

LIGO Production Small Actuator Test Report

Actuator Serial #: S002
 Operator Name: Gordon, Matt
 Date: 7/23/2010 Time: 2:32 AM
 Actuator Coil Resistance: 10.24 Ohms, PASS
 Ambient Temperature: 69.3 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.638
 Y Travel Limit (inches): 0.205
 Z Travel Limit (inches): 0.503

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.599	10.037	6.278	PASS
Position 1	0.250	0.085	0.220	1.757	10.109	5.754	PASS
Position 2	0.250	-0.085	0.220	1.805	10.136	5.615	PASS
Position 3	-0.250	-0.085	0.220	1.830	10.005	5.466	PASS
Position 4	-0.250	0.085	0.220	1.794	10.170	5.668	PASS
Position 5	-0.250	0.085	-0.220	1.768	9.971	5.639	PASS
Position 6	-0.250	-0.085	-0.220	1.770	10.016	5.658	PASS
Position 7	0.250	-0.085	-0.220	1.797	10.016	5.575	PASS
Position 8	0.250	0.085	-0.220	1.777	9.973	5.611	PASS
Center	0.000	0.000	0.000	-1.641	-10.048	6.124	PASS
Position 1	0.250	0.085	0.220	-1.816	-10.050	5.535	PASS
Position 2	0.250	-0.085	0.220	-1.815	-10.002	5.512	PASS
Position 3	-0.250	-0.085	0.220	-1.815	-10.028	5.525	PASS
Position 4	-0.250	0.085	0.220	-1.793	-9.942	5.543	PASS
Position 5	-0.250	0.085	-0.220	-1.805	-10.121	5.606	PASS
Position 6	-0.250	-0.085	-0.220	-1.838	-10.056	5.472	PASS
Position 7	0.250	-0.075	-0.220	-1.842	-10.017	5.437	PASS
Position 8	0.250	0.085	-0.220	-1.790	-10.051	5.616	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S003
 Operator Name: Gordon, Matt
 Date: 7/23/2010 Time: 4:21 AM
 Actuator Coil Resistance: 10.21 Ohms, PASS
 Ambient Temperature: 69.8 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.658
 Y Travel Limit (inches): 0.206
 Z Travel Limit (inches): 0.508

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.630	9.990	6.127	PASS
Position 1	0.250	0.085	0.220	1.777	10.080	5.671	PASS
Position 2	0.250	-0.085	0.220	1.848	10.040	5.434	PASS
Position 3	-0.250	-0.085	0.220	1.834	9.964	5.433	PASS
Position 4	-0.250	0.085	0.220	1.765	10.059	5.698	PASS
Position 5	-0.250	0.085	-0.220	1.800	9.945	5.525	PASS
Position 6	-0.250	-0.085	-0.220	1.810	9.996	5.521	PASS
Position 7	0.250	-0.085	-0.220	1.806	9.976	5.525	PASS
Position 8	0.250	0.085	-0.220	1.782	9.925	5.568	PASS
Center	0.000	0.000	0.000	-1.611	-9.975	6.192	PASS
Position 1	0.250	0.085	0.220	-1.787	-9.982	5.585	PASS
Position 2	0.250	-0.085	0.220	-1.776	-9.930	5.591	PASS
Position 3	-0.250	-0.085	0.220	-1.781	-9.954	5.589	PASS
Position 4	-0.250	0.085	0.220	-1.785	-10.010	5.607	PASS
Position 5	-0.250	0.075	-0.220	-1.816	-10.041	5.530	PASS
Position 6	-0.250	-0.085	-0.220	-1.786	-10.024	5.614	PASS
Position 7	0.250	-0.085	-0.220	-1.783	-10.056	5.640	PASS
Position 8	0.250	0.085	-0.220	-1.813	-10.003	5.518	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S004
 Operator Name: Gordon, Matt
 Date: 7/23/2010 Time: 12:02 AM
 Actuator Coil Resistance: 10.22 Ohms, PASS

Ambient Temperature: 69.8 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.659
 Y Travel Limit (inches): 0.205
 Z Travel Limit (inches): 0.500

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.712	10.011	5.847	PASS
Position 1	0.250	0.085	0.220	1.811	10.003	5.524	PASS
Position 2	0.250	-0.085	0.220	1.822	10.066	5.523	PASS
Position 3	-0.250	-0.085	0.220	1.829	10.040	5.490	PASS
Position 4	-0.250	0.085	0.220	1.830	9.988	5.457	PASS
Position 5	-0.250	0.085	-0.220	1.793	10.033	5.594	PASS
Position 6	-0.250	-0.085	-0.220	1.766	10.030	5.679	PASS
Position 7	0.250	-0.085	-0.220	1.850	9.962	5.385	PASS
Position 8	0.250	0.085	-0.220	1.796	10.027	5.584	PASS
Center	0.000	0.000	0.000	-1.639	-10.029	6.118	PASS
Position 1	0.250	0.085	0.220	-1.811	-10.026	5.537	PASS
Position 2	0.250	-0.085	0.220	-1.839	-9.993	5.433	PASS
Position 3	-0.250	-0.085	0.220	-1.812	-9.991	5.514	PASS
Position 4	-0.250	0.085	0.220	-1.813	-10.035	5.534	PASS
Position 5	-0.250	0.085	-0.220	-1.835	-9.955	5.424	PASS
Position 6	-0.250	-0.085	-0.220	-1.834	-10.075	5.494	PASS
Position 7	0.250	-0.085	-0.220	-1.804	-10.008	5.548	PASS
Position 8	0.250	0.085	-0.220	-1.779	-9.993	5.617	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S005
 Operator Name: Gordon, Matt
 Date: 7/22/2010 Time: 11:04 PM
 Actuator Coil Resistance: 10.13 Ohms, PASS
 Ambient Temperature: 73.1 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.649
 Y Travel Limit (inches): 0.205

Z Travel Limit (inches): 0.503

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.623	9.991	6.154	PASS
Position 1	0.250	0.085	0.220	1.850	10.008	5.411	PASS
Position 2	0.250	-0.085	0.220	1.831	10.126	5.529	PASS
Position 3	-0.250	-0.085	0.220	1.730	10.164	5.876	PASS
Position 4	-0.250	0.085	0.220	1.818	10.036	5.520	PASS
Position 5	-0.250	0.085	-0.220	1.748	9.993	5.716	PASS
Position 6	-0.250	-0.085	-0.220	1.756	10.059	5.727	PASS
Position 7	0.250	-0.085	-0.220	1.759	10.060	5.718	PASS
Position 8	0.250	0.085	-0.220	1.761	9.999	5.676	PASS
Center	0.000	0.000	0.000	-1.655	-9.985	6.033	PASS
Position 1	0.250	0.085	0.220	-1.832	-9.927	5.419	PASS
Position 2	0.250	-0.085	0.220	-1.838	-9.956	5.416	PASS
Position 3	-0.250	-0.085	0.220	-1.823	-9.916	5.441	PASS
Position 4	-0.250	0.085	0.220	-1.824	-9.953	5.455	PASS
Position 5	-0.250	0.085	-0.220	-1.845	-10.055	5.451	PASS
Position 6	-0.250	-0.085	-0.220	-1.827	-10.012	5.479	PASS
Position 7	0.250	-0.075	-0.220	-1.834	-9.925	5.411	PASS
Position 8	0.250	0.085	-0.220	-1.807	-10.046	5.558	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S007
 Operator Name: Gordon, Matt
 Date: 7/23/2010 Time: 12:45 AM
 Actuator Coil Resistance: 10.27 Ohms, PASS
 Ambient Temperature: 69.8 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.640
 Y Travel Limit (inches): 0.205
 Z Travel Limit (inches): 0.506

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.576	9.974	6.329	PASS

Position 1	0.250	0.085	0.220	1.737	9.977	5.743	PASS
Position 2	0.250	-0.085	0.220	1.842	9.924	5.387	PASS
Position 3	-0.250	-0.085	0.220	1.763	10.176	5.770	PASS
Position 4	-0.250	0.085	0.220	1.754	9.967	5.681	PASS
Position 5	-0.250	0.085	-0.220	1.774	10.032	5.654	PASS
Position 6	-0.250	-0.085	-0.220	1.729	9.987	5.776	PASS
Position 7	0.250	-0.085	-0.220	1.765	10.113	5.728	PASS
Position 8	0.250	0.085	-0.220	1.777	10.025	5.642	PASS
Center	0.000	0.000	0.000	-1.606	-9.984	6.218	PASS
Position 1	0.250	0.085	0.220	-1.816	-9.990	5.500	PASS
Position 2	0.250	-0.085	0.220	-1.798	-9.940	5.527	PASS
Position 3	-0.250	-0.085	0.220	-1.795	-9.938	5.536	PASS
Position 4	-0.250	0.085	0.220	-1.795	-10.005	5.573	PASS
Position 5	-0.250	0.085	-0.220	-1.835	-10.051	5.479	PASS
Position 6	-0.250	-0.085	-0.220	-1.795	-10.054	5.599	PASS
Position 7	0.250	-0.075	-0.220	-1.772	-10.134	5.719	PASS
Position 8	0.250	0.085	-0.220	-1.820	-9.940	5.463	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S009
Operator Name: Gordon, Matt
Date: 7/2/2010 Time: 11:10 AM
Actuator Coil Resistance: 10.17 Ohms, PASS
Ambient Temperature: 69.8 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.632
Y Travel Limit (inches): 0.206
Z Travel Limit (inches): 0.503

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.602	10.062	6.279	PASS
Position 1	0.250	0.085	0.220	1.809	10.001	5.528	PASS
Position 2	0.250	-0.085	0.220	1.850	9.963	5.385	PASS
Position 3	-0.250	-0.085	0.220	1.756	10.102	5.754	PASS

Position 4	-0.250	0.085	0.220	1.733	9.968	5.753	PASS
Position 5	-0.250	0.085	-0.220	1.781	10.052	5.643	PASS
Position 6	-0.250	-0.085	-0.220	1.741	9.963	5.721	PASS
Position 7	0.250	-0.085	-0.220	1.750	10.078	5.759	PASS
Position 8	0.250	0.085	-0.220	1.777	10.018	5.637	PASS
Center	0.000	0.000	0.000	-1.628	-9.928	6.098	PASS
Position 1	0.250	0.085	0.220	-1.790	-9.920	5.543	PASS
Position 2	0.250	-0.085	0.220	-1.821	-10.039	5.511	PASS
Position 3	-0.250	-0.085	0.220	-1.809	-10.001	5.528	PASS
Position 4	-0.250	0.085	0.220	-1.819	-10.055	5.528	PASS
Position 5	-0.250	0.085	-0.220	-1.841	-9.988	5.426	PASS
Position 6	-0.250	-0.085	-0.220	-1.773	-10.055	5.671	PASS
Position 7	0.250	-0.085	-0.220	-1.771	-10.122	5.714	PASS
Position 8	0.250	0.085	-0.220	-1.818	-10.097	5.553	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S010
Operator Name: Gordon, Matt
Date: 7/22/2010 Time: 10:58 AM
Actuator Coil Resistance: 10.35 Ohms, PASS
Ambient Temperature: 69.3 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.650
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.508

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.575	10.027	6.365	PASS
Position 1	0.250	0.085	0.220	1.785	10.190	5.707	PASS
Position 2	0.250	-0.085	0.220	1.777	9.969	5.609	PASS
Position 3	-0.250	-0.085	0.220	1.808	10.039	5.553	PASS
Position 4	-0.250	0.085	0.220	1.761	10.076	5.721	PASS
Position 5	-0.250	0.085	-0.220	1.766	10.032	5.680	PASS
Position 6	-0.250	-0.085	-0.220	1.768	10.157	5.745	PASS

Position 7	0.250	-0.085	-0.220	1.765	10.139	5.743	PASS
Position 8	0.250	0.085	-0.220	1.712	10.042	5.866	PASS
Center	0.000	0.000	0.000	-1.616	-10.020	6.201	PASS
Position 1	0.250	0.085	0.220	-1.784	-10.005	5.607	PASS
Position 2	0.250	-0.085	0.220	-1.793	-9.995	5.573	PASS
Position 3	-0.250	-0.085	0.220	-1.782	-10.017	5.620	PASS
Position 4	-0.250	0.085	0.220	-1.794	-10.019	5.586	PASS
Position 5	-0.250	0.085	-0.220	-1.822	-9.980	5.478	PASS
Position 6	-0.250	-0.085	-0.220	-1.802	-10.059	5.582	PASS
Position 7	0.250	-0.085	-0.220	-1.819	-9.923	5.456	PASS
Position 8	0.250	0.085	-0.220	-1.777	-9.982	5.618	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S011
Operator Name: Gordon, Matt
Date: 7/22/2010 Time: 9:05 AM
Actuator Coil Resistance: 10.14 Ohms, PASS
Ambient Temperature: 69.3 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.648
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.504

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.705	10.052	5.895	PASS
Position 1	0.250	0.085	0.220	1.798	10.012	5.569	PASS
Position 2	0.250	-0.085	0.220	1.845	9.987	5.413	PASS
Position 3	-0.250	-0.075	0.220	1.747	10.141	5.806	PASS
Position 4	-0.250	0.085	0.220	1.831	10.050	5.489	PASS
Position 5	-0.250	0.085	-0.220	1.757	10.043	5.716	PASS
Position 6	-0.250	-0.085	-0.220	1.765	10.073	5.707	PASS
Position 7	0.250	-0.085	-0.220	1.761	10.052	5.707	PASS
Position 8	0.250	0.085	-0.220	1.795	10.031	5.589	PASS
Center	0.000	0.000	0.000	-1.645	-10.066	6.121	PASS

Position 1	0.250	0.085	0.220	-1.804	-10.034	5.562	PASS
Position 2	0.250	-0.085	0.220	-1.823	-10.023	5.497	PASS
Position 3	-0.250	-0.085	0.220	-1.820	-9.980	5.484	PASS
Position 4	-0.250	0.085	0.220	-1.824	-10.044	5.508	PASS
Position 5	-0.250	0.085	-0.220	-1.841	-9.996	5.428	PASS
Position 6	-0.250	-0.075	-0.220	-1.814	-9.936	5.477	PASS
Position 7	0.250	-0.085	-0.220	-1.799	-10.045	5.583	PASS
Position 8	0.250	0.085	-0.220	-1.835	-9.980	5.439	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S013
Operator Name: Gordon, Matt
Date: 7/23/2010 Time: 2:54 AM
Actuator Coil Resistance: 10.19 Ohms, PASS
Ambient Temperature: 69.8 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.651
Y Travel Limit (inches): 0.206
Z Travel Limit (inches): 0.506

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.602	9.958	6.217	PASS
Position 1	0.250	0.085	0.220	1.841	10.006	5.434	PASS
Position 2	0.250	-0.085	0.220	1.801	9.961	5.531	PASS
Position 3	-0.250	-0.085	0.220	1.823	10.005	5.489	PASS
Position 4	-0.250	0.085	0.220	1.752	10.042	5.733	PASS
Position 5	-0.250	0.085	-0.220	1.796	10.015	5.577	PASS
Position 6	-0.250	-0.085	-0.220	1.778	9.943	5.592	PASS
Position 7	0.250	-0.085	-0.220	1.770	9.928	5.610	PASS
Position 8	0.250	0.085	-0.220	1.713	10.013	5.845	PASS
Center	0.000	0.000	0.000	-1.644	-9.980	6.072	PASS
Position 1	0.250	0.085	0.220	-1.816	-9.983	5.498	PASS
Position 2	0.250	-0.085	0.220	-1.825	-9.939	5.446	PASS
Position 3	-0.250	-0.085	0.220	-1.821	-9.970	5.475	PASS

Position 4	-0.250	0.085	0.220	-1.819	-10.003	5.499	PASS
Position 5	-0.250	0.085	-0.220	-1.794	-10.076	5.618	PASS
Position 6	-0.250	-0.085	-0.220	-1.824	-9.918	5.438	PASS
Position 7	0.250	-0.085	-0.220	-1.830	-9.955	5.439	PASS
Position 8	0.250	0.085	-0.220	-1.823	-10.026	5.500	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S014
Operator Name: Gordon, Matt
Date: 7/23/2010 Time: 3:17 AM
Actuator Coil Resistance: 10.14 Ohms, PASS
Ambient Temperature: 70.0 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.633
Y Travel Limit (inches): 0.206
Z Travel Limit (inches): 0.503

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.622	10.002	6.166	PASS
Position 1	0.250	0.085	0.220	1.797	10.042	5.588	PASS
Position 2	0.250	-0.085	0.220	1.815	9.989	5.503	PASS
Position 3	-0.250	-0.085	0.220	1.829	9.938	5.434	PASS
Position 4	-0.250	0.085	0.220	1.829	10.119	5.534	PASS
Position 5	-0.250	0.085	-0.220	1.756	9.924	5.651	PASS
Position 6	-0.250	-0.085	-0.220	1.785	9.968	5.585	PASS
Position 7	0.250	-0.085	-0.220	1.800	10.118	5.622	PASS
Position 8	0.250	0.085	-0.220	1.789	10.070	5.629	PASS
Center	0.000	0.000	0.000	-1.604	-10.044	6.261	PASS
Position 1	0.250	0.085	0.220	-1.784	-9.970	5.588	PASS
Position 2	0.250	-0.085	0.220	-1.814	-10.012	5.520	PASS
Position 3	-0.250	-0.085	0.220	-1.812	-10.049	5.545	PASS
Position 4	-0.250	0.085	0.220	-1.793	-10.010	5.584	PASS
Position 5	-0.250	0.085	-0.220	-1.806	-9.951	5.509	PASS
Position 6	-0.250	-0.085	-0.220	-1.815	-9.943	5.478	PASS

Position 7	0.250	-0.085	-0.220	-1.776	-10.059	5.665	PASS
Position 8	0.250	0.085	-0.220	-1.825	-10.013	5.486	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S015
Operator Name: Gordon, Matt
Date: 7/28/2010 Time: 5:29 PM
Actuator Coil Resistance: 10.41 Ohms, PASS
Ambient Temperature: 79.0 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.642
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.505

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.541	9.929	6.445	PASS
Position 1	0.250	0.085	0.220	1.777	9.935	5.591	PASS
Position 2	0.250	-0.085	0.220	1.809	10.158	5.615	PASS
Position 3	-0.250	-0.085	0.220	1.782	9.985	5.604	PASS
Position 4	-0.250	0.085	0.220	1.789	9.943	5.559	PASS
Position 5	-0.250	0.085	-0.220	1.744	10.003	5.734	PASS
Position 6	-0.250	-0.085	-0.220	1.754	10.078	5.746	PASS
Position 7	0.250	-0.085	-0.220	1.758	10.048	5.715	PASS
Position 8	0.250	0.085	-0.220	1.750	9.999	5.714	PASS
Center	0.000	0.000	0.000	-1.602	-9.929	6.197	PASS
Position 1	0.250	0.085	0.220	-1.781	-10.088	5.662	PASS
Position 2	0.250	-0.085	0.220	-1.791	-10.035	5.603	PASS
Position 3	-0.250	-0.085	0.220	-1.820	-10.030	5.512	PASS
Position 4	-0.250	0.085	0.220	-1.774	-9.960	5.615	PASS
Position 5	-0.250	0.085	-0.220	-1.817	-9.983	5.494	PASS
Position 6	-0.250	-0.085	-0.220	-1.752	-10.036	5.729	PASS
Position 7	0.250	-0.085	-0.220	-1.779	-10.031	5.638	PASS
Position 8	0.250	0.085	-0.220	-1.817	-10.012	5.509	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S016
 Operator Name: Gordon, Matt
 Date: 7/22/2010 Time: 11:28 PM
 Actuator Coil Resistance: 10.22 Ohms, PASS
 Ambient Temperature: 69.8 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.643
 Y Travel Limit (inches): 0.206
 Z Travel Limit (inches): 0.503

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.537	10.258	6.673	PASS
Position 1	0.250	0.085	0.220	1.773	9.979	5.630	PASS
Position 2	0.250	-0.085	0.220	1.726	9.968	5.777	PASS
Position 3	-0.250	-0.085	0.220	1.774	10.008	5.642	PASS
Position 4	-0.250	0.085	0.220	1.723	10.012	5.812	PASS
Position 5	-0.250	0.085	-0.220	1.694	10.061	5.938	PASS
Position 6	-0.250	-0.085	-0.220	1.679	9.978	5.943	PASS
Position 7	0.250	-0.085	-0.220	1.720	10.116	5.882	PASS
Position 8	0.250	0.085	-0.220	1.703	10.058	5.905	PASS
Center	0.000	0.000	0.000	-1.569	-10.097	6.437	PASS
Position 1	0.250	0.085	0.220	-1.713	-9.983	5.827	PASS
Position 2	0.250	-0.085	0.220	-1.720	-9.950	5.786	PASS
Position 3	-0.250	-0.085	0.220	-1.731	-9.995	5.773	PASS
Position 4	-0.250	0.085	0.220	-1.720	-10.019	5.824	PASS
Position 5	-0.250	0.085	-0.220	-1.763	-9.965	5.652	PASS
Position 6	-0.250	-0.085	-0.220	-1.850	-9.946	5.377	PASS
Position 7	0.250	-0.085	-0.220	-1.796	-10.022	5.581	PASS
Position 8	0.250	0.085	-0.220	-1.812	-10.057	5.550	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S017
Operator Name: Gordon, Matt
Date: 7/23/2010 Time: 3:43 AM
Actuator Coil Resistance: 10.24 Ohms, PASS
Ambient Temperature: 69.8 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.638
Y Travel Limit (inches): 0.206
Z Travel Limit (inches): 0.498

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.579	9.953	6.302	PASS
Position 1	0.250	0.085	0.220	1.761	10.006	5.680	PASS
Position 2	0.250	-0.085	0.220	1.779	10.027	5.637	PASS
Position 3	-0.250	-0.085	0.220	1.775	9.927	5.594	PASS
Position 4	-0.250	0.085	0.220	1.714	10.033	5.855	PASS
Position 5	-0.250	0.085	-0.220	1.772	10.039	5.665	PASS
Position 6	-0.250	-0.085	-0.220	1.670	9.992	5.982	PASS
Position 7	0.250	-0.085	-0.220	1.759	9.954	5.659	PASS
Position 8	0.250	0.085	-0.220	1.783	10.057	5.641	PASS
Center	0.000	0.000	0.000	-1.610	-9.979	6.196	PASS
Position 1	0.250	0.085	0.220	-1.778	-9.947	5.595	PASS
Position 2	0.250	-0.085	0.220	-1.803	-9.992	5.541	PASS
Position 3	-0.250	-0.085	0.220	-1.806	-10.019	5.547	PASS
Position 4	-0.250	0.085	0.220	-1.774	-9.966	5.618	PASS
Position 5	-0.250	0.085	-0.220	-1.788	-10.032	5.611	PASS
Position 6	-0.250	-0.085	-0.220	-1.794	-10.028	5.589	PASS
Position 7	0.250	-0.085	-0.220	-1.783	-9.996	5.607	PASS
Position 8	0.250	0.085	-0.220	-1.775	-10.047	5.660	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S018

Operator Name: Gordon, Matt

Date: 7/22/2010 Time: 11:56 AM

Actuator Coil Resistance: 10.35 Ohms, PASS

Ambient Temperature: 69.5 F

Hi Pot Test Results: 1000 MOhms, PASS

X Travel Limit (inches): 0.606

Y Travel Limit (inches): 0.207

Z Travel Limit (inches): 0.500

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.569	10.020	6.386	PASS
Position 1	0.250	0.085	0.220	1.813	9.966	5.497	PASS
Position 2	0.250	-0.085	0.220	1.814	10.147	5.595	PASS
Position 3	-0.250	-0.085	0.220	1.801	10.117	5.617	PASS
Position 4	-0.250	0.085	0.220	1.793	9.963	5.556	PASS
Position 5	-0.250	0.085	-0.220	1.783	10.066	5.647	PASS
Position 6	-0.250	-0.085	-0.220	1.781	10.038	5.637	PASS
Position 7	0.250	-0.085	-0.220	1.775	10.026	5.650	PASS
Position 8	0.250	0.085	-0.220	1.839	10.094	5.488	PASS
Center	0.000	0.000	0.000	-1.586	-10.023	6.320	PASS
Position 1	0.250	0.085	0.220	-1.757	-10.001	5.693	PASS
Position 2	0.250	-0.085	0.220	-1.744	-9.969	5.716	PASS
Position 3	-0.250	-0.085	0.220	-1.757	-9.962	5.668	PASS
Position 4	-0.250	0.085	0.220	-1.768	-10.036	5.678	PASS
Position 5	-0.250	0.085	-0.220	-1.782	-10.027	5.627	PASS
Position 6	-0.250	-0.085	-0.220	-1.767	-10.084	5.707	PASS
Position 7	0.250	-0.075	-0.220	-1.811	-10.069	5.559	PASS
Position 8	0.250	0.085	-0.220	-1.804	-9.922	5.499	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S019

Operator Name: Gordon, Matt
 Date: 7/2/2010 Time: 11:30 AM
 Actuator Coil Resistance: 10.27 Ohms, PASS
 Ambient Temperature: 69.8 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.650
 Y Travel Limit (inches): 0.206
 Z Travel Limit (inches): 0.506

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.625	10.042	6.180	PASS
Position 1	0.250	0.085	0.220	1.808	9.990	5.526	PASS
Position 2	0.250	-0.085	0.220	1.755	10.026	5.712	PASS
Position 3	-0.250	-0.085	0.220	1.740	10.142	5.828	PASS
Position 4	-0.250	0.085	0.220	1.759	10.027	5.700	PASS
Position 5	-0.250	0.085	-0.220	1.747	9.986	5.716	PASS
Position 6	-0.250	-0.085	-0.220	1.767	10.057	5.691	PASS
Position 7	0.250	-0.085	-0.220	1.770	10.159	5.740	PASS
Position 8	0.250	0.085	-0.220	1.790	10.099	5.643	PASS
Center	0.000	0.000	0.000	-1.611	-10.050	6.239	PASS
Position 1	0.250	0.085	0.220	-1.790	-10.036	5.608	PASS
Position 2	0.250	-0.085	0.220	-1.796	-9.994	5.566	PASS
Position 3	-0.250	-0.085	0.220	-1.784	-10.047	5.632	PASS
Position 4	-0.250	0.085	0.220	-1.796	-10.068	5.607	PASS
Position 5	-0.250	0.085	-0.220	-1.789	-9.969	5.572	PASS
Position 6	-0.250	-0.085	-0.220	-1.786	-10.156	5.687	PASS
Position 7	0.250	-0.085	-0.220	-1.792	-10.164	5.673	PASS
Position 8	0.250	0.085	-0.220	-1.794	-10.126	5.644	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S020
 Operator Name: Gordon, Matt
 Date: 7/1/2010 Time: 9:28 AM
 Actuator Coil Resistance: 10.12 Ohms, PASS
 Ambient Temperature: 69.8 F

Hi Pot Test Results: 1000 MOhms, PASS

X Travel Limit (inches): 0.656

Y Travel Limit (inches): 0.205

Z Travel Limit (inches): 0.506

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.641	9.986	6.087	PASS
Position 1	0.250	0.085	0.220	1.758	9.965	5.667	PASS
Position 2	0.250	-0.085	0.220	1.828	9.936	5.434	PASS
Position 3	-0.250	-0.085	0.220	1.812	10.017	5.529	PASS
Position 4	-0.250	0.085	0.220	1.841	9.951	5.404	PASS
Position 5	-0.250	0.085	-0.220	1.795	9.938	5.538	PASS
Position 6	-0.250	-0.085	-0.220	1.823	9.980	5.475	PASS
Position 7	0.250	-0.085	-0.220	1.800	9.937	5.520	PASS
Position 8	0.250	0.085	-0.220	1.812	9.917	5.475	PASS
Center	0.000	0.000	0.000	-1.675	-9.982	5.959	PASS
Position 1	0.250	0.085	0.220	-1.840	-10.017	5.443	PASS
Position 2	0.250	-0.085	0.220	-1.837	-9.942	5.412	PASS
Position 3	-0.250	-0.085	0.220	-1.845	-9.960	5.398	PASS
Position 4	-0.250	0.085	0.220	-1.838	-10.037	5.461	PASS
Position 5	-0.250	0.085	-0.220	-1.847	-9.980	5.402	PASS
Position 6	-0.250	-0.084	-0.220	-1.847	-10.004	5.418	PASS
Position 7	0.250	-0.085	-0.220	-1.850	-10.051	5.433	PASS
Position 8	0.250	0.085	-0.215	-1.848	-9.982	5.402	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S021

Operator Name: Gordon, Matt

Date: 7/23/2010 Time: 5:51 AM

Actuator Coil Resistance: 10.25 Ohms, PASS

Ambient Temperature: 69.3 F

Hi Pot Test Results: 1000 MOhms, PASS

X Travel Limit (inches): 0.639

Y Travel Limit (inches): 0.205

Z Travel Limit (inches): 0.504

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.598	9.959	6.232	PASS
Position 1	0.250	0.085	0.220	1.764	10.037	5.691	PASS
Position 2	0.250	-0.085	0.220	1.841	10.067	5.469	PASS
Position 3	-0.250	-0.075	0.220	1.710	9.946	5.817	PASS
Position 4	-0.250	0.085	0.220	1.798	10.070	5.602	PASS
Position 5	-0.250	0.085	-0.220	1.790	10.038	5.607	PASS
Position 6	-0.250	-0.085	-0.220	1.792	9.973	5.565	PASS
Position 7	0.250	-0.085	-0.220	1.792	10.113	5.642	PASS
Position 8	0.250	0.085	-0.220	1.766	9.938	5.626	PASS
Center	0.000	0.000	0.000	-1.656	-10.036	6.061	PASS
Position 1	0.250	0.085	0.220	-1.814	-10.006	5.517	PASS
Position 2	0.250	-0.085	0.220	-1.821	-9.964	5.470	PASS
Position 3	-0.250	-0.085	0.220	-1.827	-9.952	5.446	PASS
Position 4	-0.250	0.085	0.220	-1.813	-10.010	5.520	PASS
Position 5	-0.250	0.085	-0.220	-1.800	-10.021	5.569	PASS
Position 6	-0.250	-0.075	-0.220	-1.770	-9.958	5.625	PASS
Position 7	0.250	-0.075	-0.220	-1.786	-10.089	5.648	PASS
Position 8	0.250	0.085	-0.220	-1.771	-10.084	5.695	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S022
Operator Name: Gordon, Matt
Date: 7/23/2010 Time: 12:23 AM
Actuator Coil Resistance: 10.19 Ohms, PASS
Ambient Temperature: 69.5 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.654
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.503

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.671	10.046	6.013	PASS
Position 1	0.250	0.085	0.220	1.816	10.133	5.580	PASS

Position 2	0.250	-0.085	0.220	1.837	10.015	5.452	PASS
Position 3	-0.250	-0.085	0.220	1.821	10.070	5.529	PASS
Position 4	-0.250	0.085	0.220	1.834	9.955	5.428	PASS
Position 5	-0.250	0.085	-0.220	1.836	9.987	5.439	PASS
Position 6	-0.250	-0.085	-0.220	1.833	9.937	5.422	PASS
Position 7	0.250	-0.085	-0.220	1.824	10.051	5.510	PASS
Position 8	0.250	0.085	-0.220	1.841	9.986	5.424	PASS
Center	0.000	0.000	0.000	-1.638	-10.070	6.148	PASS
Position 1	0.250	0.085	0.220	-1.820	-9.981	5.484	PASS
Position 2	0.250	-0.085	0.220	-1.806	-9.933	5.499	PASS
Position 3	-0.250	-0.085	0.220	-1.830	-10.055	5.494	PASS
Position 4	-0.250	0.085	0.220	-1.801	-10.017	5.562	PASS
Position 5	-0.250	0.085	-0.220	-1.830	-9.964	5.445	PASS
Position 6	-0.250	-0.085	-0.220	-1.793	-10.027	5.592	PASS
Position 7	0.250	-0.085	-0.220	-1.842	-9.943	5.397	PASS
Position 8	0.250	0.085	-0.220	-1.763	-10.071	5.714	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S023
Operator Name: Gordon, Matt
Date: 7/28/2010 Time: 4:53 PM
Actuator Coil Resistance: 10.33 Ohms, PASS
Ambient Temperature: 79.0 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.651
Y Travel Limit (inches): 0.207
Z Travel Limit (inches): 0.502

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.621	9.971	6.153	PASS
Position 1	0.250	0.085	0.220	1.817	10.059	5.537	PASS
Position 2	0.250	-0.085	0.220	1.725	9.994	5.794	PASS
Position 3	-0.250	-0.085	0.220	1.802	10.104	5.606	PASS
Position 4	-0.250	0.085	0.220	1.821	9.978	5.478	PASS

Position 5	-0.250	0.085	-0.220	1.826	10.023	5.490	PASS
Position 6	-0.250	-0.085	-0.220	1.820	10.117	5.558	PASS
Position 7	0.250	-0.085	-0.220	1.789	10.001	5.592	PASS
Position 8	0.250	0.085	-0.220	1.794	9.933	5.535	PASS
Center	0.000	0.000	0.000	-1.616	-9.978	6.173	PASS
Position 1	0.250	0.085	0.220	-1.781	-9.970	5.598	PASS
Position 2	0.250	-0.085	0.220	-1.785	-9.969	5.584	PASS
Position 3	-0.250	-0.085	0.220	-1.796	-9.972	5.551	PASS
Position 4	-0.250	0.085	0.220	-1.776	-9.982	5.620	PASS
Position 5	-0.250	0.085	-0.220	-1.800	-9.958	5.532	PASS
Position 6	-0.250	-0.085	-0.220	-1.788	-9.962	5.571	PASS
Position 7	0.250	-0.085	-0.220	-1.836	-9.920	5.404	PASS
Position 8	0.250	0.085	-0.220	-1.827	-9.968	5.456	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S024
Operator Name: Gordon, Matt
Date: 7/2/2010 Time: 10:31 AM
Actuator Coil Resistance: 10.30 Ohms, PASS
Ambient Temperature: 71.5 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.650
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.505

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.577	9.924	6.295	PASS
Position 1	0.250	0.085	0.220	1.832	9.906	5.408	PASS
Position 2	0.250	-0.085	0.220	1.757	10.021	5.702	PASS
Position 3	-0.250	-0.085	0.220	1.666	10.175	6.106	PASS
Position 4	-0.250	0.085	0.220	1.814	9.994	5.508	PASS
Position 5	-0.250	0.085	-0.220	1.763	10.028	5.689	PASS
Position 6	-0.250	-0.085	-0.220	1.770	10.071	5.690	PASS
Position 7	0.250	-0.085	-0.220	1.783	10.047	5.635	PASS

Position 8	0.250	0.085	-0.220	1.811	10.012	5.527	PASS
Center	0.000	0.000	0.000	-1.620	-9.983	6.164	PASS
Position 1	0.250	0.085	0.220	-1.795	-9.937	5.534	PASS
Position 2	0.250	-0.085	0.220	-1.819	-10.084	5.543	PASS
Position 3	-0.250	-0.085	0.220	-1.813	-10.090	5.565	PASS
Position 4	-0.250	0.085	0.220	-1.806	-9.971	5.520	PASS
Position 5	-0.250	0.085	-0.220	-1.815	-9.968	5.494	PASS
Position 6	-0.250	-0.085	-0.220	-1.824	-10.123	5.551	PASS
Position 7	0.250	-0.075	-0.220	-1.842	-10.039	5.451	PASS
Position 8	0.250	0.085	-0.220	-1.846	-9.939	5.385	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S025
Operator Name: Gordon, Matt
Date: 7/28/2010 Time: 3:15 PM
Actuator Coil Resistance: 10.40 Ohms, PASS
Ambient Temperature: 78.8 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.634
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.504

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.565	10.059	6.428	PASS
Position 1	0.250	0.085	0.220	1.775	10.000	5.635	PASS
Position 2	0.250	-0.085	0.220	1.795	10.025	5.585	PASS
Position 3	-0.250	-0.085	0.220	1.781	10.138	5.692	PASS
Position 4	-0.250	0.085	0.220	1.850	9.967	5.388	PASS
Position 5	-0.250	0.085	-0.220	1.741	9.988	5.738	PASS
Position 6	-0.250	-0.085	-0.220	1.765	10.183	5.770	PASS
Position 7	0.250	-0.085	-0.220	1.776	10.164	5.722	PASS
Position 8	0.250	0.085	-0.220	1.760	10.002	5.683	PASS
Center	0.000	0.000	0.000	-1.620	-10.067	6.215	PASS
Position 1	0.250	0.085	0.220	-1.766	-9.962	5.640	PASS

Position 2	0.250	-0.085	0.220	-1.800	-10.024	5.570	PASS
Position 3	-0.250	-0.085	0.220	-1.786	-10.050	5.628	PASS
Position 4	-0.250	0.085	0.220	-1.795	-10.105	5.629	PASS
Position 5	-0.250	0.085	-0.220	-1.792	-10.110	5.641	PASS
Position 6	-0.250	-0.085	-0.220	-1.815	-10.040	5.532	PASS
Position 7	0.250	-0.085	-0.220	-1.839	-9.924	5.395	PASS
Position 8	0.250	0.085	-0.220	-1.844	-10.009	5.428	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S026
Operator Name: Gordon, Matt
Date: 7/23/2010 Time: 5:30 AM
Actuator Coil Resistance: 10.23 Ohms, PASS
Ambient Temperature: 69.8 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.645
Y Travel Limit (inches): 0.206
Z Travel Limit (inches): 0.503

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.593	10.043	6.305	PASS
Position 1	0.250	0.085	0.220	1.815	10.007	5.514	PASS
Position 2	0.250	-0.085	0.220	1.783	10.068	5.646	PASS
Position 3	-0.250	-0.085	0.220	1.812	9.995	5.517	PASS
Position 4	-0.250	0.085	0.220	1.845	9.988	5.413	PASS
Position 5	-0.250	0.085	-0.220	1.766	9.998	5.660	PASS
Position 6	-0.250	-0.085	-0.220	1.776	10.037	5.653	PASS
Position 7	0.250	-0.085	-0.220	1.782	10.070	5.650	PASS
Position 8	0.250	0.085	-0.220	1.786	10.016	5.609	PASS
Center	0.000	0.000	0.000	-1.617	-9.932	6.144	PASS
Position 1	0.250	0.085	0.220	-1.814	-9.969	5.496	PASS
Position 2	0.250	-0.085	0.220	-1.831	-10.038	5.481	PASS
Position 3	-0.250	-0.085	0.220	-1.789	-10.090	5.639	PASS
Position 4	-0.250	0.085	0.220	-1.807	-10.009	5.540	PASS

Position 5	-0.250	0.085	-0.220	-1.813	-9.920	5.473	PASS
Position 6	-0.250	-0.085	-0.220	-1.772	-10.052	5.673	PASS
Position 7	0.250	-0.075	-0.220	-1.788	-10.087	5.641	PASS
Position 8	0.250	0.085	-0.220	-1.843	-9.983	5.417	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S027
Operator Name: Gordon, Matt
Date: 7/22/2010 Time: 11:32 AM
Actuator Coil Resistance: 10.21 Ohms, PASS
Ambient Temperature: 68.9 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.654
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.507

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.578	9.941	6.301	PASS
Position 1	0.250	0.085	0.220	1.798	10.038	5.582	PASS
Position 2	0.250	-0.085	0.220	1.844	10.053	5.451	PASS
Position 3	-0.250	-0.085	0.220	1.827	10.028	5.490	PASS
Position 4	-0.250	0.085	0.220	1.796	10.047	5.593	PASS
Position 5	-0.250	0.085	-0.220	1.739	9.987	5.745	PASS
Position 6	-0.250	-0.085	-0.220	1.759	10.075	5.728	PASS
Position 7	0.250	-0.085	-0.220	1.817	9.956	5.480	PASS
Position 8	0.250	0.085	-0.220	1.762	9.989	5.668	PASS
Center	0.000	0.000	0.000	-1.610	-9.955	6.185	PASS
Position 1	0.250	0.085	0.220	-1.793	-9.931	5.538	PASS
Position 2	0.250	-0.085	0.220	-1.841	-10.068	5.470	PASS
Position 3	-0.250	-0.085	0.220	-1.794	-10.072	5.613	PASS
Position 4	-0.250	0.085	0.220	-1.804	-9.957	5.520	PASS
Position 5	-0.250	0.085	-0.220	-1.844	-10.007	5.428	PASS
Position 6	-0.250	-0.085	-0.220	-1.832	-9.972	5.442	PASS
Position 7	0.250	-0.075	-0.220	-1.795	-10.092	5.623	PASS

Position 8	0.250	0.085	-0.220	-1.830	-9.919	5.421	PASS
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LIGO Production Small Actuator Test Report

Actuator Serial #: S029
Operator Name: Gordon, Matt
Date: 7/29/2010 Time: 3:55 PM
Actuator Coil Resistance: 10.21 Ohms, PASS
Ambient Temperature: 79.7 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.661
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.503

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.607	9.934	6.180	PASS
Position 1	0.250	0.085	0.220	1.795	10.105	5.630	PASS
Position 2	0.250	-0.085	0.220	1.809	10.038	5.550	PASS
Position 3	-0.250	-0.085	0.220	1.771	10.114	5.710	PASS
Position 4	-0.250	0.085	0.220	1.835	9.954	5.425	PASS
Position 5	-0.250	0.085	-0.220	1.757	9.921	5.647	PASS
Position 6	-0.250	-0.085	-0.220	1.774	9.974	5.623	PASS
Position 7	0.250	-0.085	-0.220	1.812	10.111	5.579	PASS
Position 8	0.250	0.085	-0.220	1.821	10.062	5.526	PASS
Center	0.000	0.000	0.000	-1.632	-9.928	6.085	PASS
Position 1	0.250	0.085	0.220	-1.818	-10.050	5.529	PASS
Position 2	0.250	-0.085	0.220	-1.826	-9.999	5.477	PASS
Position 3	-0.250	-0.085	0.220	-1.822	-10.015	5.496	PASS
Position 4	-0.250	0.085	0.220	-1.802	-9.924	5.508	PASS
Position 5	-0.250	0.085	-0.220	-1.847	-9.995	5.411	PASS
Position 6	-0.250	-0.085	-0.220	-1.824	-10.108	5.541	PASS
Position 7	0.250	-0.085	-0.220	-1.848	-9.953	5.386	PASS
Position 8	0.250	0.085	-0.220	-1.810	-10.054	5.555	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S030
 Operator Name: Gordon, Matt
 Date: 7/2/2010 Time: 11:47 AM
 Actuator Coil Resistance: 10.22 Ohms, PASS
 Ambient Temperature: 69.8 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.653
 Y Travel Limit (inches): 0.204
 Z Travel Limit (inches): 0.507

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.610	9.965	6.188	PASS
Position 1	0.250	0.085	0.220	1.842	10.007	5.434	PASS
Position 2	0.250	-0.085	0.220	1.832	9.982	5.448	PASS
Position 3	-0.250	-0.085	0.220	1.832	9.952	5.433	PASS
Position 4	-0.250	0.085	0.220	1.847	9.974	5.400	PASS
Position 5	-0.250	0.085	-0.220	1.779	10.057	5.653	PASS
Position 6	-0.250	-0.085	-0.220	1.784	10.010	5.611	PASS
Position 7	0.250	-0.085	-0.220	1.790	9.988	5.581	PASS
Position 8	0.250	0.085	-0.220	1.810	10.064	5.561	PASS
Center	0.000	0.000	0.000	-1.642	-9.959	6.065	PASS
Position 1	0.250	0.085	0.220	-1.821	-9.923	5.451	PASS
Position 2	0.250	-0.085	0.220	-1.828	-10.001	5.471	PASS
Position 3	-0.250	-0.085	0.220	-1.816	-9.904	5.453	PASS
Position 4	-0.250	0.085	0.220	-1.815	-9.943	5.480	PASS
Position 5	-0.250	0.085	-0.220	-1.812	-9.969	5.501	PASS
Position 6	-0.250	-0.085	-0.220	-1.816	-10.105	5.565	PASS
Position 7	0.250	-0.085	-0.220	-1.843	-9.966	5.406	PASS
Position 8	0.250	0.085	-0.220	-1.829	-10.044	5.491	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S031
Operator Name: Gordon, Matt
Date: 7/22/2010 Time: 9:28 AM
Actuator Coil Resistance: 10.18 Ohms, PASS
Ambient Temperature: 69.35 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.636
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.504

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.596	9.977	6.251	PASS
Position 1	0.250	0.085	0.220	1.817	10.029	5.520	PASS
Position 2	0.250	-0.085	0.220	1.762	10.061	5.708	PASS
Position 3	-0.250	-0.085	0.220	1.815	9.973	5.494	PASS
Position 4	-0.250	0.085	0.220	1.770	9.971	5.633	PASS
Position 5	-0.250	0.085	-0.220	1.796	10.061	5.604	PASS
Position 6	-0.250	-0.085	-0.220	1.798	10.119	5.629	PASS
Position 7	0.250	-0.085	-0.220	1.778	9.979	5.612	PASS
Position 8	0.250	0.085	-0.220	1.788	10.059	5.626	PASS
Center	0.000	0.000	0.000	-1.638	-9.996	6.104	PASS
Position 1	0.250	0.085	0.220	-1.813	-9.966	5.496	PASS
Position 2	0.250	-0.085	0.220	-1.820	-9.945	5.464	PASS
Position 3	-0.250	-0.085	0.220	-1.813	-10.012	5.524	PASS
Position 4	-0.250	0.085	0.220	-1.816	-10.014	5.515	PASS
Position 5	-0.250	0.085	-0.220	-1.824	-10.019	5.494	PASS
Position 6	-0.250	-0.085	-0.220	-1.817	-10.024	5.517	PASS
Position 7	0.250	-0.085	-0.220	-1.834	-9.969	5.437	PASS
Position 8	0.250	0.085	-0.220	-1.827	-10.052	5.503	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S033
Operator Name: Gordon, Matt
Date: 7/28/2010 Time: 4:33 PM
Actuator Coil Resistance: 10.41 Ohms, PASS
Ambient Temperature: 79.0 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.658
Y Travel Limit (inches): 0.205
Z Travel Limit (inches): 0.504

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.584	10.004	6.315	PASS
Position 1	0.250	0.085	0.220	1.850	9.997	5.404	PASS
Position 2	0.250	-0.085	0.220	1.726	10.195	5.906	PASS
Position 3	-0.250	-0.085	0.220	1.749	10.050	5.747	PASS
Position 4	-0.250	0.085	0.220	1.832	10.020	5.471	PASS
Position 5	-0.250	0.085	-0.220	1.736	9.934	5.722	PASS
Position 6	-0.250	-0.085	-0.220	1.771	10.128	5.720	PASS
Position 7	0.250	-0.085	-0.220	1.735	10.009	5.770	PASS
Position 8	0.250	0.085	-0.220	1.755	9.927	5.657	PASS
Center	0.000	0.000	0.000	-1.621	-10.022	6.184	PASS
Position 1	0.250	0.085	0.220	-1.792	-9.962	5.559	PASS
Position 2	0.250	-0.085	0.220	-1.810	-10.058	5.558	PASS
Position 3	-0.250	-0.085	0.220	-1.846	-9.986	5.409	PASS
Position 4	-0.250	0.085	0.220	-1.771	-9.991	5.641	PASS
Position 5	-0.250	0.085	-0.220	-1.821	-9.944	5.461	PASS
Position 6	-0.250	-0.085	-0.220	-1.782	-10.090	5.662	PASS
Position 7	0.250	-0.085	-0.220	-1.795	-10.074	5.613	PASS
Position 8	0.250	0.085	-0.220	-1.838	-9.913	5.394	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S034
 Operator Name: Gordon, Matt
 Date: 7/28/2010 Time: 2:09 PM
 Actuator Coil Resistance: 10.38 Ohms, PASS
 Ambient Temperature: 77.8 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.652
 Y Travel Limit (inches): 0.205
 Z Travel Limit (inches): 0.501

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.587	9.959	6.276	PASS
Position 1	0.250	0.085	0.220	1.795	10.028	5.587	PASS
Position 2	0.250	-0.085	0.220	1.762	10.019	5.686	PASS
Position 3	-0.250	-0.085	0.220	1.753	10.047	5.730	PASS
Position 4	-0.250	0.085	0.220	1.836	10.017	5.455	PASS
Position 5	-0.250	0.085	-0.220	1.797	9.971	5.548	PASS
Position 6	-0.250	-0.085	-0.220	1.802	10.041	5.571	PASS
Position 7	0.250	-0.085	-0.220	1.800	10.029	5.573	PASS
Position 8	0.250	0.085	-0.220	1.794	9.977	5.561	PASS
Center	0.000	0.000	0.000	-1.643	-9.957	6.061	PASS
Position 1	0.250	0.085	0.220	-1.819	-9.972	5.484	PASS
Position 2	0.250	-0.085	0.220	-1.816	-9.934	5.470	PASS
Position 3	-0.250	-0.085	0.220	-1.841	-10.055	5.462	PASS
Position 4	-0.250	0.085	0.220	-1.823	-9.985	5.478	PASS
Position 5	-0.250	0.085	-0.220	-1.847	-9.933	5.377	PASS
Position 6	-0.250	-0.075	-0.220	-1.796	-9.998	5.568	PASS
Position 7	0.250	-0.075	-0.220	-1.817	-10.102	5.560	PASS
Position 8	0.250	0.085	-0.220	-1.831	-10.008	5.467	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S035
 Operator Name: Gordon, Matt
 Date: 7/28/2010 Time: 4:13 PM

Actuator Coil Resistance: 10.32 Ohms, PASS
 Ambient Temperature: 79.0 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.642
 Y Travel Limit (inches): 0.206
 Z Travel Limit (inches): 0.506

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.608	9.974	6.203	PASS
Position 1	0.250	0.085	0.220	1.845	10.016	5.429	PASS
Position 2	0.250	-0.085	0.220	1.749	10.190	5.825	PASS
Position 3	-0.250	-0.085	0.220	1.848	10.139	5.487	PASS
Position 4	-0.250	0.085	0.220	1.815	9.929	5.472	PASS
Position 5	-0.250	0.085	-0.220	1.773	9.991	5.635	PASS
Position 6	-0.250	-0.085	-0.220	1.729	10.019	5.795	PASS
Position 7	0.250	-0.085	-0.220	1.768	10.022	5.667	PASS
Position 8	0.250	0.085	-0.220	1.761	10.110	5.740	PASS
Center	0.000	0.000	0.000	-1.647	-10.010	6.076	PASS
Position 1	0.250	0.085	0.220	-1.843	-10.047	5.450	PASS
Position 2	0.250	-0.085	0.220	-1.822	-9.959	5.465	PASS
Position 3	-0.250	-0.085	0.220	-1.842	-10.044	5.452	PASS
Position 4	-0.250	0.085	0.220	-1.823	-9.952	5.460	PASS
Position 5	-0.250	0.085	-0.220	-1.791	-10.059	5.615	PASS
Position 6	-0.250	-0.085	-0.220	-1.801	-10.061	5.585	PASS
Position 7	0.250	-0.085	-0.220	-1.803	-10.105	5.606	PASS
Position 8	0.250	0.085	-0.220	-1.775	-9.919	5.590	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S036
 Operator Name: Gordon, Matt
 Date: 7/28/2010 Time: 3:57 PM
 Actuator Coil Resistance: 10.41 Ohms, PASS
 Ambient Temperature: 78.8 F
 Hi Pot Test Results: 1000 MOhms, PASS
 X Travel Limit (inches): 0.638

Y Travel Limit (inches): 0.205

Z Travel Limit (inches): 0.504

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.568	10.251	6.536	PASS
Position 1	0.250	0.085	0.220	1.728	10.069	5.827	PASS
Position 2	0.250	-0.085	0.220	1.753	9.958	5.680	PASS
Position 3	-0.250	-0.085	0.220	1.738	10.145	5.838	PASS
Position 4	-0.250	0.085	0.220	1.750	10.019	5.726	PASS
Position 5	-0.250	0.085	-0.220	1.711	10.090	5.898	PASS
Position 6	-0.250	-0.085	-0.220	1.681	10.183	6.058	PASS
Position 7	0.250	-0.085	-0.220	1.707	10.161	5.952	PASS
Position 8	0.250	0.085	-0.220	1.717	10.098	5.882	PASS
Center	0.000	0.000	0.000	-1.563	-10.136	6.484	PASS
Position 1	0.250	0.085	0.220	-1.732	-10.074	5.816	PASS
Position 2	0.250	-0.085	0.220	-1.733	-10.021	5.783	PASS
Position 3	-0.250	-0.085	0.220	-1.737	-10.080	5.801	PASS
Position 4	-0.250	0.085	0.220	-1.716	-9.959	5.803	PASS
Position 5	-0.250	0.085	-0.220	-1.760	-10.072	5.724	PASS
Position 6	-0.250	-0.085	-0.220	-1.781	-10.039	5.637	PASS
Position 7	0.250	-0.085	-0.220	-1.760	-9.987	5.673	PASS
Position 8	0.250	0.085	-0.220	-1.762	-10.009	5.682	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S037

Operator Name: Gordon, Matt

Date: 7/28/2010 Time: 5:09 PM

Actuator Coil Resistance: 10.25 Ohms, PASS

Ambient Temperature: 79.0 F

Hi Pot Test Results: 1000 MOhms, PASS

X Travel Limit (inches): 0.671

Y Travel Limit (inches): 0.207

Z Travel Limit (inches): 0.506

X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
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Center	0.000	0.000	0.000	1.621	9.964	6.145	PASS
Position 1	0.250	0.085	0.220	1.787	10.041	5.618	PASS
Position 2	0.250	-0.085	0.220	1.825	9.968	5.463	PASS
Position 3	-0.250	-0.085	0.220	1.835	9.941	5.418	PASS
Position 4	-0.250	0.085	0.220	1.835	9.950	5.422	PASS
Position 5	-0.250	0.085	-0.220	1.801	9.933	5.517	PASS
Position 6	-0.250	-0.085	-0.220	1.810	9.984	5.516	PASS
Position 7	0.250	-0.085	-0.220	1.786	9.967	5.581	PASS
Position 8	0.250	0.085	-0.220	1.792	9.925	5.539	PASS
Center	0.000	0.000	0.000	-1.678	-9.997	5.957	PASS
Position 1	0.250	0.085	0.220	-1.839	-9.991	5.432	PASS
Position 2	0.250	-0.085	0.220	-1.831	-9.948	5.434	PASS
Position 3	-0.250	-0.085	0.220	-1.844	-9.973	5.407	PASS
Position 4	-0.250	0.085	0.220	-1.838	-10.003	5.442	PASS
Position 5	-0.250	0.085	-0.220	-1.848	-9.983	5.403	PASS
Position 6	-0.250	-0.085	-0.220	-1.842	-9.923	5.388	PASS
Position 7	0.250	-0.085	-0.220	-1.844	-9.969	5.406	PASS
Position 8	0.250	0.085	-0.220	-1.801	-9.940	5.519	PASS

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LIGO Production Small Actuator Test Report

Actuator Serial #: S038
Operator Name: Gordon, Matt
Date: 7/28/2010 Time: 3:38 PM
Actuator Coil Resistance: 10.36 Ohms, PASS
Ambient Temperature: 78.8 F
Hi Pot Test Results: 1000 MOhms, PASS
X Travel Limit (inches): 0.637
Y Travel Limit (inches): 0.204
Z Travel Limit (inches): 0.507

	X Position (in)	Y Position (in)	Z Position (in)	Current (A)	Force (lbs)	Force Constant (lbs/A)	PASS/FAIL
Center	0.000	0.000	0.000	1.617	9.959	6.158	PASS
Position 1	0.250	0.085	0.220	1.828	9.928	5.430	PASS
Position 2	0.250	-0.085	0.220	1.838	10.029	5.457	PASS

Position 3	-0.250	-0.085	0.220	1.795	10.107	5.629	PASS
Position 4	-0.250	0.085	0.220	1.807	9.928	5.494	PASS
Position 5	-0.250	0.085	-0.220	1.805	10.036	5.560	PASS
Position 6	-0.250	-0.085	-0.220	1.759	9.969	5.667	PASS
Position 7	0.250	-0.085	-0.220	1.796	10.075	5.609	PASS
Position 8	0.250	0.085	-0.220	1.805	10.050	5.567	PASS
Center	0.000	0.000	0.000	-1.581	-9.972	6.309	PASS
Position 1	0.250	0.085	0.220	-1.759	-9.994	5.680	PASS
Position 2	0.250	-0.085	0.220	-1.761	-9.946	5.647	PASS
Position 3	-0.250	-0.085	0.220	-1.749	-9.980	5.708	PASS
Position 4	-0.250	0.085	0.220	-1.758	-10.007	5.693	PASS
Position 5	-0.250	0.085	-0.220	-1.783	-9.935	5.572	PASS
Position 6	-0.250	-0.085	-0.220	-1.818	-10.084	5.547	PASS
Position 7	0.250	-0.085	-0.220	-1.833	-10.062	5.488	PASS
Position 8	0.250	0.085	-0.220	-1.760	-10.073	5.724	PASS

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