

HAMAR LASER - Plane 5 Report

Project: 18-Jan-12@09h22m
Prepared on 1/18/2012 at 9:25:15 AM
Alignment Summary

Page 1

Company Name: CMS North America
Address: 4095 Karona Ct
City: Caledonia,
Comments: Final Checkl

Flatness

Surface 101056 In (TIR)
Surface 200991 In (TIR)

Slope of Best Fit Plane relative to Laser Plane

Surface 1 (X Slope)0009756 In/Ft, 16.8 arc secs.
Surface 1 (Y Slope)0010683 In/Ft, 18.4 arc secs.
Surface 2 (X Slope)0009979 In/Ft, 17.2 arc secs.
Surface 2 (Y Slope)0009992 In/Ft, 17.2 arc secs.

NOTE: Slope is positive when the surface rises away from the origin

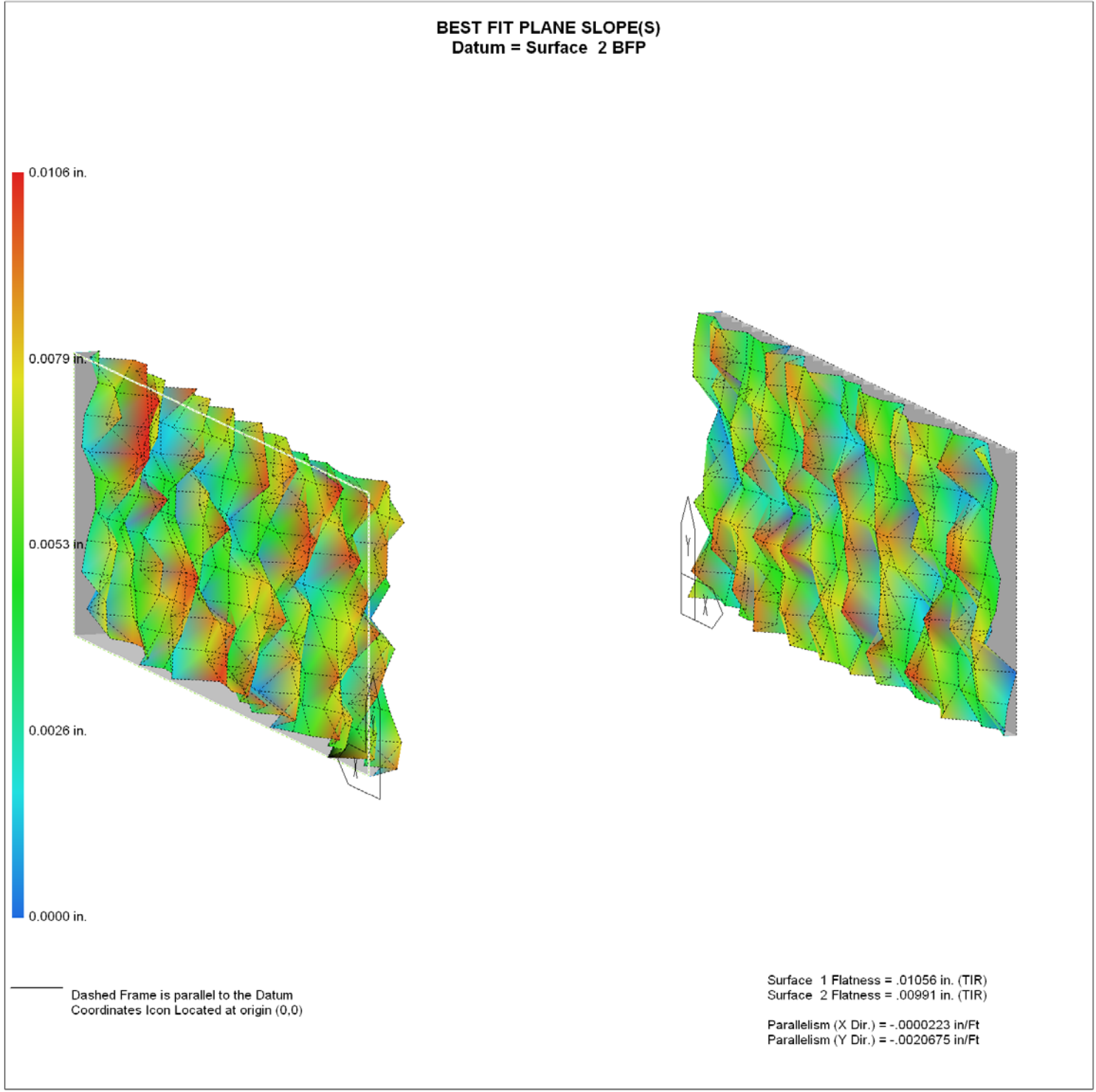
Parallelism

'Surface 1' TO 'Surface 2' (X Direction) -.0000223 In/Ft
'Surface 1' TO 'Surface 2' (Y Direction) -.0020675 In/Ft

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Surface Plot

Company Name: CMS North America
Address: 4095 Karona Ct
City: Caledonia,
State: MI Zip: 49312



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 Surface 1 (Surface 1)

X distance	Y distance	Raw Flatness Data	As Configured/Plotted*	Comments
0	120.0	-.00662	.00389	
0	106.7	-.00105	.00827	
0	93.3	-.00645	.00168	
0	80.0	-.00203	.00491	
0	66.7	-.00527	.00049	
0	53.3	.00154	.00611	
0	40.0	-.00051	.00287	
0	26.7	.00268	.00488	
0	13.3	.00666	.00767	
0	0	.00117	.00099	
12.4	120.0	-.00215	.00734	
12.4	106.7	-.00109	.00722	
12.4	93.3	-.00358	.00354	
12.4	80.0	-.00106	.00488	
12.4	66.7	-.00411	.00064	
12.4	53.3	.00362	.00718	
12.4	40.0	-.00064	.00174	
12.4	26.7	.00248	.00367	
12.4	13.3	.00175	.00176	
12.4	0	.01022	.00904	
24.8	120.0	.00050	.00899	
24.8	106.7	-.00070	.00660	
24.8	93.3	.00296	.00907	
24.8	80.0	.00398	.00891	
24.8	66.7	-.00040	.00334	
24.8	53.3	.00385	.00641	
24.8	40.0	.00742	.00878	
24.8	26.7	-.00012	.00006	
24.8	13.3	.00768	.00667	
24.8	0	.00586	.00367	
37.2	120.0	-.00382	.00366	
37.2	106.7	.00228	.00857	
37.2	93.3	-.00320	.00190	
37.2	80.0	.00198	.00590	
37.2	66.7	-.00015	.00258	
37.2	53.3	.00813	.00967	
37.2	40.0	.00230	.00266	
37.2	26.7	.00992	.00909	
37.2	13.3	.00629	.00427	
37.2	0	.01164	.00843	
49.7	120.0	-.00319	.00328	
49.7	106.7	.00433	.00961	
49.7	93.3	.00166	.00576	
49.7	80.0	.00215	.00506	
49.7	66.7	.00787	.00959	
49.7	53.3	.00629	.00682	
49.7	40.0	.00393	.00328	
49.7	26.7	.00450	.00266	
49.7	13.3	.00696	.00393	
49.7	0	.00421	.00000	
62.1	120.0	-.00189	.00357	
62.1	106.7	.00117	.00544	
62.1	93.3	.00172	.00481	
62.1	80.0	.00797	.00987	
62.1	66.7	.00514	.00585	

(table continued on next page)

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 Surface 1 (Surface 1)

X distance	Y distance	Raw Flatness Data	As Configured/Plotted*	Comments
62.1	53.3	.00804	.00757	
62.1	40.0	.01076	.00910	
62.1	26.7	.00552	.00267	
62.1	13.3	.01218	.00814	
62.1	0	.01152	.00630	
74.5	120.0	.00009	.00454	
74.5	106.7	.00127	.00453	
74.5	93.3	.00605	.00812	
74.5	80.0	.00892	.00981	
74.5	66.7	.00334	.00304	
74.5	53.3	.00813	.00664	
74.5	40.0	.00930	.00662	
74.5	26.7	.01134	.00748	
74.5	13.3	.01319	.00814	
74.5	0	.01083	.00460	
86.9	120.0	-.00208	.00136	
86.9	106.7	.00831	.01056	
86.9	93.3	.00617	.00724	
86.9	80.0	.00263	.00251	
86.9	66.7	.00276	.00146	
86.9	53.3	.00602	.00353	
86.9	40.0	.00992	.00624	
86.9	26.7	.01437	.00950	
86.9	13.3	.01226	.00621	
86.9	0	.01699	.00975	
99.3	120.0	.00214	.00457	
99.3	106.7	.00540	.00664	
99.3	93.3	.00846	.00852	
99.3	80.0	.00291	.00178	
99.3	66.7	.00330	.00099	
99.3	53.3	.00808	.00458	
99.3	40.0	.00551	.00082	
99.3	26.7	.01005	.00417	
99.3	13.3	.01059	.00353	
99.3	0	.01366	.00541	
111.7	120.0	-.00007	.00136	
111.7	106.7	.00638	.00662	
111.7	93.3	.00520	.00425	
111.7	80.0	.01140	.00926	
111.7	66.7	.00449	.00117	
111.7	53.3	.01234	.00782	
111.7	40.0	.01207	.00637	
111.7	26.7	.01020	.00332	
111.7	13.3	.01345	.00538	
111.7	0	.01293	.00367	
124.1	120.0	.00139	.00180	
124.1	106.7	.00202	.00124	
124.1	93.3	.01109	.00913	
124.1	80.0	.01315	.01000	
124.1	66.7	.01375	.00941	
124.1	53.3	.00881	.00329	
124.1	40.0	.01272	.00601	
124.1	26.7	.01585	.00795	
124.1	13.3	.01661	.00753	
124.1	0	.01099	.00072	

(table continued on next page)

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Surface 1 (Surface 1)

X distance	Y distance	Raw Flatness Data	As Configured/Plotted*	Comments
136.6	120.0	.00738	.00678	
136.6	106.7	.01133	.00955	
136.6	93.3	.00412	.00115	
136.6	80.0	.00899	.00484	
136.6	66.7	.01431	.00896	
136.6	53.3	.01067	.00414	
136.6	40.0	.00929	.00158	
136.6	26.7	.01744	.00854	
136.6	13.3	.01063	.00054	
136.6	0	.02031	.00903	
149.0	120.0	.00809	.00648	
149.0	106.7	.01102	.00822	
149.0	93.3	.01240	.00842	
149.0	80.0	.00992	.00476	
149.0	66.7	.00700	.00064	
149.0	53.3	.01398	.00644	
149.0	40.0	.01807	.00935	
149.0	26.7	.01283	.00292	
149.0	13.3	.01206	.00096	
149.0	0	.02102	.00873	
161.4	120.0	.00380	.00119	
161.4	106.7	.00813	.00433	
161.4	93.3	.01112	.00613	
161.4	80.0	.01143	.00525	
161.4	66.7	.01230	.00494	
161.4	53.3	.01641	.00786	
161.4	40.0	.01859	.00885	
161.4	26.7	.01570	.00477	
161.4	13.3	.01308	.00097	
161.4	0	.01693	.00363	
173.8	120.0	.01194	.00832	
173.8	106.7	.01390	.00909	
173.8	93.3	.01599	.00999	
173.8	80.0	.00799	.00080	
173.8	66.7	.01188	.00350	
173.8	53.3	.01774	.00818	
173.8	40.0	.01721	.00646	
173.8	26.7	.01978	.00785	
173.8	13.3	.01377	.00065	
173.8	0	.02386	.00956	
186.2	120.0	.00699	.00235	
186.2	106.7	.00906	.00324	
186.2	93.3	.01246	.00546	
186.2	80.0	.01055	.00236	
186.2	66.7	.01106	.00167	
186.2	53.3	.01738	.00681	
186.2	40.0	.01954	.00778	
186.2	26.7	.01682	.00388	
186.2	13.3	.02336	.00923	
186.2	0	.02073	.00541	
198.6	120.0	.01228	.00664	
198.6	106.7	.01332	.00649	
198.6	93.3	.01207	.00405	
198.6	80.0	.01240	.00319	
198.6	66.7	.01635	.00596	

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 Surface 1 (Surface 1)

X distance	Y distance	Raw Flatness Data	As Configured/Plotted*	Comments
198.6	53.3	.01681	.00524	
198.6	40.0	.01810	.00533	
198.6	26.7	.01839	.00443	
198.6	13.3	.01976	.00462	
198.6	0	.02609	.00976	
211.0	120.0	.01534	.00869	
211.0	106.7	.01451	.00668	
211.0	93.3	.01013	.00110	
211.0	80.0	.01106	.00085	
211.0	66.7	.01459	.00319	
211.0	53.3	.01719	.00461	
211.0	40.0	.01448	.00071	
211.0	26.7	.02444	.00948	
211.0	13.3	.01872	.00258	
211.0	0	.02554	.00820	
223.4	120.0	.01070	.00304	
223.4	106.7	.01508	.00624	
223.4	93.3	.01129	.00126	
223.4	80.0	.01677	.00555	
223.4	66.7	.02270	.01029	
223.4	53.3	.01500	.00140	
223.4	40.0	.01747	.00269	
223.4	26.7	.02407	.00810	
223.4	13.3	.02688	.00973	
223.4	0	.02775	.00940	
235.9	120.0	.01683	.00816	
235.9	106.7	.01625	.00639	
235.9	93.3	.01196	.00092	
235.9	80.0	.02006	.00783	
235.9	66.7	.01973	.00631	
235.9	53.3	.02097	.00637	
235.9	40.0	.02116	.00537	
235.9	26.7	.02598	.00900	
235.9	13.3	.02505	.00688	
235.9	0	.02940	.01005	
248.3	120.0	.01624	.00656	
248.3	106.7	.01272	.00185	
248.3	93.3	.02122	.00917	
248.3	80.0	.01406	.00082	
248.3	66.7	.01515	.00072	
248.3	53.3	.02021	.00459	
248.3	40.0	.01973	.00293	
248.3	26.7	.01926	.00128	
248.3	13.3	.02100	.00182	
248.3	0	.02192	.00156	
260.7	120.0	.02034	.00965	
260.7	106.7	.01319	.00131	
260.7	93.3	.01432	.00126	
260.7	80.0	.01907	.00482	
260.7	66.7	.02003	.00460	
260.7	53.3	.02367	.00704	
260.7	40.0	.02785	.01004	
260.7	26.7	.02718	.00818	
260.7	13.3	.02320	.00302	
260.7	0	.02530	.00393	

(table continued on next page)

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Surface 1 (Surface 1)

X distance	Y distance	Raw Flatness Data	As Configured/Plotted*	Comments
273.1	120.0	.01302	.00132	
273.1	106.7	.01449	.00160	
273.1	93.3	.01520	.00113	
273.1	80.0	.01987	.00461	
273.1	66.7	.02008	.00363	
273.1	53.3	.02398	.00635	
273.1	40.0	.02835	.00953	
273.1	26.7	.02917	.00917	
273.1	13.3	.02960	.00841	
273.1	0	.02674	.00436	
285.5	120.0	.01964	.00693	
285.5	106.7	.01968	.00579	
285.5	93.3	.01726	.00218	
285.5	80.0	.01856	.00230	
285.5	66.7	.02220	.00475	
285.5	53.3	.02081	.00217	
285.5	40.0	.02108	.00125	
285.5	26.7	.02915	.00813	
285.5	13.3	.02798	.00577	
285.5	0	.02451	.00112	
297.9	120.0	.02041	.00669	
297.9	106.7	.02291	.00801	
297.9	93.3	.02378	.00769	
297.9	80.0	.01819	.00091	
297.9	66.7	.02860	.01014	
297.9	53.3	.02356	.00390	
297.9	40.0	.02977	.00893	
297.9	26.7	.03007	.00804	
297.9	13.3	.02700	.00379	
297.9	0	.02989	.00549	
310.3	120.0	.01974	.00501	
310.3	106.7	.02632	.01041	
310.3	93.3	.02217	.00507	
310.3	80.0	.02501	.00672	
310.3	66.7	.02497	.00549	
310.3	53.3	.02182	.00116	
310.3	40.0	.02570	.00385	
310.3	26.7	.02790	.00486	
310.3	13.3	.02949	.00526	
310.3	0	.03231	.00690	
322.8	120.0	.02566	.00993	
322.8	106.7	.02683	.00991	
322.8	93.3	.02859	.01048	
322.8	80.0	.02971	.01041	
322.8	66.7	.02180	.00132	
322.8	53.3	.02635	.00468	
322.8	40.0	.02984	.00698	
322.8	26.7	.03007	.00603	
322.8	13.3	.03196	.00673	
322.8	0	.03570	.00928	
335.2	120.0	.02582	.00908	
335.2	106.7	.02317	.00524	
335.2	93.3	.02193	.00281	
335.2	80.0	.03038	.01008	
335.2	66.7	.03051	.00902	

(table continued on next page)

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Surface 1 (Surface 1)

Page 8

X distance	Y distance	Raw Flatness Data	As Configured/Plotted*	Comments
335.2	53.3	.02578	.00310	
335.2	40.0	.02762	.00375	
335.2	26.7	.02635	.00130	
335.2	13.3	.02707	.00083	
335.2	0	.03629	.00886	
347.6	120.0	.01912	.00136	
347.6	106.7	.02588	.00694	
347.6	93.3	.02880	.00867	
347.6	80.0	.02258	.00126	
347.6	66.7	.02831	.00581	
347.6	53.3	.02704	.00335	
347.6	40.0	.03268	.00781	
347.6	26.7	.03242	.00636	
347.6	13.3	.02788	.00063	
347.6	0	.03462	.00618	
360.0	120.0	.02464	.00587	
360.0	106.7	.02561	.00566	
360.0	93.3	.02357	.00243	
360.0	80.0	.02421	.00189	
360.0	66.7	.02838	.00487	
360.0	53.3	.02970	.00500	
360.0	40.0	.02892	.00303	
360.0	26.7	.02890	.00183	
360.0	13.3	.03571	.00745	
360.0	0	.03715	.00771	

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