

Inertia Dynamometer Friction Behavior Assessment for Automotive Brake Systems

Nucap Test #: NU-11L-E1345
Test Request #: DR-2011-34-B
Customer Reference: 10K-HD
Control Program Number: W03095A5
Control Program Procedure: SAE J2681

Prepared for :

CAMERON RAPP
KODIAK TRAILER COMPONENTS
7600 Sand Street
Fort Worth. TX
USA. 76118



NUCAP R&D CENTER

115 Ridgetop Road
Scarborough, ON.
CANADA. M1P 4W9
Tel. 416 494 1444
Fax. 416 321 3691
www.nucap.com

Test Description
 FRICTION BEHAVIOR ASSESSMENT

Test Information

Test Requestor:	KODIAK TRAILER COMPONENTS
Requested By:	CAMERON RAPP
Test Procedure:	SAE J2681
Control Program #:	W03095A5
Dynamometer:	3239
Fixture ID:	KODIAK D87-2
FMSI Number:	7020A-D87
Test Engineer:	JACOB
Technician:	HARMINDER
Date Started:	12/21/11
Date Completed:	12/21/11
Date Parts Received:	DEC. 21, 2011.
Datalog, Report Version:	2.72,1.01

Dynamometer Information

Rolling Radius:	14.69 inch	373.00 mm
Required Wheel Load:	3031.31 lb	1375.00 kg
Actual Wheel Load:	3031.77 lb	1375.21 Kg
Gross Axle Wt:	13999.12 lb	6350.00 Kg
Required Inertia:	141.16 slug-ft ²	191.39 Kg-m ²
Actual Inertia:	141.18 slug-ft ²	191.42 Kg-m ²
Piston Diameter:	3.38 inch	85.85 mm
Effective Radius:	4.76 inch	121.00 mm
Number of Pistons:	1	

Brake Information

Brake Name/Type:	KODIAK 10K HD
Brake Size:	295 X 38 MM
Rotor/Drum ID:	KODIAK 11-10
Pri/Lead/Inner Lining:	DBC-2250-SM
Sec/Trail/Outer Lining:	DBC-2250-SM
Drum/Rotor Type:	VENTED
Brake Orientation:	Left

Final Comments:
 INTIAL LRO IS .003". FRICTION BEHAVIOR ASSESSMNT ON KODIAK 10K-HD
 USED KODIAK K-338 HP CALIPER AND DBC-2250-SM LINING.
 IN-BOARD BACKING PLATE IS BENT.
 NOTICED UNEVEN WEAR AND HAIR CRACKS ON FRICTION MATERIAL

Signature: 	Title: Test Engineer	Date: January 3, 2012
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Data applicable to the materials tested. Valid if signed by the test engineer. Report can be copied in full.
 Bilateral uncertainty of measurements 0.63% of FS. Coverage factor of 2. Confidence of 95%. Details available upon request.

Section	Stop	Brake Speed kph	Release Speed kph	Stop Distance in	Decel Torque fp/sps	Press Min psi	Press Avg psi	Press Max psi	Torque Min lb*ft	Torque Avg lb*ft	Torque Max lb*ft	MFDD m/s ²	μ Min	μ Avg	μ Max	Fluid Disp cm ³	Rotor Init F	Rotor Final F	Lining Init F	Lining Final F
100 Green μ Characteristic																				
100	1	80.0	30.1		6.55	427	434	442	723	760	799	2.00	0.231	0.244	0.255	6.89	302	426	189	224
100	3	80.0	30.1		7.52	427	434	443	842	872	927	2.30	0.258	0.279	0.295	7.24	302	437	242	267
100	5	80.0	30.1		8.43	426	433	443	934	982	1058	2.57	0.290	0.312	0.344	7.30	302	442	237	262
100	10	80.0	30.1		9.55	426	432	444	1044	1111	1230	2.91	0.322	0.352	0.410	7.42	302	495	220	254
200 Burnish																				
200	1	80.0	30.0		5.45	201	257	294	516	628	765	1.66	0.211	0.342	0.477	6.28	392	541	263	319
200	5	80.0	30.1		8.01	322	373	412	841	923	1028	2.43	0.255	0.340	0.426	7.04	392	583	289	331
200	10	80.0	30.1		11.89	533	579	616	1281	1369	1479	3.60	0.295	0.329	0.419	7.90	392	598	294	324
200	15	80.0	30.1		11.26	450	525	577	1177	1299	1444	3.41	0.284	0.341	0.390	7.79	392	604	303	335
200	20	79.9	30.1		6.42	200	284	347	594	737	925	1.94	0.205	0.357	0.619	6.74	392	594	313	367
200	25	80.0	30.1		9.66	346	430	495	991	1110	1255	2.90	0.248	0.355	0.520	7.54	392	558	315	341
200	30	80.0	30.1		8.04	256	350	417	765	924	1107	2.43	0.222	0.359	0.473	7.42	391	600	313	360
200	32	80.0	30.1		13.53	586	637	673	1462	1556	1697	4.10	0.288	0.338	0.409	8.50	392	631	309	344
300 Characteristic Value (Stability Check)																				
300	1	80.0	30.1		10.12	426	431	441	1087	1190	1391	3.13	0.276	0.370	0.464	7.97	302	425	248	268
300	2	80.0	30.1		10.38	426	431	441	1111	1217	1414	3.19	0.295	0.380	0.465	7.72	302	482	241	276
300	3	80.0	30.1		10.22	427	432	441	1102	1191	1380	3.14	0.295	0.376	0.441	7.65	302	482	238	270
300	4	80.0	30.0		10.18	426	431	440	1084	1193	1362	3.12	0.297	0.374	0.436	7.62	302	495	239	279
300	5	79.9	30.0		10.19	426	432	440	1092	1196	1376	3.14	0.293	0.374	0.440	7.57	302	497	239	277
400 Ramp Applications																				
400	1	49.9	3.0		8.41			413			1565	3.01	0.373	0.443	0.531	7.58	212	251	161	176
400	2	49.9	3.0		8.35			413			1559	3.02	0.377	0.445	0.539	7.22	212	264	164	183
500 (Cold) Characteristic Section																				
500	1	40.1	3.0		8.72	422	431	441	882	995	1264	2.63	0.223	0.309	0.402	7.56	104	145	83	93
500	2	80.1	30.1		9.00	426	431	438	976	1045	1201	2.75	0.276	0.333	0.401	5.42	221	471	141	207
500	3	80.0	30.1		9.42	426	431	438	992	1099	1318	2.87	0.267	0.346	0.430	6.72	301	479	208	240
500	4	80.0	30.1		9.89	426	431	438	1050	1160	1362	3.04	0.279	0.362	0.438	7.12	302	462	236	265
500	5	80.0	30.1		9.99	426	431	439	1059	1168	1381	3.06	0.281	0.366	0.444	7.19	301	482	240	274
600 Low speed/low pressure (1)																				
600	1	20.0	0.6		3.58	135	140	145	387	428	481	1.13	0.285	0.410	0.474	5.70	302	304	238	241
600	2	20.2	3.0		7.97	281	286	292	848	925	1063	2.52	0.325	0.432	0.510	5.08	300	306	239	241
600	3	20.1	3.0		12.71	424	432	439	1359	1459	1557	4.01	0.350	0.451	0.505	5.66	302	310	240	242
600	4	30.1	3.0		3.58	135	139	144	367	424	486	1.12	0.264	0.404	0.481	4.63	302	313	240	247
600	5	30.0	3.0		7.95	282	286	293	823	928	1095	2.47	0.276	0.426	0.524	5.71	303	320	240	245
600	6	30.1	3.0		12.50	424	431	440	1330	1438	1607	3.90	0.317	0.438	0.517	6.46	302	326	239	243
700 Pressure Line (1)																				
700	1	80.0	39.9		2.98	136	139	145	320	361	407	0.95	0.237	0.343	0.403	4.86	302	406	243	278
700	2	80.0	40.1		6.07	280	286	292	681	719	790	1.89	0.254	0.339	0.382	6.31	302	546	244	313
700	3	80.0	40.1		9.41	426	431	438	1028	1107	1227	2.89	0.276	0.348	0.396	7.08	302	437	244	264
700	4	80.0	40.2		12.66	569	575	583	1393	1488	1620	3.90	0.296	0.350	0.392	7.74	302	489	247	272
700	5	80.0	40.2		16.20	716	723	732	1808	1897	2011	5.04	0.308	0.356	0.400	8.35	302	473	248	263
700	6	80.0	40.1		19.05	858	867	876	2146	2216	2302	5.95	0.318	0.350	0.374	8.89	302	476	250	263
800 Speed Line (1)																				
800	1	80.0	40.1		9.38	413	431	442	795	1069	1211	2.86	0.270	0.348	0.391	7.12	302	418	251	268
800	2	119.9	80.0		7.09	413	431	440	632	833	1025	1.89	0.207	0.271	0.328	7.10	303	649	262	353
800	3	160.0	130.1		5.63	413	432	441	566	661	955	1.73	0.185	0.215	0.305	7.38	302	415	250	262
800	4	180.0	150.0		5.72	413	432	440	533	670	895	1.76	0.175	0.218	0.286	7.55	302	652	249	312
800	5	200.1	170.0		5.53	413	432	440	561	649	908	1.69	0.183	0.211	0.292	7.74	302	602	250	317
900 Failed Booster																				
900	1	100.0	0.6	123.5	11.42	514	521	533	1100	1296	1673	3.41	0.267	0.331	0.440	8.97	150	462	109	230
900	2	100.0	3.0	125.1	11.26	513	521	531	1168	1276	1631	3.36	0.248	0.332	0.431	8.51	213	536	164	249
900	3	100.0	3.0	130.0	10.89	515	520	530	1104	1226	1605	3.22	0.233	0.316	0.438	8.52	212	554	164	300
900	4	100.0	3.0	127.5	11.16	513	521	531	1142	1253	1657	3.29	0.228	0.325	0.438	8.47	213	498	165	233
900	5	100.0	3.0	132.4	10.76	513	520	530	1051	1199	1622	3.16	0.232	0.310	0.447	8.50	213	487	164	304
900	6	100.0	3.0	126.6	11.25	514	521	531	1131	1262	1709	3.32	0.231	0.325	0.452	8.45	213	457	166	237
1000 Motorway applications																				
1000	1	100.0	5.2		19.29	761	1026	1371	1782	2238	2848	5.87	0.239	0.308	0.372	10.74	302	641	234	360
1000	2	159.3	88.6		9.59	346	773	1073	726	1113	1713	2.92	0.141	0.209	0.376	10.25	302	837	246	462
1100 Low speed/low pressure (2)																				
1100	1	20.0	0.6		2.83	137	139	143	319	343	370	0.90	0.248	0.331	0.366	5.75	302	301	234	234
1100	2	20.1	3.0		6.30	281	286	290	636	732	861	1.99	0.261	0.342	0.418	5.25	300	301	234	234
1100	3	20.1	3.0		10.28	426	432	437	1065	1180	1331	3.21	0.282	0.367	0.430	6.02	301	304	234	235
1100	4	30.1	3.0		3.07	136	139	144	332	365	411	0.96	0.232	0.348	0.405	4.48	302	309	236	238
1100	5	30.0	3.0		6.72	282	286	292	691	785	937	2.08	0.245	0.362	0.454	5.69	303	311	237	239
1100	6	30.1	3.0		10.66	426	431	437	1127	1232	1432	3.33	0.266	0.377	0.461	6.72	303	314	236	239
1200 Characteristic /Recovery (1)																				
1200	1	80.0	30.1		9.15	428	431	436	992	1070	1213	2.80	0.246	0.337	0.393	6.72	302	413	237	262
1200	3	80.0	30.0		9.60	427	431	437	1043	1133	1304	2.97	0.254	0.352	0.429	7.55	302	469	242	279
1200	5	80.0	30.1		9.64	427	431	437	1023	1137	1333	2.98	0.249	0.352	0.431	7.58	302	483	240	282
1200	10	80.0	30.1		9.61	426	431	437	990	1136	1375	2.98	0.253	0.350	0.442	7.60	302	477	241	285

Test Req #:	DR-2011-34-B		NUCAP R&D CENTER Brake Dynamometer Testing											Cust Ref:	10K-HD			
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Section	Stop	Brake Speed kph	Release Speed kph	Stop Distance in	Decel Torque fp/sps	Press Min psi	Pres Avg psi	Press Max psi	Torque Min lb*ft	Torque Avg lb*ft	Torque Max lb*ft	MFDD m/s ²	μ Min	μ Avg	μ Max	Fluid Disp cm ³	Rotor Init F	Rotor Final F	Lining Init F	Lining Final F
1300 Fade (1)																				
1300	1	100.0	5.1		12.87	463	595	676	1272	1480	1688	3.89	0.222	0.352	0.485	8.65	303	590	260	378
1300	2	100.0	5.1		12.83	608	692	784	1306	1477	1641	3.89	0.231	0.308	0.414	8.73	486	764	367	481
1300	3	100.0	5.1		12.79	669	888	1128	1326	1472	1604	3.87	0.184	0.260	0.411	10.77	594	865	461	583
1300	4	100.0	5.2		12.76	842	1109	1433	1372	1470	1551	3.86	0.144	0.222	0.375	12.73	671	932	533	648
1300	5	100.0	5.1		12.75	927	1187	1491	1390	1471	1542	3.87	0.137	0.205	0.352	13.55	730	989	598	713
1300	6	100.0	5.1		12.75	923	1151	1407	1385	1472	1570	3.86	0.146	0.207	0.346	13.75	779	1029	648	765
1300	7	100.0	5.1		12.76	857	1041	1243	1375	1474	1588	3.87	0.161	0.221	0.359	13.46	819	1054	681	803
1300	8	100.0	5.1		12.78	800	944	1146	1360	1474	1641	3.87	0.181	0.238	0.362	13.17	855	1080	711	842
1300	9	100.0	5.1		12.79	746	870	1068	1295	1476	1652	3.87	0.191	0.254	0.373	12.45	887	1109	734	878
1300	10	100.0	5.1		12.80	735	823	950	1322	1478	1675	3.88	0.200	0.266	0.375	12.04	913	1125	758	911
1300	11	100.0	5.1		12.80	691	801	936	1321	1478	1639	3.88	0.207	0.273	0.391	11.88	939	1150	789	949
1300	12	100.0	5.2		12.81	682	783	905	1317	1478	1653	3.88	0.206	0.277	0.386	11.84	963	1168	812	991
1300	13	100.0	5.2		12.81	682	789	857	1356	1479	1608	3.88	0.210	0.274	0.381	11.70	984	1186	843	1072
1300	14	100.0	5.2		12.83	694	809	862	1368	1480	1592	3.89	0.211	0.264	0.355	11.83	1004	1216	874	1170
1300	15	100.0	5.2		12.83	705	829	880	1384	1481	1553	3.90	0.212	0.256	0.329	11.74	1022	1241	913	1224
1400 Hot performance 500 °C																				
1400	1	80.0	40.1		2.72	136	140	142	274	312	342	0.82	0.253	0.317	0.344	5.88	931	1002	857	1086
1400	2	80.0	40.1		5.90	282	286	289	623	673	716	1.78	0.291	0.334	0.355	6.62	931	1072	867	1138
1400	3	80.0	40.1		8.96	427	431	435	952	1018	1079	2.67	0.301	0.337	0.360	7.56	931	1086	859	1169
1400	4	80.0	40.1		11.80	569	575	579	1259	1354	1413	3.58	0.308	0.332	0.351	8.29	931	1075	859	1179
1400	5	80.0	40.1		14.16	714	723	727	1534	1633	1760	4.34	0.296	0.316	0.341	9.11	931	1101	866	1237
1400	6	80.0	40.1		16.56	857	866	871	1818	1932	2067	5.15	0.290	0.306	0.334	9.86	931	1101	882	1248
1500 Low speed/low pressure (3)																				
1500	1	20.0	3.0		3.05	138	139	141	337	381	470	1.00	0.252	0.358	0.469	7.23	302	302	261	337
1500	2	20.2	3.0		7.28	284	286	288	703	844	997	2.29	0.295	0.389	0.487	5.84	302	302	281	352
1500	3	20.0	3.0		11.87	428	432	435	1253	1355	1534	3.68	0.335	0.420	0.497	7.37	302	305	276	347
1500	4	30.1	3.0		3.72	138	139	142	375	439	562	1.16	0.282	0.413	0.565	5.52	302	311	272	368
1500	5	30.0	3.0		8.04	283	286	290	828	931	1115	2.47	0.301	0.427	0.550	6.93	303	313	269	381
1500	6	30.0	3.0		12.45	426	431	434	1291	1422	1660	3.83	0.331	0.436	0.543	7.46	303	317	270	396
1600 Characteristic /Recovery (2)																				
1600	1	80.0	30.1		9.32	428	431	436	991	1067	1341	2.81	0.313	0.347	0.449	7.81	302	510	271	788
1600	3	80.0	30.1		10.01	427	431	435	1079	1181	1458	3.09	0.286	0.365	0.470	7.06	301	481	257	843
1600	5	80.0	30.1		10.26	425	431	437	1100	1216	1504	3.19	0.282	0.374	0.487	6.80	302	461	255	853
1600	10	80.0	30.1		10.28	425	431	436	1098	1225	1430	3.23	0.272	0.374	0.465	6.88	302	464	257	877
1700 Pressure Line (2)																				
1700	1	80.0	40.1		2.80	134	139	143	296	337	382	0.89	0.237	0.323	0.384	5.06	302	397	259	741
1700	2	80.0	40.1		6.18	281	286	290	665	753	856	1.99	0.289	0.343	0.417	6.02	302	447	258	880
1700	3	80.0	40.1		10.27	424	431	437	1141	1223	1297	3.22	0.284	0.378	0.421	6.86	302	426	253	925
1700	4	80.0	40.1		14.12	568	575	580	1588	1659	1722	4.40	0.292	0.388	0.419	7.68	302	440	254	948
1700	5	80.0	40.2		17.90	715	722	729	2013	2090	2162	5.61	0.295	0.390	0.419	8.60	302	416	257	953
1700	6	80.0	40.4		21.62	861	866	871	2447	2520	2580	6.78	0.310	0.391	0.421	9.59	302	413	258	971
1800 Fade (2)																				
1800	1	100.0	5.1		12.85	340	524	670	1194	1485	1758	3.90	0.212	0.404	0.650	8.74	303	655	273	783
1800	2	100.0	5.2		12.88	375	533	649	1263	1485	1711	3.91	0.236	0.397	0.584	8.36	486	745	416	867
1800	3	100.0	5.1		12.85	373	531	657	1192	1484	1758	3.90	0.238	0.396	0.565	8.85	594	911	485	968
1800	4	100.0	5.2		12.85	421	541	650	1197	1480	1746	3.91	0.241	0.394	0.625	9.07	671	907	564	1023
1800	5	100.0	5.1		12.86	446	559	643	1267	1483	1695	3.89	0.248	0.385	0.590	9.21	730	1013	626	1061
1800	6	100.0	5.1		12.85	473	580	645	1290	1482	1658	3.91	0.246	0.374	0.557	9.47	779	1042	680	1099
1800	7	100.0	5.2		12.83	476	597	729	1309	1475	1617	3.88	0.240	0.361	0.496	10.10	819	1059	714	1124
1800	8	100.0	5.2		12.83	516	601	720	1337	1477	1629	3.88	0.235	0.354	0.462	10.44	854	1081	753	1135
1800	9	100.0	5.1		12.82	517	626	753	1280	1479	1709	3.89	0.234	0.334	0.400	10.69	887	1105	787	1146
1800	10	100.0	5.1		12.83	532	692	787	1297	1482	1655	3.91	0.231	0.303	0.373	11.46	914	1142	817	1199
1800	11	100.0	5.2		12.83	595	700	783	1386	1483	1572	3.90	0.220	0.291	0.365	11.87	939	1175	843	1228
1800	12	100.0	5.2		12.82	622	698	760	1391	1482	1566	3.91	0.219	0.296	0.338	11.60	963	1210	873	1274
1800	13	100.0	5.1		12.81	623	734	794	1397	1482	1564	3.91	0.224	0.282	0.332	11.65	984	1232	910	1283
1800	14	100.0	5.2		12.82	630	752	827	1396	1483	1546	3.91	0.229	0.272	0.334	11.79	1004	1242	942	1296
1800	15	100.0	5.1		12.83	630	802	894	1375	1484	1549	3.91	0.225	0.258	0.330	12.06	1022	1259	972	1322
1900 Low speed/low pressure (4)																				
1900	1	20.0	0.6		2.85	138	139	140	297	345	439	0.91	0.210	0.317	0.442	7.36	302	306	260	337
1900	2	20.2	3.0		6.61	282	286	288	644	768	907	2.07	0.277	0.357	0.437	6.65	302	310	291	367
1900	3	20.0	3.0		11.06	429	432	435	1166	1262	1423	3.42	0.320	0.392	0.463	7.75	302	312	290	348
1900	4	30.1	3.0		3.52	137	139	140	374	412	486	1.09	0.286	0.393	0.488	5.40	302	322	283	397
1900	5	30.1	3.0		7.80	283	286	288	797	899	1081	2.38	0.301	0.415	0.530	6.91	302	326	279	444
1900	6	30.1	3.0		12.40	426	431	434	1277	1412	1633	3.80	0.337	0.436	0.523	7.69	302	333	281	468
2000 Final characteristic																				
2000	1	80.0	30.1		9.16	429	431	432	988	1049	1217	2.75	0.319	0.342	0.396	8.02	302	532	282	985
2000	3	80.0	30.1		9.83	429	431	432	1043	1154	1430	3.03	0.298	0.360	0.465	7.87	302	504	261	1011
2000	5	80.0	30.1		10.11	428	431	434	1066	1192	1469	3.15	0.293	0.369	0.473	7.64	303	478	249	1010

Test Req #: DR-2011-34-B



**NUCAP R&D CENTER
Brake Dynamometer Testing**

Cust Ref:

10K-HD

Pad and Rotor Wear

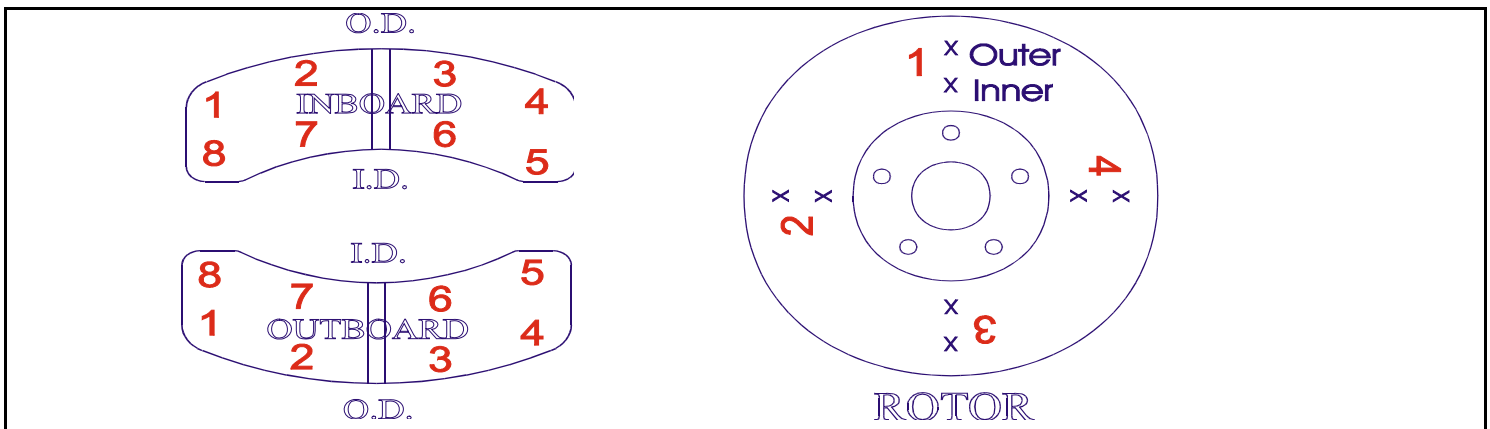
<u>Inboard Pad Thickness (mm)</u>		Individual Positions								Avg
	1	2	3	4	5	6	7	8		
Initial	15.508	15.612	15.610	15.592	15.674	15.644	15.615	15.544	15.600	
Final	12.594	10.574	10.651	13.688	14.531	11.065	10.859	13.592	12.194	
Loss	2.914	5.038	4.959	1.904	1.143	4.579	4.756	1.952	3.406	

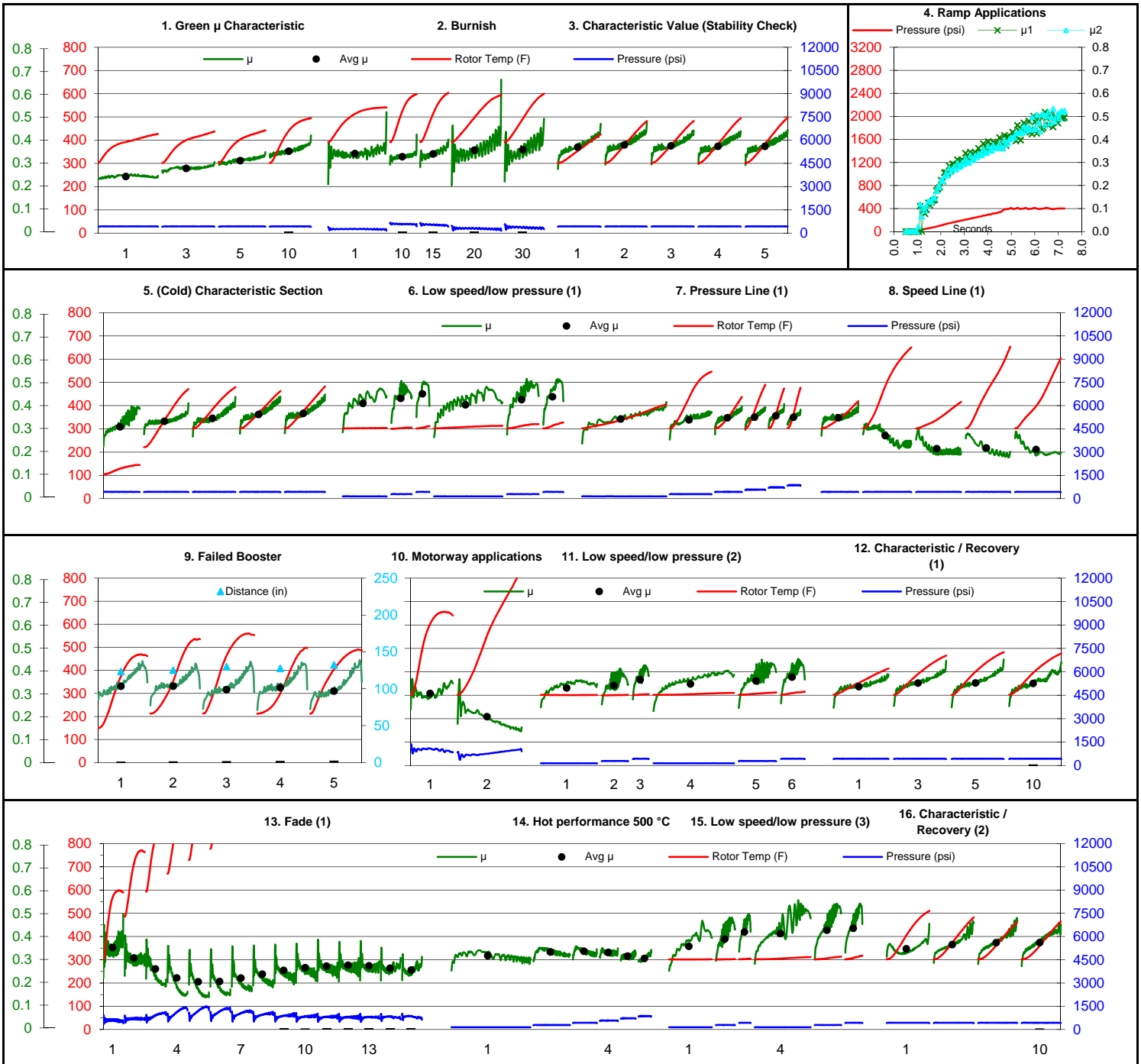
<u>Outboard Pad Thickness (mm)</u>		Individual Positions								Avg
	1	2	3	4	5	6	7	8		
Initial	13.257	13.403	13.298	13.213	13.305	13.068	13.055	13.213	13.227	
Final	10.146	9.739	8.653	8.305	8.689	9.153	9.828	10.609	9.390	
Loss	3.111	3.664	4.645	4.908	4.616	3.915	3.227	2.604	3.836	

<u>Rotor Thickness (mm)</u>		POSITION 1		POSITION 2		POSITION 3		POSITION 4		Avg
	In	Out	In	Out	In	Out	In	Out		
Initial	38.026	38.027	38.026	38.028	38.026	38.027	38.023	38.024	38.026	
Final	37.897	37.907	37.883	37.907	37.870	37.906	37.897	37.908	37.897	
Loss	0.129	0.120	0.143	0.121	0.156	0.121	0.126	0.116	0.129	

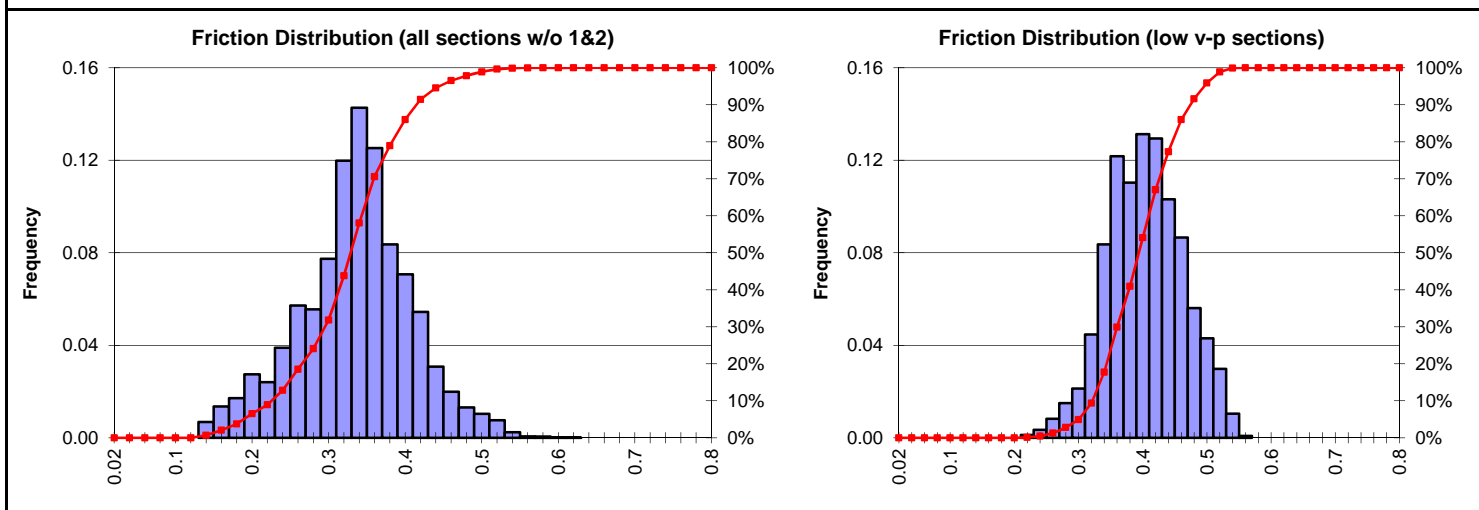
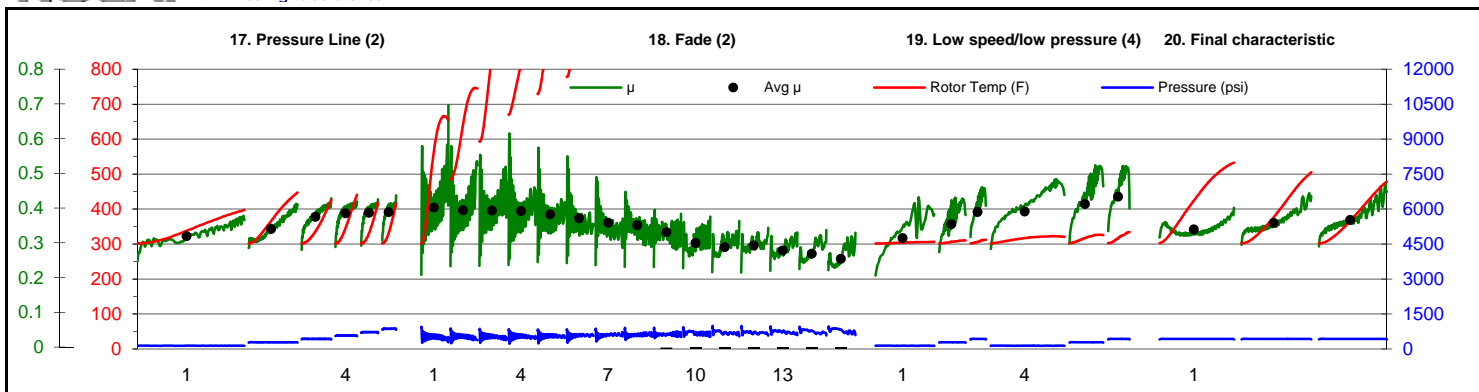
<u>Pad & Rotor Weight (gram)</u>		Inboard Pad	Outboard Pad	Rotor
Initial		609.12	595.61	19145.50
Final		524.76	494.73	19102.00
Loss		84.36	100.88	43.50

<u>MicroFinish (micron)</u>		POSITION 1		POSITION 2		POSITION 3		POSITION 4	
	In	Out	In	Out	In	Out	In	Out	
Initial	2.72	2.51	2.86	2.66	2.26	2.80	3.15	2.53	
Final	3.15	3.62	3.21	3.67	3.17	3.64	3.26	3.70	
Difference	0.43	1.11	0.35	1.01	0.91	0.84	0.11	1.17	





Nucap Test Number:	NU-11L-E1345	Test Request Number	DR-2011-34-B
Cust. Ref:	10K-HD	Test Date:	12/21/11
Brake Name:	KODIAK 10K HD	Program Number:	W03095A5
Rotor/Drum ID:	KODIAK 11-10	Effective Radius (mm):	121.00
Lining FMSI Number:	7020A-D87	Actual Wheel Load (kg):	1375.21
Pri/Lead/Inner Lining:	DBC-2250-SM	Actual Inertia (kgm ²):	191.42
Sec/Trail/Outer Lining:	DBC-2250-SM	<i>SAE J2681 Report Version 1.01</i>	



Description	Value	Description	Value
Nominal μ	0.353	Test Duration	4.5 hrs
Minimum μ	0.205	Brake Cooling Time	
Maximum μ	0.451	Air Temperature	0 F
Green effectiveness minimum μ	0.244	Relative Humidity	0.0 F
Post - burnish average μ (Stability check)	0.375		
Low v-p maximum μ (all low spd-low prs)	0.451	Wear	Value
Low v-p minimum μ (all low spd-low prs)	0.317	Thickness loss:	
Speed sensitivity (%) (160 vs. 80 km/h)	-38	Inner/Leading	3.406 mm
High speed minimum μ (180 & 200 km/h)	0.211	Outer/Trailing	3.836 mm
Pre-fade pressure sensitivity (%)	3	Rotor	0.1290 mm
Post-fade pressure sensitivity (%)	14	Weight loss:	
Fade (1) minimum μ	0.205	Inner/Leading	84.36 gram
Hot performance 500 °C minimum μ	0.306	Outer/Trailing	100.88 gram
Fade (2) minimum μ	0.258	Rotor	43.5 gram
Post fades average μ , Final characteristic	0.357		

Nucap Test Number:	NU-11L-E1345	Test Request Number	DR-2011-34-B
Cust. Ref:	10K-HD	Test Date:	12/21/11
Brake Name:	KODIAK 10K HD	Program Number:	W03095A5
Rotor/Drum ID:	KODIAK 11-10	Effective Radius (mm):	121.00
Lining FMSI Number:	7020A-D87	Actual Wheel Load (kg):	1375.21
Pri/Lead/Inner Lining:	DBC-2250-SM	Actual Inertia (kgm ²):	191.42
Sec/Trail/Outer Lining:	DBC-2250-SM	<i>SAE J2681 Report Version 1.01</i>	



