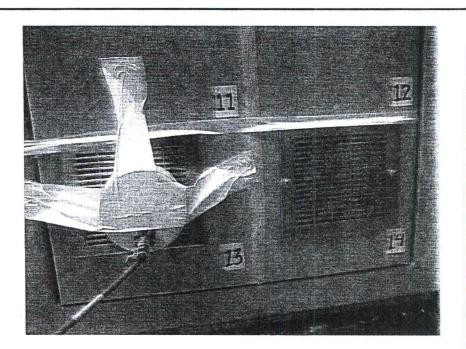
RS101 Cabinet A, Back Side, Position 11



Photograph No. 12

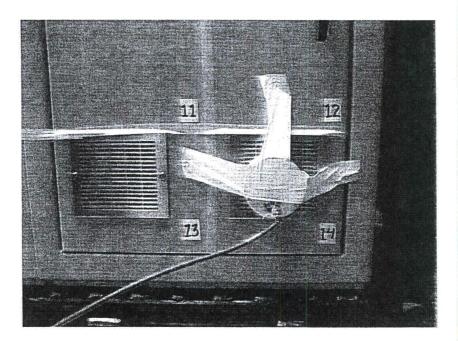
RS101 Cabinet A, Back Side, Position 12

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Photograph No. 13

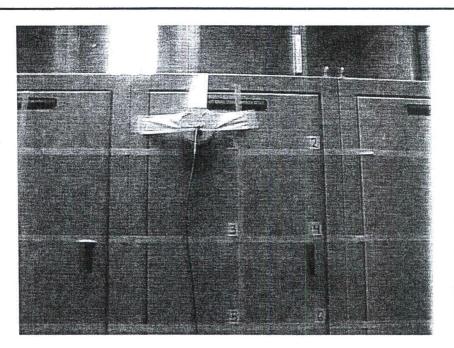
RS101 Cabinet A, Back Side, Position 13



Photograph No. 14

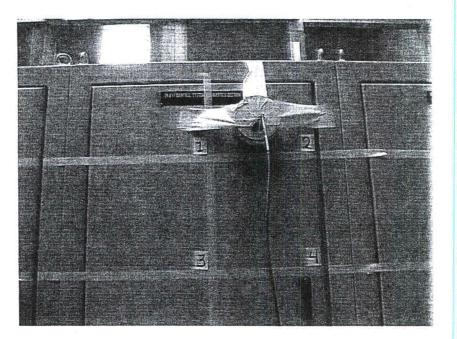
RS101 Cabinet A, Back Side, Position 14

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Photograph No. 15

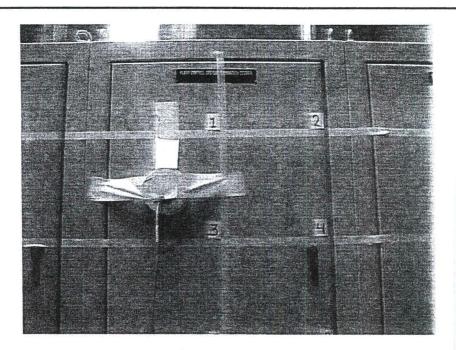
RS101 Cabinet B, Back Side, Position 1



Photograph No. 16

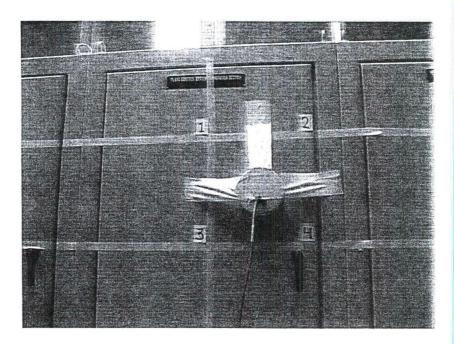
RS101 Cabinet B, Back Side, Position 2

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Photograph No. 17

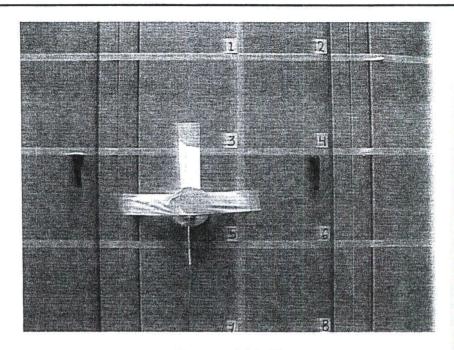
RS101 Cabinet B, Back Side, Position 3



Photograph No. 18

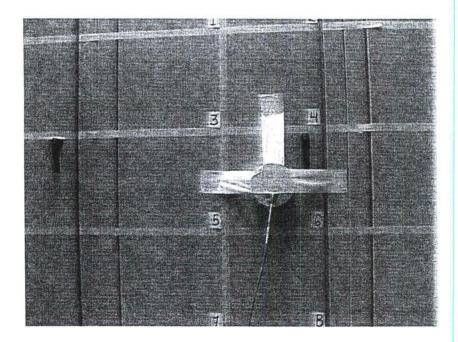
RS101 Cabinet B, Back Side, Position 4

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Photograph No. 19

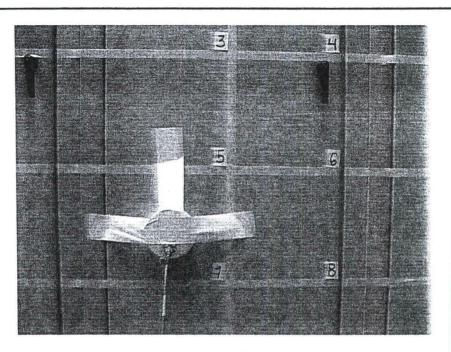
RS101 Cabinet B, Back Side, Position 5



Photograph No. 20

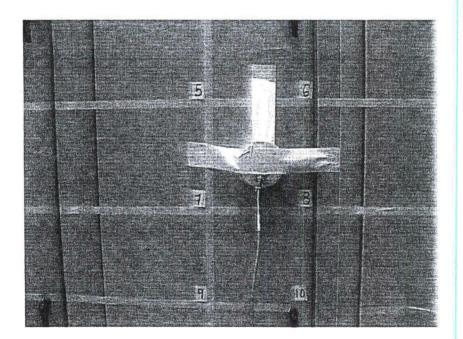
RS101 Cabinet B, Back Side, Position 6

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Photograph No. 21

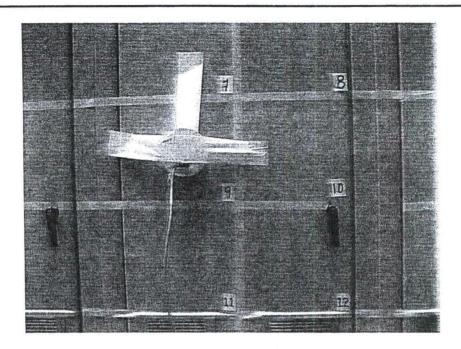
RS101 Cabinet B, Back Side, Position 7



Photograph No. 22

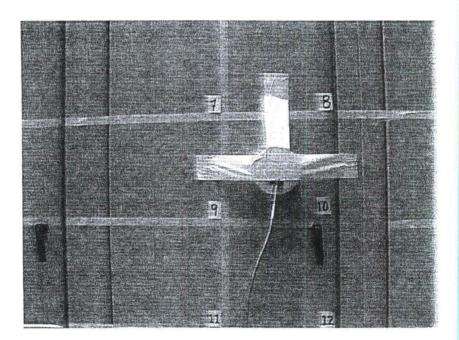
RS101 Cabinet B, Back Side, Position 8

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Photograph No. 23

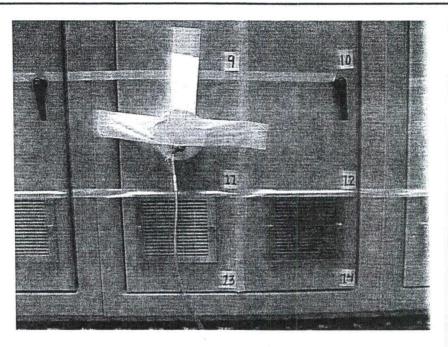
RS101 Cabinet B, Back Side, Position 9



Photograph No. 24

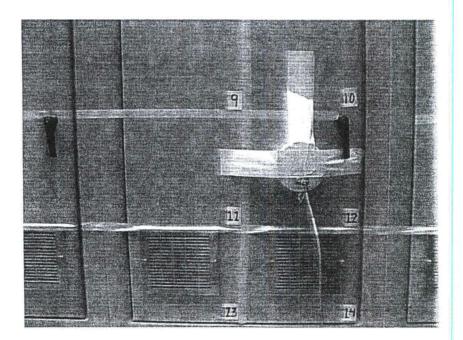
RS101 Cabinet B, Back Side, Position 10

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Photograph No. 25

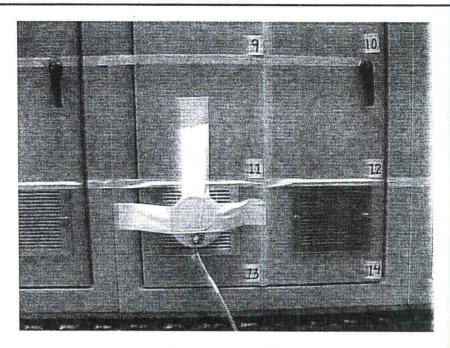
RS101 Cabinet B, Back Side, Position 11



Photograph No. 26

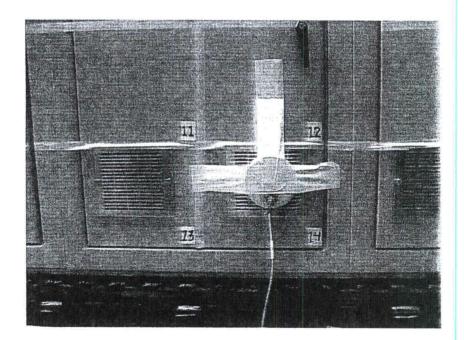
RS101 Cabinet B, Back Side, Position 12

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Photograph No. 27

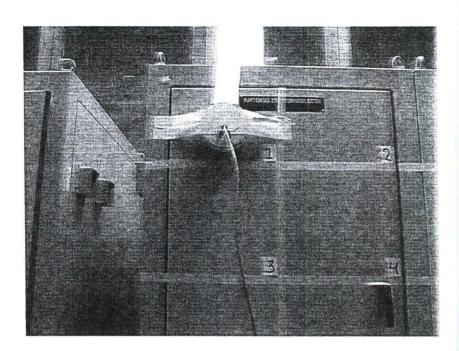
RS101 Cabinet B, Back Side, Position 13



Photograph No. 28

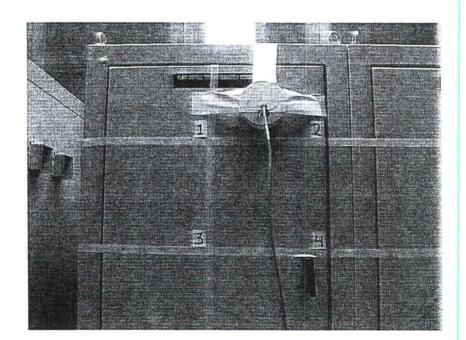
RS101 Cabinet B, Back Side, Position 14

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Photograph No. 29

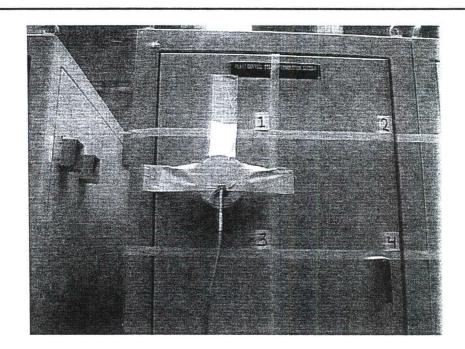
RS101 Cabinet C, Back Side, Position 1



Photograph No. 30

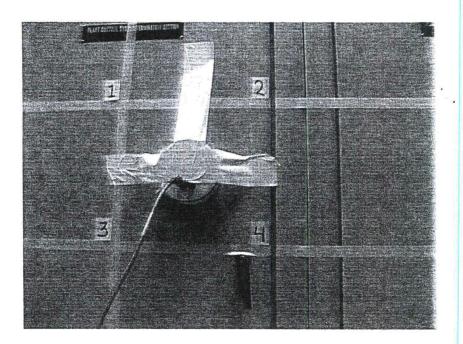
RS101 Cabinet C, Back Side, Position 2

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Photograph No. 31

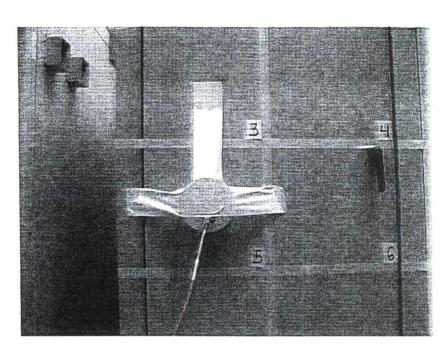
RS101 Cabinet C, Back Side, Position 3



Photograph No. 32

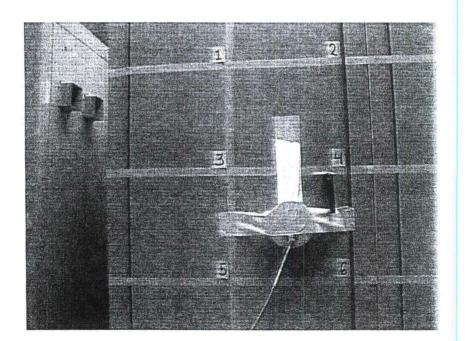
RS101 Cabinet C, Back Side, Position 4

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Photograph No. 33

RS101 Cabinet C, Back Side, Position 5

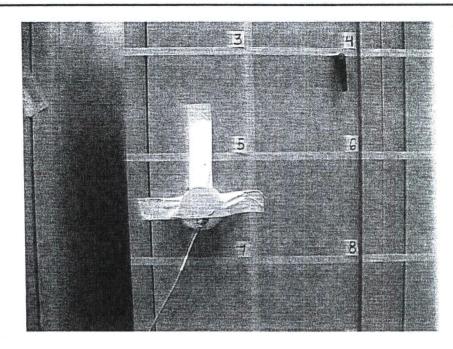


Photograph No. 34

RS101 Cabinet C, Back Side, Position 6

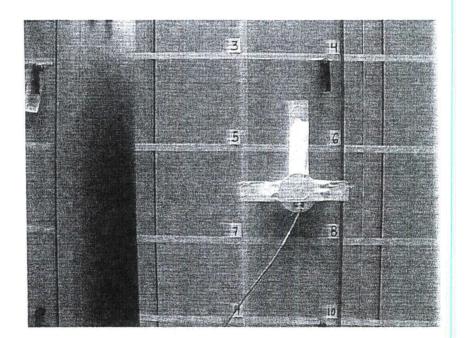
Page No. RS101-32 Test Report No. T53840-01

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Photograph No. 35

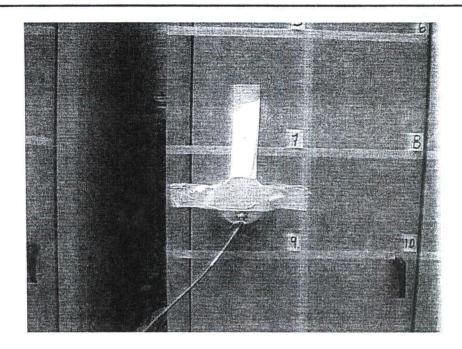
RS101 Cabinet C, Back Side, Position 7



Photograph No. 36

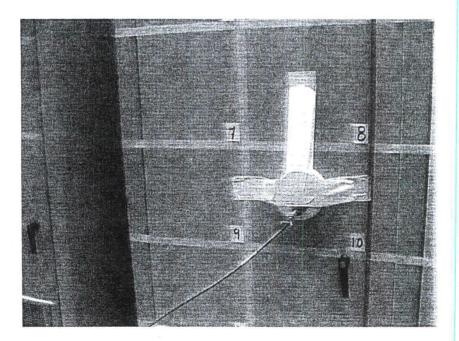
RS101 Cabinet C, Back Side, Position 8

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Photograph No. 37

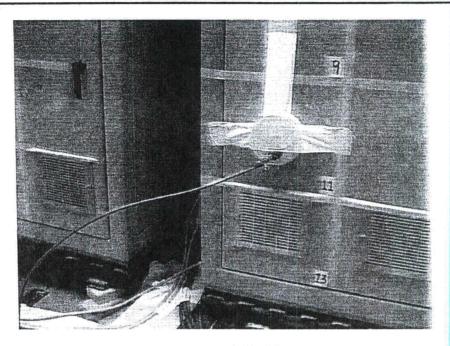
RS101 Cabinet C, Back Side, Position 9



Photograph No. 38

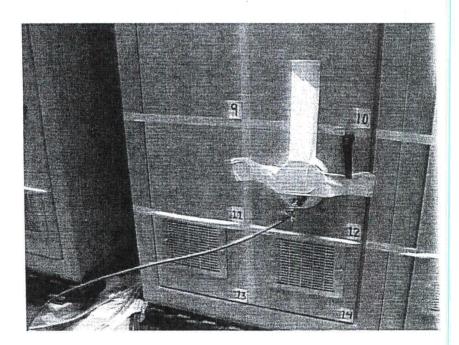
RS101 Cabinet C, Back Side, Position 10

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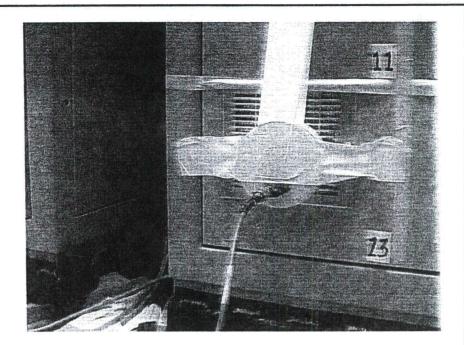
Photograph No. 39

RS101 Cabinet C, Back Side, Position 11



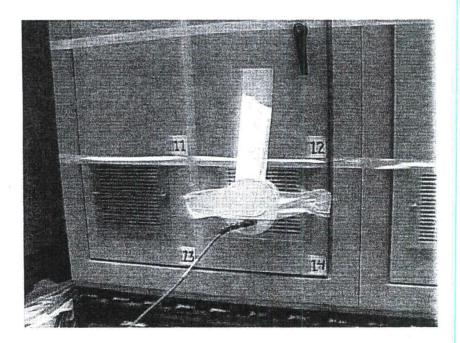
Photograph No. 40

RS101 Cabinet C, Back Side, Position 12



Photograph No. 41

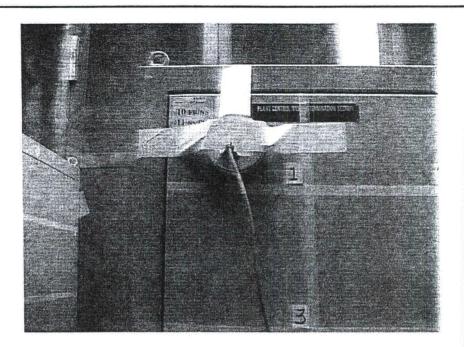
RS101 Cabinet C, Back Side, Position 13



Photograph No. 42

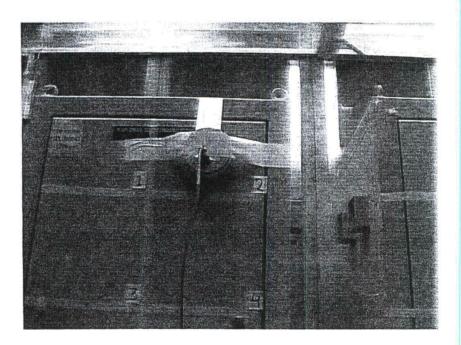
RS101 Cabinet C, Back Side, Position 14

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Photograph No. 43

RS101 Cabinet D, Back Side, Position 1

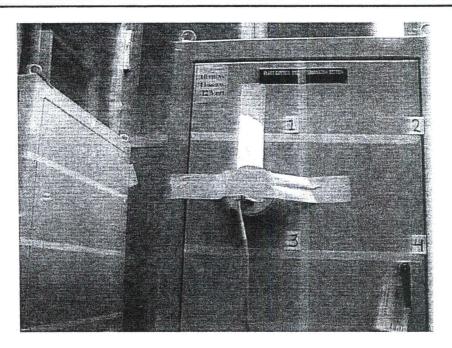


Photograph No. 44

RS101 Cabinet D, Back Side, Position 2

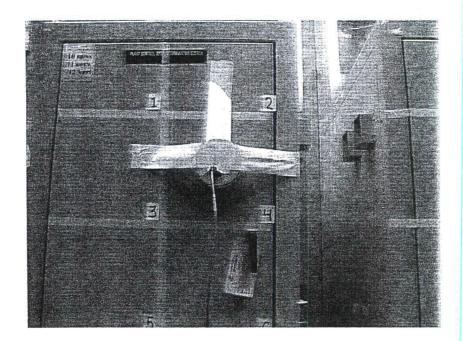
Page No. RS101-37 Test Report No. T53840-01

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Photograph No. 45

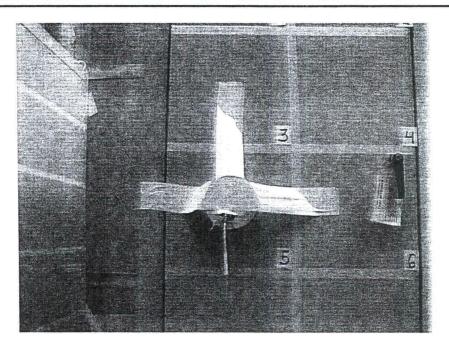
RS101 Cabinet D, Back Side, Position 3



Photograph No. 46

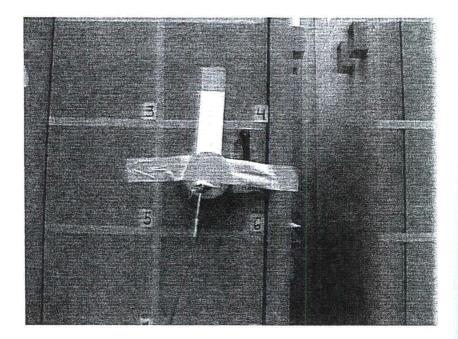
RS101 Cabinet D, Back Side, Position 4

Page No. RS101-38 Test Report No. T53840-01



Photograph No. 47

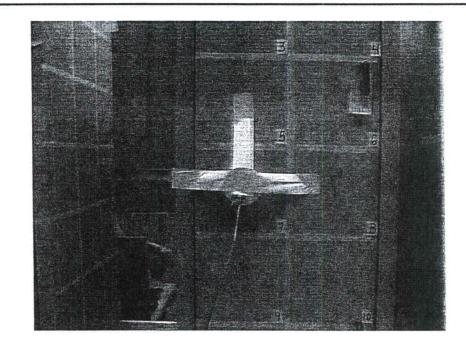
RS101 Cabinet D, Back Side, Position 5



Photograph No. 48

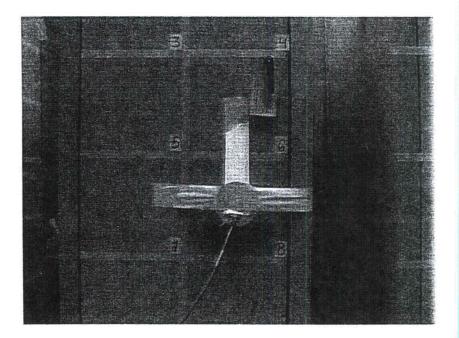
RS101 Cabinet D, Back Side, Position 6

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Photograph No. 49

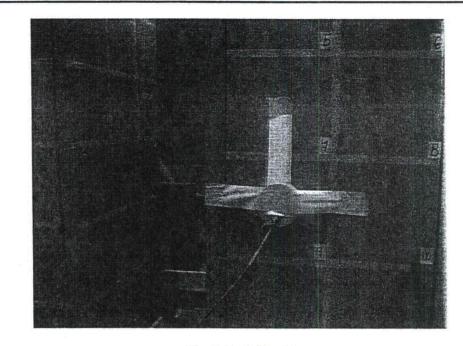
RS101 Cabinet D, Back Side, Position 7



Photograph No. 50

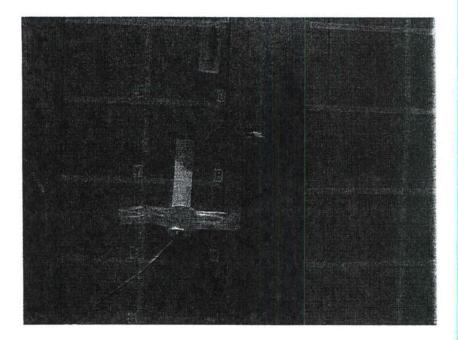
RS101 Cabinet D, Back Side, Position 8

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Photograph No. 51

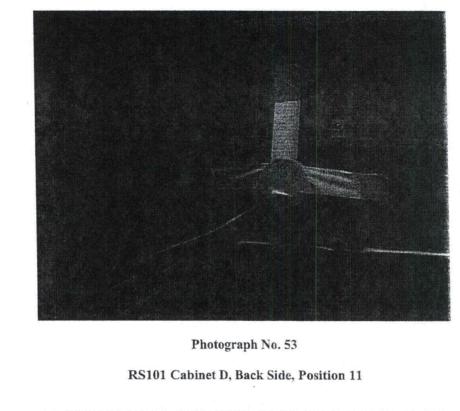
RS101 Cabinet D, Back Side, Position 9

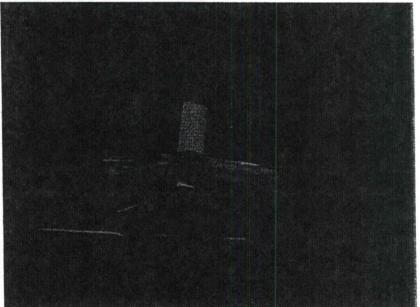


Photograph No. 52

RS101 Cabinet D, Back Side, Position 10

Page No. RS101-41 Test Report No. T53840-01

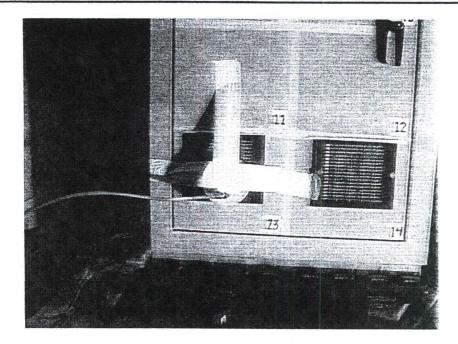




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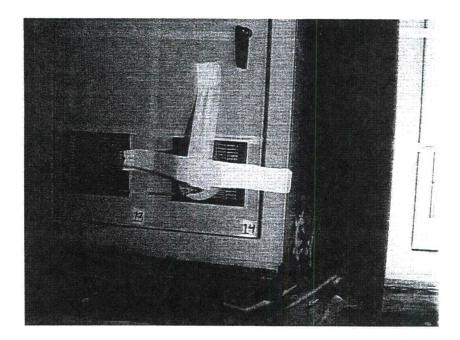
RS101 Cabinet D, Back Side, Position 12

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Photograph No. 55

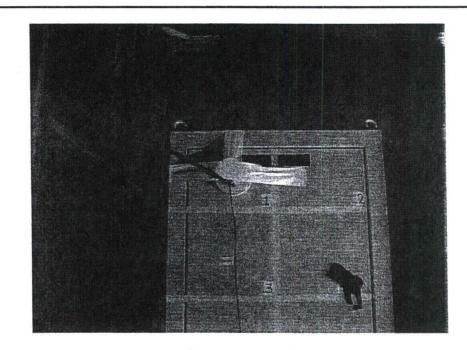
RS101 Cabinet D, Back Side, Position 13



Photograph No. 56

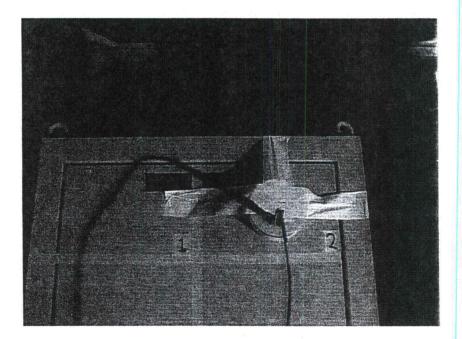
RS101 Cabinet D, Back Side, Position 14

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Photograph No. 57

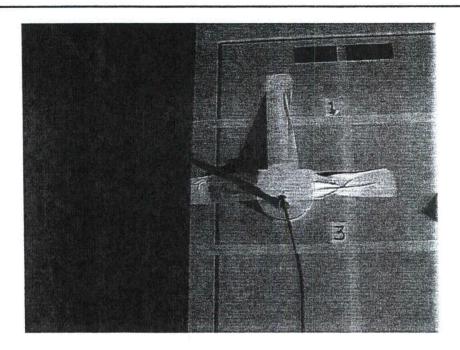
RS101 Cabinet E, Back Side, Position 1



Photograph No. 58

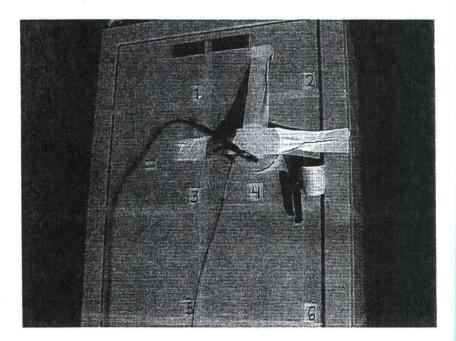
RS101 Cabinet E, Back Side, Position 2

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Photograph No. 59

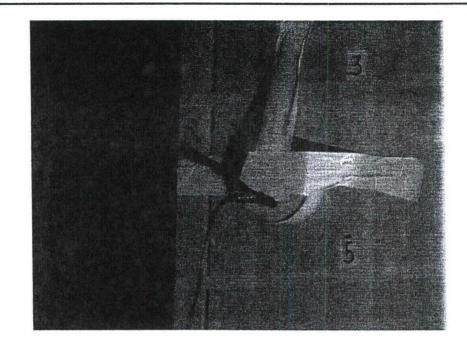
RS101 Cabinet E, Back Side, Position 3



Photograph No. 60

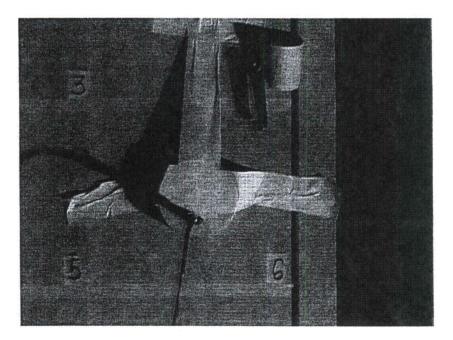
RS101 Cabinet E, Back Side, Position 4

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Photograph No. 61

RS101 Cabinet E, Back Side, Position 5

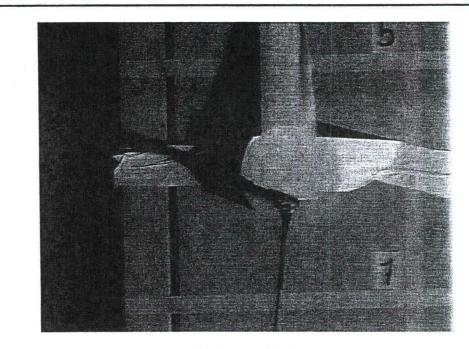


Photograph No. 62

RS101 Cabinet E, Back Side, Position 6

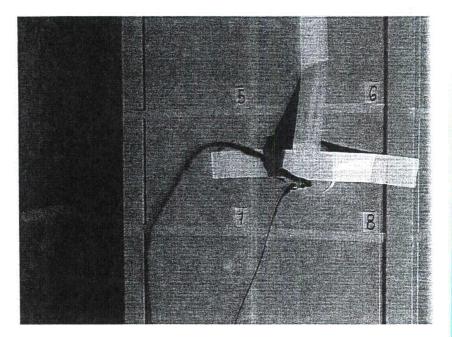
Page No. RS101-46 Test Report No. T53840-01

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Photograph No. 63

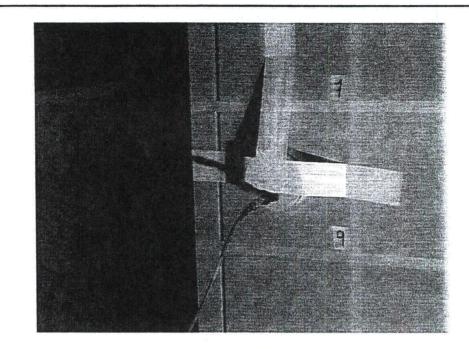
RS101 Cabinet E, Back Side, Position 7



Photograph No. 64

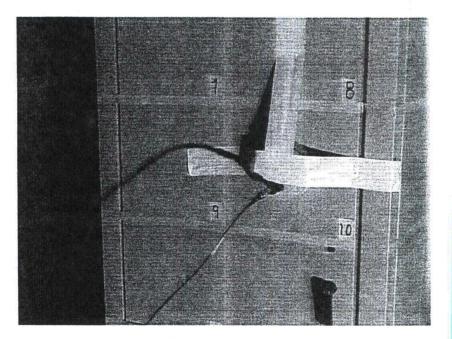
RS101 Cabinet E, Back Side, Position 8

Page No. RS101-47 Test Report No. T53840-01



Photograph No. 65

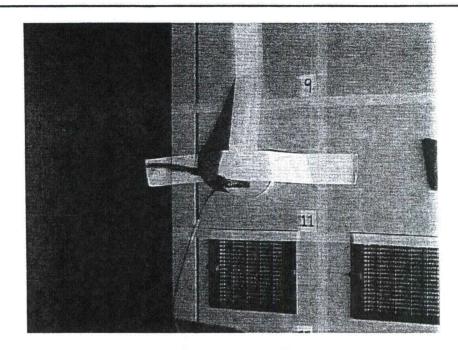
RS101 Cabinet E, Back Side, Position 9



Photograph No. 66

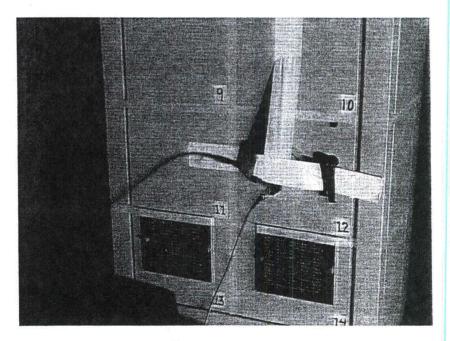
RS101 Cabinet E, Back Side, Position 10

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Photograph No. 67

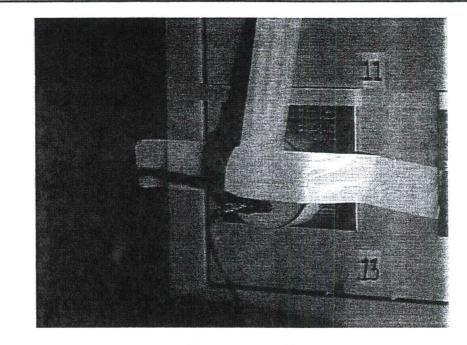
RS101 Cabinet E, Back Side, Position 11



Photograph No. 68

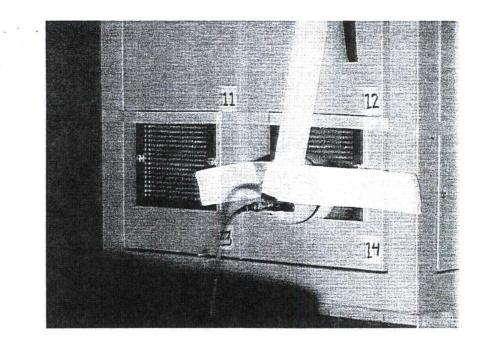
RS101 Cabinet E, Back Side, Position 12

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Photograph No. 69

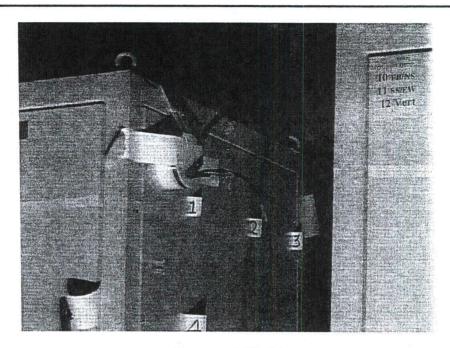
RS101 Cabinet E, Back Side, Position 13



Photograph No. 70

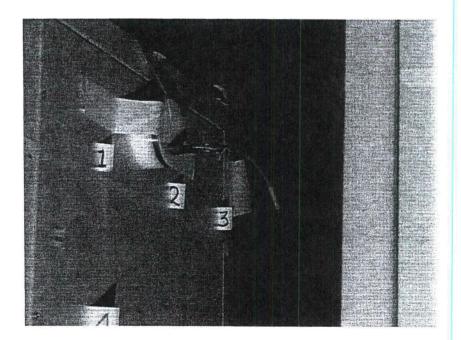
RS101 Cabinet E, Back Side, Position 14

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Photograph No. 71

RS101 Cabinet E, Left Side, Position 1

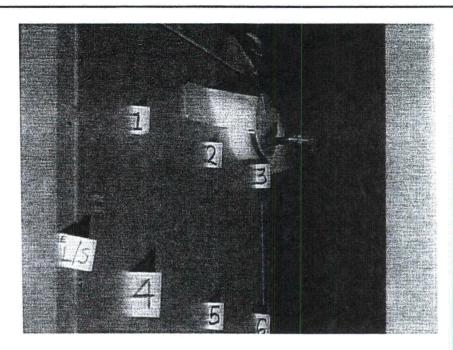


Photograph No. 72

RS101 Cabinet E, Left Side, Position 2

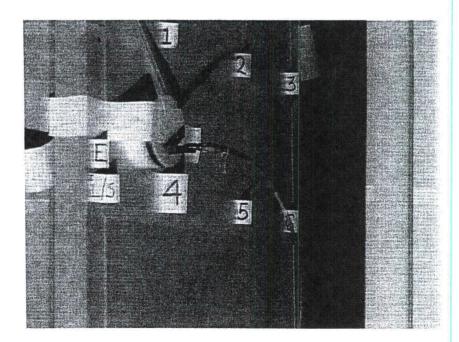
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Photograph No. 73

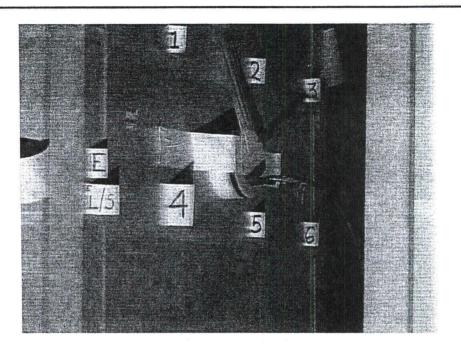
RS101 Cabinet E, Left Side, Position 3



Photograph No. 74

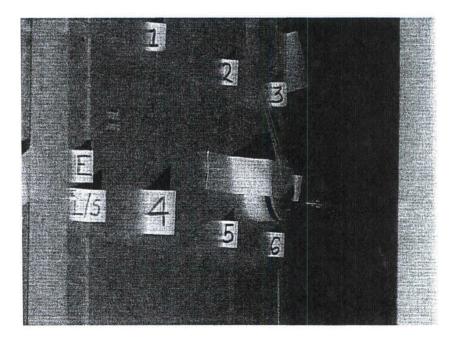
RS101 Cabinet E, Left Side, Position 4

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Photograph No. 75

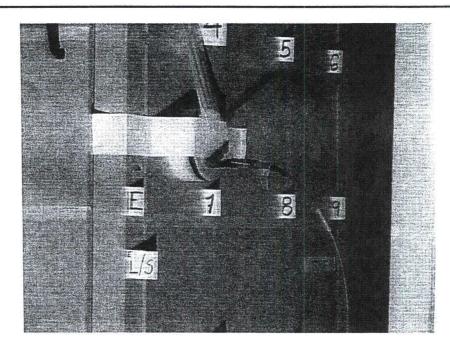
RS101 Cabinet E, Left Side, Position 5



Photograph No. 76

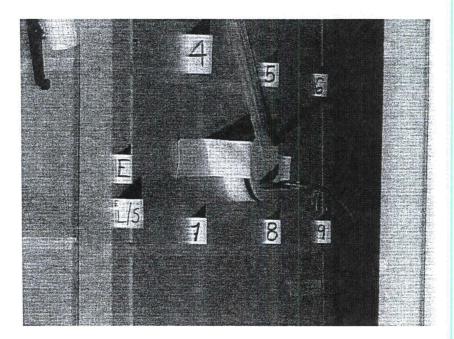
RS101 Cabinet E, Left Side, Position 6

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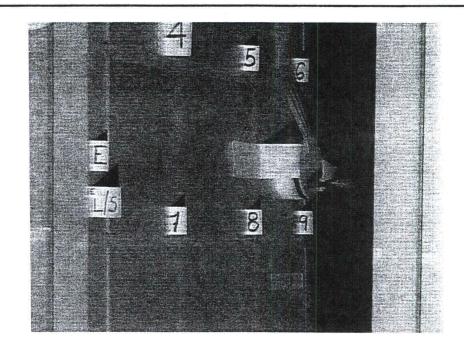
Photograph No. 77

RS101 Cabinet E, Left Side, Position 7



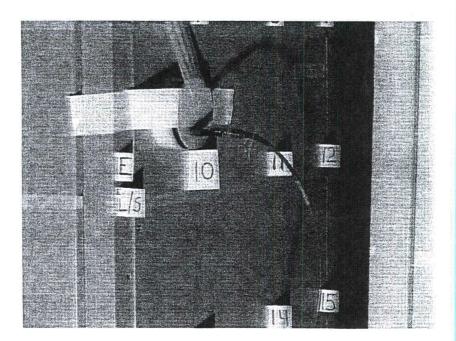
Photograph No. 78

RS101 Cabinet E, Left Side, Position 8



Photograph No. 79

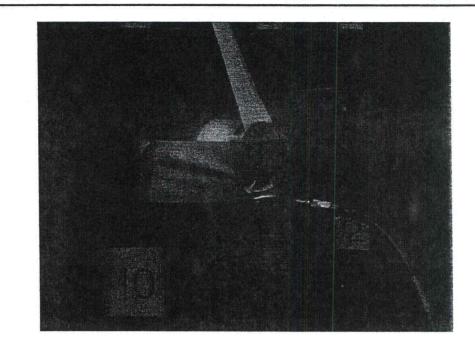
RS101 Cabinet E, Left Side, Position 9



Photograph No. 80

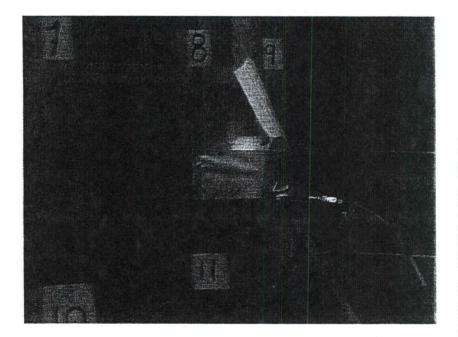
RS101 Cabinet E, Left Side, Position 10

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Photograph No. 81

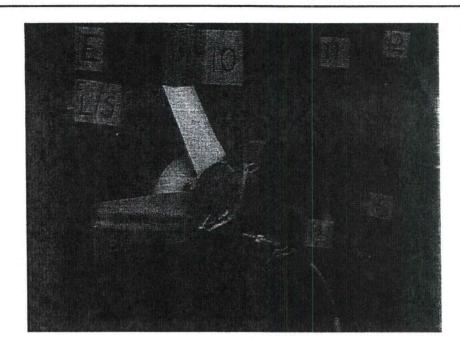
RS101 Cabinet E, Left Side, Position 11



Photograph No. 82

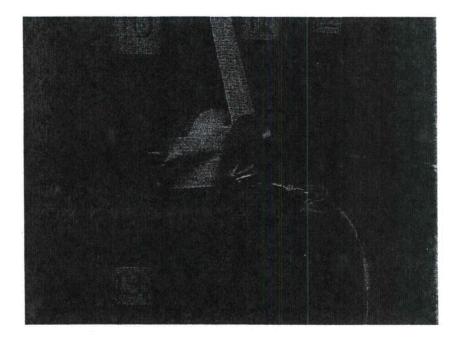
RS101 Cabinet E, Left Side, Position 12

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Photograph No. 83

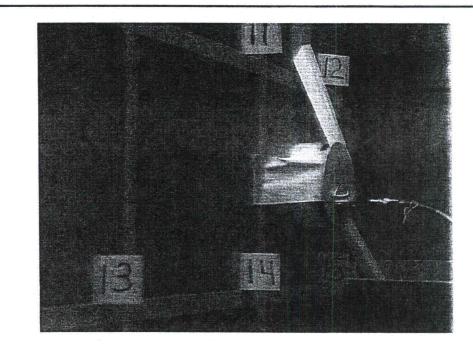
RS101 Cabinet E, Left Side, Position 13



Photograph No. 84

RS101 Cabinet E, Left Side, Position 14

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Photograph No. 85

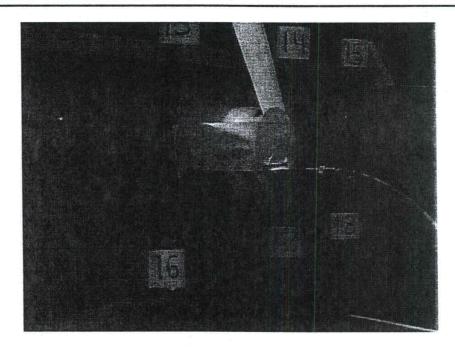
RS101 Cabinet E, Left Side, Position 15



Photograph No. 86

RS101 Cabinet E, Left Side, Position 16

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Photograph No. 87

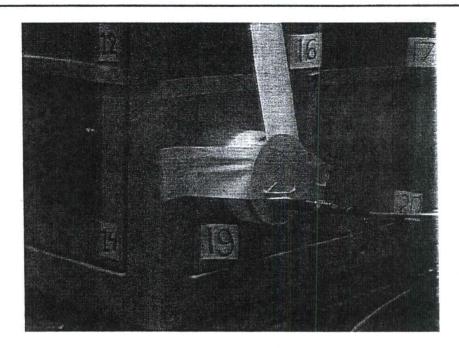
RS101 Cabinet E, Left Side, Position 17



Photograph No. 88

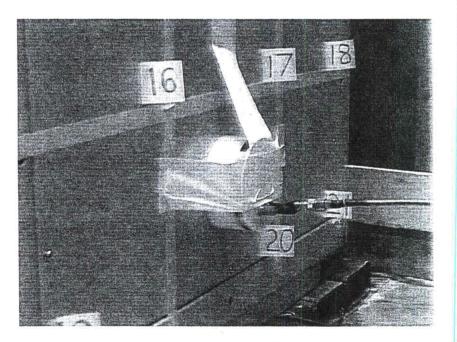
RS101 Cabinet E, Left Side, Position 18

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Photograph No. 89

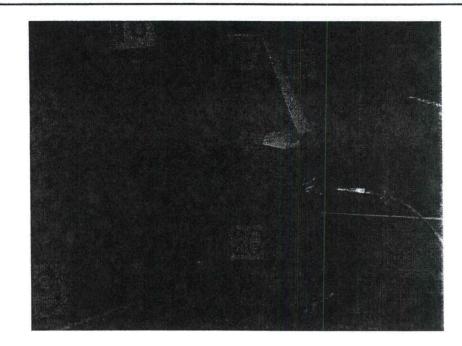
RS101 Cabinet E, Left Side, Position 19



Photograph No. 90

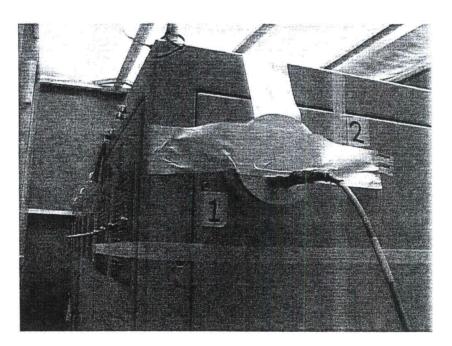
RS101 Cabinet E, Left Side, Position 20

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Photograph No. 91

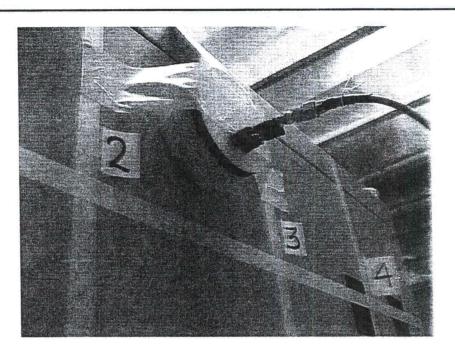
RS101 Cabinet E, Left Side, Position 21



Photograph No. 92

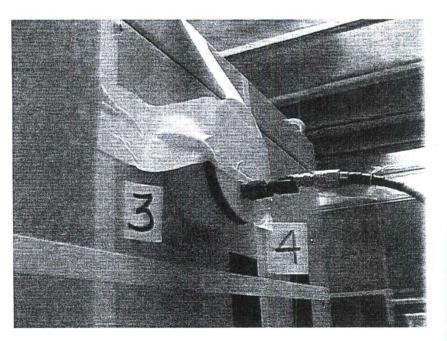
RS101 Cabinet C, Right Side, Position 1

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Photograph No. 93

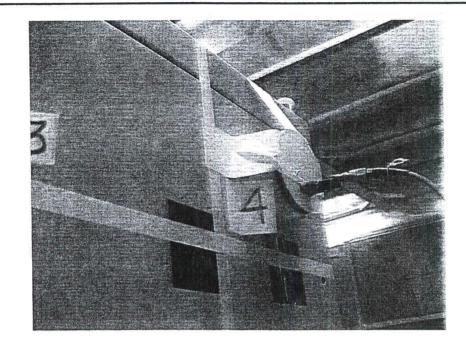
RS101 Cabinet C, Right Side, Position 2



Photograph No. 94

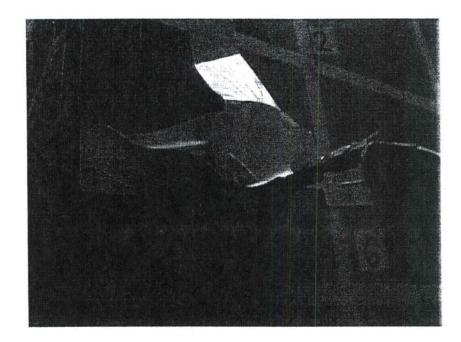
RS101 Cabinet C, Right Side, Position 3

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Photograph No. 95

RS101 Cabinet C, Right Side, Position 4



Photograph No. 96

RS101 Cabinet C, Right Side, Position 5