

RELEASING SPEAR GRAPPLE RANGE CHART

LOGAN SPEAR GRAPPLE	Logan Part No.	F3000	F3000	F3000	F3000	F3000	F3000	F3000
	Bowen No.	16457	16457	16457	16457	16457	16457	16457
ACTUAL CATCHING RANGE:								
MINIMUM ID		.725		.799		.850	.912	.932
NOMINAL CATCH SIZE		.742		.813		.864	.924	.944
MAXIMUM ID		.750		.824		.875	.937	.957
OLD NOMINAL SIZE (INCHES)		3/4 ID & 3/4 X-STG Pipe		3/4 Std Pipe .824 ID		.875-.864 ID 1 to 2.25# CS Hydril	.937 ID	.957 ID 1" X-STG Pipe

LOGAN SPEAR GRAPPLE	Logan Part No.	F3000	F3000	F3000	F3000	F3001	F3001	F3001
	Bowen No.	16457	16457	16457	16457	19352	19352	19352
ACTUAL CATCHING RANGE:								
MINIMUM ID		.955	.975	1.033	1.100	.913	.956	1.005
NOMINAL CATCH SIZE		.967	.987	1.049	1.112	.937	.978	1.027
MAXIMUM ID		.982	1.000	1.058	1.125	.957	1.000	1.049
OLD NOMINAL SIZE (INCHES)		.982 ID	1" ID	1" Std Pipe 1.049 ID	1-1/8 ID	.957 ID 1" X-STG Pipe	1" ID	1.045 ID 1" Std Pipe

LOGAN SPEAR GRAPPLE	Logan Part No.	F3001	F3001	F3002	F3002	F3002	F3002	F3002
	Bowen No.	19352	19352	11197	11197	11197	11197	11197
ACTUAL CATCHING RANGE:								
MINIMUM ID		1.050	1.081	1.137	1.180	1.211	1.242	1.273
NOMINAL CATCH SIZE		1.072	1.103	1.170	1.215	1.246	1.277	1.308
MAXIMUM ID		1.093	1.125	1.207	1.250	1.281	1.312	1.342
OLD NOMINAL SIZE (INCHES)		1.093 ID	1.250 ID	1.187 ID	1.250 to 1.219 ID	1.281 to 1.250 ID	1.312 to 1.281 ID	1.343 to 1.312 ID

LOGAN SPEAR GRAPPLE	Logan Part No.	F3002	F3002	F3002	F3002	F3002	F3002	F3002
	Bowen No.	11197	11197	11197	11197	11197	11197	11197
ACTUAL CATCHING RANGE:								
MINIMUM ID		1.332	1.394	1.430	1.580	1.481	1.519	1.650
NOMINAL CATCH SIZE		1.367	1.429	1.465	1.615	1.516	1.554	1.687
MAXIMUM ID		1.402	1.464	1.500	1.652	1.551	1.589	1.720
OLD NOMINAL SIZE (INCHES)		1-3/8 ID 1-1/4 Tbg	1.438 ID	1.500 to 1.469 ID	1-1/2 Std Pipe & 1-5/8 ID	1.531 ID	1 9/16 ID	1.687 to 1.700 ID

LOGAN SPEAR GRAPPLE	Logan Part No.	F3002	F3002	F3002	F3002	F3002	F3002	F3004
	Bowen No.	11197	11197	11197	11197	11197	11197	9917
ACTUAL CATCHING RANGE:								
MINIMUM ID		1.722	1.771	1.836	1.895	1.957	2.024	1.441
NOMINAL CATCH SIZE		1.757	1.806	1.875	1.930	1.992	2.061	1.470
MAXIMUM ID		1.792	1.841	1.906	1.965	2.027	2.094	1.500
OLD NOMINAL SIZE (INCHES)		1-3/4 to 1-25/32 ID	1.815 ID	1-7/8 to 1-29/32	1-15/16 ID	2 ID	2.067 ID	1.500 ID to 1-1/2 X-STG Pipe

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LOGAN SPEAR GRAPPLE	Logan Part No.	F3004	F3004	F3004	F3004	F3004	F3004	F3004
Bowen No.		9917	9917	9917	9917	9917	9917	9917
ACTUAL CATCHING RANGE:								
MINIMUM ID		1.470	1.472	1.553	1.566	1.598	1.612	1.673
NOMINAL CATCH SIZE		1.500	1.502	1.583	1.596	1.628	1.642	1.700
MAXIMUM ID		1.527	1.529	1.610	1.625	1.657	1.670	1.750
OLD NOMINAL SIZE (INCHES)				1-1/2 Std Pipe to 1.610 ID	1-5/8 ID	1.657 ID	1.670 ID	1-3/4 1.700 ID

LOGAN SPEAR GRAPPLE	Logan Part No.	...	...	...	...	...	...	...
Bowen No.	
ACTUAL CATCHING RANGE:								
MINIMUM ID		1.707	1.742	1.817	1.881	1.942	1.677	1.742
NOMINAL CATCH SIZE		1.737	1.772	1.847	1.911	1.972	1.719	1.778
MAXIMUM ID		1.781	1.800	1.875	1.939	2.000	1.750	1.815
OLD NOMINAL SIZE (INCHES)		1.781 ID	1.800 ID	1-7/8 ID	1.939 ID	2 ID	1.719 to 1.750 ID	2-3/8 Drill Pipe, 65.5#

LOGAN SPEAR GRAPPLE	Logan Part No.	...	...	...	F3007	F3007	F3007	F3007
Bowen No.		1348	1348	1348	1348
ACTUAL CATCHING RANGE:								
MINIMUM ID		1.802	1.864	1.968	1.788	1.796	1.889	1.952
NOMINAL CATCH SIZE		1.838	1.900	2.004	1.828	1.836	1.929	1.992
MAXIMUM ID		1.875	1.937	2.041	1.867	1.876	1.968	2.041
OLD NOMINAL SIZE (INCHES)		1-7/8 & 1-27/32 ID	1.875 to 1.937 ID	2-3/8 Tbg, 4 to 4.7# Down	1.867 ID Turn Body Down	1.875 ID Turn Body	1.937 to 1.968 ID	2-3/8 Tbg, 4 to 4.7#

LOGAN SPEAR GRAPPLE	Logan Part No.	F3007	F3007	F3007	F3007	F3007	F3007	F3007
Bowen No.		1348	1348	1348	1348	1348	1348	1348
ACTUAL CATCHING RANGE:								
MINIMUM ID		1.983	2.045	2.091	2.170	2.186	2.233	2.249
NOMINAL CATCH SIZE		2.023	2.085	2.131	2.211	2.226	2.273	2.289
MAXIMUM ID		2.062	2.125	2.172	2.250	2.266	2.312	2.329
OLD NOMINAL SIZE (INCHES)		2.000 to 2.062 ID	2-1/8 ID	2-7/8 DP, 9.75 to 10.4#	2-1/4 to 2-3/16 ID	2-17/64 ID	2-5/16 ID	2-7/8 OD 7.8 to 8.35# DP

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	Bowen No.	1348	1348	1348	1348	1348	1348	1348
LOGAN SPEAR GRAPPLE	Logan Part No.	F3008	F3008	F3008	F3008	F3008	F3008	F3008
	Bowen No.	17230	17230	17230	17230	17230	17230	17230
ACTUAL CATCHING RANGE:								
MINIMUM ID		2.295	2.358	2.390	2.420	2.556	2.608	2.670
NOMINAL CATCH SIZE		2.335	2.398	2.430	2.460	2.596	2.648	2.710
MAXIMUM ID		2.375	2.438	2.469	2.500	2.625	2.688	2.750
OLD NOMINAL SIZE (INCHES)		2-3/8 ID NX 1/2 Rod	2-3/8 ID 2-7/16 ID	2-7/8 Tbg 6.25-6.5#, 2-7/8 OD	2-7/16 ID 2-1/2 ID	2-5/8 ID & 2-9/16 ID	2-5/8 ID & 2-11/16 ID	2-3/4 ID

LOGAN SPEAR GRAPPLE	Logan Part No.	F3007	F3007	F3007	F3007	F3009	F3009	F3009
	Bowen No.	1348	1348	1348	1348	1230	1230	1230
LOGAN SPEAR GRAPPLE	Logan Part No.	F3008	F3008	F3008	F3008	F3010	F3010	F3010
	Bowen No.	17230	17230	17230	17230	17233	17233	17233
ACTUAL CATCHING RANGE:								
MINIMUM ID		2.921	3.046	3.170	3.264	2.280	2.351	2.390
NOMINAL CATCH SIZE		2.961	3.086	3.210	3.304	2.328	2.399	2.438
MAXIMUM ID		3.000	3.126	3.250	3.344	2.375	2.446	2.487
OLD NOMINAL SIZE (INCHES)		3 ID & 2-15/16 ID - NX DRIVE	3-1/16 ID & 3-1/8 ID	3-1/4 ID & 3-3/16 ID	3-11/32 ID & 3-9/32 ID	2-3/8 ID	2-3/8 to 2-7/16 ID	2-7/8 Tbg 6.25-6.5#, 2-7/8 OD

LOGAN SPEAR GRAPPLE	Logan Part No.	F3009	F3009	F3009	F3009	F3009	F3009	F3009
	Bowen No.	1230	1230	1230	1230	1230	1230	1230
LOGAN SPEAR GRAPPLE	Logan Part No.	F3010	F3010	F3010	F3010	F3010	F3010	F3010
	Bowen No.	17233	17233	17233	17233	17233	17233	17233
ACTUAL CATCHING RANGE:								
MINIMUM ID		2.468	2.515	2.593	2.671	2.718	2.827	2.843
NOMINAL CATCH SIZE		2.516	2.562	2.641	2.718	2.766	2.875	2.891
MAXIMUM ID		2.563	2.610	2.688	2.766	2.814	2.922	2.938
OLD NOMINAL SIZE (INCHES)		2.562 to 2-15/32 ID Pipe	3-1/2 OD 15.5# Drill	2-11/16 2-5/8 ID Drill Pipe	3-1/2 OD 12.4 to 13.3#	2-13/16 ID & 2-3/4 ID Drill Pipe	3-1/2 OD 10.2 to 11.2#	2-7/8 to 2-15/16 ID

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LOGAN SPEAR GRAPPLE	Logan Part No.	F3009	F3009	F3009	F3009	F3009	F3009	...
	Bowen No.	1230	1230	1230	1230	1230	1230	...
LOGAN SPEAR GRAPPLE	Logan Part No.	F3010	F3010	F3010	F3010	F3010	F3010	F3012
	Bowen No.	17233	17233	17233	17233	17233	17233	9412
ACTUAL CATCHING RANGE:								
MINIMUM ID		2.890	2.984	3.030	3.155	3.297	3.437	2.881
NOMINAL CATCH SIZE		2.938	3.032	3.078	3.203	3.345	3.485	2.933
MAXIMUM ID		2.992	3.079	3.125	3.250	3.392	3.532	2.992
OLD NOMINAL SIZE (INCHES)		3-1/2 OD 9.2-10.2# Tbg	3-1/2 OD 7.7# Tbg	3-1/8 3-1/16 ID	3-1/4 3-3/16 ID	3.340 to 3.382 ID	3-1/2 ID	3-1/2 OD 9.2-10.2# Tbg

LOGAN SPEAR GRAPPLE	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
LOGAN SPEAR GRAPPLE	Logan Part No.	F3012	F3012	F3012	F3012	F3012	F3012	F3012
	Bowen No.	9412	9412	9412	9412	9412	9412	9412
ACTUAL CATCHING RANGE:								
MINIMUM ID		2.949	3.021	3.146	3.256	3.365	3.444	3.522
NOMINAL CATCH SIZE		3.001	3.073	3.198	3.308	3.417	3.496	3.574
MAXIMUM ID		3.068	3.125	3.250	3.364	3.476	3.548	3.625
OLD NOMINAL SIZE (INCHES)		3-1/2 OD 7.7 to 9.2#	3-1/8 ID	3-1/4 ID 3-3/16 ID	4 OD 12.5 to 14.0# Drill Pipe	4 OD 11.0 to 11.6#	4 OD 9.5 to 11.0#	3.500 to 3.625 ID

LOGAN SPEAR GRAPPLE	Logan Part No.	...	...	F3014	F3014	F3014	F3014	F3014
	Bowen No.	...	...	532	532	532	532	532
LOGAN SPEAR GRAPPLE	Logan Part No.	F3012	F3012	F3015	F3015	F3015	F3015	F3015
	Bowen No.	9412	9412	9487	9487	9487	9487	9487
ACTUAL CATCHING RANGE:								
MINIMUM ID		3.584	3.646	3.218	3.327	3.406	3.484	3.608
NOMINAL CATCH SIZE		3.636	3.698	3.291	3.400	3.479	3.557	3.681
MAXIMUM ID		3.687	3.750	3.364	3.476	3.548	3.625	3.754
OLD NOMINAL SIZE (INCHES)		3-11/16 ID	3-3/4 ID	4 OD 12.5 to 14.0 Tbg	4 OD 11.0 to 11.6# Tbg	4 OD 9.5 to 11.0# Tbg	3-5/8 ID & 3-9/16 ID	4-1/2 OD 18.1 to 22.0# Tbg

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LOGAN SPEAR GRAPPLE	Logan Part No.	F3014	F3014	F3014	F3014	F3014	F3014	F3014
	Bowen No.	532	532	532	532	532	532	532
LOGAN SPEAR GRAPPLE	Logan Part No.	F3015	F3015	F3015	F3015	F3015	F3015	F3015
	Bowen No.	9487	9487	9487	9487	9487	9487	9487
ACTUAL CATCHING RANGE:								
Minimum ID		3.671	3.812	3.874	3.937	4.134	4.155	4.358
NOMINAL CATCH SIZE		3.744	3.885	3.947	4.010	4.207	4.228	4.431
MAXIMUM ID		3.826	3.958	4.026	4.090	4.276	4.300	4.506
OLD NOMINAL SIZE (INCHES)		4-1/2 OD 15.3 to 18.1# Tbg	4-1/2 OD 13.7 to 15.3# Tbg	4-1/2 OD 11.0 to 13.7# Tbg	4-1/2 OD 9.5 to 11.6# Tbg	5 OD 18.0 to 21.0# Tbg	5 OD 17.7 to 18.0# Tbg	5 Tbg 12.6 to 15.0# (4.408 ID)

LOGAN SPEAR GRAPPLE	Logan Part No.	F3014	F3014	F3016	F3016	F3016	F3016	F3016
	Bowen No.	532	532	13202	13202	13202	13202	13202
LOGAN SPEAR GRAPPLE	Logan Part No.	F3015	F3015	F3017	F3017	F3017	F3017	F3017
	Bowen No.	9487	9487	17477	17477	17477	17477	17477
ACTUAL CATCHING RANGE:								
Minimum ID		4.406	4.874	3.682	3.761	3.823	3.886	4.073
NOMINAL CATCH SIZE		4.479	4.947	3.782	3.861	3.923	3.986	4.173
MAXIMUM ID		4.560	5.012	3.881	3.958	4.026	4.090	4.276
OLD NOMINAL SIZE (INCHES)		5 OD 11.5# Tbg	5-1/2 OD 14.0 to 17.0# Tbg	4-1/2 OD 15.3 to 18.1# Tbg	4-1/2 OD 13.7 to 15.3# Tbg	4-1/2 OD 11.0 to 13.7# Tbg	4-1/2 OD 9.5 to 11.6# Csg	5 OD 18.0 to 21.4# Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	F3016	F3016	F3018	F3018	F3018	F3018	F3018
	Bowen No.	13202	13202	1334	1334	1334	1334	1334
LOGAN SPEAR GRAPPLE	Logan Part No.	F3017	F3017	F3019	F3019	F3019	F3019	F3019
	Bowen No.	17477	17477	9682	9682	9682	9682	9682
ACTUAL CATCHING RANGE:								
Minimum ID		4.214	4.307	4.093	4.234	4.390	4.469	4.515
NOMINAL CATCH SIZE		4.314	4.407	4.179	4.320	4.476	4.555	4.601
MAXIMUM ID		4.408	4.506	4.276	4.408	4.562	4.642	4.696
OLD NOMINAL SIZE (INCHES)		5 OD 15.0 to 18.0# Csg	5 OD 12.6 to 15.0# Csg	5 OD 18.0 to 21.0# Csg	5 OD 15.0 to 18.0# Csg	5 OD 11.5 to 15.0# Csg	5 OD 9.0 to 13.0# Csg	5 OD, 8# 5-1/2 OD 23 to 25# Csg

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LOGAN SPEAR GRAPPLE	Logan Part No.	F3018	F3018	F3018	F3018	F3018	F3018	F3018
	Bowen No.	1334	1334	1334	1334	1334	1334	1334
LOGAN SPEAR GRAPPLE	Logan Part No.	F3019	F3019	F3019	F3019	F3019	F3019	F3019
	Bowen No.	9682	9682	9682	9682	9682	9682	9682
ACTUAL CATCHING RANGE:								
MINIMUM ID		4.609	4.719	4.875	4.922	5.015	5.124	5.218
NOMINAL CATCH SIZE		4.695	4.805	4.961	5.008	5.101	5.210	5.304
MAXIMUM ID		4.782	4.892	5.048	5.095	5.192	5.297	5.390
OLD NOMINAL SIZE (INCHES)		5-1/2 OD 20.0 to 23.0# Csg	5-1/2 OD 17.0 to 20.0# Csg	5-1/2 OD 14.0 to 17.0# Csg	5-3/4 OD 19.5 to 22.5# Csg	5-3/4, 17-19.5# 5-1/2 OD 9.0 to 13.0# Csg	5-3/4 OD 14.0 to 17.0 Csg	6 OD 20.0# Csg to 23.0# Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	F3018	F3018	F3018	F3022	F3022	F3022	F3022
	Bowen No.	1334	1334	1334	9717	9717	9717	9717
LOGAN SPEAR GRAPPLE	Logan Part No.	F3019	F3019	F3019	F3023	F3023	F3023	F3023
	Bowen No.	9682	9682	9682	17236	17236	17236	17236
ACTUAL CATCHING RANGE:								
MINIMUM ID		5.281	5.375	5.500	5.000	5.093	5.187	5.280
NOMINAL CATCH SIZE		5.367	5.461	5.586	5.134	5.227	5.321	5.414
MAXIMUM ID		5.454	5.552	5.675	5.266	5.360	5.454	5.547
OLD NOMINAL SIZE (INCHES)		6 OD 17.0 to 20.0# Csg	6 OD 14.0 to 17.0# Csg	6-5/8 OD 32.0 to 34.0# Csg	6 OD 23.0 to 26.0# Csg	6 OD 20.0 to 23.0# Csg	6 OD 17.0 to 20.0# Csg	6 OD 14.0 to 17.0# Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	F3022	F3022	F3022	F3022	F3022	F3022	F3022
	Bowen No.	9717	9717	9717	9717	9717	9717	9717
LOGAN SPEAR GRAPPLE	Logan Part No.	F3023	F3023	F3023	F3023	F3023	F3023	F3023
	Bowen No.	17236	17236	17236	17236	17236	17236	17236
ACTUAL CATCHING RANGE:								
MINIMUM ID		5.406	5.530	5.593	5.656	5.671	5.781	5.796
NOMINAL CATCH SIZE		5.540	5.664	5.727	5.790	5.805	5.915	5.930
MAXIMUM ID		5.675	5.797	5.860	5.923	5.938	6.049	6.063
OLD NOMINAL SIZE (INCHES)		6 OD 10.5 to 14.0# Csg	6-5/8 OD 28.0 to 32.0# Csg	6-5/8 OD 26.0 to 29.0# Csg	6-5/8 OD 24.0 to 28.0# Csg	7 OD 38.0 to 40.0# Csg	6-5/8 OD 20.0 to 24.0# Csg	7 OD 33.7 to 38.0# Csg

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LOGAN SPEAR GRAPPLE	Logan Part No.	F3022	F3022	F3022	F3022	F3022	F3022	F3024
	Bowen No.	9717	9717	9717	9717	9717	9717	9268
LOGAN SPEAR GRAPPLE	Logan Part No.	F3023	F3023	F3023	F3023	F3023	F3023	F3026
	Bowen No.	17236	17236	17236	17236	17236	17236	17239
ACTUAL CATCHING RANGE:								
MINIMUM ID		5.875	5.937	6.015	6.140	6.202	6.281	5.770
NOMINAL CATCH SIZE		6.009	6.071	6.149	6.274	6.335	6.415	5.970
MAXIMUM ID		6.142	6.204	6.282	6.407	6.469	6.548	6.173
OLD NOMINAL SIZE (INCHES)		6-5/8 OD 17.0 to 22.0# Csg	7 OD 29.0 to 33.7# Csg	7 OD 26.0 to 29.0# Csg	7 OD 22.0 to 26.0# Csg	7 OD 20.0 to 23.0# Csg	7 OD 17.0 to 20.0# Csg	7" 30.0-40.0# & 6-5/8 24.0# Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	F3024	F3024	F3024	F3024	F3024	F3024	F3024
	Bowen No.	9268	9268	9268	9268	9268	9268	9268
LOGAN SPEAR GRAPPLE	Logan Part No.	F3026	F3026	F3026	F3026	F3026	F3026	F3026
	Bowen No.	17239	17239	17239	17239	17239	17239	17239
ACTUAL CATCHING RANGE:								
MINIMUM ID		5.895	6.020	6.270	6.364	6.567	6.864	6.987
NOMINAL CATCH SIZE		6.095	6.220	6.470	6.564	6.767	7.064	7.187
MAXIMUM ID		6.297	6.423	6.673	6.765	6.969	7.263	7.391
OLD NOMINAL SIZE (INCHES)		7 OD 26.0 to 35.0# Csg	7 OD 22.0 to 33.7# Csg	7 OD 13.0 to 24.0# Csg	7-5/8 OD 33.7 to 45.0# Csg	7-5/8 OD 26.4 to 39.0# Csg	7-5/8 OD 14.7 to 26.4# Csg	8-1/8 OD 32.0 to 42.0#Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	F3024	F3024	F3024	F3024	F3024	F3024	F3024
	Bowen No.	9268	9268	9268	9268	9268	9268	9268
LOGAN SPEAR GRAPPLE	Logan Part No.	F3026	F3026	F3026	F3026	F3026	F3026	F3026
	Bowen No.	17239	17239	17239	17239	17239	17239	17239
ACTUAL CATCHING RANGE:								
MINIMUM ID		7.225	7.239	7.489	7.755	7.911	7.958	8.692
NOMINAL CATCH SIZE		7.425	7.439	7.689	7.955	8.111	8.158	8.892
MAXIMUM ID		7.628	7.642	7.892	8.157	8.313	8.360	9.094
OLD NOMINAL SIZE (INCHES)		8 OD 16.0 to 26.0# Csg	7-9/16 ID	8-5/8 OD 34.0 to 48.0# Csg	8-5/8 24.0 to 38.0#, 9" 55# Csg	8-5/8 OD 17.6 to 29.3# Csg	9 OD 34.0 to 45.0# Csg	9-5/8 OD 29.3 to 42.0# Csg

Note: Grapples are stenciled with nominal catch size.

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RELEASING SPEAR GRAPPLE RANGE CHART

LOGAN SPEAR GRAPPLE	Logan Part No.	F3024	F3029	F3029	F3029	F3029	F3029	F3029
	Bowen No.	9268	9382	9382	9382	9382	9382	9382
LOGAN SPEAR GRAPPLE	Logan Part No.	F3026	F3030	F3030	F3030	F3030	F3030	F3030
	Bowen No.	17239	17245	17245	17245	17245	17245	17245
ACTUAL CATCHING RANGE:								
MINIMUM ID		8.442	7.537	7.729	7.981	8.435	8.535	8.760
NOMINAL CATCH SIZE		8.642	7.690	7.882	8.134	8.588	8.688	8.913
MAXIMUM ID		8.884	7.846	8.034	8.315	8.755	8.846	9.065
OLD NOMINAL SIZE (INCHES)		9-5/8 OD 43.5 to 53.5# Csg	8-5/8 OD 36.0 to 48.0# Csg	8-5/8 28.0 to 38.0#, 9 OD 45.0 to 55.0# Csg	8-5/8 17.5 to 29.3#, 9 OD 34.0 to 45.0# Csg	9 OD 19.0# & 9-5/8 OD 43.5 to 58.0# Csg	9-5/8 OD 40.0 to 53.5# Csg	9-5/8 OD 29.3 to 42.0# Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	F3029	205-000 *	205-000 *	205-000 *	205-000 *	205-000 *	205-000 *
	Bowen No.	9382	9382	9382	9382	9382	9382	9382
LOGAN SPEAR GRAPPLE	Logan Part No.	205-001 *	205-001 *	205-001 *	205-001 *	205-001 *	205-001 *	205-001 *
	Bowen No.	17245	17245	17245	17245	17245	17245	17245
ACTUAL CATCHING RANGE:								
MINIMUM ID		9.479	9.760	9.885	10.729	10.854	12.228	12.415
NOMINAL CATCH SIZE		9.632	9.913	10.038	10.882	11.007	12.381	12.568
MAXIMUM ID		9.784	10.065	10.192	11.034	11.159	12.534	12.721
OLD NOMINAL SIZE (INCHES)		10-3/4 OD 55.5 to 65.7# Csg	10-3/4 OD 40.0 to 55.5# Csg	10-3/4 OD 32.7 to 48.0# Csg	11-3/4 OD 47.0 to 60.0# Csg	11-3/4 OD 38.0 to 54.0# Csg	13-3/8 OD 61.0 to 85.0# Csg	13-3/8 OD 48.0 to 68.0# Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	F3032	F3032	F3032	F3032	F3032	F3032	F3032
	Bowen No.	9283	9283	9283	9283	9283	9283	9283
LOGAN SPEAR GRAPPLE	Logan Part No.	F3034	F3034	F3034	F3034	F3034	F3034	F3034
	Bowen No.	17248	17248	17248	17248	17248	17248	17248
ACTUAL CATCHING RANGE:								
MINIMUM ID		8.435	8.519	8.596	8.738	9.738	9.867	9.225
NOMINAL CATCH SIZE		8.597	8.681	8.758	8.900	9.900	10.029	9.387
MAXIMUM ID		8.755	8.844	8.921	9.063	10.063	10.192	9.550
OLD NOMINAL SIZE (INCHES)		9-5/8 OD 43.5 to 58.0# Csg	9-5/8 OD 40.0 to 53.5# Csg	9-5/8 OD 36.0 to 43.5# Csg	9-5/8 OD 29.3 to 40.0# Csg	10-3/4 OD 40.0 to 55.5# Csg	10-3/4 OD 32.7 to 48.0# Csg	10-3/4 OD 71.0 to 76.0# Csg

Note: Grapples are stenciled with nominal catch size

* Segmented grapples.

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RELEASING SPEAR GRAPPLE RANGE CHART

LOGAN SPEAR GRAPPLE	Logan Part No.	205-002 *	F3032	F3032	F3032	F3032	205-002 *	205-002 *
	Bowen No.	9283	9283	9283	9283	9283	9283	9283
LOGAN SPEAR GRAPPLE	Logan Part No.	205-003 *	F3034	F3034	F3034	F3034	205-003 *	205-003 *
	Bowen No.	17248	17248	17248	17248	17248	17248	17248
ACTUAL CATCHING RANGE:								
MINIMUM ID		11.206	10.581	10.832	10.612	10.675	11.643	11.674
NOMINAL CATCH SIZE		11.369	10.743	10.994	10.774	10.837	11.805	11.837
MAXIMUM ID		11.531	10.906	11.157	10.937	11.000	11.968	12.000
OLD NOMINAL SIZE (INCHES)		11.5 ID	11-3/4 OD 54.0 to 65.0# Csg	11-3/4 OD 38.0 to 54.0# Csg	11-3/4 OD 60.0# Csg	11-3/4 OD 47.0 to 60.0# Csg	13-3/8 OD 11.937 ID Csg	13-3/8 OD 96.0#, 11.975 ID Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	205-002 *	205-002 *	205-002 *	205-002 *	205-002 *	205-002 *	205-002 *
	Bowen No.	9283	9283	9283	9283	9283	9283	9283
LOGAN SPEAR GRAPPLE	Logan Part No.	205-003 *	205-003 *	205-003 *	205-003 *	205-003 *	205-003 *	205-003 *
	Bowen No.	17248	17248	17248	17248	17248	17248	17248
ACTUAL CATCHING RANGE:								
MINIMUM ID		12.022	12.393	12.455	13.143	13.312	13.330	15.112
NOMINAL CATCH SIZE		12.184	12.555	12.617	13.305	13.474	13.492	15.274
MAXIMUM ID		12.347	12.718	12.780	13.468	13.637	13.655	15.437
OLD NOMINAL SIZE (INCHES)		13-3/8 OD 72.0 to 85.0# Csg	13-3/8 OD 48.0 to 68.0# Csg	12-3/4 OD 12-3/4 ID	14 OD 42.0 to 57.0# Csg	13.599 to 13.609 ID	13-5/8 ID	16 OD 55.0 to 75.0# Csg

LOGAN SPEAR GRAPPLE	Logan Part No.	205-002 *	205-002 *	205-002 *	205-002 *			
	Bowen No.	9283	9283	9283	9283			
LOGAN SPEAR GRAPPLE	Logan Part No.	205-003 *	205-003 *	205-003 *	205-003 *			
	Bowen No.	17248	17248	17248	17248			
ACTUAL CATCHING RANGE:								
MINIMUM ID		14.925	17.331	18.862	17.487			
NOMINAL CATCH SIZE		15.087	17.493	19.024	17.650			
MAXIMUM ID		15.250	17.656	19.187	17.812			
OLD NOMINAL SIZE (INCHES)		16 OD 65.0 to 84.0# Csg	17-1/2 ID	20 OD 90.0 to 106.5# Csg	18-5/8 OD 87.5# Csg			

Note: Grapples are stenciled with nominal catch size

* Segmented grapples.

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