

Mechanical Test Plans

Prerequisites:

Verify parts to drawings upon arrival

Begin Sub System assembly

System Tests

Verify Lower Christie arm movement and force

Check rotation on Undriven wheel assembly against encoder data

Test system suspension movement and force

Test belt tensioner force and movement

Test Procedures

Lower Christie Arm Testing

1. Rigidly retain Lower Christie arm assemblies
2. Verify movement range of arms
3. Test spring constants with spring gauge
4. Test dampener constants with stopwatch
5. Repeat for 4 assemblies

Undriven Wheel Assembly

1. Connect encoder to previously tested power board and computer
2. Verify tick counts seen by encoder
3. Cross reference tick counts against visual rotations

Belt Tensioner

1. Rigidly retain belt tensioning assy
2. Test spring constants with spring gauge

System Suspension

1. Attach all sub-assemblies to hull
2. Verify independent range motion by upper Christie arm
3. Verify independent range motion by 1st lower Christie arm
4. Verify independent range motion by 2nd lower Christie arm
5. Verify independent range motion on final upper Christie arm
6. Attach tracks to vehicle
7. Verify complete suspension range motion