Acceptance Test Data Sheets

For

Skyryse Flight OS LEMA TPX 325

|  |  |
| --- | --- |
| LEMA Assembly Part Number | Serial Number |
|  | 12345 |

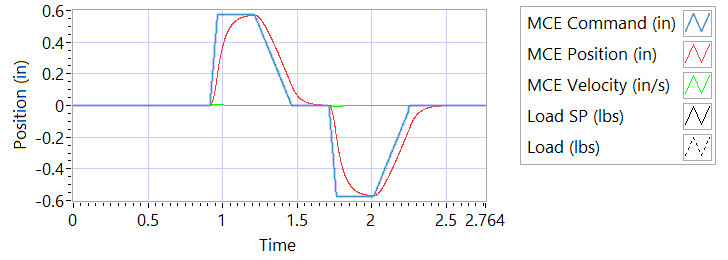


Figure Caption

<IMAGE>

12345

6.1. **Visual Examination of the Product**

UUT conforms to the requirements of paragraph 6.1 \_\_\_\_\_\_\_\_\_\_\_\_

6.2 **Weight**

UUT weight should not exceed 10 lbs actual weight\_\_\_\_\_ lbs

**6.3 Bonding**

Bonding resistance

**<INSERT TABLE>**

|  |  |  |
| --- | --- | --- |
|  | **Simplex** | **Duplex** |
|  | (mOhms) | (mOhms) |
| Motor End Cap |  |  |
| Solenoid housing |  |  |
| Encoder cover |  |  |

6.4 Resistance and Inductance Test (motor and solenoid)

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Connector J1** | **Connector J2** | **Connector J3** |
| Pins | Resistance (Ohms) | Resistance (Ohms) | Resistance (Ohms) |
| E to F |  |  |  |
| F to G |  |  |  |
| G to E |  |  |  |
| A to L |  |  |  |
| G,F,E,A,L tied together to chassis grounds. Apply 500VDC |  |  |  |
| **<INSERT TABLE>** | | | |
|  | Inductance(mH) | Inductance(mH) | Inductance(mH) |
| E to F |  |  |  |
| F to G |  |  |  |
| G to E |  |  |  |
| A to L |  |  |  |

6.5 **Power ON UUT Checks**

Confirm all sensors are reporting nominal values and no faults reported

|  |  |  |
| --- | --- | --- |
| Sensor | Value | Pass/Fail |
| Motor 1 | Unhandled Type: Void | Unhandled Type: Void |
| Motor 2 | Unhandled Type: Void | Unhandled Type: Void |
| Motor 3 | Unhandled Type: Void | Unhandled Type: Void |
| M1 | Unhandled Type: Void | Unhandled Type: Void |
| M2 | Unhandled Type: Void | Unhandled Type: Void |
| M3 | Unhandled Type: Void | Unhandled Type: Void |
| Faults 1 | 1024 | Pass |
| Faults 2 | 1024 | Pass |
| Faults 3 | 1024 | Pass |

6.6 Configure ETC???

6.7 **Functional Check Out**

6.7.1 **MCE1, MCE 2, MCE3 Power Up**

Final?

|  |  |  |  |
| --- | --- | --- | --- |
| Description | Ballnut position | Actual Amps | Pass/Fail |
| MCE 1 reports values for Ballnut position and motor current | 0 | Unhandled Type: Void | RESULTS |
| (Simulated) FCC/reports values for M1(QPS) | 1.0071 | Unhandled Type: Void | RESULTS |

6.7.2 **N1 and N2 Extend Mechanical Stops**

**Step 6.7.2.1** **Extend using M1/N1**

|  |  |  |
| --- | --- | --- |
| Description | Actual  Amps | Pass/Fail |
| N1 extend stop engaged (M1 current saturated) | <AMPS> | <RESULTS> |
| MCE 1 Motor Current | <AMPS> |  |

**Step 6.7.2.2** **Extend using M2/N2**

|  |  |  |
| --- | --- | --- |
| Description | Actual Amps | Pass/Fail |
| N2 extend stop engaged (M2 current saturated) | <AMPS> | <RESULTS> |
| MCE2 Motor Current | <AMPS> |  |

**Step 6.7.2.3** **Test rig Truth Encoder Position**

|  |  |  |
| --- | --- | --- |
| Description | Actual Ins | Pass/Fail |
| Test Rig Truth Encoder Position | <POSITION> | <RESULTS> |
|  |  |  |

**6.7.3 MCE Rigging was not found here, numbering off??**

6.7.4 **N1 and N2 Retract Mechanical Stops 6.7.4?**

**Step a Retract using M1/N1**

|  |  |  |
| --- | --- | --- |
| Description | Actual  Amps | Pass/Fail |
| N1 retract stop engaged (M1 current saturated, Motor 1 primary and M1 secondary feedbacks stop changing) | <AMPS> | <RESULTS> |
| MCE 1 Motor Current | <AMPS> | <RESULTS> |

**Step a** **Retract using M2/N2**

|  |  |  |
| --- | --- | --- |
| Description | Actual  Amps | Pass/Fail |
| N2 retract stop engaged (M2 current saturated, Motor 2 primary and M2 secondary feedbacks stop changing) | <AMPS> | <RESULTS> |
| MCE2 Motor Current | <AMPS> | <RESULTS> |

**Step a** **Test rig Truth Encoder Position**

|  |  |  |
| --- | --- | --- |
| Description | Actual Ins | Pass/Fail |
| Test Rig Truth Encoder Position when N1and N2 are at the retract stop | <INCHES> | <RESULTS> |

**Step a** **Actuator length with external load**

|  |  |  |
| --- | --- | --- |
| Load, lbf | Actuator Length, ins | Pass/Fail |
|  |  |  |

**Step d** **Absolute feedback**

|  |  |  |
| --- | --- | --- |
| Description | Position | Pass/Fail |
| Motor1 position + Motor 2 position = test rig encoder | <INCHES> | <RESULTS> |
| Motor1 position + Motor 3 position = test rig encoder | <INCHES> | <RESULTS> |
| M1 position + M2 position = test rig encoder | <INCHES> | <RESULTS> |
| M1 position + M3 position = test rig encoder | <INCHES> | <RESULTS> |
| Difference between Motor 2 position and Motor 3 position is < TBD ins | <INCHES> | <RESULTS> |
| Difference between M2 position and M3 position is < TBD ins | <INCHES> | <RESULTS> |
| Difference between Motor 1 position and M1 position is < TBD ins | <INCHES> | <RESULTS> |
| Difference between Motor 2 position and M2 position is < TBD ins | <INCHES> | <RESULTS> |
| Difference between Motor 3 position and M3 position is < TBD ins | <INCHES> | <RESULTS> |

6.7.5 **N1 and N2 Stroke Check**

**Step c** - **Extend using M1/N1**

|  |  |  |
| --- | --- | --- |
| Description | Actual Amps | Pass/Fail |
| N1 extend stop engaged (M1 current saturated, Motor 1 and M1 positions stop changing) | <AMPS> | <RESULTS> |
| MCE1 Motor Current prior to contacting the stops | <AMPS> | <RESULTS> |
| N1 velocity linear and constant within 0.2 ± TBD ins/sec | <SPEED> | <RESULTS> |
| Delta between Motor 1 and M1 is < TBD ins | <INCHES> | <RESULTS> |
| Motor 1 and M1 are smooth throughout the stroke | <SMOOTH> | <RESULTS> |

**Step f** - **Extend using M2/N2**

|  |  |  |
| --- | --- | --- |
| Description | Actual Amps | Pass/Fail |
| N2 extend stop engaged (M2 current saturated, Motor 2 and M2 positions stop changing) | <AMPS> | <RESULTS> |
| MCE2 Motor Current prior to contacting the stops | <AMPS> | <RESULTS> |
| N2 velocity linear and constant within 0.2 ± TBD ins/sec | <SPEED> | <RESULTS> |
| Delta between Motor 2 and M2 is < TBD ins | <INCHES> | <RESULTS> |
| Motor 2 and M2 are smooth throughout the stroke | <SMOOTH> | <RESULTS> |

**Step g** **Absolute feedback**

|  |  |  |
| --- | --- | --- |
| Description | Position | Pass/Fail |
| Motor1 position + Motor 2 position = test rig encoder | <INCHES> | <RESULTS> |
| Motor1 position + Motor 3 position = test rig encoder | <INCHES> | <RESULTS> |
| M1 position + M2 position = test rig encoder | <INCHES> | <RESULTS> |
| M1 position + M3 position = test rig encoder | <INCHES> | <RESULTS> |
| Difference between Motor 2 position and Motor 3 position is < TBD ins | <INCHES> | <RESULTS> |
| Difference between M2 position and M3 position is < TBD ins | <INCHES> | <RESULTS> |
| Difference between Motor 1 position and M1 position is < TBD ins | <INCHES> | <RESULTS> |
| Difference between Motor 2 position and M2 position is < TBD ins | <INCHES> | <RESULTS> |
| Difference between Motor 3 position and M3 position is < TBD ins | <INCHES> | <RESULTS> |

**Step h** – **Retract using M1/N1**

|  |  |  |
| --- | --- | --- |
| Description | Actual Amps | Pass/Fail |
| N1 retract stop engaged (M1 current saturated, Motor 1 and M1 positions stop changing) | <AMPS> | <RESULTS> |
| MCE1 Motor Current prior to contacting the stops | <AMPS> | <RESULTS> |
| N1 velocity linear and constant within 0.2 ± TBD ins/sec | <SPEED> | <RESULTS> |
| Delta between Motor 1 and M1 is < TBD ins | <INCHES> | <RESULTS> |
| Motor 1 and M1 are smooth throughout the stroke | <SMOOTH> | <RESULTS> |

**Step j** – **Retract using M2/N2**

|  |  |  |
| --- | --- | --- |
| Description | Actual Amps | Pass/Fail |
| N2 retract stop engaged (M2 current saturated, Motor 2 and M2 positions stop changing) | <AMPS> | <RESULTS> |
| MCE2 Motor Current prior to contacting the stops | <AMPS> | <RESULTS> |
| N1 velocity linear and constant within 0.2 ± TBD ins/sec | <SPEED> | <RESULTS> |
| Delta between Motor 2 and M2 is < TBD ins | <INCHES> | <RESULTS> |
| Motor 2 and M2 are smooth throughout the stroke | <SMOOTH> | <RESULTS> |

**Step n** – **Extend using M3/N2**

|  |  |  |
| --- | --- | --- |
| Description | Actual Amps | Pass/Fail |
| N2 extend stop engaged (M3 current saturated, Motor 3 and M3 positions stop changing) |  | Yes No |
| MCE3 Motor Current prior to contacting the stops |  |  |
| N2 velocity linear and constant within 0.2 ± TBD ins/sec |  |  |
| Delta between Motor 3 and M3 is < TBD ins |  |  |
| Motor 3 and M3 are smooth throughout the stroke |  |  |

**Step o**– **Retract using M3/N2**

|  |  |  |
| --- | --- | --- |
| Description | Actual Amps | Pass/Fail |
| N2 retract stop engaged (M3 current saturated, Motor 3 and M3 positions stop changing) |  | Yes No |
| MCE3 Motor Current prior to contacting the stops |  |  |
| N2 velocity linear and constant within 0.2 ± TBD ins/sec |  |  |
| Delta between Motor 3 and M3 is < TBD ins |  |  |
| Motor 3 and M3 are smooth throughout the stroke |  |  |

**6.7.6 Brake Release Test**

**Step d –** LEMA reaches commanded position

|  |  |
| --- | --- |
| Description | Pass/Fail |
| MCE1 /Motor 1 | <RESULTS> |
| MCE2 /Motor 2 | <RESULTS> |

**6.7.7 Performance Test – unloaded operation (one channel operation)**

**6.7.7.1.1 MCE 1 - Step Response Test**

**The result for motor one is shown below:**

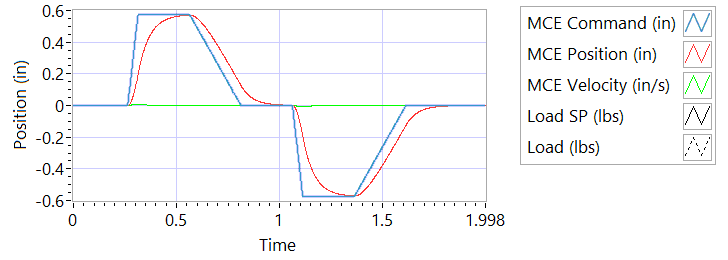
****

Figure Caption

**IMAGE**

**Step d Extension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed / Time | Pass/Fail |
| No Load speed is 2.7 to 3.3 in/sec | 5.4652 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170+9/-9 ms seconds | 115 | Unhandled Type: Void |

**Step e Retraction**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed / Time | Pass/Fail |
| No Load speed is 2.7 to 3.3 in/sec | -5.4423 | Failed |
| Time to achieve 80% of the specified stroke (- 0.575 ins) is 170+9/-9 ms seconds | 115 | Failed |

**6.7.7.1.2 MCE 1 - Frequency Response**

**Step d**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | -0.688511 | -5.000000 | Pass |
| 0.50 HZ | -6.906712 | -10.000000 | Pass |
| 1.00 HZ | -18.513737 | -20.000000 | Pass |
| 2.00 HZ | -35.827419 | -30.000000 | Failed |
| 3.00 HZ | -65.592201 | -50.000000 | Failed |
| 4.00 HZ | -73.601501 | -60.000000 | Failed |
| 5.00 HZ | -54.824028 | -70.000000 | Pass |

6.7.7.2.1 **MCE 2 - Step Response Test**

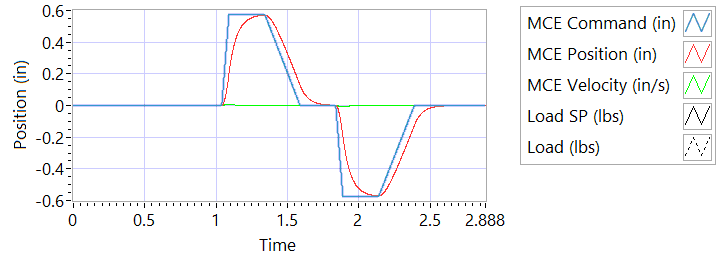
****

Figure Caption

**IMAGE**

**Step d Extension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed / Time | Pass/Fail |
| No Load speed is 2.7 to 3.3 in/sec | 5.4632 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170+9/-9 ms seconds | 115 | Failed |

**Step e Retraction**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed / Time | Pass/Fail |
| No Load speed is 2.7 to 3.3 in/sec | -5.4726 | Failed |
| Time to achieve 80% of the specified stroke (- 0.575 ins) is 170+9/-9 ms seconds | 115 | Failed |

6.7.7.2.2 **MCE 2 - Frequency Response Test**

**Step d**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | -2.382104 | -5.000000 | Pass |
| 0.50 HZ | -12.619372 | -10.000000 | Failed |
| 1.00 HZ | -18.368975 | -20.000000 | Pass |
| 2.00 HZ | -36.664875 | -30.000000 | Failed |
| 3.00 HZ | -44.218243 | -50.000000 | Pass |
| 4.00 HZ | -36.338310 | -60.000000 | Pass |
| 5.00 HZ | -11.945221 | -70.000000 | Pass |

6.7.7.3.1 **MCE 3 – Step Response Test**

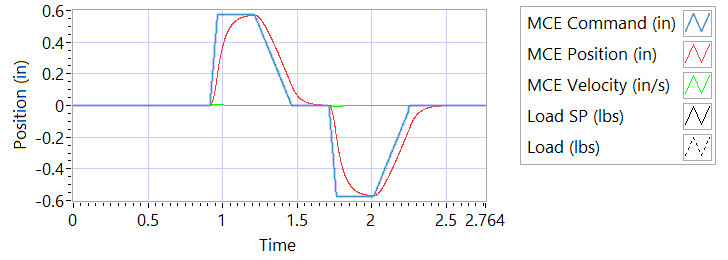
****

Figure Caption

**IMAGE**

**Step d Extension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed / Time | Pass/Fail |
| No Load speed is 2.7 to 3.3 in/sec | 5.4625 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170+9/-9 ms seconds | 115 | Failed |

**Step e Retraction**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed / Time | Pass/Fail |
| No Load speed is 2.7 to 3.3 in/sec | -5.4435 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170+9/-9 ms seconds | 115 | RESULTS |

6.7.7.3.2 **MCE 3 Frequency Response Test**

**Step d**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | -34.265652 | -5.000000 | Failed |
| 0.50 HZ | -113.736069 | -10.000000 | Failed |
| 1.00 HZ | 1.977077 | -20.000000 | Pass |
| 2.00 HZ | 150.087097 | -30.000000 | Pass |
| 3.00 HZ | 20.788626 | -50.000000 | Pass |
| 4.00 HZ | -48.101574 | -60.000000 | Pass |
| 5.00 HZ | -37.439278 | -70.000000 | Pass |

6.7.8 **Performance Test – Loaded Operation**

6.7.8.1 **Step and Frequency Response Test - Loaded**

6.7.8.1.1 **MCE1 – Step Response Test**

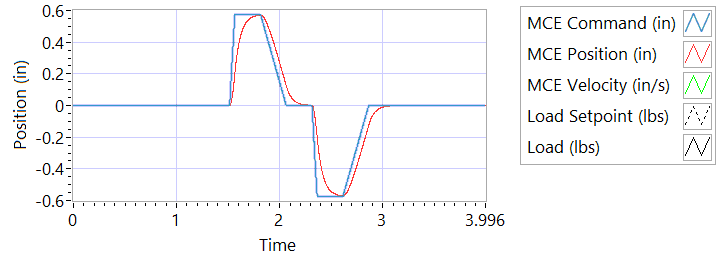


Figure Caption

<IMAGE.STEP.RESPONSE.TEST>

**Step j – 225 lbf tension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | 5.4626 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170 +9/-9 ms | 115 | Failed |

**Step k – 225 lbf tension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | -5.4549 | Failed |
| Time to achieve 80% of the specified stroke (- 0.575 ins) is 170 +9/-9 ms | 115 | Failed |

**Step n – 225 lbf compression**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | 5.4632 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170 +9/-9 ms | 115 | Failed |

**Step o – 225 lbf compression**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | -5.443 | Failed |
| Time to achieve 80% of the specified stroke (- 0.575 ins) is 170 +9/-9 ms | 115 | Failed |

6.7.8.1.2 **MCE 1 – Frequency Response Test**

**Step d – 225 lbf Tension**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | -1.611360 | -5.000000 | Pass |
| 0.50 HZ | -12.047844 | -10.000000 | Failed |
| 1.00 HZ | -18.973614 | -20.000000 | Pass |
| 2.00 HZ | -33.903461 | -30.000000 | Failed |
| 3.00 HZ | -65.556763 | -50.000000 | Failed |
| 4.00 HZ | -40.602367 | -60.000000 | Pass |
| 5.00 HZ | -10.264682 | -70.000000 | Pass |

**Step h – 225 lbf Compression**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | -2.127120 | -5.000000 | Pass |
| 0.50 HZ | -11.683478 | -10.000000 | Failed |
| 1.00 HZ | -19.425526 | -20.000000 | Pass |
| 2.00 HZ | -31.309969 | -30.000000 | Failed |
| 3.00 HZ | -59.060078 | -50.000000 | Failed |
| 4.00 HZ | -69.461456 | -60.000000 | Failed |
| 5.00 HZ | -65.091629 | -70.000000 | Pass |

6.7.8.1.3 **MCE 2 – Step Response Test**

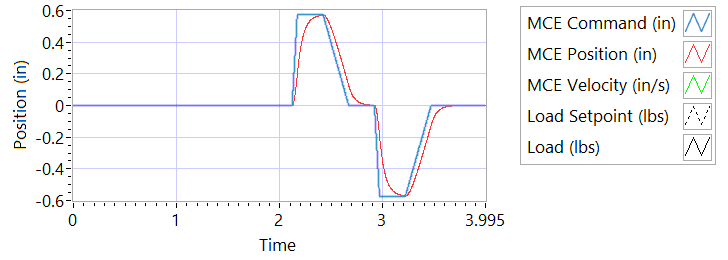


Figure Caption

<IMAGE.STEP.RESPONSE.TEST\_1>

**Step j – 225 lbf tension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | 5.4648 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170 +9/-9 ms | 115 | Failed |

**Step k – 225 lbf tension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | -5.4381 | Failed |
| Time to achieve 80% of the specified stroke (- 0.575 ins) is 170 +9/-9 ms | 116 | Failed |

**Step n – 225 lbf compression**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | 5.4631 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170 +9/-9 ms | 115 | Failed |

**Step o – 225 lbf compression**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | -5.4434 | Failed |
| Time to achieve 80% of the specified stroke (- 0.575 ins) is 170 +9/-9 ms | 114 | Failed |

6.7.8.1.4 **MCE 2 – Frequency response Test**

**Step d – 225 lbf Tension**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | -1.806944 | -5.000000 | Pass |
| 0.50 HZ | -10.785483 | -10.000000 | Failed |
| 1.00 HZ | -19.788797 | -20.000000 | Pass |
| 2.00 HZ | -36.450901 | -30.000000 | Failed |
| 3.00 HZ | -37.561119 | -50.000000 | Pass |
| 4.00 HZ | -48.865528 | -60.000000 | Pass |
| 5.00 HZ | -10.701598 | -70.000000 | Pass |

**Step h – 225 lbf Compression**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | -2.759102 | -5.000000 | Pass |
| 0.50 HZ | -11.329758 | -10.000000 | Failed |
| 1.00 HZ | -18.262186 | -20.000000 | Pass |
| 2.00 HZ | -35.916309 | -30.000000 | Failed |
| 3.00 HZ | -44.805897 | -50.000000 | Pass |
| 4.00 HZ | -41.978725 | -60.000000 | Pass |
| 5.00 HZ | -72.343552 | -70.000000 | Failed |

6.7.8.1.5 **MCE 3 – Step Response Test**

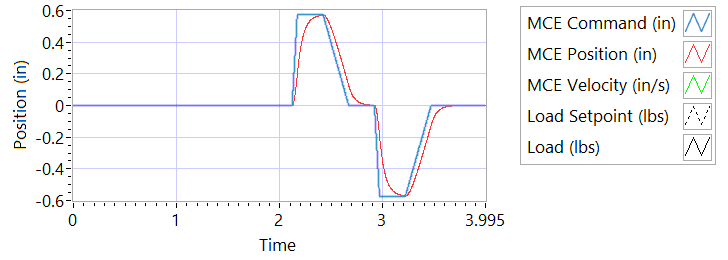


Figure Caption

<IMAGE.STEP.RESPONSE.TEST>

**Step j – 225 lbf tension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | 5.4452 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170 +9/-9 ms | 114 | Failed |

**Step k – 225 lbf tension**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | -5.5344 | Failed |
| Time to achieve 80% of the specified stroke (- 0.575 ins) is 170 +9/-9 ms | 114 | Failed |

**Step n – 225 lbf compression**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | 5.4615 | Failed |
| Time to achieve 80% of the specified stroke (+ 0.575 ins) is 170 +9/-9 ms | 115 | Failed |

**Step o – 225 lbf compression**

|  |  |  |
| --- | --- | --- |
| Description | Actual Speed | Pass/Fail |
| speed between 2.07 and 2.53 in/sec | -5.4438 | Failed |
| Time to achieve 80% of the specified stroke (- 0.575 ins) is 170 +9/-9 ms | 115 | Failed |

6.7.8.1.6 **MCE 3 – Frequency Response Test**

**Step d – 225 lbf Tension**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | 71.366364 | -5.000000 | Pass |
| 0.50 HZ | 151.400620 | -10.000000 | Pass |
| 1.00 HZ | 10.503792 | -20.000000 | Pass |
| 2.00 HZ | 92.767441 | -30.000000 | Pass |
| 3.00 HZ | 166.740311 | -50.000000 | Pass |
| 4.00 HZ | 105.454666 | -60.000000 | Pass |
| 5.00 HZ | 147.098129 | -70.000000 | Pass |

**Step h – 225 lbf Compression**

**<INSERT TABLE>**

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency** | **Phase** | **Max phase** | **Pass/Fail** |
| 0.10 HZ | 117.652153 | -5.000000 | Pass |
| 0.50 HZ | 26.219921 | -10.000000 | Pass |
| 1.00 HZ | -30.121473 | -20.000000 | Failed |
| 2.00 HZ | -165.812134 | -30.000000 | Failed |
| 3.00 HZ | 1.939830 | -50.000000 | Pass |
| 4.00 HZ | 71.735336 | -60.000000 | Pass |
| 5.00 HZ | 114.591850 | -70.000000 | Pass |

**6.7.9 Holding Load Test**

6.7.9.1 Brake OFF, LEMA Output Locked

|  |  |  |  |
| --- | --- | --- | --- |
| MCE | Output force, lbf | Output force, Pass/Fail | Position feedback signals (all sensors) Pass/Fail |
| MCE 1, 6.7.8.1.1 step i – extend 0.2 in | FORCE | RESULTS | RESULTS |
| MCE 1, 6.7.8.1.1 step k - retract 0.2 in | FORCE | RESULTS | RESULTS |
| MCE 2, m step i – extend 0.2 in | FORCE | RESULTS | RESULTS |
| MCE 2, m step k - retract 0.2 in | FORCE | RESULTS | RESULTS |
| MCE 3 m step i – extend 0.2 in | FORCE | RESULTS | RESULTS |
| MCE 3 m step k - retract 0.2 in | FORCE | RESULTS | RESULTS |

**6.7.9.2 Brake ON, LEMA Output Free**

|  |  |  |
| --- | --- | --- |
| MCE | 12.6 Amps for 3-5 sec | Position feedback signals (all sensors) |
| MCE 1, 6.7.8.2.1 step I – extend 0.2 in | RESULTS | RESULTS |
| MCE 1, 6.7.8.2.1 step k - retract 0.2 in | RESULTS | RESULTS |
| MCE 2, 6.7.8.2.2 6.7.8.2.3 step i – extend 0.2 in | RESULTS | RESULTS |
| MCE 2, m step k - retract 0.2 in | RESULTS | RESULTS |
| MCE 3 m step i– extend 0.2 in | RESULTS | RESULTS |
| MCE 3 m step k - retract 0.2 in | RESULTS | RESULTS |

**6.7.9.3 Brake Release test**

**Step d –** LEMA reaches commanded position

|  |  |
| --- | --- |
|  | Pass/Fail |
| MCE1 /Motor 1 | RESULTS |
| MCE2 /Motor 2 | RESULTS |

6.7.10 **Backlash**

6.7.10.1 **Simplex Brake 1 – ON; Duplex brake 2 – OFF**

|  |  |  |
| --- | --- | --- |
| Load (lbf) | Backlash (ins) | Pass/Fail |
| Step e +/- 100 lbf (motor 2 and motor 3 ZERO position) | INCHES | RESULTS |
| Step h, Total backlash | INCHES | RESULTS |
| Step f 322 lbf tension followed by 322 lbf compression | INCHES | RESULTS |
| All channels feedback signals (Motor 1, Motor 2, Motor 3, M1, M2 and M3 remain within allowable limits | INCHES | RESULTS |

6.7.10.2 **Simplex Brake 1 – OFF; Duplex Brake 2 – ON**

|  |  |  |
| --- | --- | --- |
| Load (lbf) | Backlash (ins) | Pass/Fail |
| Step e +/- 100 lbf (motor 1 holding ZERO position) | INCHES | RESULTS |
| Step h, Total backlash | INCHES | RESULTS |
| Step f, 322 lbf tension followed by 322 lbf compression | INCHES | RESULTS |
| All channels feedback signals (Motor 1, Motor 2, Motor 3, M1, M2 and M3 remain within allowable limits | INCHES | RESULTS |

6.7.10.3 **Both Brakes OFF**

|  |  |  |
| --- | --- | --- |
| Load (lbf) | Backlash (ins) | Pass/Fail |
| Step e +/- 100 lbf (both motors holding ZERO position) | INCHES | RESULTS |
| Step h, Total backlash | INCHES | RESULTS |
| Step f 322 lbf tension followed by 322 lbf compression | INCHES | RESULTS |
| All channels feedback signals (Motor 1, Motor 2, Motor 3, M1, M2 and M3 remain within allowable limits | INCHES | RESULTS |