



## Robot & Cell Audit/Inspection

Date: 8/24/11

Audit Number:  
6517

<b>Customer Name:</b> Advanced Machining Services Inc	
<b>Address:</b> 3232 Electricity Dr	
<b>City/Prov.:</b> Windsor	<b>Postal Code:</b> N8W 5J1
<b>Phone Number:</b> 519-944-3433	<b>Contact Name:</b> Norm
<b>Robot/Cell Model:</b> HP20	<b>Serial Number:</b> RH9530-6620-05
<b>Controller:</b> NX100	<b>Serial Number:</b> RY8537-6304-4
<b>Playback Hours:</b> 127	<b>Application:</b> Handling

**General Condition:**

<input type="checkbox"/> <b>Critical Attention Required</b> <input type="checkbox"/> <b>Urgent</b> <input type="checkbox"/> <b>Recommended:</b>
<b>Solution:</b>

**Controller:**

<input type="checkbox"/> <b>Critical Attention Required</b> <input type="checkbox"/> <b>Urgent</b> <input type="checkbox"/> <b>Recommended:</b>
<b>Solution:</b>

**Comments:**


Critical - Can and may impact the operational status of the robot immediately. Immediate attention and resolution is required.  
 Urgent - A pending failure may occur. This issue should be addressed promptly to prevent unscheduled downtime.  
 Recommended -Issues which will either enhance the operational life of the equipment and/or mitigate premature failure.

## S AXIS RESULTS

Backlash:pass

Repeatability: pass

**MOTOR**

Brakes  Fail  Pass

Torque Test  Pass  Fail  N/A

**REDUCER & BEARINGS**

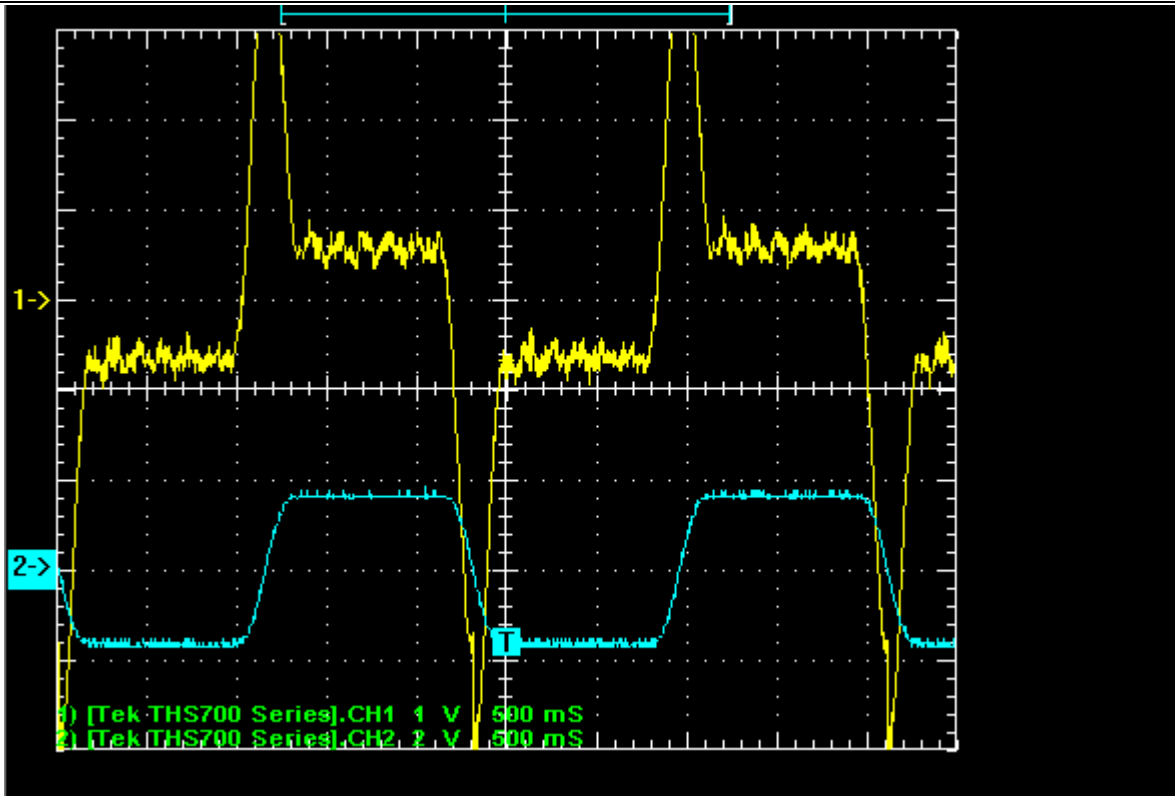
Noise  Yes  No

Visible Vibration  Yes  No

**CROSS ROLLER BEARING**

Noise  Yes  No

Critical Attention Required  Urgent  Recommended:



**Solution:**

Critical - Can and may impact the operational status of the robot immediately. Immediate attention and resolution is required.  
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 Recommended -Issues which will either enhance the operational life of the equipment and/or mitigate premature failure.



### L AXIS RESULTS

Backlash:pass		
Repeatability: pass		
<b>MOTOR</b>	<b>REDUCER &amp; BEARINGS</b>	<b>CROSS ROLLER BEARING</b>
Brakes <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass	Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Torque Test <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> N/A	Visible Vibration <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<input type="checkbox"/> Critical Attention Required <input type="checkbox"/> Urgent <input type="checkbox"/> Recommended:		
Solution:		

Critical - Can and may impact the operational status of the robot immediately. Immediate attention and resolution is required.  
 Urgent - A pending failure may occur. This issue should be addressed promptly to prevent unscheduled downtime.  
 Recommended -Issues which will either enhance the operational life of the equipment and/or mitigate premature failure.



### U AXIS RESULTS

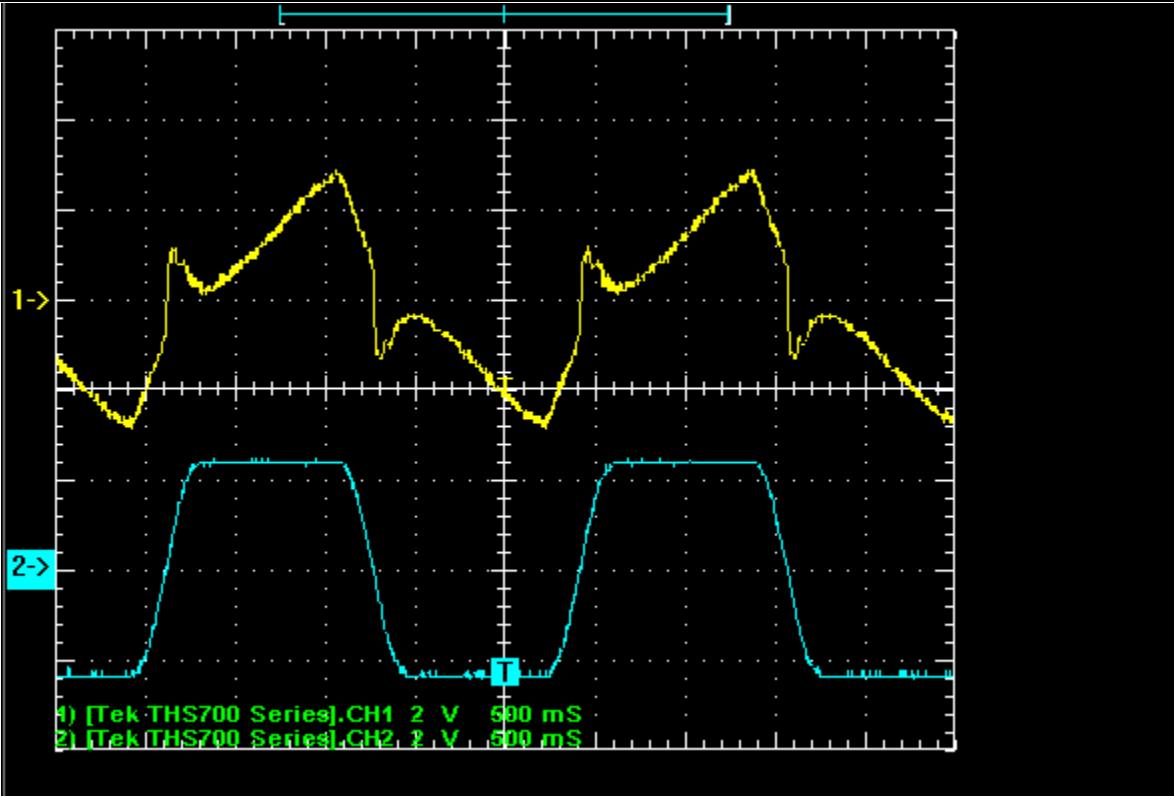
Backlash:pass		
Repeatability:pass		
<b>MOTOR</b>	<b>REDUCER &amp; BEARINGS</b>	<b>LINK ARM BEARINGS</b>
Brakes <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass	Visible Vibration <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Torque Test <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> N/A	Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<input type="checkbox"/> Critical Attention Required <input type="checkbox"/> Urgent <input type="checkbox"/> Recommended:		
Solution:		

Critical - Can and may impact the operational status of the robot immediately. Immediate attention and resolution is required.  
 Urgent - A pending failure may occur. This issue should be addressed promptly to prevent unscheduled downtime.  
 Recommended -Issues which will either enhance the operational life of the equipment and/or mitigate premature failure.



### R AXIS RESULTS

Backlash:pass		
Repeatability:pass		
<b>MOTOR</b>	<b>REDUCER &amp; BEARINGS</b>	
Brakes <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass	Visible Vibration <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Torque Test <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> N/A	Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<input type="checkbox"/> Critical Attention Required <input type="checkbox"/> Urgent <input type="checkbox"/> Recommended:		



Solution:

Critical - Can and may impact the operational status of the robot immediately. Immediate attention and resolution is required.  
 Urgent - A pending failure may occur. This issue should be addressed promptly to prevent unscheduled downtime.  
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### B AXIS RESULTS

Backlash:pass		
Repeatability:pass		
<b>MOTOR</b>	<b>REDUCER &amp; BEARINGS</b>	<b>Belt &amp; Gear set</b>
Brakes <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass	Visible Vibration <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gear Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Torque Test <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> N/A	Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Replace Belt <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Critical Attention Required <input type="checkbox"/> Urgent <input type="checkbox"/> Recommended:		
Solution:		

Critical - Can and may impact the operational status of the robot immediately. Immediate attention and resolution is required.  
 Urgent - A pending failure may occur. This issue should be addressed promptly to prevent unscheduled downtime.  
 Recommended -Issues which will either enhance the operational life of the equipment and/or mitigate premature failure.



### T AXIS RESULTS

Backlash:pass		
Repeatability:pass		
<b>MOTOR</b>	<b>REDUCER &amp; BEARINGS</b>	<b>Belt &amp; Gear set</b>
Brakes <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass	Visible Vibration <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gear Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Torque Test <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> N/A	Noise <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Replace Belt <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Critical Attention Required <input type="checkbox"/> Urgent <input type="checkbox"/> Recommended:		
Solution:		

Critical - Can and may impact the operational status of the robot immediately. Immediate attention and resolution is required.  
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**X REPEATABILITY:**

Observation - X Y Z Test.X Axis						
Subgroup	Date Time	Obs 1	Obs 2	Obs 3	Obs 4	Obs 5
1	3/31/11 9:41 AM	0.020000	0.030000	0.010000	0.020000	-0.010000
2	3/31/11 9:44 AM	0.050000	-0.010000	0.040000	0.040000	0.050000
3	3/31/11 9:47 AM	0.050000	0.040000	0.050000	0.030000	0.040000
4	3/31/11 9:50 AM	0.010000	0.030000	0.000000	0.050000	0.040000
5	3/31/11 9:53 AM	0.030000	0.040000	0.020000	0.040000	0.010000
6	3/31/11 9:56 AM	0.040000	0.000000	0.040000	-0.010000	0.030000
7	3/31/11 9:59 AM	0.040000	0.020000	0.040000	0.020000	0.040000
8	3/31/11 10:01 AM	0.000000	0.030000	0.000000	0.040000	0.050000
9	3/31/11 10:04 AM	0.010000	0.040000	0.000000	0.040000	0.040000
10	3/31/11 10:07 AM	0.020000	0.040000	0.010000	0.040000	0.040000
11	3/31/11 10:10 AM	0.030000	0.040000	0.010000	0.040000	0.040000
12	3/31/11 10:13 AM	0.030000	0.050000	0.010000	0.040000	0.040000
13	3/31/11 10:16 AM	0.030000	0.050000	0.010000	0.040000	0.040000
14	3/31/11 10:19 AM	0.040000	0.050000	0.010000	0.050000	0.050000
15	3/31/11 10:22 AM	0.040000	0.060000	0.020000	0.060000	0.060000
16	3/31/11 10:25 AM	0.040000	0.060000	0.010000	0.050000	0.050000
17	3/31/11 10:28 AM	0.030000	0.050000	0.020000	0.040000	0.050000
18	3/31/11 10:31 AM	0.040000	0.050000	0.020000	0.050000	0.050000
19	3/31/11 10:34 AM	0.040000	0.060000	0.020000	0.050000	0.050000
20	3/31/11 10:37 AM	0.050000	0.060000	0.020000	0.060000	0.010000
21						

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**Y REPEATABILITY:**

Observation - XYZ Test.Y Axis						
Subgroup	Date Time	Obs 1	Obs 2	Obs 3	Obs 4	Obs 5
1	3/31/11 9:41 AM	0.000000	0.000000	0.000000	0.000000	0.000000
2	3/31/11 9:44 AM	0.000000	0.000000	-0.010000	0.000000	-0.010000
3	3/31/11 9:47 AM	0.000000	0.000000	0.000000	-0.010000	0.000000
4	3/31/11 9:50 AM	0.000000	0.000000	0.000000	-0.010000	0.000000
5	3/31/11 9:53 AM	0.000000	0.000000	0.000000	0.000000	0.000000
6	3/31/11 9:56 AM	0.010000	0.000000	0.000000	0.000000	0.000000
7	3/31/11 9:59 AM	0.010000	0.000000	0.010000	0.000000	0.020000
8	3/31/11 10:01 AM	0.000000	0.020000	0.000000	0.010000	0.000000
9	3/31/11 10:04 AM	0.000000	0.000000	0.000000	0.000000	0.010000
10	3/31/11 10:07 AM	0.000000	0.010000	0.000000	0.010000	0.000000
11	3/31/11 10:10 AM	0.010000	0.000000	0.010000	0.010000	0.010000
12	3/31/11 10:13 AM	0.010000	0.010000	0.010000	0.010000	0.010000
13	3/31/11 10:16 AM	0.010000	0.010000	0.020000	0.010000	0.020000
14	3/31/11 10:19 AM	0.010000	0.010000	0.010000	0.020000	0.020000
15	3/31/11 10:22 AM	0.010000	0.010000	0.010000	0.010000	0.010000
16	3/31/11 10:25 AM	0.010000	0.010000	0.010000	0.000000	0.020000
17	3/31/11 10:28 AM	0.000000	0.020000	0.010000	0.010000	0.020000
18	3/31/11 10:31 AM	0.010000	0.030000	0.010000	0.020000	0.010000
19	3/31/11 10:34 AM	0.000000	0.020000	0.010000	0.020000	0.020000
20	3/31/11 10:37 AM	0.020000	0.020000	0.020000	0.020000	0.010000

Critical - Can and may impact the operational status of the robot immediately. Immediate attention and resolution is required.  
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**Z REPEATABILITY:**

Observation - X Y Z Test.Z Axis						
Subgroup	Date Time	Obs 1	Obs 2	Obs 3	Obs 4	Obs 5
1	3/31/11 9:41 AM	-0.020000	-0.010000	-0.030000	-0.020000	-0.020000
2	3/31/11 9:44 AM	-0.010000	-0.020000	-0.020000	-0.010000	-0.020000
3	3/31/11 9:47 AM	-0.030000	-0.030000	-0.020000	-0.020000	-0.010000
4	3/31/11 9:50 AM	-0.020000	-0.010000	-0.020000	-0.020000	-0.030000
5	3/31/11 9:53 AM	-0.010000	-0.020000	0.000000	-0.020000	0.000000
6	3/31/11 9:56 AM	-0.010000	-0.010000	-0.010000	-0.020000	-0.010000
7	3/31/11 9:59 AM	-0.020000	0.000000	-0.020000	-0.030000	-0.020000
8	3/31/11 10:02 AM	0.000000	0.000000	0.000000	-0.020000	-0.020000
9	3/31/11 10:04 AM	0.000000	-0.010000	0.000000	-0.030000	-0.010000
10	3/31/11 10:07 AM	-0.020000	-0.020000	-0.010000	-0.030000	0.000000
11	3/31/11 10:10 AM	-0.020000	0.000000	0.000000	-0.010000	0.000000
12	3/31/11 10:13 AM	-0.010000	-0.010000	-0.010000	-0.010000	-0.010000
13	3/31/11 10:16 AM	-0.020000	-0.010000	-0.020000	0.000000	-0.020000
14	3/31/11 10:19 AM	-0.020000	0.000000	-0.020000	-0.010000	-0.010000
15	3/31/11 10:22 AM	-0.020000	-0.020000	-0.020000	-0.020000	-0.020000
16	3/31/11 10:25 AM	-0.010000	-0.020000	0.000000	0.000000	-0.010000
17	3/31/11 10:28 AM	-0.010000	0.000000	-0.020000	0.000000	-0.010000
18	3/31/11 10:31 AM	-0.010000	-0.020000	-0.010000	0.000000	-0.010000
19	3/31/11 10:34 AM	0.000000	-0.020000	0.000000	-0.010000	-0.010000
20	3/31/11 10:37 AM	-0.010000	-0.020000	0.000000	-0.020000	-0.010000

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